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MICRO PHOTO DIVISION
BELL & HOWELL COMPANY

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
October 1, 1968 Volume 855 Number 1

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of July 1968

Examiner affirmed	158
Examiner affirmed in part	23
Examiner reversed	37
Total	218

Foreign Patents Received in the U.S. Search Center as of August 1968

Source	Date received	Highest number
Australia		
(*Abstracts*)	Aug. 28, 1968	37,896 68
(*Patents*)	Aug. 28, 1968	281,392
Austria	Aug. 14, 1968	262,900
Belgium	May 6, 1968	676,000
Canada	Aug. 26, 1968	792,950
Czechoslovakia	Aug. 27, 1968	124,950
Denmark	Aug. 6, 1968	109,595
East Germany	Aug. 19, 1968	63,042
Egypt	June 28, 1967	6,873
Finland	June 24, 1968	36,828
France:		
(*Patents*)	Aug. 30, 1968	1,521,750
(*Additions*)	July 24, 1968	91,050
(*Medicaments*)	Aug. 15, 1968	5,250 M
(*Additions*)	May 2, 1968	162 CAM
Germany:		
(*Auslegeschriften*)	July 29, 1968	1,268,080
(*Patents*)	July 29, 1968	1,254,093
Great Britain	Aug. 22, 1958	1,123,050
India	Apr. 11, 1968	101,130
Ireland	July 29, 1968	27,459
Italy	Apr. 25, 1968	670,000
Japan	Aug. 29, 1968	17,400 68
Netherlands:		
(*Octrooiaanvragen*)	July 29, 1968	06,390 68
(*Patents*)	Aug. 22, 1968	124,498
	Aug. 6, 1968	113,158
Norway	Feb. 3, 1964	112,446
Pakistan	Apr. 13, 1962	458
Philippine Republic	Aug. 20, 1968	55,632
Poland	Aug. 6, 1968	50,631
Rumania	Aug. 22, 1968	220,482
Sweden	Aug. 22, 1968	457,324
Switzerland	July 23, 1968	210,057
U.S.S.R.		

Australia: First 2,000 incomplete
Belgium: First printed 493,079/1950
Canada: First printed 445,931/1948
Czechoslovakia: Not received between 81,300/1952 and 91,901/1959
Finland: First printed 19,428/1941
First 500 incomplete
Hungary: First received 5,792/1896
Latest 140,582/1951
Ireland: First received 10,000/1929
Italy: First 243,000 incomplete
Rumania: First received 40,380/1957
U.S.S.R.: Not received between 2,496/1928 and 116,000/1958
Yugoslavia: First received 10,001/1963
Latest 16,461/1941

Foreign Priority of Continuing Applications

If the Examiner is aware of the fact that the parent of a continuing application has fully complied with the requirements of 35 U.S.C. 119 and is therefore entitled to the benefit of the filing date of an earlier filed foreign application, he should direct it to the applicant's attention in an Office action, as in the following exemplary language:

"Applicant is reminded that in order to be entitled to priority based on papers filed in parent application Serial No. ——— under 35 U.S.C. 119, a claim for such priority must be made in this application. In making such claim, applicant may simply call attention to the fact that a certified copy of the foreign application is in the parent application (M.P.E.P. 201.14(b))."

RICHARD A. WAHL,
Assistant Commissioner.

Aug. 30, 1968.

Termination of Daylight Saving Time

Attention is called to the Notice published in 849 O.G. 277, Apr. 9, 1968, as to the operation of the Patent Office on Daylight Saving Time. This operation will terminate on October 27, 1968.

Rules of Practice in Patent Cases

[37 CFR Part 1]

Proposed Changes Relating to Formal Requirements for Application Papers and Amendments

The Patent Office proposes to change some of its rules relating to formal requirements of application papers and amendments. The proposed changes are intended to accomplish a number of important purposes, namely, (1) to permit the utilization by applicants and the Patent Office of advanced technology relating to drawing processes and materials, (2) to permit the possibility of the Office printing patents in the future by improved printing techniques, and (3) to harmonize on an international basis the formalities relating to the physical requirements of patent specifications and drawings.

Therefore, under the authority contained in section 6 of the Act of July 19, 1952 (66 Stat. 792; 35 U.S.C. 6), notice is hereby given that the Patent Office proposes to amend Part 1 of Title 37 of the Code of Federal Regulations as follows:

1. By revising § 1.52 to read as follows:

§ 1.52 *Language, paper, writing, margins.*

(a) The petition, specification, claims, abstract, oath or declaration and drawing legends must be in the English language. The petition, specification, claims, and abstract should commence on separate pages. The oath or declaration may appear with the petition or on a separate page. All papers of an application, including the drawing, must be the same size and be 8¼–8½ inches wide by 11⅝–13 inches high. All papers, other than the drawings, which are to become a part of the permanent records of the Patent Office must be type-

New Applications Received During July 1968

Patents	7961
Designs	427
Plant Patents	14
Reissues	50
Total	8452

Issue—October 1, 1968

Patents	1000	No. 3,403,406 to No.	3,404,405, incl.
Designs	31	No. 212,318 to No.	212,348, incl.
Plant Patents	4	No. 2,835 to No.	2,383, incl.
Reissues	6	No. 26,467 to No.	26,472, incl.
Total	1041		

written or printed and should be on flexible, strong, white, smooth and nonshiny paper of a permanent nature. Only graphic symbols and characters, chemical or mathematical formulae, where necessary, may be handwritten or drawn. The typing or printing must be in characters having capital letters at least 3/32 inch high, legible, and in dark indelible color. The specification must be single spaced and there should be no more than six lines per inch. The claims must be double spaced. Each page should normally be used with the short sides on top and bottom. The specification, claims and abstract must not contain drawings. Chemical and mathematical formulae are not considered to be drawings. The specification and abstract may contain charts and tables. All elements of the application, that is, the petition, the specification, the claims, the drawings (if any) and the abstract, must be presented in such a way as to admit direct and satisfactory reproduction by photography, xerography, photo offset, microfilming, and similar methods of reproduction, in any number of copies. The pages should be connected together in such a way that they can be easily turned, when consulted, and easily separated and joined together again if they have to be separated for reproduction purposes.

(b) The specification and claims, and also papers subsequently filed, must be plainly written on but one side of the paper. All elements of the application must be free from alterations, overwritings and interlineations. Noncompliance with the previous sentence may be authorized, in exceptional cases, if the authenticity of the content is not in question and the requirements for good reproduction are not in jeopardy. The pages of each element of the application (petition, abstract, specification, claims, and oath) may be numbered separately in consecutive Arabic numerals or all the pages may be numbered in consecutive Arabic numerals. Every fifth line of the specification and claims should be numbered along the left side. The first page of the specification, of the claims, and of the abstract should have a heading consisting of the full name of the applicant and the title of the invention written just under the top margin. On all nondrawing pages the top margin must be located 10–11 inches from the bottom of the page, except on the first page of the abstract, specification, and claims where the top margin may be located 8–8¾ inches from the bottom of the page. The margin on the left-hand side of each page must extend from the left-hand edge 1–1¾ inches. The margin on the right-hand side of each page must extend 7–7½ inches from the left-hand edge. The bottom margin must extend ¾–1¼ inches from the bottom edge. All typing or printing, including page and line numbers, should appear within the space defined by the margins and substantially fill the space so that no space is wasted. All rules concerning the physical requirements and terminology of the original application also apply to any papers submitted subsequent to the filing of the application. The expression "End of Description" may be inserted after the specification and the expression "End of Claims" may be inserted after the claims.

(c) Units of weights and measures may be expressed in or converted to the metric system. Temperatures may be expressed in or converted to degrees centigrade. For mathematical formulae and electrical units, international practice may be observed, and, for chemical compositions, the symbols, atomic weights, and molecular formulae in general use should be employed. A technical element should always be expressed by the same technical term throughout an application.

2. By revising § 1.59 to read as follows:

§ 1.59 *Papers of complete application not to be returned.*

The papers in a complete application will not be returned for any purpose whatever. If applicants have not preserved copies of the papers, the Office will furnish copies at the usual cost.

3. By revising § 1.72 to read as follows:

§ 1.72 *Title and abstract.*

(a) The title of the invention should be as short, meaningful, and specific as possible.

(b) A brief abstract of the technical disclosure in the specification must be set forth preceding the disclosure under the heading "Abstract of the Disclosure." The purpose of the abstract is to enable the Patent Office and the public generally to determine quickly from a cursory inspection the nature and gist of the technical disclosure, and the abstract shall not be used for interpreting the scope of the claims. The abstract should normally be a single paragraph containing 50–200 words.

4. By revising § 1.82 to read as follows:

§ 1.82 *Signature to drawing.*

Signatures are not required on the drawing. The drawing may be signed by the applicant in person or have the name of the applicant placed thereon followed by the signature of the attorney or agent as such if desired.

5. By revising paragraph (b) of § 1.83 to read as follows:

§ 1.83 *Content of drawing.*

* * * * *

(b) When the invention consists of an improvement on an old machine the drawing should, when possible, exhibit, in one or more views, the improved portion itself, disconnected from the old structure, and also in another view, so much only of the old structure as will suffice to show the connection of the invention therewith.

6. By revising the first (unlettered) paragraph and paragraphs (a), (b), (c), (e), (f), (g), (h), (j), and (l) of § 1.84 to read as follows:

§ 1.84 *Standards for drawings.*

The complete drawing is reproduced and attached to the patent and a selected portion of the drawing is published in the OFFICIAL GAZETTE when the patent issues. Therefore, the drawing should have a high standard of execution and excellence which readily allows satisfactory reproduction.

(a) *Material.* Drawings must be made on flexible, strong, white, smooth, and nonshiny paper or on a strong, smooth, nonshiny, flexible transparent material of a permanent nature. Only one side of the sheet may be used. The material on which drawings are made must be susceptible to correction.

(b) *Size of drawing margins.* The drawing sheet must contain a "sight" in which all illustrations appear, not in excess of 7¼ inches by 10⅝ inches. No border lines may appear on the drawing sheet to indicate the "sight" space. The minimum margin must be 9/16 inch at the left edge and ⅝ inch at the bottom edge. The margin at the top must be located not more than 10⅝ inches from the bottom edge. The right-hand margin must be located not more than 7 1/16 inches from the left edge.

(c) *Character of lines.* All drawings must be made by a process which will give satisfactory reproduction characteristics. Every line and letter (signatures included) must be durable, absolutely black or blue and sufficiently dense and dark to allow satisfactory reproduction. This direction applies to all lines however fine, to shading, and to lines representing cut surfaces in sectional views. All lines must be clean, sharp, and solid, and fine or crowded lines should be avoided. Solid black or blue should not be used for sectional or surface shading. Drafting instruments should be used in preparing original drawings and freehand work should be avoided wherever possible.

* * * * *

(e) *Scale.* The scale to which a drawing is made ought to be large enough to show the mechanism without crowding when the drawing is reduced in reproduction, and views of portions of the mechanism on a larger scale should be used when necessary to show details clearly; two or more sheets should be used if one does not give sufficient room to accomplish this end, but the number of sheets should not be more than is necessary. The scale of the drawings and the distinctness of their graphical execution must be such that a photographic reproduction with a linear reduction in size to two-thirds would enable all details to be distinguished without difficulty. When, in exceptional cases, the scale is given on a drawing, it must be represented graphically and not indicated in writing.

(f) *Reference characters.* The different views should be consecutively numbered figures with Arabic numerals. Reference numerals (and letters, but numerals are preferred) must be plain, legible, and carefully formed, and not be encircled. They must measure at least one-eighth of an inch in height so that they may bear reduction to one twenty-fourth of an inch; and they may be slightly larger when there is sufficient room. They must not be so placed in the close and complex parts of the drawing as to interfere with a thorough comprehension of the same, and therefore should rarely cross or mingle with the lines. When necessarily grouped around a certain part, they should be placed at a little distance, at the closest point where there is available space, and connected by lines with the parts to which they refer. They should not be placed upon hatched or shaded surfaces but when necessary, a blank space may be left in the hatching or shading where the character occurs so that it shall appear perfectly distinct and separate from the work. The same part of an invention appearing in more than one view of the drawing must always be designated by the same character, and the same character must never be used to designate different parts. Brackets, circles, or inverted commas together with numbers and letters, must not be used. However, a single large bracket may be used to group all parts of an exploded view. Reference characters not mentioned in the specification must not appear in the drawings.

(g) *Symbols, legends.* Graphical drawing symbols and other labeled representations may be used for convention elements when appropriate, subject to approval by the Office. The elements for which such symbols and labeled representations are used must be adequately identified in the specification. While descriptive matter on drawings is not permitted, suitable legends may be used, or may be required, in proper cases. Legends should be single words such as "water," "steam," "open," and "closed." In the case of electrical circuits and block schematics or flow sheet diagrams a few short catch words indispensable for understanding may be used if they appear in the description and are widely used in the art. Arrows may be required, in proper cases, to show direction of movement. The lettering should be as large as, or larger than, the reference characters.

(h) *Location of signature, names and numerals.* The signature of the applicant or the name of the applicant and signature of the attorney or agent, may be placed in a lower corner of each sheet within the sight space. Each sheet of drawing must bear within the sight space the total number of sheets of drawings in Roman numerals, with the number of the sheet in Arabic numerals.

* * * * *

(j) *Arrangement of views.* All views on the same sheet must stand in the same direction and should, if possible, stand so that they can be read with the sheet held in an upright position. If views longer than the width of the sheet are necessary for the clearest illustration of the invention, the sheet may be turned on its side. The space for the signatures should then be located at the left, occupying the same space and position on the sheet as in the upright views and being horizontal when the sheet is held in an upright position. One figure must not be placed upon another or within the outline of another.

* * * * *

(l) *Extraneous matter.* An agent's or attorney's stamp, or address, or other extraneous matter, will not be permitted upon the face of a drawing, except that the title of the invention and identifying indicia, to distinguish from other drawings filed at the same time, may be placed below the lower margin in erasable pencil.

* * * * *

7. By revising § 1.87 to read as follows:

§ 1.87 *Nonreturn of drawings.*

(a) The drawing of an accepted application will not be returned to the applicant.

(b) A print is made of the drawing of an accepated application.

8. By amending § 1.21 to add a new paragraph (f) to read as follows:

§ 1.121 *Manner of making amendments.*

* * * * *

(f) Insertions to the specification must be limited to one per line and to not more than five per page. If extensive revision is required, a portion of the specification may be rewritten and substituted as an insertion. The number of words in each insertion is not limited.

9. By revising § 1.122 to read as follows:

§ 1.122 *Entry and consideration of amendments.*

Ordinarily all amendments presented in a paper file while the application is open to amendments are entered and considered, subsequent cancellation or correction being required of improper amendments. Untimely amendatory papers may be refused entry and consideration in whole or in part.

10. By revising paragraph (a) of § 1.123 to read as follows:

§ 1.123 *Amendments to the drawing.*

(a) No change in the drawing may be made except by permission of the Office. Permissible changes in the construction shown in any drawing may be made only by the Office. A sketch in dark indelible color showing proposed changes, to become part of the record, must be filed. The paper requesting amendments to the drawing should be separate from other papers.

* * * * *

11. By revising § 1.124 to read as follows:

§ 1.124 *Amendment of amendments.*

When an amendatory insertion is to be amended, it should be wholly rewritten and the original insertion canceled, so that no interlineation or deletions shall appear in the insertion as finally presented. Matter canceled by amendment can be reinstated only by a subsequent amendment presenting the canceled matter as a new insertion.

All persons who desire to present their views, objections, recomemndations, or suggestions in connection with the proposed changes are invited to do so on or before October 25, 1968, on which day a hearing will be held at 9 a.m., in Room 3 D 50 of Crystal Plaza Building 34, Arlington, Va. All persons wishing to be heard orally are requested to notify the Commissioner of Patents of their intended appearance.

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: August 16, 1968.

EDWARD J. BRENNER,
Acting Assistant Secretary for Science and Technology.

[F.R. Doc. 68–10349; Filed, Aug. 27, 1968; 8:45 a.m.]

Published in 33 F.R. 12142–4, Aug. 28, 1968

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF SEPTEMBER 9, 1968

PATENT EXAMINING OPERATIONS AND GROUPS * Denotes date of oldest application for each Operation.	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	5-05-66	1-16-64
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates, Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	5-03-66	*5-24-63
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	6-08-66	1-29-64
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Director Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	*11-16-65	6-03-63
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	4-04-66	3-18-64
ELECTRICAL EXAMINING OPERATION		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—W. S. COLE, Director Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	6-27-66	3-04-64
SECURITY, GROUP 220—S. BOYD, Director Ordinance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	4-26-67	3-26-65
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Director Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*8-10-65	*10-10-67
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	10-24-65	10-15-62
PHYSICS, GROUP 280—R. L. EVANS, Director Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	7-21-66	4-01-65
DESIGNS, GROUP 290—S. BOYD, Director Industrial Arts; Household, Personal and Fine Arts.	12-28-67	3-06-67
MECHANICAL EXAMINING OPERATION		
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	3-06-67	9-21-65
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Director Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	11-02-66	1-06-65
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	9-30-66	5-25-64
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Director Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	8-02-67	7-27-66
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Director Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	5-01-67	1-18-65
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—F. H. BRONAUGH, Director Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	*5-31-66	*5-29-63

Total number of pending applications (excluding Designs)	189,725
Total number of Design applications pending	2,766

Expiration of patents: The patents within the range of numbers indicated below expire during September 1968, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their term curtailed by disclaimer under the provisions of 35 U.S.C. 253.

Patents	Numbers 2,566,295 to 2,569,435, inclusive
Plant Patents	Numbers 1,035 to 1,041, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

United States Court of Appeals
District of Columbia Circuit

SUN CHEMICAL CORPORATION, HERMAN B. GOLDSTEIN, AND MICHAEL A. SILVESTRI, APPELLANTS

v.

EDWARD J. BRENNER, COMMISSIONER OF PATENTS, APPELLEE

No. 21,363. Decided May 15, 1968

[—U.S.App.D.C. —; — F.2d —; — USPQ —]

1. APPEAL TO U.S. COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA—RULE 52(a) OF THE FEDERAL RULES OF CIVIL PROCEDURE.

"The District Court made detailed findings of fact to the effect that, although the use of imidazolidone in place of other resins was a considerable improvement, the possibility of such use was apparent from an examination of the existing patents and did not give rise to a newly-invented process. It found itself unable, upon the basis of the evidence before it, to justify any interference with the determinations of the Patent Office. In the same way, we do not find any of the District Court's findings of fact to be clearly erroneous. Rule 52(a), Fed. R. Civ. P. With the facts so found, the conclusions of law drawn from them are unexceptionable."

AFFIRMED.

Mr. George H. Mitchell, Jr., with whom *Mr. Arnold B. Christen* was on the brief, for appellants.

Mr. Raymond E. Martin, Attorney, United States Patent Office, with whom *Mr. Joseph Schimmel*, Solicitor, United States Patent Office, was on the brief, for appellee.

Before BAZELON, *Chief Judge*, McGOWAN and ROBINSON, *Circuit Judges*

PER CURIAM:

This appeal is from a judgment of the District Court dismissing, after trial, a complaint under 35 U.S.C. § 145. The relief sought was that appellee be directed to issue a patent on a process relating to permanent creases in manufactured garments. The patent application had been denied within the Patent Office by reason of its obviousness in the light of existing patents. 35 U.S.C. § 103. Appellants are the holders of one of such patents covering an acid-catalyzed resin known as imidazolidone; and one of the claims made for it was its usefulness in improving the "crease receiving properties" of textiles. Other existing patents disclosed a permanent crease process involving the impregnation of fabrics with resinous compounds.

[1] The District Court made detailed findings of fact to the effect that, although the use of imidazolidone in place of other resins was a considerable improvement, the possibility of such use was apparent from an examination of the existing patents and did not give rise to a newly-invented process. It found itself unable, upon the basis of the evidence before it, to justify any interference with the determinations of the Patent Office. In the same way, we do not find any of the District Court's findings of fact to be clearly erroneous. Rule 52(a), Fed. R. Civ. P. With the facts so found, the conclusions of law drawn from them are unexceptionable.

AFFIRMED.

United States Court of Appeals
District of Columbia Circuit

ROLLAND C. HIGLEY
v.
EDWARD J. BRENNER, COMMISSIONER OF PATENTS

No. 20,779. Decided November 7, 1967

[— U.S.App.D.C. —; 387 F.2d 855; 155 USPQ 481]

1. APPEAL TO U.S. COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT—PRESUMPTION REGARDING DECISIONS BELOW — OBVIOUSNESS UNDER 35 U.S.C. 103 A QUESTION OF LAW.

"We note at the outset that a presumption of correctness accompanies the decisions of the Patent Office. *California Research Corp.* v. *Ladd*, 123 U.S.App. D.C. 60, 356 F.2d 813 (1966); *Fletcher* v. *Watson*, 92 U.S.App.D.C. 205, 204 F.2d 68 (1953), and substantially the same rule applies to the findings of fact of the District Court. What the prior art is and what the claimed invention is are questions of fact. However, whether those facts render the invention obvious within section 103 is a question of law. *Great Atl. & Pac. Tea Co.* v. *Supermkt. Equip. Corp.*, 340 U.S. 147, 155–6 (1950) (opinion of Douglas, J., concurring); *Tatko Bros. Slate Co.* v. *Hannon*, 270 F.2d 571, 572 (2d Cir. 1959)."

2. PATENTABILITY—STATUTORY BASIS FOR REJECTION—35 U.S.C. §§ 101–103.

"Three conditions, set out in 35 U.S.C. §§ 101–103, must be met as prerequisites to the valid issuance of a patent. Section 101 provides that a patentable invention must be new and useful. Section 102 states various defenses to claims of newness and usefulness. Section 103 provides that in addition to claims of novelty and utility, the subject matter as a whole cannot have been obvious to one ordinarily skilled in the art."

3. SAME—OBVIOUSNESS—*Graham* v. *John Deere Co.*—35 U.S.C. 103 MERELY A CODIFICATION OF PRIOR CASE LAW FOR INVENTION.

"In *Graham* v. *John Deere Co.*, 383 U.S. 1 (1966), the Supreme Court thoroughly analyzed the constitutional provision, the statutory scheme, the case law, and the effects on that case law, of the 1952 Patent Act which added section 103. It concluded that section 103 was merely a codification of the prior case law requirement of 'invention.' Further, the procedure to be followed in determining whether the section 103 condition has been met was outlined 'Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. 383 U.S. at 17.'"

4. SAME—COMBINING REFERENCES—OBVIOUSNESS.

"The obviousness question here revolves around the Patent Office's combining prior references. Reliance may properly be placed on such a combination to negative patentability where the applicant's subject matter is suggested or 'taught' by the prior references. *Application of Van Deventer*, 223 F.2d 274, 276 (CCPA 1955); *Application of Demarche*, 219 F.2d 952, 956 (CCPA 1955)."

5. SAME—OBVIOUSNESS—TESTS APPLIED AT TIME OF INVENTION.

"The test of obviousness • • • must be applied as of the time of the invention and not retrospectively as of the time of the suit. 'Many things may seem obvious after they have been made, and for this reason courts should guard against slipping into the use of hindsight. We must be careful to "view the prior art without reading into that art the teachings of appellant's invention."' *Application of Sporck*, 301 F.2d 686, 689 (CCPA 1962).' *Monroe Auto Equip. Co.* v. *Heckethorn Mfg. & Supply Co.*, 332 F.2d 406, 412 (6th Cir. 1964). The principle is well established. *Goodyear Tire & Rubber Co.* v. *Ray-O-Vac Co.*, 321 U.S. 275, 279 (1944); *L-O-F Glass Fibers Co.* v. *Watson*, 97 U.S.App.D.C. 69, 72, 228 F.2d 40, 43 (1955); *Manville Boiler Co.* v. *Columbia Boiler Co. of Pottstown*, 269 F.2d 600, 603–04 (4th Cir. 1959)."

6. SAME—COMBINING OLD ELEMENTS—NEW OR UNEXPECTED RESULT OR MORE EFFICIENT OR ECONOMICAL RESULT.

"• • • even if all of the elements used are old, a new result, an unexpected result, a far more efficient result, or a more economical result will satisfy the requirements of patentability."

7. SAME—OBVIOUSNESS—CHANGE IN FORM, PROPORTIONS OR DEGREE OR SUBSTITUTION OF EQUIVALENTS.

"• • • 'a change only in form, proportions, or degree, the substitution of equivalents, doing substantially the same thing in the same way by substantially the same means with better results is not such invention as will sustain a patent.' *Smith* v. *Nichols*, 88 U.S. (21 Wall.) 112, 119 (1874). *Accord, Little Mule Corp.* v. *The Lug All Co.*, 254 F.2d 268 (5th Cir. 1958)."

8. SAME—EVIDENCE—COMMERCIAL SUCCESS AND LONG FELT NEED.

"Commercial success and the satisfaction of a long felt need are both secondary factors that can also bear on the question of obviousness. *Graham* v. *John Deere Co.* • • • . The rationales supporting the use of each are intertwined. Evidence of a long standing need tends to indicate nonobviousness because, otherwise, the need would not have persisted in the face of efforts directed toward solution. Potential commercial success, it is inferred, would probably have induced innovators to make such efforts. Evidence that the applicant's device has had commercial success tends to indicate that the other efforts were unsuccessful. Taken together, the evidence of a need and of success where others had tried and failed tends to show that the successful solution was not obvious."

9. SAME—SAME—SAME.

"• • • the presence of these secondary factors [commercial success and long felt need] will not avail if the subject matter is clearly obvious. They are to be looked to only in a doubtful case. *Graham* v. *John Deere Co.* • • •; *Great Atl. & Pac. Tea Co.* v. *Supermkt. Equip. Corp.* • • •."

10. SAME—SAME—SAME—35 U.S.C. 103.

"Our view is that because a frame was used and because a new result was achieved, appellant's implement could not have been 'clearly obvious' so as to preclude consideration of the evidence of commercial success and a long standing need. After considering those factors together with the other evidence, we conclude that Higley's machine would not have been obvious to one of ordinary skill in the art within 35 U.S.C. § 103."

11. SAME—PARTICULAR SUBJECT MATTER—TRACTOR-DRAWN SUBSOIL TILLER.

The judgment of the District Court, dismissing the complaint in a suit under 35 U.S.C. 145 to authorize the issuance of a patent for a tractor-drawn subsoil tiller, is reversed.

APPEAL from the United States District Court for the District of Columbia.

REVERSED.

Mr. S. Tom Morris and *Mr. Keith Misegades* for appellant.

Mr. Joseph Schimmel, Solicitor (*Mr. Fred W. Sherling*, of counsel) for appellee.

Before WILBUR K. MILER, *Senior Circuit Judge*, and DANAHER and TAMM, *Circuit Judges*

TAMM, *Circuit Judge.*

Appellant Higley sought a patent on a tractor-drawn frame or subsoil tiller—an oscillating groundworking implement which, by imparting a vibrating motion to the tools, not only can penetrate the soil to a depth of two and one half feet but can thereupon simultaneously shatter both hardpan and subsoil. The Patent Office rejected his application, and the Board of Appeals affirmed that rejection.[1] He then brought suit in the District Court below under 35 U.S.C. § 145[2]

[1] Decision of the Board of Appeals, March 31, 1965.

[2] An applicant dissatisfied with the decision of the Board of Appeals may unless appeal has been taken to the United States Court of Customs and Patent Appeals, have remedy by civil action against the Commissioner in the United States District Court for the District of Columbia if commenced within such time after such decision, not less than sixty days, as the Commissioner appoints. The court may adjudge that such applicant is entitled to receive a patent for his invention, as specified in any of his claims involved in the decision of the Board of Appeals, as the facts in the case may appear and such adjudication shall authorize the Commissioner to issue such patent on compliance with the requirements of law. All the expenses of the proceedings shall be paid by the applicant.

to compel issuance of a patent. The District Court dismissed the suit, and the present appeal was taken.

The implement involved can be pulled behind an ordinary farm tractor. It consists of several earthworking tools suspended from a frame which is mounted on two wheels. An eccentric weight is, in turn, mounted on top of the frame. Rotation of the weight [3] imparts an oscillating motion to the frame causing the earthworking tools on either side to move in and out of the ground vertically in an alternating fashion, while also causing them to move laterally.

The machine was specifically designed to cope with a soil condition known as "hardpan," a hard subsurface that forms six to eight inches beneath the soil's surface. Presence of the condition keeps much of the rainfall from being absorbed into the subsoil and causes it to run off. Previous implements used to penetrate the hardpan have either required too much power to pull, have made furrows while leaving the ground in between unbroken, or have not gone deep enough to break up the hardpan. Higley's "sub-tiller" has none of these disadvantages. It can be pulled by a farm tractor, it completely shatters the earth leaving no unbroken ground, and it breaks up the hardpan.

The Patent Office, the Board of Appeals, and the District Court relied (as the Commissioner does here) on a combination of four prior patents, which, it is contended, anticipate or in any event render obvious Higley's device.[4]

The Bird patent, oldest of the four, shows a static implement for deep subsoil tilling. It is similar in design to appellant's implement but without the oscillating mechanism. The Keller patent shows a power shovel with an oscillating movement applied to the shovel bucket. The Miselli and Saint-Seine patents [5] both show implements resembling ordinary plows but with relatively small oscillating mechanisms mounted directly on the plow shares. The contention of the Commissioner is that it would have been obvious to one ordinarily skilled in the art to combine the deep tilling capabilities of the Bird "static ripper" with the oscillating movement used in either the Miselli or the Keller devices and, accordingly, that Higley's implement is not patentable under 35 U.S.C. § 103.

[1] We note at the outset that a presumption of correctness accompanies the decisions of the Patent Office. *California Research Corp.* v. *Ladd*, 123 U.S.App.D.C. 60, 356 F.2d 813 (1966); *Fletcher* v. *Watson*, 92 U.S.App.D.C. 205, 204 F.2d 68 (1953), and substantially the same rule applies to the findings of fact of the District Court.[6] What the prior art is and what the claimed invention is are questions of fact. However, whether those facts render the invention obvious within section 103 is a question of law. *Great Alt. & Pac. Tea Co.* v. *Supermkt. Equip. Corp.*, 340 U.S. 147, 155–6 (1950) (Opinion of Douglas *J.*, concurring); *Tatko Bros. Slate Co.* v. *Hannon*, 270 F.2d 571, 572 (2d Cir. 1959).

[3] The power for the rotation is supplied by the tractor's power takeoff.

[4] All claims except claim sixteen were rejected as obvious under 35 U.S.C. § 103 (1964). Claim sixteen was rejected as fully anticipated under 35 U.S.C. § 102 (1964) by either the Miselli or Saint-Seine patents. Because both the Miselli and Saint-Seine implements resemble ordinary plows, we feel that they do not teach the kind of *deep* soil disruption claimed on behalf of the appellant's device.

[5] While Bird is a United States, Saint-Seine is French, and Miselli and Keller are Italian. The suggestion is made by appellant that the teachings of foreign patents are anticipatory only to the extent that they "clearly suggest" what the applicant did. Whatever value there is in that vague distinction, we simply note here that under either standard Higley's application was not anticipated.

[6] Rule 52(a) of the Federal Rules of Civil Procedure provides, *inter alia:* "Findings of fact shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge of the credibility of the witnesses."

[2] Three conditions, set out in 35 U.S.C. §§ 101–03,[7] must be met as prerequisites to the valid issuance of a patent. Section 101 provides that a patentable invention must be new and useful. Section 102 states various defenses to claims of newness and usefulness. Section 103 provides that in addition to claims of novelty and utility, the subject matter as a whole cannot have been obvious to one ordinarily skilled in the art.

[3] In *Graham* v. *John Deere Co.*, 383 U.S. 1 (1966), the Supreme Court thoroughly analyzed the constitutional provision,[8] the statutory scheme, the case law, and the effects on that case law, of the 1952 Patent Act [9] which added section 103. It concluded that section 103 was merely a codification of the prior case law requirement of "invention." [10] Further, the procedure to be followed in determining whether the section 103 condition has been met was outlined:

> Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. 383 U.S. at 17.

[4] The obviousness question here revolves around the Patent Office's combining prior references. Reliance may properly be placed on such a combination to negative patentability where the applicant's subject matter is suggested or "taught" by the prior references. *Application of Van Deventer*, 223 F.2d 274, 276 (CCPA 1955); *Application of Demarche*, 219 F.2d 952, 956 (CCPA 1955).

[5] The test of obviousness, however, must be applied as of the time of the invention and not retrospectively as of the time of the suit. "Many things may seem obvious after they have been made, and for this reason courts should guard against slipping into the use of hindsight. We must be careful to 'view the prior art without reading into that art the teachings of appellant's invention.' *Application of Sporck*, 301 F.2d 686, 689 (CCPA 1962)." *Monroe Auto Equip. Co.* v. *Heckethorn Mfg. & Supply Co.*, 332 F.2d 406, 412 (6th Cir. 1964). The

[7] § 101. Inventions patentable
Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.
§ 102. Conditions for patentability; novelty and loss of right to patent
A person shall be entitled to a patent unless—
(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or
(c) he has abandoned the invention, or
(d) the invention was first patented or caused to be patented by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application filed more than twelve months before the filing of the application in the United States, or
(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or
(f) he did not himself invent the subject matter sought to be patented, or
(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.
§ 103. Conditions for patentability; non-obvious subject matter
A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

[8] U.S. Const. art. 1, § 8, cl. 8 provides that the Congress shall have power "to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exlusive Right to their respective Writings and Discoveries."

[9] 35 U.S.C. §§ 1–293 (1964).

[10] Thus, nonobviousness becomes a synonym. The Court also noted that the now codified standard of nonobviousness has been applied without variation since at least as early as *Hotchkiss* v. *Greenwood*, 52 U.S. (11 How.) 248 (1851).

principle is well established. *Goodyear Tire & Rubber Co.* v. *Ray-O-Vac Co.*, 321 U.S. 275, 279 (1944); *L-O-F Glass Fibers Co.* v. *Watson*, 97 U.S.App.D.C. 69, 72, 228 F.2d 40, 43 (1955); *Manville Boiler Co.* v. *Columbia Boiler Co. of Pottstown*, 269 F.2d 600, 603–04 (4th Cir. 1959).

[6] Further, even if all of the elements used are old, a new result, an unexpected result, a far more efficient result, or a more economical result will satisfy the requirements of patentability. Thus, the Supreme Court, in *The Barbed Wire Patent*, 143 U.S. 275 (1891), found the requisite invention in the applicant's method of twisting barbs around a first wire and then twisting a second wire around the first, keeping the barbs firmly in place. The prior art disclosed a method of hammering metal "spikes" onto a single wire. However, that method was not as economical, nor were the barbs as stabile. The new result was first a barb that stayed in place, but more importantly it allowed fencing of cattle grazing lands in the west and southwest when it had not been practicable before.

Similarly in *Blaw-Knox Co.* v. *I. D. Lain Co.*, 230 F.2d 373 (9th Cir. 1956), a patent was declared valid on a concrete highway mechanism even though it consisted of elements old in the art. This was because the patentee had "achieved the new beneficial result of eradication of the defects previously encountered in using heavy concrete." *Id.* at 376.

In *Colgate-Palmolive Co.* v. *Carter Products, Inc.*, 230 F.2d 855 (4th Cir. 1956), the validity of a patent on a shaving lather in an aerosol can was sustained, and the principle was again applied. The elements—Soap as lather, a can as a container, and gas liquified under Pressure—were not new. What was new was the patentee's "mixture of the right gases, with the right soaps in the right proportions, confined in a container under the right pressure, so that a lather satisfactory for shaving purposes [was] . . . produced when the mixture was allowed to emerge." *Id.* at 858.

[7] On the other hand, "a change only in form, proportions, or degree, the substitution of equivalents, doing substantially the same thing in the same way by substantially the same means with better results is not such invention as will sustain a patent." *Smith* v. *Nichols*, 88 U.S. (21 Wall.) 112, 119 (1874). *Accord*, *Little Mule Corp.* v. *The Lug All Co.*, 254 F.2d 268 (5th Cir. 1958).

[8] Commercial success and the satisfaction of a long felt need are both secondary factors that can also bear on the question of obviousness. *Graham* v. *John Deere Co.*, supra at 17, 35–6. The rationales supporting the use of each are intertwined. Evidence of a long standing need tends to indicate nonobviousness because, otherwise, the need would not have persisted in the face of efforts directed toward solution. Potential commercial success, it is inferred, would probably have induced innovators to make such efforts. Evidence that the applicant's device has had commercial success tends to indicate that the other efforts were unsuccessful. Taken together, the evidence of a need and of success where others had tried and failed tends to show that the successful solution was not obvious.[11]

[9] Even so, the presence of these secondary factors will not avail if the subject matter is clearly obvious. They are to be looked to only in a doubtful case. *Graham* v. *John Deere Co.* supra at 35; *Great Atl. & Pac. Tea Co.* v. *Supermkt. Equip. Corp.* supra at 153.

[11] For a thorough analysis, apparently approved by the Supreme Court in *Graham* v. *John Deere Co.*, supra at 36, see Note, *Subtests of "Nonobviousness": A Nontechnical Approach to Patent Validity*, 112 U. Pa. L. Rev. 1169, 1172–77 (1964).

We turn now to an application of these principles to the case at bar. The prior patents show (1) a static ripper and (2) implements which have vibrating or oscillating motion applied directly to their earthworking tools.[12] The question is whether it would have been obvious to one ordinarily skilled in the trade to combine an oscillating mechanism with the static ripper and further to mount the mechanism on a frame (rather than directly on each tool) with a view to reaching the result that Higley reached. We think that it would not have been.

Not only does Higley's oscillator apply movement to a frame, but the nature of the movement differs from that of the prior art. The prior art shows movement in the form of a vibration of the groundworking tools. In Higley's implement, by comparison, the tools on either side move alternatingly in and out of the ground while they also move laterally.

We think, also, that the result Higley achieves is strikingly new. The machine completely shatters the soil between the earthworking tools. Consequently, the ground surface through which the implement passes becomes workable and ready to be planted.

Detailed testimony illustrated beyond question that the device satisfied a long felt need and that it has become a commercial success. Mr. Larson, a farmer in western Kansas for thirty-nine years, testified that he had been actively seeking a machine that would successfully break up the hardpan and that theretofore the only device available had to be towed by *two* crawler tractors. The Higley sub-tiller, he stated, broke up the hardpan much more completely than prior devices, could be towed by a rubber-tired farm tractor, and reduced the cost to between one-fourth and one-third of that of the former method. He testified further that as a result of the Higley machine's use, the ground retained more moisture, and crop yield was substantially increased. Two other witnesses gave testimony equally as strong.[13]

[10] Our view is that because a frame was used and because a new result was achieved, appellant's implement *could not* have been "clearly obvious" so as to preclude consideration of the evidence of commercial success and a long standing need. After considering those factors together with the other evidence, we conclude that Higley's machine would not have been obvious to one of ordinary skill in the art within 35 U.S.C. § 103.

This result is reached through application of the standard long adhered to by the Supreme Court and reiterated in *Graham* v. *John Deere Co.*, supra. Furthermore, we think the case is not unlike *The Barbed Wire Patent*, supra, where that same standard was applied. There, as here, the applicant's new result and the commercial success of his device were relied on in sustaining the validity of a patent.

We would not lightly reverse the able trial judge; but after reading the transcript and examining the exhibits, "we are left with the definite and firm conviction that a mistake has been committed." *United States* v. *United States Gypsum Co.*, 333 U.S. 364, 395 (1948).

[12] Miselli shows an alternate construction of a single-share plow in which an oscillator is mounted on the metal shank that attaches the plow to a tractor. We do not think that this alone, or in conjunction with the Bird static ripper, suggests the use of a frame and an alternating movement of the kind that Higley used.

[13] The panel witnessed motion pictures which had been offered in evidence at trial and which demonstrated in support of the testimony, both the operation of the invention and the result achieved. We thus could readily understand how the Patent Office conceded that Higley indeed is "marvelous" even as we fail to understand its contention that Higley was obvious."

[11] The judgment of the District Court dismissing the complaint is reversed, and judgment will be entered for the appellant as to all claims in issue. The Commissioner is authorized to issue a patent.

REVERSED.

In the United States Patent Office
Before the Board of Patent Interferences

LASSMAN *v.* BROSSI, GERECKE AND KYBURZ

Patent Interference No. 94,514. Decided October 26, 1967

1. INTERFERENCE—BURDEN OF PROOF—SAME EFFECTIVE FILING DATES.

"The right of each party to rely on his respective foreign application under 35 U.S.C. 119 has not been challenged. Since both of these foreign applications were filed on the same day, February 12, 1960, both parties have identical effective filing dates and therefore neither party carries a greater burden of proving priority than the other, *Van Otteren* v. *Hafner et al.*, 47 CCPA 995, 126 USPQ 151."

2. SAME—CONCEPTION—DISCLOSURE RECEIVED BY ATTORNEY FROM ABOARD—CONCEALMENT.

"We do not believe that Lassman should be deprived of the benefit of the introduction of a conception into this country from abroad merely because it is indicated that no patent application is to be filed thereon without instructions from the foreign patent agent. It does not appear to us unreasonable that such communications between patent attorneys or agents would be retained in confidence. Since it appears that the invention originated in Great Britain, we believe that it would be proper for the patent agents there to determine when a United States application could or should be filed in view of any requirements of the British statutes. It is clear that Exhibits A and B were introduced into this country for the purpose of establishing a date of conception and to provide a basis for filing a patent application directed to the subject matter described in the memorandum. Exhibit A includes a discussion of a possible patent application. Brossi et al. have not cited any prior decision in support of the above contention. We conclude that there is no evidence of suppression or concealment in the legal sense of the subject matter of count 2 on the part of Lassman."

3. SAME—SAME—SAME.

"As was the case in *Mortsell* v. *Laurila* • • • there is no evidence indicating an originality or derivation issue as between the parties. In *Mortsell* v. *Laurila* the facts were similar to those here in that a disclosure was received by an attorney in this country from abroad. There the court held that the appellant's questioning of Laurila's having made the invention which was disclosed to the attorney was merely an attempt to raise the issue of third party inventorship which is not ancillary to priority. We are of the view that the holding in that case applies here. Attention is also directed to *Brown* v. *Barton*, 26 CCPA 889, 1939 C.D. 279, 284, 41 USPQ 99, in which it was held that when an attorney prepares drawings for a client in a patent application, the presumption is that he derived his information with respect thereto from the inventor. Under the circumstances of this case we conclude that Exhibits A and B must be presumed to have been introduced into this country on behalf of Lassman."

4. SAME—BENEFIT OF FOREIGN FILING DATE—SAME EFFECTIVE FILING DATE—CONCEPTION—DILIGENCE—35 U.S.C. 119.

"Under the provisions of 35 U.S.C. 119 the foreign application shall have the same effect as the same application would have had if filed in this country 'on the date on which the application for patent for the same invention was first filed in such foreign country.' Since Lassman, and also Brossi et al., have complied with the requirements of section 119 and no question has been raised as to the disclosure of the invention of the counts in each foreign application, we are of the view that the claimed priority dates [which are identical] are as effective as constructive reductions to practice as would be the case if the parties had filed their United States applications on the dates of their foreign applications. Therefore, in accordance with *McParland* v. *Beall*, supra, and *Janin* v. *Curtiss*, 45 App. D.C. 362, 1916 C.D. 233 Lassman is entitled to prevail as to count 2, having established a prior conception in this country, it not being necessary to establish diligence under these circumstances. See also *Whittier* v. *Borchardt*, 33 CCPA 1023, 1946 C.D. 361, 69 USPQ 382 (388)."

5. SAME—PRIORITY OF INVENTION—PATENTABLY INDISTINCT COUNTS.

"Lassman has urged that since count 1 is no more than an ester of the alcohol produced by the process of count 1, he is also entitled to an award of priority as to count 1. We cannot agree with this position. An award of priority as to one count cannot be awarded to a party merely because it may be considered to contain nothing patentable over another count to which the party is entitled to an award of priority. The holding of *Capek et al.* v. *Levis*, 19 CCPA 843, 1932 C.D. 151, 12 USPQ 140, 145, is directly in point."

6. SAME—SAME—SAME EFFECTIVE FILING DATE.

"Neither party has proved either conception or a reduction to practice as to the subject matter of count 1 prior to the filing date, February 12, 1960, of their respective foreign applications. Thus neither party has discharged his burden of proving priority as to count 1. We note that in the case of *Bechman* v. *Wood*, 15 App. D.C. 484, 1899 C.D. 453, involving an entirely different fact situation, it was held that under appropriate circumstances there should be no judgment of priority of invention as to either party with reference to a particular claim. We conclude that under the circumstances of this case neither party is entitled to judgment of priority as to count 1."

7. SAME—MATTER BEFORE BOARD.

"This Board's decision is limited to questions of priority and those ancillary to priority. The question of a party's right to a patent containing claims corresponding to the counts is decided by the Primary Examiner in view of our holdings on priority and ancillary questions as well as in view of pertinent ex parte considerations."

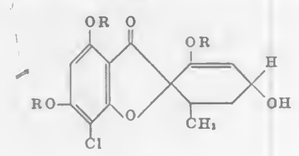
Before BOYS, CREWS and BAILEY, *Examiners of Interferences*

BAILEY, *Examiner of Interferences.*

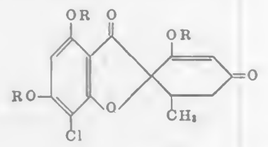
The counts of this interference are drawn to a process of preparing an alcohol and to an acetic acid ester of the alcohol. The counts read as follows:

Count 1.—4'-acetoxy-7-chloro-4,6,2''-trimethoxy-6'-methyl-gris-2'-en-3-one.

Count 2.—The process for preparing a compound of the formula



which comprises reacting a compound of the formula



wherein R is lower alkyl with a member selected from the group consisting of an alkali metal borohydride and an alkali metal aluminum hydride.

In his Decision on Motions of February 16, 1966 (paper No. 22), adhered to on reconsideration (paper No. 25), the Examiner accorded Lassman the benefit of the filing date of his application filed in Great Britain and Brossi et al. the benefit of the filing date of their Swiss application.

[1] The right of each party to rely on his respective foreign application under 35 U.S.C. 119 has not been challenged. Since both of these foreign applications were filed on the same day, February 12, 1960, both parties have identical effective filing dates and there-

fore neither party carries a greater burden of proving priority than the other, *Van Otteren* v. *Hafner et al.*, 47 CCPA 995, 126 USPQ 151.

Both parties filed briefs and were represented at final hearing.

Under the provisions of Rule 272(c) Lassman has presented an affidavit by Pike, an attorney representing Lassman, and certain documentary exhibits. In his affidavit Pike stated he is responsible for prosecuting, in this country, applications of Glaxo Laboratories Ltd., the assignee of the Lassman application; that on November 12, 1959 he received from Frank B. Dehn & Co. (British chartered patent agents) a letter (Exhibit A) enclosing a confidential memorandum of Glaxo Laboratories Ltd. (Exhibit B); that he read and understood this memorandum on November 12, 1959 and endorsed this fact on the face of the memorandum and that on November 13, 1959 he sent Frank B. Dehn & Co. a letter (Exhibit C is a copy) acknowledging receipt of the memorandum. This memorandum discloses a process meeting the terms of count 2 and states, on the second page thereof, that the alcohol produced has an *in vivo* action on guinea pigs infected with M-canis which "seems to be at least of the same order as griseofulvin." That this memorandum adequately discloses the subject matter of count 2 has not been contested.

It is the position of Lassman that the affidavit of Pike and exhibits prove the introduction of the invention of count into this country on November 12, 1959 which is prior to the earliest date of invention which can be established by Brossi et al. (Brossi et al. presented no testimony) and that since both parties simultaneously reduced to practice (constructively) the question of diligence does not arise.

Brossi et al. contend that the stipulated testimony fails to establish the necessary facts upon which to base an award of priority to Lassman because the communication itself evidences a deliberate suppression and concealment of the invention in the United States. Brossi et al. refer to the second paragraph of Exhibit A which states:

> As usual, we are required to inform you that the contents of this memorandum are strictly confidential, and must not form the subject of any patent application without our express instructions.

Lassman urges that such a notice is required by the British regulations concerning the export of technical information. Lassman also urges that there was no concealment or suppression, as shown by the fact that the memorandum was "diligently" followed by filing of the United States patent application.

[2] We do not believe that Lassman should be deprived of the benefit of the introduction of a conception into this country from abroad merely because it is indicated that no patent application is to be filed thereon without instructions from the foreign patent agent. It does not appear to us unreasonable that such communications between patent attorneys or agents would be retained in confidence. Since it appears that the invention originated in Great Britain, we believe that it would be proper for the patent agents there to determine when a United States application could or should be filed in view of any requirements of the British statutes. It is clear that Exhibits A and B were introduced into this country for the purpose of establishing a date of conception and to provide a basis for filing a patent application directed to the subject matter described in the memorandum. Exhibit A includes a discussion of a possible patent application. Brossi et al. have not cited any prior decision in support of the above contention. We conclude that there is no evidence of suppression or concealment in the legal sense of the subject matter of count 2 on the part of Lassman.

Brossi et al. also contend that the testimony and exhibits do not show that the alleged introduction of the invention into this country was on behalf of the inventor Lassman. Lassman points out that he has stated in his preliminary statement that he is the inventor of the invention here involved and has also stated, in effect, that the memorandum written by Dr. Walker and introduced into the United States was done on his behalf. It is urged by Lassman that Brossi et al. have the burden to prove otherwise and he has cited *Mortsell* v. *Laurila*, 49 CCPA 1028, 133 USPQ 380, as being in point.

[3] As was the case in *Mortsell* v. *Laurila*, supra, there is no evidence indicating an originality or derivation issue as between the parties. In *Mortsell* v. *Laurila* the facts were similar to those here in that a disclosure was received by an attorney in this country from abroad. There the court held that the appellant's questioning of Laurila's having made the invention which was disclosed to the attorney was merely an attempt to raise the issue of third party inventorship which is not ancillary to priority. We are of the view that the holding in that case applies here. Attention is also directed to *Brown* v. *Barton*, 26 CCPA 889, 1939 C.D. 279, 284, 41 USPQ 99, in which it was held that when an attorney prepares drawings for a client in a patent application, the presumption is that he derived his information with respect thereto from the inventor. Under the circumstances of this case we conclude that Exhibits A and B must be presumed to have been introduced into this country on behalf of Lassman.

Brossi et al. further urge that Lassman should not be awarded priority as to count 2 because the alleged introduction into this country was not coupled with acts in the United States showing diligence toward reduction to practice at the time Brossi et al. entered the field. Brossi et al. acknowledge that the decision of *McParland* v. *Beall*, 25 App. D.C. 162, 1916 C.D. 231, cited in the section 173 of the Rivise and Caesar publication referred to by Lassman in his brief, states that where both parties reduced to practice on the same day the first to conceive is entitled to priority. It is the position of Brossi et al. that this and other cited decisions to the same effect are not controlling where the party is relying upon the priority of a foreign filed application as a constructive reduction to practice.

[4] We do not find any basis for the distinction urged by Brossi et al. Under the provisions of 35 U.S.C. 119 the foreign application shall have the same effect as the same application would have had if filed in this country "on the date on which the application for patent for the same invention was first filed in such foreign country." Since Lassman, and also Brossi et al., have complied with the requirements of section 119 and no question has been raised as to the disclosure of the invention of the counts in each foreign application, we are of the view the claimed priority dates are as effective as constructive reductions to practice as would be the case if the parties had filed their United States applications on the dates of their foreign applications. Therefore, in accordance with *McParland* v. *Beall*, supra, and *Janin* v. *Curtiss*, 45 App. D.C. 362, 1916 C.D. 233, Lassman is entitled to prevail as to count 2, having established a prior conception in this country, it not being necessary to establish diligence under these cir-

cumstances. See also *Whittier* v. *Borchardt*, 33 CCPA 1023, 1946 C.D. 361, 69 USPQ 382 (388).

[5] Lassman has urged that since count 1 is no more than an ester of the alcohol produced by the process of count 1, he is also entitled to an award of priority as to count 1. We cannot agree with this position. An award of priority as to one count cannot be awarded to a party merely because it may be considered to contain nothing patentable over another count to which the party is entitled to an award of priority. The holding of *Capek et al.* v. *Levis*, 19 CCPA 843, 1932 C.D. 151, 12 USPQ 140, 145, is directly in point.

[6] Neither party has proved either conception or a reduction to practice as to the subject matter of count 1 prior to the filing date, February 12, 1960, of their respective foreign applications. Thus neither party has discharged his burden of proving priority as to count 1. We note that in the case of *Bechman* v. *Wood*, 15 App. D.C. 484, 1899 C.D. 453, involving an entirely different fact situation, it was held that under appropriate circumstances there should be no judgment of priority of invention as to either party with reference to a particular claim. We conclude that under the circumstances of this case neither party is entitled to judgment of priority as to count 1.

Brossi et al. urge that both parties are entitled to the same priority date of February 12, 1960 and although neither party is entitled to an award of priority, "the interference ought to be resolved in favor of Brossi et al. who was first to take steps to make the invention available to the United States public by filing an application in the United States." Brossi et al. also contend that there is no basis upon which to deny a patent to Brossi et al. on either of the counts involved in this interference.

As we have pointed out above, we are of the opinion that on the record presented Lassman is entitled to an award of priority as to count 2. Brossi et al. has cited no decision in support of his contention that the interference should be "resolved" in his favor and we know of none. We have considered the contention by Brossi et al. but it is our conclusion that in the present circumstances Brossi et al. cannot be awarded priority as to either count.

[7] This Board's decision is limited to questions of priority and those ancillary to priority. The question of a party's right to a patent containing claims corresponding to the counts is decided by the Primary Examiner in view of our holdings on priority and ancillary questions as well as in view of pertinent ex parte considerations.

In view of the foregoing, priority of invention of the subject matter of count 2 is hereby awarded to Lassman. As to count 1, priority is hereby awarded against both parties since neither party has proven that he is in fact the prior inventor thereof.

In the United States Patent Office
Commissioner's Decision

IN RE INTERFERENCE ———— A *v.* B *v.* C

Decided December 12, 1967

1. APPLICATION—DISCLOSURE—SUFFICIENCY OF DISCLOSURE—BIOSYNTHESIS.

"The question involved is whether in each case the specification, that is, the written description, is sufficient to enable any person skilled in the art to practice the process and produce the product involved [biosynthesized from a previously unknown species of microorganism described so that it may be identified]. The specifications are of the same character as that which was considered and held insufficient in *Ex parte Kropp*, 143 USPQ 148 (Civil Action 185-60, *Commercial Solvents Corp.* v. *Watson*, filed to review this decision was subsequently dismissed with prejudice by stipulation). The organism, of course, cannot be reproduced from such written descriptions."

2. SAME—SAME—SAME—DEPOSIT OF CULTURE OF MICROORGANISM—SECTION 112.

"The parties rely on certain evidence to show that their respective disclosures in the applications as filed are sufficient to enable a person skilled in the art to reproduce the invention; this relates to certain 'deposits' of the microorganisms involved. There is a certain amount of confusion relating to the nature and purpose of such deposits. In the first place it must be stated that the Patent Office does not require any deposit of microorganisms; there is no Rule or Order promulgated to this effect, and neither does the Patent Office have any authority to vary the substantive requirements of section 112 by any Rule or Order. Deposits of cultures of microorganisms are sometimes made in public stock culture collections by applicants on their own initiative and for their own purposes. When such deposits are made they are not and cannot be part of the disclosure of the application; they are not the property of the Patent Office nor in the custody or control of the Patent Office, and in any event are not and cannot be accepted as part of the application disclosure as section 112 does not authorize a physical object outside the written description as part of the disclosure."

3. SAME—SAME—SAME—SAME.

"Deposits in public stock culture collections are commonly made prior to filing an application for patent in order that the applicant may refer to them as showing that the microorganism involved was known and available to persons skilled in the art and hence rebut any assertion that the specification was insufficient; since, of course, an applicant does not need to teach in his specification how to make or obtain already known materials or ingredients."

4. SAME—SAME—SAME—SAME—*Merck and Co., Inc.* v. *Chase Chemical Co. et al.* CONSTRUED.

"A recent decision of a court is *Merck and Co., Inc.* v. *Chase Chemical Co. et al.*, 155 USPQ 139 (D.C., New Jersey, 1967). One patent involved related to the production of vitamin B_{12} by fermentation using a strain of *Streptomyces griseus*. The defendant attacked the sufficiency of the disclosure, citing *Ex parte Kropp*. The court * * * found that the situation was not the same as in *Ex parte Kropp* since the strain of the microorganism was available at Rutgers University, in a stock culture collection there maintained, identification had also been published, and the organism could be obtained by anyone for any purpose, on or prior to the filing date of the application. A second patent involved in the same case refers to a number of different species of organisms, as well as to the one previously mentioned. With respect to these the court held, on the basis of testimony, that microbiologists by following the teachings of the specification would be able to produce the invention. The specification disclosed the method of selecting suitable strains from the known species involved."

5. SAME—SAME—SAME—SAME—PRIOR DEPOSITS NOT MENTIONED IN APPLICATIONS AS FILED.

"One point raised in the present cases is whether the applicants can amend the applications, after they are filed, to refer to matters relating to prior deposits [of cultures of microorganisms] which have not been mentioned in the applications as filed. In cases involving chemical compounds requiring particular starting materials to make, a reference can be added to a publication prior to the filing date disclosing how to produce the starting material. Such publications are available to persons skilled in the art. Whether such references can be added in the present cases depends upon what was published, what was known and available to persons skilled in the art, prior to the filing dates. This is only collateral to the essential question which is whether, at the time of filing the application, any person skilled in the art could reproduce the invention from the written description, and evidence of what was known and available to such persons can always be considered."

6. SAME—SAME—SAME—SAME—SECRET DEPOSITS.

"The applicants refer to various deposits in an attempt to show that the specifications are sufficient. [C] et al. refer to a deposit of their microorganism made in a stock culture collection in [country] prior to the filing of their

application. It is evident, however, and has been acknowledged in the application file (papers Nos. 15 and 16), that this deposit was a secret or confidential matter. [C] et al. have not shown, and do not even attempt to show, that the organism involved was known and available to the public, or at least to persons working in this field, prior to the filing of the application."

7. SAME—SAME—SAME—SAME—SAME.

"[C] et al. refer to a 'public depository,' which expression may be misunderstood; depositories may be public such as banks, warehouses, storage lockers, etc., in that they accept deposits from the public, but this does not imply that the deposits are available to the public. The record shows that the 'public depositories' involved accept deposits from the public but that they may on occasion be secret or confidential and not listed in catalogues nor publicized in other ways, nor distributed or made available to the public."

8. SAME—SAME—SAME—SAME—SECTION 112.

"With respect to the general question [C] et al. and [A] point out that the statute, section 112, does not require any deposit [of a microorganism culture]. This is, of course, correct, and neither does any Rule or Order of the Patent Office require any deposit. There are many cases when no deposits are made and questions of sufficiency of disclosure do not arise. As has been stated, deposits are made by applicants for their own convenience, although the exigencies of some particular situations are such that making a publicly available deposit in a public depository may be indispensable for a person to put himself in a position of being able to comply with the statutory requirement for a written description which would enable any person skilled in the art to reproduce the invention, when an application for patent is filed."

9. SAME—SAME—SAME—SAME—*Ex parte Schmidt-Kastner* NOT FOLLOWED.

"[C] et al. also refer to *Ex parte Schmidt-Kastner et al.*, 153 USPQ 473. This decision is not considered correct, it is contrary to other decisions of the Board of Appeals and does not appear to have been followed in later decisions."

10. SAME—SAME—SAME—BIOSYNTHESIS.

"[C] et al. also assert that since three persons in separated areas have encountered the microorganism, it may be taken as widely disseminated and readily available to persons skilled in the art. This argument cannot be accepted since, if persons and institutions regularly running routine soil screening tests in the search for antibiotics would run across the present organism often enough to warrant a holding that it was readily available, it could hardly be stated that the subject matter of these applications was unobvious."

11. PATENTABILITY—REFERENCE—ENABLING DISCLOSURE.

"Another aspect of the question involved here is shown by the following. [C] et al. moved to dissolve with respect to [A] on the ground of unpatentability over [foreign] patent ———— (corresponding to their U.S. application) granted ————, prior to [A's] filing date of ————. This was not considered in view of allegations in the preliminary statement. In accordance with *In re Le Grice*, 49 CCPA 1124, 1962 C.D. 707, 785 O.G. 741, 301 F.2d 929, 133 USPQ 365, the disclosure of the [foreign] patent could not be considered prior art as of the alleged effective date against some other application as the written description did not enable the invention to be reproduced."

12. APPLICATION—BENEFIT OF FILING DATE OF FOREIGN APPLICATION.

"It is noted that [C] et al. claim the priority of an application filed in [country] and that the Examiner in the decision on motions accorded them the benefit of this prior filing date. Since the interference is now to be dissolved, this action is vacated as moot. A person who files an application in the United States must meet the conditions and requirements specified by the patent laws of the United States. There is no treaty or obligation which waives any of the statutory requirements for filing an application; any person must, when he applies for a patent in the United States, meet the conditions and requirements of U.S. law for filing an application in the United States. If the application filed in the United States by [C] et al. is deficient and no patent can be issued thereon, the question of the right of priority is wholly irrelevant."

The above-entitled interference has been referred to the Commissioner by the Board of Patent Interferences, under the provisions of Rule 259, before deciding the question of priority, with the recommendation "that the interference be dissolved without an award of priority and the claim of each of the respective parties corresponding to the count be rejected for insufficient disclosure under 35 U.S.C. 112." Rule 259 provides that the case may be remanded to the Primary Examiner for his consideration, or that other appropriate action may be taken. The questions raised by the recommendation of the Board of Patent Interferences require review of actions previously taken by the Primary Examiner, both *ex parte* and *inter partes* in deciding certain motions.

Each party was notified of the recommendation and supplied with a copy, and given an opportunity to express his views thereon. Each party filed a brief entitled "Request for Reconsideration of the Recommendation . . .," and two of them filed further memoranda. In determining the questions raised, these papers have been considered, as well as the papers in the interference relating to the same questions as raised on various motions to dissolve, and in the files of each of the individual applications.

The recommendation expresses the conclusion of the Board of Patent Interferences that the disclosures in the specifications of each of the parties are insufficient under 35 U.S.C. 112. Section 112 requires that:

> "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same . . ."

Section 111 requires "a specification as prescribed by section 112," as part of the application at the time of filing the same. The disclosures of each of the applications as filed will be reviewed.

The applications relate to the production of an antibiotic by means of the action of a certain microorganism or microorganisms. Each application contains both process and product claims, although the count of the interference is a product claim which was devised as a count in view of the different terminology in the respective applications.

The specification of the application of [B] et al., as filed, states in the first paragraph that, "the present invention relates to a novel antifungal substance produced by strains of microorganisms of a hitherto undescribed species of the genus *Streptomyces*, which antifungal and its salts are effective against a wide variety of fungi." Following this is a description of the "antifungal" agent and its activity, after which it is stated that, "The new antifungal is produced by a species of *Streptomyces* to which we have designated our number ————. This species has apparently not been previously described." Then follows a description of the microorganism extending over a number of pages, which has not been questioned as sufficient for the purpose of identifying it. Subsequently, a name was given to the organism, *S.* ————. Aside from the description of the organism, the entire contents of the specification relating to it have been quoted above. The method of producing the antibiotic by means of the organism is described in the specification but there is no question relating to the details of this method which, in general, follows conventional procedures.

The specification of the [A] application states in the second paragraph that "this invention relates to the antibiotic which we call ———— and to its production from growth in certain nutrient media by a species of heretofore unknown microorganism. This micro-

organism was isolated from soil in [city and state]. It is a species of *Streptomyces*, and has been designated by us as *S.* ————.” Subsequently in the specification the organism is described, which description may be taken as sufficient merely for purpose of identification, and the process of producing the antibiotic by the use of the organism is set forth.

The [C] et al. application opens by stating, “This invention relates to a new and useful antibiotic and to a process for the biosynthesis of the new antibiotic, called ————, by means of a hitherto unknown Streptomyces species. For this purpose a culture is made of Streptomyces ———— nov. spec., whose properties are described below . . . .” The second paragraph states that, “The microorganism which produces the antibiotic in question was isolated from a soil sample obtained from [city], in the province of [province and country]. It is an actinomycete of the Streptomyces genus, now called Streptomyces ————.” The morphological and cultural characteristics of the microorganism are then described, as well as the process for obtaining the antibiotic by the use of the organism.

[1] The question involved is whether in each case the specification, that is, the written description, is sufficient to enable any person skilled in the art to practice the process and produce the product involved. The specifications are of the same character as that which was considered and held insufficient in *Ex parte Kropp*, 143 USPQ 148 (Civil Action 185–60, *Commercial Solvents Corp.* v. *Watson*, filed to review this decision was subsequently dismissed with prejudice by stipulation). The organism, of course, cannot be reproduced from such written descriptions.

[2] The parties rely on certain evidence to show that their respective disclosures in the applications as filed are sufficient to enable a person skilled in the art to reproduce the invention; this relates to certain “deposits” of the microorganisms involved. There is a certain amount of confusion relating to the nature and purpose of such deposits. In the first place it must be stated that the Patent Office does not require any deposit of microorganisms; there is no Rule or Order promulgated to this effect, and neither does the Patent Office have any authority to vary the substantive requirements of section 112 by any Rule or Order. Deposits of cultures of microorganisms are sometimes made in public stock culture collections by applicants on their own initiative and for their own purposes. When such deposits are made they are not and cannot be part of the disclosure of the application; they are not the property of the Patent Office nor in the custody or control of the Patent Office, and in any event are not and cannot be accepted as part of the application disclosure as section 112 does not authorize a physical object outside the written description as part of the disclosure. A deposit of a certain kind in a public stock culture collection is only a procedure adopted by certain applicants to enable them to offer convenient proof of certain matters when or if the necessity for such proof arises. Referring to *Ex parte Kropp*, the penultimate paragraph states that:

> “This of course is not the situation presented here. If appellant were dealing with a known organism which had a well defined source and which had been obtained and used by others before, or even with an organism which was merely known and available to persons skilled in the art, the present question of the sufficiency of the disclosure would not arise.”

[3] Deposits in public stock culture collections are commonly made prior to filing an application for patent in order that the applicant may refer to them as showing that the microorganism involved was known and available to persons skilled in the art and hence rebut any assertion that the specification was insufficient; since, of course, an applicant does not need to teach in his specification how to make or obtain already known materials or ingredients.

[4] A recent decision of a court is *Merck and Co., Inc.* v. *Chase Chemical Co. et al.*, 155 USPQ 139 (D.C., New Jersey, 1967). One patent involved related to the production of vitamin B_{12} by fermentation using a strain of *Streptomyces griseus*. The defendant attacked the sufficiency of the disclosure, citing *Ex parte Kropp*. The court quoted the passage from that decision quoted above but found that the situation was not the same as in *Ex parte Kropp* since the strain of the microorganism was available at Rutgers University, in a stock culture collection there maintained, identification had also been published, and the organism could be obtained by anyone for any purpose, on or prior to the filing date of the application. A second patent involved in the same case refers to a number of different species of organisms, as well as to the one previously mentioned. With respect to these the court held, on the basis of testimony, that microbiologists by following the teachings of the specification would be able to produce the invention. The specification disclosed the method of selecting suitable strains from the known species involved.

[5] One point raised in the present cases is whether the applicants can amend the applications, after they are filed, to refer to matters relating to prior deposits which have not been mentioned in the applications as filed. In cases involving chemical compounds requiring particular starting materials to make, a reference can be added to a publication prior to the filing date disclosing how to produce the starting material. Such publications are available to persons skilled in the art. Whether such references can be added in the present cases depends upon what was published, what was known and available to persons skilled in the art, prior to the filing dates. This is only collateral to the essential question which is whether, at the time of filing the application, any person skilled in the art could reproduce the invention from the written description, and evidence of what was known and available to such persons can always be considered.

[6] The applicants refer to various deposits in an attempt to show that the specifications are sufficient. [C] et al. refer to a deposit of their microorganism made in a stock culture collection in [country] prior to the filing of their application. It is evident, however, and has been acknowledged in the application file (papers Nos. 15 and 16), that this deposit was a secret or confidential matter. [C] et al. have not shown, and do not even attempt to show, that the organism involved was known and available to the public, or at least to persons working in this field, prior to the filing of the application.

[7] [C] et al. refer to a “public depository,” which expression may be misunderstood; depositories may be public such as banks, warehouses, storage lockers, etc., in that they accept deposits from the public, but this does not imply that the deposits are available to the public. The record shows that the “public depositories” involved accept deposits from the public but that they may on occasion be secret

or confidential and not listed in catalogues nor publicized in other ways, nor distributed or made available to the public. They urge:

"Insertion in the application of the fact of the deposit of the culture in a public depository is, therefore [because made before the application was filed], similar to amendment to include a reference to a prior publication showing production of the starting material. The deposit in this case is an unlimited publication subject to a condition subsequent."

However, there was no publication, meaning making known and available to the public, at or prior to the time the application was filed.

[A] relies upon a deposit made in the Stock Culture Collection of [X] (the application being assigned to ————————) and states that "the culture was available to the public prior to the filing of [A] application" and that the "[A] deposit made his organism freely available to the public at large," meaning, in the context, prior to the filing of the application. He also asserts "The public availability of cultures of the [A] Streptomyces prior to the filing of the [A] application also clearly distinguishes from situation of the party [C] et al. wherein their Streptomyces was filed abroad in a repository prior to their application but under secrecy restrictions." As indicated in his brief, this is a factual matter. If the facts are as asserted, then the question of the sufficiency of disclosure would not be raised. However, [B] et al. have filed copies of letters received from [X] which suggest that the culture was not available without the consent of the assignee of the [A] application until some time after the filing date of the application, and have challenged the assertions in the [A] brief. No comments on this challenge have been received.

[A] submitted an affidavit of ——, ——, and —— with paper No. 9 in the application, in response to the Examiner's rejection. In the affidavit it is stated that a culture of the particular streptomyces was deposited in the Stock Culture Collection of [X] on September 23, 1955 and given number [Y]. It is then stated:

"THAT, cultures of *Streptomyces* [Y] since deposit in the Stock Culture Collection of [X] have been available free of charge to all requesting such cultures and remain available without charge to all who request them.

This is all that is stated on this point. The affidavit, which is dated four years after the application was filed, must be considered ambiguous and insufficient. The word "since" could be taken to mean "at some time since" the deposit was made, and the affidavit is consistent with a state of facts wherein the deposit was secret or confidential (needing applicants' or the assignee's consent or dispensation) until some time after the filing of the application. An exhibit accompanying the affidavit, a certificate signed by the same three affiants, is dated three years after the filing of the application; it refers to the deposit having been made, in the first paragraph, but the second paragraph, relating to availability, not only merely speaks in the present tense but is only a general statement.

It must be held that [A] has failed to establish that the cultures in question were freely and continuously available to the public, beginning at a time prior to the filing date of the [A] application.

[B] et al. refer to no evidence of their own but merely rely upon the deposit of [C] et al. There is no objection *per se* to relying upon prior deposits or publications of others when relevant and material but the secret deposit referred to is of no avail either to [B] et al. or to [C] et al.

[8] With respect to the general question, [C] et al. and [A] point out that the statute, section 112, does not require any deposit. This is, of course, correct, and neither does any Rule or Order of the Patent Office require any deposit. There are many cases when no deposits are made and questions of sufficiency of disclosure do not arise. As has been stated, deposits are made by applicants for their own convenience, although the exigencies of some particular situations are such that making a publicly available deposit in a public depository may be indispensable for a person to put himself in a position of being able to comply with the statutory requirement for a written description which would enable any person skilled in the art to reproduce the invention, when an application for patent is filed.

[C] et al. and [A] cite the *Commercial Solvents Corp.* case, *Guaranty Trust Company of New York, The Butacet Corporation and Commercial Solvents Corporation* v. *Union Solvents Corporation*, 54 F.2d 400, 12 USPQ 47 (D.C., Del., 1931), affirmed 61 F.2d 1041, 15 USPQ 237 (CCA 3, 1932), as a case which involves the identical issues and which, it is urged, should be followed. This case involved the same issue in that the question of the sufficiency of the written disclosure, in a case involving the action of a microorganism, was involved. However, the facts are quite different. The patent in suit was for a process of producing acetone and butyl alcohol by bacterial action. The specification of the patent named well defined sources from which the required bacteria could be obtained: "maize [corn], rice, flax" and described a specific process for obtaining the bacteria from corn meal which involved fermentation and subculturing in a described manner. The question related to the present cases involved the operability of this process and the court was satisfied from the testimony of witnesses that the bacteria were readily obtainable by following the described procedure, stating that the "procedure is not only operable but unfailing in the hands of one who wants to succeed." ([B] et al. state that the Board of Appeals did not "consider or discuss" this case in the Kropp decision. It was not discussed in the decision presumably because Commercial Solvents Corp., assignee and handling the Kropp case, did not refer to it.)

[9] [C] et al. also refer to *Ex parte Schmidt-Kastner et al.* 153 USPQ 473. This decision is not considered correct, it is contrary to other decisions of the Board of Appeals and does not appear to have been followed in later decisions.

[10] [C] et al. also assert that since three persons in separated areas have encountered the microorganism, it may be taken as widely disseminated and readily available to persons skilled in the art. This argument cannot be accepted since, if persons and institutions reglarly running routine soil screening tests in the search for antibiotics would run across the present organism often enough to warrant a holding that it was readily available, it could hardly be stated that the subject matter of these applications was unobvious.

[11] Another aspect of the question involved here is shown by the following. [C] et al. moved to dissolve with respect to [A] on the ground of unpatentability over [foreign] patent ———————— (corresponding to their U.S. application) granted ————————, prior to [A's] filing date of ————————. This was not considered in view of allegations in the preliminary statement. In accordance with *In re Le Grice*, 49 CCPA 1124, 1962 C.D. 707, 785 O.G. 741, 301 F.2d 929, 133 USPQ 365, the disclosure of the [foreign] patent could not be considered prior art as of the alleged effective date against some

other application as the written description did not enable the invention to be reproduced.

[12] It is noted that [C] et al. claim the priority of an application filed in [country] and that the Examiner in the decision on motions accorded them the benefit of this prior filing date. Since the interference is now to be dissolved, this action is vacated as moot. A person who files an application in the United States must meet the conditions and requirements specified by the patent laws of the United States. There is no treaty or obligation which waives any of the statutory requirements for filing an application; any person must, when he applies for a patent in the United States, meet the conditions and requirements of U.S. law for filing an application in the United States. If the application filed in the United States by [C] et al. is deficient and no patent can be issued thereon, the question of the right of priority is wholly irrelevant.

For the reasons given, the recommendation of the Board of Patent Interferences is approved and the interference is dissolved on the ground that the count is not patentable to any of the parties by reason of the failure of the specifications to comply with 35 U.S.C. 112 in that it does not appear that at the time the applications were filed a person skilled in the art could reproduce the invention from the written descriptions accompanying the applications.

The Examiner will re-examine each of the applications involved and enter any rejections which may be appropriate in the light of the present decision. The applicants will, of course, have the opportunity to reply and to submit additional evidence for consideration.

EDWIN L. REYNOLDS,
First Assistant Commissioner.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,602,751, D. M. Robinson, METHOD FOR STERILIZING SUBSTANCES OR MATERIALS SUCH AS FOOD AND DRUGS; **2,680,815**, E. A. Burrill, METHOD OF AND APPARATUS FOR TREATING SUBSTANCES WITH HIGH ENERGY ELECTRONS; **2,729,748**, D. M. Robinson, APPARATUS FOR STERILIZING FOODS, DRUGS AND OTHER SUBSTANCES BY SCANNING ACTION OF HIGH-ENERGY ELECTRONS; **2,887,584**, J. C. Nygard, ELECTRON IRRADIATION APPARATUS, **filed** Jan. 16, 1968, D.C. Del. (Wilmington), Doc. 3465, *High Voltage Engineering Corporation* v. *Boise Cascade Corporation.*

2,680,815. (See 2,602,751.)

2,729,748. (See 2,602,751.)

2,804,935, A. J. L. Hutchinson, VAPOR-LIQUID CONTACTING APPARATUS; **2,804,940**, same, PROCESS FOR DEHYDRATING GAS; **2,804,941**, same, VAPOR-LIQUID CONTACTING METHOD, **filed** Apr. 10, 1968, D.C., N.D. Okla. (Tulsa), Doc. 68-C-88, *Maloney-Crawford Tank Corporation et al.* v. *Sauder Tank Company, Inc.*

2,804,940. (See 2,804,935.)

2,804,941. (See 2,804,935.)

2,874,632, W. F. Collins, CHECK PRINTING AND PUNCHING MACHINE, **filed** Oct. 9, 1967, D.C. (Washington), Doc. 2587-67, *Hedman Co.* v. *Wm. F. Collins.* Stipulation dismissing action, Feb. 5, 1968.

2,887,584. (See 2,602,751.)

3,005,433, E. W. Risch, CLOSURE CAP AND METHOD OF MAKING SAME, **filed** June 20, 1967, D.C., S.D. Ohio (Columbus), Doc. 67-169, *Continental Can Co.* v. *Anchor Hocking Glass Corp.*

3,045,240. (See D. 188,460.)

3,140,249, Plank and Rosinski, CATALYTIC CRACKING OF HYDROCARBONS WITH A CRYSTALLINE ZEOLITE CATALYST COMPOSITE; **3,210,267**, same, CATALYTIC CRACKING OF HYDROCARBONS WITH THE USE OF A CRYSTALLINE ZEOLITE CATALYST CONTAINING RARE EARTHS AND A POROUR MATRIX; **3,271,418**, same, CATALYTIC CONVERSION OF HYDROCARBONS WITH A CRYSTALLINE ALUMINO-SILICATE IN A SILICA-ALUMINA MATRIX; **3,140,253**, same, CATALYTIC HYDROCARBON CONVERSION WITH A CRYSTALLINE ZEOLITE COMPOSITE CATALYST, **filed** May 29, 1967, D.C., S.D. Tex. (Houston), Doc. 67-H-424, *Mobil Oil Corp.* v. *W. R. Grace & Co., and Pontiac Refining Corp.*

3,140,253. (See 3,140,249.)

3,210,267. (See 3,140,249.)

3,220,334. (See Re. 25,663.)

3,271,418. (See 3,140,249.)

3,300,805, L. D. Rizzo, DISPOSABLE ROTARY BRUSH SPACER RING, **filed** Apr. 18, 1968, D.C. Mass. (Boston), Doc. C.A. 68-327-C, *Newark Brush Company* v. *Thomas N. Stokes, doing business as Thomas N. Stokes & Co.*

3,313,545, J. R. Bartsch, UNITARY MOLDED GOLF BALL, **filed** July 7, 1967, D.C., E.D.N.Y. (Brooklyn), Doc. 67-C-656, *PCR Patent Develop. Corp.* v. *Chemold Corp.* Order of discontinuance, Apr. 19, 1968.

3,316,705, M. Nava, PRODUCTION OF ARTIFICIAL YARNS, **filed** May 3, 1968, D.C., M.D.N.C. (Greensboro), Doc. C-63-G-68, *Macasta Corporation* v. *Burlington Industries, Inc.*

3,366,731, E. Wallerstein, TELEVISION DISTRIBUTION SYSTEM PERMITTING PROGRAM SUBSTITUTION FOR SELECTED VIEWERS, **filed** Apr. 22, 1968, D.C. S.D.N.Y., Doc. 68-C-1618, *Edward Wallerstein* v. *Adtel Ltd.*

3,374,897. (See Re. 25,663.)

3,375,976, Stamps and Nelkirk, FERTILIZER APPLICATION PROCESS, **filed** May 2, 1968, D.C., N.D. Tex. (Amarillo), Doc. CA-2-606, *Inject-O-Meter Manufacturing Company, Inc.* v. *North Plains Fertilizer & Chemicals, Inc.*

3,378,307, Dempsey and Barnes, CIRCULAR SAW FOR CUTTING CONCRETE SURFACES, **filed** Apr. 16, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68-608WPG, *Concrete Cutting Equipment Co.* v. *Kore Drilling, Inc. et al.*

Re. 25,663, G. R. Bunn, COFFEE MAKING MACHINE; **3,220,334**, J. C. Martin, same; **3,374,897**, same, ONE-PIECE FUNNEL WITH INTEGRAL RIBS FOR HOLDING DISPOSABLE COFFEE CARRYING FILTER, **filed** Apr. 1, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c584, *Bunn-O-Matic Corp.* v. *Reynolds Products, Inc.*

D. 188,460, R. D. Raynor, ONE PIECE SHELL FOR AN INDOOR ANTENNA; **3,045,240**, same, RABBIT EAR ANTENNA, **filed** Feb. 5, 1968, D.C., S.D.N.Y., Doc. 68-C-470, *Clear Beam Antenna Corporation* v. *JFD Electronics Corporation.*

REISSUES

OCTOBER 1, 1968

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

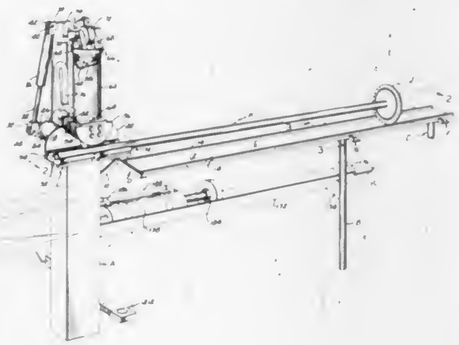
26,467

APPARATUS FOR FORMING REPLACEMENT EXHAUST PIPES AND METHOD OF USING SAME

Bruce J. Lance, 1460 Chase Drive, Corona, Calif. 91720

Original No. 3,196,661, dated July 27, 1965, Ser. No. 159,604, Dec. 15, 1961. Application for reissue May 31, 1967, Ser. No. 646,760

6 Claims. (Cl. 72—32)



An improvement for use with a tube bending apparatus for forming replacement exhaust pipes for automotive vehicles from straight lengths of pipe when the longitudinal spacing between the bends is known, as well as the degree of angulation of the bends, and the degree of circumferential spacing of the bends one from the other.

26,468

GAS-GENERATING COMPOSITIONS CONTAINING HYDROXYL AMMONIUM OXALATE COOLANTS AND METHOD FOR THEIR PREPARATION

Ernest S. Sutton, Jr., Newark, Del., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Original No. 3,193,421, dated July 6, 1965, Ser. No. 266,497, Mar. 20, 1963. Application for reissue Jan. 24, 1967, Ser. No. 617,429

24 Claims. (Cl. 149—19)

Curable gas generating compositions composed essentially of hydroxyl ammonium oxalate as a coolant, a perchlorate salt oxidizer, a combustible fuel binder, and optional propellant adjuvants such as plasticizers, ballistic agents, hygroscopicity inhibitors, or combustion catalysts.

26,469

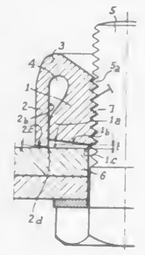
SELF-LOCKING NUT

Maurice Beltoise, Paris, France, assignor to Beltoise, Marquet & Co., Paris, France, a French society

Original No. 3,198,229, dated Aug. 3, 1965, Ser. No. 335,123, Jan. 2, 1964. Application for reissue Aug. 9, 1966, Ser. No. 573,158

4 Claims. (Cl. 151—21)

1. A deformable self-locking nut comprising an internally threaded inner nut portion, an outer skirt portion surrounding said inner nut portion and generally coaxial therewith, said portions having an end adapted to engage a bearing surface and an end remote from the first said end, and a generally radial web portion integral with and interconnecting said inner and outer portions at the end remote from the first said end, said outer skirt portion extending axially beyond the inner nut portion at the first said end, said inner portion including an enlargement adjacent the first said end in contacting relation with the outer skirt portion, said radial web portion providing sufficient flexibility between the nut portion and skirt portion to permit relative movement therebetween, the outer



skirt portion having an end surface which is adapted to engage said bearing surface, said end surface being tapered so that said end surface has an inner periphery which projects beyond the outer periphery of said end surface in the undeformed condition of the nut, the inner nut portion having an end surface which is adapted to engage said bearing surface, the latter said end surface being tapered so that said latter end surface has an inner periphery which projects beyond the outer periphery of said latter end surface in the undeformed condition of the nut.

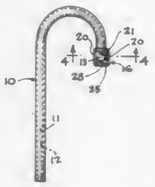
26,470

ASPIRATING DEVICE

Fritz Deuschle, St. Augustine, and John L. Higgins, Daytona Beach, Fla., assignors to Roehr Products Company, Inc., DeLand, Fla., a corporation of Delaware

Original No. 3,256,885, dated June 21, 1966, Ser. No. 290,785, June 26, 1963. Application for reissue Feb. 13, 1967, Ser. No. 629,342

6 Claims. (Cl. 32—33)



A fluid aspirating device which has a tip placed into a cavity into which fluid such as saliva drains so as to continuously remove said fluid during the execution of some procedure such as dental work. The aspirating device is in the form of a nozzle tip which telescopes over the end of a drainage tube and has ribs running parallel to the longitudinal axis of the tube along the outside surface of said tube to permit flow of fluid between said ribs. The ribs are joined at their proximal end by a ring

portion spaced from the outer surface of the tube to permit fluid to flow between the ring and the tube into the spaces between the ribs. The ribs are turned inward in spaced relation from the end of the tube and join adjacent ribs in the vicinity of the longitudinal axis of the tip. The inwardly directed ribs are spaced from the end of the tube so that fluid can flow into the end of the tube without obstruction either from foreign material in the cavity or from material defining the cavity being drained.

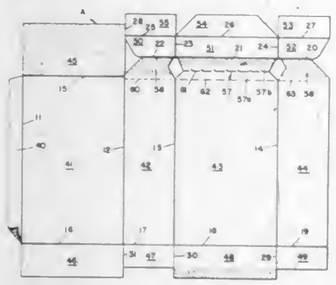
26,471

TAMPERPROOF RECLOSABLE CARTON

George L. Meyers, Menasha, Wis., assignor to American Can Company, New York, N.Y., a corporation of New Jersey

Original No. 3,191,848, dated June 29, 1965, Ser. No. 347,654, Feb. 25, 1964, which is a continuation-in-part of Ser. No. 208,203, July 9, 1962. Application for reissue June 27, 1967, Ser. No. 651,640

11 Claims. (Cl. 229—51)



A blank and a carton made from the blank includes a receptacle portion and a cover portion. The cover portion includes a top panel connected to the receptacle and has a downwardly extending skirt which telescopes over the carton panels when the carton is closed. The cover skirt includes end cover panels and a front cover panel. Each of the end cover panels and the front coer panel is connected to the adjacent side and front panel of the receptacle by means of end and front opening flaps. The opening flaps are provided with suitable means such as perforation lines for separating the cover from the receptacle in order to open the carton.

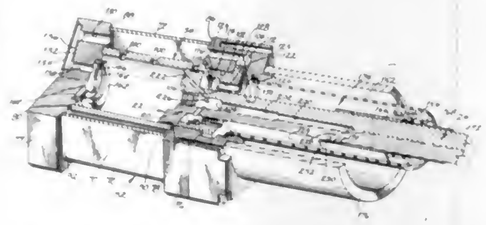
26,472

HYDRAULIC DRAFT GEAR ARRANGEMENT

William H. Peterson, Homewood, Ill., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware

Original No. 3,275,164, dated Sept. 27, 1966, Ser. No. 533,751, Feb. 2, 1966, which is a continuation of Ser. No. 439,630, Mar. 15, 1965. Application for reissue Dec. 9, 1966, Ser. No. 607,348.

12 Claims. (Cl. 213—43)



A double acting hydraulic cushion device formed with a hydraulic filled cylinder and lengthwise spaced end plates. A piston assembly is disposed for relative reciprocation within said cylinder including a piston head and a piston rod extending from one face thereof through one of the end plate means. A flexible accumulator in the form of an expandible boot is fixed at one end to the end of the piston rod extending outwardly from the cylinder and at the other end to the end plate means. The device is provided with a metering means for controlling the flow of fluid from one side of the piston head to the other. Disposed in a bore extending from the piston head to the accumulator chamber is a pressure relief valve. A fluid pressure force responsive valve means is movably disposed in a chamber contiguous with the accumulator chamber for movement to a position overlying openings providing communication from the cylinder to the accumulator boot and a position clear of the openings to permit free fluid pasage.

PLANT PATENTS

GRANTED OCTOBER 1, 1968

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,835

APPLE TREE

Ralph B. Griffith, Cobden, Ill., assignor to Stark Bro's Nurseries & Orchards Company, Louisiana, Mo., a corporation of Missouri

Filed Mar. 13, 1967, Ser. No. 622,829

1 Claim. (Cl. Plt.—34)

1. A new and distinct variety of apple tree, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a general resemblance of the fruit in shape, size and flavor to the fruit of "Golden Delicious," but which develops an earlier yellow ground color and acquires a distinctive and attractive pink to red blush, a later fruit maturity of about 10 days later than the fruit of "Golden Delicious," a longer keeping quality of the fruit, a waxy appearance of the fruit skin which does not develop russet, and absence of any tendency of the fruit to shrivel in normal storage as does the fruit of "Golden Delicious," good resistance to spray injury and a richer and more acid flavor of the fruit than the fruit of "Golden Delicious."

2,836

ROSE PLANT

David L. Armstrong and Herbert C. Swim, Ontario, Calif., assignors to Armstrong Nurseries, Inc., Ontario, Calif., a corporation of California

Filed Feb. 27, 1967, Ser. No. 619,079

1 Claim. (Cl. Plt.—15)

1. A new distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a moderately vigorous plant habit, with a semi-spreading or at least intermediate spreading to upright habit resembling that of "Helen Traubel" and sometimes more spreading than the latter, relatively large, dark green, leathery, semi-glossy and disease resistant foliage, a quite floriferous habit, with the flowers borne generally singly on long and strong stems, a very attractive urn-shaped bud form and an excellent high-centered half-open and open flower form resulting in excellent exhibition type flowers, large flowers with good petalage, a distinctive and attractive pale to light yellow flower color, and a rich and strong flower fragrance which is unusual in yellow roses.

2,837

SEMI-DOUBLE WHITE AZALEA PLANT

Anthony M. Shammarello, 4590 Monticello Blvd., Cleveland, Ohio 44121

Filed Dec. 16, 1966, Ser. No. 602,432

1 Claim. (Cl. Plt.—55)

1. A new and distinct variety of azalea plant of the hardly evergreen type, substantially as herein shown and described, characterized particularly as to novelty by its semi-double white flower, by the hardiness of plant and flower buds at low temperature, and by its bushy-compact shape.

2,838

ROSE PLANT

Walter E. Lammerts, Freedom, Calif., assignor to Amling-DeVor Nurseries, Inc., Livermore, Calif., a corporation of California

Filed May 29, 1967, Ser. No. 642,248

1 Claim. (Cl. Plt.—29)

A new variety of rose plant bearing velvety rich red, non-blueing, slow opening flowers of great substance borne individually on long well proportioned stems; this new variety being a large flowered floribunda with high winter production and rapid cycling of bloom periods.

PATENTS

GRANTED OCTOBER 1, 1968

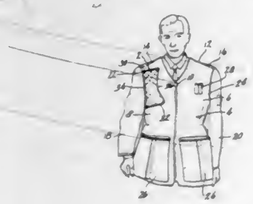
GENERAL AND MECHANICAL

3,403,406
BATHING CAP
Ernest Weissberg, 11728 Wilshire Blvd., Los Angeles, Calif. 90025
Filed July 5, 1966, Ser. No. 562,547
4 Claims. (Cl. 2—68)



The invention is an improved watertight bathing cap of the type which has an inflatable marginal edge whereby to provide a seal to the wearer's head. In a preferred form of the invention the skull part of the cap is double-walled providing an air space between the double walls, both walls conforming to the contour of the wearer's head. This chamber is connectable to the inflatable seal of the cap which may then be inflated merely by the wearer putting the cap on to apply pressure to the double-walled chamber or simply by the wearer pressing on the skull to force air out of this chamber. A disconnectable check valve is provided between the double-walled chamber and the inflatable seal whereby it may be inflated and the air may be released from it, that is from the inflatable seal.

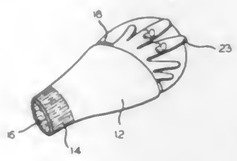
3,403,407
SHOOTING JACKET
Edward W. Bishop, Darien, and Gail W. Phillips, Madison, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Dec. 20, 1966, Ser. No. 603,362
4 Claims. (Cl. 2—94)



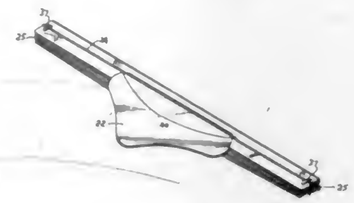
A shooting garment having a recoil pad attached to the front body panel, the recoil pad having an outer side edge portion positioned adjacent the armhole opening and an inner side edge opposite said outer side edge, the inner side edge being concave whereby the pad has a greater width at the top and bottom than at the middle.

3,403,408
HAND COVERING
Blanche Helfer, 724 Morgan Ave., Gary, Ind. 46403
Filed June 12, 1967, Ser. No. 645,195
1 Claim. (Cl. 2—158)

Includes bag portion defining a cavity for containing the fingers and thumb of a hand, said bag portion has a wrist gripping means sealing the inside thereof at the wrist where the hand enters the garment. An egress opening is provided in the bag portion in order that the hands and fingers can be moved therethrough while the garment is being worn.



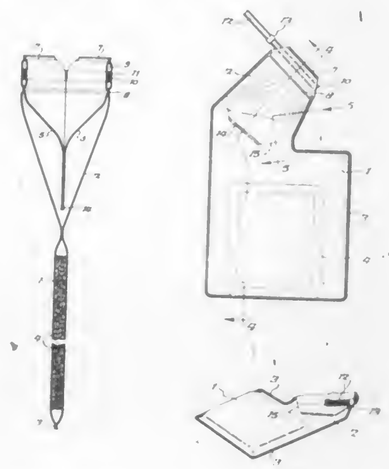
3,403,409
WOMEN'S HEAD-DRESS AND METHOD OF MAKING SAME
Gilbert B. Wagenfeld, Bala Cynwyd, Pa., assignor to Cellucap Manufacturing Co., Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 26, 1966, Ser. No. 589,733
13 Claims. (Cl. 2—198)



A low-cost disposable sanitary paper head-dress to be worn by women to cover the hair for sanitary or safety purposes wherein a plurality of such head-dresses are sequentially produced out of a continuous running length of pleated fabric which is severed at points located between locked ends of adjoining head-dresses.

3,403,410
DISPOSABLE URINE CONTAINER
Howard A. Benzel, Lancaster, and Stanley J. Strzelec, Corfu, N.Y., assignors, by mesne assignments, to "Automatic" Sprinkler Corporation, Cleveland, Ohio, a corporation of Ohio
Filed June 1, 1966, Ser. No. 554,460
10 Claims. (Cl. 4—110)

A flexible bag having a body portion and a normally flat neck portion extending therefrom, the neck portion being formable into a funnel open at its outer end and providing at its inner end an inlet to the body portion. Self-closing valve means permit liquid flow through the inlet into the body portion, closing against the outflow of liquid from the body portion. Deformable, shape sustaining means adjacent the outer end of the neck portion are provided for maintaining the funnel shape thereof, and



compressed generally flat liquid absorbing sponge means are provided in the body portion.

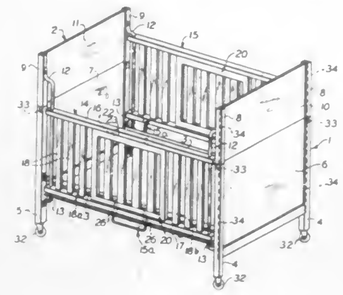
3,403,411
MANUALLY OPERABLE DEVICE FOR REBEDDING A PATIENT
Willy Steinemann, Weidweg 9, and Andreas Abt, Rheinstrasse 55, both of Liestal, Switzerland
Filed Feb. 3, 1967, Ser. No. 613,875
7 Claims. (Cl. 5—81)



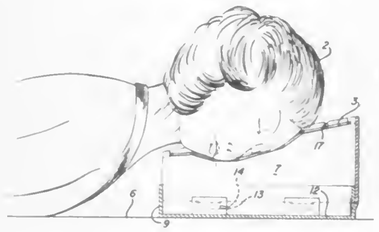
A manually operable sick-nursing device having a service side and a patient side. This device is adapted to facilitate the raising of a patient from his bed or the repositioning of a patient while he is in his bed. The device includes a berth that is displaceably mounted on top of a frame. The berth is pivotally connected to the carriage frame at a point laterally displaced from the center of the berth towards the patient's side of the device. The other side of the berth is movable and free-swinging.

3,403,412
CONVERTIBLE CRIB BED
Louis Gottfried, 515 West End Ave. 10024, and Jacob Berger, 600 W. 246th St. 10471, both of New York, N.Y.
Continuation-in-part of application Ser. No. 570,357, Aug. 4, 1966. This application Dec. 5, 1966, Ser. No. 606,496
29 Claims. (Cl. 5—100)

A crib comprising a head board and a foot board and a pair of side gates disposed between the head board and the foot board and connecting means for securing the side gates to the head and foot board. At least one of the side gates has an enlarged opening therein and at least one section means, at least partly removable and substantially complementary to the shape of the opening, rigidly but releasable attached to the side gate in the opening thereby enclosing the opening and means for releasably connecting the removable section means with the side gate. The section means is adapted to be at least partly removed from the opening in the side gate for ready entrance and exit from the crib and includes a frame and a plurality of parallel vertical bars spaced from one another rigidly secured at their ends to the frame.



3,403,413
HEAD AND BODY SUPPORTING APPARATUS
Francis R. Calhoun, 27 Johnson Ave., and Sylvio G. Codella, 130 Merkel Drive, both of Bloomfield, N.J. 07003
Filed Oct. 21, 1966, Ser. No. 588,401
4 Claims. (Cl. 5—338)

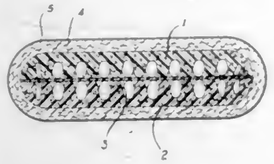


This disclosure teaches an apparatus for use with a bed to support the head of a patient who is reclining on the bed. A pillow-like frame includes a base and a pair of laterally spaced sides depending upward therefrom. A soft plastic net spans the sides to support the patient's head above the base. An upward-opening pan is defined by the base to accept fluids from the mouth or other head opening of the patient. This apparatus may likewise be extended in rail mounted segments to support the patient's torso and legs.

3,403,414
COMPOSITE FIBER AND URETHANE FOAM PILLOW AND BEDDING STRUCTURES
Leo Unger, 5948 Phillips Ave., Pittsburgh, Pa. 15217
Filed Nov. 17, 1966, Ser. No. 595,258
1 Claim. (Cl. 5—355)

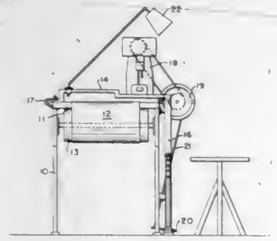
Pillows formed of urethane foam bodies and the like have the advantage of being free of feathers and filling materials to which people may be allergic, and they are

also resistant to complete crushing. However, the foam type pillow stuffers that are not too readily compressible,



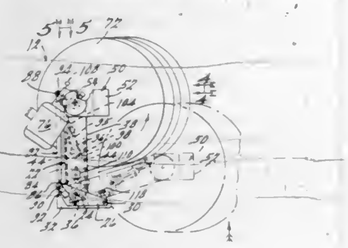
produce a certain degree of stiffness or resistance that causes discomfort to the user.

3,403,415
SHOEMAKING APPARATUS
Thomas A. McCann, Via di Scorcola 15, Trieste, Italy
Filed July 22, 1965, Ser. No. 473,986
Claims priority, application Italy, Apr. 10, 1965, 3,396/65, Patent 775,210
2 Claims. (Cl. 12—1)



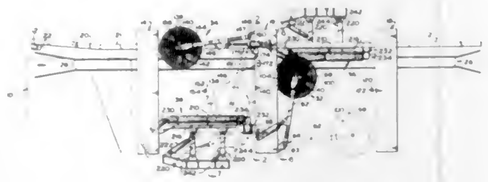
Shoemaking apparatus including a conveyor-carrying bench, in combination with a detachable station having a front work table section and a rear elevated table section having a work passing aperture opening above the conveyor.

3,403,416
AUTOMOTIVE VEHICLE WASHING UNIT
Paul D. Hurwitz, Wyncote, Pa., assignor to Sherman Car Wash Equipment Co., Palmyra, N.J., a corporation of New Jersey
Filed July 18, 1966, Ser. No. 565,776
12 Claims. (Cl. 15—21)



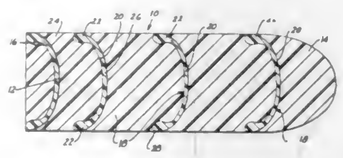
A vehicle washing apparatus having a rotatable brush swingable by a hanger between retracted and engaged positions relative to the sides of vehicles of different width, the brush sloping upwardly and outwardly relative to such sides and maintaining substantially the same posture in such engaged positions regardless of car width whereby to effectively clean inwardly and upwardly curved surfaces of rocker and other panels. A head pivotally supports the brush outboard of the hanger and suitable means such as linkage or chain-sprocket mechanisms operate between the head and hanger support during swing of the hanger to maintain said brush posture.

3,403,417
CAR ENDS AND SIDES CLEANING BRUSHES
Daniel C. Hanna, 1122 N. Williams Ave., Portland, Oreg. 97227, and Jack F. Ebeling, Portland, Oreg.; said Ebeling assignor to said Hanna
Original application Feb. 9, 1966, Ser. No. 526,162, now Patent No. 3,345,666, dated Oct. 10, 1967. Divided and this application July 24, 1967, Ser. No. 655,380
18 Claims. (Cl. 15—21)



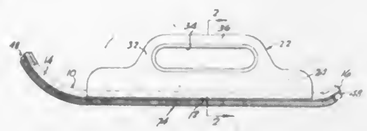
A car to be washed is guided past a soaping arch **14**, wheel brusher **38** and a left side and rear end brushing mechanism **34**, a friction scrubber **30**, a left wheel brusher **36**, a front end and right side brushing mechanism **32**, and a rinsing arch. The wheel brushers **38** include rotary brushes carried by a wheeled carriage, guided by parallelogram linkages and having angled deflecting rollers **230**. A friction scrubber **30** (FIGS. 2 and 3) includes suspended sheets of wetted felt-like material of different lengths and slit into ribbons reciprocated by a carrying frame. The brushing mechanism **34** (FIG. 1) has an arm **146** which initially extends rearwardly to position independently driven rotary brushes **138** and **140** of different diameters to engage the side and windows of the car, and, after a feeler **180** is engaged by the car as the car clears the brushes **138** and **140**, arm **146** swings the brush forwardly with and substantially completely across the rear end of the car to brush the entire rear end of the car. Independently rotary brushes **98** and **100** are carried by arm **92** initially in a position to be engaged by the front corner of the car, when pushed by the car, swing the arm forwardly and toward the right side to brush the front and side of the car.

3,403,418
PIPELINE PIG OR SWIPE
Mary M. Knapp, 1209 Hardy St. 77020, and Harry J. Girard, 1947 W. Gray 77019, both of Houston, Tex.
Filed Oct. 7, 1966, Ser. No. 585,157
5 Claims. (Cl. 15—104.06)



A pig or swipe for insertion in a pipeline to be propelled therethrough by a pressure gradient therein and having a body made up of cylindrical portions formed of resilient material, such as foamed plastic, arranged in end to end coaxial relation and between which flexible diaphragms or barrier layers are positioned. The diaphragms or barrier layers are formed with thickened and somewhat rounded, annular, peripheral portions positioned for sealing engagement with the surrounding wall of the pipe and are convex or generally cup shaped to be expanded into tight sealing engagement with the pipe by the pressure exerted by fluid in the pipe against the ends of the pig.

3,403,419
MORTAR JOINT FINISHING TOOL
Charles H. Hazelrigg, Rte. 1, Box 179, Asheville, N.C. 28804
Filed Jan. 6, 1967, Ser. No. 607,781
4 Claims. (Cl. 15—235.3)



A mortar joint finishing tool comprising: an elongated, downwardly opening base; a coil spring extending along said downward opening, said spring being secured at each end of said base, and a handle portion projecting above said base.

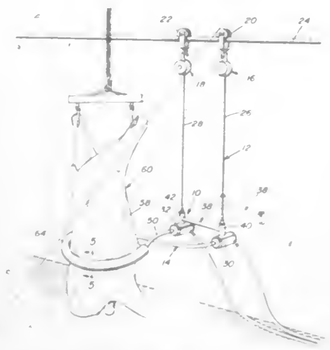
3,403,420
WINDOW SWAB
Luclus Ted MacLaughlin, 819 Dexter Ave. N., Seattle, Wash. 98109
Filed Apr. 18 1967, Ser. No. 631,721
6 Claims. (Cl. 15—244)



A window swab, particularly for use on automobile windows, having a handle of bent wire construction and formed with two sections hinged together to give an extended handle length if desired, the handle being held in extended position by a slidable sleeve at the hinge joint.

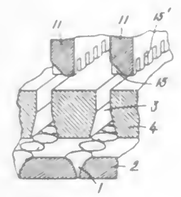
3,403,421
ANIMAL SKINNER
Beryl A. Bedford, 701 Hurlingame Ave., Redwood City, Calif. 94063
Filed Apr. 13, 1966, Ser. No. 542,321
11 Claims. (Cl. 17—21)

An elongated flexible member positioned to form a generally horizontally disposed loop adapted to extend about and embrace an upstanding torso and supported solely from its opposite ends by means operative to rotate the flexible member about its longitudinal axis. The flexible member includes means spaced longitudinally there-



along for attachment to selected portions of the skin of an animal torso embraced by the flexible member.

3,403,422
APPARATUS FOR SPINNING MULTI-COMPONENT FIBERS
Kazumi Nakagawa, Saidaiji, Nobuhiro Tsutsui, Okayama, and Keiichi Zoda, Saidaiji, Japan, assignors to Japan Exlan Company Limited, Osaka, Japan
Filed June 28, 1965, Ser. No. 467,509
Claims priority, application Japan, July 2, 1964, 39/37,732
1 Claim. (Cl. 18—8)

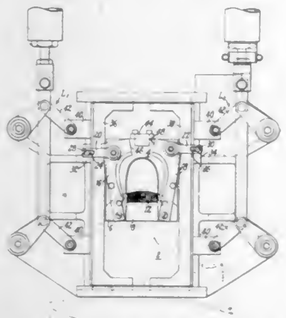


Apparatus for spinning multi-component fibers which have a zigzag or wavy interfacial junction between the materials, said junction extending transversely of the direction of flow. The two materials are flowed in laminar flow through separate material supply means, and then through respectively alternate grooved passages into a common narrow slit extending along a row of orifices in a spinnerette plate. As the material flows into the slit through the grooved passages from opposite side in laminar flow, it forms the wavy interfacial junction, and this junction is maintained as the material is extruded through the spinnerette plate.

3,403,423
DIRECT MOLDING OF HEELS TO SOLED SHOE BOTTOMS
Philip E. McMorrow, Beverly, and Ralph E. Hobbs, Jr., Salem, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed June 7, 1966, Ser. No. 555,722
9 Claims. (Cl. 18—42)

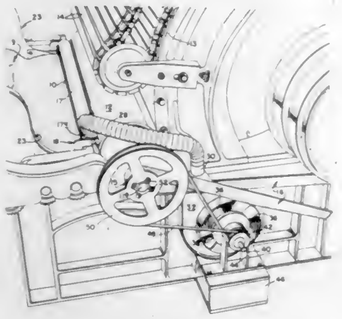
2. A mold assembly for injection molding of heels onto soled shoe uppers, said assembly comprising a bottom mold member forming the bottom of a mold cavity, at least one side mold member adjacent said bottom mold member and forming all of the side of the mold cavity except for at least a portion of a heel breast side, a

footform carrying a lasted and soled upper engageable with the side mold member for forming the top of the mold cavity, and a yieldable mold member forming at least a portion of the heel breast side of the mold cavity



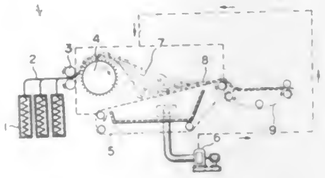
and engageable by a shank portion of the sole of said upper, said yieldable mold member being sufficiently flexible to conform to the contour of said shank when it is engaged by the shank to form an enclosed mold cavity.

3,403,424
CARDING MACHINES
William F. Lee, 526 Union St., Spartanburg, S.C. 29301
Filed May 18, 1964, Ser. No. 368,275
2 Claims. (Cl. 19—107)



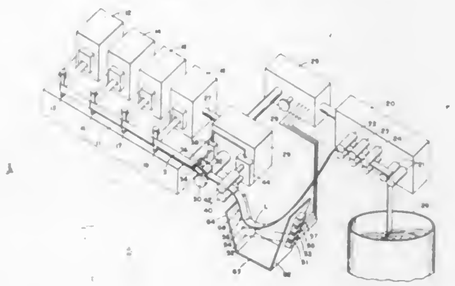
1. The carding machine improvement which involves elimination of the loose lint-gathering scavenger roll, said carding machine having a frame providing side portions, a driven card cylinder, a driven lap feed roll, a driven licker-in roll adjacent the feed roll and receiving the lap from the latter to supply it to the card cylinder, there being a cover for the licker-in roll whose free outer edge terminates short of the cooperating areas of the licker-in roll and feed roll to leave an exit space between said cover edge and the feed roll for the loose lint-carrying air current that is generated by rotation of the licker-in roll and which airborne lint heretofore has been intercepted and gathered on a scavenger roll that was in part supported by both said cover and feed roll and frictionally driven by the latter; the said improvement comprising an elongated air-receiving casing having an inlet, said casing being closed at each end and of a length substantially corresponding to that of the feed roll and free licker-in cover edge, said casing having substantially longitudinally coextensive air outlet openings at one side; casing-supporting means in part provided by each casing end and adjacent machine side frame portions for disposing said casing in close parallel adjacency to both said feed roll and free licker-in cover edge, and above an upper portion of the feed roll, and with said air outlet openings directed toward the licker-in roll below the free edge of its cover; an air-under pressure supply source, and air supply conduit connecting said source with said casing inlet, whereby when the carding machine is in operation such lint as is airborne by the licker-in generated air current in the space that is between the licker-in roll and feed roll and below the plane of the free edge of the licker-in cover will be driven by the casing-supplied air pressure into the lap that is being fed to the licker-in roll, said casing-supporting means comprising a bracket adjustably carried by each of said frame side portions for shifting movement to different fixed positions at least lengthwise of said side portions, whereby said casing can be shifted bodily toward or away from said licker-in cover; aligned fixed pintles projecting outwardly from the respective closed end portions of the elongated casing, the respective brackets having bearings receiving the related pintle, whereby to rotatably support said casing; means related to said brackets and pintles and securing the casing in a predetermined set position to operatively dispose the casing air outlet openings in relation to the free edge of the licker-in cover, there being a frame-carried driven shaft on which said licker-in roll is fast, one end of said licker-in shaft extending beyond one frame side portion and having a driven pulley thereon, said air-under-pressure supply source comprising an air inlet and outlet-providing housing supported adjacent the aforementioned one frame side portion of the machine, a driven air blast-creating impeller in said housing; a shaft on which said impeller is mounted, a pulley on the outer end of said impeller shaft, an auxiliary pulley secured to the licker-in shaft pulley, and a flexible drive connection between the auxiliary pulley and the impeller shaft pulley.

3,403,425
METHOD OF MANUFACTURING WEBS
Eiichi Tajima, 15 4-chome, Komagome, Toshima-ku, Tokyo, Japan, and Kaname Yamamoto, 3–5 6-chome, Nishiogu, Arakawa-ku, Tokyo, Japan
Filed June 16, 1966, Ser. No. 558,121
1 Claim. (Cl. 19—156.3)



1. A method of manufacturing nonwoven webs from long, straight fibers, comprising the steps of:
forming slivers of crimpless, long, staple fibers having an approximate average length of at least about 120 millimeters with the fibers of said slivers being substantially free of entanglements with each other;
feeding said slivers in side-by-side relation between a pair of rotating nip rollers with the fibers in each sliver extending substantially parallel to the direction of movement of the slivers through the nip rollers;
forwarding said slivers away from the nip point of the nip rollers at a predetermined uniform relatively low speed to a separating and dispersing station spaced from the nip point;
engaging said fibers at said station by a plurality of individual, straight, radially extending needles which are moving through a closed circular path around a substantially horizontal axis, the needles moving at a relatively high speed substantially faster than the speed at which the slivers are fed to said needles and the needles combing, loosening and then separating the fibers of said slivers from each other after the trailing ends of said fibers have passed said nip point and projecting the fibers away from the needles;
simultaneously causing an air stream to flow outwardly between the needles to prevent the fibers from wrapping around the needles, the air stream being continuously supplied throughout the zone between said separating and dispersing station and the position at which the fibers are projected away from the needles to also assist in separating and projecting the fibers away from the needles;
simultaneously subjecting the fibers as they are projected away from the needles to a current of moving gas whereby said fibers are individually supported and carried to a gathering station; and
accumulating said separated and dispersed fibers in a sheet at said gathering station on the face of a travelling web.

3,403,426
TEXTILE SLIVER EVENING APPARATUS
Erhard Edwin Stiepel, and Joseph Brown Wallace, Clemson, S.C., assignors to Maremont Corporation, Chicago, Ill., a corporation of Illinois
Filed July 27, 1966, Ser. No. 568,260
8 Claims. (Cl. 19—240)



Textile drafting apparatus for reducing or eliminating mass variations in laminated ribbon staple fiber sliver which includes two pairs of successive evener rolls providing short term speed variations, the first pair of rolls being a tongue and groove roll set, one of which rolls moves away from the other in response to the sliver mass which movement is sensed to vary the speed of the second pair of rolls, the first pair of rolls being driven at a constant speed and photocell sensing means for sensing a predetermined loop size of the ribbon sliver after the ribbon sliver leaves the second pair of rolls, and drafting element drive means responsive to the quantity sensing means to vary the speed of said drafting element drive means to maintain the predetermined quantity providing a delivery of evened drafted sliver having long term speed variations.

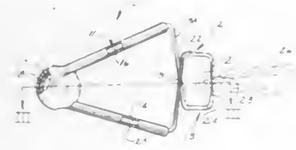
3,403,427
RESILIENT FASTENING DEVICE
Albert Asseo, 26 Rue la Fontaine, Paris, 16e, France, and René H. Neyman, 12 Rue Montcalm, Paris 18e, France
Filed Mar. 15, 1965, Ser. No. 439,852
6 Claims. (Cl. 24—73)

1. A unitary fastening device for resiliently fastening a first portion of material to a second portion of material, said fastening device comprising
a flexible and pliant first end portion adapted to be removably affixed to the first portion of material;
a flexible and pliant second end portion adapted to be removably affixed to the second portion of material, each of said first and second end portions comprising a substantially thin strip of material folded over on itself to form an end loop and having a surface adapted to be affixed to a portion of material and coated with adhesive for affixing said surface to said portion of material, said second end portion being separate and spaced from and independent of said first end portion; and



a resilient member coupling said first and second end portions to each other and extending between said first and second portions of material and passing through the end loops formed in said first and second end portions.

3,403,428
SAFETY FASTENER
Marcus B. Sheffer, Northville, Mich., assignor of ten percent to Thomas H. Somerville, Lathrup Village, five percent each to Richard P. Horsch, Farmington, and Marcus Sheffer, Northville, Mich., trustee for Patricia Samuel, until she reaches age 21
Filed Jan. 10, 1967, Ser. No. 608,395
1 Claim. (Cl. 24—161)

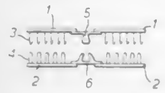


This invention relates to a safety fastener having jaws for engaging materials, such as two or more sheets of fabric, and firmly holding them together or in a selected position. The fastener is comprised of a coil having integral, elongated elements extending substantially tangentially and divergently away from the coil. The jaws are preferably integral with the outer free ends of the elongated elements and they have U-shaped end portions opening toward each other. The outer legs of the U-shaped members are pointed and are overlapped when the fastener is in its untensioned position. Thus, by manually urging the elongated elements toward each other, the jaws are opened for insertion of the material to be engaged between the pointed legs. Release of the pin automatically permits such engagement. The coil and most of the elongated elements are covered with a coating of material which is preferably elastomeric and adheres to the coil and elements. Also, said coating provides a nonskid surface.

3,403,429
STRIP FASTENING MEANS
George Walter Henry Smith, 18 Ring Road, Shadwell, Leeds 17, York, England
Filed Nov. 9, 1966, Ser. No. 593,078
5 Claims. (Cl. 24—204)

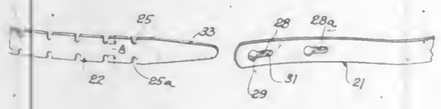
Strips of material having respectively interlocking pile surfaces of hooks and ribs to fasten the strips together are also provided with location means for ensuring alignment

of the strips as they are pressed together. These location means are constituted by a continuous rib extending longitudinally along and united with one of the strips and



which is adapted to be received within a complementary configured continuous channel which extends longitudinally along and is united with the other strip.

3,403,430
ADJUSTABLE STRAP
Bennie Steinborn, 9410 N. Keystone Ave., Skokie, Ill. 60076
Filed Dec. 1, 1965, Ser. No. 598,353
1 Claim. (Cl. 24—206)



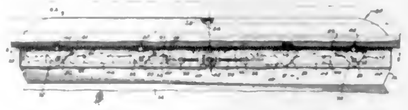
Means for adjusting the length of a strap for a musical instrument or other object to be supported on the body. The strap comprises two parts, one end of each part having means to secure the strap to the instrument., The other end of one of the parts has a plurality of pairs of marginal notches, the notches of each pair being disposed opposite one another. The other end of the other part has at least two slots located on a common longitudinal axis. The slots are of keyhole form having a width and length to permit passage of the one part portion flatwise. The transverse distance between the notches of a pair is substantially the same as the larger portion of the slot in order that, following passage of the end of the first part through the slots the same may be twisted 90° to engage the sides of the notches with the margin of each slot.

3,403,431
BOAT ANCHOR
Bernard B. Butler, Dallas, Tex., assignor to Joseph O. Cloyd, Dallas, Tex.
Filed Apr. 12, 1966, Ser. No. 542,115
1 Claim. (Cl. 24—261)



There is disclosed a boat anchor having a coil spring adapted to receive a rope and having a pair of divergent end elements. Each of the end elements is bent at an obtuse angle toward the other at an intermediate region and thereafter bent outwardly from the other at a second intermediate region spaced between the first intermediate region and the end of the end element. Each of the end elements is sharpened and bent upon itself defining a hook.

3,403,432
LATCHING MECHANISM FOR A BURIAL CASKET OR THE LIKE
Robert C. Bencene, Jamestown, N.Y., assignor to Weber-Knapp Company, Jamestown, N.Y.
Filed Mar. 7, 1966, Ser. No. 532,153
5 Claims. (Cl. 27—17)

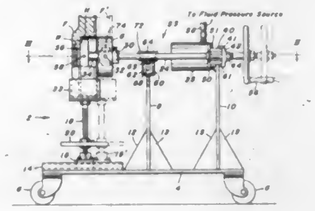


1. In a casket or the like comprising in combination a main container portion, first and second cover devices therefor, and gasket means disposed to be compressed between said cover devices and said container portion when said cover devices are closed:
an improved cover pull-down and gasket compressing and cover locking mechanism including,
first and second strike means extending from said cover devices respectively,
a latching mechanism including first and second latch blades slidably carried by said container and adapted upon displacement to alternatively engage and disengage relative to said strike means when said covers are closed,
said first latch blade having for initial engagement with said first strike a first sloping cam surface leading into an intermediate flat land surface and thence into a second sloping cam surface and from thence into a terminal flat land surface,
said second latch blade having for engagement with said second strike a single sloping cam surface leading into a terminal flat land surface,
said strike and latch blade devices being so dimensioned and arranged that upon initial closing of said cover devices into gasket contacting positions, said first sloping cam portions of said latch blades are disposed in engaging registry with said strike means,
and latch blade actuating means manually operable to cause said latch blades to displace sequentially so that said first latch blade will initially engage said first strike only and cam it only into partially gasket compressing position, and whereby further operation of said actuating means will cause said first latch blade to hold said first strike in partial cover-closed position while causing said second latch blade to engage and cam said second strike into cover partially closed position, and whereby further operation of said actuating means will thereupon cause both latch blades to further cam their respective strikes into further cover-closing gasket-compressing positions.

3,403,433
METHOD OF PRODUCING PILL RESISTANT POLYESTER FIBER CONTAINING FABRICS
Werner A. P. Schoeneberg, Wezembeek-Oppem, Belgium, assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
No Drawing. Original application June 1, 1964, Ser. No. 371,768. Divided and this application Aug. 10, 1966, Ser. No. 586,583
19 Claims. (Cl. 28—74)

A method of producing pill resistant fabrics from polyester fiber containing blended yarns comprising restraining the fabric and then heating the restrained fabric whereby the polyester fiber components shrink and migrate to the center of the yarns making up the fabric.

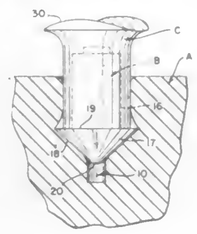
3,403,434
BEARING RACE EXTRACTOR
Anthony V. Calabro, Monongahela, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed June 21, 1966, Ser. No. 559,289
6 Claims. (Cl. 29—200)



1. Apparatus for extracting an outer bearing race from its housing, said bearing race having diametrically opposed recesses in its inner surface, said apparatus comprising:
a main frame;
means mounted on said main frame for holding a housing with a bearing race to be removed therefrom, said means being slidable on said main frame in a direction parallel to the central axis of said bearing race;
a pair of arms mounted on said frame and extending lengthwise in a direction substantially parallel to said central axis of said bearing race;
means for holding said arms in stationary positions on said frame with an end portion of each arm inside the inner surface of said bearing race, said means for holding said arms being adjustable to move said arms laterally so that said end portions of the arms move toward and away from said axis of said bearing race;
a pin mounted on each of said end portions of said arms extending laterally away from the other arm, said pin being adapted for insertion in said diametrically opposed recesses in said bearing race when said end portions of said arms are moved away from said axis of said bearing race and toward said inner surface of the bearing race; and
means for pushing said housing relative to said frame in a direction parallel to said central axis of said bearing race while said bearing race is held in a fixed position relative to said frame by said pins inserted in said recesses in the bearing race.

3,403,435
TIRE STUD AND METHOD FOR INSTALLING SAME
Lorrain A. Holder, Willoughby Hills, Ohio (% The Die Cast Finishing Co., 4150 Hough Ave., Cleveland, Ohio 94103)
Filed Mar. 21, 1966, Ser. No. 536,025
3 Claims. (Cl. 29—450)

An improved tire stud and method for installing the same in a preformed opening in a tire tread. The stud includes a shank provided with an improved bead having a maximum diameter of three to five times the diameter of the preformed opening and of a generally conical shape with the included angle of the cone being between 80–115°. The method for installing includes providing a tool having an outer diameter equal to or less than the head diameter and an opening sized to receive the shank. The shank is positioned in the tool opening and the conical head positioned in engagement with the preformed tread opening. By application of an axial force on the tool the head dilates the tread opening and is positioned therein, after which, the tool is withdrawn.

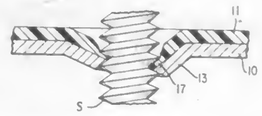


3,403,436
METHOD OF PLACING A SHEATH OVER A FILAMENT-LIKE MEMBER
William A. Rhodes, Jr., Avondale, Pa., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Aug. 31, 1966, Ser. No. 576,284
6 Claims. (Cl. 29—450)



1. A method of introducing a filament-like member into a flexible sheath woven of spirally extending threads, comprising the steps of:
feeding said sheath through a relatively rigid guide tube,
introducing one end of said filament-like member into the end of said sheath protruding from one end of said guide tube,
restricting the axial movement of said sheath at the other end of said guide tube, and moving said filament-like member axially into said guide tube,
such movement shortening the portion of said sheath within said tube, increasing its diameter, and permitting the filament-like member to telescope into said sheath.

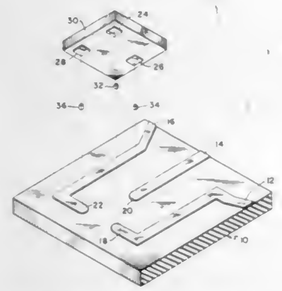
3,403,437
METHOD OF MAKING A NUT IMPRESSION TO EFFECT A LIQUID-TIGHT SEAL WITH A SCREW
Leonard S. Jaworski, Toledo, Ohio, assignor to The Bishop and Babcock Corporation, Toledo, Ohio, a corporation of Ohio
Original application Dec. 10, 1965, Ser. No. 513,021, now Patent No. 3,353,436, dated Nov. 21, 1967. Divided and this application Jan. 9, 1967, Ser. No. 607,998
1 Claim. (Cl. 29—481)



This invention relates to a method of forming a sheet metal nut impression which is adapted to form with a screw applied thereto a liquid-tight seal and is concerned with the application of a plastic material to the sheet metal, then forming the nut impression in such manner

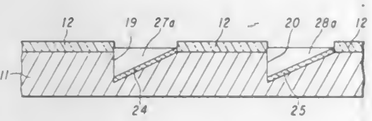
that the plastic material is freed from the sheet metal at the edge of the opening in the nut impression and is squeezed between the nut impression and the threads of an inserted screw.

3,403,438
PROCESS FOR JOINING TRANSISTOR CHIP TO PRINTED CIRCUIT
Howard S. Best and Robert E. Bowser, Raleigh, N.C., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Dec. 2, 1964, Ser. No. 415,314
4 Claims. (Cl. 29—577)



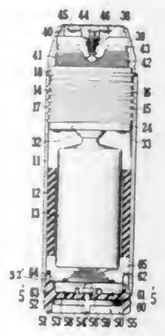
4. The process of bonding a transistor chip to a printed circuit comprising the steps of
providing a flat substrate having a printed circuit formed on one surface thereof, said printed circuit having at least one contact area embodied therein in a predetermined desired position,
providing a transistor chip having at least one contact area on one surface thereof corresponding in number to said contact areas embodied within said printed circuit and having an opposing arrangement thereto,
disposing said chip adjacent said printed circuit with the contact areas on said chip in register with said contact areas within said printed circuit,
disposing a solid conductive pillar intermediate each pair of opposing contact areas,
applying a force to the unit so formed,
introducing vibratory energy to said unit and
compacting said pillars to simultaneously weld corresponding printed circuit and transistor contact areas to said pillars whereby said pillars form a bond therebetween.

3,403,439
ELECTRICAL ISOLATION OF CIRCUIT COMPONENTS OF MONOLITHIC INTEGRATED CIRCUITS
Louis Glen Bailey, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Apr. 29, 1966, Ser. No. 546,232
6 Claims. (Cl. 29—578)



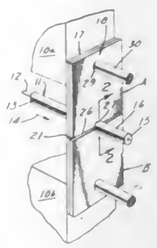
1. In a method for fabricating electronic components within a single semiconductor substrate, the steps of
(a) selectively removing a portion of semiconductor material to form a pocket within said semiconductor substrate, said pocket having a portion of its perimeter extending from the base of said pocket to a surface of said substrate and being substantially perpendicular to said surface, the remaining perimeter of said pocket sloping from the base of said pocket to said surface,
(b) selectively applying insulating material on said remaining perimeter of said pocket, said substantially perpendicular portion of the perimeter of said pocket remaining exposed semiconductor material, and
(c) selectively epitaxially growing single crystalline semiconductor material from said substantially perpendicular portion of the perimeter of said pocket to bury said insulating material.

3,403,440
ELECTRIC DRY SHAVER FORMED OF COAXIAL ASSEMBLIES
Mineharu Omori and Shozo Matsubara, Ibaraki-shi, Osaka-fu, Tadayoshi Nakamura, Kadoma-shi, Osaka-fu, and Seiji Harada, Suita-shi, Osaka-fu, Japan, assignors to Hitachi Maxell Ltd., Osaka-fu, Japan, a corporation of Japan
Filed Oct. 12, 1966, Ser. No. 586,091
Claims priority, application Japan, Oct. 29, 1965, 40/88,265; Nov. 6, 1965, 40/90,252
9 Claims. (Cl. 30—43.6)



An electric dry shaver consisting of a plurality of cylindrical assemblies coupled together by threaded engagements along a common axis.

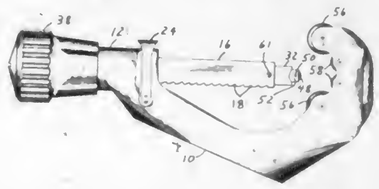
3,403,441
COMPOSITE WIRE STRIPPING BLADES
Floyd G. Eubanks, Pasadena, Calif., assignor of ten percent to Robert M. McManigal, South Pasadena, Calif.
Filed Aug. 19, 1966, Ser. No. 573,597
3 Claims. (Cl. 30—90.1)



A composite blade structure for cutting and stripping insulation from an insulated wire having a wire core held to close tolerances, and an insulation covering which may vary slightly in diameter for different wire runs, or wires

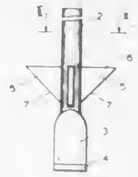
of different manufacture, wherein an insulation cutting blade having a wire receiving notch designed to the close wire core tolerance is connectable with a selected one of a plurality of insulation clamping blades having arcuate clamping surfaces graduated to grip insulation of slightly varying diameters. The blades are connected by mounting means which facilitate changing of the clamping blades, as required.

3,403,442
DEVICE FOR SCORING GLASS ARTICLES
Robert C. Reese and Peter E. Wesel, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Oct. 17, 1966, Ser. No. 587,324
4 Claims. (Cl. 30—164.95)



A device for forming external circumferential score lines on glass pipe. A cutting edge is resiliently mounted on a support which is in turn resiliently mounted on a frame member. A guide portion of the support is in continuous contact with the glass surface, thereby insuring uniformity in the pressure of the cutting edge against the glass.

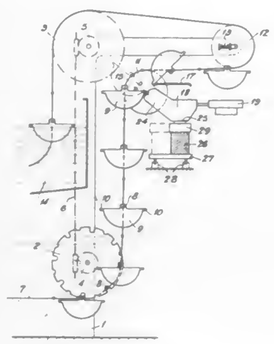
3,403,443
PERCUSSION DRILL BIT FOR SHATTERING HARD FORMATIONS
Michael Beley, Pittsburgh, Pa., assignor to Dravo Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 21, 1967, Ser. No. 617,638
4 Claims. (Cl. 30—168)



A percussion bit is disclosed for breaking hard refractory and rock-like materials having wedges attached to the shank above and in separate planes from the customary cutting edge for applying a shattering impact against the material into which the bit is being driven.

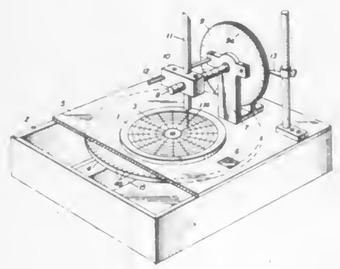
3,403,444
MACHINE FOR THE PRODUCTION OF CHEESE
Maurice F. M. E. Chollet, Loire-Atlantique, France, assignor to Ateliers et Chantiers de Nantes (Bretagne-Loire) Prairie au Duc, Nantes, Loire-Atlantique, France, a company of France
Filed Apr. 20, 1966, Ser. No. 543,960
Claims priority, application France, Apr. 22, 1965, 14,247
11 Claims. (Cl. 31—46)

A machine for handling curds used in the production of cheese, including a continuous chain conveyor having curd-carrying troughs pivotally mounted at spaced intervals thereon, said troughs being tippled in succession as each one arrives at a curd-unloading station by means



of a finger which is mounted on a rotary wheel over which the conveyor chain is guided.

3,403,445
POLAR COORDINATE CHART READER
Vernon B. Sauer, Baton Rouge, La., assignor to the United States of America as represented by the Secretary of the Interior
Filed Sept. 28, 1966, Ser. No. 583,124
6 Claims. (Cl. 33—1)

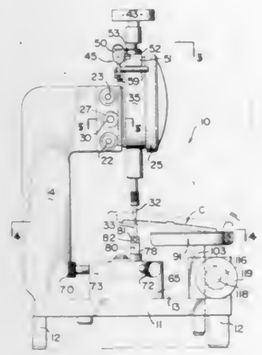


A wheel on the device is parallel to and polarly coaxially aligned with a polar coordinate graph-containing chart held by the device. The wheel has a larger diameter than the paper chart and is calibrated to read in the chart's θ coordinate. A pointer on the device can be directed toward individual points along a radial path on the chart. Magnitude of pointer movement is translated to a measuring device calibrated to read in the chart's ρ coordinate.

3,403,446
SCORE THICKNESS GAUGE
Ralph J. Trnka, Riverdale, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Oct. 17, 1966, Ser. No. 587,055
18 Claims. (Cl. 33—147)

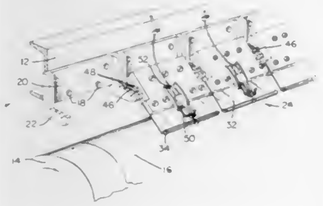
This disclosure relates to a gauge for measuring the thickness of a can end score line and includes an anvil above which is supported a gauge element having means for entering a can end score line, a plurality of supports adjacent the anvil, the supports and the anvil being in triangularly disposed relative relationship, and means for

moving the supports individually whereby a can end being engaged can be selectively disposed in a plane gen-



erally normal to the axis of the anvil and gauge element means to ensure an accurate measurement of the score line thickness.

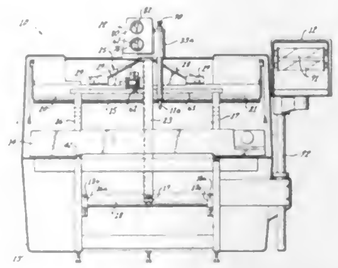
3,403,447
SENSING SKID SHOE FOR CALIPER DETECTORS
Ruel E. Taylor, Jr., South Windham, Maine, assignor, by mesne assignments, to Scott Paper Company, Delaware County, Pa., a corporation of Pennsylvania
Filed Mar. 4, 1965, Ser. No. 437,104
1 Claim. (Cl. 33—148)



1. In a caliper detector sensing skid having a rigid body member, a skid shoe and transducer means for converting skid shoe motion into an electrical signal having a characteristic which varies in accordance with the motion of said skid shoe, an improved skid shoe comprising: a flexible detector blade detachably secured to said rigid body member with a portion thereof extending beyond said body member, said portion terminating in a transverse, upwardly extending, generally semicylindrical lip having a curvature in excess of one hundred and eighty degrees and a lower surface which defines a corresponding semicylindrical snap-fitting receptacle; and a cylindrical web contacting member releasably held within said receptacle.

3,403,448
GAGING DEVICE
Willis Fay Aller, Dayton, Ohio, assignor to The Bendix Corporation, a corporation of Delaware
Filed June 7, 1965, Ser. No. 461,753
12 Claims. (Cl. 33—174)

A precision measuring machine having improved geometric construction features which makes possible improved precision measurement. A basic load carrying skeletal structure is employed in which the primary load carrying way is fixed on the base. The worktable, measur-



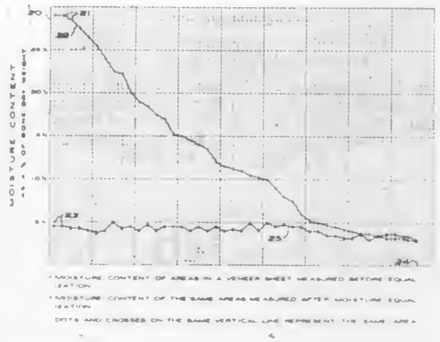
ing element supporting structure, and a stabilizing way are all adjustable to provide necessary precision required.

3,403,449
METHOD OF ACCURATELY POSITIONING A HALFTONE SCREEN AND TEMPLATE THEREFOR
George P. Eberlen, 513 Parkwood, Park Ridge, Ill. 60068
Filed Sept. 14, 1964, Ser. No. 396,309
5 Claims. (Cl. 33—184.5)

A template and method for providing a halftone screen with a plurality of accurate radial and angular positional references, comprising a circular sheet of flexible material including about the periphery thereof, closely adjacent the edge, a plurality of uniformly spaced holes, and at least one narrow, elongated, radially positioned slot therethrough. The holes are fitted over a group of corresponding mounting posts which are attached to a light table, and the halftone screen is placed over the template with a medial line of the former in alignment with the radially positioned slot of the latter.

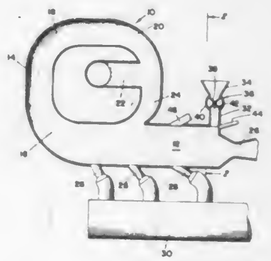
3,403,450
MEANS FOR AND PROCESS OF APPROXIMATING EQUALIZATION OF THE RESIDUAL MOISTURE CONTENT WITHIN A SHEET OF VENEER AND THE LIKE
Julius W. Mann and George F. Russell, both % Mann-Russell Electronics Inc., 711 St. Helens Ave., Tacoma, Wash. 98402
Filed Apr. 21, 1966, Ser. No. 544,269
10 Claims. (Cl. 34—1)

By applying radio frequency energy to wood veneers after preliminary drying and internally heating areas therein containing an excess over a desired average moisture content, more evenly equalizing the moisture content of the whole veneer and preventing escaping vapors from



recondensing on the veneers by surrounding it with air of an adequate temperature.

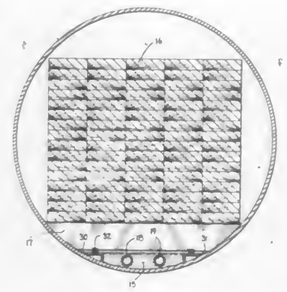
3,403,451
METHOD FOR DRYING OR TREATING WET SOLID AND SEMISOLID MATERIALS
Nicholas N. Stephanoff, Haverford, Pa., assignor to Fluid Energy Processing & Equipment Company, Lansdale, Pa., a corporation of Pennsylvania
Original application Mar. 30, 1965, Ser. No. 443,921, now Patent No. 3,329,418, dated July 4, 1967. Divided and this application Jan. 20, 1967, Ser. No. 610,611
9 Claims. (Cl. 34—10)



A method of drying tacky granular material which comprises propelling the material through a straight elongated area under intense heat which acts to quickly dry the particles to a sufficient degree to prevent agglomeration, and then passing the substantially dry particles through an arcuate recycling path at one portion of which the finer, most completely dry particles are separated out while the heavier, less completely dry particles are recycled back for further heating. The initial rapid drying is essential because once agglomeration takes place, it is extremely difficult to separate the particles again.

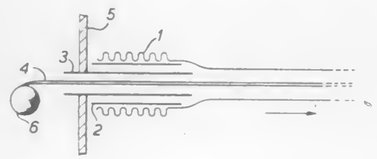
3,403,452
STEAMING DEVICE AND METHOD
Richard K. Stem, William T. Dolan, and Charles C. Stem, New Albany, Ind., assignors to Chester B. Stem, Incorporated, New Albany, Ind., a corporation of Indiana
Filed July 11, 1966, Ser. No. 564,387
3 Claims. (Cl. 34—13.8)

Means and methods for steaming wood. The means includes an elongated tubular body openable at one end and closed at the other, rails within the tubular body upon which wood may be stacked so that the bottom of the stack of wood is spaced from the bottom of the tubular body and steam piping located near the bottom of the



tubular body for heating water within the tubular body below the bottom of the stack of wood and the bottom of the tubular body to cause it to boil and fill the tubular body with steam under pressure.

3,403,453
METHOD OF MAKING EDIBLE TUBULAR PRODUCTS
Allan James Kidney, London, Maxwell Charles Hamlyn, Kingston-on-Thames, and Alexander Owen, London, England, assignors to Unilever Limited, Port Sunlight, England, a company of Great Britain
Filed Dec. 16, 1966, Ser. No. 602,365
Claims priority, application Great Britain, Jan. 3, 1966, 189/66
3 Claims. (Cl. 34—21)

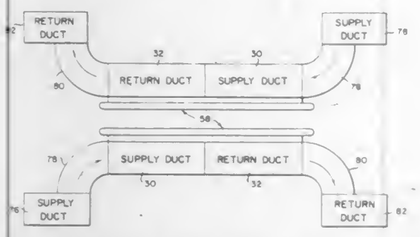


The invention relates to the processing of sausage casing and the like. Natural or artificial casing, which tends to be fragile and difficult to handle while wet, is supported during processing, drying and shirring by a rod- or tube-like templet introduced into the lumen of the casing. In this way handling is facilitated and a uniform casing results. The templet is preferably an inflated tube of plastics material.

3,403,454
HEAT TREATING APPARATUS FOR WEB AND SHEET MATERIAL
Horace L. Smith, Jr., Richmond, Va., assignor to White Consolidated Industries, Inc., a corporation of Delaware
Continuation of application Ser. No. 537,132, Mar. 24, 1966. This application Apr. 5, 1967, Ser. No. 628,783
29 Claims. (Cl. 34—68)

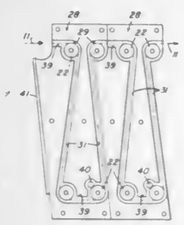
Fluid supply and radiant heating systems for drying and similar apparatus including main supply and return ducts, branch ducts extending transversely across the main ducts, and an arrangement for directing fluid from the branch supply ducts into contact with the material being treated and for exhausting the fluid and evolved

volatiles into the branch exhaust ducts. For applications requiring the application of heat to the product, radiant heaters may be incorporated in the foregoing



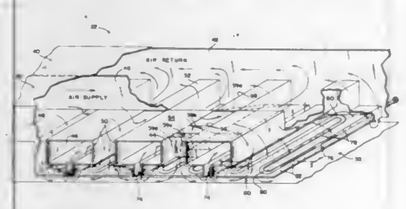
structure and a single system may be used to heat the treating fluid and the radiant heaters. Apparatus employing fluid supply and radiant heating systems in accord with the foregoing.

3,403,455
FILM DRYING APPARATUS
Robert J. Wilson, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Mar. 2, 1967, Ser. No. 620,084
9 Claims. (Cl. 34—159)



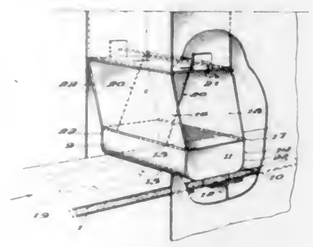
A film drier wherein a single film strand within an easily threadable shallow channel moves past a plurality of oppositely disposed hot air jets developed in the shallow channel walls. By distributing the jets uniformly along both sides of the channels, high-speed, efficient, drying is accomplished without "shoreline" degradation or "flutter" damage of the film.

3,403,456
IMPINGEMENT TYPE DRYING APPARATUS
Horace L. Smith, Jr., Richmond, Va., assignor to White Consolidated Industries, Inc., a corporation of Delaware
Filed Feb. 14, 1967, Ser. No. 615,966
17 Claims. (Cl. 34—160)



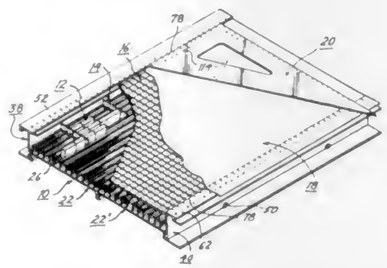
Impingement type drying units which include supply and return ducts, flow plates for directing a fluid medium from the supply ducts into contact with the material being treated, and inlets to the return ducts for the spent fluid medium and evolved volatiles together with, if desired, an arrangement for heating the flow plates to infrared radiation emitting temperatures. Drying apparatus including such units.

3,403,457
DRYER SEAL
Steven G. Masters and William D. Poats, Waynesboro, Va., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Aug. 29, 1966, Ser. No. 575,801
8 Claims. (Cl. 34—242)



A conveyor dryer seal comprising a trough having a flat bottom curving upwardly and extending across the width of the conveyor belt, and suspending means which allows movement of the trough towards and away from the belt while maintaining the flat bottom of the trough parallel to the face of the belt. A preferred suspending means comprising two parallel rectangular members, one edge of each being hinged to one of the sides of the trough and the other edge being hinged to the dryer framework, is disclosed.

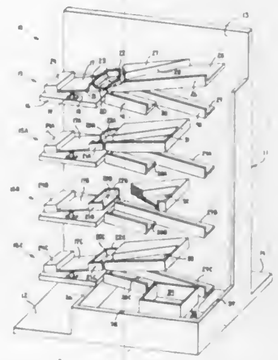
3,403,458
GRAPHICAL CHART DISPLAY DEVICES AND SYSTEM
Stanley Mendell, Haddonfield, N.J., assignor to Planalog, Inc., a corporation of New Jersey
Filed Aug. 11, 1966, Ser. No. 571,748
17 Claims. (Cl. 35—24)



A graphical chart display device, for use in the critical path and PERT methods of planning analysis, employs a display board having a plurality of parallel channels and gauge elements which are slidable in the channels. The gauges are formed as spring elements having surfaces engaging with the channels at two levels of entry. At one level the gauges are freely slidable, and at the other they are substantially locked in place. Fences mounted transversely to the channels are also formed for different levels of insertion in the channels. A frame-of-reference system for the display board and gauges includes flanges for

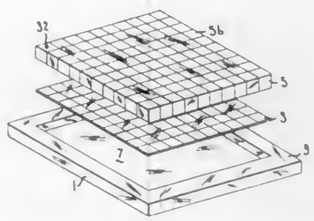
mounting a flat, transparent tracing support on the board over the gauges, and indexing devices for the board, the tracing support, and the gauge elements.

3,403,459
TOY MECHANICAL COMPUTER
James L. Divilbiss, Urbana, Ill.
(1912 Robert Drive, Champaign, Ill. 61820)
Filed Sept. 21, 1966, Ser. No. 580,965
7 Claims. (Cl. 35—30)



1. A mechanical computer comprising a support, a lever pivotally mounted on said support and swingable between two positions, said lever being counterweighted to retain said lever in one of said positions, said lever having a receptacle thereon formed to receive a plurality of balls, the weight of said counterweight being sufficiently small in relation to the weight of said plurality of balls, so as to cause said lever to move to the other of said positions when said receptacle has said plurality of balls therein, the weight of said counterweight being sufficiently great in relation to the weight of less balls than said plurality of balls to cause said lever to move to said one position when less than said plurality of balls are in said receptacle.

3,403,460
MATHEMATICAL EDUCATIONAL APPARATUS USING BLOCKS
Irvin R. Barrows, 1616 S. Compton St., St. Louis, Mo. 63104
Filed July 5, 1966, Ser. No. 562,867
5 Claims. (Cl. 35—31)



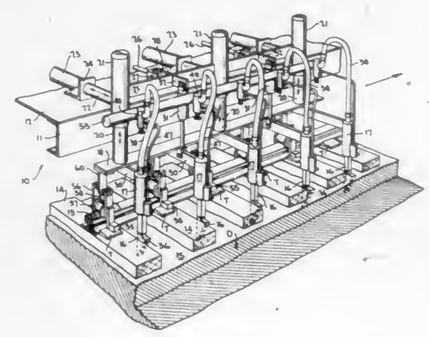
Educational apparatus particularly suitable for teaching mathematics is disclosed. The apparatus comprises a tray receiving an answer card and a plurality of blocks. The answer card has indicia thereon forming numbered spaces and the number of blocks equals the number of spaces. Each block is numbered to correspond to one of the spaces and the blocks are coded to form a recognizable pattern when the blocks are properly arranged on the spaces.

3,403,461
FOOTBALL CLEAT
Harold A. McCarney, Provincial Hotel Company Ltd., 1000 Islands, Gananoque, Ontario, Canada
Filed Nov. 8, 1967, Ser. No. 681,382
8 Claims. (Cl. 36—67)



A mud cleat capable of being releasably fixedly attached to the sole of a football boot by means of the usual cleat posts which cleat is in the form of a bar having a pair of longitudinally spaced recesses in the boot engaging surface dimensioned to accommodate a pair of longitudinally adjacent posts on the sole of the boot, each recess including releasable locking means adapted to retain the cleat on the sole of the boot by means of said post. The bar is of a generally trapezoidal shape with the side surfaces taper for the boot engaging surface to the ground engaging surface and preferably also the end surfaces have similar taper which shape reduces the tendency of the mud to attach to the cleat during play.

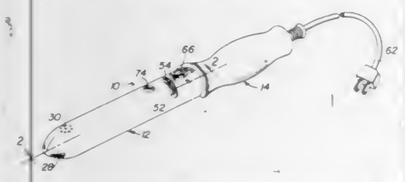
3,403,462
CONTINUOUSLY MOVING BALLAST REMOVING MECHANISM
Martin J. Speno, Syracuse, N.Y., assignor to Frank Speno Railroad Ballast Cleaning Company, Inc., Ithaca, N.Y., a corporation of New York
Filed Dec. 8, 1965, Ser. No. 512,460
15 Claims. (Cl. 37—104)



Mechanism for automatically removing dirty ballast from between the adjoining ties of a railroad track, in which a portable vehicle movable along the track carries a plurality of probes for vertical projection and retrac-

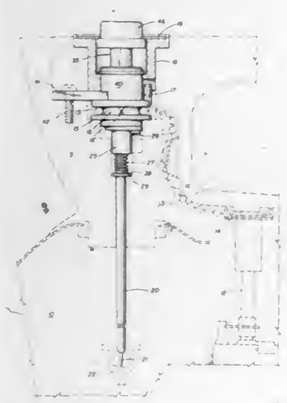
tion movement into the ballast between the cribs. Proximity switches actuated by the tie plates of the respective ties, control solenoid actuated valves which, in turn, cause the probes to be projected downwardly into and withdrawn from the crib spaces as the vehicle moves along the track. The probes are provided with cam faces to laterally displace the ballast and also are provided with laterally directed jet nozzles for emitting jets of pressurized fluid for laterally displacing the ballast.

3,403,463
MATERIAL IRON
Louie L. Stanley, 272 Hammond Drive, Miami Springs, Fla. 33166
Filed Jan. 19, 1966, Ser. No. 521,670
8 Claims. (Cl. 38—77)



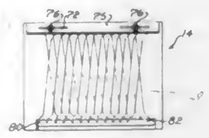
An iron including an elongated semicylindrical ironing block having a generally conical leading end. The ironing block includes an internal enlarged steam-generating chamber with vapor discharging holes extending both upwardly through the arcuate upper portion thereof and downwardly through the flat base portion. Valve means enable a selective discharge of steam generated in the chamber through either set of holes. A liquid inlet is provided into the chamber with the chamber being filled with a suitable heat-transferring substance.

3,403,464
ELECTRIC IRON WITH PUSHBUTTON VALVE CONTROL MECHANISM FOR CONVERTING FROM DRY TO STEAM OPERATION AND VICE VERSA
Vincent A. Martens, Racine, Wis., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Feb. 20, 1967, Ser. No. 617,370
11 Claims. (Cl. 38—77)



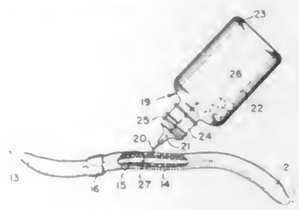
An electric iron having a co-axial pushbutton, valve stem and seat, and mechanism between the pushbutton and valve stem for moving the stem to closed-valve "dry" position or open-valve "steam" position by successive depression of the pushbutton, including means for adjusting thermostatic mechanism which controls sole plate temperature and varies the volume of water passing to the sole plate. The valve actuating mechanism comprises rotated means movable into locked and unlocked positions by actuation of the pushbutton for successively holding the valve stem in closed and open valve positions.

3,403,465
DISSOLVE MOTION DISPLAY
John Lane, Kirtland, Ohio, assignor to Keeler and Dunkel, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Apr. 18, 1966, Ser. No. 543,123
7 Claims. (Cl. 40—65)



A changing visual display comprising two relatively movable display sheets, each having a plurality of strips formed by slits and interleaved in sliding, overlapping relationship, and means reciprocating the sheets in the planes thereof, transversely of the length of the members to alternately expose the displays on the sheets.

3,403,466
ARTICLE FOR INJECTING FISH-ATTRACTANT INTO LIVE BAIT
Arthur C. Young, 85 Front St., Berea, Ohio 44017
Filed Aug. 6, 1965, Ser. No. 477,791
2 Claims. (Cl. 43—4)



A plastic squeeze bottle provided with a hypodermic needle and containing a fish-attractive agent at least partially in the vapor phase for injection into the internal tract of an angleworm to inflate, buoy, and enhance the fishing lure effectiveness of the latter.

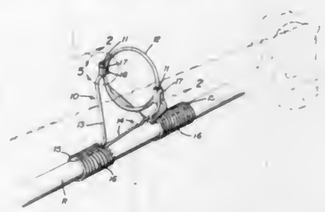
3,403,467
FISHHOOK DEVICE
Howard Ju, 301 McCain St., Greenwood, Miss. 38930
Filed Dec. 9, 1966, Ser. No. 600,561
9 Claims. (Cl. 43—15)

1. A fishhook device comprising in combination: a curved hook element having barb means at one end and a shank at the opposite end thereof; a first elongated shank extension element having means at one end for securement of said hook element shank thereto; a second elongated shank extension element having means at one end thereof for securement to a fishing line; pivot means joining the second shank extension element near the opposite end from said one end, to an intermediate portion of said first shank extension element for movement of the first shank extension element between a first position wherein it is in generally axial alignment with the second shank extension element and a second position wherein the first shank extension element's longitudinal axis forms a small acute angle with the longitudinal axis of the second shank extension element and the hook element barb means is closely adjacent the second shank extension element; fish releasable latch means for



maintaining said first shank extension element in said first position; and tensioned spring means secured to said first and second shank extension elements for urging said first shank extension element to said second position upon release of said latch means by a fish striking said hook element.

3,403,468
REMOVABLE FISHING ROD GUIDE
Louis F. Bartoletti, 343 101st St., Brooklyn, N.Y. 11209
Filed May 16, 1966, Ser. No. 550,457
3 Claims. (Cl. 43—24)



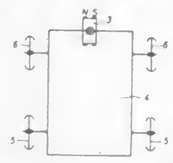
A fishing rod line guide made up of two parts, one of which is a substantially circular guide ring and the other part is a holder for said guide ring which permits the ring to be readily placed in the holder or removed therefrom. The holder is made up of a wire and has two spaced blocks attached thereto in a position to support the guide ring and is secured to the rod by wrappings of cord or the like.

3,403,469
FISH LURE
Jack W. Whitney, 152 Palmer Ave., Mountain View, Calif. 94040
Filed Apr. 11, 1966, Ser. No. 541,832
6 Claims. (Cl. 43—42.06)



A fish lure having a main body comprised of a pair of spaced leg members, joined at their ends, and twisted along their length in opposite directions through substantially the same angle.

3,403,470
MAGNETIC STEERING MECHANISM FOR TOY VEHICLES
Willy Werner, Quickborn, Holstein, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 13, 1965, Ser. No. 513,306
Claims priority, application Germany, Dec. 16, 1964, P 35,702
5 Claims. (Cl. 46—236)

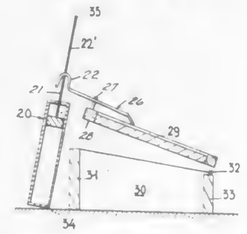


A magnetic steering mechanism for a toy vehicle system. A permanent magnet in the form of a wheel is rotatably attached to the steering mechanism of the vehicle. A ferromagnetic strip is attached to a driving surface. Both the magnet wheel and the ferromagnetic strip have laterally adjacent pole pieces of opposite polarity. Each pole piece of the wheel overlies a pole piece having opposite polarity on the ferromagnetic strip thus providing a magnet system which urges the wheel into continuous alignment with the ferromagnetic strip.

3,403,471
METHOD OF CULTURING ALGAE IN AN ARTIFICIAL MEDIUM
Genevieve Clement, Coeuilly-Champigny, Michel Rebeller, L'Etang-la-Ville, and Claude Zarrouk, Villeneuve-la-Garenne, France, assignors to Institut Francais du Petrole, des Carburants et Lubrifiants, Rueil-Malmaison, France
No Drawing. Continuation-in-part of application Ser. No. 516,089, Dec. 23, 1965. This application Feb. 18, 1966, Ser. No. 528,404
Claims priority, application France, Feb. 18, 1965, 6,175; Sept. 29, 1965, 33,192
20 Claims. (Cl. 47—1.4)

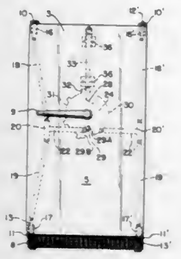
Growing algae of the Oscillatoria family, particularly *Spirulina maxima*, having 63% protein in the dry state, employing an initial pH of about 7.5–12, preferably 8.5–11, and employing gaseous carbon dioxide to maintain the pH in said range.

3,403,472
TEMPERATURE CONTROLLED CLOSURE
Francois de Raucourt, 23 Rue du Colonel Moll, Paris, France
Filed Nov. 20, 1964, Ser. No. 412,779
Claims priority, application France, Nov. 28, 1963, 955,289
1 Claim. (Cl. 49—31)



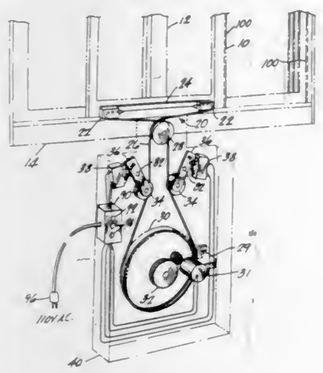
A combined control valve, controlling the intake and exhaust of pressurized liquid, which is responsive to a temperature detector and operatively connected to actuate jack means to control the opening and closing of a cover, such as the cover of a plant bed box.

3,403,473
REVERSIBLE DOOR OPENING ARRANGEMENT
Agustin A. Navarro, 4747 W. Congress Parkway, Chicago, Ill. 60644
Filed June 30, 1966, Ser. No. 561,989
5 Claims. (Cl. 49—193)



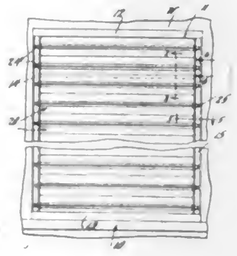
A mechanism is provided for reversibly mounting a door on a cabinet frame so that the door may be opened from selective sides of the cabinet. The mechanism includes support means disposed on two sides of the frame, and includes pivot pins on the door movably disposed on two sides thereof for engagement with the respective supports. A first toggle arrangement is provided to move the pivot pins on one side of the door into and out of engagement with the respective supports, whereupon the door may be rotated about one side thereof. A second toggle linkage is correspondingly provided for moving the pivot pins on the second side of the door. A rotatable actuator having cam surfaces is provided for sequentially moving the first and second toggle linkages in opposite directions, that is, movement of one of the toggle linkages in the engaging direction followed by movement of the other toggle linkage in the disengaging direction. A manually operable handle is provided for selectively moving the actuator. Lockout means are provided so that the mechanism is prevented from being operated when the door is open.

3,403,474
ACTUATOR MECHANISM FOR MOVABLE CLOSURE
John Spasoff, 8736 Jumilla Ave., Northridge, Calif. 91324
Filed July 11, 1966, Ser. No. 564,380
7 Claims. (Cl. 49—360)



An actuator device for a movable closure, such as a window, having a slider member supported in the channel of the sill of the movable window and coupled to a motor for movement of the slider and the window along the sill. A pair of limit switches are incorporated into the drive mechanism device to deactivate the motor at the extremes of travel of the window or when the window contacts a child's hand or other foreign object during its travel.

3,403,475
SAFETY WINDOW CONSTRUCTION
Ernst Degenhart, Apartado Postal 546, Buena Vista Soyapango, San Salvador, El Salvador
Filed Nov. 14, 1966, Ser. No. 594,247
1 Claim. (Cl. 49—371)

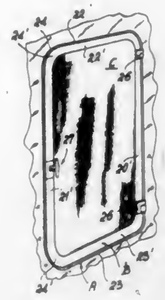


1. A security window for a building structure comprising a rigid frame, a plurality of rigid cross bars extending between the sides of said frame, the spacing between said bars being insufficient to admit a person between the same, a louver blade mounted along its longitudinal center axis on each of said bars, means for angularly adjusting each of said blades about said center axis, whereby said window is capable of selectively ventilating said structure while maintaining the security of the same, said bars being substantially square in cross-sectional shape, said bars having a circular stub shaft at each end thereof, each of the sides of said frame comprising a U-shaped channel member, at least one leg of each of the channel members being fixed to said building structure and the other leg of each of said channel members having circular apertures for rotatably receiving the corresponding stub shafts, whereby said blades and said bars are angularly adjustable by rotation as a unit in said apertures, each of said blades including a channel extending along the central axis thereof, said channel being formed by an integral bifurcation in said blade, said channel being substantially square in cross-section to mate with said bar, whereby said blades are rotatively fixed to said bars, said adjusting means comprising a dimetrical slot in at least one of said stub shafts of each of said bars, whereby each of said blades can be adjusted by a lever inserted between the legs of said channel members, the cross-web of said U-shaped channel members facing the outside of said building structure and fastening means being provided at least along said other leg, whereby access to said adjusting means and said fastening means can be gained only from the inside.

3,403,476
WINDOW AND DOOR STRUCTURES
Augusto Ciucani, Foro Bonaparte 18, Milan, Italy
Filed July 13, 1966, Ser. No. 564,847
Claims priority, application Italy, July 21, 1965, 16,491/65
2 Claims. (Cl. 49—401)

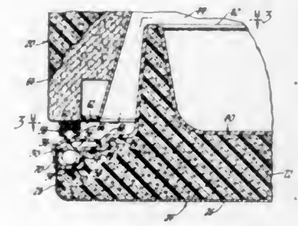
Window and door frames whose fixed and mobile elements are formed of closed-section metal parts, essentially

of trapezoidal shape and preferably scalene trapezoidal. In both the fixed and mobile elements, the skew side of the section is in parallel and juxtaposed to the coupled corresponding element. The element is coplanarly extend-



ed to the larger base of the trapezoidal section and thus forms a projection capable of meeting the smaller base of the trapezoidal part of the associated element with a certain tolerance for reciprocal positioning.

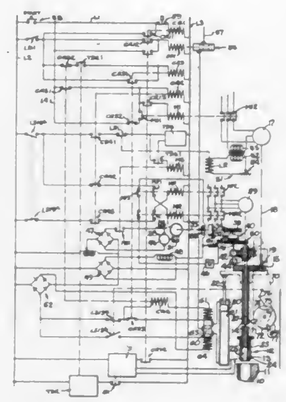
3,403,477
DOOR CONSTRUCTION
James W. Light, Greenville, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 14, 1966, Ser. No. 579,326
5 Claims. (Cl. 49—486)



A door construction comprising, a plastic inner face member having an L-shaped peripheral flange which fits into a rearwardly facing channel extending around the inner periphery of the rearwardly extending edges of an outer sheet metal face member. The L-shaped flange is held against the inner side and the bottom of the channel by a resilient tubular anchoring portion of a gasket seal which is pressed into the channel and held in place by an inwardly turned flange at the top of the outer side of the channel.

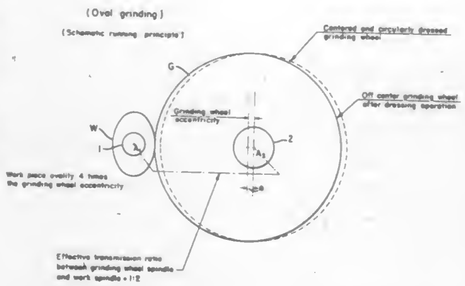
3,403,478
AUTOMATIC FEED CONTROL FOR ABRADING MACHINE
Mark R. Estabrook, Rockford, Ill., assignor to Barnes Drill Co., Rockford, Ill., a corporation of Illinois
Filed June 1, 1965, Ser. No. 460,055
3 Claims. (Cl. 51—34)

A machine for honing the bore of a workpiece by reciprocating a honing tool along the bore and simultaneously rotating the tool with abrading elements thereon pressed against the bore wall. The tool is carried on the lower end of the spindle journaled in a reciprocating head and rotated by an electric motor, and the honing elements are fed radially outwardly at a preselected rate by feed mechanism including a cam, reduction gearing, and two electric motors for driving the feed mechanism and expanding the tool at traverse and feed rates. To control the working pressure developed between the honing elements and the work, a current-responsive meter relay



senses the current flowing through the spindle motor and opens a control switch when the current reaches a preselected level. This switch interrupts operation of the feed mechanism until after the current has dropped, indicating that the working pressure again is below the predetermined desired level. A timer disables the motor for a timed interval after each opening of the switch to prevent fluttering of the relay under transient conditions.

3,403,479
APPARATUS FOR FINISHING OVAL WORKPIECES
Eduardo de Almeida Ferreirinha, Rua da Boa Nova 125/163, Oporto, Portugal
Filed Nov. 17, 1964, Ser. No. 411,931
5 Claims. (Cl. 51—105)

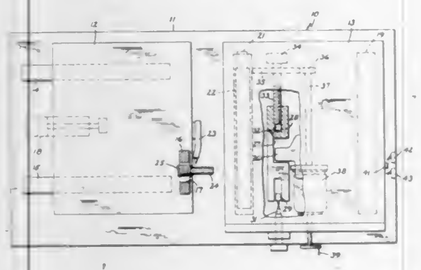


An oval workpiece is finished by rotating the workpiece about a fixed longitudinal axis, positioning cutting means in cutting relation with the peripheral surface of the workpiece and as the workpiece rotates moving the cutting means cyclically toward and away from the axis of the workpiece.

3,403,480
MACHINE TOOL USING THE ABRASION PROCESS

Edward G. Robillard, Leicester, Mass., assignor to The Heald Machine Company, Worcester, Mass., a corporation of Delaware

Filed Aug. 26, 1965, Ser. No. 482,846
9 Claims. (Cl. 51—165)

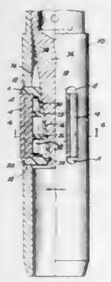


This invention relates to a machine tool and, more particularly, to a grinding machine having dress compensation using a pulse-operated stepping motor.

3,403,481
HONING ASSEMBLY INCLUDING ABRASIVE HOLDER

Clarence A. McDonald, Richmond, Ind., assignor to National Automatic Tool Company, Inc., a corporation of Indiana

Filed May 12, 1966, Ser. No. 549,621
6 Claims. (Cl. 51—204)



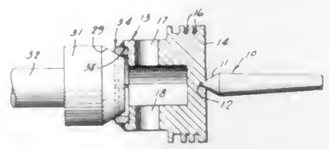
A honing assembly including an abrasive holder for use in a slot of a honing tool. The holder has a honing stone supported therein and is so constructed that a retaining flange of novel character resiliently retains the holder in the slot of the honing tool, both initially when the parts are new, and subsequently for a comparatively long service life as the slot in the honing tool and the holder become worn. The holder wears away as the honing stone becomes worn and until it is almost completely worn away.

3,403,482
ADAPTER APPARATUS FOR RESIZING PISTONS

James J. Rataiczak, Chagrin Falls, Ohio, assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio

Filed Feb. 25, 1966, Ser. No. 530,180
2 Claims. (Cl. 51—227)

An adapter for positioning a counterbored piston on a metal working machine having a tapered holding fixture comprising a ring having a transverse gap therein, the ring having a chamfered peripheral edge on one side arranged to mate with the taper of the tapered holding

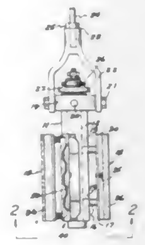


fixture, and having an outer diameter substantially the same as the diameter of the counterbore of the piston.

3,403,483
HONING DEVICE FOR CYLINDERS

Paul R. Gjertsen and Ronald A. Chabane, Detroit, Mich., assignors to Precision Hone Company, Detroit, Mich.

Filed Apr. 15, 1966, Ser. No. 542,827
7 Claims. (Cl. 51—347)

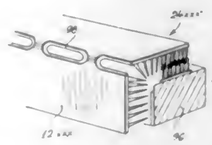


A honing device including a support plate with spaced apertures and a threaded bore therein; spaced shafts secured at their one ends to end portions of said support plate, with their free ends adapted for mounting upon and radially adjustable with respect to a honing tool; a channel plate mounted on said support plate with depending bosses nested in said apertures, a fastener retaining said channel plate to said support plate, and an abrasive stone secured upon said channel plate.

3,403,484
ADJUSTABLE CONSTRUCTION JOINT STRIPS

George Redey, 185 Demarest Ave., Englewood, N.J. 07631

Filed Sept. 22, 1966, Ser. No. 581,234
1 Claim. (Cl. 52—98)



An elongated strip of flexible plastic material for use in forming blocks for building units. The strip has an elongated body with a smooth surface and with projections on the other surface thereof. The body is flexible and may be cut into blocks, the blocks adapted to be juxtaposed with the projections intermeshing. Concrete is poured into the interstices between the intermeshing projections.

3,403,485
TELESCOPING PORTABLE MAST

Louis C. Cernosek, Houston, Tex., assignor to The Youngstown Sheet and Tube Company, Boardman, Ohio, a corporation of Ohio

Original application June 28, 1965, Ser. No. 467,637, now Patent No. 3,366,407, dated Jan. 30, 1968. Divided and this application Dec. 1, 1967, Ser. No. 687,188
5 Claims. (Cl. 52—121)

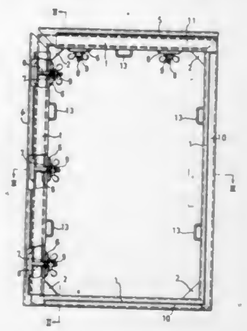


This patent discloses a telescoping mast of three sections in which the mast may be raised and lowered by raising and lowering the traveling block relative to the crown block. The intermediate and upper telescoping sections are raised simultaneously. Three different bridle arrangements are shown. In one instance, separate lines are provided for each mast section. In the other two forms of invention, the raising line is tied in one case to the upper section and in the other case to the intermediate section. There is also shown a latch system which automatically latches upon a moving section being moved up to latched position. Upon further upward movement the latch is moved into inoperative position and held in inoperative position during downward movement of the movable section.

3,403,486
SUPPORTING FRAME FOR DOOR FRAMES

Ewald Ingemar Emanuel Schubeis, Tegnergatan 9, Stockholm, Sweden

Filed Oct. 14, 1966, Ser. No. 586,772
6 Claims. (Cl. 52—127)

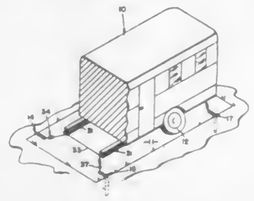


A device for supporting a door frame in a wall during the setting of the material which forms the wall. The device includes a rigid rectangular metal frame of a configuration which enables it to fit within the door frame opening. Beams are provided along two adjoining sides of the rigid frame. The beams are adapted to be displaced from the adjacent frame side member into supporting abutment with the sides of the door frame. The remaining sides of the rigid frame also abut and support the portions of the door frame which are adjacent thereto, thus bracing the door frame around the entire periphery thereof. The beams are adjustably lockable with respect to the complementary rigid frame sides.

3,403,487
MOBILE HOME ANCHOR

Charles F. Docter, 2801 Topview Place, Cincinnati, Ohio 45239

Filed Sept. 28, 1965, Ser. No. 490,929
6 Claims. (Cl. 52—148)

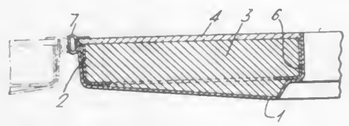


This invention discloses an anchor device for securing mobile homes to the ground, and includes hook and clamp means for engaging a concrete support means embedded in the ground and cable means associated with the hook means for engaging the mobile home thereby anchoring it to the ground.

3,403,488
BUILDING PANEL WITH A SYNTHETIC PLASTIC SHELL

John Wingate Davidson and Clive Rodon Brooks, London, Edwin John Voisey, Hutton, Essex, and John Denis Burton, London, England, assignors to The Greater London Council, London, England, a British body corporate, and John Wingate Davidson and Clive Rodon Brooks, both of London, England, and Edwin John Voisey, Hutton, Essex, England

Filed Aug. 30, 1965, Ser. No. 483,590
9 Claims. (Cl. 52—204)



This invention relates to a building panel for the construction of prefabricated multi-storey buildings, the shell of the panel being made of a synthetic plastics material and the periphery of panel being provided with a resilient sealing means.

3,403,489
LOADING DOCK SHELTERS

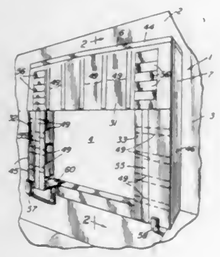
Cyril P. Frommelt and Sylvan J. Frommelt, Dubuque, Iowa, assignors to Dubuque Awning & Tent Company, Dubuque, Iowa, a corporation of Iowa

Filed Dec. 12, 1966, Ser. No. 601,169
13 Claims. (Cl. 52—204)

1. A loading dock shelter comprising
(a) a front cover,
(b) means for supporting said cover in position to extend along the top and sides of a doorway in a warehouse wall in outwardly projecting relation to said wall,

(c) said cover comprising

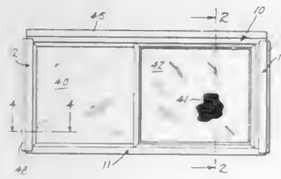
(1) a flexible top panel mounted on said supporting means in position to extend along the top of said doorway and project downwardly across the upper portion of said doorway in position to sealingly engage the top of a truck backed into operative position relative to said doorway for loading or unloading thereof, and



(2) two flexible side panels mounted on said supporting means in position to extend downwardly from said top panel along respective sides of said doorway and extend horizontally across said doorway toward the other of said side panels in position to sealingly engage the sides of said truck when the latter is disposed in said operative position, and

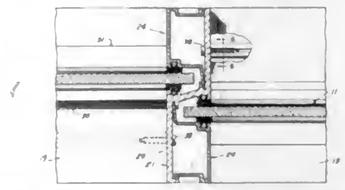
(d) each of said side panels having spaced means for holding said panel in said engagement with said truck.

3,403,490
METAL WINDOW CONSTRUCTION
Roy H. Luedtke, 1217 Oak St., Bloomer, Wis. 54724
Filed July 18, 1966, Ser. No. 565,869
2 Claims. (Cl. 52—213)



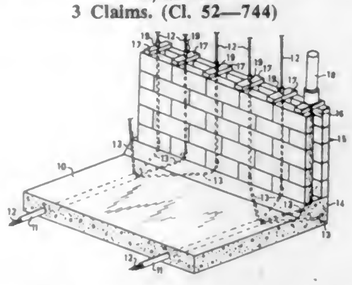
A window frame is formed of separate exterior and interior extruded metal frame members. The frame members include web portions that terminate in laterally spaced inner edges with retaining flanges extending outwardly from such inner edges. The retaining flanges each have a lip that projects laterally away from the gap between the inner edges. A generally T-shaped rigid nonmetallic insulating member extends into the gap, between the retaining flanges, and around the lips to both hold the frame members together and to insulate the interior frame member from the exterior frame member. The frame members are also formed with mounting flanges projecting from the web portions and can interlock with molding members which span the thickness of a wall into which the window frame is to be mounted. Such mounting flanges also accept stacking brackets that receive the mounting flanges of a like window frame for stacking of the frames.

3,403,491
FRAMING STRUCTURE FOR GLAZED WALLS AND PARTITIONS
Ellis V. Eichman, 2118 Parkside, Irving, Tex. 75060
Filed July 27, 1966, Ser. No. 568,239
6 Claims. (Cl. 52—397)



A wall structure comprising a plurality of panels of glass, or other suitable materials, and a framing structure to provide means for arranging the panels in offset planes, or in such manner that their adjacent edges are offset with respect to each other, whereby to present a relatively narrow profile materially reducing the lateral dimensions of the vertical and horizontal mullions supporting the panels.

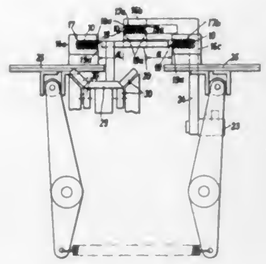
3,403,492
CONSTRUCTION OF CONCRETE LIQUID RESERVOIRS SUCH AS SWIMMING POOLS
Francis Dudley Spencer, 51 Nelson Road, Killara, New South Wales, Australia
Filed Feb. 21, 1966, Ser. No. 528,703
Claims priority, application Australia, Feb. 24, 1965, 55,584/65
3 Claims. (Cl. 52—744)



A method of constructing a concrete liquid reservoir comprising the steps of laying reinforcing tendons in the floor between opposite sides of the reservoir. End portions of the tendons are passed through bent anchored guides bending them into the wall alignment. Intermediate portions of tendons which extend between a pair of guides are prepared to provide for slip between the portions and the concrete floor. The concrete is then poured to cover the intermediate portions of the tendons and the guide. The tendons are prestressed and the ends are supported while in tensioned condition to insert stress to the floor. Then the concrete is poured to form the walls around the end portions of the tendons. The concrete is cured and the support for the ends of the tendons is removed thereby transferring the stress in the tendons to the concrete walls in addition to the floor of the reservoir.

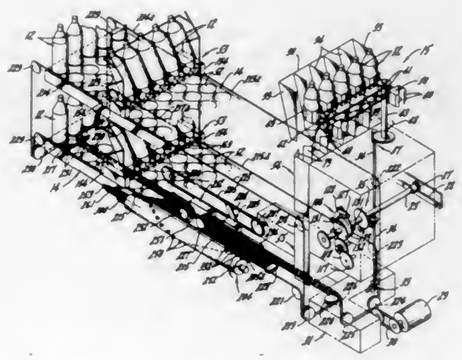
3,403,493
DEVICE FOR FORMING A BATCH OF CIGARETTES
Heinz Focke, Siemensstrasse, Verden (Aller), Germany
Filed Jan. 13, 1966, Ser. No. 520,427
Claims priority, application Germany, Jan. 14, 1965, F 44,964
10 Claims. (Cl. 53—151)

This provides a device for forming a batch of cigarettes to be packaged in a cigarette packing machine. The device includes at least two movable pockets held in spaced relationship with respect to each other. Means are provided to supply a quantity of cigarettes to each of the pockets which are subsequently placed side by side to engage each



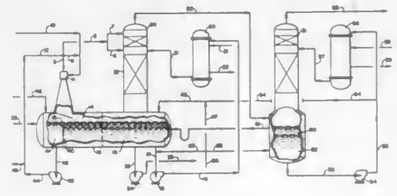
pocket at the open side thereof. This forms a continuous pocket containing a continuous batch of cigarettes. Means are provided to remove the batch of cigarettes from said continuous pocket so that it might be taken to a subsequent packing machine.

3,403,494
APPARATUS FOR LOADING BOBBINS AND THE LIKE
Richard D. Livingston, Rockford, Ill., assignor to Barber-Colman Company, Rockford, Ill., a corporation of Illinois
Filed May 31, 1966, Ser. No. 554,103
39 Claims. (Cl. 53—246)



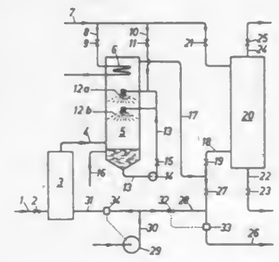
39. Apparatus for loading bobbins and the like into storage receptacles having storage devices spaced along the receptacles, said apparatus having, in combination, a frame, means for supporting a storage receptacle in a predetermined position on said frame, mechanism for delivering bobbins to a transfer station adjacent one end of said receptacle and releasing the bobbins for delivery to said receptacle, a carrier supported on said frame for back and forth movement across the receptacle in said predetermined position between said station and the end of the receptacle remote from said station, mechanism for moving said carrier back and forth in timed relation with the release of bobbins at said station first inwardly to said station to be loaded, then outwardly across the receptacle away from said station toward a first discharge position adjacent said remote end, and then back to said station for reloading, means progressively shortening successive outward strokes of said carrier by the pitch of said storage devices thereby positioning the carrier in successive discharge positions spaced progressively closer to said one end, and means operable to discharge bobbins from said carrier in said discharge positions.

3,403,495
TETRAALKYLLEAD RECOVERY PROCESS
Wilbur C. Jaasma, Greenville, S.C., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
Continuation-in-part of application Ser. No. 627,014, Mar. 30, 1967. This application Oct. 24, 1967, Ser. No. 677,714
19 Claims. (Cl. 55—72)



This invention relates to the manufacture and recovery of tetraalkyllead compounds by a new and novel process which recovers tetraalkyllead compounds from an inert gas stream by contacting the stream at least once with an inert organic scrubbing liquid.

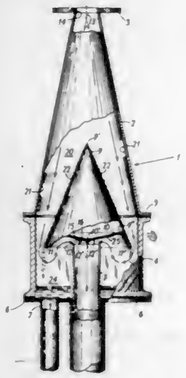
3,403,496
METHOD OF PRODUCING SO_2-WATER AND GAS WITH LOW SO_2-CONTENT FROM COMBUSTION GAS WITH HIGH SO_2-CONTENT
Karl-Gustav Magnus Ahlander, Uppsala, and Charles-Louis Viel Lamare, Taby, Sweden, assignors to Aktiebolaget Celleco, Stockholm, Sweden, a corporation of Sweden
Filed Mar. 29, 1967, Ser. No. 626,798
Claims priority, application Sweden, Apr. 5, 1966, 4,575/66
4 Claims. (Cl. 55—73)



The invention relates to a method of simultaneous production of SO_2-water and gas with comparatively low SO_2-content (low percent SO_2 gas) from combustion gas with comparatively high SO_2-content, said combustion gas having been obtained by the combustion of sulphur, a stream of said combustion gas after cooling being divided into one branch stream from which SO_2 is absorbed in water for the preparation of SO_2-water and a second branch stream to which diluting air is added for the preparation of diluted SO_2-gas. The novelty resides in the fact that the method comprises the steps of effecting said combustion, cooling, absorption and addition of diluting

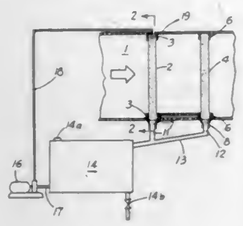
air at superatmospheric pressure, maintaining said pressure being together with the pressure of the streams of combustion gas by means of a stream of compressed air from a compressor, and dividing said stream of compressed air into one branch stream of air for the combustion and a second branch stream of air for the dilution.

3,403,497
PROCESS AND APPARATUS FOR LIQUID/GAS SEPARATION
John E. Vander Mey, Cresskill, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Mar. 11, 1966, Ser. No. 533,641
7 Claims. (Cl. 55—90)



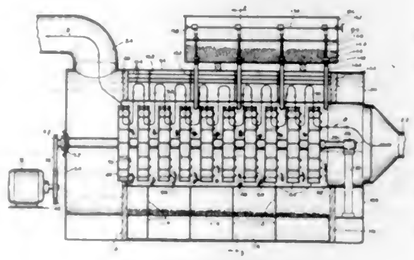
A process and apparatus for separating a mist from a gas by contacting liquid streams with the gas. One liquid stream flows down the interior of the housing while a second liquid stream flows down the outer surface of a conical surface positioned within the housing. An inverted conical surface is positioned below the first conical surface. The inverted surface directs overly treated liquid to a central outlet. The process and apparatus are particularly adapted for use with sulfonators.

3,403,498
METHOD FOR REMOVING SAPONIFIABLE AND FOREIGN SUBSTANCES FROM A GAS STREAM
Mohiuddin Pasha, Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Nov. 4, 1966, Ser. No. 592,212
3 Claims. (Cl. 55—90)



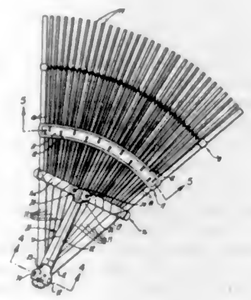
The present invention relates to a method for eliminating foreign materials carried by a stream of gas and, more particularly, relates to a method for the removal of foreign materials, including saponifiable substances, entrained in a gas stream.

3,403,499
IMPELLER SMOKE REMOVER
Anatol P. Zador, 367 Furman St., Syracuse, N.Y. 13205
Filed Aug. 10, 1967, Ser. No. 659,764
6 Claims. (Cl. 55—282)



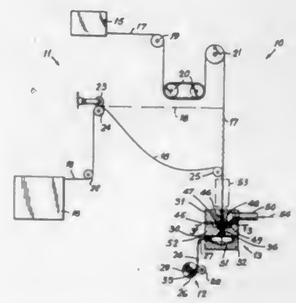
Impeller smoke remover apparatus comprising a housing having a high speed rotary shaft extending thereinto and a plurality of impeller wheels driven by the shaft and disposed at uniformly spaced intervals, each of said wheels comprising spaced disks, with a plurality of groups of screen wire layers extending spirally between the disks, a coaxial smoke inlet in one end of the housing, the disks on the wheels facing the inlet having circular rows of louvers facing in the direction of rotation, cylindrical screening disposed around the wheels providing an annular space for small light weight pellets adapted to be projected around the screening upon high speed rotation of the wheels, an outlet in the side wall of said housing at the other end, and a compartment below the screening to receive solids and contaminants separated from the gases passing through the housing from inlet to outlet.

3,403,500
BAMBOO RAKES
Walter B. Wirth, 530 S. 11th St., Richmond, Calif. 94804
Filed May 24, 1965, Ser. No. 458,089
9 Claims. (Cl. 56—400.17)



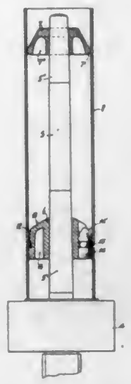
Bamboo rake assembled with an improved ferrule forming a rigid structure with the upper end of the rake. An improved spreader construction and an improved mounting clip for use with a reinforcing spring are also disclosed.

3,403,501
YARN-TREATMENT, METHOD AND APPARATUS
Carl W. Nuissl, Sheldonville, Mass., assignor to Nuval Co., Cumberland, R.I., a corporation of Rhode Island
Filed July 15, 1966, Ser. No. 565,574
32 Claims. (Cl. 57—77.3)



This invention is concerned essentially with a method and apparatus for the treatment of yarn, wherein the yarn to be treated is fed into a passageway in which a vortical motion is created by a fluid directed generally nonradially therein.

3,403,502
AUTOMATIC CENTERING AND CENTRIFUGAL DRAGGING DEVICE OF COPS FOR SPINNING AND TWISTING SPINDLES
Bruno Giacomo Caminada, Via C. Treves, Trezzano sul Naviglio, Milan, Italy
Filed Aug. 22, 1966, Ser. No. 573,909
5 Claims. (Cl. 57—129)



Automatic centering and dragging of cops for spinning and twisting of spindles is accomplished by a dragging device comprising upper and lower superimposed elements rigidly connected by an inner bushing sleeve which itself seats on a frusto-conical portion of a spindle shaft. The lower element comprises a body having three recesses each containing a dragging cylinder. A slotted resilient sleeve encloses the lower element and, being in its unrestrained condition of a diameter greater than the cop, is resiliently biased to said cop. The slots allow contact of the cylinders with the cop to effect the dragging.

3,403,503
STRANDED ROPE AND PROCESS FOR MAKING IT
Victor Samuel Van Scoy, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 30, 1967, Ser. No. 650,438
8 Claims. (Cl. 57—144)

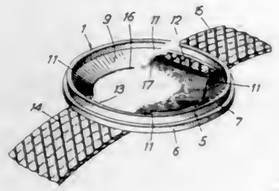


A stranded rope structure and a process for making the rope which comprises twisting in one direction a plurality of zero twist wrapped yarns to form a rope strand and then twisting a plurality of said rope strands in an opposite direction to form the rope; said wrapped yarn being characterized as comprising a core composed of at least two continuous integral core elements of bundles of continuous filament textile fibers and surface wrappings composed of textile fiber staple, the surface fibers being tightly twisted about the core with portions of fibers locked into place in the core with the core fibers being relatively straight and held together as a compact bundle by the surface wrappings, said yarn having from 2% to about 20% by weight of staple fiber wrapping and having a twist differential between continuous core elements and said wrappings within the range of about 2 to about 20 turns per inch.

3,403,504
STRETCHABLE TEXTILES PRODUCED FROM THE BACK-TWISTING OF HIGHLY SWOLLEN CELLULOSIC YARNS
Carl Hamalainen, Metairie, Hubert H. St. Mard, New Orleans, and Albert S. Cooper, Jr., Metairie, La., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed July 13, 1966, Ser. No. 564,735
5 Claims. (Cl. 57—164)

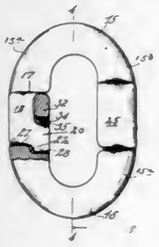
A process which involves swelling cellulosic yarns either slack or under tension, both of normal and of high twist construction; washing and drying the yarns, to set the configuration; and backtwisting the yarns thereby producing stretch yarns which may be woven to produce fabrics with excellent stretch properties.

3,403,505
WATCHCASE HAVING IMPROVED MEANS FOR ATTACHING WRISTBAND
Armin Gisiger-Lusa, Bundtenweg 384, Selzach, Solothurn, Switzerland
Filed Dec. 30, 1966, Ser. No. 606,374
Claims priority, application Switzerland, Jan. 20, 1966, 737/66
6 Claims. (Cl. 58—88)



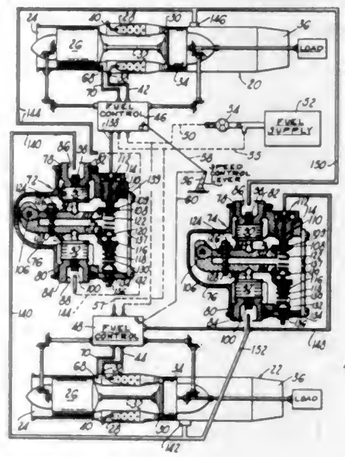
A watchcase having attaching means, such as a wristband, attached thereto at the interior of the watchcase thereby eliminating unsightly exterior attaching horns.

3,403,506
CONNECTING LINK FOR CHAINS AND THE LIKE
William K. Robbins, 13453 Moorpark St., Sherman Oaks, Calif. 91403
Filed Jan. 5, 1966, Ser. No. 518,838
8 Claims. (Cl. 59—85)



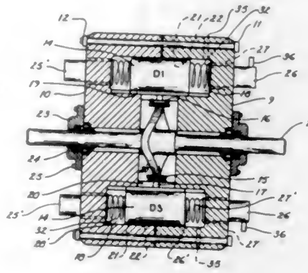
1. A connector comprising in combination two separable elongated sections having terminal portions adapted for assembly with one another to dispose said sections in axial continuation of each other, the terminal of the first section constituted by a laterally opening side wall-providing socket and the second section terminal constituted by a laterally projecting stud which is laterally movable into the socket of said first section; said stud and socket having transverse longitudinal load-sustaining shoulders providing planar portions disposed substantially normal to the connector axis, the stud having an axial extension lug and the socket having an axially extending recess receiving said extension lug of said stud whereby said planar stud and socket shoulders will be spacedly opposed with respect to one another when the sections are assembled with the stud lug located in said socket recess, opposed transverse steps provided by said lug and socket recess and engaging to provide a joint that prevents relative lateral movement of said sections when fully assembled, and an insert element secured in the space between said planar shoulders and engaging each of the latter whereby to be under compression when the connector is under longitudinal load so as to be retained in place to maintain said sections against relative longitudinal separating movement, so that the connector sections will not separate in service.

3,403,507
CONTROL APPARATUS FOR EQUALIZING AN ENGINE OPERATING CONDITION OF A PLURALITY OF GAS TURBINE ENGINES
Robert W. Schuster, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Dec. 21, 1966, Ser. No. 603,639
9 Claims. (Cl. 60—39.15)



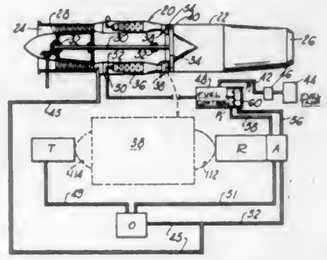
Control apparatus for equalizing the power output of two gas turbine engines wherein each engine is controlled by separate fuel control systems including engine torque sensing and comparing mechanisms provided with oppositely acting bellows one of which responds to a fluid pressure representing output torque of its associated engine and the other of which responds to a fluid pressure representing torque output of the other engine and control means actuated by the two bellows for reducing fuel flow to the associated engine in the event of the output torque thereof exceeding the output torque of the other engine.

3,403,508
STIRLING CYCLE ENGINE WITH WAVE-CAM MEANS INTERCONNECTING PISTONS AND DRIVE SHAFT THEREOF
Donald A. Kelly, 58—06 69th Place, Maspeth, N.Y. 11378
Filed Dec. 9, 1966, Ser. No. 600,478
7 Claims. (Cl. 60—24)



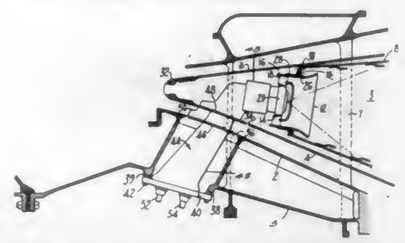
A Stirling cycle engine having a drive shaft and a plurality of pairs of power and displacer pistons arranged radially about said drive shaft, and a wave-cam coaxially mounted upon the drive shaft for rotation therewith, said wave-cam having a cam track slidably associated with said pistons, whereby the reciprocating movement of the pistons imparts rotational movement to the drive shaft.

3,403,509
PURE FLUID TEMPERATURE SENSOR
James M. Eastman and George R. Howland, South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware
Filed Sept. 30, 1966, Ser. No. 583,363
14 Claims. (Cl. 60—39.28)



A temperature sensing mechanism for producing signals which regulate the fuel supply to the combustion chamber of a gas turbine engine, said mechanism including pure fluid sound generating means and pure fluid sound receiving means, and said signals being responsive to temperature conditions of said combustion chamber.

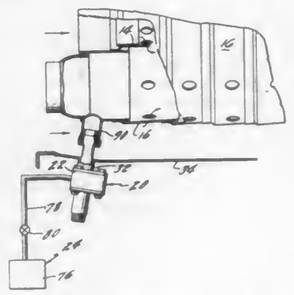
3,403,510
REMOVABLE AND REPLACEABLE FUEL NOZZLE HOLDER ASSEMBLY FOR AN ANNULAR COMBUSTION BURNER
Lawrence J. Lauck, Wapping, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Nov. 23, 1966, Ser. No. 596,698
3 Claims. (Cl. 60—39.74)



An annular combustion chamber in which the fuel nozzles are removable individually from the combustion chamber without removing or disassembling any engine part other than the fuel nozzle holder assembly. This is accomplished by providing an angular fuel nozzle holder assembly in combination with a radially movable swirler, the joint between the fuel nozzle and the swirler being one with universal motion.

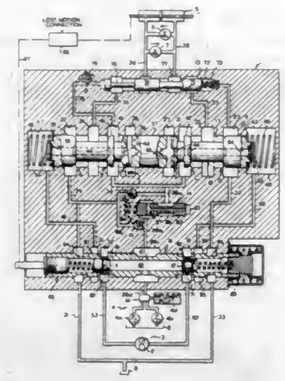
3,403,511
ENGINE IGNITION SYSTEM
Robert F. Jaekel and John K. Wayne, North Palm Beach, Fla., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 16, 1966, Ser. No. 551,192
9 Claims. (Cl. 60—39.82)

An ignition system wherein an ignition means extends between an outer casing and a combustion chamber with the ignition means comprising a first outer sleeve having holes positioned so that air flowing between the casing and combustion chamber will flow directly into said holes. Said first sleeve having a second sleeve located therein with said second sleeve having openings positioned so as not to be aligned with any of the holes of the first sleeve.



Means are included for injecting ignitible fluid between said first and second sleeves and a glow plug extends through said second sleeve. The free end of said first sleeve adjacent the combustion chamber being positioned in a connector projecting from the combustion chamber. Hydrogen has been used with this ignition means and has proved satisfactory.

3,403,512
POWER STEERING SYSTEM AND CONTROL VALVE THEREFOR
Thomas J. Malott, Kalamazoo, Mich., assignor to General Signal Corporation, a corporation of New York
Filed Dec. 30, 1966, Ser. No. 606,247
13 Claims. (Cl. 60—52)



1. A control valve comprising
(a) inlet and exhaust passages, first and second control passages, and first and second motor passages;
(b) metering valve means including first and second delivery passages and having a neutral position in which it establishes a pair of unloading paths between the inlet and exhaust passages, each of which includes one of said delivery passages, the metering valve means being movable in a first direction from the neutral position to progressively restrict communication between the inlet passage and the first delivery passage and between the second delivery passage and the exhaust passage, and being movable in a second, opposite direction from the neutral position to progressively restrict communication between

the inlet passage and the second delivery passage and between the first delivery passage and the exhaust passage;

(c) lock valve means responsive to movement of the metering valve means and serving to isolate each motor passage from the other passages when the metering valve means is in neutral position and to connect the first and second motor passages with the first and second delivery passages, respectively, when the metering valve means moves away from neutral position in either direction;

(d) switch valve means for selectively connecting the inlet passage with the first and second control passages when the metering valve means moves in said first and second directions, respectively;

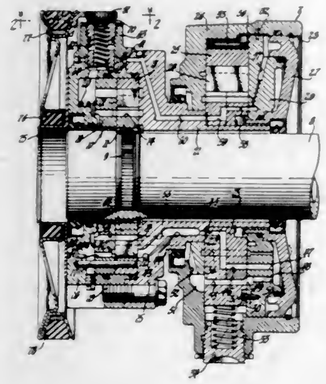
(e) first and second pilot passages connecting the first and second control passages, respectively, with the first and second delivery passages;

(f) first and second variable area control orifices in said first and second pilot passages, respectively, and controlled by the position of the metering valve means, the orifices being arranged so that each is closed when the metering valve means is in neutral position, the first is opened progressively as the metering valve means moves in said second direction, and the second is opened progressively as the metering valve means moves in said first direction;

(g) spring means biasing the metering valve means to its neutral position; and

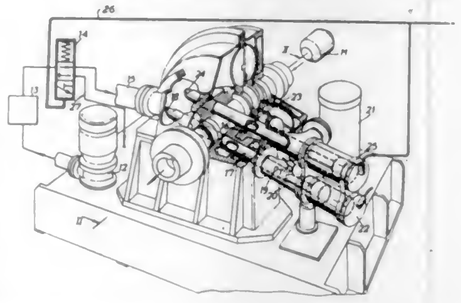
(h) actuating means responsive to the pressures in the two control passages for shifting the metering valve means in said first direction as the pressure in the second control passage rises above the pressure in the first control passage, and for shifting the metering valve means in the opposite direction as the pressure in the first control passage rises above the pressure in the second control passage.

3,403,513
POWER DRIVE MECHANISM
Paul E. Jaquish, Jr., Bay Village, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 3, 1967, Ser. No. 613,905
7 Claims. (Cl. 60—53)



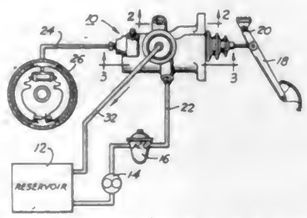
A hydraulic drive including a pump and variable displacement motor incorporating a speed-responsive drive ratio control valve movable against a spring to increase the motor capacity and including means responsive to increase in torque being transmitted to decrease the force effect of the spring to control drive ratio as a function both of speed of rotation of the pump housing and torque being transmitted.

3,403,514
SCOOP-TRIMMED HYDRAULIC TURBOCOUPLINGS
Walter H. K. James, London, England, assignor to Fluidrive Engineering Company, Limited, Isleworth, England
Filed Jan. 16, 1967, Ser. No. 609,526
Claims priority, application Great Britain, Jan. 18, 1966, 2,379/66
7 Claims. (Cl. 60—54)



A scoop-trimmed hydraulic turbocoupling has a second, quick-emptying scoop which is forced into the ring of liquid in the scoop chamber to effect abnormally rapid emptying of the coupling when a detector detects abnormal operation conditions, for example pulling-out of a synchronous electric motor driving the coupling or seizure of the driven load, requiring disconnection of the coupling drive more quickly than can be effected by the normal trimming scoop.

3,403,515
BRAKE MEANS
Keith H. Fulmer and Fred E. Goerke, South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware
Continuation of application Ser. No. 374,771, June 12, 1964. This application Oct. 24, 1966, Ser. No. 588,935
10 Claims. (Cl. 60—54.5)

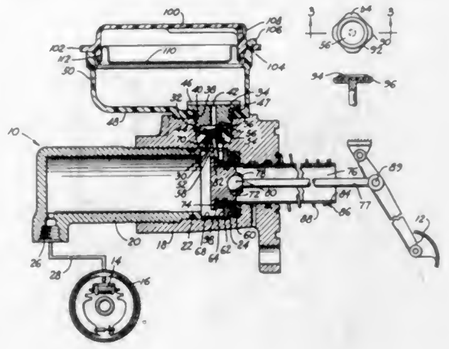


This patent will teach a method of providing a different travel requirements for hydraulic controls that will allow for fluid displacement, as the hydraulic control is being positioned from its maximum travel condition to its minimum travel condition so that the control does not inadvertently actuate its attendant apparatus when travel conditions of its operating members is being varied.

3,403,516
TILTING VALVE MASTER CYLINDER
Darwin Krieger, St. Joseph, Mich, and Harvey E. Wortz, Kokomo, Ind., assignors to The Bendix Corporation, a corporation of Delaware
Filed Nov. 25, 1966, Ser. No. 596,991
8 Claims. (Cl. 60—54.6)

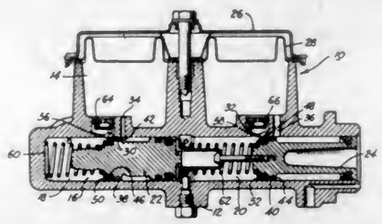
This invention relates to a master cylinder with a tilt valve that is operated by the fluid displacement means within an actuator to control the communication of its

reservoir to its internal chamber, which tilt valve is placed within a circular chamber and comprises a plate of generally square configuration to locate the valve within the chamber while providing a limited flow passageway be-



tween the valve and the walls of the chamber. This reduces tolerance cumulations that in the past provided displacement losses on the initial application of the master cylinder.

3,403,517
VORTEX VALVE CONTROL FOR MASTER CYLINDER
Richard L. Lewis, St. Joseph, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Filed Sept. 12, 1966, Ser. No. 578,671
4 Claims. (Cl. 60—54.6)



4. A master cylinder comprising:

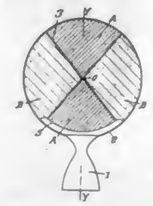
a housing including a fluid reservoir, a cylinder bore and fluid return bore means between said reservoir and cylinder bore;

piston means operatively arranged in said cylinder bore;

cup seal means operatively connected to said piston to form a variable volume chamber ahead of said piston means, said cup seal means having lip means normally positioned immediately behind said return bore means and slidable thereacross for sealing said variable volume chamber during the pressurization of fluid therewithin by said piston means; and

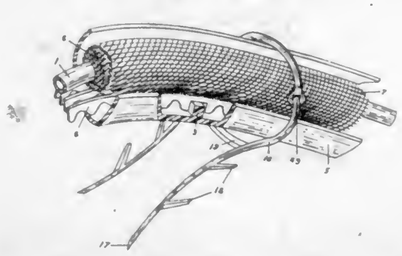
one way restrictor means in said return bore means having a fitting with an axial passage communicating said reservoir to a vortex chamber at substantially the center of said vortex chamber and a radial passage open to said vortex chamber at the peripheral surface along an axis tangential with said surface to thereby communicate said vortex chamber to said variable volume chamber.

3,403,518
SOLID PROPELLANT ROCKET MOTORS OF SPHERICAL SHAPE
Pierre Larue, Chatenay-Malabry, France, assignor to Office National d'Etudes et de Recherches Aerospatiales, Chatillon-sous-Bagneux, France, a body corporate of France
Original application July 15, 1963, Ser. No. 294,832, now Patent No. 3,280,566, dated Oct. 25, 1966. Divided and this application July 21, 1966, Ser. No. 566,998
Claims priority, application France, July 19, 1962, 904,546, Patent 1,336,757
5 Claims. (Cl. 60—253)



This invention is directed to solid propellant rocket motors of spherical shape in which the solid propellant charge consists of a fast burning portion and a slow burning portion and in which the fast burning portion includes two diametrically opposed spherical caps and the slow burning portion surrounds the fast burning portion intermediate its spherical caps. An inhibitor lining is provided at the interface between the two propellant charges.

3,403,519
IRRIGATION CONDUIT ASSEMBLY
William F. Balko, 2909 Plum St., Erie, Pa. 16508
Filed Mar. 6, 1964, Ser. No. 350,134
12 Claims. (Cl. 61—13)

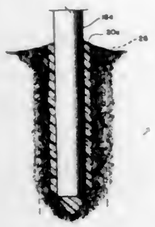


The invention embodied herein incorporates into subirrigation systems the use of concentrical conduit filters the mass of which is variable, casing for retaining moisture close to the surface of and in place in the ground, conduit securing means, couplings, and protective grille, circulatory systems which are reversible for draining, having a storage tank, regulatory valves and pump combined with conduit, and low pressure single-direction systems having a storage tank, regulatory valves and combined conduit.

3,403,520
METHOD FOR SETTING POLES
Jack P. Goodman, 4000 Holland St., Wheatridge, Colo. 80033
Filed Apr. 17, 1967, Ser. No. 631,482
5 Claims. (Cl. 61—53.5)

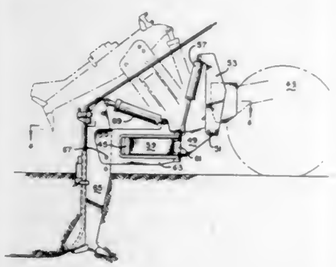
A method for setting poles forms in ground a hole which is only slightly larger than the butt of the pole to be placed in the hole, places the pole in the hole in the

desired position, partially fills the hole with a reaction mixture of a synthetic resin and a blowing agent, and permits the reaction to complete so as to expand and foam the resin into all the space between the pole and the sides of the hole. The expanded resin adheres to and



seals the end of the pole, protecting it from moisture, chemicals and rodents and firmly sets the pole in the hole. The expanding resin fills all the voids, crevices and notches, both in the sides and bottom of the hole, as well as the butt of the pole itself.

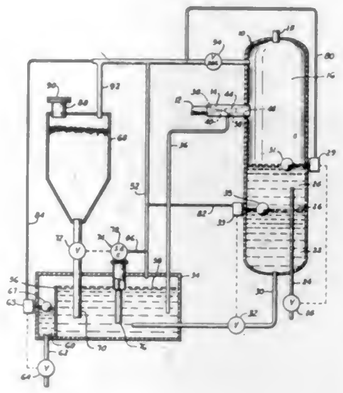
3,403,521
CABLE PLOW
Alvin W. Kant, Oakland, Calif., assignor to American Tractor Equipment Corporation, a corporation of California
Filed Sept. 14, 1966, Ser. No. 579,358
1 Claim. (Cl. 61—72.6)



The cable plow is connected to the towing vehicle by means of a shank and a yoke which straddles a transversely extending sliding beam. The sliding beam has telescopic relation with a center beam pivotally carried by the frame of the vehicle. The yoke is pivotally connected to the sliding beam on the forward side thereof and to the shank on the rearward side of the sliding beam. Separate power means are employed to pivot the center beam upwardly, to move the sliding beam transversely, and to pivot the shank.

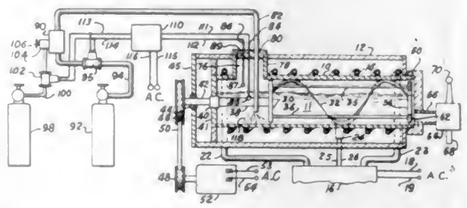
3,403,522
APPARATUS FOR LOW TEMPERATURE DEHYDRATION OF GASES
Walter L. Henry, 1321 Modiste Drive, Houston, Tex. 77055
Filed Apr. 26, 1965, Ser. No. 450,654
3 Claims. (Cl. 62—37)

2. In apparatus for removing water from a fluid containing water and hydrocarbons in proportions to form crystalline hydrates of such hydrocarbons upon reduction of the temperature of the fluid by expansion of the same to the temperature at which such hydrates may form, an expansion vessel, fluid flow control means through which such fluid may flow from a source of such fluid at a higher pressure into the vessel at a lower pressure to expand the fluid and reduce the temperature thereof, a brine receptacle, means for introducing brine from said recep-



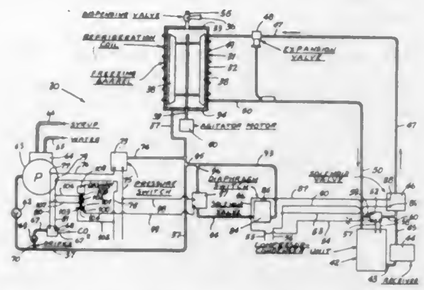
tacle into the fluid during such expansion to form a mixture of fluid and brine in the vessel in which water from the fluid is absorbed in the brine, and means for allowing an outflow from the vessel into said receptacle of brine separated from said mixture, and means for allowing an outflow of brine from said receptacle when the level of brine in the receptacle rises above a predetermined level.

3,403,523
PROCESS AND APPARATUS FOR THE PREPARATION AND DISPENSING OF A BEVERAGE
Earl J. Bauer, 6715 Brookshire Drive 75230, and Charles M. Lents, 7026 Atha 75217, both of Dallas, Tex.
Filed Jan. 31, 1967, Ser. No. 613,021
9 Claims. (Cl. 62—70)



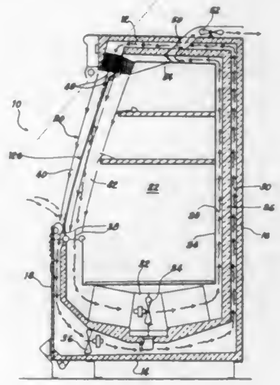
This invention relates to methods and apparatus for preparing and dispensing frozen, carbonated, soft drink type beverages. More particularly, it relates to such methods and apparatus that are characterized by simplicity and constant quality of the beverage. To accomplish this, the ingredients of the beverage comprising carbon dioxide, water and syrup are premixed to form a foam or froth of finely divided particles to initiate carbonation of the drink, the mixture is frozen in a refrigeration chamber under atmospheric pressure in the presence of a carbon dioxide environment while maintaining a substantial volume of space in the chamber that is occupied by the carbon dioxide, and the beverage is then dispensed in frozen form.

3,403,524
MACHINE FOR DISPENSING SEMI-FROZEN DRINKS AND CONTROL THEREFOR
Orville Mitchell, Richard L. Roden, William P. Freeman, Jr., John D. Harris, and Dudley C. Smith, Dallas, Tex., assignors to John E. Mitchell Company, Dallas, Tex., a corporation of Missouri
Filed Feb. 13, 1967, Ser. No. 615,722
22 Claims. (Cl. 62—70)



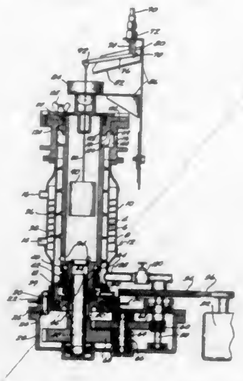
A system for controlling the liquid-solid consistency of confection ingredients within a dispenser wherein the consistency control is operable in response to pressure variations caused by refrigeration of the drink ingredients, for controlling the delivery of drink ingredients to the container in response to pressure variations caused by withdrawal of some of the drink ingredients from the container, and for coordinating the consistency control with the delivery control.

3,403,525
DEFROST SYSTEM FOR AIR CURTAIN TYPE REFRIGERATED DISPLAY CASE
Sterling Beckwith, Deerfield, Ill., and Robert E. Vogel, Menlo Park, Calif., assignors to Dual Jet Refrigeration Co., Chicago, Ill., a corporation of Illinois
Filed Feb. 3, 1967, Ser. No. 613,802
17 Claims. (Cl. 62—82)



A refrigerated enclosure including driven air streams circulating across an access opening to the enclosure. The enclosure is defrosted by passing air streams through an outlet means located at the top of the enclosure. Ambient air is drawn into the enclosure during the defrosting and the ambient air is circulated over refrigerated portions of the enclosure before being passed out through the top of the enclosure.

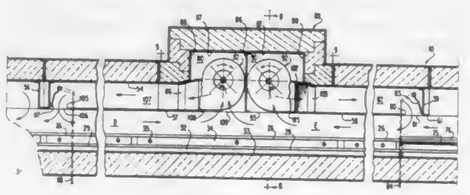
3,403,526
AUGER TYPE ICE MAKING MACHINE
Richard B. Brindley, La Crosse, Wis., assignor to La Crosse Cooler Company, La Crosse, Wis., a corporation of Wisconsin
Filed June 27, 1967, Ser. No. 649,285
5 Claims. (Cl. 62—188)



A tubular rotary screw operates in a freezing chamber having its tubular freezing wall encircled by an evaporator. A float which need not rotate is disposed within the screw to control the level of water introduced through the interior of the tubular screw from a valve controlled by the float. As water freezes in the chamber surrounding the screw, it is propelled by the screw and generally radial fins carried thereby through a throat having relatively fixed and rotatable wall portions and progressively enlarging in the direction of screw rotation.

The screw itself is operated by a gear train which drives the shaft to which the lower end of the screw is slidably coupled. Suitable bearings are provided for the shaft and the lower end of the screw with seals for confining the water to the freezing chamber and an arrangement for draining off any leakage. The bearings include a thrust bearing supporting the lower end of the screw. Its upper end is guided by a radial bearing.

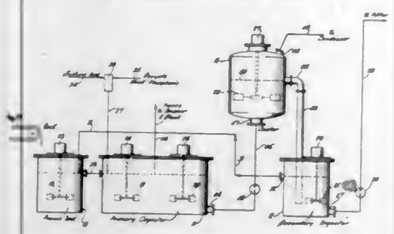
3,403,527
TRANSVERSE-PARALLEL FLOW CRYOGENIC FREEZER
Raymond L. Berreth, Allentown, Roger A. Howells, Orefield, David J. Klee, Emmaus, and Keith A. Miller, Allentown, Pa., assignors to Air Products and Chemicals, Inc., Allentown, Pa., a corporation of Delaware
Filed June 1, 1967, Ser. No. 642,751
27 Claims. (Cl. 62—266)



Apparatus for cooling articles to low temperatures such as the flash freezing of articles of food, including structure forming an elongated passageway and means for conveying the articles through the passageway for heat interchange with cold recirculating vapor and then with liquefied normally gaseous material sprayed directly on the articles to cool the articles to the low temperature and effect vaporization of the liquefied material. The vapo-

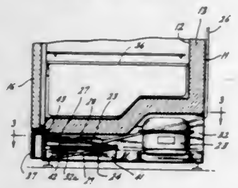
rized liquefied material flows through the passageway in countercurrent relation to the direction of movement of the articles and provides the recirculating vapor.

3,403,528
VACUUM COOLING FOR MULTI-STAGE CHEMICAL PROCESSES
Roman Chelminski, Wilton, Conn., assignor to Singmaster & Breyer, New York, N.Y., a co-partnership
Original application Mar. 30, 1961, Ser. No. 99,527, now Patent No. 3,257,168, dated June 21, 1966. Divided and this application Oct. 1, 1965, Ser. No. 539,588
8 Claims. (Cl. 62—268)



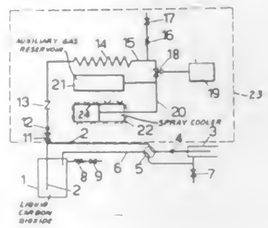
Apparatus for the continuous vacuum cooling of a liquid product from an exothermic reaction which reduces the possibility of precipitation scaling on the cooling apparatus which includes a large container where a body of liquid is to be cooled in which a very large amount of liquid is maintained and recirculated with the container having an inlet below the liquid level surface and an overflow outlet at the surface of the body of liquid, and the container further having a vacuum maintained therein above the liquid level and means for continuously circulating the liquid at a rapid rate so that only small portions or tiny increments of the whole mass of liquid are exposed at any moment in time to the cooling by evaporation under vacuum at the surface while the entire body of liquid is substantially cooled at a much slower rate. That is, by repeatedly cooling each tiny increment of liquid (when repeatedly reaching the evaporation surface of the liquid mass) only a fraction of the total cooling desired, precipitation of dissolved materials is avoided although the total cooling of the whole mass of liquid after repeated recirculation of each small increment thereof to the evaporation liquid surface is enough so that such undesired precipitation would have occurred if the total liquid had been cooled all at once.

3,403,529
REFRIGERATION CONDENSATE HANDLING MEANS
Carroll J. Reber, Jr., Havertown, Pa., assignor to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Nov. 7, 1966, Ser. No. 592,426
7 Claims. (Cl. 62—277)



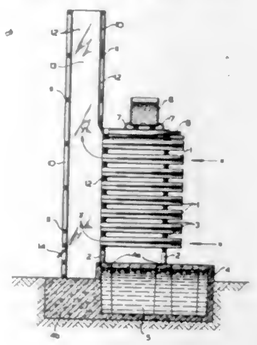
A self-defrosting refrigerator having a condenser comprising a generally planar heat exchanger folded into generally U-shaped form. The space between the legs of the U accommodates disposition of a defrost water disposal pan therebetween. Heat from the condenser sections, combined with the air stream moved thereover by a fan, aids in evaporating the defrost water.

3,403,530
LIQUID CARBON DIOXIDE REFRIGERATION
Vincent Guiffre, Ramsgate, New South Wales, Australia, assignor to The Colonial Sugar Refining Company Limited, Sydney, New South Wales, Australia, a company of Australia
Filed Oct. 10, 1966, Ser. No. 585,514
Claims priority, application Australia, Oct. 21, 1965, 65,591/65
7 Claims. (Cl. 62—303)



Apparatus for refrigerating a chamber by spray-cooling it with liquid carbon dioxide derived from a source maintained at a pressure not appreciably greater than the triple point pressure (for example at a pressure of 100 p.s.i.g.) but in which the risk of precipitated Dry Ice blocking the supply system has been eliminated, this improvement being achieved by linking the supply system at least at the end of each refrigerant discharge cycle to a reservoir containing an auxiliary gas at a pressure sufficient to flush residual liquid carbon dioxide and particles of precipitated Dry Ice through the discharge orifice(s) of the spray-cooling system.

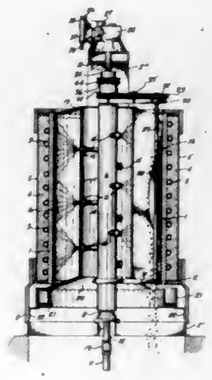
3,403,531
CHIMNEY COOLER FOR THE COOLING OF LIQUIDS BY MEANS OF ATMOSPHERIC AIR
Karl Adolf Oesterheld, Luthe via Wunstorf, near Hannover, Germany
Filed Jan. 19, 1967, Ser. No. 610,407
Claims priority, application Germany, Jan. 25, 1966, O 11,400
5 Claims. (Cl. 62—314)



This provides a chimney cooler for cooling liquids comprising a plurality of horizontal tubes having outer and inner surfaces and constructed of material which absorbs liquid and maintains strength and stability at the

same time. Means are located above the said tubes to supply liquid to be cooled over the outer surfaces of said tubes. The liquid passes downwardly over the said tubes and is absorbed by the material of the tubes so that the liquid advances to the inner wall surfaces. Means are then provided to pass atmospheric air through the said tubes to evaporate the liquid from the inner surfaces to thereby cool the liquid passing over the outer surfaces of the tube.

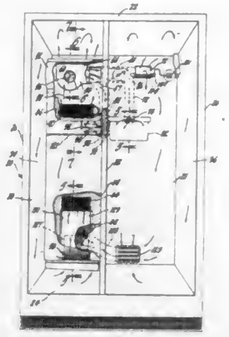
3,403,532
FLAKE ICE-MAKING MACHINE
Frank W. Knowles, 2021 S. Alaska, Seattle, Wash. 98108
Continuation-in-part of application Ser. No. 489,288, Sept. 22, 1965. This application Dec. 1, 1966, Ser. No. 598,472
9 Claims. (Cl. 62—347)



Water jets directed radially outward spray water on the interior wall of a hollow cylinder having its axis upright, which wall is cooled by an encircling refrigerating coil. The jet nozzles are offset circumferentially and axially of a rotary pipe and project sprays through apertures in a cylindrically arcuate partition concentric with the axis of the freezing surface. A rotor is mounted between radial extensions of the partition, which rotor has a helical blade for scraping ice off the freezing surface. Mounting structure is provided for the jet nozzles, the partition and the ice-removing rotor and is rotated slowly about the axis of the freezing surface, and the ice-removing rotor is rotated relative to the mounting structure in the opposite direction at a speed such that the periphery of the rotor moves along the freezing surface in the direction opposite to the direction of translation of the rotor relative to the freezing surface to scrape ice from it. Sprays from the nozzles may be projected only onto the lower portion of the freezing surface, and water may flow from a trough above the freezing surface down onto its upper portion.

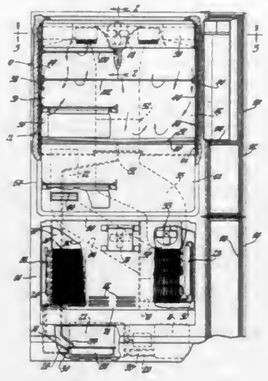
3,403,533
REFRIGERATOR WITH UPRIGHT DIVIDING WALL
Larry L. Bollenbacher, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 7, 1966, Ser. No. 585,019
4 Claims. (Cl. 62—408)

In the preferred form, an upright removable dividing wall divides the interior of a single metal inner liner into above and below freezing compartments. A vertical finned evaporator extends up the rear wall of the below freezing compartment. An efficient centrifugal fan draws air from the top of the evaporator and delivers some of the air to the top of the below freezing compartment while the remaining air is fed through ducts in the rear wall to the top of the above freezing compartment with



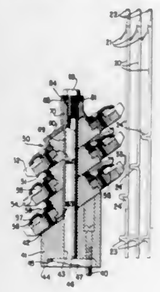
a branch feeding a set of passages in the dividing wall having outlets adjacent shelf supports thereon for freezing trays. Air is returned from the above freezing compartment through a duct in the rear wall to the bottom of the evaporator. A shield and duct are provided for carrying air from the bottom of the below freezing compartment to an intermediate point upon the evaporator.

3,403,534
CONDENSATION CONTROL SYSTEM FOR HUMIDIFIED REFRIGERATOR
James A. Bright, Miamisburg, and John J. O'Connell, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 3, 1967, Ser. No. 606,602
3 Claims. (Cl. 62—419)



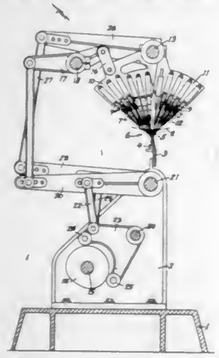
In a preferred form, a domestic refrigerator having a sealed liner with air cooled walls defining a high humidity food storage compartment which is cooled by natural convection with the liner walls and by radiation of heat to the walls and wherein an uncooled liner top and air return duct direct air to a recirculating fan that discharges moisture laden air over chilled liner walls for condensing moisture thereon for drainage from the compartment.

3,403,535
STACKED PATTERN WHEELS FOR KNITTING MACHINES
Lester Mishcon, Miami Beach, Fla., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 25, 1966, Ser. No. 545,088
3 Claims. (Cl. 66—40)



A support is disclosed for a plurality of pattern wheels in stacked relation on a single spindle adjacent to a knitting station of a circular knitting machine. The pattern wheels are each journaled on separate cylindrical bearing seats each having an inclined spindle accommodating bore. With this arrangement, each of the plurality of pattern wheels is inclined to the axis of the needle cylinder and yet, all pattern wheels mesh with the needles at the same point along the path of needle travel about the needle cylinder.

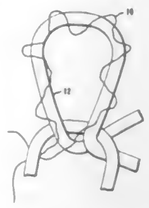
3,403,536
YARN FEEDING MEANS FOR RASCHEL KNITTING MACHINES
Kunzi Inabi, Ono, Japan, assignor to Yamamoto Machinery Works Co., Ltd., Morita, Japan, a corporation of Japan
Filed Mar. 3, 1967, Ser. No. 620,298
6 Claims. (Cl. 66—86)



A Raschel type of warp knitting machine having a plurality of independently oscillatable hangers mounted on a common axis supporting sets of yarn guides to traverse the sets of yarn guides transversely of the needle bed.

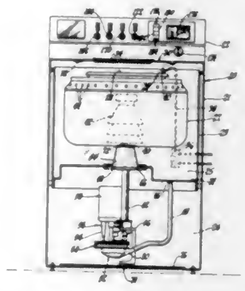
3,403,537
WARP-KNITTED FABRIC
Bharat Jaybhadra Gajjar, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 19, 1965, Ser. No. 508,787
1 Claim. (Cl. 66—195)

A two-bar warp-knitted fabric composed of randomly textured and conventional untextured yarns. The relative tensions on the yarns during knitting of the fabric are



adjusted so that loops of the textured yarn are larger than those of the conventional yarn.

3,403,538
AUTOMATIC CLOTHES WASHING APPARATUS WITH IMPROVED AGITATION CONTROL
Margaret J. Andrew, Norman J. Bullock, and Kenneth J. Sisson, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 26, 1966, Ser. No. 581,805
14 Claims. (Cl. 68—12)

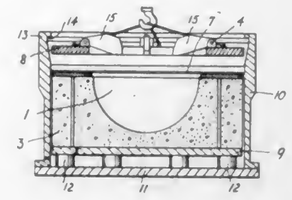


In preferred form, an automatically controlled domestic washing apparatus having a spin tub and an agitator, a system for operating the tub and agitator including a reversible electric motor and a power transmission including a magnetic slip clutch between the motor and the transmission, a control system for conditioning the electric motor and the slip clutch to produce different washer operating cycles, the control means including a sequence time controller, an electronic control module and a presettable selector control that are interrelated and operated to produce either a soak-wash or agitating wash during the same predetermined number of timer controlled impulses of a given part of the operating cycle.

3,403,539
APPARATUS FOR THE DEFORMATION OF METAL SHEETS
Paul Nemitz, Kiel-Pries, Germany, assignor to Atlas-MaK Maschinenbau G.m.b.H., Kiel-Friedrichsort, Germany, a firm
Filed Oct. 19, 1966, Ser. No. 587,754
3 Claims. (Cl. 72—56)

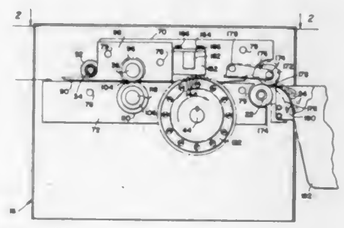
1. An apparatus for the deformation of metal sheets under shock effect in water, comprising
(a) a mold,
(b) a vertically adjustable base plate on which said mold rests,
(c) an open top container having an inwardly projecting flange on the upper edge portion thereof and accommodating said vertically adjustable base plate,
(d) an annular holding down appliance for holding a sheet metal disk in place on said mold, and

(e) a plurality of pivotable clamping pawls carried on the inner edge of said annular holding down appliance so as to be distributed radially over the



circumference thereof and engageable with their free end under said inwardly projecting flange on the upper edge portion of said container.

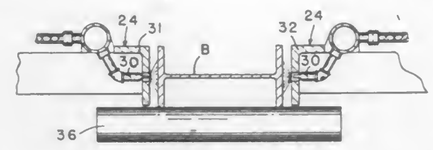
3,403,540
MACHINE FOR CUTTING AND FORMING OPPOSED AXIAL CONDUCTORS OF ELECTRONIC COMPONENTS
Theodore F. Schwartz, 11660 St. Andrews Way, Scottsdale, Ariz. 85251
Filed Feb. 13, 1967, Ser. No. 615,719
9 Claims. (Cl. 72—185)



A machine for cutting and forming opposed axial conductors of electronic components which comprises rotary shearing and forming rotors operated in unison successively to shear off opposed axial conductors of electronic components, and to form the conductors at substantially right angles to the axes of the components. The shearing rollers and forming rotors being provided with notched peripheries, the notches engagable with the conductors for advancing them in certain continuity. The valleys of the notch portions of the forming rotors being disposed in offset relation to the axes of the conductors at their juncture with the electronic components, which are held in guides, such that rotary movement of the forming rotors cause the said valleys of said notches to force portions of the electronic components laterally of their axes and to bend them at substantially right angles to the axes of the components, while they are restrained laterally by the said guide means.

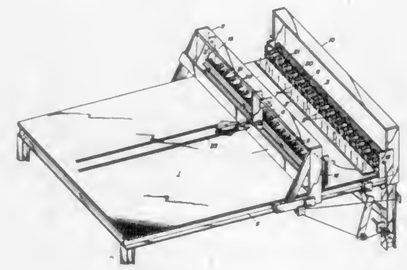
3,403,541
METHOD AND APPARATUS FOR COOLING WORKPIECES
August Frederick Eisel, Pittsburgh, Pa., assignor to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 25, 1965, Ser. No. 442,640
Claims priority, application Great Britain, Apr. 22, 1964, 16,761/64
5 Claims. (Cl. 72—201)

This disclosure relates to a method and apparatus for use in connection with the manufacture of rolled sections, such as beams. It provides, as to its structure, a cooling device adapted to be mounted in the side guards provided for the rolling mill which cooling device includes a member for directing coolant towards the flange portion of the beam for cooling this thicker portion without substan-



tially reducing the temperature of the thinner portion of the beam. The side guards are positionable relative to the beam so that the coolant can be trained on the workpiece and the non-uniform temperature between the different thickness portions of the beam reduced.

3,403,542
METHOD FOR EXPANDING ALUMINUM HONEYCOMB
Joseph Don Bova, Fallston, Md., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed Apr. 28, 1966, Ser. No. 545,941
8 Claims. (Cl. 72—302)

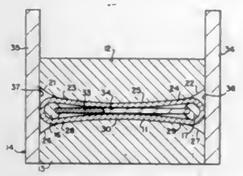


A honeycomb blank expanding machine provided with a table, two frameworks, rods with pin carrying members having rollers bearing on a track carried by the framework is improved by providing each pin carrying member with a ball bearing bushing sliding on the rod. Flexible, inextensible, spacing elements are attached to each pin carrying member the length of the elements corresponding to the spacing of the pin carrying members at the beginning of honeycomb blank expansion. During operation as the frameworks with their rods move apart axial movement of the pin carrying members on their rods proceeds with minimum friction and without binding. Initial pin carrying member spacing is restore after expansion and removing of the honeycomb by pulling the spacing elements. The framework is provided with columns and the upper rod and track of each framework are mounted in carriages vertically slidable on the columns so that blanks of different thickness can be expended.

3,403,543
APPARATUS FOR FORMING FLATTENED TUBES WITH CONSTANT RADII EDGE SECTIONS
John B. Gregory, Accokeek, Md., Arthur T. McClinton, Arlington, Va., and Patrick A. Whittington, Forest Heights, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Mar. 29, 1966, Ser. No. 538,925
4 Claims. (Cl. 72—398)

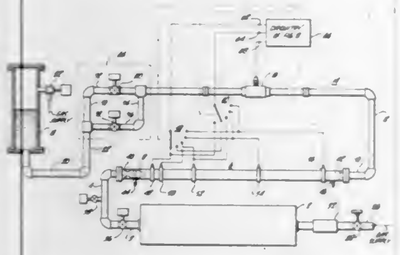
A device for cold pressing metal tube stock to form flattened tubing having a constant radius of curvature

of the edge sections which join the flattened walls. The device includes a pair of opposed dies to compress and



flatten the tube and a pair of cylindrical mandrels which are insertable within the tube and maintained in continuous engagement with the edge sections by a wedge.

3,403,544
FLOWMETER CALIBRATION
Edward E. Francisco, Jr., Phoenix, Ariz., assignor to Flow Technology, Inc., Tempe, Ariz., a corporation of Arizona
Filed June 9, 1966, Ser. No. 556,507
17 Claims. (Cl. 73—3)



The movement of a piston through a portion of a conduit connected in series with a flowmeter permits the determination of the flowmeter characteristic. Pick-off elements sense the passage of the piston past precisely determined points along the conduit which are proportional to the volume of fluid passing through the flowmeter. A whole number of pulses produced by the flowmeter under test are counted as the piston passes between adjacent pick-off elements. In the piston, two substantially identical magnets are mounted face-to-face so the magnetic fields in them are parallel to the axis of the conduit and oppose each other. Piston stops are located at the ends of the path of the piston. Stops on the piston are shaped so as to trap fluid between their contacting surfaces and brake the speed of the piston. In a prover, a piston by-pass is provided with a releasable latch mechanism that releases the piston as the by-pass is smoothly closed. Preferably, a plurality of pistons are adapted to move one at a time within the same portion of the conduit.

3,403,545
CHROMATOGRAPH HAVING A HEATED ENCLOSURE
Harry V. Carter, Beaconsfield, England, assignor to Perkin-Elmer Limited, Beaconsfield, England, a British company
Filed Oct. 2, 1964, Ser. No. 401,106
Claims priority, application Great Britain, Oct. 14, 1963 40,451/63
4 Claims. (Cl. 73—23.1)

This gas chromatographic apparatus includes a temperature programming oven for the chromatographic column, one wall (e.g., the top) of which is a removable plate of thermally insulating material. The column is mounted on one side of the removable plate so as to be inside the oven; and the other components (i.e., the sample injector and the detector for the separated sample components) are mounted on the other side of the removable

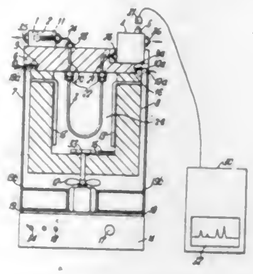
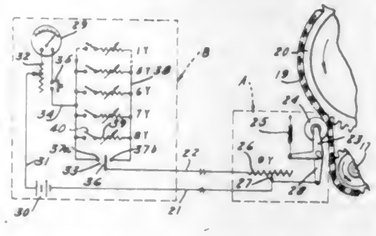


plate so as to be outside the oven. Preferably all of the components are also individually detachable from the plate, so as to allow interchange of different components for different analyses. This arrangement affords both great versatility and ease of operation when performing a series of different analyses.

3,403,546
SLUMP INDICATOR FOR CONCRETE
Cleo C. Stratton, 1732 Mallory St., San Bernardino, Calif. 92405
Filed Aug. 18, 1965, Ser. No. 480,658
1 Claim. (Cl. 73—54)

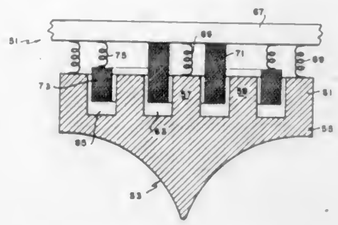


A slump indicator for concrete while being mixed in a rotatable mixing barrel driven from a power source by a power transmitting chain trained over a drive sprocket and driven sprocket at the barrel, wherein a single roller is spring urged against the tensioned side of the chain at a point between the sprockets to forcibly deflect the chain from a straight line axis and provide a member movably responsive to variations in the load torque due to variations in the liquid content of the mix, this member being connected to a resistor for varying the energization of an ohmmeter calibrated in terms of slump. In mobile mixers, this meter is mounted in the vehicle cab, and additional resistors are selectively added and removed from the energizing circuit to compensate for variations in the quantity of the mix being worked in the mixing barrel.

3,403,547
COMPENSATED ELECTROMAGNETIC VELOCITY TRANSDUCER
Joseph I. Schwartz, Baltimore, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed May 25, 1965, Ser. No. 458,794
1 Claim. (Cl. 73—71.2)

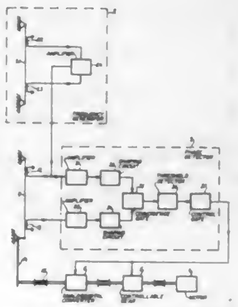
This disclosure relates to an electromagnetic velocity transducer for measuring the velocity of a vibrating specimen. The probe assembly, which is vibrated by the speci-

men, yields an erroneous signal due ot the motion of the magnetic case. This erroneous signal comprises a first waveform, which is the motion of the case, and a second waveform which is the motion of the probe. A compensating coil assembly is mechanically and electrically adjusted to yield a third waveform which is substantially identical to the motion of the case (the first waveform)



but 180° out of phase with the motion of the case. The third waveform is then vectorially combined with the first and second waveforms (the output signal from the probe assembly) to thereby substantially cancel the erroneous first waveform and thereby yield a resultant signal having a waveform substantially the same as the second waveform.

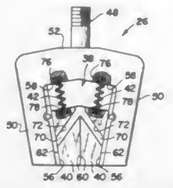
3,403,548
VIBRATING WIRE WITH PHASE RESONANCE INDICATION
Miloš Petrik and Jiří Kratochvil, Prague, Czechoslovakia, assignors to Vyzkumny ustav automatisacnich Prostredku, Prague, Czechoslovakia, a corporation
Filed June 28, 1966, Ser. No. 561,229
Claims priority, application Czechoslovakia, July 10, 1965, 4,420/65, 4,421/65
6 Claims. (Cl. 73—88.5)



A highly sensitive vibrating wire measurement apparatus compares the phases of a first signal representing the vibrating frequency of a first wire and a second signal representing the vibrating frequency of a second wire that is excited by the first signal. A positioning device responsive to the phase difference between the first and second signals adjusts the tension of the second wire in a direction to equalize the vibration frequencies of the two wires. A pick-up device indicates the frequency of the second wire when the positioning device comes to rest.

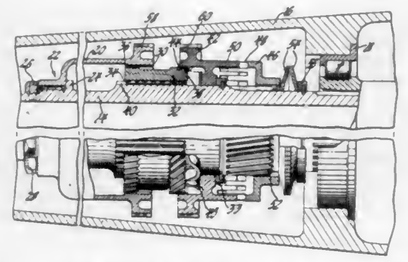
3,403,549
TEST PIECE GRIPPING DEVICE
Alvin G. Griffin, 1006 Old Gate Road, Pittsburgh, Pa. 15235
Filed Feb. 2, 1966, Ser. No. 524,391
5 Claims. (Cl. 73—103)

Improvements in the construction of test piece gripping devices, and more particularly to improvements in gripping devices of the type used in conjunction with physical



testing apparatus for gripping the opposite ends of test specimens undergoing pull tests.

3,403,550
TORQUE INDICATOR
Cyril M. Hawkins, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 15, 1966, Ser. No. 594,487
7 Claims. (Cl. 73—136)

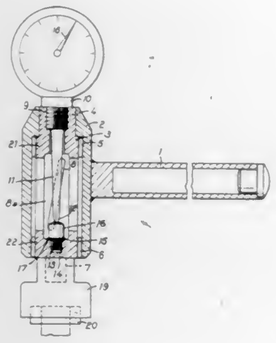


1. A torque indicator for a power shaft comprising in combination:
- a reference shaft concentric with said power shaft and secured thereto for rotation therewith, said power and reference shafts each having splines,
- a first element coaxial with said shafts and having first splines and second helical splines meshing individually with said power and reference shaft splines whereby said first element is axially movable in response to the wind-up between said power and reference shafts, said first element having third helical splines with a helix angle different from the helix angle of said second splines, and
- a second, annular element rotatably mounted coaxially with and fixed axially with respect to said power shaft, said second element having helical splines meshing with the third helical splines on said first element whereby the angular displacement of said second element is indicative of the wind-up between said power and reference shafts, and consequently, of the torque carried by said power shaft.

3,403,551
TORQUE WRENCHES
Antoine Agostini, Maisons-Laffitte, France, assignor to Societe Anonyme Societe des Automobiles Simca, Paris, France
Filed June 24, 1966, Ser. No. 560,236
Claims priority, application France, June 28, 1965, 22,619
4 Claims. (Cl. 73—139)

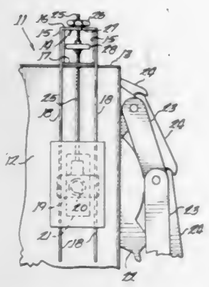
A torque wrench comprising an outer sleeve having a substantially transversely extending handle rigidly secured thereto, an inner sleeve mounted within the outer

sleeve and having slots between its two ends to define a plurality of deformable blades. One end of the inner sleeve is mounted for rotation with the outer sleeve, and the other end of the inner sleeve is rigid with a threaded member adapted to receive a tool head for cooperation



with an element to which the wrench is to be applied. A member for measuring the displacement of the heads of the inner sleeve, under the action of torque transmitted by the wrench from the handle to the element, is mounted at one end of the inner sleeve.

3,403,552
CHAIN TENSION ADJUSTING APPARATUS
Maurice J. Erisman, Oak Park, Ill., assignor to FMC Corporation, a corporation of Delaware
Filed Oct. 3, 1966, Ser. No. 583,727
8 Claims. (Cl. 73—143)

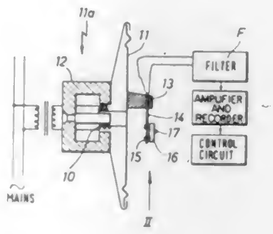


1. In combination with an endless tension member trained for movement around a pair of substantially parallel shafts, bearing means supporting one of the shafts, guide means supporting the bearing means for movement toward and away from the other shaft, take-up means associated with the bearing means, and an abutment mounted in a fixed position for engagement by the take-up means so that operation of the latter will effect the movement of the one shaft to adjust the tension in the tension member, the improvement which comprises:

pressure fluid operated means operatively associated with the one shaft to apply a force thereon so as to urge the movement thereof in a direction to adjust the tension in the tension member and to temporarily retain the one shaft in the adjusted position during adjustment of the take-up means to maintain the one shaft in the adjusted position; and

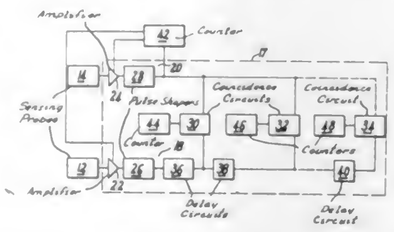
means for indicating the tension in the tension member.

3,403,553
TENSIOMETER
Hans Wiener, Neuenhaus 106, Hilgen, Rhineland, Germany
Filed Feb. 25, 1965, Ser. No. 435,293
Claims priority, application Germany, Feb. 25, 1964, H 51,831
20 Claims. (Cl. 73—144)



The tension of a strand of yarn, tape, wire, or the like is continuously measured by periodically moving an electrical pressure transducer transversely against the strand to produce periodic transverse deflections thereof having a relatively constant peak amplitude. Due to the transverse deflection, the strand will momentarily press against the electrical pressure transducer and produce an electrical output signal whose amplitude is proportional to the tension of the strand. The tension of the strand can therefore be continuously measured by measuring the output voltage of the electrical pressure transducer. The electrical pressure transducer can be made of a piezo-electric quartz crystal, and the mechanical drive frequency of the transducer can be in the order of several thousand cycles per second, whereby the time delay between successive tension measurements will only amount to a fraction of a millisecond, and whereby the pressure transducer will not remain in contact with the strand long enough to produce any appreciable friction or to otherwise hinder movement of the strand.

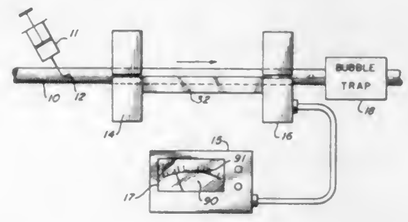
3,403,554
DEVICE FOR THE STUDY OF BUBBLE FLOW WITHIN A PIPE
Henri Chevalier and Claude Lakme, Grenoble, and Jacques Max, Seyssinet, France, assignors to Commissariat à l'Energie Atomique, Paris, France
Filed Aug. 24, 1965, Ser. No. 482,207
Claims priority, application France, Aug. 27, 1964, 986,393
3 Claims. (Cl. 73—194)



Apparatus for determining the velocity of bubbles passing through a vertical section of a fluid filled pipe. The sensing tips of a pair of detecting probes are located within the pipe and spaced apart a predetermined distance along a vertical line. A first coincidence circuit produces an output signal when signals are applied to each of its two inputs. The output of the first probe is fed through a delay circuit to one input of the coincidence circuit and the output of the second probe is fed directly to the second input of the coincidence circuit whereby the passage through the pipe of a bubble of a predetermined velocity will produce an output from the coincidence circuit.

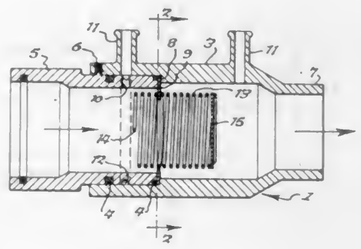
Other coincidence circuits receiving increasingly delayed signals from the first probe and receiving directly the signals from the second probe may be used to identify bubbles of other predetermined velocities. A counter is associated with each coincidence circuit to record its output and a master counter records the total number of bubbles and deenergizes the detecting probes after a predetermined count is reached.

3,403,555
FLOWMETER
Antonio A. Versaci, Des Plaines, Ill. (25 Wildwood Road, Springfield, Ill. 62704), and Roelif Stapelfeldt, Houston, Tex.; said Stapelfeldt assignor to said Versaci
Filed July 18, 1966, Ser. No. 566,147
4 Claims. (Cl. 73—194)



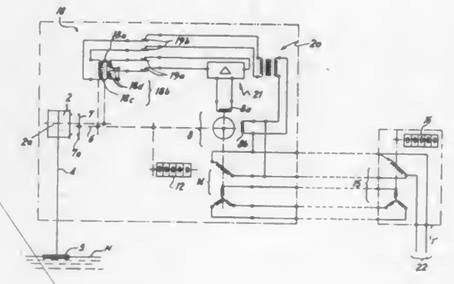
A flowmeter which measures the rate of flow of a liquid through a conduit, by timing the passage of a bubble therethrough. A pair of spaced photoelectric detectors, connected to a timing circuit having a rate output, are mounted on a conduit support which establishes a known distance between the detectors.

3,403,556
FLOW MEASURING DEVICE
Norman C. Koester, Lancaster, N.Y., assignor, by mesne assignments, to "Automatic" Sprinkler Corporation, Cleveland, Ohio, a corporation of Ohio
Filed July 13, 1966, Ser. No. 564,981
8 Claims. (Cl. 73—207)



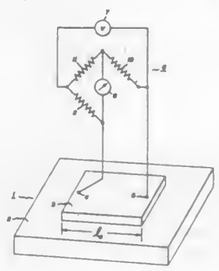
A coil spring providing a flow passage through its convolutions flexes in response to variations in pressure differential between the upstream and downstream portions, thereby varying the flow passage area in accordance with the flow rate therethrough.

3,403,557
SYSTEM FOR MEASURING THE LEVEL OF A LIQUID OR PULVERULENT SOLID
Danny James Khoi, Saint-Cloud, France, assignor to Cermat, a company of Germany
Filed Jan. 17, 1966, Ser. No. 521,146
Claims priority, application France, Jan. 22, 1965, 2,953
7 Claims. (Cl. 73—313)



A level measuring system for liquids or pulverulent solids in which the weight of a sensing element, suspended from a cable wound on a drum, is balanced partly by the buoyancy of the measured medium and partly by a magnetic torque established between the driving wheel and the drum, magnetically coupled to the driving wheel. When equilibrium is reached, the angular position of the driving wheel, corresponds to the medium level. Preferably equilibrium is detected by means of a differential transformer, the output of which controls the actuating of the driving wheel.

3,403,558
PIEZORESISTIVE THERMOMETER
James F. Elliott, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Apr. 7, 1966, Ser. No. 541,001
2 Claims. (Cl. 73—362)

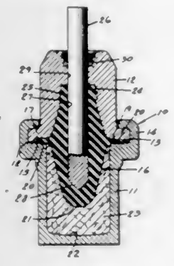


A piezoresistive thermometer having a member of piezoresistive material bonded to a second member of a material having a different coefficient of thermal expansion than the piezoresistive member. Thus both members expand at different rates due to changes in temperature, to produce a mechanical strain in the piezoresistive member thereby causing its resistance to change. An electrical supply is connected to an electrical indicating network which is connected to the piezoresistive member so that these resistance changes result in a voltage indication of temperature.

3,403,559
ELEMENT PISTON LUBRICATOR

Donald F. Janous, Chicago, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois

Filed Apr. 5, 1965, Ser. No. 445,397
1 Claim. (Cl. 73—368.3)

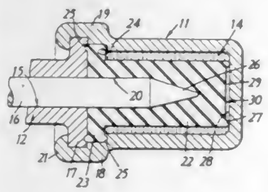


A temperature responsive force transmitting device having a casing with a piston slidable within the casing. A lubricant well is formed within the upper outer end of the casing. A seal is provided to close the lubricant well and this seal slidably engages the piston in fluid-tight engagement and is staked to the casing. The seal insures that the lubricant will be effective to lubricate the piston over a long period of time.

3,403,560
THERMOSTAT ELEMENTS

John A. Lipscombe, Ashford, near Staines, England, assignor to Walton Engineering Company Limited, London, England, a company of Great Britain

Filed Aug. 8, 1967, Ser. No. 659,169
Claims priority, application Great Britain, Aug. 11, 1966, 36,078/66
5 Claims. (Cl. 73—368.3)



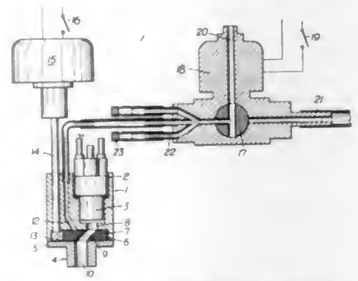
A wax filled thermostat element has a plunger with a tapered end that fits into a tapered bore of a rubber or like intermediate element. When the wax expands the plunger is forced outwardly. The end of the intermediate member remote from the plunger seals against the end wall of the element housing.

3,403,561
PRESSURE-METERING DEVICE

Hans List, 126 Heinrichstrasse, Graz, Austria, Rudolf Zeiringer, Graz, Austria, and Rudolf Hatschek, Fribourg, Switzerland; said Zeiringer and said Hatschek assignors to said List

Filed Apr. 28, 1967, Ser. No. 634,626
Claims priority, application Austria, May 3, 1966, A 4,185/66
5 Claims. (Cl. 73—389)

A pressure metering device including an adaptor having a chamber for receiving a piezoelectric pressure transducer. In the adaptor is a valve which alternatively provides for communication between the transducer and a

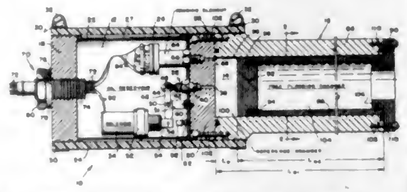


conduit connected to a source of reference pressure or the bore of a socket adapted to be connected to a source of pressure to be measured.

3,403,562
VOLUMETRIC COMPENSATOR FOR TEMPERATURE CHANGES

Maurice S. McGehee, San Diego, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Jan. 31, 1967, Ser. No. 613,044
10 Claims. (Cl. 73—393)



The present invention relates to a volumetric compensator for temperature changes which can be used for varying the volume of a chamber which contains a fluid so that there will be no change in pressure of the fluid when the fluid volumetrically changes due to a temperature variation. The compensator may include a pair of bodies which are composed of dissimilar metals having different coefficients of expansion so that upon a temperature change the bodies will cause a volumetric change which can be used to offset the volumetric change of the fluid within the chamber.

3,403,563
FLUID STREAM MOTION TRANSDUCER

Romald E. Bowles, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Army

Filed Sept. 21, 1962, Ser. No. 226,196
6 Claims. (Cl. 73—505)



4. A system for measuring the angular rate of rotation of a body about an axis comprising means for establishing at least two streams of fluid having substantially parallel axes and flowing in opposite directions, the axes of said streams lying at an angle other than zero degrees to the axis of rotation of said body, plural passage means

positioned to directly receive portions of the oppositely directed streams of fluid, each of said passage means producing fluid signals having an amplitude and sign determined by the amount and direction of deflection of at least one of these streams, said passage means combining fluid streams so received so as to cancel signals resulting from the deflection of the streams in response to forces of linear acceleration applied to the body at an angle to said axes.

3,403,564
PUSHBUTTON APPARATUS FOR RADIOS AND THE LIKE

Tamaki Ohashi, 1629 Tanashi-shi, Tokyo, Japan

Filed June 17, 1966, Ser. No. 558,309
Claims priority, application Japan, June 21, 1965, 40/36,530
9 Claims. (Cl. 74—10.33)

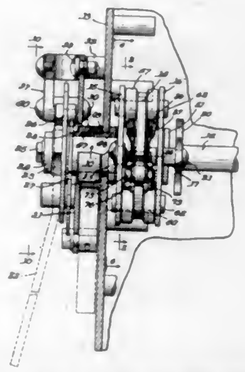


A pushbutton apparatus having two displaceable rods with a setting plate on one which is locked in position by an initial setting and serves to reset a displaceable element to the same position. The rods are coupled together by a pin passing through slots in the rods to cause production of a transverse force on the rods when the setting plate is being set to eliminate any play or gap.

3,403,565
SPRING ENERGIZED SWITCH OPERATOR WITH ROLLER TYPE STOP AND RELEASE ELEMENTS

William S. Kovats, Oak Lawn, Ill., assignor to G & W Electric Specialty Company, Blue Island, Ill., a corporation of Illinois

Filed Mar. 30, 1966, Ser. No. 538,851
10 Claims. (Cl. 74—97)

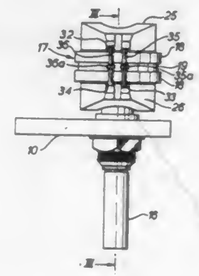


The switch operator employs coil springs for snap action in either direction, the coil springs being normally carried by a switch actuating plate and the coil springs being compressed to store energy in the same by rotation of a pair of torque plates located on respective sides of the actuating plate and being rotatable on the same axis. The switch actuator is additionally characterized by hold and release elements carried by the actuating plate. A lever respectively connects each hold and release element with a guide spool which rides in an arcuate slot in one of the torque plates. Thus rotation of the torque plates to a predetermined extent will effect a release of one of the elements depending on the direction of rotation.

3,403,566
MEANS FOR DRIVING SPINDLES

Denis Albert Edward Mattingly, London, England, assignor to The Klinger Manufacturing Company Limited, London, England, a British company

Filed July 7, 1965, Ser. No. 470,015
Claims priority, application Great Britain, July 8, 1964, 28,140/64
12 Claims. (Cl. 74—210)

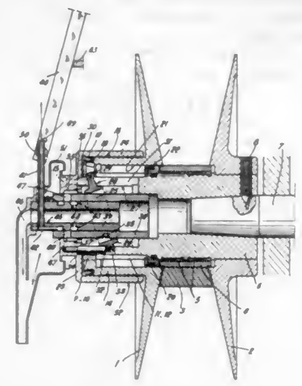


A false twisting apparatus is provided in which a false twist head includes at least two false twist spindles. The spindles are held magnetically in contact with friction driving means, a pair of pole tips being provided for directing a magnetic field through each respective spindle.

3,403,567
V-BELT SPEED-CHANGING MECHANISMS OPERATED BY LIQUID UNDER PRESSURE

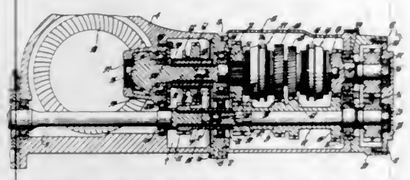
Henri René Bruet, Paris, France, assignor of one-half to Etablissements A. Cazeneuve, La Plaine-Saint-Denis, France, a French company

Filed Aug. 24, 1965, Ser. No. 482,201
Claims priority, application France, Aug. 26, 1964, 986,301
17 Claims. (Cl. 74—230.17)



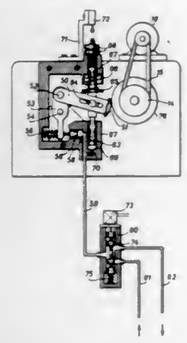
A flange of the driving pulley may be shifted axially into and out of engagement with the belt, and locked out of engagement, by pressurised fluid allowed to flow into and out of two oppositely disposed and oppositely operating chambers by a control pilot valve, and said flange while being out of engagement with said belt may be axially shifted farther from the belt and back to its said locking position by said fluid in said chambers selectively to cause engagement and disengagement of another coaxially disposed and axially movable driving pulley flange with another V-belt.

3,403,568
TRANSMISSION
Harry J. Holcombe, Royal Oak, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 16, 1965, Ser. No. 479,795
11 Claims. (Cl. 74—333)



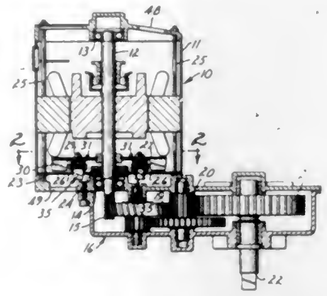
A multispeed transmission having an input shaft which drives a quick change gear set located at one end of the transmission for routing input torque into a countershaft rotatably mounted on the input shaft. The countershaft has a cluster of gears which mesh with a plurality of gears rotatably mounted on a transmission output shaft providing constant mesh change-speed transmission ratios which are selected by operation of synchronizer assemblies mounted on the output shaft. The input shaft carries a low range pinion which may be engaged by a low-reverse sliding gear splined to the output shaft to provide a reduction ratio to permit power supplied to the input shaft to bypass the constant mesh gears. The low-reverse sliding gear is also slidable into engagement with a reverse idler which engages one of the cluster gears of the countershaft to provide a reverse drive. The transmission is mounted in a housing provided by three separate housing units which are connected together to facilitate access to the transmission gearing.

3,403,569
APPARATUS FOR BRINGING TWO STATIONARY GEARWHEELS INTO ENGAGEMENT WITH ONE ANOTHER ON A LAPPING OR TESTING MACHINE
Alfred Johann Lautenschlager, Zurich, Switzerland, assignor to Oerlikon-Buhrle Holding Ltd., Zurich, Switzerland
Filed Jan. 30, 1967, Ser. No. 612,378
Claims priority, application Switzerland, Feb. 1, 1966, 1,394/66
18 Claims. (Cl. 74—388)



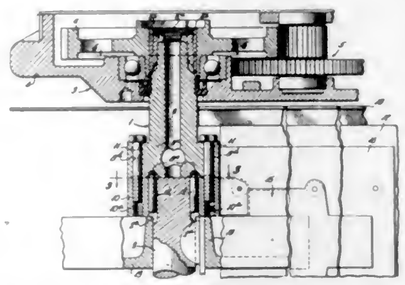
Apparatus for bringing into engagement two gearwheels on a lapping or testing machine. The gearwheels are displaced towards one another until they come into mutual contact and in the vent of the tips of two teeth contacting one gear wheel is rotated through a fraction of the tooth pitch and engagement of the two gearwheels is prevented until a tooth of one gearwheel is opposite a gap in the other gearwheel.

3,403,570
ANTIREVERSE MOTOR
Arthur G. Larson, Mound, and Donald D. Day, Minneapolis, Minn., assignors to McQuay, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Feb. 13, 1967, Ser. No. 615,608
6 Claims. (Cl. 74—411.5)



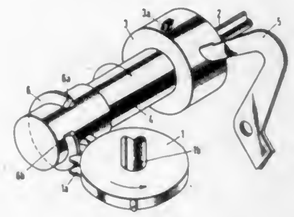
An antireverse motor having a metal plate with a plurality of apertures mounted in fixed position relative to the motor drive shaft, and a pivotal ratchet that rotates with the motor drive shaft, the ratchet being held out of engagement with the plate when the motor rotates in a forward direction and in engagement with the portion of the plate defining one of the apertures when the motor stops or tends to rotate in a reverse direction.

3,403,571
STUB SHAFT CONNECTION FOR A REVOLVING DOOR ASSEMBLY
Amuel E. Sheckells, Evansville, Ind., assignor to International Steel Company, Evansville, Ind., a corporation of Indiana
Filed Oct. 17, 1966, Ser. No. 587,083
7 Claims. (Cl. 74—421)



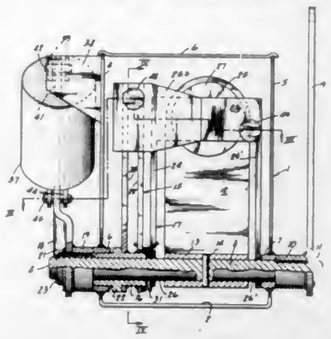
A quick disconnect stub shaft connection between a revolving door and the revolving door speed control device consisting of a stub shaft threadably secured to the hub of the main gear of the speed control device and further keyed to the hub for transmitting torque from the stub shaft to the main gear. The opposite end of the stub shaft is connected to the terminal end of the revolving door shaft within the extremities of the revolving door wing by a plurality of removable bolts extending between the end of the stub shaft and an enlarged head portion on the end of the revolving door shaft. The connecting bolts support the weight of the revolving door and the torque of the revolving door is transmitted to the stub shaft by means of a pair of lock pins extending axially between the revolving door shaft and the stub shaft.

3,403,572
PRECISION GEAR MECHANISM FOR DRIVE SHAFTS WHICH CROSS ONE ANOTHER
Rudolf Rekewitz, Munich, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany
Filed Mar. 21, 1967, Ser. No. 624,760
Claims priority, application Germany, Mar. 28, 1966, S 102,816
12 Claims. (Cl. 74—426)



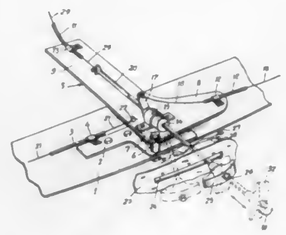
A gear mechanism for driving the carriage of a Teletype machine. A first shaft, which drives the carriage, has a spur gear which is driven by a worm gear having one screw thread minus a predetermined gap. A stop mechanism disengages the worm gear each rotation thereof so that the teeth of the spur gear are in the gap, thus permitting the spur gear to be rotated independently of the worm gear to return the carriage to the starting position.

3,403,573
CONTROL DEVICE
Lloyd R. Westby, P.O. Box 233, Wayne, Ill. 60184, and Francis H. Bourgeois, P.O. Box 84, Oak Park, Ill. 60305
Filed Sept. 30, 1966, Ser. No. 583,192
15 Claims. (Cl. 74—469)



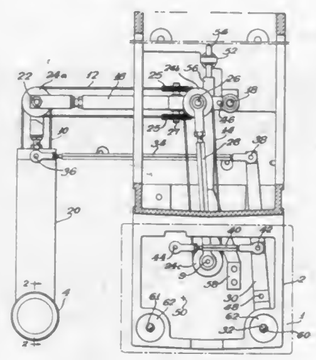
A control device having a plurality of cooperable arms, movable relative to one another, one of such arms being constructed for connection with an operating element of the apparatus to be controlled by said device, a second of said arms being constructed for connection to means, such as an electric motor or a manually controlled member, for determining the position of the second arm as a control function, a third of said arms being releasably connected to the first arm and to the second arm, whereby the latter arm may control the position of the first arm through the connection of the third arm to the first and second arms, the first arm being releasable from the third arm to permit free movement of the first arm relative to the third arm, thereby rendering the controlling action of the second arm on the first arm inoperative, and the third arm being releasable from the second arm in response to an overriding force applied to the third arm by the first arm, in which the releasable connection between the first and third arms may comprise an electromagnet, and that between the second and third arm may comprise a permanent magnet.

3,403,574
MECHANICAL CONTROL DEVICES
Gaëtan de Coye de Castelet, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed May 16, 1966, Ser. No. 550,272
Claims priority, application France, May 21, 1965, 18,011
1 Claim. (Cl. 74—471)



A mechanical control device for independently actuating three different control members through three longitudinal-translation transmission elements such as rods, wires and cables having one end connected to the control device. The device comprises a handle carried on a rod mounted for axial movement, rotation about its axis, and movement perpendicular to its axis to effect the mutually independent longitudinal movements of translation of transmission elements.

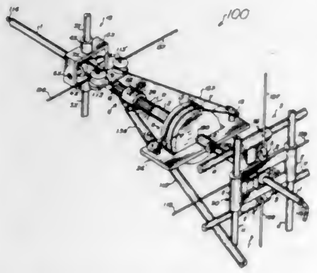
3,403,575
MICROMANIPULATOR
Charles Fredrick Miller, Anaheim, Calif., assignor to Basic Products Corporation, a corporation of Wisconsin
Filed Mar. 14, 1966, Ser. No. 533,997
4 Claims. (Cl. 74—471)



A micromanipulator for positioning semi-conductor components on a work platform during fabrication. Interconnected lever arms are pivoted about a single point for movement of the platform in the Y direction. Similarly, interconnected lever arms are pivoted about a second point for movement of the platform in the X direction. All the arms are linked together so that movement of a single control lever arm in the X or Y directions causes

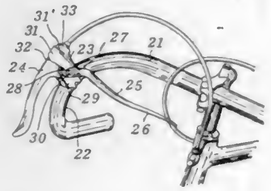
a corresponding movement of the platform. A pulley and belt arrangement also connects the control arm with a shaft protruding vertically through the platform and enables an operator to rotate the shaft while simultaneously translating the platform.

3,403,576
SINGLE LEVER CONTROL ASSEMBLY
Harvey L. Ratliff, Jr., Oxon Hill, Md., assignor to Jetru, Inc., Amarillo, Tex.
Continuation-in-part of application Ser. No. 394,698, Sept. 8, 1964. This application Sept. 9, 1966, Ser. No. 578,342
5 Claims. (Cl. 74—471)



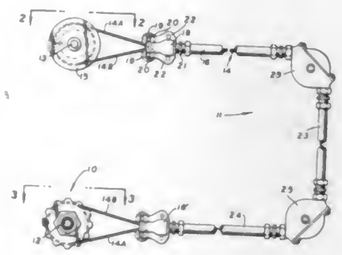
There is disclosed a single lever control assembly which enables many direct and mechanical controls from one lever. Axial displacement of the lever can directly and mechanically control one mechanism such as the throttle of a fixed wing aircraft. Rotational movement of the lever can directly and mechanically control a second mechanism such as the ailerons of a fixed wing aircraft. Lateral displacement of the lever about a pivot point in a first, say horizontal, plane can directly and mechanically control a third mechanism. Lateral displacement of the lever about the pivot point in a second, say vertical, plane can directly and mechanically control a fourth mechanism such as the elevators of a fixed wing aircraft.

3,403,577
BRAKE OPERATING DEVICE FOR BICYCLE HANDLES
Nobuo Ozaki, Sakai-shi, Osaka-fu, Japan, assignor to Yoshigai Kikai Kinzoku Co., Ltd., Kawachi-shi, Osaka-fu, Japan
Filed Oct. 27, 1966, Ser. No. 589,866
4 Claims. (Cl. 74—480)



A drop type bicycle handle is provided with hand operable brake means having the usual lever member pivoted to a bracket secured to the handle bars. An auxiliary lever is rigidly secured to the hand operable lever and extends along the handle bars to enable the brake means to be operated from an auxiliary position.

3,403,578
ADJUSTING DRUM FOR REMOTE TRANSFER SYSTEM
John F. Morse, 21 Clinton St., Hudson, Ohio 44236
Continuation-in-part of application Ser. No. 499,236, Oct. 21, 1965. This application Sept. 29, 1967, Ser. No. 677,825
12 Claims. (Cl. 74—501)

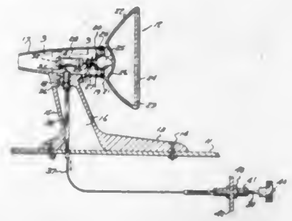


A drum for adjusting the tension in balanced cables used to transfer motion between a driving and a driven shaft. The drum, mounted for rotation on one of said shafts, is split transversely its rotational axis into a capstan and a floating section. One of the balanced cables is secured to each of the capstan and floating sections, both of which are preferably provided with a cable receiving, helical groove over approximately that half of the outer surface which is most remote from the split defining the two sections. A plurality of teeth on the floating section selectively intermesh with opposed teeth on the capstan section so that when this first plurality of teeth are intermeshed relative rotation between the sections is precluded. The capstan section is secured to the shaft on which the drum is mounted for rotation. Exemplary of such connection is a radially extending anchor plate affixed to the shaft. A plurality of teeth on the anchor plate selectively intermesh with opposed teeth on the capstan section. Relative rotation between the capstan section and the anchor plate is precluded when this second plurality of teeth are intermeshed. Clamping means are provided to permit selective engagement and disengagement of the first and second plurality of teeth to adjust the tension in the cable strand attached to the floating section with respect to the cable strand attached to the capstan section, as well as the tension of the cable strand attached to the capstan section with respect to the rotational position of the shaft with which said drum rotates.

3,403,579
OUTSIDE REAR VIEW REMOTE CONTROLLED MIRROR FOR VEHICLES
Robert A. Casalou, 7357 W. Greenwich Drive, Birmingham, Mich. 48010
Filed Nov. 22, 1966, Ser. No. 596,298
1 Claim. (Cl. 74—501)

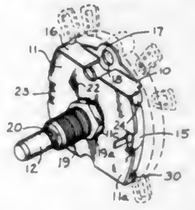
1. In a remote controlled rear view mirror for a vehicle having a body;
a pedestal having a bore mounted on said body;
a housing on said pedestal;
an outwardly opening centrally apertured aspherical socket on one end of the housing;
a universally movable shell mounting a mirror and including a ball support movably nested in said socket;
a shaft projecting from said ball axially into the housing;
resilient means biasing the ball into said socket;
a control tube in said housing axially mounted on said shaft and including an elongated slot therethrough;

a ball nested in said tube and longitudinally movable therein;
a crank including a shaft extending through and secured to said ball with its projecting end portions guidable movable within said tube slot;
a rotative piston reciprocally movable in said pedestal at right angles to said tube and at one end secured to said crank;



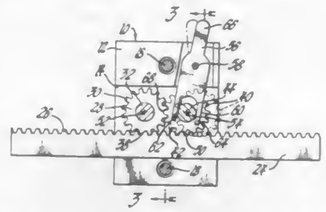
a flexible cable mounted on said body with one end extending up into said pedestal and secured to the other end of said piston;
the other end of said cable guidably extending through the body and into the passenger area;
and a control knob on the end of said cable;
selective rotation and reciprocal longitudinal adjustment of said knob adapted to effect universal adjustment of said mirror shell relative to said housing.

3,403,580
INDEXING MECHANISM AND METHOD OF MAKING THE SAME
Jack A. English, 513 Bell Ave.; John D. Van Benthuysen, R.R. 5, Aqua Drive; and Thomas R. Beaver, 311 Kenwood Ave., all of Elkhart, Ind. 46514
Filed Dec. 29, 1966, Ser. No. 605,711
14 Claims. (Cl. 74—527)



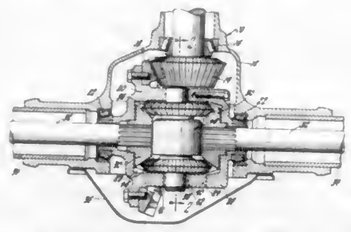
Indexing mechanism comprises malleable mounting plate, an actuating member such as a shaft journaled in the mounting plate and an indexical member such as a detent wheel attached to the actuating member. A detent element or ball is retained by malleable ball-retaining means integral with the mounting plate and is spring biased against the periphery of the detent wheel. The ball-retaining means permits movement of the ball radially of detent wheel but prevents movement of the ball tangentially of the wheel as the wheel is moved from one index position to another. The ball-retaining means comprises a pair of malleable arms integral with the mounting plate and formed around the ball. The malleable arms are sized to the ball by being deformed thereabout, the ball serving as a mandrel. This deformation causes depressions to be formed in the arms where the arms engage the ball during deformation. The malleable arms are also preferably provided with areas of reduced cross section to control springback of the arms during deformation of the arms around the ball. A spring-retaining means includes shoulders formed from and integral with a mounting plate and malleable tabs are connected to the shoulders by knuckle joints.

3,403,581
LATCH MECHANISM
Gerald A. Harness, Kettering, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 21, 1966, Ser. No. 588,501
3 Claims. (Cl. 74—530)



A latching device in which a toothed rack is movable linearly and has two toothed rotatable gears in meshing engagement therewith. One of the gears is linearly movable toward and away from the other gear, along a line joining the axes of the gears and therefore into and out of meshing engagement with the other gear to release or lock the mechanism. Releasing movement of the linearly movable gear causes concurrent rotational movement of both gears in the unlocking direction so long as the two gears are meshed with each other.

3,403,582
LIMITED SLIP DIFFERENTIAL
Russell L. Morden, Lansing, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 25, 1966, Ser. No. 567,434
11 Claims. (Cl. 74—711)

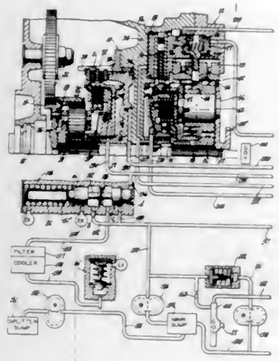


A preferred embodiment comprises a compact limited slip differential having a clutch pack located between and frictionally connecting the differential pinion gears. Spring preload means in the clutch pack give a predetermined initial resistance to differential action. This resistance is increased in proportion to driving torque applied to the differential by outward movement of the pinion gears caused by gear separating forces. The outward gear movement further compresses the clutch pack to increase its frictional resistance. Both plate and cone clutch versions are disclosed.

3,403,583
TRANSMISSION
Raymond J. Maci and Jack W. Schmidt, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 25, 1966, Ser. No. 597,053
20 Claims. (Cl. 74—720.5)

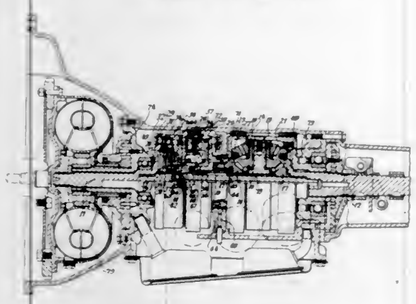
12. In a transmission assembly; a drive member, a pair of driven members, multiratio transmission means connecting said drive member to each of said driven members having a plurality of ratio establishing means selectively operable to establish said plurality of ratios be-

tween said drive member and each of said driven members and including first steering means for selectively making one change of the speed of each of said driven means and second steering means for selectively making another change of the speed of each of said driven means; a steer type selector means having a plurality of positions; ratio control means having a plurality of ratio positions operatively connected to said plurality of drive ratio establishing means and said steer type selector means operative in one position of said steer type selector means to establish one group of equal drive ratio establishing



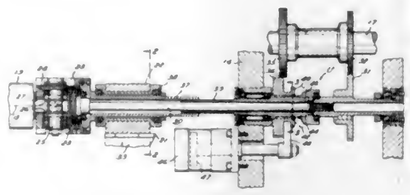
means to each of said driven members and in another position of said steer type selector means to establish a different group of equal drive ratio establishing means to each of said driven members; and steer control means operatively connected to said ratio control means, said plurality of ratio establishing means, said first and second steering means and said steer type selector means operative to selectively actuate said first and second steering means in one program in one position of said steer type selector means and in a different program in another position of said steer type selector means.

3,403,584
POWER TRANSMISSION SYSTEMS PROVIDING CHANGES OF GEAR RATIO
Frederick E. Ellis and Peter J. Standbridge, Leamington Spa, England, assignors to Automotive Products Company, Limited, Leamington Spa, England
Filed May 4, 1966, Ser. No. 550,579
Claims priority, application Great Britain, May 4, 1965, 9,303/65
7 Claims. (Cl. 74—757)



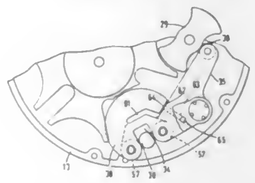
A power transmission mechanism using a speed reduction gear train comprising bevel gear clusters mounted on a carrier, the axes of the gear clusters lying in planes radiating from the axis about which the carrier is rotatable, and each of the said gear clusters comprising two bevel pinions rotatable together as one and the said bevel pinions meshing with other bevel gears rotatable about the same axis as that of the carrier.

3,403,585
INDEXING MECHANISM
Ernest F. Barkhurst, Euclid, Ohio, assignor to The National Acme Company, a corporation of Ohio
Filed Sept. 22, 1966, Ser. No. 581,276
10 Claims. (Cl. 74—813)



1. An indexing mechanism, comprising, in combination,
a shaft member having an axis,
a collar member coaxial thereon and relatively rotatable therewith,
first and second clutch units acting between said first and second members,
said first clutch unit including first and second lug means,
said second clutch unit including a third and said second lug means,
said second lug means extending radially and being in a common plane substantially perpendicular to said axis on one of said members,
said second lug means having a total arcuate extent of less than 180 degrees,
said first and third lug means being on the other of said members and being in planes parallel to each other and axially spaced apart,
said first lug means being staggered peripherally from said third lug means,
and means to relatively axially move said collar and shaft members whereby said second lug means cooperates alternatively with said first and third lug means with partial rotational indexing therebetween.

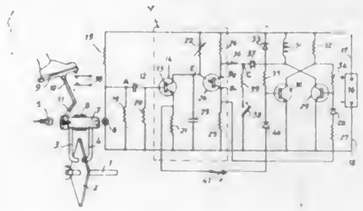
3,403,586
LATCH DEVICES FOR INDEXING TABLES AND THE LIKE
David R. Paterson, The Grange, Hemmingford Abbots, Huntingdon, England
Filed Mar. 21, 1966, Ser. No. 536,059
4 Claims. (Cl. 74—820)



An indexing table rotatably mounted on a fixed support having a latching device for indexing the table which is pivotably mounted on the fixed support and which cooperates with a plurality of circumferentially-arranged

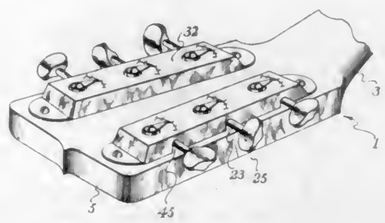
buttons projecting from the indexing table. The latch lever is notched to embrace any one of the buttons and is provided with two rollers mounted on each side of the notch to engage the particular button being acted upon.

3,403,587
CONTROL DEVICES ACTING AS A FUNCTION OF FREQUENCY AND OF AT LEAST ONE AUXILIARY PARAMETER
Gaëtan de Coye de Castelet, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, Hauts-de-Seine, France
Filed Aug. 26, 1966, Ser. No. 575,440
Claims priority, application France, Sept. 10, 1965, 31,026
10 Claims. (Cl. 74—866)



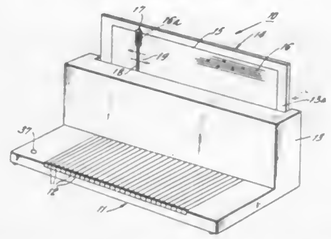
1. A device for controlling a member such as an automatic gear box of an automobile vehicle, as a function of the speed of a rotating shaft of said vehicle and of at least one auxiliary parameter comprising tachometric means including pickup means operatively connected to said shaft, time-constant circuit means including a unijunction transistor and capacitor, an output circuit operatively connected to said time constant circuit, means to effect a comparison of the duration of a signal emanating from said tachometric means with the striking time of said unijunction transistor in order to supply logical control signals by means of said output circuit, the duration of the signal emanating from said tachometric means being variable by said at least one auxiliary parameter, while the output circuit reacts in addition on the striking duration of the unijunction transistor, in order to obtain a predetermined delay effect between the actions on the member to be controlled at increasing speed and at decreasing speed.

3,403,588
MUSICAL INSTRUMENT WITH STRING TENSION ADJUSTMENT
Joe B. Downing, 341 S. 193rd East Ave., Tulsa, Okla. 74108
Filed Nov. 21, 1966, Ser. No. 595,841
6 Claims. (Cl. 84—306)



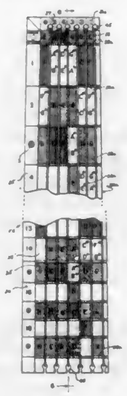
Stringed musical instruments having tuners or string tighteners in the form of worm gears are provided with pointers that are carried by and are rotatable with the string posts, the pointers registering with fixed indicia to show the rotated position of the string posts thereby to permit tuning the instrument by observing the position of the pointer.

3,403,589
AUTOMATICALLY PROGRAMMED PIANO
Robert Fried, 52 Herbert Drive, East Brunswick, N.J. 08816
Filed Oct. 18, 1965, Ser. No. 497,210
11 Claims. (Cl. 84—478)



A programmable key-operated musical instrument included a pointer mechanism and a music sheet movable relative to the pointer. The pointer mechanism includes a pointer structure for "framing" one note of the sheet music at any given instant and further includes sensing means for establishing an electrical circuit determined by coded information isomorphically related to each note of the music sheet, which coded information is in the form of punched holes provided at selected locations along the music sheet. The operator selects and depresses one of the keys to actuate the instrument. Only the correct key will actuate the instrument and set up the appropriate circuit for advancing the music sheet to the next note to be played and generating the proper tone. Depression of an incorrect key prevents the music sheet from moving relative to the pointer and prevents any tone from being generated.

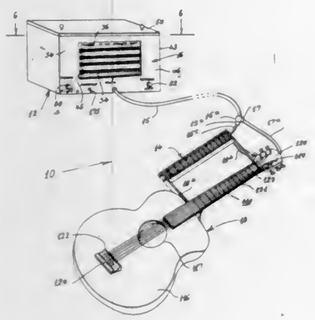
3,403,590
INSTRUCTION FINGERBOARD FOR STRING INSTRUMENTS
Bernard Quinton, 40 Tucker Ave., Tuckahoe, N.Y. 10707
Filed July 19, 1965, Ser. No. 473,140
4 Claims. (Cl. 84—470)



A practice fingerboard for simulating playing of a stringed instrument having simulated frets and strings for

silent finger practice. The fingerboard comprises an elongated flat body tapering in width with integral transverse ridges simulating frets and being spaced apart longitudinally of the side of the body progressively smaller distances from the top to bottom. A plurality of longitudinally extending transversely spaced ridges extend outwardly of one side of the body and intersect the first named integral transverse ridges. The longitudinally extending ridges simulate musical strings. The intersecting ridges define rectangular areas having different colors representing chromatic notes.

3,403,591
ELECTRICALLY OPERATED MUSIC CUING SYSTEM
Dorothea M. Weltzner, 8 E. 62nd St., New York, N.Y. 10021
Filed July 26, 1965, Ser. No. 474,548
13 Claims. (Cl. 84—485)

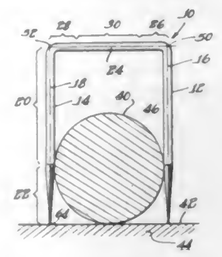


An electrically operated music cuing system especially adapted for operation in connection with a musical instrument. The invention consists of apparatus for displaying and cuing music in connection with a manually played string instrument in which playing of the instrument is coordinated with the display. A music display device is provided including a cabinet in which a music scroll is supported on rollers and is carried past a viewing window. The music scroll comprises notes on musical staves constituting a music selection. The notes are inscribed on the front side of the web wound up and forming the music scroll.

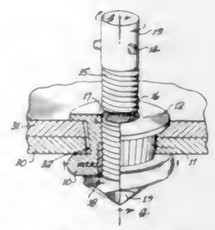
Narrow electrically conductive stripes of metallic ink are provided on the rear side of the web. The stripes have lengths corresponding to the positions of the notes on the staves. The lengths of the stripes and their positions constitute a musical code. The stripes are decoded by means of a code reading head including wiper contacts which sense the conductive stripes. The wiper contacts are connected in circuit with a cuing display device forming part of the apparatus. The web is motor driven the motor being connected in an interlock circuit with switching means provided in a musical instrument, such as a guitar or the like.

3,403,592
STAPLE STRUCTURE
Charles O. Larson, Sterling, Ill., assignor to Charles O. Larson Co., Sterling, Ill., a corporation of Illinois
Filed Nov. 7, 1966, Ser. No. 592,583
1 Claim. (Cl. 85—49)

A staple having parallel legs including shank portions of a length approximating that of the connecting base portion and terminating in elongate tip portions gradually tapered and symmetric to a central apex facilitating driving of the staple into a support with reduced tendency toward twisting of the legs.

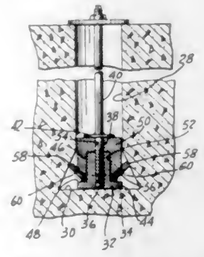


3,403,593
RIVET
Anthony W. Moore, 5173 Hallwood, Riverside, Calif. 92506
Filed July 19, 1965, Ser. No. 473,007
2 Claims. (Cl. 85—68)



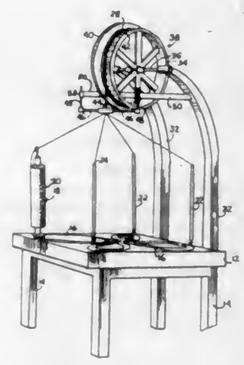
This is a self-drilling rivet utilizing a threaded insert on which the drill portion is attached and in which, after drilling, the rivet is secured by the threaded insert, and in which self-sealing plastic material is used.

3,403,594
ANCHOR ASSEMBLY FOR RETAINING BOLTS IN DRILLED HOLES
Arthur D. Newell, Detroit, Mich., assignor to Zimmer, Keller and Calvert, Inc., Detroit, Mich., a corporation of Michigan
Filed July 18, 1966, Ser. No. 565,758
4 Claims. (Cl. 85—74)



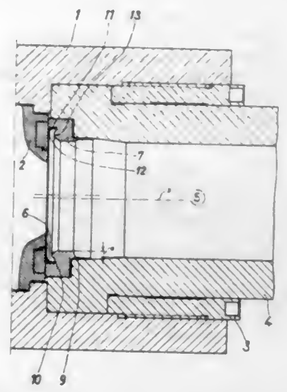
This specification describes an anchor bolt assembly for securing retainer bolts in a drilled opening formed in stone or masonry material. It includes a threaded base over which is telescopically received a pilot cap which registers with the neck portion of the opening. An annular cam surface is formed on the cap which expands locking elements supported by the base. The locking elements wedge against the walls of the blind end of the opening.

3,403,595
GRAPHITE BRAIDED PACKING
Richard W. Watson, Palmyra, N.Y., assignor to Garlock Inc., Palmyra, N.Y., a corporation of New York
Filed Feb. 24, 1966, Ser. No. 529,888
6 Claims. (Cl. 87—1)



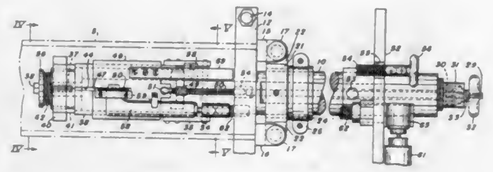
Braided packing material comprising an elongate braid of graphite strands of fibrous material, said strands and interstices therebetween, being thoroughly impregnated with impregnating material comprising a fluorocarbon resin.

3,403,596
OBTURATOR ARRANGEMENT FOR GUN BARRELS
Erich Bartels, Ratingen, Germany, assignor to Firma Rheinmetall G.m.b.H., Dusseldorf, Germany
Filed June 29, 1966, Ser. No. 561,590
Claims priority, application Germany, July 21, 1965, R 41,140
2 Claims. (Cl. 89—26)



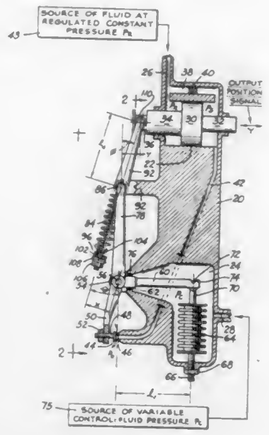
An obturator device for the charge chamber of a gun barrel in which the obturator is L-shaped with an annular leg portion and a base ring to receive and hold the obturator. The base ring has an annular sleeve-like extension of decreasing wall thickness.

3,403,597
APPARATUS FOR CUTTING A GROOVE IN THE INSIDE SURFACE OF A PIPE
William R. Beckman, Elizabeth Township, Allegheny County, and James G. Dunn, White Oak Borough, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed Nov. 17, 1966, Ser. No. 595,254
10 Claims. (Cl. 90—12)



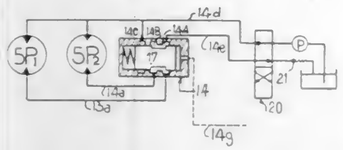
Welded steel pipes are inspected for flaws by equipment which is calibrated against standard specimens. The standard specimen contains a simulated flaw of known dimensions. This disclosure relates to an apparatus for cutting a groove in the inside surface of a pipe to serve as a simulated flaw. The apparatus includes a motor-driven milling cutter mounted on a shaft which is clamped to the end of a pipe and extends inside. The shaft is supported so that it can be positioned parallel to the pipe wall, thus enabling the cutter to cut a groove of accurate length and depth, usually on the weld.

3,403,598
CONTROL APPARATUS HAVING VARIABLE EFFECTIVE LEVER RATIO FORCE BALANCE MECHANISM
Dale W. Franz and Milton R. Adams, South Bend, Ind., assignors to The Bendix Corporation, a corporation of Delaware
Filed May 16, 1966, Ser. No. 550,298
10 Claims. (Cl. 91—47)



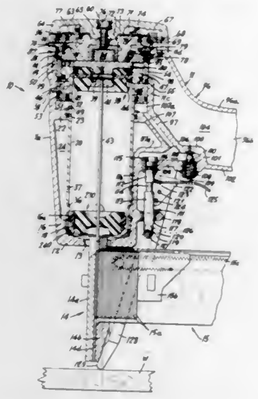
Control mechanism of the force balance type wherein a variable force input acts through a lever to exercise control over a positionable output member which, in turn, is connected to the lever by a feedback spring which acts through a variable effective lever arm to generate a feedback torque in opposition to the input torque resulting from the force input.

3,403,599
HYDRAULIC MOTOR CHANGE-SPEED SYSTEM
Gabriel L. Guinot, Le Plessis-Belleville, France, assignor to Société Anonyme Poclain, Le Plessis-Belleville, France, a French society
Filed Oct. 10, 1966, Ser. No. 585,394
Claims priority, application France, Oct. 8, 1965, 34,190
7 Claims. (Cl. 91—205)



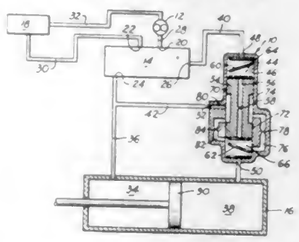
An hydraulic motor including a rotating cylinder block having radial cylinders, pistons associated with the radial cylinders engageable with an undulating cam, the radial cylinders consisting of first and second cylinder groups, separate first and second adjacent chambers, discharge ports intercommunicating the first cylinder group with the first chamber, discharge ports intercommunicating the second cylinder group with the second chamber and supply ports intercommunicating the radial cylinders with a third chamber adjacent to and separate from the second chamber, the first chamber permanently communicating with a discharge line and the third chamber permanently communicating with a supply of fluid under pressure, and a distributing valve operatively connected to the three chambers to selectively communicate the first and second chambers, and the second and third chambers.

3,403,600
PNEUMATIC FASTENING MACHINES FOR STAPLES, NAILS OR THE LIKE FASTENERS
Heinz Emil Bade, Hamburg-Garstedt, Germany, assignor to Joh. Friedrich Behrens, Ahrensburg, Holstein, Germany, a partnership
Filed May 5, 1966, Ser. No. 547,811
Claims priority, application Germany, June 18, 1965, B 82,454
15 Claims. (Cl. 91—409)



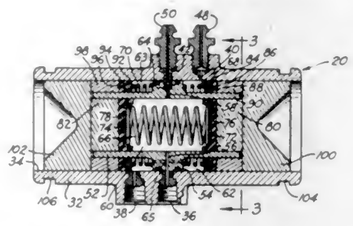
This pneumatic fastening machine is operated by compressed air controlled by a trigger actuated valve. The machine comprises a cylinder open at its lower end. A piston within the cylinder is adapted to move axially from the upper end of the cylinder to the lower end thereof. A driver member has its upper end fixed to the piston and extends downwardly therefrom. Means is provided it supply fluid under pressure to the upper end of the piston to cause the piston to move downwardly through a driving stroke for driving a stapler or the like. At the lower end of the cylinder there is a valve means disposed below the piston. This valve means comprises a valve member formed of resilient material with an opening slidably receiving the drive member. An elastic sealing ring is interposed between said valve member and the inner surface of the cylinder. The sealing ring is made of elastic material and is normally contracted and in spaced relation to the cylinder to provide a passage between the ring and the cylinder. The valve means has an inclined surface to press the sealing ring into engagement with an inclined surface of a fixed member at the bottom of the cylinder. This action causes the elastic ring to expand and be pressed against the inner surface of the cylinder when the piston moves down and moves the valve member axially downwardly at the end of the driving stroke.

3,403,601
EFFORT SELECTOR
Robert T. Eddy, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Apr. 15, 1966, Ser. No. 542,794
6 Claims. (Cl. 91—438)



An effort selector device for use in a hydraulic power steering system which operates as a function of the fluid flow to and from a power cylinder having selectively alternating high and low pressure sides. The device is interposed between the power steering control valve and the power cylinder and provides a variation in road feel by metering a portion of the fluid from the high pressure side of the power piston to the low pressure side of the piston.

3,403,602
DUAL WHEEL CYLINDER
Thomas A. Brandon, Jr., Ann Arbor, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Filed Sept. 26, 1966, Ser. No. 582,151
5 Claims. (Cl. 92—61)



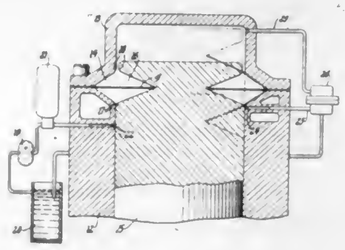
A dual piston wheel cylinder having a housing with a partition means therein separating the housing into first and second concentric chambers for first and second pistons whose effective area in said chambers are equal with means to communicate separate fluid pressures to said first and second chambers through the housing and partition means, respectively.

3,403,603
TUBULAR ROLLING DIAPHRAGMS
Denys G. Turner, Tynemouth, Northumberland, England, assignor to George Angus & Company Limited, Newcastle-upon-Tyne, England
Filed May 23, 1966, Ser. No. 552,130
Claims priority, application Great Britain, June 8, 1965, 24,168/65
1 Claim. (Cl. 92—99)



This invention relates to tubular rolling diaphragms such as are used to effect a positive seal between a piston and a cylinder. They permit repeated relative axial movement of the piston and cylinder through a long stroke with very low friction and without excessive wear. In use the tubular diaphragm rolls smoothly from contact with the piston to contact with the cylinder (or vice versa) as relative movement of the piston and cylinder takes place as a result of variations in the fluid pressure inside the diaphragm. Since such diaphragms have no preformed convolution they show no spring gradient and the piston is free-positioning relative to the cylinder.

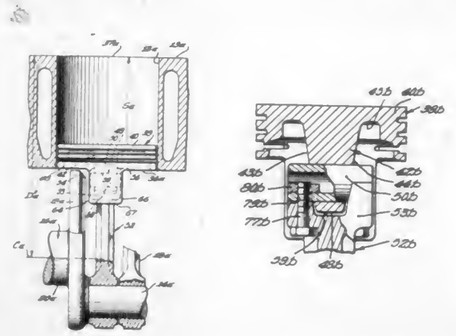
3,403,604
DIAPHRAGM SEAL
Leonard D. Zemeck, Chicago, Ill., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 27, 1967, Ser. No. 678,617
6 Claims. (Cl. 92—99)



Relatively reciprocating piston and cylinder-like members are sealed against gaseous and hydraulic fluid leakage therebetween by an elastic flexible diaphragm stretched between the apices of oppositely facing V-grooves in the members, the volumes of the grooves on the hydraulic fluid side of the diaphragm being equal when the members are in their mid-stroke positions. Means are also shown for maintaining the hydraulic fluid pressure against the diaphragm in balance with the gaseous fluid pressure on the opposite side.

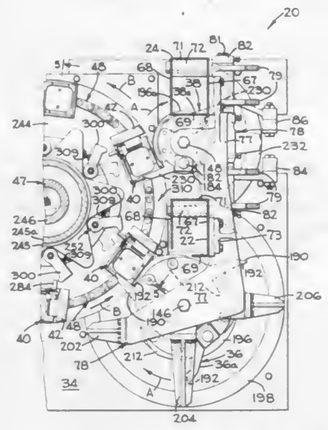
3,403,605
SINGLE PIN BOSS PISTON
Frederick H. Schmidt, Willowick, Ohio, assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed May 6, 1966, Ser. No. 548,091
4 Claims. (Cl. 92—187)

A piston-connecting rod assembly for counterweight equipped crankshafts wherein the piston comprises a single pin boss depending from a central portion of the lower surface of the piston head and the connecting rod comprises a bifurcated connecting end straddling the pin boss. The pin boss is apertured to receive a piston pin, the ends of which project outwardly beyond the pin boss and are fixedly connected to the forked members of the rod.



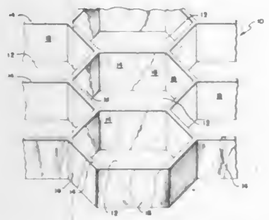
Sufficient space is provided under the piston head to receive the counterweight on the crankshaft in overlapping relation to the pin boss thereby reducing the required height between the top of the block in which the piston operates and the centerline of the crankshaft.

3,403,606
CARTON FEEDING AND FORMING APPARATUS
John L. Gartin, San Jose, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed July 8, 1966, Ser. No. 563,860
14 Claims. (Cl. 93—44.1)



A carton transfer apparatus includes two turrets for receiving pairs of cartons from two rows of cartons and for sliding the cartons over a dead plate into adjacent carriers having their supporting surfaces at the same elevation as the dead plate. The carriers are moved along a path tangent to both turrets, and each carrier includes a gate which is clamped against the carton therein immediately after the carrier moves away from the point of tangency. Stabilizing means is lowered into each carton shortly after the carton moves away from the tangent point.

3,403,607
METHOD OF MAKING A PRESTRESSED CONCRETE STRUCTURAL MEMBER
George J. Yevick, 536 Nordhof Drive, Leonia, N.J. 07605
Original application Oct. 16, 1961, Ser. No. 147,703, now Patent No. 3,228,309, dated Jan. 11, 1966. Divided and this application Oct. 18, 1965, Ser. No. 497,243
6 Claims. (Cl. 94—22)



A method of making a prestressed concrete structural member. Individual concrete blocks are radially inwardly compressed over a continuous circumferential zone. The concrete blocks are formed in the cells of a reticulate member, the cells expanded as by heating, shims are placed in the clearance spaces, and the cells allowed to shrink.

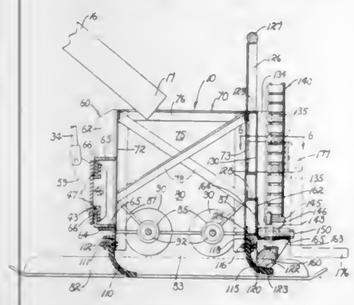
3,403,608
WATERPROOFING OF POROUS SILICIOUS MATERIALS
Clarence N. Impola, Prior Lake, and Robert H. Leitheiser, Minneapolis, Minn., assignors to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky
No Drawing. Filed Sept. 14, 1966, Ser. No. 579,192
27 Claims. (Cl. 94—25)

A method for rendering a porous silicious material, such as soil, water-repellant by contacting the material with water-repelling amounts of a mono-isocyanate of the formula:

R—NCO

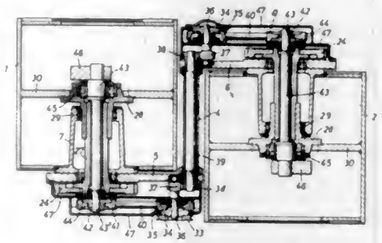
wherein R is a monovalent hydrocarbon radical of 6 to 32 carbon atoms. The method of the present invention can be used to create roadbeds from soil.

3,403,609
MATERIAL SPREADING DEVICE
Wilbert C. Bradshaw and Dolph W. Ruschhaupt, Fresno, Calif., assignors to California-Fresno Asphalt Co., a corporation of California
Filed Mar. 1, 1966, Ser. No. 530,889
7 Claims. (Cl. 94—46)



1. A material spreading device, adapted for movement upon a support surface in a predetermined forward direction of travel, comprising an elongated spreader box providing spaced forward, rearward and opposite end walls defining a material compartment having an elongated discharge opening extended transversely of said direction of travel in material depositing relation to said support surface; an elongated flexible strike-off blade downwardly extended from the spreader box longitudinally in coextensive relation with said opening and transversely in arcuately rearwardly flexed wiping relation against material deposited upon the support surface; and adjustable force applying means including a plurality of pivotally interconnected elongated members, vertical guide means individually mounting said elongated members in successively longitudinally substantially aligned relation along the spreader box for engagement with said strike-off blade, said members having transversely arcuate surfaces engaged against the arcuate rearwardly flexed blade; and force exerting means connected to said elongated members compressibly to urge the blade toward the support surface to control the depth of said mixture deposited on the support surface and to maintain such depth uniformly completely longitudinally of the spreader box in conforming relation to elevations and depressions encountered in the support surface.

3,403,610
TANDEM ROAD ROLLER
Benno Kaltenegger, Wahnbachtalstrasse 8, Siegburg, Germany
Filed Mar. 16, 1966, Ser. No. 534,852
Claims priority, application Germany, Mar. 20, 1965, K 55,594; Feb. 1, 1966, K 58,293
9 Claims. (Cl. 94—50)



1. A tandem road roller comprising:
(a) a frame defined by a central beam and a pair of arms;
(b) a pair of rolls arranged one behind the other carried by said frame;
(c) said central beam being disposed in parallel relationship to the roll axes;
(d) said arms being disposed laterally of each other, generally normal to said central beam and projecting in opposite directions with respect to each other;
(e) means for driving said rolls;
(f) said rolls being laterally offset relative to each other, each roll including an end adjacent an arm of said frame and a free end remote from the frame;
(g) said free remote ends being on opposite sides of said road roller and including end faces disposed laterally beyond the frame perimeter.

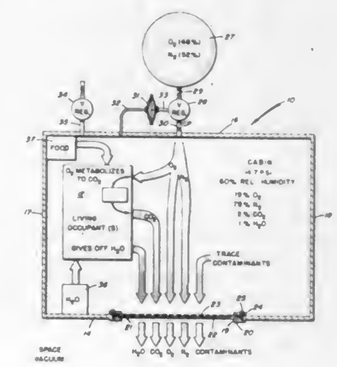
3,403,611
FOLDABLE CAMERA SUPPORT FOR ACTION PHOTOS OF BOWLERS
William J. Stinson, 162 Long Meadow Circle, Pittsford, N.Y. 14534
Filed Oct. 22, 1965, Ser. No. 502,136
15 Claims. (Cl. 95—11.5)

The camera support has two forward and two rear legs for holding a camera so that it faces a bowler as he delivers a ball onto the bowling alley. Both sets of legs straddle the alley; and they have flanged feet, which slidably engage the gutter ridges at opposite sides of the alley to guide the stand for sliding movement into and out of its operative position. The stand is pushed into position or removed therefrom by a pair of rods, which are foldably connected to the forward legs of the support, and which seat forward of the foul line at opposite sides of the alley



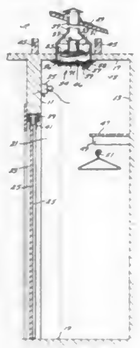
when the stand is erected. A light source and photoelectric cell on these rods are connected to trigger the camera, when the beam of light from the source is interrupted by a ball just as it is discharged by a bowler down the alley. The rods can be used to draw the support off the alley without walking on the latter; and the legs and rods are collapsible when the support is not in use.

3,403,612
METHOD OF AND APPARATUS FOR ATMOSPHERE REPLENISHMENT AND CONTROL
Charles J. Swet, Mount Airy, and Roscoe G. Bartlett, Jr., Lime Kiln, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Sept. 12, 1966, Ser. No. 578,890
4 Claims. (Cl. 98—1.5)



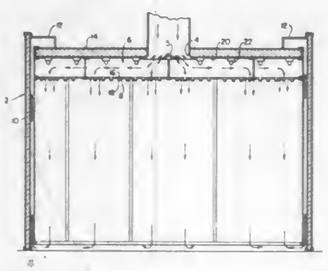
The present invention provides a means for discharging CO_2 and contaminants given off by a living creature in a satellite cabin and replacing such discharge with a life-sustaining atmosphere in accordance with the metabolic requirements of each creature. The cabin containing the living creature is provided with an ultra-thin membrane which exhibits a highly selective permeability to various gases. In particular, the flow rate of water vapor and CO_2 through the membrane is several orders of magnitude greater than oxygen and nitrogen gas flow. Replacement of the waste gases and maintenance of the life-sustaining atmosphere is provided by tanks of nitrogen and oxygen and an appropriate pressure sensor.

3,403,613
VENTILATED WARDROBE
Richard Huber, 853 Rincon Lane, Palos Verdes Estates, Calif. 90274
Filed Oct. 31, 1966, Ser. No. 590,579
5 Claims. (Cl. 98—39)



A ventilated wardrobe including an air duct with an electric fan disposed therein. The fan is actuated by a switch biased to its closed position and switched to its open position by closing the wardrobe door whereby the wardrobe is ventilated each time the door is opened for the period the door is maintained opened.

3,403,614
ENVIRONMENTAL ENCLOSURE WITH CEILING AIR PLENUM
Randall Carnes, New Lebanon, Ohio, assignor to The Bendix Corporation, a corporation of Delaware
Filed Apr. 28, 1967, Ser. No. 634,545
2 Claims. (Cl. 98—40)

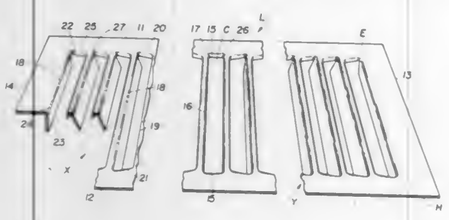


An environmentally controlled enclosure having a plenum chamber into which conditioned air is introduced for uniform distribution into the enclosure. The lower plenum boundary, which is the enclosure ceiling, is perforated to provide air flow into the enclosure. Enclosure illumination is provided through light units within the plenum chamber and provision is made for evenly distributing heat generated by said light units.

3,403,615
LOUVRE PLATE FOR USE IN A FORCED AIR HEATING SYSTEM
Lloyd G. Dayus, Islington, Ontario, Canada, assignor to Lloyd Register and Grille Co. Limited
Filed Nov. 18, 1966, Ser. No. 595,517
5 Claims. (Cl. 98—101)

A louvre plate for forced air heating systems having louvre openings and vanes which are designed to provide a rigid structure capable of withstanding service usage

and susceptible of manufacture by the action of a progressive die to leave the exposed face of the plate smooth and free of sharp or jagged edges without any grinding or finishing operations. This shape of the openings and vanes



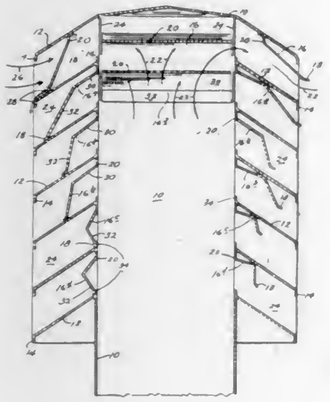
may be generally characterized as trapezoidal, with the vane being integrally joined to the longer base edge, and a narrow continuous flange depending inwardly from the shorter base edge and side edges.

3,403,616

COMBINATION STORM LOUVER AND AUTOMATIC BACK-DRAFT DAMPER

Arthur W. Nelson, 343 S. Dearborn St., Chicago, Ill. 60604

Filed Oct. 21, 1965, Ser. No. 499,214
3 Claims. (Cl. 98—119)



Pivoted damper blades are combined with stationary louver blades to serve as automatic closures against the entry of rain, even though driven by high winds, into a ventilator. The damper blades are mounted between spaced louvers in such manner as to form wind receiving pockets for maximum efficiency in automatically closing the damper blades.

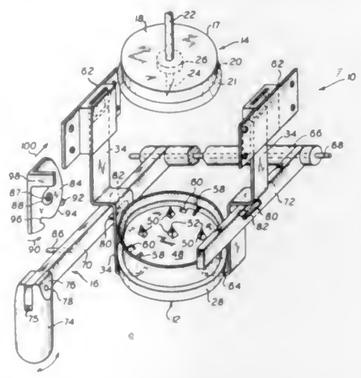
3,403,617

APPARATUS FOR PIERCING CONTAINERS FOR USE IN BEVERAGE PRODUCING MACHINES

Willy G. Lampe, Richmond Hill, N.Y., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Continuation of application Ser. No. 522,142, Jan. 21, 1966. This application Nov. 20, 1967, Ser. No. 689,220
9 Claims. (Cl. 99—295)

An apparatus for piercing and introducing a fluid into a container having a beverage producing ingredient therein, wherein the apparatus has top and bottom structures for engagement with the container to position the same for



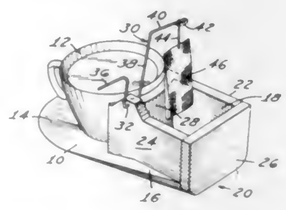
piercing such that a fluid may subsequently be introduced into the container through the piercing structures, and means to operate the top and bottom piercing structures.

3,403,618

TEABAG DIPPER

Jerry W. Lagg, 15246 Collingham Drive, Detroit, Mich. 48205

Filed Mar. 13, 1967, Ser. No. 622,522
3 Claims. (Cl. 99—321)



A teabag dipper in the form of a saucer for a teacup combined with a receptacle and provided with an arm to which is attached a teabag which, by rotation of a crank mounted upon the arm, can be transferred from a position whereby the teabag is dipped into the water in the teacup to a position whereby the teabag is dumped into the receptacle for disposal.

3,403,619

SELF-STRIPPING WIRE TWISTER HOOK FOR WIRE BALERS

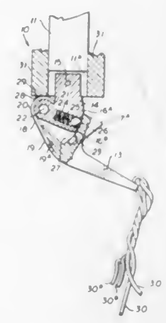
William K. Ralston, Memphis, Tenn., and Charles G. Barfield, West Memphis, Ark., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Oct. 21, 1966, Ser. No. 588,580
9 Claims. (Cl. 100—31)

1. In a wire twister mechanism of the type used to join opposite ends of a wire strand encircling a bale formed in a baling machine by intertwisting the ends, a twister hook comprising

a rotary element rotatable about a fixed axis, and

a twister element projecting laterally from the said rotary element and co-rotatable therewith, said twister element normally disposed in one position for rotation with said rotary element, and movable relative



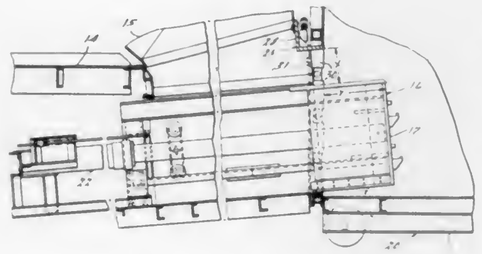
to the said rotary element to another position for stripping wire therefrom.

3,403,620

LOADING AND COMPACTING APPARATUS PARTICULARLY FOR REFUSE

Robert J. Pioch, 116 Frost St., Jackson, Mich. 49202

Original application Aug. 24, 1965, Ser. No. 482,080, now Patent No. 3,289,572, dated Dec. 6, 1966. Divided and this application June 20, 1966, Ser. No. 558,988
2 Claims. (Cl. 100—214)



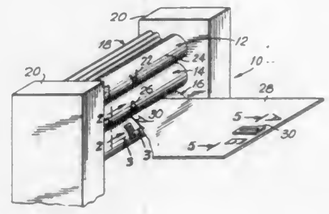
In a stationary compactor of the type disclosed in Patent 3,250,414 and which is designed to handle miscellaneous trash and push it into and compact it within a suitably reinforced container, a rectangular ram is employed which is of a height substantially less than that of the opening through which the material is pushed. The loading chamber of the compactor, into which material is dropped in front of the ram, is substantially the same width as the ram. A rigid header bar extends across the front upper corner of the casing and in use the ram travels from a retracted position substantially withdrawn from the chamber into a position projecting into the container. A substantial vertical clearance is left between the top of the ram and the header bar, and the ram when fully projected extends into the container a distance which is at least 50% greater than such vertical clearance. The exent of such vertical clearance is such as to permit heavy or rigid materials to pass under the header bar without being crushed, and the degree of projection of the ram into the container is sufficient to carry long materials into the container, or alternatively, to tip long items toward a horizontal position which permits them to fall to the bottom of the chamber when the ram is retracted.

3,403,621

METHOD AND APPARATUS FOR EMBOSSING AND PRINTING DURING A SINGLE PASS THRU A PLANOGRAPHIC OFFSET PRESS

Walter Arthur Simson, Scarsdale, and Sol Hurwitz, New York, N.Y., assignors to Rolls Offset Printing Company, Inc., New York, N.Y., a corporation of New York

Filed Oct. 4, 1966, Ser. No. 584,243
20 Claims. (Cl. 101—23)



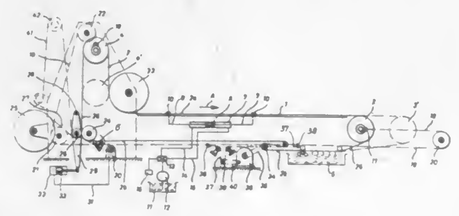
Method and apparatus for embossing on high speed planographic web offset printing press comprising securing a high relief die member on the impression cylinder thereof and securing a masking layer on the impression cylinder adjacent the die member to provide substantially smooth continuity generally outwardly of the base portion thereof to enable embossing or debossing of a web passed between the impression cylinder and blanket cylinder.

3,403,622

WEB PRINTING MACHINES

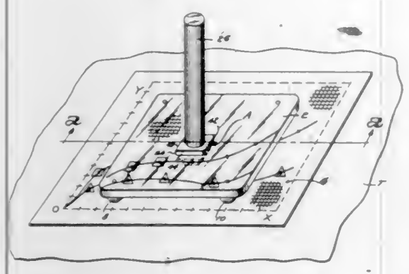
Hans Rudolf Moser, Utzensdorf, and Hans Thierstein, Kirchberg, Switzerland, assignors to Fritz Buser, A.G., Wiler, near Utzensdorf, Switzerland, a Swiss body corporate

Filed Sept. 14, 1966, Ser. No. 579,349
Claims priority, application Switzerland, Sept. 16, 1965, 12,883/65
8 Claims. (Cl. 101—126)



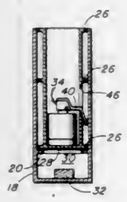
A web printing machine of the kind having an endless conveyor belt trained over two spaced-apart rollers, a printing table associated with the web-carrying upper conveyor flight, means for moving the upper flight intermittently to carry the web to and from the printing table and means for continuously moving the lower flight, the latter means including means for displacing the rollers in unison toward and away from the respective ends of the printing table. Improved operation is achieved by (1) mounting the roller which is nearest the point of engagement of the web with the conveyor belt for displacement in a direction inclined at an angle of 45°–90° to the plane of the table and (2) engaging the web with the conveyor belt before the belt passes over the just-mentioned roller.

3,403,623
METHOD AND APPARATUS FOR MARKING SYMBOLS AND OTHER SUBJECT MATTER ON CHARTS, GRAPHS AND THE LIKE
William R. Blackwood, 7 Washington St., Topsfield, Mass. 01983
Filed Mar. 1, 1967, Ser. No. 619,831
4 Claims. (Cl. 101—368)



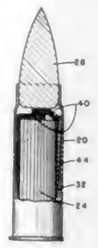
The subject matter of the invention deals with a stamping apparatus for printing coded symbols on a chart or map and includes a stamp member having relieved printing characters and a stamp guide in which the samp.member may be received and guided. The stamp guide consists of a translucent guide plate provided with cutout symbol apertures, each of which apertures are defined by angled stamp guiding surfaces. The stamp member is formed with a resilient stop portion having one or more wedging surfaces correspondingly angled to mate with the angled stamp guide surfaces and provide for limited movement of the stamp through the stamp guide aperture. By this arrangement the relieved printing characters may be stamped against a printing surface with a controlled pressure to provide a relatively small sharply defined ink impression which is quickly and accurately located at a plotted point or other desired locus without excessive transfer of ink.

3,403,624
EXPLOSIVE ORDNANCE LAUNCHING AND ACTUATION ARRANGEMENT
Robert H. Fosler, Baltimore, and Edward W. Rollman, Cockeysville, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 20, 1967, Ser. No. 634,035
5 Claims. (Cl. 102—8)



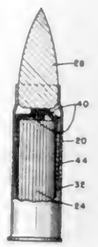
An explosive ordnance launching and actuating device providing a bore riding feature within the launch tube to prevent actuation of the ordnance device, even if the safety pin is removed, until the ordnance device is completely ejected from the launch tube.

3,403,625
WEAR REDUCTION ADDITIVES
David Esriel Jacobson, Stockholm, and Stig Yngve Ek, Vallingby, Sweden, assignors to Wegematic Corporation, New York, N.Y., a corporation of Delaware
Application Mar. 22, 1967, Ser. No. 625,269, which is a continuation of application Ser. No. 377,278, June 23, 1964. Divided and this application Jan. 18, 1968, Ser. No. 698,750
29 Claims. (Cl. 102—38)



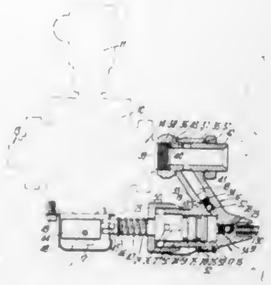
The reduction of the erosion caused in gun barrels of relatively large caliber by associating an additive with the propellant charge. The additive is a finely divided, powdery, metal-containing inorganic substance capable of producing a temperature and erosion resistant layer on the inside of the gun barrel while the hot propellant gases flow therethrough without causing a material rise in the temperature of the gases. The additive is employed in an amount sufficient to produce the temperature and erosion resistant layer over the entire length of that portion of the gun barrel which is subject to erosion.

3,403,626
WEAR REDUCTION ADDITIVES
David Esriel Jacobson, Stockholm, and Stig Yngve Ek, Vallingby, Sweden, assignors to Wegematic Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Application Mar. 22, 1967, Ser. No. 625,269, which is a continuation of application Ser. No. 377,278, June 23, 1964. Divided and this application Jan. 18, 1968, Ser. No. 698,964
29 Claims. (Cl. 102—38)



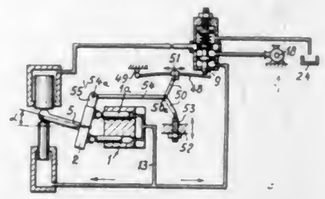
The reduction of the erosion caused in gun barrels of relatively large caliber by associating an additive with the propellant charge. The additive is a finely divided, powdery, metal-containing inorganic substance capable of producing a temperature and erosion resistant layer on the inside of the gun barrel while the hot propellant gases flow therethrough without causing a material rise in the temperature of the gases. The additive is employed in an amount sufficient to produce the temperature and erosion resistant layer over the entire length of that portion of the gun barrel which is subject to erosion.

3,403,627
INJECTORS FOR FLUID PUMPS
Alan Grimshaw, Blackheath, near Birmingham, England, assignor to Lawrence Edwards & Co. (Engineers) Ltd., Kidderminster, England, a British company
Filed Dec. 29, 1966, Ser. No. 605,712
Claims priority, application Great Britain, Apr. 20, 1966, 17,198/66
7 Claims. (Cl. 103—6)



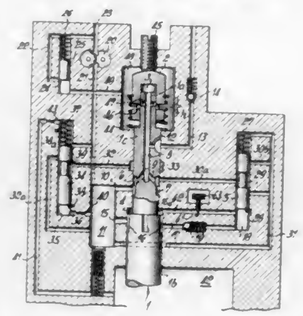
An injector for use in combination with a fluid pump having a rotary drive shaft provided with a cam and an outlet port disposed radially relative to the drive shaft. The injector is mounted on the pump body by means of an adaptor member engaged with the outlet port of the pump. The injector includes a piston reciprocable by means of the cam so as to inject fluid into the fluid leaving the outlet port of the fluid pump.

3,403,628
HYDRAULIC CONTROL APPARATUS
Gerhard Bobst, Oensingen, Switzerland, assignor to Von Roll AG., Gerlafingen, Switzerland, a corporation of Switzerland
Filed Aug. 22, 1966, Ser. No. 574,240
Claims priority, application Switzerland, Aug. 27, 1965, 12,088/65
9 Claims. (Cl. 103—38)



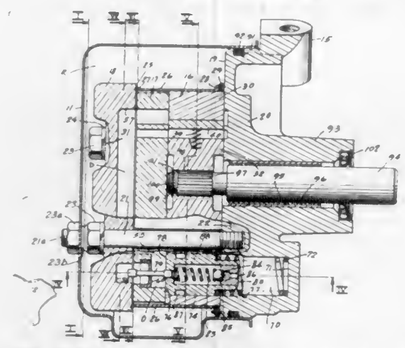
A hydraulic control apparatus, particularly for stroke adjustable reciprocating pump means. The hydraulic control apparatus comprises a regulating means which includes a measuring component and an adjusting means operably influenced by the regulating means. The operating pressure of the hydraulic system is continuously applied to both the adjusting means and the measuring component included within the regulating means. Further means, comprising spring members acting in opposite directions upon the measuring component are provided for applying a restoring force to the measuring component which opposes the operating pressure of the system. The adjusting means includes a movable member which serves to change the magnitude of the restoring force as a function of the position of the movable member.

3,403,629
FUEL INJECTION PUMP FOR INTERNAL COMBUSTION ENGINES
Franz Eheim and Gerald Höfer, Stuttgart, Germany, assignors to Robert Bosch GmbH, Stuttgart, Germany, a company of Germany
Filed June 27, 1967, Ser. No. 649,280
Claims priority, application France, July 19, 1966, 69,949
10 Claims. (Cl. 103—41)



A fuel injection pump for internal combustion engines provided with (1) a fuel pressure operated shuttle-type bypass means for decreasing the quantity of fuel delivered for injection beyond a predetermined (full load) r.p.m. of the engine; (2) a pump piston operated additional bypass means for controlling the quantity of fuel up to said predetermined r.p.m., said bypass means operating independently of and prior to said fuel pressure operated bypass means up to said predetermined r.p.m., and said fuel pressure operated bypass means is operative prior to the operation of said bypass means beyond said predetermined r.p.m.

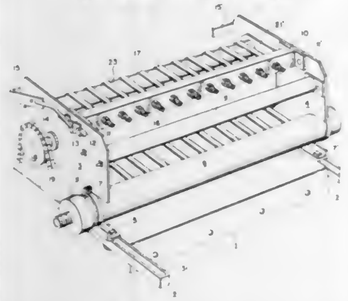
3,403,630
POWER STEERING PUMP
Hubert M. Clark and Gilbert H. Drutchas, Birmingham, and George A. Berman, Detroit, Mich., assignors to TRW, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Dec. 22, 1966, Ser. No. 603,808
12 Claims. (Cl. 103—42)



This invention relates generally to pumps of the so-called slipper-type utilizing peripherally notched rotor carrying slippers which are free to move radially and rock angularly in following the cylinder wall of a pumping chamber and more specifically to a multiple pumping element pump wherein slipper engagement with the cylinder wall is provided by the slippers between the working chambers of the pump, thereby eliminating the necessity of a tangent seal between the rotor and the pump body. The pump is further characterized by a pressure-loaded stackup of parts wherein the strain on the components of

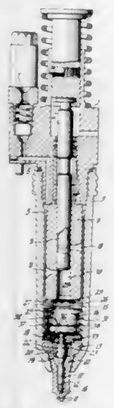
the stackup of parts is relieved by axially extending retainer bolts. The end cap of the stackup has a crossover passage affording a balanced pump arrangement.

3,403,631
FLOW METERING AND DIVIDING DEVICE
Lawrence N. Tangeman, Beatrice, Nebr., assignor to Dempster Industries, Inc., Beatrice, Nebr., a corporation of Nebraska
Filed Mar. 28, 1967, Ser. No. 626,620
10 Claims. (Cl. 103—149)



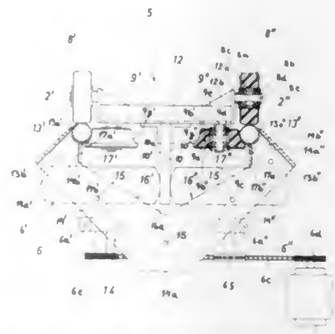
A rotary compress type liquid meter wherein moving rollers meter liquid flow through resilient hoses which are tensioned around the rollers to be closed by the moving rollers. Several hoses extend from an inlet manifold so that liquid from the manifold is divided among and metered through the hoses, which are specially configured in cross-section so as to be easily closed. An outlet manifold member is adjustable by an over-center lever or equivalent mechanism to tension the hoses, and is adjustable relative to the over-center lever to compensate for permanent hose stretch. The manifolds and hoses are easily removable and replaceable as an assembly.

3,403,632
EXTERNAL SPRING NEEDLE VALVE FUEL INJECTOR
Kenneth L. Hulsing, Plymouth, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 3, 1967, Ser. No. 620,310
4 Claims. (Cl. 103—154)



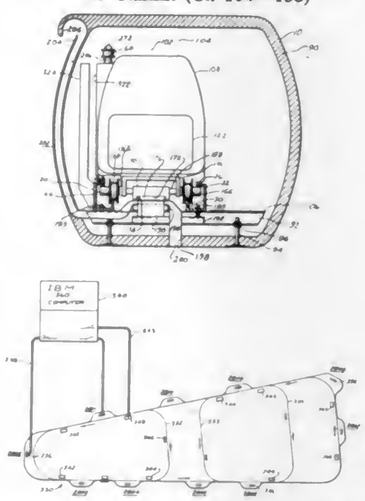
A unit type fuel-injector pump having a needle-type injection valve openable oppositely of the direction of fuel flow and biased closed by a spring surrounding the spacer block in which the valve is slidably guided, the spring force being transmitted to the valve by a cross pin extending through a transverse slot in the spacer block.

3,403,633
AMUSEMENT RIDE
Anton Schwarzkopf, Munsterhausen, Germany
Filed Feb. 11, 1966, Ser. No. 526,776
Claims priority, application Germany, Feb. 12, 1965, Sch 36,523
10 Claims. (Cl. 104—68)



A roundabout-type amusement ride having an endless track with steeply banked, sharply inclined curved portion formed by a pair of tubular rails and a vehicle structure whose length is less than that of the path and comprises a plurality of cars connected together by universal joints and driven by pinch-type rollers beneath the rails which frictionally engage a depending bore; the cars comprise springs running along the rails and seat portions (carrying the passengers) which can tilt about a longitudinal edge of the frame under the control of a motor-driven spindle or fluid-operated tilt mechanism.

3,403,634
AUTOMATICALLY CONTROLLED RAILWAY PASSENGER VEHICLE SYSTEM
Wyly Kenneth Crowder, Pontiac, Mich., assignor, by mesne assignments, to Docutel, Inc., Dallas County, Tex., a corporation of Delaware
Filed July 22, 1964, Ser. No. 384,444
16 Claims. (Cl. 104—138)

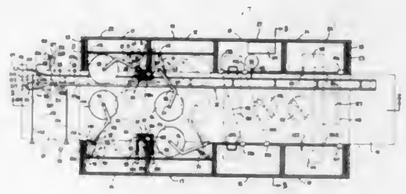


An automatic transportation system having vehicles remotely controlled for effecting vehicular traffic between stations.

The system involves a closed main loop arrangement with the vehicles travelling at a substantially uniform speed. At intervals, the vehicles are automatically switched to and from preselected stations located on spur loops, such that traffic on the main loop is undisturbed.

The method of propulsion of the vehicles is controlled and substantially located exteriorly of the vehicles per se.

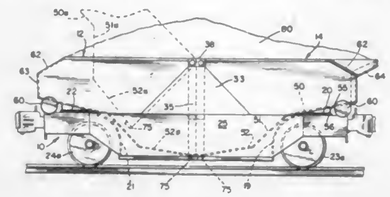
3,403,635
AUTOMATIC CAR WASHING APPARATUS
Earl Dallas Smith, Scottsdale, Ariz., assignor to Southern Pacific Land Company, a corporation of California
Original application Apr. 12, 1965, Ser. No. 447,150, now Patent No. 3,332,098. Divided and this application Feb. 24, 1967, Ser. No. 641,071
2 Claims. (Cl. 104—172)

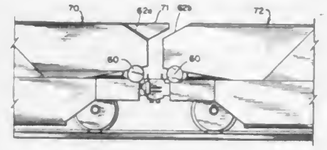


A vehicle wheel engaging conveyor including an elongated channel with upstanding side rails and wheel side guides at upper margins thereof, and a conveyor chain extending the length of said channel from drive sprockets in a box at one end to idler pulleys in a box at the other end of the channel. A vehicle wheel support table extending the length of the conveyor and spaced from the side rails to accommodate the chains, with support rollers moving on the table and pusher rollers between the support rollers for engaging wheels. An elongated support table extension at the adjustable end of the conveyor and movable with the idler assembly for chain tension adjustment, and having hinged cover means at each side with lead-in-guide rails on each cover, and a center plate between the covers and at the end of the extension and slidable along the covers and idler box, along with the extension, to provide a continuous wheel-supporting surface from a point in front of the cover box to the main portion of the conveyor table.

3,403,636
INTERNALLY TILTING DUMPING MINE CAR
James S. Andrew, Westminster, Colo., assignor to The C. S. Card Iron Works Co., Denver, Colo., a corporation of Colorado
Filed Jan. 3, 1967, Ser. No. 606,993
9 Claims. (Cl. 105—3)

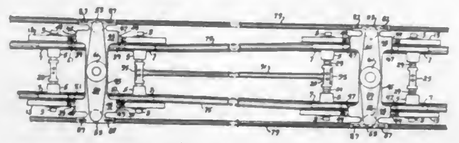
A mine car is a split hopper, bottom dump car arranged for use with a camelback dumping station. The car has a peripheral, boxed-in frame, utilizing the opening within the frame for dumping the load carried by the car. The frame is shielded so that the load dumped from the hopper is directed through the opening in the frame and prevents material from hanging up on the car frame, car wheels, the tracks, etc. The halves of the split hopper of the mine car are hinged together at their inner tops and open longitudinally of the car, to produce a hopper having a positive, gravity actuated closing and locking action in either a loaded or unloaded condition. The hopper halves open sequentially on a camelback, reducing amount of load lifted and reducing engine effort for opening the bottom dump car body. The car is provided with a removable lip which can be applied to either end of the car to





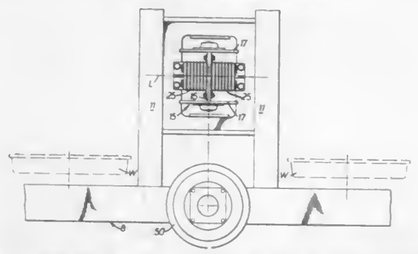
produce a train of cars for continuous loading, regardless of direction of motion of the train of cars.

3,403,637
VARIABLE GAUGE RAILWAY TRUCK
Richard L. Lich, Pasadena Hills, Mo., assignor to General Steel Industries, Inc., Granite City, Ill., a corporation of Delaware
Filed Mar. 23, 1967, Ser. No. 625,498
28 Claims. (Cl. 105—178)



A railway vehicle truck having side frame and wheel assemblies movable transversely of the truck with respect to each other and lockable in different positions transversely of the truck whereby to vary the wheel gauge, and stationary means for locking and unlocking said assemblies and moving them transversely to conform to changes in the track gauge.

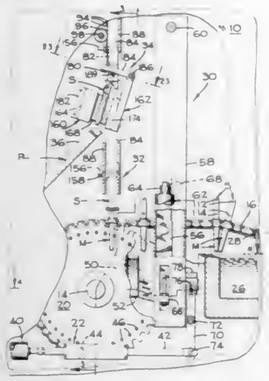
3,403,638
RAILWAY VEHICLE SUSPENSION
Archie John Hirst, Leicester, England, assignor to Metalastik Limited, Leicester, England, a British company
Filed Dec. 31, 1964, Ser. No. 422,701
Claims priority, application Great Britain, Jan. 3, 1964, 363/64
9 Claims. (Cl. 105—199)



A bolsterless bogie construction for a railway vehicle has side bearer assemblies which accommodate pivoting of the bogie with respect to the vehicle body and a central,

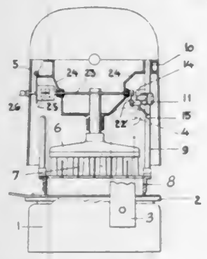
rubber spring device for transmitting the longitudinal traction and braking forces between the body and the bogie in compression in the rubber. The rubber spring device is pre-compressed longitudinally so as to have very small, zero or negative stability vertically and may be used to modify both the vertical and the horizontal, transverse spring characteristics of the side bearer assemblies.

3,403,639
FRANGIBLE FROZEN SLAB HANDLING
Katsuji Hirahara, San Jose, and Gerald R. Anderson, Campbell, Calif., assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Dec. 15, 1966, Ser. No. 601,926
17 Claims. (Cl. 107—4)



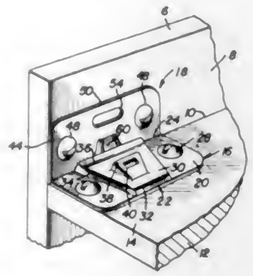
Blocks of frozen food products are prepared. A conveyor indexes molds containing composite slabs of frozen material and divider strips past a slab handling station. The molds are thawed by a flying thaw tank, and the divider strips are gripped by a carrier, which is raised to extract the slabs from the molds. The slabs are brought up to breaker mechanism which frees the blocks of frozen product from the divider strips, whereupon the bare divider strips are reinserted into the molds.

3,403,640
DOUGH DIVIDING OR BATCHING MACHINE
Herbert Schroder, Angerstrasse, Staffelstein, Upper Franconia, Germany
Filed June 3, 1965, Ser. No. 461,118
Claims priority, application Germany, June 22, 1964, Sch 335,358
13 Claims. (Cl. 107—68)



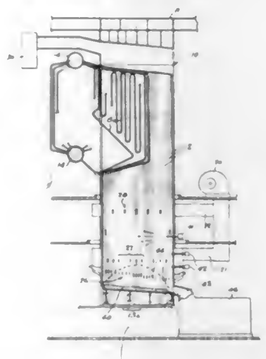
A dough dividing or batching machine in which a bracket or carrier tiltable relative to a dough support is provided with suitable tools including a dough enveloping ring. The tools are adapted to be operated by a driving system. The dough enveloping ring is lowered to the dough support by a manual lever having associated therewith a switching cam entrained by the ring and displaceable thereby axially of the ring into at least two positions relative to a switching means of a switching device incorporated in the driving system. When the switching cam is lowered by the ring into one of its positions relative to the switching means it functions in an activating manner while in its other position, it extends beside the switching means.

3,403,641
BRACKETS FOR ASSEMBLING KNOCKDOWN CABINETS
Harold L. Baker, Wayne County, Mich., assignor of one-third to Richard J. Smith, Farmington, Mich., and one-third to Edwin J. Lukas, Dearborn, Mich.
Continuation-in-part of application Ser. No. 522,732, Jan. 24, 1966. This application Nov. 24, 1967, Ser. No. 691,095
20 Claims. (Cl. 108—152)



A bracket assembly for facilitating the rapid assembly of panels, shelves and the like in which one bracket portion snaps into locking engagement with another, with, preferably, the two portions being self biased apart to a locked position.

3,403,642
EMERGENCY SHUTDOWN OPERATION OF RECOVERY BOILERS
Alvin Parkin, R.R. 2, Campbell River, British Columbia, Canada
Filed Apr. 9, 1965, Ser. No. 446,937
Claims priority, application Canada, Aug. 7, 1964, 908,954
6 Claims. (Cl. 110—7)

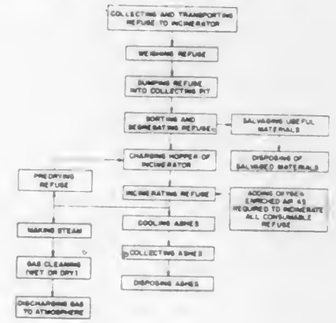


1. In the operation of a recovery boiler of the type employed in the sulphate pulp process, normal operation of said boiler comprising forming a burning char bed in a vertically extending closure having air admission ports, including a draft flowing upwardly in said enclosure to

draw gases out of an upper part thereof and feeding black liquor onto said char bed to maintain the same at an elevated temperature; a method of effecting emergency shut-down including performing substantially simultaneously the steps of:

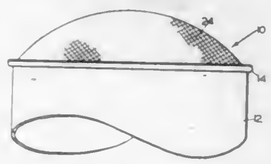
(a) elevating the temperature of substantially the whole of the surface of said char bed to a temperature substantially above said elevated temperature,
(b) halting feeding of the black liquor to allow the char bed to be consumed without replacement,
(c) maintaining an oxygen-enriched atmosphere in the vicinity of said char bed to encourage the full combustion thereof and to discourage liberation of combustible gases, and
(d) maintaining said upwardly flowing draft.

3,403,643
METHOD AND APPARATUS FOR INCINERATING COMBUSTIBLE REFUSE, RUBBISH AND MISCELLANEOUS WASTE ORGANIC MATERIAL
Fred Denig, Brielle, N.J. (% Koppers Company, Inc., 440 College Park Drive, Monroeville, Pa. 15146)
Filed Apr. 14, 1967, Ser. No. 630,948
6 Claims. (Cl. 110—10)



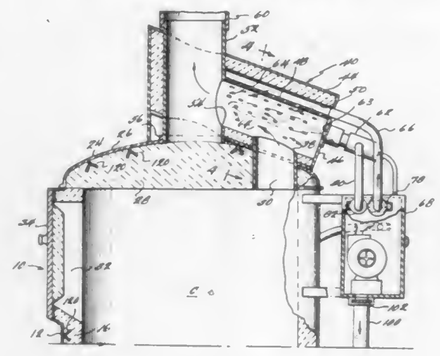
An arrangement for the efficient disposal of refuse etc. includes an incinerator plant, an oxygen generating plant and an energy recovery plant. The incinerator plant disposes of refuse etc. With oxygen-enriched air of preselected oxygen composition to consume malodorous gases and to insure complete combustion of the refuse etc. An associated oxygen generating plant provides the necessary oxygen of the desired purity. The resulting high flame temperature and small volume of gases resulting from the use of oxygen-enriched air is put to useful work in an energy recovery plant.

3,403,644
COVER FOR TRASH BURNERS
Charles T. Heitz, 9333 NE. 47th Ave., Portland, Oreg. 97228
Filed Nov. 22, 1966, Ser. No. 596,226
3 Claims. (Cl. 110—18)



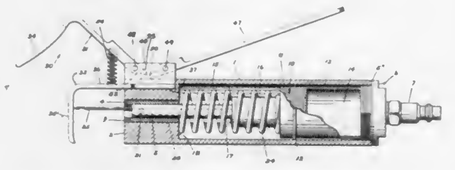
A trash burner cover has an outer ring which is adapted to seat on the top edge of a trash burner and which supports a wire mesh in the central portion thereof. The ring has an inturned flange which supports the wire mesh. Such wire mesh is dome-shaped to make it structurally strong as well as stable under temperature changes, and is held in such dome shape by outward bearing engagement around its periphery with the ring. The wire mesh initially is cut to a larger diameter than that portion of the ring against which it bears whereby to assume such dome shape when installed and to be maintained in such configuration.

3,403,645
INCINERATOR
George H. Flowers, Jr., Richmond, Va., assignor to Waste Combustion Corporation, Richmond, Va., a corporation of Virginia
Filed Jan. 31, 1967, Ser. No. 613,006
17 Claims. (Cl. 110—18)



An incinerator capable of burning in large volume of all types of rubbish and waste material with the exhaust gases from the main combustion zone being further subjected to another burning zone thus insuring complete combustion of any combustible products remaining in the exhaust gases thereby reducing air pollution to a minimum. The incinerator utilizes forced air to assist combustion in the main and secondary combustion zones as well as pressure burners for each zone with selective control for the air and/or burners.

3,403,646
PIERCING DEVICE
Maurice Goldman, Sharon, Mass., assignor to Morse Shoe, Inc., Canton, Mass., a corporation of Delaware
Filed Oct. 11, 1965, Ser. No. 494,834
10 Claims. (Cl. 112—104)



1. A piercing and tagging device comprising,
a cylinder having apertures at each end,
a piston positioned within said cylinder for reciprocation longitudinally thereof,
means for reciprocating said piston within said cylinder,
a piercing implement,
means securing said piercing implement to said piston for movement longitudinal of said cylinder,

clamp means secured relative to said cylinder including a pair of tongues, and

means for actuating said clamp means into a clamping position with said tongues longitudinally aligned with said piercing implement comprising means pivotally supporting one of said tongues for movement from a position angular with respect to the other tongue into said longitudinally aligned position, and an actuating means extending longitudinally of said cylinder for actuating said one tongue.

3,403,647

SEWING NEEDLE PARTICULARLY ADAPTED FOR SEWING WITH THREADS OF SYNTHETIC FIBERS

Petr Supitar, Valasske Klobouky, Czechoslovakia, assignor to IGLA, Narodni Podnik, Ceske Budejovice, a corporation of Czechoslovakia

Filed Nov. 7, 1966, Ser. No. 592,465
Claims priority, application Czechoslovakia, Dec. 13, 1965, 7,486/65
6 Claims. (Cl. 112—222)



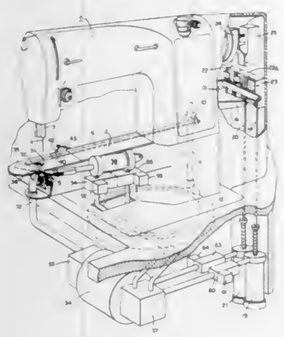
A sewing needle of novel configuration and shape, having an eye portion which has an overall cross-sectional dimension that exceeds the nominal diameter of the needle by at least 0.08 mm., while the portion of the needle above the needle eye is thinner than the nominal diameter of the needle.

3,403,648

ATTACHMENT FOR SEWING MACHINE

Kenneth L. Jarrett, R.D. 1, Mertztown, Pa. 19539

Filed Sept. 22, 1966, Ser. No. 581,354
6 Claims. (Cl. 112—130)



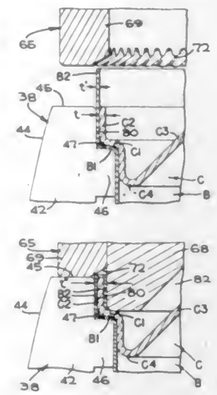
Means for conventional bar tacking sewing machines to provide for the fabric and tail to be inserted under the needle and clamp and in doing so for the tail to be automatically folded under the fabric and the portion of the tail not tacked held so that it can be cut off right after the tacking operation.

3,403,649

METHOD OF SEAMING METALLIC CONTAINERS

Joseph A. Geiger, Vienna, Austria, and Jean Pierre Schneebeli, Santa Clara, Calif., assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware

Original application Nov. 29, 1963, Ser. No. 326,816, now Patent No. 3,299,845, dated Jan. 24, 1967. Divided and this application Apr. 15, 1966, Ser. No. 560,915
8 Claims. (Cl. 113—121)



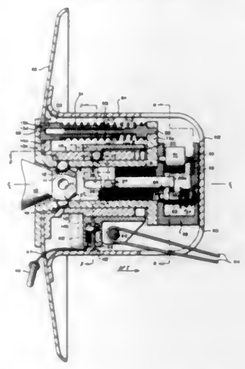
A metallic closing cover is seamed to the open end of a metallic container body by placing peripheral segments of the cover and body in parallel contiguous relationship, stressing the peripheral segments to radially deform one and thereby place the other in an elastically stressed condition about the deformed peripheral segment, and releasing the peripheral segments whereby the deformed segment holds the other segment in an elastically stressed condition to effect a metal-to-metal seal.

3,403,650

RELEASE MECHANISM

Walter L. Black, Upper Falls, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Jan. 13, 1967, Ser. No. 609,724
10 Claims. (Cl. 114—20)



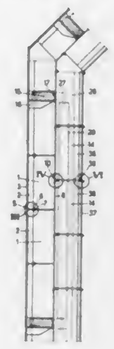
A mechanism for releasing an air-launched torpedo from its parachute upon water entry. After air-launching, a sustained minimum parachute load followed by relief releases a secondary ball detent device thereby unlocking the release mechanism. A subsequent force such as occurs upon water entry or by parachute drag in the water releases a primary ball detent device permitting complete disengagement from the torpedo. The minimum parachute load to be sustained before the mechanism will unlock is selectable for either fixed or rotary wing aircraft launching.

3,403,651

INTEGRAL TANK FOR TRANSPORTING LIQUEFIED GAS

Auguste Gilles, Paris, France, assignor to Societe a Responsabilite Limittee dite: Gaz-Transport, Paris, France

Filed Feb. 14, 1966, Ser. No. 527,263
Claims priority, application France, Mar. 5, 1965, 8,149
10 Claims. (Cl. 114—74)



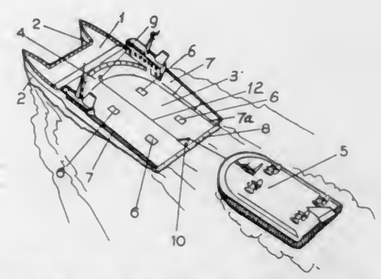
A ship for carrying liquefied gases having inner and outer insulating containers between the hull of the ship and the tank. An elongated channel is carried by the containers and an elongated flange is continuously welded to an inner casing and having a hooked edge slidably mounted in the channel.

3,403,652

HOVERSHIP

Derek James Hardy, Cowes, Isle of Wight, England, assignor to Westland Aircraft Limited, Yeovil, England

Filed Sept. 7, 1966, Ser. No. 577,732
Claims priority, application Great Britain, Sept. 24, 1965, 40,884/65
2 Claims. (Cl. 114—43.5)



A composite vessel includes at least two portions, one of the portions comprising a powered displacement vessel having at least two hulls spaced apart and joined together by structure, part of the structure forming a docking area, and the other portion comprising an air cushion vehicle adapted to be housed within the docking area and separable from the powered displacement portion when desired. The upper after surfaces of the hulls and the upper after surface of the joining structure cooperate to form a substantially flat deck which is boundaried, at least in part, by side and rear peripheral walls extending above the deck. The side and rear peripheral walls are hingedly attached to the vessel to allow outward and downward pivotal movement thereof during launching and recovery of the air cushion vehicle, and wedge shaped guidance members located on the inner surfaces of the side walls for progressively restricting lateral movement of the air cushion vehicle as the vertical distance between the base of the air cushion vehicle and the deck decreases when the air cushion vehicle is settling onto the deck during recovery operations.

3,403,653

SAILS

Harold Bush, 9750 Knolson, Livonia, Mich. 48150

Filed Feb. 15, 1967, Ser. No. 616,327
6 Claims. (Cl. 114—103)



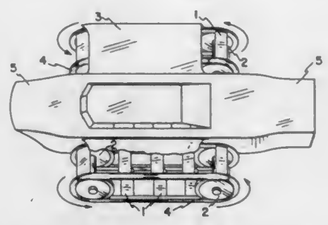
A sail assembly formed of a series of elongated, rigid, panel sections arranged one above the other and each supported for rotation about a horizontal axis. Each panel has an arcuate, longitudinal profile defining a concave and convex side. Suitable lines provide means for rotating the panel sections simultaneously about their axis to control the propulsive force produced by the panels and the available wind force. A series of smaller panels are linked to the luff edge of each panel and selectively spaced from the convex sides thereof to define a nozzle assembly. The nozzle assembly is arranged to deflect air from the windward concave side of the panels to provide air streams for increasing the negative pressure on the convex side of the panels.

3,403,654

WATERCRAFT PROPULSION

Wayne Wilson, 1158B Westminster Ave., Salt Lake City, Utah 84105

Filed Dec. 30, 1965, Ser. No. 518,970
13 Claims. (Cl. 115—1)



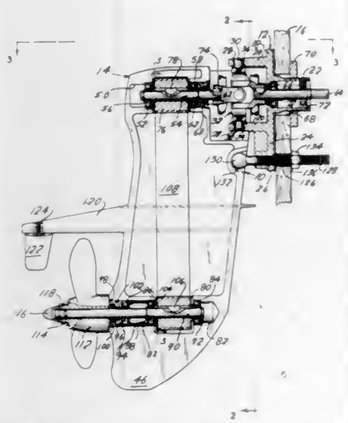
A water propulsion system with endless driven track structure having a plurality of automatically adjustable hydrofoils such that the craft will be displaced along the surface of the water on the moving hydrofoils. An auxil-

iary drag unit may be attached to the craft and set in motion by the impingement of the water for the purpose of providing a supplemental source of energy. Extended wheel hubs, integral with the driving mechanism of the track, are adapted to receive ground-engaging wheels to facilitate land travel, thereby making the present craft amphibious.

3,403,655
INBOARD-OUTBOARD STERN DRIVE

John W. Warburton, Bothell, Wash., assignor to Stern-Drive Corporation, Kirkland, Wash., a corporation of Washington

Filed Jan. 25, 1965, Ser. No. 427,856
1 Claim. (Cl. 115—41)

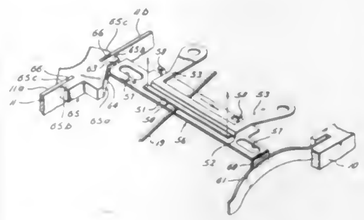


1. In an inboard-outboard drive for a boat having a transom provided with first, second and third apertures, said third aperture being disposed below and in vertical alignment with said first aperture and said first and third apertures being spaced horizontally from said second aperture; a housing mounted on said transom and having a through opening aligned with said first aperture; a drive unit disposed outboard of said boat, said unit including an input shaft mounted adjacent an upper part of said drive unit, a propeller shaft mounted adjacent a lower part of said drive unit and drive chain means to transfer driving power from said input shaft to said propeller shaft; means connecting said drive unit adjacent the upper part thereof to said housing to permit relative movement therebetween; a source of power for said drive unit mounted within said boat; a drive means passing from said source of power through said first aperture and housing opening; means to drivingly connect the outboard end of said drive means to said drive unit input shaft and permit relative movement therebetween; steering means to pivot said drive unit horizontally with respect to said housing, said steering means being operable from within said boat and projecting outwardly through said second aperture; means connecting the outboard end of said steering means to said drive unit; tilt control means to pivot said drive unit vertically with respect to said housing, said tilt control means being operable from within said boat and including an adjustable screw shaft projecting through said third aperture; and last means for operably connecting the outboard end of said screw-shaft to said drive unit, said last means including a ball member carried on the outboard end of said screw shaft and a ball receiving socket disposed on said drive unit intermediate the upper and lower parts thereof, said last means permitting operably connected relative movement between said screw shaft and said drive unit when said drive unit is pivoted horizontally by said steering means and permitting said drive unit to be operably disconnected from said screw shaft upon independent vertical pivoting movement thereof away from said screw shaft.

3,403,656
POINTER LOCKING MECHANISMS FOR EXPOSURE METERS AND THE LIKE

Austin W. Barry, Fanwood, and Richard P. Schake, Livingston, N.J., assignors to Weston Instruments, Inc., a corporation of Texas

Original application Apr. 11, 1961, Ser. No. 102,267, now Patent No. 3,170,023. Divided and this application Oct. 28, 1964, Ser. No. 407,261
1 Claim. (Cl. 116—129)



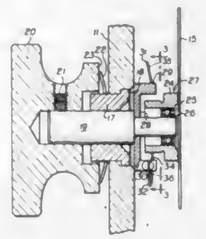
1. A meter including a housing, an indicator and an instrument movement mounted in said housing and coupled to said indicator, said movement being responsive to a measured parameter for causing corresponding movement of said indicator, first and second members mounted in spaced-apart relationship for receiving therebetween a portion of said indicator, the first member mounted for movement in the general direction of movement of said indicator to respective first and second positions and the second member mounted for movement into and out of restraining engagement with said indicator, and means coupling said first and second members for driving said second member from restraining engagement with said indicator when said first member is moved to the second position, wherein the improvement comprises: a device mounted for slidable movement on said housing in directions transverse to the direction of movement of said indicator and having portions thereof which project interiorly and exteriorly of said housing, a cam lobe formed on the interior portion of said device for driving said first member from said first to said second position when said device is moved a given distance in one directon, said cam lobe retaining said first member in said second position until said device is moved a given distance in a direction opposite said one direction, said cam lobe comprising two step surfaces lying in planes substantially perpendicular to the directions of movement of said first member and a ramp surface joining said two step surfaces and lying in a plane inclined in said direction opposite said one direction of device movement.

3,403,657
POINTER ASSEMBLY

Roy W. Howitt, Brentwood, N.Y., assignor to Computer Instruments Corporation, Hempstead, N.Y., a corporation of New York

Filed Sept. 8, 1966, Ser. No. 577,900
4 Claims. (Cl. 116—129)

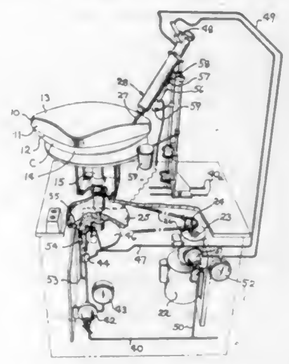
1. A pointer assembly of the type which travels with a gauge pointer and indicates the maximum travel thereof, said assembly comprising: a dial crystal having an exterior and an interior face, an aperture in said crystal, a bushing secured in said aperture, a shaft journaled in said bushing and projecting from both sides of said crystal, drive means provided on the end of said shaft which projects from the exterior face of said crystal for enabling manual rotation thereof, means coupled between said crystal and said shaft for applying a force to said shaft resisting rotation thereof relative to said crystal, a pointer, an anti-friction bearing assembly mounted on the opposite end of said shaft from said drive means and supporting said pointer for rotation about said shaft, said bearing assembly having a radially outer element disposed for rotation about a radially inner element, and spring means fixedly mounted on said shaft and frictionally engaging said outer element of the bearing assembly at diametrically opposed points, said spring means being arranged to bear radially inwardly upon said outer element to resist rotation of said pointer relative to said shaft.



3,403,658
APPARATUS FOR APPLYING BONDING MATERIAL BETWEEN IMPLOSION BAND AND GLASS FOR CATHODE RAY TUBES

Daniel A. Damm, Toledo, and Daryl E. Powell, Maumee, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio

Filed Dec. 27, 1965, Ser. No. 516,506
9 Claims. (Cl. 118—6)

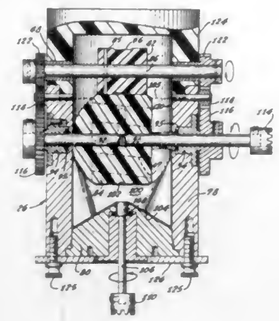


The apparatus disclosed herein comprises a table for supporting the cathode ray bulb with the area of juncture of the bulb and the implosion band extending upwardly and means for rotating the table. A dispensing nozzle is supported for relatively free horizontal and vertical swinging movement adjacent and above the face of the bulb when it is on the table so that the tip of the nozzle contacts and follows the area of juncture of the implosion band and bulb. Means are provided for controlling the delivery of resin through the nozzle in a manner such that initially resin is delivered through the nozzle, after a predetermined interval the table is rotated, the delivery of the resin and rotation of the table is continued until the table has made substantially one revolution, the dispensing of the resin from the nozzle is thereafter interrupted and the rotation of the table is finally interrupted.

3,403,659
WIRE COATING APPARATUS

Sheridan S. Cannaday, Pasadena, Calif., assignor, by mesne assignments, to Physical Sciences Corporation, a corporation of California

Original application Aug. 1, 1960, Ser. No. 46,576, now Patent No. 3,257,245. Divided and this application Apr. 19, 1963, Ser. No. 277,975
5 Claims. (Cl. 118—249)

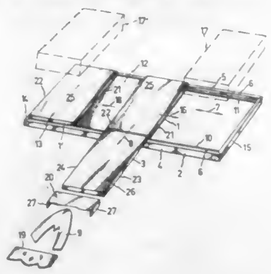


Coating means including a trough associated with a pair of horizontally disposed rolls through the nip of which a wire to be coated travels; the bottom roller being apertured therethrough and having radially extending ribs at the opposite ends thereof for agitating purposes; and an agitating blade member, rotatable about a vertical axis and vertically arranged to substantially conform to the free space, in vertical cross-section, between the contiguous trough walls and the lower half section of the bottom roll.

3,403,660
DEVICE FOR PROCESSING ARTICLES OF NON-MAGNETIC MATERIAL

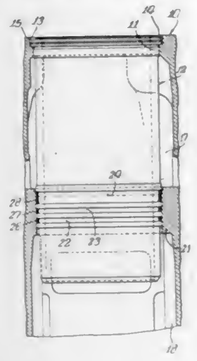
Guy H. V. Delepiere, 28 Chaussee de Boitsfort, Ixelles, Belgium, and Paul P. Blavier, 142 Rue Bemel, Woluwe-St. Pierre, Belgium

Filed May 25, 1967, Ser. No. 641,375
Claims priority, application Belgium, Apr. 21, 1967, 697,364
8 Claims. (Cl. 118—503)



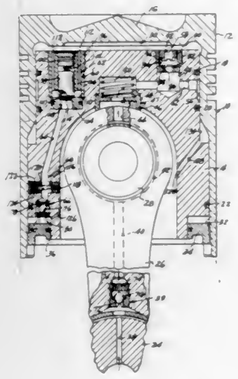
Device for processing articles of non-magnetic material available in sheet form comprising at least two supports provided with an element establishing a magnetic field, these two supports being made integral and movable with reference to a frame onto which is secured a table adapted to selectively cooperate with one of the supports. Means being provided arrest each of the supports in a position facing the table. In operation, the article of non-magnetic material is laid out on the table and covered with a component of magnetic material, the article and the component being, after processing, slid down from a support to a table.

3,403,661
ENGINE CYLINDER BLOCK AND LINER SEAL CONSTRUCTION
Donald E. Valentine, Columbus, and Glenn W. St. Clair, Bartholomew County, Ind., assignors to Cummins Engine Company, Inc., Columbus, Ind., a corporation of Indiana
Filed July 27, 1966, Ser. No. 568,305
8 Claims. (Cl. 123—41.84)



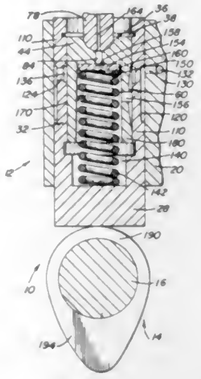
A liner seal for an internal combustion engine having a block and one or more cylinder liners mounted in the block. Each liner is positioned in a bore formed in the block, one end being secured to the block and the other end being relatively unsupported. Adjacent the unsupported end of the liner, a resilient, annular axially elongated seal is compressed between the liner and the block to form a liquid seal and to damp vibrations of the liner. Compression on the seal is greatest along a line intermediate its ends and compression decreases gradually in both directions from the line.

3,403,662
VARIABLE COMPRESSION RATIO PISTON ASSEMBLY
Edward F. Blackburne, Roseville, Mich., assignor to Continental Aviation and Engineering Corporation, Detroit, Mich., a corporation of Michigan
Filed July 20, 1967, Ser. No. 654,803
10 Claims. (Cl. 123—78)



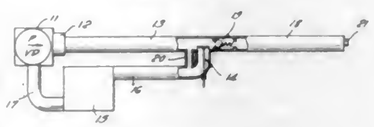
A two-part variable compression ratio piston is provided with an upper and a lower variable volume chamber adapted to contain an incompressible fluid such as oil from the lubrication system of the engine and being interconnected to automatically regulate the compression ratio of the engine to maintain a predetermined maximum combustion chamber pressure by moving one of the parts relative to the other.

3,403,663
VARIABLE VALVE TIMING MECHANISM
Frank A. Wagner, 1431 W. Catalpa, Chicago, Ill. 60640
Continuation-in-part of application Ser. No. 625,890, Feb. 9, 1967. This application Dec. 4, 1967, Ser. No. 687,574
23 Claims. (Cl. 123—90)



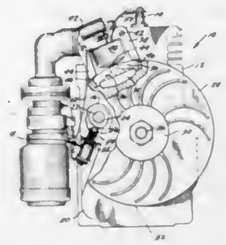
Hydraulic double lifter variable valve timing assembly for regulating the opening and closing of intake and exhaust valves of internal combustion engines, the assembly including a pair of fluid-coupled hydraulic lifters disposed coaxially for relative reciprocal telescoping movement in response to a lobe cam bearing against and controlling movement of one of said lifters, the degree of fluid coupling between the two lifters and, thus, the timing of and extent of lifting by the lifters being a function of engine speed to provide optimum valve operation at any given engine speed.

3,403,664
FUEL INJECTION SYSTEM
Max Berchtold, Kuesnacht, and Hans Peter Lenz, Zurich, Switzerland, assignors to Motor-Patent AG., Zug, Switzerland
Filed July 12, 1966, Ser. No. 564,629
Claims priority, application Switzerland, July 14, 1965, 9,862/65
25 Claims. (Cl. 123—139)



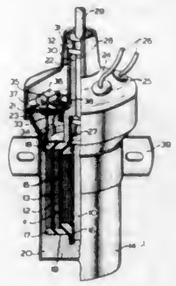
A fuel injection system in which a stream of fuel, circulated by a pump through a supply conduit and a return conduit, is intermittently braked by a first valve arranged at the junction of the supply conduit and the return conduit and intermittently moved between an open inactive position and a braking position to thus create a pressure wave in the supply conduit, and in which a check valve arranged adjacent the first valve in a fuel line connected at one end downstream of the junction to the supply conduit opens during creation of the pressure wave to permit the latter to pass through the fuel line and cause injection of fuel through an injection nozzle at the other end thereof, whereby the arrangement of the check valve prevents a pressure wave reflected at the injection nozzle to pass into the system.

3,403,665
IGNITION SYSTEM FOR INTERNAL COMBUSTION ENGINE AND BREAKER POINT MECHANISM THEREFOR
Russell E. Phelon, Longmeadow, Mass., assignor to R. E. Phelon Company, Inc., East Longmeadow, Mass., a corporation of Massachusetts
Filed Apr. 18, 1966, Ser. No. 543,354
13 Claims. (Cl. 123—148)



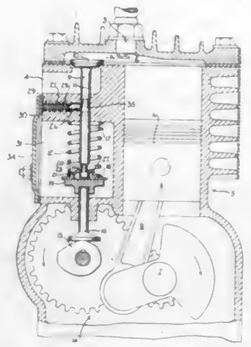
An internal combustion engine has an ignition system which includes a spark plug and a capsulized breaker point mechanism threadably received by the engine housing for controlling the occurrence of a spark plug at the plug. A follower extends from the mechanism and engages a rotary cam on the engine within the engine housing to operate the mechanism in response to rotation of the cam. The mechanism is threadably adjustable relative to the housing to move the follower generally toward and away from the cam whereby the occurrence of the spark may be altered relative to the angular position of the cam.

3,403,666
IGNITION SYSTEMS WITH IGNITION COILS FOR INTERNAL COMBUSTION ENGINES
Gerhard Soehner, Geradstetten, and Diedrich Steinberg, Stuttgart, Germany, assignors to Robert Bosch, GmbH, Stuttgart, Germany
Filed May 31, 1966, Ser. No. 553,745
Claims priority, application Germany, June 10, 1965, B 82,336
8 Claims. (Cl. 123—148)



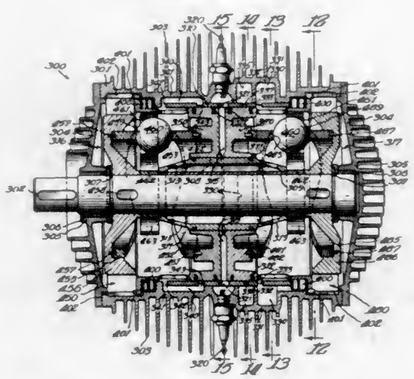
In an ignition system for internal combustion engines in which a diode in series with a damping winding is arranged to short-circuit the latter when the interrupter which connects the primary winding with the source of DC current moves from its open to its closed position to thereby dampen during such movement the voltage impulse induced in the secondary winding so that production of faulty ignition sparks in the spark plug is prevented.

3,403,667
COMPRESSION RELIEF FOR INTERNAL COMBUSTION ENGINES
John D. Santi, West Allis, Wis., assignor to Briggs & Stratton Corporation, Milwaukee, Wis., a corporation of Wisconsin
Continuation-in-part of application Ser. No. 607,257, Jan. 4, 1967. This application June 26, 1967, Ser. No. 648,721
31 Claims. (Cl. 123—182)



An orifice for relief of combustion chamber pressure during the compression stroke is controlled by a pressure responsive valve (which can be the intake valve) that tends to remain off its seat during the compression stroke but can be seated when the rate of escape of gas from the combustion chamber attains a critical value. Said critical value varies during the compression stroke, being substantially constant through the portion of the compression stroke in which the piston accelerates relative to the crankshaft and thereafter diminishing more rapidly than the piston decelerates relative to the crankshaft, so that escape of gas from the combustion chamber is controlled in such a manner that energy required for compression never exceeds kinetic energy available therefor. The valve is always seated before ignition occurs, but can be sucked off its seat during an unfired power stroke.

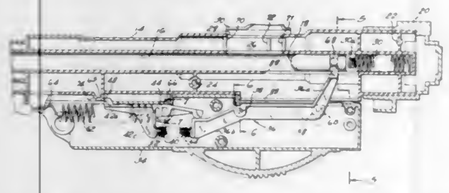
3,403,668
FLUID TRANSDUCER
Henry Schottler, 8008 Country Club Lane, North Riverside, Ill. 60546
Filed Apr. 4, 1966, Ser. No. 540,003
19 Claims. (Cl. 123—197)



A fluid transducer including a reciprocatory piston member in a cylinder; a rotary power member; a drive

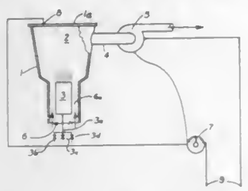
mechanism including a cam joined to a piston member and a cam joined to a rotary power member. Each cam has an opposed cam surface projecting toward the other cam. Rolling means is in frictional engagement with the opposed cam surfaces. Means are provided for permitting the rolling means to orbit between the opposed cam surfaces while rolling along each of the opposed cam surfaces as the piston member reciprocates with respect to the rotary power member.

3,403,669
TOY CANNON WITH BARREL RECOIL MECHANISM
Dorland L. Crosman, Glen Ridge, N.J., assignor, by mesne assignments, to De Luxe Topper Corporation, Elizabeth, N.J., a corporation of Delaware
Filed Aug. 11, 1966, Ser. No. 571,843
12 Claims. (Cl. 124—29)



1. A toy cannon comprising a gun barrel slidably mounted on a base support, expandable means in said gun barrel for ejecting a bullet-like object therefrom, biasing means operatively connecting said gun barrel to said base support, and an actuating means operative to effect actuation of said expandable means and said biasing means thereby to provide ejection of the bullet-like object from the gun barrel as the latter is slid rearwardly on the base support by the biasing means to simulate a recoiling action.

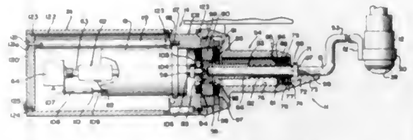
3,403,670
LIQUID FIRED COOKING APPARATUS
Paul A. Mutchler, University City, St. Louis, Mo., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Mar. 2, 1967, Ser. No. 620,001
7 Claims. (Cl. 126—44)



A cooking apparatus including a heat source adapted to burn liquid fuel where the temperature of the cooking surface is maintained within selected limits by regulating the quantity of ambient air mixed with the products of combustion emitted from the heat source.

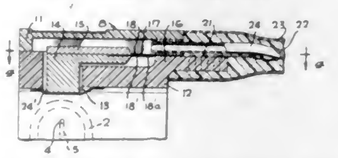
3,403,671
ULTRASONIC TRANSDUCER SYSTEM
John J. Flaherty, Elk Grove Village, and Peter J. Rosauer, Mount Prospect, Ill., assignors to Magnaflux Corporation, Chicago, Ill., a corporation of Delaware
Filed Oct. 24, 1965, Ser. No. 504,346
16 Claims. (Cl. 128—2)

Ultrasonic transducer system in which a direct mechanical coupling is provided between the rotor of an electric motor and an ultrasonic transducer with the rotor axis and the transducer axis being generally transverse to each other and with the motor being reversed at certain angular positions to effect oscillation of the transducer. The direct mechanical coupling preferably includes an elongated shaft which is preferably offset to facilitate placing the transducer in engagement with



a desired surface portion of a body. Adjustment means are provided, preferably in the form of adjustable resistors connected in circuit with potentiometers connected to the rotor, for adjusting the angular spacing between limit positions and for adjusting the positions of both limit positions without changing the spacing therebetween.

3,403,672
PERIARTERIAL BLOOD FLOW AND BLOOD PRESSURE MEASURING DEVICES
Gerald R. Curtis, La Canada, Calif., assignor to Statham Instruments, Inc., Los Angeles, Calif., a corporation of California
Filed Feb. 23, 1965, Ser. No. 434,513
4 Claims. (Cl. 128—2.05)



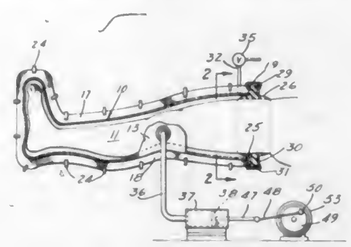
A lumen including an elongated tubular wall member with a slot throughout the complete length is disposed in surrounding relationship to a blood vessel, the blood flow and pressure of which it is desired to measure. Flow rate sensors are disposed within the body wall of the member in sensing relation to the blood vessel. A plug is fittingly received within the slot with an inner surface including a diaphgram contacting the blood vessel. Pressure changes of the blood vessel distend the diaphragm and an associated lever body carrying a set of strain gage sensors. The diaphragm and flow rate sensors are disposed at the same portion of the blood vessel as the flow rate sensors whereby flow rate and pressure are determined at the same point. External electrical apparatus is connected to the flow rate sensors and strain gages for interpreting and/or display.

3,403,673
MEANS AND METHOD FOR STIMULATING ARTERIAL AND VENOUS BLOOD FLOW
Norman A. MacLeod, La Habra, Calif., assignor of thirty-six percent to R. Welton Whann and ten percent to Frank F. Reed, both of Los Angeles, Calif.
Filed July 14, 1965, Ser. No. 471,926
17 Claims. (Cl. 128—40)

Apparatus for and method of improving blood circulation including in one embodiment a rigid longitudinally split casing shaped generally to conform to a part of a human body or other animal, and having a seal between the casing sections and between an end of the casing and a body part extending through the end into a sealed chamber formed by the casing, the casing having a valved fluid connection by which the chamber around the body part can be filled with a fluid, such chamber also having a connection with a pump of the piston-cylinder type in which the piston has a one-way adjustable spring loaded

valve to enable applying positive-negative pressure impulses to the fluid in the chamber.

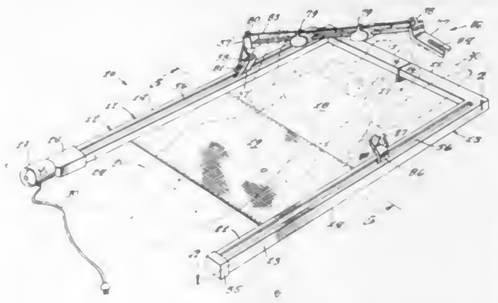
In another embodiment there is provided an inner longitudinally split casing of elastic material arranged to snugly fit the body part and coact with the sections of the casing so that the casing may be opened to enable placement of the body part therein, the inner casing coacting with the



outer casing to form a sealed space or chamber surrounding the body part for receiving a liquid or gas to which pressure impulses are applied by the pump.

In certain treatments, the apparatus and method utilize in combination therewith a one-way check valve in an artery for permitting normal flow therein, but preventing reverse flow.

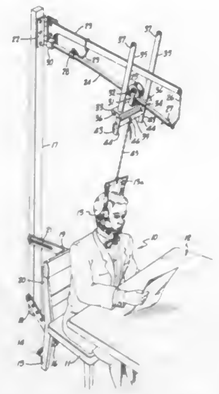
3,403,674
MASSAGING APPARATUS WITH SIMULATED HANDS
Constantin Alimanestiano, 905 Winona St., Chicago, Ill. 60640
Filed May 10, 1965, Ser. No. 454,411
3 Claims. (Cl. 128—61)



A massaging device for massaging the human body wherein the user is supported on or within a framework which has a massaging unit mounted over the user and which can be actuated by the user to automatically traverse the user's body longitudinally while simultaneously massaging the body with a pair of simulated human hands.

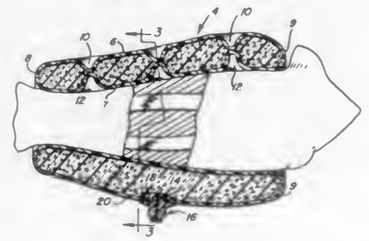
3,403,675
UNIVERSAL DYNAMIC TRACTION CARRIAGE
John W. Carr, 168 Cronin Drive, Santa Clara, Calif. 95051
Filed Nov. 16, 1964, Ser. No. 411,644
13 Claims. (Cl. 128—75)

A compound low inertia, low friction carriage; calibrated spring traction device mounted to the frame of a wheeled sub-carriage which tracks along an elastically controlled vertically deflectable monorail; all components and component functions cooperate to meet the dynamic requirements of an active seated or bedded patient. When the carriage is operatively mounted with respect to a chair



the patient may carry out the usual tasks of a normal seated worker and thereby be productive while in traction.

3,403,676
PLASTIC FOAM SPLINT
De Lamar J. Gibbons, P.O. Box 35, Lewiston, Utah 84320
Filed Nov. 12, 1965, Ser. No. 507,399
5 Claims. (Cl. 128—87)



A sleeve of thin pliant clear plastic film whose inner and outer concentric walls have their respective ends united and sealed. The hollow chamber is charged with premixed plastic foam (equal portions of Arothane 8740A and Arothane 8774B) and is transformed into a fracture bridging and restoring cast or splint. It provides the required tensile strength, modulus of elasticity, good molding and self-shaping properties. The walls are pliable but joined by end-to-end teat-like indentations which limit overexpansion of the over-all sleeve and provide restraining stability and uniform retention of the plastic shape-giving and maintaining form.

3,403,677
COMBINED FLUID SUPPLY APPARATUS AND SURGICAL DRAPE SUPPORT
Clemens A. Struve, 5211 Ocean Drive, Corpus Christi, Tex. 78412
Filed Oct. 22, 1965, Ser. No. 502,245
2 Claims. (Cl. 128—205)

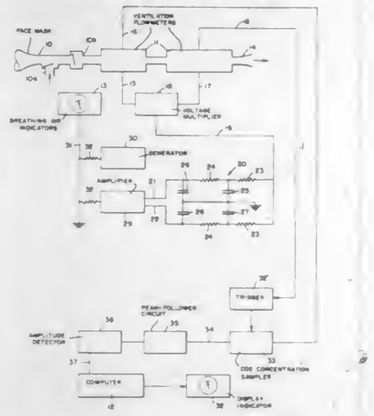
The fluid supply apparatus and surgical drape support is formed from a single, unitary tube which extends from beneath an impervious drape across the face of a patient to a source of air or other fluid. The portion of this single tube above the patient's face is formed with openings to provide fluid to the nose and mouth of the patient while permitting an impervious drape to be maintained in close

contact with the sides of the head. Additionally, the lower end of the single tube is shaped to a form which is in-



serted beneath the patient support to permit the tube to operate as a support for the drape above the patient's face.

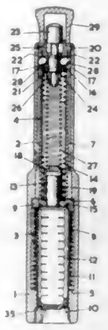
3,403,678
WHOLE BODY PERFUSION TIME MONITOR AND METHOD
Victor W. Bolie, Tustin, Calif., assignor to Iowa State University Research Foundation, Inc., Ames, Iowa, a corporation of Iowa
Filed Nov. 4, 1964, Ser. No. 408,952
4 Claims. (Cl. 128—2.07)



An apparatus and method for obtaining the internal perfusion time constant for blood circulation. The subject's expired gas is collected and the CO_2 concentration and flow rate is measured. Indicator means observable by the subject is connected to the CO_2 measuring means so that the subject can vary his CO_2 elimination rate in a cyclic fashion. The CO_2 measuring means is also connected to a computer which conveys information to a visual time constant display indicator.

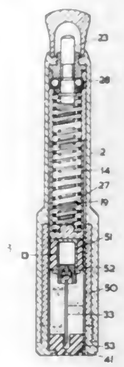
3,403,679
HYPODERMIC INJECTION APPARATUS WITH A SECONDARY CAPSULE-COLLAPSING MEANS
Kenneth Sinclair, Winterslow, and Cyril Daniel Watson, Idmiston, England, assignors to The Secretary of State For Defence in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England
Filed Dec. 10, 1965, Ser. No. 512,884
Claims priority, application Great Britain, Dec. 11, 1964, 50,617/64
6 Claims. (Cl. 128—218)

A hypodermic syringe includes a syringe casing, a liquid-containing sealed collapsible capsule housed in the casing, and a main spring which, when released, partially compresses the capsule. A needle within the capsule punctures the forward end of the capsule and injects liquid



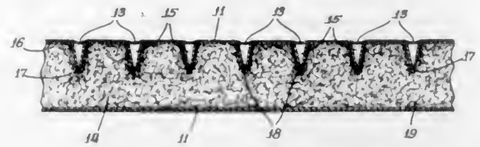
into the body of the user. A secondary spring between the casing and the capsule urges the front end of the capsule in a rearward direction against the action of the main spring until the collapse of the capsule is completed.

3,403,680
HYPODERMIC INJECTION APPARATUS
Kenneth Sinclair, Winterslow, and Cyril Daniel Watson, Idmiston, England, assignors to The Secretary of State for Defence in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England
Continuation-in-part of application Ser. No. 512,884, Dec. 10, 1965. This application June 13, 1966, Ser. No. 557,219
Claims priority, application Great Britain, Dec. 11, 1964, 50,617/64
10 Claims. (Cl. 128—218)



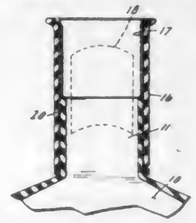
A hypodermic syringe comprises a releasable main spring and a liquid-containing chamber with a puncturable forward end and a non-collapsible rear end portion. The rear end has a tubular well which opens into the chamber, with a deformable plunger located in the entrance to the well. The main spring drives the rear end, the deformable plunger and a hypodermic needle which is accommodated in the deformable plunger, into the flesh of the user. If the needle encounters resistance during its forward travel, the deformable plunger is displaced rearwardly into the tubular well so that the injection of the dose is completed.

3,403,681
SANITARY NAPKIN
Raymond M. Hoey and Donald Patience, Barrington, Ill., assignors to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Filed Sept. 23, 1965, Ser. No. 489,612
6 Claims. (Cl. 128—290)



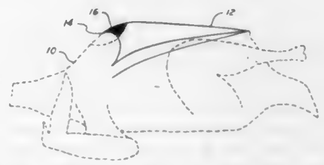
The "fluff" absorptive core of a sanitary napkin is provided with lined channels leading from the top surface thereof into and terminating in the body of the core. A fluid conducting sheet covering the top surface follows at least a major part of the way into the channels and serves as a channel liner. The core contains regions of different fluff densities.

3,403,682
INCONTINENCE DEVICES
Timothy H. McDonell, 611 Ivy Circle, Waukesha, Wis. 53186
Filed Dec. 22, 1965, Ser. No. 515,788
3 Claims. (Cl. 128—295)



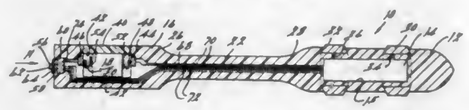
A male incontinence sheath is provided which is generally tubular in form and is made of thin, elastic and flexible rubber-like material, said sheath having a tapered lower end portion terminating in a nozzle adapted to have a drain tube separably secured thereto, and said sheath including a highly elastic neck member having a non-irritant adhesive coating on the inner surface thereof, said neck member having finger gripping means thereon to facilitate the installation and removal of said sheath.

3,403,683
METHOD OF PREVENTING BREAST BLISTERS IN POULTRY
Carl H. Koonz, Downers Grove, Eldon J. Strandine, Chicago, and Edward Eagle, Evanston, Ill., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois
Filed Feb. 11, 1966, Ser. No. 526,830
7 Claims. (Cl. 128—303.14)



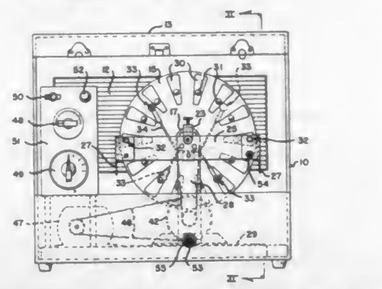
1. A method of inhibiting breast blisters in poultry comprising: removing the anterior tip of the ventral edge of the keel bone of live poultry less than about two weeks of age.

3,403,684
ELECTRICAL STIMULATOR
Ariel I. Stiebel, 17540 Stoepel Ave., and Seymour A. Lippmann, 16859 Griggs Ave., both of Detroit, Mich. 48221
Filed Nov. 23, 1964, Ser. No. 413,039
12 Claims. (Cl. 128—407)



An electrical stimulator for supplying electrical stimulating pulses to preselected areas of a living body which is formed of an elongated body having a bulbous portion at one end and a generally flat portion at the end interconnected by a generally narrow rod-like portion. The flat portion is adapted to position a plurality of electrodes formed on the bulbous end within a cavity in the living body. Also, the flat portion may contain a source of electrical energy and a means for controlling the operation of the device. The bulbous end contains a pulse timing circuit for controlling pulses of energy from the source of electrical energy to the plurality of electrodes.

3,403,685
ELECTRON IMPULSE APPLICATOR AND METHOD OF USING ELECTRON IMPULSE APPLICATOR
Robert F. Cromley, 5900 Hampton St., Pittsburgh, Pa. 15206
Filed Apr. 8, 1964, Ser. No. 358,238
4 Claims. (Cl. 128—419)



1. An electrostatic machine for therapeutic treatment comprising a pair of spaced dielectric discs rotatably mounted on anti-friction bearings on a common shaft, support means for said shaft, drive means for rotating said discs in opposite directions at selected speeds, a plurality of conducting carriers fixed to and spaced about one surface of each said disc, said conducting carriers each having a raised contact portion, and two pairs of collector brushes adapted intermittently to make electrical contact with the raised contactor portions of the conducting carriers of each of said discs, at least one pair of which are provided with a non-corrosive coating and an electrode means connected to each pair of brushes.

3,403,686
FLAVORANT INCORPORATION IN SMOKING TOBACCO
Keith Douglas Kilburn, Bassett, Southampton, and Harry Frederick David Dymond, Hedge End, Southampton, England, assignors to Brown and Williamson Tobacco Corporation, Louisville, Ky., a corporation of Delaware
No Drawing. Filed Sept. 17, 1965, Ser. No. 488,246
12 Claims. (Cl. 131—17)

An improved smoking tobacco containing a substantially involatile propenyl ketone or carboxylic ester,

formed by reacting a carboxylic acid and a beta-keto-alcohol, as flavor improving agents.

3,403,687
METHOD OF HANDLING AND PROTECTING HARVESTED TOBACCO LEAVES FROM RADIOISOTOPE CONTAMINATION
Wilhelm Kahane, 20 W. 72nd St., New York, N.Y. 10023, and Magdalena Efros and Norbert Efros, New York, N.Y. (both of 597 Beech St., Haworth, N.J. 07641)
No Drawing. Filed Jan. 10, 1966, Ser. No. 519,409
2 Claims. (Cl. 131—140)

The method of preventing the contamination of tobacco by radioisotopes by packing and maintaining tobacco leaves in air-tight sealed containers, preferably made of plastic film bags, during the operations of transportation and storage of said leaves. The packing is done before treating, between phases of that treating, and after completion of the treating and from harvest of the tobacco leaves until their actual use in the manufacture of the following smoking articles: cigarettes, cigars and pipe tobacco.

3,403,688
TREATING OF TOBACCO LEAVES
Wilhelm Kahane, 20 W. 72nd St., New York, N.Y. 10023, and Magdalena Efros and Norbert Efros, New York, N.Y. (both of 597 Beech St., Haworth, N.J. 07641)
No Drawing. Filed Feb. 18, 1966, Ser. No. 528,403
15 Claims. (Cl. 131—140)

In processes for treating tobacco, where the gaseous atmosphere around the leaves is recirculated, the fresh air is deradonized before its admission into the gaseous system of the process, by eliminating from it substantial parts of its radon and of the products of the decay thereof, the active deposit.

In curing processes that use smoke in contact with the tobacco leaves, that elimination is performed also on the combustion air before its admission into the smoke-generating furnaces.

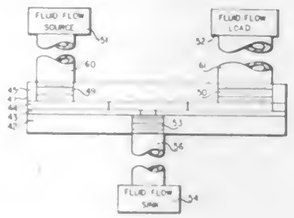
3,403,689
PAPER FILTER OF SELECTIVE REMOVAL OF A CIGARETTE SMOKE VAPOR
Bobby J. Sublett and Cephas Hiram Sloan, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 425,920, Jan. 15, 1965. This application June 7, 1965, Ser. No. 462,050
3 Claims. (Cl. 131—265)

A paper adapted for use in tobacco smoke filter elements capable of removing a substantial amount of hydrogen cyanide from tobacco smoke, the filter element containing deposited substantially uniformly throughout said paper a water soluble inorganic weak basic salt selected from the group of salts consisting of sodium phosphite, potasium phosphite and lithium phosphite.

3,403,690
FILTERS FOR TOBACCO SMOKE
Henry George Horsewell and Thomas William Charles Tolman, Southampton, England, assignors to Brown and Williamson Tobacco Corporation, Louisville, Ky., a corporation of Delaware
No Drawing. Filed Mar. 7, 1967, Ser. No. 621,130
6 Claims. (Cl. 131—267)

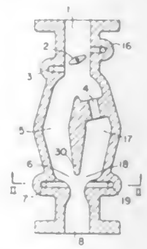
A tobacco smoke filter having an aliphatic organo-zinc salt added to a tobacco-smoke filtering material. The zinc salt may preferably be zinc acetate, zinc acetyl-acetonate, zinc isobutyrate, or zinc trimethylacetate.

3,403,691
VORTEX VENT FOR FLUID AMPLIFIERS
William Frederick Hayes, Genevieve, Quebec, Baruir Ashiklan, Pierrefonds, Quebec, and Clyde Chi Kai Kwok, Montreal, Quebec, Canada, assignors to Aviation Electric Limited, St. Laurent, Manitoba, Canada
Filed Nov. 19, 1964, Ser. No. 412,478
Claims priority, application Canada, Oct. 2, 1964, 913,077
2 Claims. (Cl. 137—81.5)



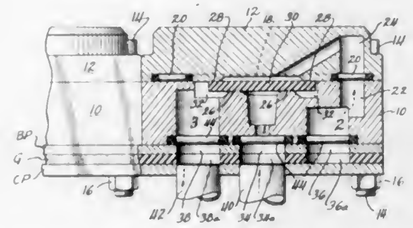
1. In a pure fluid control device the combination of:
(a) a fluid inlet jet;
(b) a control jet;
(c) a jet interaction region into which the fluid inlet jet and the control jet are arranged to discharge;
(d) an outlet passage arranged to receive fluid discharged from the fluid inlet jet which has passed through the jet interaction region;
(e) a circular vortex chamber disposed for the most part to one side of the outlet passage but having part of its periphery extending into that passage;
(f) a cusp formed by the intersection of the vortex chamber and the outlet passage; and
(g) a centrally disposed fluid outlet vent from the vortex chamber, the axis of this outlet vent lying laterally to one side of the outlet passage.

3,403,692
REGULATOR
Akira Shiiki, Tokyo, Japan, assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed June 30, 1965, Ser. No. 468,204
Claims priority, application Japan, June 30, 1964, 39/37,186
4 Claims. (Cl. 137—81.5)



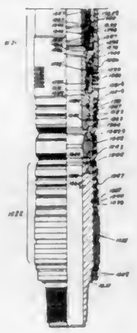
A regulator for retaining a flow or flow pressure at a predetermined value having an inlet and outlet and a pair of main channels therebetween. A restriction is located within one of the main channels, and the outlet is provided with supply inlets which communicate with pressure chambers on opposite sides of a diaphragm. The diaphragm responds to pressure changes in the outlet for closing one of two gates and removing atmospheric pressure from one of two inlet portions on opposite sides of the two main channels. Through this arrangement the flow or flow pressure is directed into either the restricted or unrestricted main channel for decreasing or increasing the flow or flow pressure to provide regulation thereof at a predetermined value.

3,403,693
OR VALVE FOR FLUID LOGIC CIRCUITS
Karl A. Brandenberg, Hayward, Calif., assignor to The Aro Corporation, Bryan, Ohio, a corporation of Delaware
Filed Dec. 13, 1965, Ser. No. 513,215
7 Claims. (Cl. 137—112)



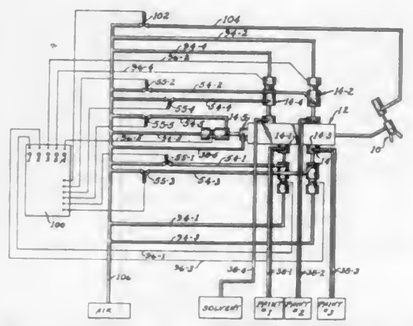
An OR valve unit for fluid logic circuits comprising a block-like valve body having a pair of inlets and an outlet at a face thereof adapted to be mounted on a fluid circuit board, the valve mechanism within the valve body being related to such face for maximum compactness. A resilient valve disc is arranged in the plane of the face and enclosed in the valve body between opposite valve seats which are centered with respect to one of the inlets, the other of the inlets communicating by means of a passageway past the periphery of the valve disc with the seat on the opposite side of the valve disc and the outlet communicating directly with the edge of the valve disc.

3,403,694
GAS LIFT VALVE
Norman F. Brown, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware
Continuation-in-part of application Ser. No. 556,594, June 10, 1966. This application July 8, 1966, Ser. No. 563,815
22 Claims. (Cl. 137—155)



1. A well tool comprising: body means having a central bore therethrough and lateral port means communicating with said bore; valve seat means supported in said body means; valve means movably supported in said body means and adapted to coact with said seat means for controlling fluid flow into said central bore from said port means, pressure responsive means connected between said body means and said valve means for movably supporting said valve means within said body means, said valve means including self-adjusting spacer means for aligning a valve seat engaging face member of said valve means relative to said valve seat means, said spacer means including a flowable core portion and a covering whereby said spacer means is deformable to adjust the position of said valve seat engaging face member to obtain optimum engaging relationship between said face member and said valve seat means, said core comprising a low melting point metal and said covering comprises rubber wrapped about said core while said core is maintained below its melting point and said spacer is then subjected to heat and pressure, thereby binding said rubber together forming an impermeable flexible covering around said core.

3,403,695
SPRAY PAINTING APPARATUS WITH SEPARATE SOLVENT MATERIAL CLEANING MEANS
Blake Hopkins, Chicago, Ill., assignor to Binks Manufacturing Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 503,017
10 Claims. (Cl. 137—240)



Apparatus for supplying any one of a plurality of differently colored paints or the like to an automotive production line or a comparable industrial installation is hereby improved by providing for efficient, effective and high speed flushing of the supply system between color changes, even though the color change must be made in a fraction of a second; the apparatus comprising a manifold having a common bore, an outlet at one end of the common bore, a plurality of valve controlled supply ports along the length of the common bore, a solvent port and a gas port adjacent the end of the common bore opposite the outlet, and means operative upon each change of supply from a first fluid to a second fluid for sequentially closing the supply valve of the first fluid, momentarily opening the solvent valve, momentarily opening the gas valve and then opening the supply valve of the second fluid.

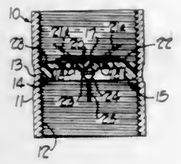
3,403,696
SILENT CHECK-VALVE
George Pynchon, 54 Northfield Ave., Northfield, Ohio 44067
Filed Oct. 20, 1966, Ser. No. 588,180
2 Claims. (Cl. 137—516.13)

1. A silent check-valve adapted to control fluid flow in a pipe line, comprising in combination:
(a) a hollow cylindrical body, having a threaded bore therethrough, adapted to be inserted in a pipe line;
(b) a rigid, non-vibratile, plastic disc having a threaded peripheral edge, threadedly mounted in the body bore intermediate the ends thereof;

the disc having parallel lower and upper faces defining a valve seat having a central valve stem bore surrounded by a plurality of spaced fluid passages;

(c) the body wall being circumferentially displaced inwardly, at the disc, to effect plastic flow of the threaded disc edge, and lock the disc against rotation and create a fluid-tight seal between the disc and the body bore wall; and,

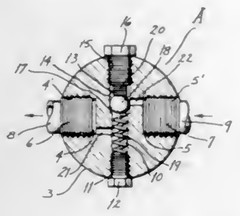
(d) a unitary valve-head, fabricated from inherently resilient, non-vibratile, plastic material, having a circular cap tapered to a circumferential feathered edge, and a dependent mounting stem having a frusto-conical retaining button at the lower end thereof terminating, at its apex, in an elongated tail;



(e) the valve-head being mounted on the disc, with its stem nested in the disc center bore and its cap and button seated against the upper and lower faces, respectively, of the disc;

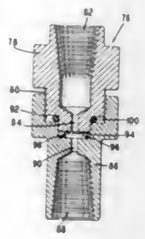
(f) the valve-head cap being free to flip, responsive to fluid pressure in the pipe line, between a first position, wherein it is seated against the upper disc face, whereat it covers all the fluid passages to block fluid flow, and a second position, wherein its periphery is flexed away from the upper disc face, clear of the passageways, to allow free flow of fluid therethrough.

3,403,697
SAFETY VALVE
Frank W. Fenton, Mehlville, Mo., assignor to Beacon Machinery, Inc., Mehlville, Mo., a corporation of Missouri
Filed Sept. 4, 1964, Ser. No. 394,557
3 Claims. (Cl. 137—517)



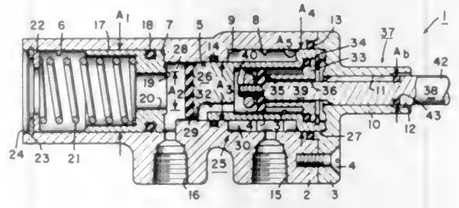
1. For use in a fluid system having a fluid pump and a fluid operated cylinder, a safety valve comprising an integrally formed cylindrical body having opposed circular end faces and an intervening circumferential side face, said body having a bore extending diametrically through said side face, said body further having diametrically opposed axially aligned, outwardly opening first and second recesses extending inwardly in said side face, said first and second recesses being in axially normal relationship to said bore and terminating spacedly therefrom, said first recess being connected to said fluid pump, said second recess being connected to said fluid operated cylinder, said bore being counterbored to provide a valve chamber, a valve seat formed at the inner end of said chamber, a valve disposed in said chamber, said first recess having a first passage connected to said bore below said valve seat, said second recess having a second passage connected to said valve chamber upwardly of said valve seat, the axis of said first passage being parallel to, and downwardly spaced from, the axis of said first recess, the axis of said second passage being parallel to, and upwardly spaced from, the axis of said second recess, means biasing said valve upwardly and away from said seat into open condition for fluid flow between said first and second recesses, there being a normal predetermined fluid line pressure between said fluid pump and said fluid operated cylinder when the latter is in operative position, said valve being urged into closed condition upon said valve seat when said pressure in the system between said fluid cylinder and said fluid pump is increased beyond said normal predetermined line pressure.

3,403,698
MICRO-VALVE
Godfrey H. Klun, Parma, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed Oct. 21, 1965, Ser. No. 499,270
4 Claims. (Cl. 137—614.11)



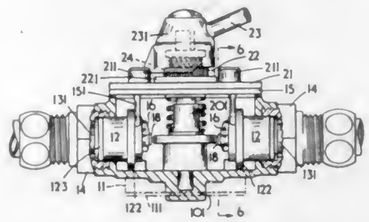
The present invention pertains to a micro-valve capable of extreme throttling that utilizes a spring-like closure disc positioned between two surfaces, one of such surfaces having an inlet and the other of such surfaces having an outlet. Relative motion of the surfaces toward or away from each other compresses or releases the disc to effect fluid flow control.

3,403,699
SUPPLY AND EXHAUST TYPE CONTROL VALVE
Cyril B. Fites, Florissant, Mo., assignor to Wagner Electric Corporation, a corporation of Delaware
Filed Sept. 9, 1965, Ser. No. 486,176
24 Claims. (Cl. 137—627.5)



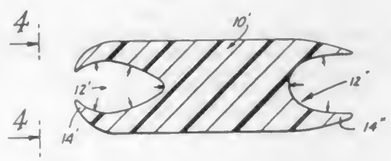
A control valve comprising a pair of application means movable in one direction to effect the application through said control valve of fluid pressure supplied thereto and in another direction to isolate the supplied and applied fluid pressures, and means for following engagement with one of said application means to effect reduction of the applied fluid pressure upon movement of said pair of application means in the other direction.

3,403,700
FLUID MIXING VALVE WITH ADJUSTABLE CAM ACTUATOR
Lionel Charles Meynell, Wolverhampton, England, assignor to Meynell & Sons Limited, Wolverhampton, England, a corporation of the United Kingdom of Great Britain and Northern Ireland
Filed May 9, 1966, Ser. No. 548,551
5 Claims. (Cl. 137—636.1)



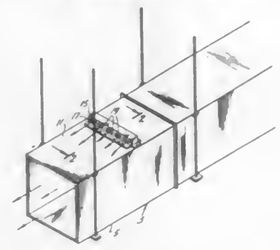
1. A fluid mixing valve incorporating a main housing provided with an inlet for the hot fluid and with an oppositely disposed inlet for the cold fluid and with outlet means for the mixed fluids, separately formed valve housings which are removably mounted in said main housing, valve means for controlling the flow from said inlets, means for ensuring an axial guided movement of the valve means relatively to their respective valve housing, tappets for actuating said valve means, a turnable single profile cam adapted when turned to co-act with said tappets for effecting the progressive opening and closing of the inlet control valve means so that there shall be a proportionate mixing of hot and cold fluids as the cam is turned, means for turning the cam for achieving the said purpose and means for retaining the valve housings within the main housing which make sure that the housings are correctly positioned and retained within the main housing and thereby to ensure that the tappets for actuating the guided valve means will always be presented to the periphery of the cam.

3,403,701
PRESSURE SEALING PIPE LINE PIG
Mary M. Knapp, 1209 Hardy St. 77020, and Harry J. Girard, 1947 W. Gray 77017, both of Houston, Tex.
Filed Dec. 27, 1966, Ser. No. 604,801
5 Claims. (Cl. 137—802)



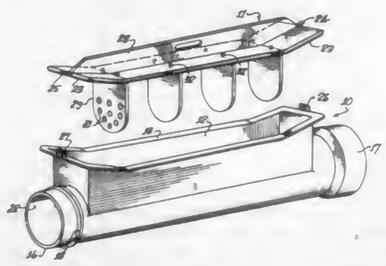
1. In a pipe line swipe adapted to be propelled through a pipe by a pressure gradient an elongated body of cylindrical shape formed of resilient material having a longitudinally outwardly opening end cavity forming a flexible, annular lip portion whose external peripheral surface is positioned to be expanded into sealing engagement with the surrounding internal surface of the pipe by the application of the pressure of fluid in the pipe against the internal surface of the cavity when the swipe is in the pipe, said external peripheral surface of said lip portion being curved radially inwardly longitudinally of said body.

3,403,702
SELF-CLEANING AIR DUCT
Charles Monroe Poole, Piedmont, S.C., assignor to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 16, 1966, Ser. No. 527,888
13 Claims. (Cl. 138—37)



This invention relates to an air duct which prevents the accumulation of dust and lint on the top thereof comprising an enclosed conduit having a top, a portion of said top defining an opening therein; deflecting means positioned in said opening and depending a short distance into said conduit for deflecting a minor portion of air flowing therein into an upward direction through said opening; a hood having suitable apertures therein positioned adjacent said opening on the top of said conduit for restoring the horizontal direction of said air flow outside of said conduit and across the top thereof whereby the constant flow of air along the top and outside of said conduit prevents the accumulation of lint and dust on the top thereof.

3,403,703
ACCESS CHANNEL
August P. Reimann, 12600 Breezewood, Apt. No. 1, La Mirada, Calif. 90638
Filed Oct. 8, 1965, Ser. No. 494,041
1 Claim. (Cl. 138—92)

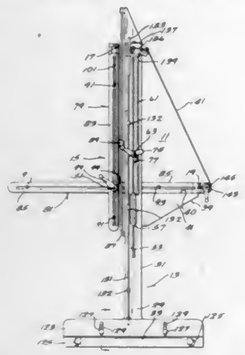


A preformed access channel comprising a hollow channel member with at least two opposite end openings adapted for connecting the channel member into drainage lines, a side opening in the channel member to provide access to the interior thereof, an interior surface in the channel member shaped to facilitate line clean-out operations, and a lid member shaped to substantially cover and close the side opening in the channel member.

3,403,704
ADJUSTABLE LOOM
Dennis C. Rebek, 2134 N. 39th St., Milwaukee, Wis. 53208
Filed Feb. 27, 1967, Ser. No. 618,813
15 Claims. (Cl. 139—34)

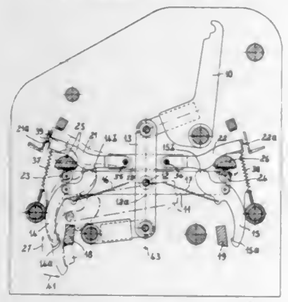
Disclosed herein is a loom having a frame assembly including two cross members mounted for coordinated movement relative to each other along transversely ex-

tending paths such that the distance from one cross member through the path intersection to the other member is generally constant notwithstanding such relative move-



ment. Also disclosed herein is a stand for mounting such a frame assembly in a manner affording vertical height adjustment of the frame assembly.

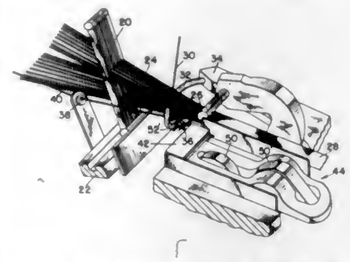
3,403,705
DOBBY FOR LOOMS
Pierre Samson, Paris, France, assignor to Fumat S.A., Lyon, France
Filed July 29, 1966, Ser. No. 568,509
Claims priority, application France, July 29, 1965, 46,271
9 Claims. (Cl. 139—68)



A dobby having two hooks pivotally secured to each end of a balance the middle point of which is operatively connected with a heald frame and two knives operating in alternation once for every two picks, the ends of the said balance being engaged by abutments. Each abutment is supported on a plate pivotably connected to the center of the balance and the abutments are shifted by the plate in alternation away from and back towards the corresponding end of the balance simultaneously with the forward movement of the associated knife, the rearward movement of each abutment causing movement of the corresponding hook into the path of the cooperating knife to make said hook accompany the knife prior to engagement therewith.

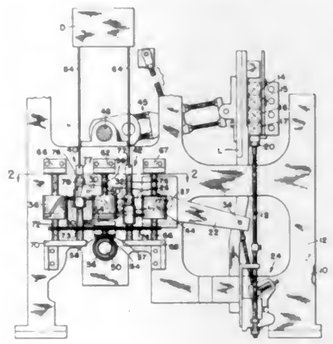
3,403,706
NARROW FABRIC LOOM
John Dewey Shackleton, Jr., South Easton, and Clarence R. Kronoff, Worcester, Mass., assignors to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Sept. 22, 1966, Ser. No. 581,212
10 Claims. (Cl. 139—124)

A simple knitted selvage forming device for a narrow loom, which is capable of forming either a catch-cord or a ravel-proof knitted selvage from fabrics, the invention utilizes the up-and-down motion of the reed to guide



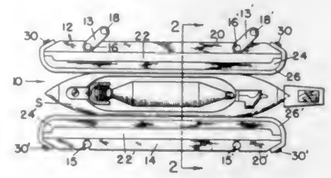
the catch-cord yarn into the path of the selvage forming needle hook.

3,403,707
BOX MOTION
Robert S. Schedin, East Brookfield, Mass., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Filed July 25, 1966, Ser. No. 567,708
9 Claims. (Cl. 139—171)



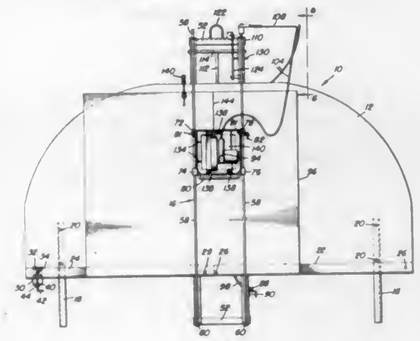
A cam driven box-motion for a loom in which constantly rotating cams are selectively engaged by followers operated from a pattern mechanism. The followers are operatively attached to the shuttle boxes and act to position same when moved by the cams.

3,403,708
SHUTTLE BOX
Gustaf A. Sundquist, Jr., Brookfield, Mass., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Sept. 22, 1966, Ser. No. 581,221
7 Claims. (Cl. 139—183)



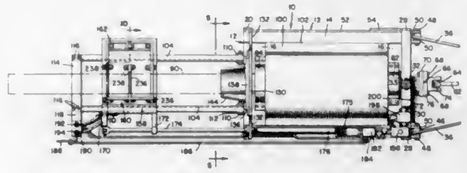
A shuttle box means for checking a shuttle comprising a rigid base, a resilient sponge-like element, an elongated rigid member floatingly supported by the resilient element and a frictional covering member encompassing the rigid member and the resilient means.

3,403,709
PANEL BOARD POWER SAW APPARATUS
Curtis A. Retherford, 307 N. Colorado, and Claude L. Jury, Jr., Star Rte., both of Ulysses, Kans. 67880
Filed Aug. 16, 1965, Ser. No. 479,751
11 Claims. (Cl. 143—47)



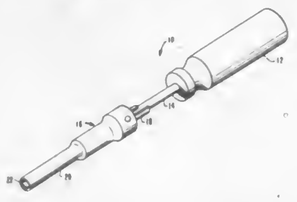
This invention is a panel board sawing apparatus wherein a conventional portable saw may be mounted on a special carriage which is vertically movable on a rectangular frame providing a stand, the stand having a back board secured thereto, the back board having supporting legs at the bottom in a tripod arrangement, the middle leg of which is adjustable to support the stand at any desired adjustment angle, and also has another support in the form of a hook at the top which may be hung on a well so that the saw may be operated with the panel board supported on a ledge at the bottom of the back board in a vertical position. The ledge at the bottom may be adjusted at one end to compensate for any irregularity in the edge of the panel board being sawed, and the saw carriage is provided with a latch for holding it at the top of the stand while the panel board work piece is being inserted or removed. Then, when the latch is released, the weight of the saw and the carriage help the saw in cutting vertically down through the panel board. The power for the saw is derived from an outlet mounted on the frame which has a circuit through a switch in the path of an abutment on the saw frame so that when the saw is at its lowermost point, the switch automatically cuts off the operation of the saw. When the saw has been raised again to the position for a new operation, the switch, which is a double acting switch, is manually operated to initiate action of the saw. The special carriage has additional thread bolts thereon for mounting the saw for making a vertical rather than a horizontal cut, in which case, the panel board being cut is slid around the legs in the cutting operation.

3,403,710
FENCE POST END SHARPENER
Richard D. Garrison, Rte. 1, Thayer, Mo. 65574
Filed Mar. 10, 1966, Ser. No. 533,321
11 Claims. (Cl. 144—30)



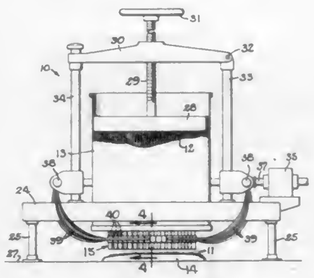
This invention is an improved fence post end sharpener which is readily brought to the location by a tractor vehicle or other vehicle such as a farm tractor, which is powered in location from the power takeoff of the tractor or vehicle, and which is provided with means for ready connection to a conventional three point hookup of the tractor or vehicle, so that it may be readily transported, without wheels of its own, and then may be set down on its own legs in operative position.

3,403,711
TOOL HAVING RETRACTABLE AND REMOVABLE CENTERING SLEEVE
Howard Moore, 5719, Wallis Lane, Woodland Hills, Calif. 91364
Filed May 29, 1967, Ser. No. 641,770
10 Claims. (Cl. 145—51)



A tool having a working tip at the end of a shank is provided with a retractable and removable centering sleeve assembly. A hollow cylindrical sleeve which is slidably mounted on the shank is held in selected positions relative to the shank tip by the engagement of a sleeve mounted pin with a cylindrical guide mounted on the shank. The sleeve is spring-biased into an operative position by engaging the pin in a first groove in the guide and into a retracted position by positioning the pin at the one end of the guide. Engagement of the pin within a second groove in the guide permits complete removal of the sleeve from the shank.

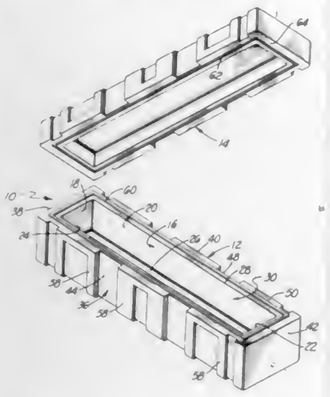
3,403,712
MACHINE FOR DISPENSING SAUSAGE AND THE LIKE
Donald E. Westling, 2432 Iva Court, Beloit, Wis. 53511
Filed Apr. 4, 1966, Ser. No. 539,967
11 Claims. (Cl. 146—129)



A machine for dispensing sausage and the like having a tub from which the sausage is pressed by a manually operable plunger through openings in the bottom of the tub into hollow discharge tubes in a preselected arrangement to form columns of sausage. Around each tube is a manifold to which air under pressure is delivered to issue into the tube in a plurality of jets above the lower end of the column therein, thereby to sever the end portion from the column and expel it through the open lower end of the tube toward a pizza beneath the machine. To

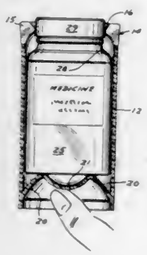
position the lower end of the column, one form has an internal shoulder forming a restriction, another has a taper gradually restricting the passage, and another has no restriction, simply relying on the feeding apparatus to control the positions of the lower ends of the columns.

3,403,713
CUSHIONING CONTAINER
Elmer H. Good, Claremont, and Lowell D. Hammond, San Marino, Calif., assignors to Nash-Hammond, Incorporated, South El Monte, Calif., a corporation of California
Filed Feb. 23, 1966, Ser. No. 529,560
1 Claim. (Cl. 150—.5)



A double-walled container molded from plastic material in one piece and having an open-topped hollow inner shell, an open-topped hollow outer shell, and a top wall integral with the open tops of and interconnecting the inner and outer shells. A method of making such a container comprising placing uncured plastic material in a mold having a mold cavity complementary to the container and having surfaces respectively complementary to the inner and outer shells and the top wall, rotating the mold about at least two different axes to distribute the uncured plastic material evenly over all of the surfaces of the mold cavity, applying heat to the mold during the rotating step to fuse the plastic material to form the container, and thereafter removing the container from the mold.

3,403,714
SAFETY RECEPTACLE
John M. Hulm, 725 Thayer Ave., Bismarck, N. Dak. 58101
Filed Feb. 23, 1967, Ser. No. 617,983
4 Claims. (Cl. 150—.5)



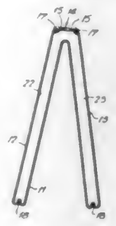
A safety receptacle for a medicine bottle to receive the same through an expansible mouth portion and wholly contain the same, said mouth portion having an annular lip portion to overlie and engage a peripheral portion of the cap of said bottle and in the alternative engaging and gripping a neck portion of said bottle to support said bottle with said cap being projected above said receptacle and a convex bottom wall invertible by finger pressure to project said bottle upwardly of said receptacle to expose said cap.

3,403,715
DISPOSABLE URINE CONTAINER
Charles P. Trudel, Lancaster, N.Y., assignor, by mesne assignments, to "Automatic" Sprinkler Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 24, 1967, Ser. No. 611,441
8 Claims. (Cl. 150—9)



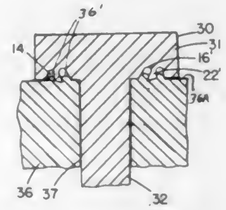
A disposable plastic urine bag comprising a body and neck with a self-sealing valve formed across the neck by heat sealing opposite sides of the bag together to form a pair of seams extending inwardly from the bag edges providing a pair of pockets opening toward the body and a generally V-shaped seam diverging downwardly in the inlet between the pair of seams, the seams terminating in a straight line across the inlet and the pressure of fluid in the pockets and cavity of the V-seam laterally tensioning the sides of the bag to preclude outflow of fluid through the inlet.

3,403,716
BAG CONSTRUCTION
Irwin Herbert Siris, Rye, N.Y., assignor to A. J. Siris Products Corporation, New York, N.Y., a corporation of New York
Filed Aug. 16, 1966, Ser. No. 572,794
4 Claims. (Cl. 150—28)



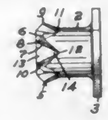
A folded, two-pocket bag with a single access closure fabricated of three panels and a closure member. Two of the panels constitute front panels and the third panel constitutes a rear panel with the front panels overlying the rear panel such that the total length of the two front panels and the closure equal the length of the rear panel.

3,403,717
SEALING AND BONDING DEVICE
Jerome H. Lemelson, 85 Rector St., Metuchen, N.J. 08840
Continuation-in-part of application Ser. No. 289,096, June 19, 1963. This application Feb. 14, 1966, Ser. No. 536,502
14 Claims. (Cl. 151—37)



An improved sealing construction arranged to provide an automatic seal between two mating members adapted to be brought together under pressure. The construction comprises essentially a rigid base member having a flat bearing surface adapted to be disposed against the surface of a secondary body when placed in compression. The base member includes a flexible annular lip having an inclined free end protruding outwardly from the plane of the bearing surface and being constructed to be resiliently deflected toward the bearing surface when the base member is subjected to compressive force against the secondary body, thereby resulting in a positive seal between the elements.

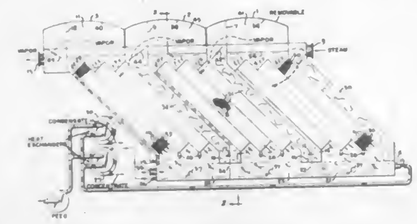
3,403,718
FLANGED INSERT WITH RETAINING MEANS
Norman J. Hughes, Melrose, Mass., assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Mar. 15, 1967, Ser. No. 623,381
10 Claims. (Cl. 151—41.73)



A flanged insert which is driven axially into a bore in a workpiece of relatively soft material such as wood or a wood substitute. For the majority of applications the insert is internally threaded and is of either sheet metal or molded plastic construction. The exterior of the shank portion of the insert has a plurality of retaining fins extending radially outwardly thereof which are embedded in the workpiece and provide a high resistance to pull out. The fins are formed from material skived from the shank of the sheet metal insert and integrally molded on the shank of the plastic embodiment. The fins on the sheet metal part are disposed to engage the workpiece in cooperating pairs and each cooperating pair is spaced from the adjacent pair by an inverted V-shaped flute. Each fin on the plastic part is spaced from the adjacent fin by a V-shaped flute.

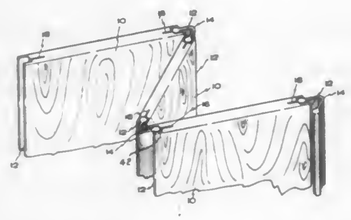
3,403,719
MULTI-EFFECT EVAPORATION SYSTEM
Paul L. Geiringer, Eastchester, N.Y., assignor to American Hydrotherm Corporation, New York, N.Y.
Filed Feb. 10, 1965, Ser. No. 431,582
9 Claims (Cl. 159—26)

A multi-effect evaporation system wherein each effect is enclosed in a separate casing having a plurality of flat surfaces a portion of which is inclined, and the casing contains a lower interior portion for introducing liquid and an upper interior portion for collecting vapor. The liquid inlet and outlets are comprised of a plurality of orifices in the casing, with the casings of adjacent effects being in abutting relationship with each other in a manner such that the orifices are aligned so that liquid can flow



from one effect to another. The tubes are enclosed in a separate compartment and are parallel to the inclined portion of the casing. The vapor generated in the tubes is collected in the second interior portion which is provided with an outlet for effecting passage thereof to the heating compartment of the next adjacent effect.

3,403,720
FOLDING DOOR
Clarence E. Ahleen, 2741 South 7th East, Salt Lake City, Utah 84115
Filed July 22, 1966, Ser. No. 567,254
6 Claims. (Cl. 160—231)

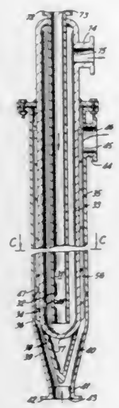


A folding door which includes a door section having an elongated slot along an edge which extends inwardly into the section, a hinge insert having a connecting end fixedly secured in the elongated slot and an opposite end with a keyway provided therein, hinge means having a beaded end received in the keyway for hinging the section to an adjacent section, an elongated semicylindrical member fixedly connected to the beaded end of the hinge means, and an outwardly projecting flange attached to the elongated member to coact with an end of the hinge insert to prevent longitudinal movement of the hinge in the insert.

3,403,721
TENSILE STRENGTHS OF CERTAIN SAND CORES
Janis Robins, St. Paul, and Robert J. Schafer, Edina, Minn., assignors to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky
No Drawing. Filed June 13, 1966, Ser. No. 556,891
5 Claims. (Cl. 164—43)

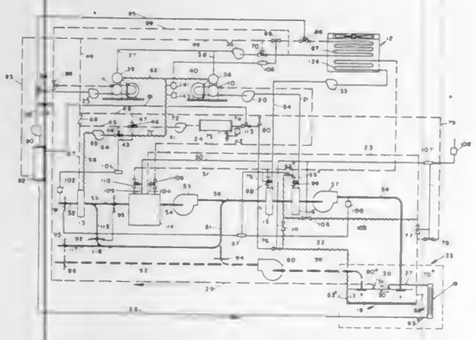
Process for forming foundry cores comprising sand and an organic binder comprising a hydroxyl-containing material, an isocyanate and a silane.

3,403,722
COOLING APPARATUS AND PROCESS
Herman N. Woebcke, Lexington, Mass., assignor to Stone & Webster Engineering Corporation, Boston, Mass., a corporation of Massachusetts
Filed June 13, 1966, Ser. No. 557,005
15 Claims. (Cl. 165—1)



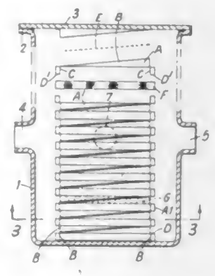
A process and apparatus for cooling hot fluid which comprises feeding said fluid through an inlet to an annular cooling chamber, gradually increasing the cross sectional area of the hot fluid while passing from said inlet to said chamber, rapidly cooling and passing the cooled fluid out of the chamber at about the same pressure as the pressure of the fluid at the inlet.

3,403,723
DYNAMICALLY INTEGRATED COMFORT CONDITIONING SYSTEM
Gershon Meckler, Atlanta, Ga., assignor to Lithonia Lighting, Inc., Conyers, Ga., a corporation of Georgia
Continuation-in-part of application Ser. No. 192,629, May 7, 1962. This application Aug. 10, 1965, Ser. No. 478,702
39 Claims. (Cl. 165—19)



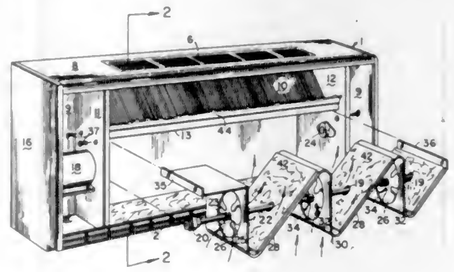
26. In a lighting and air conditioning system for an enclosed space: perimeter panel means within the space for absorbing solar energy and positioned for direct heat transfer with the space, a light source within said building, a heat transfer fluid-filled cooling means mounted adjacent said light source for removing heat from said light source, a cooling fluid supply system in said building for supplying non-refrigerated heat transfer fluid in series to said cooling means and then to said perimeter panel and a conditioned air supply system effective to introduce air into said enclosed space.

3,403,724
HEAT EXCHANGERS
Janusz Gutkowski, 7 Rufus Close, Lewes, Sussex, England
Filed July 25, 1966, Ser. No. 567,492
Claims priority, application Great Britain, July 28, 1965, 32,189/65
12 Claims. (Cl. 165—119)



A heat exchanger particularly suited for use in conjunction with gas turbine engines to filter as well as cool the oil used in the engine. The heat exchanger comprises a stock of impermeable plates each of which separates one of a plurality of paths for the oil from one of a plurality of paths for the cooling medium, the plates being provided with inclined flanges designed to support sheets of filter material diagonally between adjacent plates.

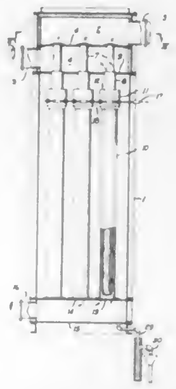
3,403,725
AXIAL FLOW FAN ARRANGEMENT FOR FAN COIL UNIT
Robert G. Miner, La Crosse, Wis., assignor to The Trane Company, La Crosse, Wis., a corporation of Wisconsin
Filed Oct. 4, 1966, Ser. No. 584,198
3 Claims. (Cl. 165—122)



A heat exchange unit comprising: a casing having air inlet opening and air outlet openings with a heat exchange coil therebetween, a unitary fan housing air directing member within the casing having a plurality of spaced apart sections with apertures therein and a plurality of air diverting portions disposed opposite each of said apertures, a drive shaft extending through said member and flow fans mounted on said drive shafts within said apertures.

3,403,726
SPRAY AND NEGATIVE PRESSURE COOLING SYSTEM
Robert L. Jones and Frank D. Hazen, Pittsburgh, Pa., assignors to Hazen Engineering Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 20, 1965, Ser. No. 515,262
1 Claim. (Cl. 165—142)

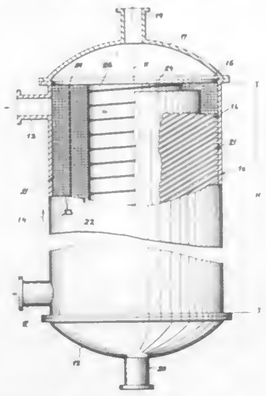
In the annealing of steel coils, for example, where the annealing temperature is supplied to an annealing chamber by delivering hot gases thereto, the present invention provides for the cooling of such gases after they have heated the coils. This greatly increases the capacity of the annealing apparatus, as otherwise it would take an excessive amount of time to lower the temperature of the coils below the critical range, after which they can be exposed to the atmosphere. Various problems such as the use of inert gases to avoid coloration of the coiled steel strip require that the same gas used for supplying the heat is also employed for lowering the temperature, and in accordance with the present invention, a cooling system is provided for rapidly cooling the gases that are withdrawn from the annealing apparatus and return the gases to the annealing chamber in which the coils are stacked.



A feature of the invention is a pressure differential between the gases flowing into the cooling chamber and the coolant surrounding the flow tubes of the gases so that it would be impossible to contaminate the gases by the coolant flowing into the tube.

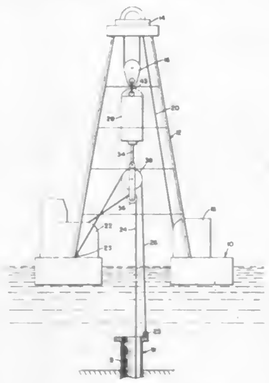
3,403,727
CROSSFLOW COUNTERCURRENT HEAT EXCHANGER WITH INNER AND OUTER-TUBE SECTIONS MADE UP OF CLOSELY PACKED COAXIALLY NESTED LAYERS OF HELICOIDALLY WOUND TUBES
Rudolf Becker, Munich-Solln, Germany, assignor to Linde Aktiengesellschaft, Wiesbaden, Germany, a corporation of Germany
Filed Apr. 29, 1966, Ser. No. 546,383
Claims priority, application Germany, Apr. 30, 1965, G 43,480
9 Claims. (Cl. 165—160)

Crossflow countercurrent heat exchanger having a pair of coaxially nested tube sections separated by a thin sheet-like cylindrical mantle closely surrounding the inner-tube section and interposed between it and the outer-tube section, the sections each consisting of coaxially nested, closely packed layers of circumferentially spaced parallel-wound tubes, all turning in the same sense about a common axis, the closely packed relationship ensuring that the tubes of each layer are received between a pair of tubes of an adjoining layer so that the centers thereof form



an equally lateral triangle whose side is only slightly greater than the diameter of the tubes.

3,403,728
APPARATUS FOR THE SUSPENSION OF WELL BORE DEVICES
Vernon C. H. Richardson, Bellaire, and Billy G. Frazier, Houston, Tex., assignors to Transport Engineering, Inc., Houston, Tex., a corporation of Texas
Filed Dec. 17, 1965, Ser. No. 526,644
4 Claims. (Cl. 166—.5)

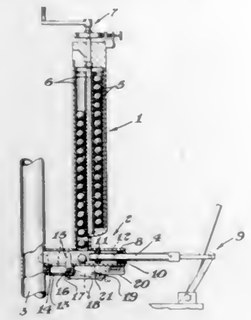


Apparatus for use on floating vessels for carrying out cable operations in well bores located beneath the water to maintain cable suspended equipment in the well at the same depth during movement of the vessel in response to wave action. The apparatus includes a suspension cable for the equipment in the well and a mooring cable anchored at its lower end to a fixed location beneath the water and yieldable pressure fluid means on the vessel having a movable connection with each of the cables to apply a constant tension to the cables during the paying out and taking in of the cables during movements of the vessel due to wave action.

3,403,729
APPARATUS USEFUL FOR TREATING WELLS
Charles J. Hickey, Hobbs, N. Mex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Mar. 27, 1967, Ser. No. 626,243
5 Claims. (Cl. 166—75)

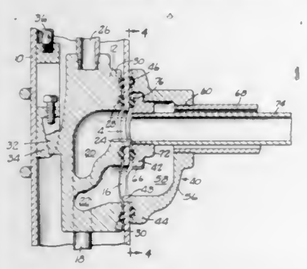
An apparatus for controlled ejectment of spheroidal ob-

jects into a fluid-carrying conduit having perforations as a means of fluid outlet therefrom whereby an accurate count of such ejected objects is accurately maintained, comprising a reciprocating plunger-cylinder assembly



whereby each stroke of the plunger carries one such object, when placed in front of it, into the fluid but which stroke is only recorded and counted if an object is actually pushed ahead of the plunger and into the fluid.

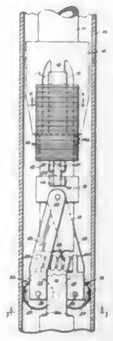
3,403,730
FAIL-SAFE PIPE SADDLE FOR ADAPTERS FOR JET PUMPS
Clifford C. Williams, Box 681, Joliet, Ill. 60434
Filed May 5, 1967, Ser. No. 636,456
5 Claims. (Cl. 166—88)



A fail-safe pipe saddle for adapters for jet pumps, having an outer saddle with an interior chamber and a marginal seal surrounding two well casing apertures and compressed by drawing the outer saddle toward the pipe. An inner saddle having a marginal seal surrounding only one of said well casing openings is pressed toward the well casing by limited area abutment means of the outer saddle in whose chamber it fits with clearance. An outlet pipe from the inner saddle is positioned with clearance in an outlet pipe from the outer saddle.

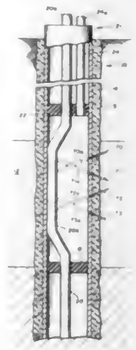
3,403,731
SLIP SETTING MECHANISM FOR WELL CASING
Armais Arutunoff, Bartlesville, Okla., assignor to Reda Pump Company, Bartlesville, Okla., a corporation of Delaware
Filed Apr. 24, 1967, Ser. No. 633,037
7 Claims. (Cl. 166—211)

Slip setting mechanism for a pump in a well casing, including a body connected to the pump and having a depending, tubular extension. Slips are mounted on the body and connected to a collar which is vertically slidable on the extension. The collar supports a pair of depending pivoted arms, whose lower ends carry casing engaging rollers. The arms are biased to urge respective rollers into engagement with opposite sides of the casing, and each roller has centrifugally actuated braking means responsive to an increased speed of descent in the casing



to convert rolling friction of the rollers into sliding friction which causes elevation of the collar and sets the slips.

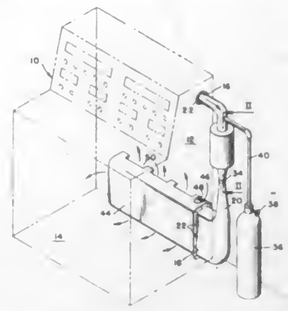
3,403,732
EROSION PROTECTION FOR WELLS
Alvin V. Metler, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York
Filed Mar. 30, 1966, Ser. No. 538,629
4 Claims. (Cl. 166—242)



An assembly for protecting the surface of a tubing carrying fluid from a lower formation in a multiply completed well from the erosive effects of a fluid entering the well from a higher formation including a casing having perforations adjacent the higher formation. The perforations are positioned so that the streams of fluids entering through the perforations will intersect each other before impinging on the surface to be protected. By allowing the streams to intersect, turbulent flow is created and the kinetic energy of the fluid is decreased thereby reducing the erosion of the tubing.

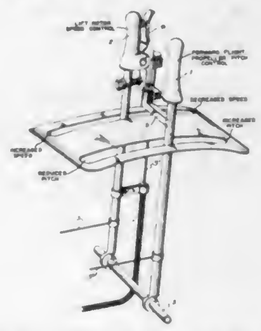
3,403,733
ELECTRONICS CABINET WITH FIRE EXTINGUISHING APPARATUS
Cyril W. Terry, Oxnard, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 27, 1966, Ser. No. 546,480
9 Claims. (Cl. 169—2)

The description discloses a fire extinguishing system for an electronics cabinet. The system includes a duct means which extends between upper and lower openings which open into an inner portion of the cabinet. Mounted within the duct means there may be a venturi and extending through the duct means there may be a tube for discharging a fire extinguishing fluid into the throat of the venturi. Accordingly, when a fire occurs within the electronics cabinet the discharge of this fire extinguishing



fluid into the venturi draws hot gases from the top of the cabinet, mixes them with the fluid where the gases are cooled, and then the resulting mixture is forced into the bottom portion of the cabinet. This circulation will extinguish a fire within the cabinet.

3,403,734
CONTROL MEANS FOR ROTARY WING AIRCRAFT
Bruno Herrmann, Pahl, Upper Bavaria, Germany, assignor to M.A.N. Turbo G.m.b.H., Munich-Allach, Germany
Filed June 20, 1966, Ser. No. 558,877
Claims priority, application Germany, June 24, 1965, B 82,541
2 Claims. (Cl. 170—135.74)



A helicopter is powered by a gas turbine. The exhaust gases from the turbine drive the rotor blade for vertical lift. The turbine shaft drives a variable pitch propeller for forward flight. The throttle controls for the rotor blade and the propeller are engageable with each other so that when the propeller speed is increased the turbine exhaust gases are always diverted from the rotor blade and are discharged into the atmosphere. This prevents the overloading of the turbine during the transition from vertical to forward flight.

3,403,735
ADJUSTABLE VARIABLE PITCH PROPELLER
Henrik G. Langhjelm, 27785 Berkshire, Southfield, Mich. 48075; and Charles Di Gioia, 215 Manor 48008, and Finn Bergishagen, 6212 N. Clunbury 48010, both of Birmingham, Mich.
Filed Mar. 10, 1967, Ser. No. 622,214
12 Claims. (Cl. 170—160.51)

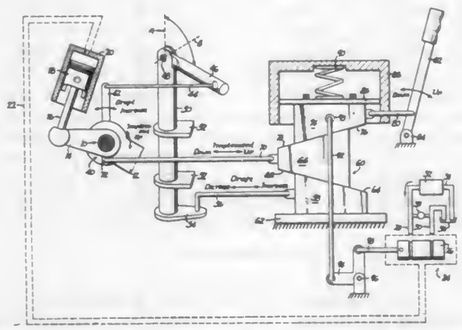
A variable pitch watercraft or aircraft propeller is provided, in which radially extending propeller blades, variable in pitch angle in a self-sensing way in automatic response to change of speed and/or other condition of operation, are in addition simultaneously adjustable angularly, as a set, when the propeller is not in operation. The individual blade adjustments are in an identical degree to uniformly alter the basic, no-load pitch angle thereof. The blades will then depart and return automatically from and to this altered basic setting in self-sensing response to the varying conditions, in the same way as the blade set would, lacking the improved simultaneous adjustment. The simultaneous adjustment is effected with no



disturbance whatsover of certain bevel gear drive means in the variable pitch assembly.

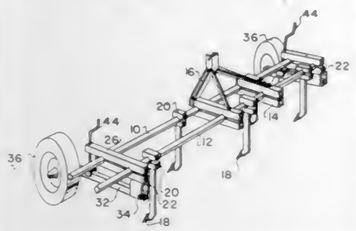
Furthermore, the propeller blades are each mounted directly to an integral portion of an elongated engine shaft-driven sleeve for rotation therewith, as well as being journaled on that portion for the self-sensing and simultaneous adjustments mentioned above. The mount dispenses with bearing and sealing provisions between the blade and the hub, body or housing structure of the propeller; and the powered drive of the blades from the shaft unit is entirely independent of that structure.

3,403,736
DRAFT CONTROL SYSTEM FOR TRACTOR-DRAWN IMPLEMENTS
Joseph A. Kulhavy, Racine, Wis., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Feb. 14, 1966, Ser. No. 527,018
9 Claims. (Cl. 172—9)



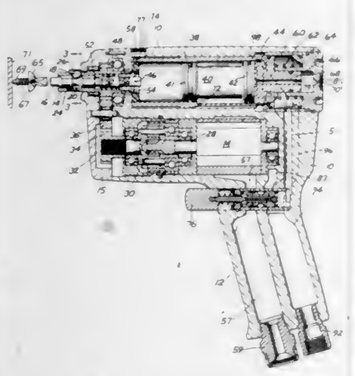
This invention relates to draft control systems for tractor-drawn earth-working implements and more particularly to improvements in mechanisms for controlling hydraulically actuated implement lifting mechanisms.

3,403,737
DRAWBAR SPACER
Wylie A. Byrd, Rte. 2, Tulia, Tex. 79088
Filed June 14, 1965, Ser. No. 463,817
6 Claims. (Cl. 172—421)



On an agricultural implement, notched spacer bars are clamped above and below two or more tool bars. Gage wheels arms are pivoted to the spacer bars and a screw adjustment extends from the spacer bar to the arm. The pivot and screw are spaced apart widely on the spacer bar.

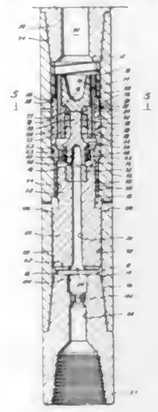
3,403,738
DRILL/SCREWDRIVER WITH IMPACT MECHANISM
Larry L. Burkhart, Edgerton, and Otis D. Hitt and Paul E. Troike, Bryan, Ohio, assignors to The Aro Corporation, Bryan, Ohio, a corporation of Delaware
Filed Nov. 1, 1966, Ser. No. 591,217
9 Claims. (Cl. 173—48)



1. In a tool of the character disclosed, a motor, a housing therefor, a bit holder rotatable in said housing, means for operatively connecting said motor to said bit holder for rotating the holder upon energization of the motor, a bit slidable and nonrotatable in said bit holder, hammer means slidable in said housing and having a normal position rearwardly therein, means for driving said hammer means forwardly in said housing to deliver an impact blow to said bit, an anvil interposed between said bit and said hammer means, means for biasing said anvil forwardly in said bit holder, and said anvil being provided with stop means in a forward position thereof.

3,403,739
FLUID-ACTUATED IMPACT TOOL
Robinson W. Brown, San Antonio, Tex., assignor, by mesne assignments, to Bowen Tools, Inc., Houston, Tex., a corporation of Texas
Filed Nov. 1, 1966, Ser. No. 591,258
11 Claims. (Cl. 173—73)

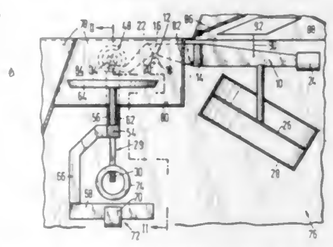
This invention relates to a pneumatically powered impact tool adapted to be coupled to a drill string and lowered into a borehole to effect drilling operations at the bottom of the borehole, more particularly it is directed to a down-the-hole impact tool having a unique construc-



tion whereby all springs are eliminated from the operating mechanism and the frequency of the impact strokes is substantially increased.

3,403,740
WITHDRAWN

3,403,741
BALANCE
Martin Sauter, Ebingen, Germany, assignor to Gottl. Kern & Sohn, Ebingen, Germany
Filed June 9, 1967, Ser. No. 644,917
10 Claims. (Cl. 177—243)

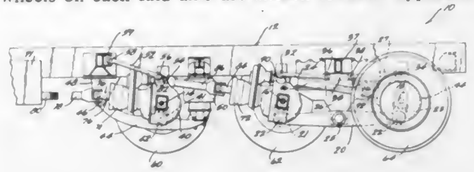


A balance having a forked beam supported on the balance base by two coaxial knife-edge pivots on the forked end and carrying a U-shaped hanger between a second set of coaxial knife-edge pivots on the two end portions of the forked end. Two ball bearings coaxial with the second set hingedly secure a U-shaped pan carrier to the hanger in the bight of the same. The weighing pan is attached to the central portion of the pan carrier by a fixed upward column in such a manner that the load supporting surface of the pan is barely below the common axis of the ball bearings.

3,403,742
DRIVE SYSTEM FOR A VEHICLE HAVING MULTIPLE DRIVEN REAR AXLES
Robert W. Stieg, Clintonville, Wis., assignor to FWD Corporation, Clintonville, Wis., a corporation of Wisconsin
Filed Oct. 29, 1965, Ser. No. 505,707
6 Claims. (Cl. 180—22)

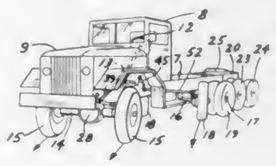
A drive train to multiple driven rear axles in a vehicle includes a torque dividing differential having a pair of

output shafts which transmit the power to separate axles or groups of axles. The torque division, the number of axles served by each output shaft, and the number of wheels on each said axle are chosen to effect application



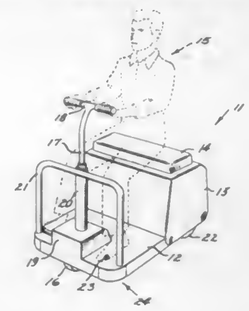
of the same torque to each driving wheel. The differential employed in so dividing the torque is a novel form of spur gear differential in which each set of planetary pinions on the differential carrier comprises a reducing gear train between the differential side gears.

3,403,743
MULTIPLE WHEEL DRIVE AND STEERING VEHICLE
Robert C. Daymon, 7450 Weller Road, Gregory, Mich. 48137
Filed Nov. 21, 1966, Ser. No. 595,989
1 Claim. (Cl. 180—24)



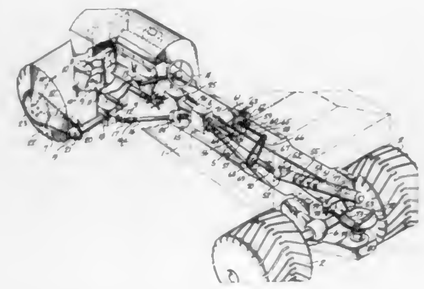
This application discloses a fifth wheel tractor having two single wheeled steer and drive axles and three tandem wheeled, drive axles, and power means to actuate the turning of the steer axles in a five to three ratio. The invention resides in the particular combination and arrangement of the elements, which provides a greater load carrying capacity and a wider distribution of load, when a trailer is added and facilitates the forward motion, steering and backing up of the tractor and trailer.

3,403,744
INDUSTRIAL PERSONNEL VEHICLE
Richard A. Dinkel, East Lansing, Mich., assignor to American-Mobile Products Corporation, Lansing, Mich., a corporation of Michigan
Filed Sept. 23, 1965, Ser. No. 489,509
1 Claim. (Cl. 180—25)



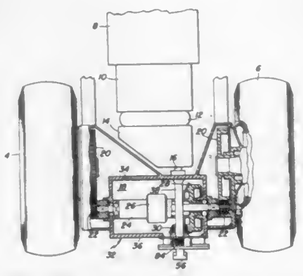
A battery powered chain driven three wheel personnel vehicle having a unitary platfrom frame structure provided with a steerable front wheel and two rear wheels mounted on an axile rigidly secured to the frame, one of the rear wheels being an idling wheel and the other being a driven wheel. A chain drive element driveably connecting the rear driven wheel to a battery powered motor provided on the frame.

3,403,745
TRICYCLE SWAMP BUGGY
Ward T. Commons, Halsey, Oreg. 97348
Filed Nov. 29, 1965, Ser. No. 510,205
4 Claims. (Cl. 180—26)



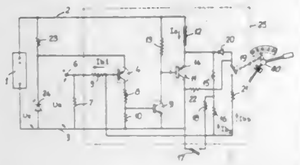
A tricycle vehicle for amphibious use having buoyant supporting wheels, liquid and solid dispensing apparatus for spreading fertilizer or seed, wherein the front wheel is supported by a generally vertical kingpin disposed rearwardly of the wheel to stabilize the operation of the front wheel, variable length drive means for operating the front wheel, and an overrun clutch for driving the front wheel when the rear wheels slip is disclosed.

3,403,746
FLEXIBLE DRIVE FOR TRACTOR-TYPE PRIME MOVER
Charles H. Fox, Washington, and Wayne H. McGlade, Peoria, Ill., assignors to Westinghouse Air Brake Company, a corporation of Pennsylvania
Filed Apr. 26, 1966, Ser. No. 545,398
14 Claims. (Cl. 180—70)



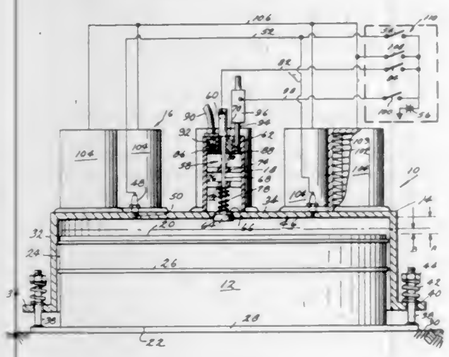
In a tractor-type prime mover including a power package and drive wheels, a torsionally flexible draft shaft encompassed by a tubular envelope positioned operatively between a tractor engine, variable speed transmission and the final drive thereof, the flexible drive shaft extending through the final drive housing and including universal joint means on either end thereof whereby shock loads from the drive wheels are insulated from the tractor engine and transmission.

3,403,747
AUTOMATIC TRANSMISSION CONTROL CIRCUIT
Gaëtan de Coye de Castelet, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed May 6, 1966, Ser. No. 548,300
Claims priority, application France, May 13, 1965, 16,998
8 Claims. (Cl. 180—105)



A control device for controlling gear changes in an automatic transmission in response to wheel speed and having three complementary transistors, the first and third being of one polarity and the second being of the opposite polarity. Power is supplied to the circuit from a source having an output proportional to wheel speed and responsive to the position of the accelerator. The device substantially eliminates movable contacts while permitting great adaptability in selecting speeds at which control is to take place.

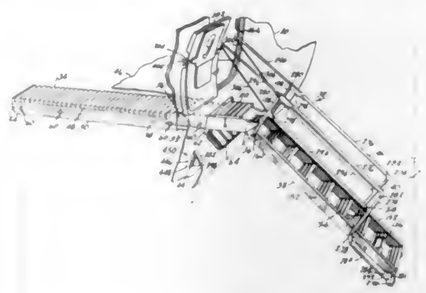
3,403,748
SEISMIC WAVE GENERATOR
Charles A. Tabor, 604 S. Avenue D, Kermit, Texas 79745
Filed June 9, 1967, Ser. No. 644,870
10 Claims. (Cl. 181—.5)



A seismic pulse generating apparatus having a combustion chamber formed by a piston and cylinder with energizable electromagnets which force the piston and cylinder together to increase the compression of the combustible mixture in the compression chamber prior to ignition and generation of the seismic pulse.

3,403,749
AIRCRAFT STAIRWAY ASSEMBLY
Robert A. Warren, Long Beach, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Sept. 15, 1966, Ser. No. 579,745
9 Claims. (Cl. 182—88)

Aircraft stairway assembly including a pair of tracks provided within a stairwell positioned in an aircraft beneath a doorway, the aircraft mounting a stairwell door for closing the stairwell, a carriage adapted to be driven on the tracks between first and second positions thereon, and a stair assembly connected to and moved by the carriage, the stair assembly having a foldable set of handrails and is placed in a folded, raised and retracted



condition in the stairwell when the carriage is at its first position and in an extended, lowered and unfolded condition when the carriage is at its second position.

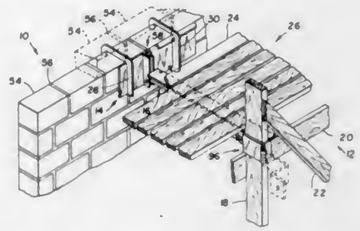
3,403,750
RESCUE DEVICE
Jean Pomagalski, 114 Chemin de l'Eygala, La Tronche 38, France
Filed Jan. 9, 1967, Ser. No. 607,939
Claims priority, application France, Jan. 13, 1966, 45,857; June 10, 1966, 65,137
6 Claims. (Cl. 182—189)



A rescue device having a pole with a hook-like member slidable thereon for engagement with a cable or the like and means for raising or lowering a person who may be stranded in a seat on the cable or desiring to climb the pole to the cable.

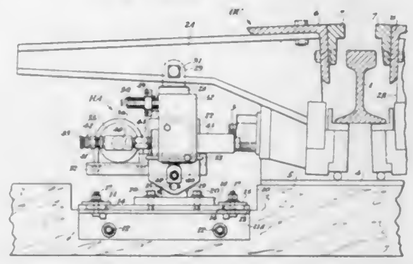
3,403,751
SCAFFOLD
David V. Yoder, R.F.D. 1, Smock, Pa. 15480
Filed May 11, 1967, Ser. No. 637,741
8 Claims. (Cl. 182—229)

A bracket and putlog are described for tying a vertical standard of a putlog scaffold to a wall under construction. A pair of hooks is mounted on the bracket for attaching it to the wall. The dimensions of the hooks and the distance between the hooks are such that in the construction of a masonry brick wall, for example, a brick may be placed between the hooks in the further construction of the wall, thereby avoiding the necessity of omitting a brick in the construction of the wall to accommodate for the hooks. A putlog, at one end thereof, is coupled to the bracket by a pivotal coupler and the other



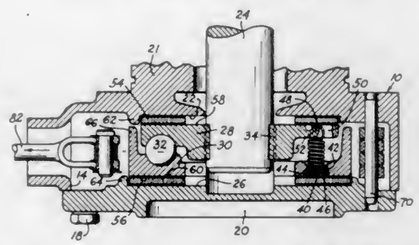
end of the putlog is fastened to a vertical standard of the scaffold, thereby tying the scaffold structure to the wall under construction.

3,403,752
RAILWAY CAR RETARDER BRAKING APPARATUS
Edward O. Garrett, Jr., Penn Hills Township, Allegheny County, and Peter M. Noble, Valencia, Pa., assignors to Westinghouse Air Brake Company, Swissvale, Pa., a corporation of Pennsylvania
Filed Feb. 24, 1967, Ser. No. 618,417
10 Claims. (Cl. 188—62)



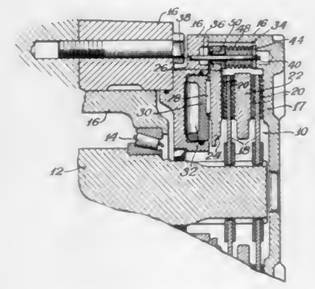
A weight proportional car retarder having an operating unit movable between braking and non-braking positions including a modularly constructed assembly having a unitized closed hydraulic operating mechanism for selectively activating the retarder either to effect a braking action on the wheels of a traversing car in proportion to its weight or to allow free passage of the car wheels.

3,403,753
DISC BRAKE
Robert L. Hooten, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Apr. 13, 1967, Ser. No. 630,709
1 Claim. (Cl. 188—70)



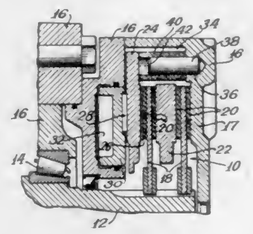
A disc brake having at least two axially related relatively rotatable members formed with vertically opposed friction faces for engagement with a friction lining member floatingly located between said faces to receive braking torque.

3,403,754
BRAKE RETURN AND AUTOMATIC ADJUSTMENT MEANS
Robert David Barrett, Westchester, and Kazys Raciunas, Cicero, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Apr. 27, 1967, Ser. No. 634,259
2 Claims. (Cl. 188—72)



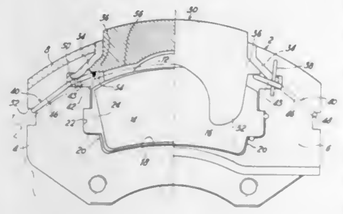
The invention relates to a disk brake having a plurality of rotor disks affixed to a rotatable axle, a stator disk carried by a stationary housing, and a pressure plate movable under the influence of a hydraulically actuated piston to force said disks into frictional engagement with the housing. A means for automatically compensating for wear of the disks and for allowing separation of the disks upon release of the hydraulic pressure is positioned between the housing and pressure plate.

3,403,755
BRAKE RETURN AND AUTOMATIC ADJUSTMENT MEANS
Robert David Barrett, Westchester, and James T. Rohrbacher, Chicago, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Apr. 27, 1967, Ser. No. 634,266
14 Claims. (Cl. 188—72)



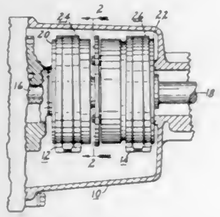
The invention relates to a disk brake having a plurality of rotor disks affixed to a rotatable axle, a stator disk carried by a stationary housing, and a pressure plate movable under the influence of a hydraulically actuated piston to force said disks into frictional engagement. An automatic adjusting means in the form of metal particles is provided to compensate for wear of the disks and for separating the disks upon release of the hydraulic pressure.

3,403,756
RESILIENT SUPPORTING MEANS FOR CALIPER-TYPE DISC BRAKE
René Thirion, Paris, France, assignor to Societe Anonyme D.B.A.
Filed June 20, 1967, Ser. No. 647,540
Claims priority, application France, June 22, 1966, 66,426; Dec. 30, 1966, 89,550
6 Claims. (Cl. 188—73)



A spot-type disc brake having a floating stirrup which is mounted in a recess formed in the limbs of a U-shaped fixed support and is guided in said recess by means of a pair of guide members located at the opposite ends of said recess he lateral edges of which are adapted to act as an anchor for a pair of friction pads located in the recess on opposite sides of the disc, said stirrup being urged radially outwardly toward the guide members by resilient means anchoring on the fixed support and consisting of wire springs.

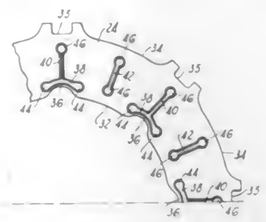
3,403,757
BRAKE BAND AND METHOD OF MANUFACTURING THE SAME
William F. Erickson, Centerville, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 11, 1966, Ser. No. 564,324
6 Claims. (Cl. 188—77)



1. A multiple wrap anti-rattle external brake band comprising a plurality of circumferentially extending brake ribbons having internal friction material thereon and a tie bar extending across and secured to said ribbons on the outer periphery thereof and holding the adjacent edge surfaces of said ribbons in spaced relation at said tie bar and in frictional anti-rattle contact at points circumferentially spaced from said tie bar when the band is in a released condition, said brake being sufficiently flexible to permit full surface contact of said internal friction material and a drum to be braked upon application of said band.

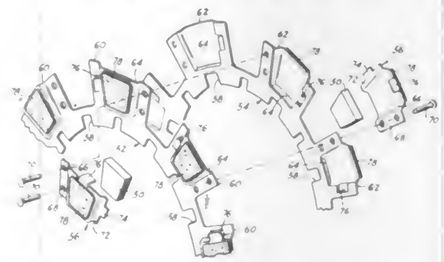
3,403,758
DISC ELEMENT CONSTRUCTION FOR DISC BRAKE
Gilbert T. Stout, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed July 21, 1966, Ser. No. 566,976
7 Claims. (Cl. 188—218)

A solid-type friction disc element construction for a disc brake which includes a unique slotted configuration for alleviating the warpage which could occur from non-uniform cooling. The disc element includes spaced-apart radial slots some of which have a compound curved



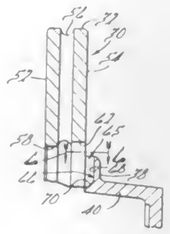
segment located at one end thereof which provides strength to resist out-of-plane warpage, provides flexibility to permit thermal stress relief, and precludes deformation.

3,403,759
DISC ELEMENT CONSTRUCTION FOR DISC BRAKE
Orla L. Holcomb, Jr., South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed Feb. 13, 1967, Ser. No. 615,646
20 Claims. (Cl. 188—218)



The following relates to a friction disc element construction for a disc brake which incorporates a fully segmented primary heat sink with a partially segmented secondary heat sink. The construction of the disc element is such that structural loading of the primary heat sink, which can be formed of beryllium, is avoided, and differential expansion between the primary heat sink and the structural components of the disc element is permitted.

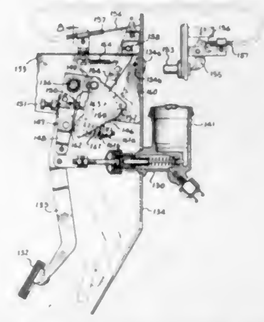
3,403,760
AIR COOLED, COMPOSITE ROTOR FOR DISK BRAKES
Kenneth C. Caskey, Livonia, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Feb. 20, 1967, Ser. No. 617,134
4 Claims. (Cl. 188—218)



A composite rotor for a disk brake in which a disk that has braking faces engageable with brake shoes of

a disk brake is detachable from a member attached to a rotatable hub so that the disk may be replaced easily and without a great amount of effort on the part of an automotive mechanic. The disk of the composite rotor adapted to be engaged by brake shoes includes in combination with the other member means for forcing cooling air through the portion of the disk having the brake shoe engaging faces so that cooling air may be supplied across both of the braking faces. The aforementioned abstract is neither intended to define the invention of the application which of course is measured by the claims, nor is it intended to be limiting as to the scope of the invention in any way.

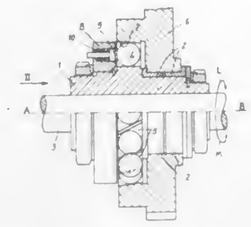
3,403,761
DISC BRAKE WITH COMPENSATION, ANTI-SKID CONTROL, AND FAIL-SAFE SYSTEM
Edward A. Rockwell, 167 Ashdale Place, Los Angeles, Calif. 90049
Original application Mar. 8, 1965, Ser. No. 437,693, now Patent No. 3,326,333, dated June 20, 1967. Divided and this application Jan. 3, 1967, Ser. No. 630,476
5 Claims. (Cl. 188—265)



A vehicle braking system including a pair of parallel master cylinders having independent fluid reservoirs connected to a pair of slave cylinders at each wheel through dual hydraulic lines. A single foot pedal is used for both service brake and parking brake applications, with a latching mechanism cooperating with the foot pedal to hold it in a latched position for the parking brake application. The latch can be released only by advancing the pedal slightly beyond the latched position, so that the brakes must be applied at the time the parking brake is released. The dual slave cylinders at each wheel include a compensating mechanism which automatically reduces the fluid requirements of the wheel cylinders and pistons in response to increased fluid pressure in the hydraulic system. The brake mechanism also includes an anti-skid device which varies the brake effectiveness in response to an inertial control mass. A disc brake arrangement is also provided in which at least one of the braking surfaces is provided by a series of circumferentially spaced brake pads which permit cooling air to circulate therebetween, and are also radially movable for cooperation with the inertial control mass of the anti-skid mechanism.

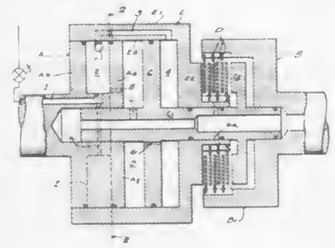
3,403,762
FREEWHEEL DEVICES
Jean Auriol, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed May 12, 1967, Ser. No. 638,093
Claims priority, application France, June 13, 1966, 65,205
4 Claims. (Cl. 192—45)

Freewheel device of the type comprising an inner race member mounted on a shaft, an outer race member, rolling and locking members, such as balls or rollers, urged by spring means against said races, said freewheel device being characterised in that said rolling members



urged in a substantially axial direction by separate springs means are housed in separate grooves inclined to axis of said shaft and formed in one of said race members.

3,403,763
POWER TRANSMITTING DEVICE HAVING HYDRAULICALLY ACTUATED FRICTION PLATES AND TORQUE SENSING MEANS
Conrad R. Hilpert, Winnebago, and James B. Black, Roscoe, Ill., assignors to Twin Disc, Incorporated, Racine, Wis., a corporation of Wisconsin
Filed Jan. 16, 1967, Ser. No. 609,457
9 Claims. (Cl. 192—56)

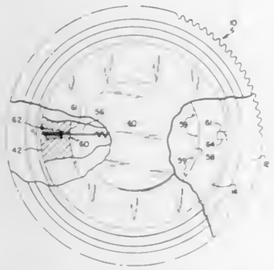


Power transmitting devices, such as clutches or brakes including disengageable friction plates, which utilize hydraulic means for sensing torque between the drive and driven members and accordingly actuating the friction clutch to provide a constant output torque.

3,403,764
FLUID COUPLING
Alex Sutaruk, Hazel Park, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Feb. 14, 1966, Ser. No. 527,255
8 Claims. (Cl. 192—58)

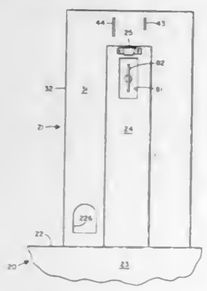
The fluid coupling includes input and output coupling members drivingly connected to a variable speed drive and an accessory to be driven, respectively. The coupling members have spaced opposed shear surfaces which cooperate with a viscous shear fluid therebetween to transmit torque between the coupling members. The output coupling member according to one embodiment of the invention has a pair of radial movable pumping members which move radially outwardly of the output coupling member by centrifugal force when the speed of the output coupling member exceeds a predetermined speed and pumps fluid from the shear space to reduce the torque transmitted and in turn the speed of the output coupling member. The pumping elements are biased to their non-pumping position by spring means which bias is overcome by the centrifugal force at the predetermined speed. In

another embodiment of the invention a separate radially extending fluid passageway is provided in the output coupling member and the pumping element is mounted for radial movement in an adjacent radial passageway so that when the speed of the output coupling member exceeds a predetermined speed the pumping abutment moves radially outwardly of the output coupling member and pumps fluid from the shear space into the reservoir through the ad-



jacent fluid passageway to reduce the fluid in the shear space between the coupling members. In a further embodiment of the present invention, a fixed pumping abutment is provided on the periphery of the output coupling member and a ball valve normally seated in a radially extending passageway adjacent the fixed pumping abutment is unseated by centrifugal force at a predetermined speed to open the passageway and permit fluid to be pumped from the shear space into the fluid reservoir.

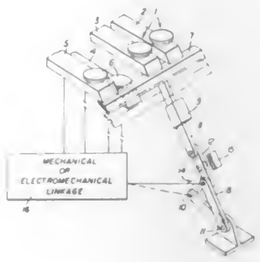
3,403,765
COIN-OPERATED DISPENSING MECHANISM
Karl Knickerbocker, 400 Baycrest Drive, Venice, Fla. 33595
Filed Dec. 30, 1966, Ser. No. 606,262
19 Claims. (Cl. 194—54)



The invention comprises a coin-actuated dispensing mechanism of the type utilizing coins to provide abutment means to effect the release of a dispensing member and which has two coin chutes to receive coins of different denominations, the mechanism being arranged to operate the dispenser release by a wide variety of combination of coins of different sizes and denominations.

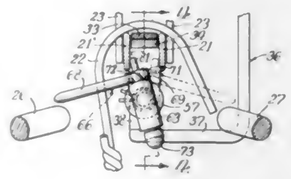
3,403,766
KEYBOARD BLOCKING ARRANGEMENT
Frederick Percival Mason, Sutton, England, assignor to Creed & Company Limited, Brighton, England
Filed July 20, 1966, Ser. No. 566,637
Claims priority, application Great Britain, Aug. 6, 1965, 33,803/65
2 Claims. (Cl. 197—107)

A common bail is interposed on the depression of a first key by erection of a toggle, and a mutual arrangement between the surfaces of the bail against the keybars and the direction of the movement of the bail, is such that the major component of force between the bail and the



undepressed keys is along the direction of movement of the bail and in alignment with the limbs of the erected toggle.

3,403,767
TWO-WAY SWITCH MEANS FOR CONVEYOR SYSTEM
Rudolph F. Gerisch, 1317 Portsmouth Ave., Westchester, Ill. 60153
Filed Mar. 29, 1967, Ser. No. 626,851
11 Claims. (Cl. 198—20)

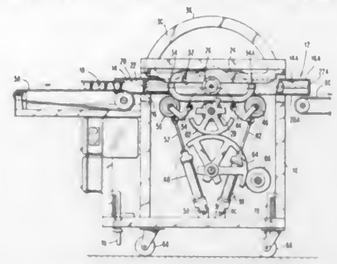


A two-way switch swingable in a pivot support between opposite bridging positions for selectively connecting a conveyor main rail with one or the other of a pair of branch rails, the pivot support for the switch also being tiltable by suitable actuating means to opposite positions corresponding to the discharge positions for the respective branch rails. Means may be provided for normally centering the switch in its pivot support so as to permit reverse operation of the conveyor. Means may also be provided for normally centering the pivot support relative to the main rail so that the switch can also function as a main rail switch.

3,403,768
BAKING PAN INVERTER
Hubert E. Tobey, Rochelle Park, and George J. McCutchen, Teaneck, N.J., assignors to Continental Baking Company, New York, N.Y., a corporation of Delaware
Filed Oct. 25, 1966, Ser. No. 589,368
20 Claims. (Cl. 198—33)

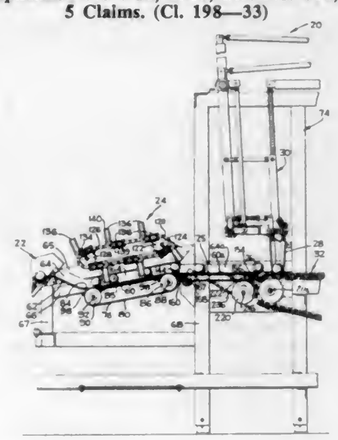
The baking pan inverter includes a carriage having a scoop and arranged for movement to extend the scoop away from the center line of the machine in a horizontal direction to engage the underside of a baking pan to be inverted. The carriage then rotates to invert the pan. The scoop includes a cover member to support the inverted pan and the cakes therein after carriage rotation. The

carriage then moves in a horizontal retraction motion to retract the scoop. An ejector is provided to engage the



pan during scoop retraction to cause the pan and the cakes to be ejected from the scoop.

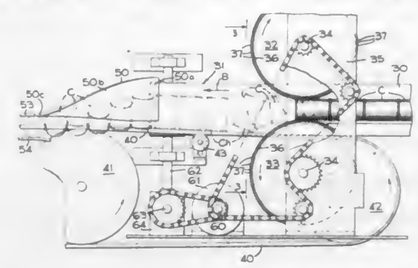
3,403,769
APPLE ORIENTING APPARATUS
Gerald R. Anderson, Campbell, and Sherman H. Creed and John T. Parker, San Jose, Calif., assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware
Original application Mar. 2, 1964, Ser. No. 348,485, now Patent No. 3,310,084, dated Mar. 21, 1967. Divided and this application Nov. 16, 1966, Ser. No. 606,488
5 Claims. (Cl. 198—33)



An apparatus for orienting apples so that they become supported on either their relatively flat stem ends or blossom ends. The apparatus includes a spacing conveyor having spaced generally V-shaped pushers between which each apple is free to rotate. Each apple is supported upon a pair of inclined twisting belts driven at speeds different from each other and faster than that of the spacing conveyor thereby causing the apples to roll between adjacent pushers which transversely center the apple and cooperates with the force of gravity and twisting forces to rotate the apple until the apple is supported on one of its ends. A dead plate and spacing conveyor are provided to increase the spacing between the oriented apples.

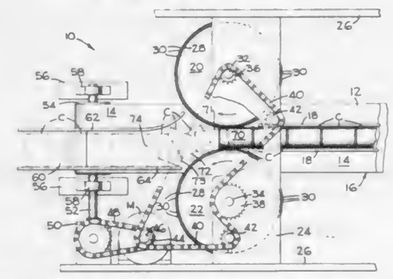
3,403,770
ARTICLE ORIENTING APPARATUS
John Boyce and Sherman H. Creed, San Jose, Calif., assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Jan. 5, 1967, Ser. No. 607,450
8 Claims. (Cl. 198—33)

The upper run of an endless conveyor belt carries each article through a turning mechanism that swings the article through approximately 90 degrees. A cable, that travels at substantially the same speed as the belt, is disposed along one edge of the belt to limit and control the completion of



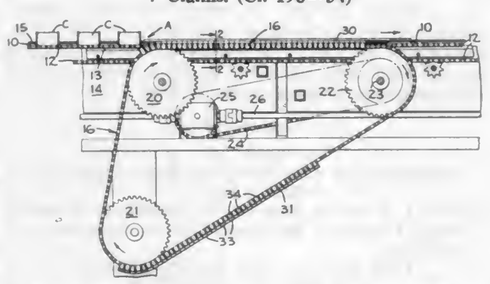
the turning movement of the article to stabilize it, and provide support for it.

3,403,771
CONTAINER ORIENTING MECHANISM
Ralph G. Gardiner, Santa Clara, and James L. Reimers, San Jose, Calif., assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Jan. 5, 1967, Ser. No. 607,489
8 Claims. (Cl. 198—33)



A pair of laterally spaced orienting drums having upright axes of rotation and resilient radial fingers are continuously rotated at different speeds. The drums overlie a conveying flight and the fingers grip the walls of containers which are continuously moved endwise by the conveying flight into the space between the drums. Due to the speed differential of the drums, the containers are oriented approximately from endwise into a side-by-side position and progress downstream of the drums upon the same conveying flight.

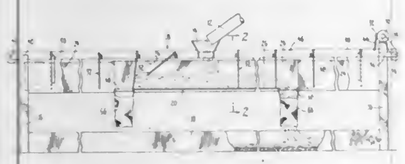
3,403,772
CONTAINER FEED MECHANISM
Leslie Vadas, Los Gatos, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Jan. 5, 1967, Ser. No. 607,454
7 Claims. (Cl. 198—34)



A slow speed endless control chain lifts a plurality of containers off a fast speed feed conveyor. After a pre-

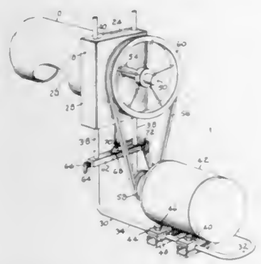
determined interval, the control chain deposits the containers back on the feed conveyor; meanwhile a space has developed between the detained containers and the preceding containers so each group of containers is spaced from the following group as the groups are advanced to a processing unit.

3,403,773
LIVESTOCK FEEDER USING OPEN ENDED RECIPROCATING TROUGH
Claude E. Loesch and Leo J. Loesch, both of Rte. 1, Kimball, Minn. 55353
Continuation of application Ser. No. 543,134, Apr. 18, 1966. This application Sept. 1, 1967, Ser. No. 671,530
7 Claims. (Cl. 198—52)



A livestock feeder having a horizontally reciprocating trough which receives feed from a central supply spout to be distributed along a feed bunk beneath the trough. Swinging paddles along the path of the trough allow the feed to be simultaneously laid in the trough from the supply and discharged to the feed bunk at one or the other free end of the trough.

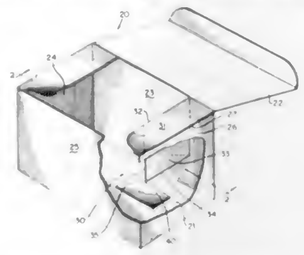
3,403,774
SNAP-OVER BELT TIGHTENER FOR CONVEYORS
Martin Mayrath, 10707 Lennox Lane, Dallas, Tex. 75229
Filed Dec. 14, 1966, Ser. No. 601,749
5 Claims. (Cl. 198—213)



A belt-adjusting and clutching arrangement for an auger conveyor of the type that has a head box on the drive end of the auger tube, and a drive-motor mounted on rails slidable in the head box, with a belt connecting respective pulleys on the auger shaft and the motor shaft. A cross bar adjustably clamped on said rails supports a cranked lever whose stable end positions control the pulley spacing at the limits of a selected range.

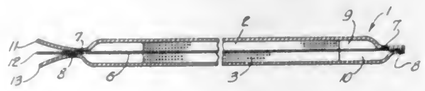
3,403,775
CONTAINER AND BLANKS FOR MAKING THE SAME
Melville T. Farquhar, Bon Air, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Aug. 11, 1965, Ser. No. 478,834
20 Claims. (Cl. 206—45.14)

This disclosure relates to a container having compartment means formed therein by an extension flap extending from one of its vertical side walls wherein such extension flap has supporting shelf means defined in its



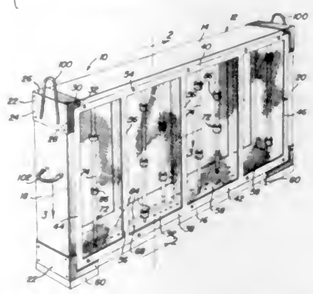
terminal end portion and such shelf means is supported in suspended relation solely by the one side wall.

3,403,776
STERILE SURGICAL PACKAGE
Thomas A. Denny, Edison, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed Mar. 21, 1967, Ser. No. 624,784
2 Claims. (Cl. 206—56)



A sterile surgical package for a plurality of surgical articles in which each article is situated in a compartment formed by two main panels which are sealed together at their periphery, and in which each interior main panel is common to two of said compartments so that as each article is in turn removed, one panel may be discarded without affecting the sterility of the remaining articles.

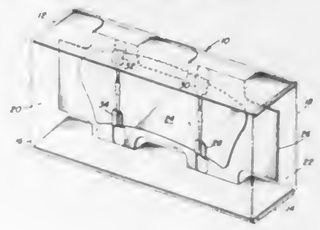
3,403,777
CRATE FOR SHIPPING GLASS AND LIKE FRANGIBLE MATERIALS
Edward P. Bucko, P.O. Box 5, Great Falls, Mont. 59401
Filed Feb. 9, 1967, Ser. No. 614,963
8 Claims. (Cl. 206—62)



A crate for glass panels or the like including a plurality of removably mounted vertical panel stabilizing rods engaged between upper and lower members. The rods are selectively orientated so as to, through resilient sleeves mounted thereon, engage the opposite faces of a glass panel as well as one or both edges thereof as might be required so as to effect a stabilization of the glass panel. The upper and lower members include holes which receive the ends of the rods, one end of each rod being telescopic for facilitating the mounting thereof in the corresponding holes. Side walls are also provided on the crate

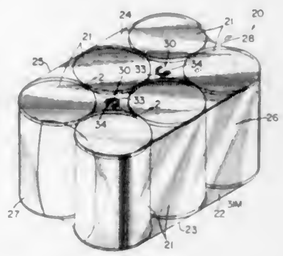
for enclosing the stabilized glass panels with the side walls also acting, in conjunction with an adjacent row of rods, to stabilize a sheet or panel of glass or the like.

3,403,778
WINDSHIELD CARRIER PACK
Joseph Voytko, Cleveland, and James R. Goodsite, Sandusky, Ohio, assignors to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware
Filed Apr. 6, 1967, Ser. No. 629,009
2 Claims. (Cl. 206—62)



A shipping package for a windshield is provided wherein the windshield is mounted via peripherally located tabs on a one piece I-shaped interliner packing unit which is then inserted into a suitable container for shipping and storage. The interliner forms a structural part of the container and isolates the windshield from the container walls.

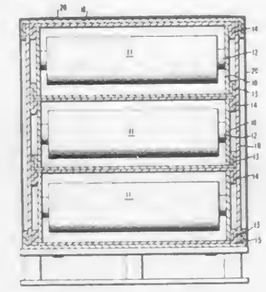
3,403,779
OPENING DEVICE FOR PACKAGE MEANS
William C. Becker and Herbert S. Bailey, Henrico County, and Thomas E. Kirby, Jr., Chesterfield County, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Oct. 14, 1966, Ser. No. 586,732
14 Claims. (Cl. 206—65)



This disclosure relates to a dual-function device provided in an overwrapping material for overwrapping an associated package construction wherein such device is used to sever an elongated strip from such material to provide access to the package construction and such device also defines handle means for carrying such package construction.

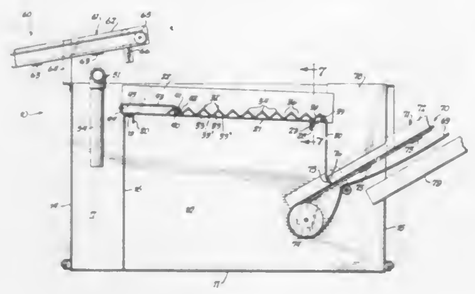
3,403,780
STACKED TRAY PALLETIZED PACKAGE FOR ROLLS
Richard G. Binkley and James A. Bouras, Florence, S.C., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 15, 1967, Ser. No. 646,352
10 Claims. (Cl. 206—65)

A palletized stack of individually packaged rolls which are assembled in a tiered configuration and are enclosed within two pallet trays and four side pieces. Each roll



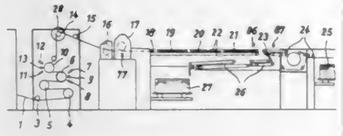
within the individual packages is supported by suspension pieces located between a lower and an upper tray.

3,403,781
METHOD AND APPARATUS FOR CLEANING AND GRADING DRY BEANS
Robert J. Drago, 3104 Lake Heights Drive, Hamburg, N.Y. 14075
Filed Sept. 22, 1965, Ser. No. 489,327
3 Claims. (Cl. 209—10)



A machine for water washing and grading vegetables, such as dry soaked beans heavier than water and including a flume inclined downstream and having contiguous transverse inverted V-shaped ribs forming contiguous V-shaped transverse channels, an overflow tank and a flat plate connected to the highest rib for overflowing water over the plate in a substantially eddyless stream into the flume, a conveyor for dropping the vegetables into the stream flowing down the plate, whereupon the stream is converted in the flume to an undulating flow across the ribs to produce velocity and pressure differentials sucking the dense vegetables and heavier solid foreign matter successively into the channels in accordance with Bernoulli's Principle, but permitting the less dense vegetables to flow over the ribs, a screen conveyor for receiving the stream and separating less dense vegetables discharged from the flume, and a water collecting tank, a pump and a pipe connected to the overflow tank for recirculating the water and helping to produce the eddyless stream.

3,403,782
SHEET MATERIAL CUTTING AND SORTING APPARATUS
Helmut Schäfer, Neuffen, Germany, assignor to Hans Biel, Neuffen, Wurttemberg, Germany
Filed Nov. 12, 1964, Ser. No. 410,514
Claims priority, application Germany, Nov. 14, 1963, B 74,255
4 Claims. (Cl. 209—75)

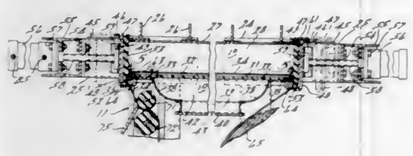


1. Apparatus for sorting faulty sheets comprising a cross cutter for cutting a web of material, such as paper, into sheets, fault detecting means, said web passing through said detecting means, a separator for said faulty sheets, control means for said separator, stacks for both said faulty and for good sheets, at least one scanning station in said detecting means, said scanning station generating a fault signal upon detecting of a fault in said web, an impulse doubler, said fault signal being imposed upon said doubler, said doubler converting said fault signal into impulses indicating both the beginning and the end of said fault signal, intermediate storage means, said impulses being subsequently stored in consecutive order in said storage means, and synchronizing means for imposing the individual impulses of said control means onto said separator when a sheet having either said beginning or said end fault arrives at said separator.

3,403,783
FLOTATION OF PHOSPHATE-CONTAINING MATERIALS
Paulo Abib Andery, Sao Paulo, Brazil, assignor to Zuplatec A. G. Gesellschaft fur Technische Planung und Industrielle Entwicklung, Zurich, Switzerland
No Drawing. Filed Nov. 22, 1965, Ser. No. 509,187
3 Claims. (Cl. 209—167)

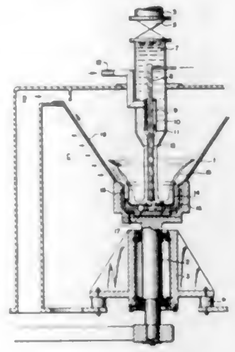
Phosphate values are recovered from mineral compositions including phosphates and alkali earth carbonates employing a gelatinized starch gum obtained by reacting sodium hydroxide and starch in a ratio in the range of 1:1 to 1:2 to provide a pulp pH of about 7.5–10, said gelatinized starch gum being a depressing agent for the non-phosphate components, adding a collecting agent such as linoleic or oleic acid to collect phosphate values, and effecting froth flotation to collect the phosphate values in the froth and remove depressed alkali earth carbonates as tailings.

3,403,784
FILTER MACHINE AND METHOD
Waldorf H. Blumberg, Southfield, Mich., assignor to Detroit Filter Corporation, Detroit, Mich., a corporation of Michigan
Filed May 11, 1967, Ser. No. 637,671
9 Claims. (Cl. 210—67)



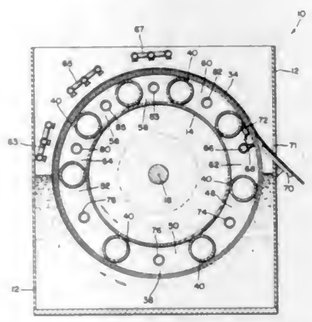
A filter comprising a sealable chamber and a perforate platen therein. A filter sheet in drawn across the platen from a roll. The fluid to be filtered passes downwardly through the sheet and platen during filtration and compressed air is forced upwardly to levitate the filter to facilitate movement of the filter media to replace the same.

3,403,785
CENTRIFUGAL DRIER
André Mercier, La Madeleine, Nord, France, assignor to Societe Fives Lille-Cail, Paris, France
Continuation of application Ser. No. 550,703, May 12, 1966. This application Oct. 19, 1967, Ser. No. 676,658
Claims priority, application France, May 18, 1965, 17,397
7 Claims. (Cl. 210—178)



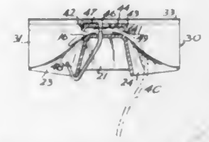
The conical basket of a centrifugal drier is equipped with a supply tube for the material to be formed whose outlet opening is axially centered and spaced from the closed bottom end of the basket. A guide member partly projects coaxially from the outlet opening toward the basket bottom and is covered with a liquid film during drier operation so that viscous material discharged from the supply tube is precisely guided toward the center of the basket bottom while separated from the guide member by the liquid film which prevents sticking.

3,403,786
ROTARY DRUM FILTER
Oscar Luthi, Nashua, N.H., assignor to Improved Machinery Inc., Nashua, N.H., a corporation of Delaware
Filed Aug. 25, 1966, Ser. No. 575,182
17 Claims. (Cl. 210—217)



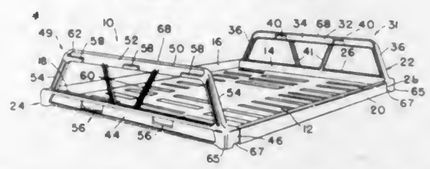
1. In a rotary drum filter adapted to be located in a container of pulp stock for filtering pulp stock in said container, the combination of:
an inner drum member;
an outer drum member extending peripherally around said inner drum member and spaced from said inner drum member to provide a space between said drum members peripherally around said inner drum member;
rolling means disposed within said space between said drum members for supporting said outer drum member upon said inner drum member and dividing said space into a plurality of compartments;
one of said drum members being constructed to collect filtered stock during rotation; and
means for rotating said one of said drum members.

3,403,787
HANGER BAR
James L. Browning, 1240 Utoy Springs Road SW., Atlanta, Ga. 30331
Filed Apr. 5, 1966, Ser. No. 540,237
5 Claims. (Cl. 211—124)



A hanger bar assembly having a hanger support bar over which a plurality of hooks or hangers are disposed for supporting articles of apparel on hangers from the hanger bar and a locking cap which has a flat upper surface and a pair of downwardly and outwardly projecting sides which overhang the sides of the support bar. The cap is removably retained in place by a plurality of longitudinally spaced clips which project through aligned apertures in the bar and wrap around a portion of the cap and the lower edge portion of the bar.

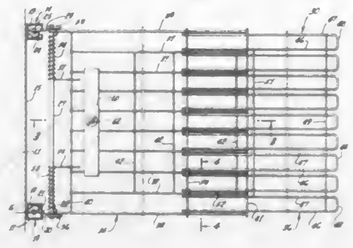
3,403,788
NEST AND STACK TRAYS
Elsmer W. Kreeger, Orchard Lake, Mich., assignor by mesne assignments, to Pinckney Molded Plastics, Inc., Pinckney, Mich., a corporation of Michigan
Filed Oct. 3, 1966, Ser. No. 583,732
8 Claims. (Cl. 211—126)



The tray comprises a bottom wall and upright frames at opposite ends of the bottom wall. The bottom wall has slots beneath the frames so that the container will nest with a vertically aligned similarly oriented lower container of identical construction with the upright frames of the latter projecting upwardly through the slots. There are abutment means for supporting the container on a reversely oriented lower container of identical construction in stacked relation.

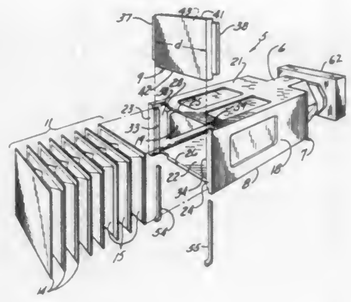
3,403,789
TELESCOPING TRAY FOR RETRACTABLE DISPLAY RACK
Howard W. La Morte, New York, and Leo McIsaac, Westbury, N.Y., assignors to Vita-Pakt Citrus Products Co., Covina, Calif., a corporation of California
Filed May 20, 1966, Ser. No. 551,642
6 Claims. (Cl. 211—150)

The invention resides in a telescoping tray which may preferably be made of laterally spaced, longitudinally extending wire strands. The tray consists of two parts, namely a rearward member which is pivotally secured to a rear support and a forward member which slides telescopically toward and away from the rearward member. The rearward member is pivotally attached to the rear support and is provided with springs acting in torsion between the rear support and the rearward member



biased in a direction adapted to elevate the rearward member, the torsion force of the springs being in excess of the moment produced by the rearward and forward members about the pivot axis when the forward member is in extended position and empty so that when the tray is empty the tray will be tilted upwardly and the forward member will automatically retract into telescoping engagement with the rearward member.

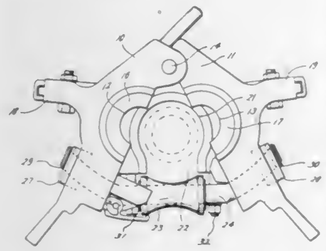
3,403,790
FRICTION CLUTCH DRAFT GEAR WITH REMOVABLE REAR WALL
Andrey L. Zanow, Cleveland, Ohio, assignor to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 4, 1967, Ser. No. 607,323
5 Claims. (Cl. 213—22)



A friction type draft gear for a railway vehicle having a cushion-actuated friction clutch. The casing of the draft gear has a rear open-end opposite its clutch-receiving end, projecting rear end wall portions on opposite sides of the casing body, and a rear plate-like follower adapted to interlock with the end wall portions for longitudinal retention of the follower in the draft gear body. The follower, when moved from a transverse exterior position into the grip of the rear casing portions and in proper registry with the casing walls, is then movable forward relative to the rear casing portions to effect transverse interlocking relationship with the casing body. Ad-

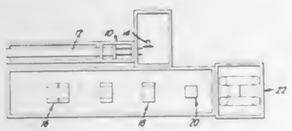
justable or detachable elements hold the follower forward to entrap the follower within the casing body.

3,403,791
PIPE ELEVATOR FOR USE WITH SPLIT BLOCK
William M. Marks and Wayne L. Brackin, Beaumont, Tex., assignors to Dresser Industries, Inc., a corporation of Delaware
Filed June 7, 1966, Ser. No. 555,784
10 Claims. (Cl. 214—2.5)



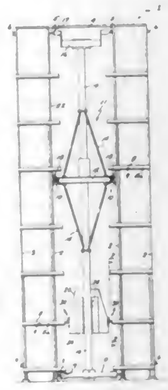
A well pipe elevator that includes a pair of pipe encircling members including surfaces thereon arranged to engage enlargements on the pipe to support the pipe, means hingedly connecting the pipe encircling members whereby they can be moved from a closed position supporting the pipe to an open position wherein they will not engage the enlargements on the pipe, pipe stabilizing means engageable with the pipe for limiting the lateral movement of the elevator relative to the pipe as the elevator is moved along the pipe by the split block and holding means operably connecting the pipe encircling members and the pipe stabilizing means to hold the stabilizing means in a position to keep the members from engaging the enlargements on the pipe as the elevator is moved along the pipe.

3,403,792
VERTICAL STACKER
William H. Lape, Shillington, Pa., assignor to Textile Machine Works, Wyomissing, Pa., a corporation of Pennsylvania
Filed Dec. 14, 1965, Ser. No. 513,762
4 Claims. (Cl. 214—6)



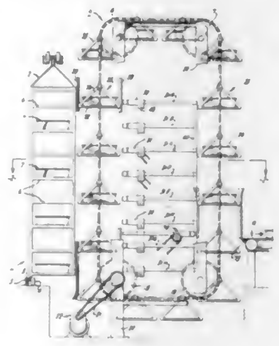
The invention relates to an article stacking device to be employed for example with a case loading machine. The device includes an elevator to which the articles to be stacked are delivered and a pair of spaced ledges for supporting the packages raised by the elevator. The ledges are mounted on swingable arms for movement between active package supporting positions and inactive positions in which the elevator with a package thereon can pass between them in its upward movement. Cam and follower means are employed to swing the arms to move the ledges to their inoperative position the cam being so supported and controlled that it is effective to perform its arm swinging function only during the upward movement of the elevator.

3,403,793
POSITION SENSING DEVICE
Raymond Q. Armington, Willoughby, Ohio, assignor to The Triax Company, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 17, 1965, Ser. No. 514,614
12 Claims. (Cl. 214—16.4)



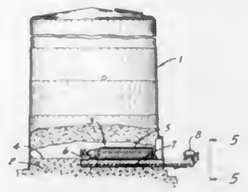
In a warehouse having horizontal and vertical spaced supports for stored loads, a load carrier including a transversely extendible extractor which is movable vertically and horizontally to said supports, the carrier having a stop switch thereon movable relative to the carrier into an operative position for engagement with a portion of the support for stopping the carrier and initiating movement of the extractor.

3,403,794
APPARATUS FOR STACKING AND UNSTACKING ARTICLES
Ralph Lopez, 1734 Church St., San Francisco, Calif. 94131
Filed Apr. 15, 1965, Ser. No. 448,423
2 Claims. (Cl. 214—16.6)



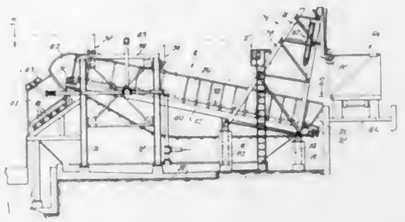
Apparatus for stacking and unstacking articles including an endless conveyor arranged to provide a pair of horizontally spaced vertically extending runs. Provision is made for moving articles to and from article supporting platforms on one run of the conveyor relative to a stationary rack and means is provided for removing and loading articles one at a time on the other run of the conveyor.

3,403,795
UNLOADING MECHANISM FOR A STORAGE STRUCTURE
John W. Schaefer, Barrington, Ill., assignor to A. O. Smith Harvestore Products, Inc., Arlington Heights, Ill., a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 503,520
33 Claims. (Cl. 214—17)



The invention relates to an unloading mechanism for a storage structure including a cutter arm which is mounted for rotation about the center of the structure and the cutter arm includes a pair of cutter cylinders located generally one above the other. A series of teeth are mounted on the outer surface of each of the cutter cylinders and as the cutter arm rotates the cylinders rotate about their axes and move into the mass of stored material to dislodge the same. Located behind the cutter cylinders, in the direction of rotation of the cutter arm, is an auger which serves to convey the dislodged material to the center of the structure and deposit the material in a radially extending trough formed in the foundation. Dual auger conveyors operating within the trough serve to convey the material to the exterior of the storage structure.

3,403,796
CANE HANDLING APPARATUS
Harold A. Willett, Thibodaux, La., assignor, by mesne assignments, to The Thomson Machinery Company, Inc., Thibodaux, La., a corporation of Delaware
Filed Jan. 26, 1965, Ser. No. 428,099
13 Claims. (Cl. 214—46)



10. A self-discharging wagon comprising a frame, a body having two pivotally interconnected sections one of which is pivotally mounted to said frame, one of said said sections having a floor and one side wall and portions of two end walls, and the other of said sections having one side wall and portions of two end walls.

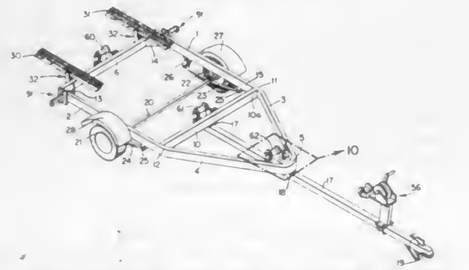
3,403,797
FLEXIBLE SHUTTLE CAR
Arthur L. Lee and Arthur B. Coval, Columbus, Ohio, assignors to Consolidation Coal Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 11, 1965, Ser. No. 494,783
11 Claims. (Cl. 214—83.36)

A haulage vehicle having a flexible body mounted on a pair of relatively rigid axle assemblies. The flexible body has a pair of vertical side plates forming the side walls of an elongated trough shaped material haulage compartment. A deck plate is supported by the flexible side plates and forms a bottom wall for the haulage compartment. The relatively rigid axle assemblies are connected to the side plates adjacent the end portions of the side plates so



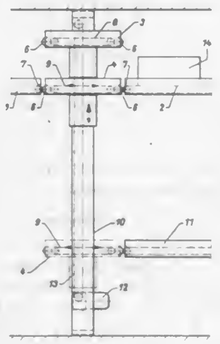
that the side plates remain free to flex when the haulage vehicle is subjected to torsional stresses. The axle assemblies have pairs of driven and steerable wheels mounted thereon for supporting the flexible body and propelling the vehicle.

3,403,798
BOAT TRAILERS
Charles T. Flachbarth and Ronald S. Friedman, Parkersburg, W.Va., assignors to Textron, Inc., Providence, R.I., a corporation of Rhode Island
Filed Jan. 10, 1966, Ser. No. 519,494
11 Claims. (Cl. 214—84)



The invention relates to boat trailers having framing made of rectangular shaped tubing whose cross section is matched to the load and with the various side members, keel members, stiffeners, bridge assemblies, and cross members abutted and welded to maximize joint strength.

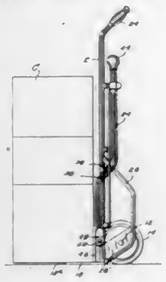
3,403,799
ARRANGEMENT TO LOAD A CONVEYING ROUTE
Willy Sindzinski and Wolfgang Stiller, Berlin, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 24, 1967, Ser. No. 625,831
Claims priority, application Germany, Apr. 14, 1966, St 25,236
1 Claim. (Cl. 214—89)



An arrangement to load a conveying route, in which a section of the conveying route is removed and replaced

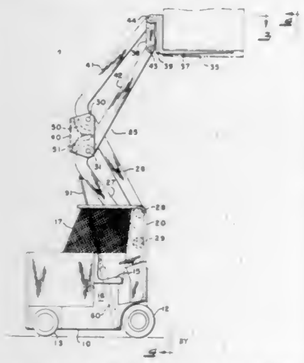
by another section for the transfer of articles to the conveying route.

3,403,800
LOAD DISPLACING DEVICE FOR HAND TRUCKS
Americo Botello, 8 Oliver St., Somerville, Mass. 02143
Continuation-in-part of application Ser. No. 575,835, Aug. 29, 1966. This application Feb. 8, 1967, Ser. No. 614,713
6 Claims. (Cl. 214—511)



This invention relates to a pivoted lever assembly which can be quickly and conveniently attached to the flat portion of a hand truck and which includes as a part of the lever a presser shoe adapted to engage against an article loaded on the truck so as to exert displacement forces which act to displace the truck away from the load and release the toe plate.

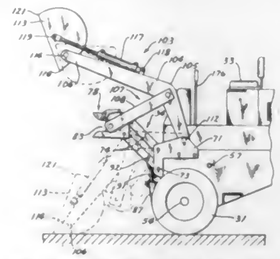
3,403,801
UNIVERSAL LIFT TRUCK
Bronislaus I. Ulinski, Jenkintown, Pa., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed July 21, 1966, Ser. No. 566,889
4 Claims. (Cl. 214—770)



An elevating device of an industrial truck as constituted by lower and upper pair of lift links. The lift links are located centrally of the truck, said upper pair of links lying in the same plane. Gear means drives said pairs of links in opposite rotational directions.

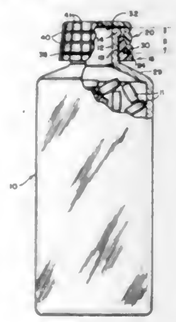
3,403,802
FARM TRACTOR
Vernon J. Lundell, Cherokee, Iowa 51012
Filed Feb. 14, 1966, Ser. No. 527,128
8 Claims. (Cl. 214—778)

The tractor includes a main frame having a front wheel drive, a rear mounted engine and a forwardly carried operator's seat. A pair of hydraulically operated pivoted lift arm structures projected forwardly from opposite sides of the tractor have rear ends pivotally supported at the front end of the tractor for up and down pivotal movement of their front ends. A farm implement is releasably connected to the front ends of the arm structures for movement to raised and lowered positions forwardly of the tractor. The farm implement is thus in the direct line of vision of the tractor operator and acts also to increase the tractive effort of the front drive wheels. The arm structures are spring biased in an upward direction to floatingly



support the farm implement in a lowered ground engaging position. A torsion bar connected between the arm structures adjacent their pivoted rear ends functions to permit relative pivotal movement between the arm structures to facilitate their connection with a farm implement and to stabilize the arm structures against such relative movement when the implement is in a supported position on the arm structures.

3,403,803
SAFETY BOTTLE CLOSURE
Isral J. Markowitz, 579 E. 42nd St., Brooklyn, N.Y. 11203
Filed Aug. 31, 1966, Ser. No. 576,365
6 Claims. (Cl. 215—9)

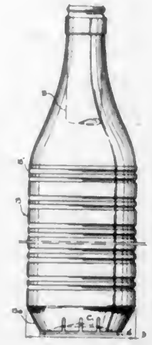


A safety bottle closure of two piece construction having cooperative threaded means between upper and lower elements, the lower element being rotatively secured about the neck of said bottle; both elements freely rotative about the neck of such bottle when threaded together and when said elements are oppositely rotated, the upper element of such safety closure can be removed.

3,403,804
BLOWN BOTTLE OF FLEXIBLE PLASTICS
Roberto Colombo, Turin, Italy, assignor to L.M.P. Lavorazione Materie Plastiche S.p.A., Turin, Italy
Filed Dec. 12, 1966, Ser. No. 600,813
Claims priority, application Italy, Dec. 10, 1965, 27,694/65
8 Claims. (Cl. 215—31)

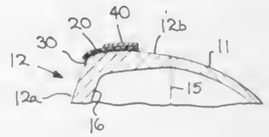
A blown bottle of flexible plastic having a bottom comprising a cuspidate portion surrounded by a peripheral

planar portion. A plurality of interiorly disposed U-shaped ribs form strengthening connections between the bottom



and the lower region of a cylindrical body portion. The bottle neck has a lip which tapers toward the bottle axis.

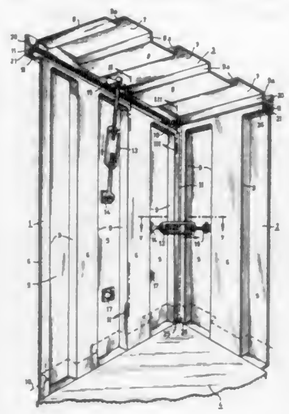
3,403,805
CATHODE-RAY AND OTHER VACUUM-IZED TUBES RESISTANT TO VIOLENT DEVACUATION
Daryl E. Powell, Maumee, and Burton W. Spear, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio
Filed May 31, 1966, Ser. No. 553,757
13 Claims. (Cl. 220—2.1)



A direct-viewing impolsion resistant cathode-ray television picture tube comprising a glass envelope having a funnel portion and a flanged face plate member. An annular perforated reinforcing band is closely fitted to the external surface of the face plate flange. The perforations in the band are filled with a single layer of adhesive material which also extends under the band to form an intermediate layer between the band and the surface therebeneath.

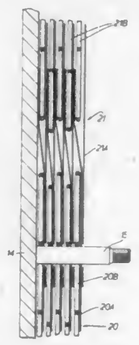
3,403,806
COLLAPSIBLE CONTAINER CONSTRUCTION
Alexander Pohl, 74 Peachtree Way NE., Atlanta, Ga. 30305
Filed June 3, 1964, Ser. No. 372,292
Claims priority, application Germany, June 7, 1963, P 21,195
1 Claim. (Cl. 220—6)

The present invention relates to a one-piece, knockdown cargo container of a large capacity which includes a floor, end walls hingedly secured along each end edge for inward folding onto the floor, a rear wall hingedly secured along its bottom edge to the rear edge of the floor, a roof hingedly secured along one edge to the top horizontal edge of the rear wall, and a front wall member secured along its top horizontal edge to the opposite horizontal edge of the roof, the outside face of the roof being folded against the outside face of the rear wall and the inside face of the front wall being folded against the inside face of the roof. The container is characterized further in that C-shaped or U-shaped channel members



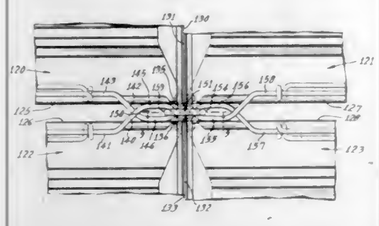
are provided along the respective foldlines within which hinge means are disposed in a protected state. Sealing means are provided in right angled portions formed by the channel members to render the cargo containers substantially watertight when in use.

3,403,807
THERMAL INSULATION
John Hawgood and Edward Armstrong, Durham, England, assignors to Darchem Engineering Limited, Durham, England, a British company
Filed May 6, 1965, Ser. No. 453,689
Claims priority, application Great Britain, May 8, 1964, 19,243/64
3 Claims. (Cl. 220—9)



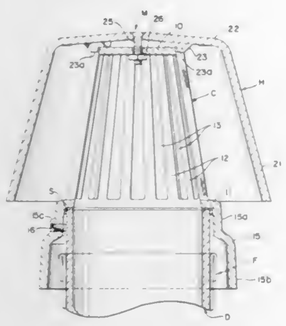
A method for thermally insulating the walls of large vessels such as nuclear reactors by securing a number of separate packs of spaced-sheets on the wall of the vessel in such a way that the sheets of the adjacent packs overlap in order to avoid abutting contact between one pack of sheets and the next pack. A sealing means is disposed within that part of the insulation where one pack overlaps another to minimize convection therebetween. The sealing means may be provided by separate capping means inserted between the sheets, or by angling the sheets of one pack across the space and then extending the sheets so angled into the other pack.

3,403,808
CONTAINER AND CONTAINER SYSTEM
James E. Armstrong, P.O. Box 6107, Jacksonville, Fla. 32205, and Bernard O. Johann, P.O. Box 65, Callahan, Fla. 32011
Filed Apr. 18, 1966, Ser. No. 543,355
16 Claims. (Cl. 220—23.4)



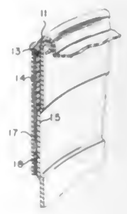
A stackable and nestable container having side walls adapted for limited swinging movement between their upstanding stackable positions and their nesting positions disposed outwardly therefrom. The container has outwardly offset portions with a pair diagonally disposed and spaced above the container bottom and a second pair of offset portions spaced above the bottom a distance less than the other pair. The offset portions of adjacent containers form passages therebetween for the reception of a locking member which releasably connects the containers.

3,403,809
VENT PIPE VANDAL-PROOF HOODED VENT CAP
Joseph T. Kennedy, Hamden, Conn., and Nicholas G. Scheuer, Michigan City, Ind., assignors to Josam Manufacturing Co., a corporation of Delaware
Filed June 15, 1967, Ser. No. 646,388
6 Claims. (Cl. 220—44)



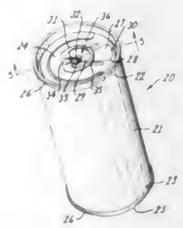
A hooded vent cap assembly comprising as two primary elements of cast metal, molded plastic or the like, a hollow frustro-conical cap generally vertically slotted and having an upper end portion terminating in a flat centrally apertured top end wall, a bottom skirted rim stepped in diameter to engage the end face of and surround the terminal portion of a vent pipe and therebelow to accommodate the end of a pipe flashing sleeve; equally spaced vandal-proof pipe engaging set screws in rim thickening bosses; a sloped-top, bell-shaped hood resting on and secured by a vandal-proof flat head screw and nut to the top of and having a drip-edge circumferentially spaced from the bottom of the cap; spaced integral lugs projecting from the hood top under-surface into the cap end wall at the slot ends for non-rotationally engaging the hood cap; whereby in vandal-proof fashion, the hood is secured to the cap and the cap and hood assembly to the pipe.

3,403,810
TAPE SEALED CONTAINER
Alfred W. Kehe, Berkeley, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed July 27, 1967, Ser. No. 656,498
4 Claims. (Cl. 220—53)



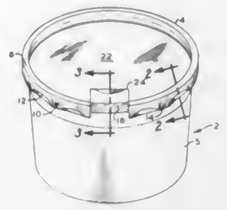
A tape sealed container is constructed of a removable closure lid formed from a thermoplastic material composed of a blend of a major amount of polyethylene, and a minor amount of a copolymer of ethylene and a polar monomer, such as vinyl acetate, the lid being secured to the container by means of removable tape formed from a flexible stratified band having an adhesive composition applied to the inner surface thereof, the adhesive being composed of the same class of copolymers that are incorporated in the blend composition of which the lid is formed.

3,403,811
CONTAINER OPENING MEANS AND PULL TAB THEREFOR OR THE LIKE
Jens L. Moller, Chesterfield County, and Frederik A. Siemonsen, Bon Air, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed May 31, 1966, Ser. No. 553,866
30 Claims. (Cl. 220—54)



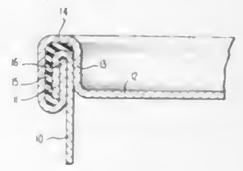
This disclosure relates to a pull tab opening means for separating at least part of a tear portion from a wall of a container to provide product dispensing means therefor, the pull tab being secured to a rivet portion at one end of the tear portion and having a part for fulcruming against the wall only at a point spaced beyond the end of the tear portion so that fulcruming of the tab means on the fulcrum means causes the fulcrum means of the tab means to raise and separate the end of the tear portion from the wall solely by the fulcrum means pulling outwardly on the fastening means without having any part of the tab means fulcruming against the tear portion to provide the pulling action the fastening means.

3,403,812
CONTAINER CLOSURE
William J. Weber, Fulton, N.Y., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Jan. 30, 1967, Ser. No. 612,578
10 Claims. (Cl. 220—60)



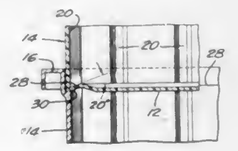
A container closure having an inverted U-shaped portion which fits over the rim bead and a plurality of weakened portions at which the closure will tear when it is removed from the container.

3,403,813
END SEALANT FOR METAL CANS
Herbert K. Price, Richmond, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Aug. 5, 1965, Ser. No. 477,508
8 Claims. (Cl. 220—81)



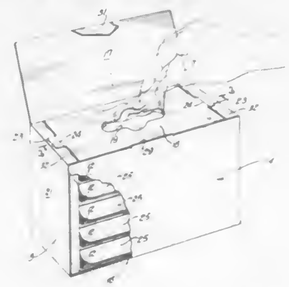
A metal container or can made of sheet metal such as aluminum, and having end seams formed of interfolded layers, is sealed by bonding the seams with a layer of atactic amorphous polypropylene.

3,403,814
STACKING CONTAINER WITH TAPERED LEDGE AND RIB FOR STACKING INTERLOCK
Donald J. Asenbauer, Whittier, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Sept. 26, 1967, Ser. No. 670,662
1 Claim. (Cl. 220—97)



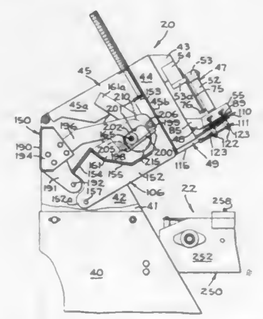
A stacking container having a rectangular bottom wall defining a lower marginal stacking surface extending circumferentially about the wall contiguous the edges thereof, vertical side walls of substantially uniform wall thickness rising from the edges of the bottom wall and stepped outwardly a distance at least equal to the wall thickness adjacent their upper edges to define an upper stacking surface extending circumferentially about the inside of the container, whereby a number of the containers may be stacked with the lower stacking surface of each upper container resting on the upper stacking surface of the adjacent lower container, and the stacking surfaces sloping upwardly at the same angle in the lateral direction from their outer edges to their inner edges so as to resist relative lateral displacement of the adjacent containers.

3,403,815
DISPENSING PACKAGE
John Robson, Somerville, N.J., assignor to Ethicon, Inc., a corporation of New Jersey
Filed July 11, 1967, Ser. No. 652,497
11 Claims. (Cl. 221—34)



A dispensing package and carton for flat flexible articles such as plastic gloves wherein the articles are arranged in a plurality of compressed stacks of said articles and said stacks are separated and maintained in compressed condition by a plurality of horizontal dispensing walls mounted at each end of the carton for vertical movement with respect to a series of stops; each of the dispensing walls having a dispensing opening through which the articles may be drawn from the stacks below them.

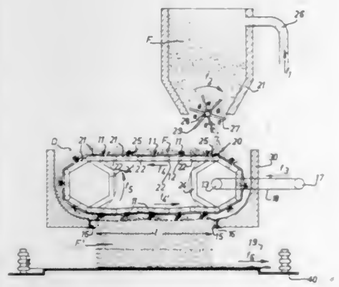
3,403,816
CONTAINER-HANDLING APPARATUS
Ernest A. Verrinder and Boyd W. Rose, Riverside, Calif., assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Feb. 2, 1966, Ser. No. 524,399
5 Claims. (Cl. 221—221)



A plurality of egg cartons are arranged in a stack and are adapted to be individually dispensed from the bottom of the stack to an underlying conveyor. A first pair

of opposed fingers are received under the lowermost carton while second and third pairs of opposed fingers are initially received between the lowermost carton and the carton thereabove. The first and second pairs of fingers are lowered to the conveyor to strip the lowermost carton from the stack while the third pair of fingers holds the remainder of the stack. When the first and second pairs of fingers are moved back to their upper positions, the third pair of fingers releases the stack allowing it to be caught by the first pair of fingers.

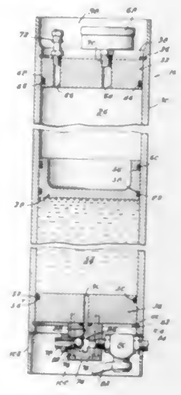
3,403,817
METHOD OF AND APPARATUS FOR THE DISTRIBUTION OF FIBERS FOR FLOCKING MACHINES
Daniel Morash, La Celle-Saint-Cloud, France, assignor to Soclete Besnier-Flotex S.A., Paris, France
Filed Dec. 5, 1966, Ser. No. 599,214
Claims priority, application France, Dec. 29, 1965, 44,086; Jan. 20, 1966, 46,526
19 Claims. (Cl. 222—1)



In particular for electrostatic flocking, a method and apparatus for the distribution of natural, artificial or synthetic textile fibers for all non-woven products, in which the passage of said fibers through a screen is assisted by brushes, consisting in that each brush carried by a link of an endless conveyor chain and inclined with respect to the vertical in a direction opposite to that of the forward movement of the chain, is applied with a certain elasticity and with a certain practically constant pressure over the entire width of any desired value of a screen located below the lower branch of said endless conveyor chain, a relatively small quantity of fibers being fed for the action of each of said brushes via receptacles carried by said chain, one receptacle per brush, a part of the fibers supplied being allowed to pass through the links of said chain on to the screen, said measured quantity of fibers being supplied by a dosing device independent of the distributor proper actuated by a power-driven variable speed reduction device, means being provided for regulation and/or controlling the operation of said dosing device as a function of the speed of said conveyor chain.

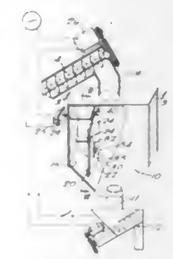
3,403,818
PORTABLE AIRLESS SPRAYER
Bruno Eugen Enssle, Boulder, Colo., assignor to Binks Research and Development Corporation, Boulder, Colo., a corporation of Colorado
Filed Sept. 30, 1966, Ser. No. 583,259
5 Claims. (Cl. 222—23)

Portable airless sprayer apparatus for spraying paint or the like including an improved cylinder structure with a free floating piston therein and improved valve means for controlling the flow of spray material into the cylinder and the discharge of such material therefrom, and further including an airless spray system where a cylindrical vessel of the foregoing type serves as an accumulator so



as to permit a constant flow of material into the cylindrical vessel while a variable amount of spray material is being discharged therefrom.

3,403,819
FEED CONTROL HOPPER
Robert F. Skelton, Bluffton, Ind., assignor to Mix-Mill, Inc., Bluffton, Ind., a corporation of Indiana
Filed Dec. 29, 1966, Ser. No. 605,684
6 Claims. (Cl. 222—56)

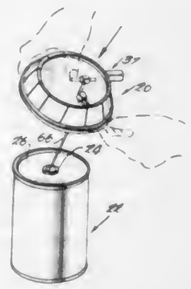


A hopper between an infeed conveyor and an outfeed metering conveyor is divided into two sections. The main section is directly between the conveyors. The control section is beside the main section, defined by a partition having top and bottom openings, and contains a switch paddle to control the action of the infeed conveyor. The height of the bottom opening is adjustable.

3,403,820
LIQUID DISPENSING APPARATUS
H Richard Landis, Oak Lawn, Ill., and Stanley J. Grzych, Schererville, Ind., assignors to Landis Tile & Manufacturing Corp., Chicago, Ill., a corporation of Illinois
Filed May 3, 1965, Ser. No. 452,799
1 Claim. (Cl. 222—61)

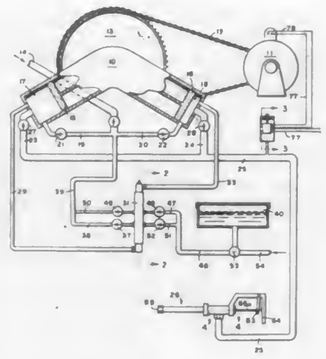
1. An apparatus for dispensing liquid from a cylindrical-shaped liquid container having a frangible sealing element centrally located in the flat end thereof, comprising in combination:

(a) a circular-shaped base adapted to be secured to the flat end of the cylindrical-shaped liquid container having the frangible sealing element centrally located therein,
(b) means for detachably securing said base to the container,
(c) a spigot mounted on the outside surface of said base and a portion thereof extending through said base and protruding from the inside suface thereof,
(d) gas regulating means mounted on the inside surface of said base for maintaining a constant gas pressure within said container,
(e) a high pressure gas source mounted on the inside surface of said base and in fluid communication with said gas regulating means,
(f) a distribution housing carried by the inside surface of said base having two fluid passages formed therein,
(g) a gas carrying tube extending from a first of said fluid passages through the container frangible sealing element into the container,
(h) a liquid carrying tube extending from a second of said fluid passages concentrically through said gas carrying tube and into the container, said liquid carrying tube being longer than said gas carrying tube and bent so that the free end thereof is proximate a curved side wall of the container,



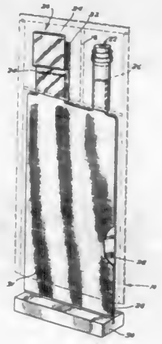
(i) a check valve in fluid communication with said gas regulating means,
(j) a gas carrying hose connecting said check valve with said housing first fluid passage,
(k) a liquid-carrying hose interconnecting said spigot portion protruding from the inside surface of said base and said housing second fluid passage,
(l) a first pinching element fixedly mounted on the inside surface of said base on one side of said liquid carrying hose,
(m) a second pinching element pivotally mounted on the inside surface of said base on the other side of said liquid carrying hose and opposite said first pinching element,
(n) a shaft rotatably mounted through said base and extending from both surfaces of said base,
(o) a handle mounted on the end of said shaft extending from the outside surface of said base, and
(p) a cam mounted on the end of said shaft extending from the inside surface of said base, said cam being rotatable by manually turning said handle and thereby selectively moving said second pinching element against said liquid carrying hose with sufficient force to collapse said liquid carrying hose between said first and second pinching elements whereby liquid is prevented from passing therethrough.

3,403,821
LIQUID PROPORTIONING APPARATUS
Paul B. Blood, P.O. Box 39, Bountiful, Utah 84010
Filed Dec. 20, 1965, Ser. No. 514,878
3 Claims. (Cl. 222—63)



Liquid proportioning apparatus for delivering, under pressure, a liquid to which has been added a predetermined quantity of an additive liquid or liquids. The apparatus comprises a multiple acting, reciprocating, main pump connected in a liquid flow system for pumping a primary liquid from a source of same to a pressure discharge outlet, and a metering pump connected in the system for pumping predetermined quantities of an additive liquid or liquids from a source of same to discharge into the primary liquid. The system is so arranged that, on each discharge stroke of the main pump, the metering pump is powered by pressure discharge from the main pump. The main pump is preferably controlled by pressure differences in the system caused by opening and closing the pressure discharge outlet.

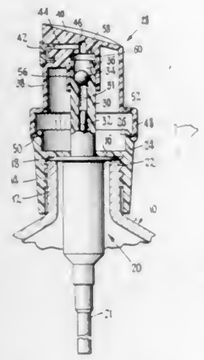
3,403,822
FOOD STORAGE AND DISPENSING CONTAINER SUITED FOR USE UNDER ZERO GRAVITY CONDITIONS
James K. Cage and James R. Veeder, Minneapolis, Minn., assignors to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware
Filed Feb. 15, 1967, Ser. No. 616,407
3 Claims. (Cl. 222—107)



A flexible container to be used by astronauts for storing, mixing with water and dispensing dehydrated food products under zero gravity conditions. Two rectangular plastic sheets are sealed together at their edges with filling

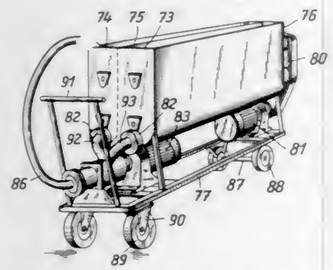
and dispensing nozzles positioned side by side at the same end of the container between the end portion of the sheets. A portion of the container is removed to expose the nozzles.

3,403,823
TAMPER-PROOF ACTUATOR CAP
William R. O'Donnell, Trumbull, Conn., assignor to Valve Corporation of America, Bridgeport, Conn., a corporation of Delaware
Filed Oct. 3, 1966, Ser. No. 583,794
4 Claims. (Cl. 222—153)



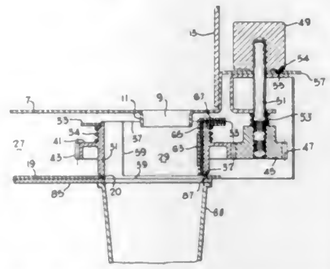
A tamper-proof actuator cap for a dispensing container, said cap having a threaded annular body for screwing onto a bottle mouth, and having an upward body extension comprising a large-diameter lower portion adapted to snap fit onto the body and to be rotatably adjustable thereon. The extension includes an upper portion of slightly smaller diameter, joined to the lower portion by a thin frangible connector means. The upper portion has a discharge orifice and passage, and fits over the hollow reciprocable discharge stem of the container. Upon the first use, the downward force on the upper extension portion severs the frangible connector means, after which the upper portion is telescopically received by and remains within the lower portion.

3,403,824
APPARATUS FOR PREPARING AND DISTRIBUTING A FORAGE PULP FOR FEEDING LIVESTOCK
Heinrich Biehl, Gut Heinrichshof, near Trittau, Germany
Filed May 6, 1964, Ser. No. 365,312
Claims priority, application Germany, Sept. 6, 1963, B 73,404
8 Claims. (Cl. 222—176)



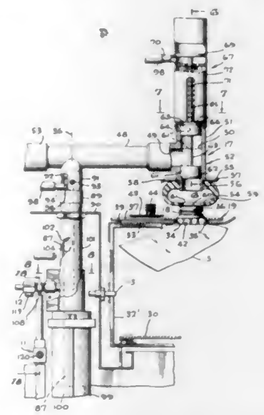
The invention pertains to apparatus for receiving, mixing and distributing forage pulp for the feeding of livestock wherein the forage is pumped into and from the apparatus by a pump mounted upon a movable reservoir for the pulp. The reservoir contains mixing and distributing means for the pulp, and a number of compartments may be defined in the reservoir to permit various types of forage to be simultaneously transported and selectively dispensed.

3,403,825
DISPENSER FOR FLUENT SOLID MATERIAL
Richard N. Modjeski, Evergreen Park, Ill., assignor to UMC Industries, Inc., St. Louis, Mo., a corporation of Delaware
Filed Apr. 24, 1967, Ser. No. 632,968
12 Claims. (Cl. 222—232)



A dispenser for use in a vendor for dispensing a fluent solid material, such as ground coffee, comprising a material-containing hopper having an aperture in its bottom positioned above a variable throw metering chamber. The chamber includes a spiral spring and manually operable gear means for coiling and uncoiling the spring to vary the effective volume thereof. A closure is provided for the aperture and a shutter for the exit end of the metering chamber. An electric drive operates the closure and shutter for alternately covering and uncovering the aperture and exit end of the metering chamber to dispense the material contained therein.

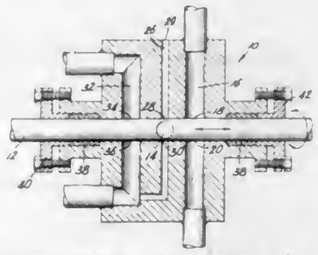
3,403,826
POWER ACTUATED DISPENSING VALVE
Charles G. Buford, 17727 Laxford Ave., Azusa, Calif. 91702, and Wesley Ellis Buford, 1045 N. Azusa, Covina, Calif. 91722
Filed Jan. 11, 1965, Ser. No. 424,610
16 Claims. (Cl. 222—334)



A device for filling a predetermined quantity of liquid into a flexible bag, including a scale on which the bag is placed and carrying a holder having jaws for gripping

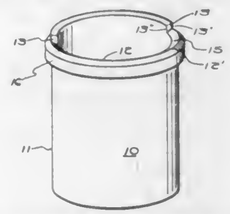
a filling neck of the bag, with a filling spout being movable into engagement with the neck and adapted to fill liquid into the bag. Automatic control means responsive to the scale act to automatically close off the flow of fluid when liquid of a predetermined weight has been filled into the bag. The fluid controlling valve has a pneumatically operated actuating unit which is detachable from the valve to expose the valve parts for cleaning, with detachment of the actuating unit being effected by merely shifting it bodily relative to the valve and transversely of the axis of movement of the valve. A capping device is mounted for shifting movement between a position in which it receives a cap from a magazine holding a series of the caps to a position in which the cap is then attached to the filled bag.

3,403,827
DISPENSING APPARATUS WITH PLURAL OSCILLATING MOVEMENTS
Henry J. Jahnes, St. Albans, W. Va., assignor to Union Carbide Corporation, a corporation of New York
Filed June 20, 1967, Ser. No. 647,424
9 Claims. (Cl. 222—362)



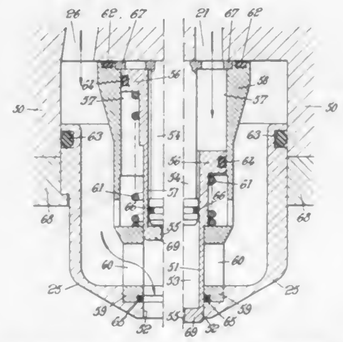
The disclosure describes an apparatus for unidirectionally dispensing a fluid or a solid dispersed in a fluid or a flowable solid by means of a single plunger metering valve in a ported enclosure. The plunger is provided with a chamber cut through the plunger that may be displaced in the direction of the axis of the plunger as well as rotated in a direction transverse to the axis. The enclosure openings or ports are arranged to coincide with the chamber when it is displaced in either direction so that the chamber may be filled when displaced in one direction, emptied when further displaced and purged when displaced in the other direction so that an empty and completely purged chamber may be presented to the feed port in the enclosure.

3,403,828
DISPENSING CONTAINER
William F. Frank, Fairfax, Va., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Continuation of application Ser. No. 514,272, Dec. 16, 1965. This application Sept. 25, 1967, Ser. No. 670,458
3 Claims. (Cl. 222—486)



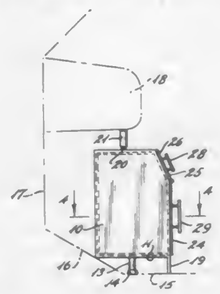
This invention relates to a container and closure structure wherein the open neck of the container is provided with an indentation, which indentation is further provided with an inwardly-outwardly orientated wedge-shaped base surface, which base surface is in turn in sliding contact with a stop block provided on the inside of the closure wherein limited rotational movement of the closure with relationship to the container respectively uncovers and covers dispensing openings within the top surface of the closure in communication with the indentation.

3,403,829
DEVICES FOR FEEDING A FLUID PRODUCT INTO PACKING CONTAINERS
Jacques Honoré Gaspard Ollier, 17 Rue du General Henrion, Neuilly-sur-Seine, France; Georges Frédéric Grosshans, 53 bis Rue de Boulainvilliers, Paris, France; and Robert Gaston Masson, 10 Blvd. de Courbevoie, Neuilly-sur-Seine, France
Filed Sept. 21, 1966, Ser. No. 580,930
Claims priority, application France, Oct. 8, 1965, 34,267
2 Claims. (Cl. 222—571)



The device comprises a nozzle having a delivery orifice for the outflow of the fluid product, and a hollow valve slidable in the delivery orifice for closing it, this hollow valve including, at its outer end, a wall provided with a hole. Means are disposed in said hollow valve adapted to co-operate with said hollow valve during closing sliding of the hollow valve whereby said closing sliding of the hollow valve generates a suction inside said hollow valve, this suction being exerted through said hole and the drop of the product formed at the end of the delivery thereof on the outer side of said end wall.

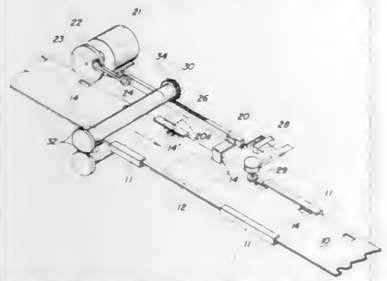
3,403,830
COMBINATION WASTE AND SOILED CLOTHES RECEPTACLE FOR AN AUTOMOBILE
Berlin L. Jones and Jane A. Jones, both of P.O. Box 142, Philippi, W.Va. 26416
Filed Aug. 5, 1966, Ser. No. 570,513
6 Claims. (Cl. 224—29)



The present invention is a combination waste and soiled clothes receptacle for application beneath the dash of an automobile and it comprises an open front housing

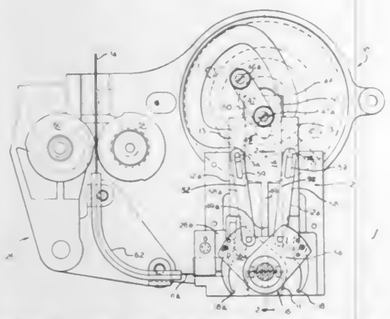
and a receptacle, the housing being provided with means for quickly securing it in fixed position beneath the dash and the receptacle being nestable within the housing and having an angular opening affording access thereinto, and with a spring actuated closure for such opening. Also the receptacle is provided with grip means, or, in other words, a handle on its front portion, by which it may be readily inserted and removed, and with means by which said open front housing may be quickly secured in fixed relation in an automobile.

3,403,831
FILM DRIVE UNIT
William A. Lawson, Jr., and Paul F. Sigl, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Apr. 21, 1966, Ser. No. 544,249
5 Claims. (Cl. 226—62)



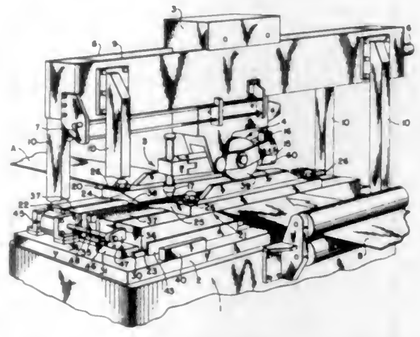
A high speed intermittent drive unit for advancing film which comprises a pair of rollers for driving the film through the nip therebetween and accelerating the film to a predetermined velocity whereupon a pawl coordinated with the roller movement engages a film aperture to assist in driving the film and to establish the final position of the film. Damage to the aperture edges as a result of high acceleration forces is thereby reduced.

3,403,832
COMBINATION STAPLE FORMER AND STAPLING MACHINE
Robert W. Pabich, 2323 N. Knox Ave., Chicago, Ill. 60639
Filed Aug. 31, 1967, Ser. No. 670,495
11 Claims. (Cl. 227—91)



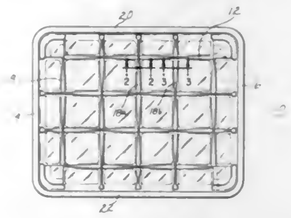
Includes the block and mandrel for forming staples thereabout which has a reel of wire with the wire-feeding means adapted to feeding a length of wire over the mandrel. A sliding frame member is associated with the block and has an opening on the bottom thereof that is shaped to interlock with the mandrel and form a wire disposed therebetween into the shape of a staple. Cooperating elements of a shear on the sliding fram member and wire-feeding means shear the length of wire from the reel of wire when the frame member is moved against the mandrel. Staple-gripping means are associated with the block and cooperate with each other to grip the staple after it has been formed over the mandrel and transfer and move the staple to a position where the staple can be driven by a staple-driving means. The staple-gripping means have grooves formed therein for holding the staple and, in addition, one of the staple-gripping means have magnets for holding the staple in position for actuation by the staple-driving means. The device forms one staple while it drives another staple that has just been formed. After a staple has been formed, it is moved to a position where it is driven by the staple-driving means.

3,403,833
STRIP CLAMP ASSEMBLY
Donald J. Wheeler, Kent, and Victor Lohrenz, Bedford, Ohio, assignors to Guild Metal Joining Equipment Co., Bedford, Ohio, a corporation of Ohio
Filed Apr. 8, 1966, Ser. No. 541,366
13 Claims. (Cl. 228—13)



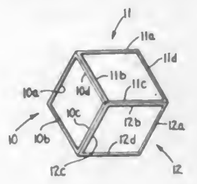
A strip clamp assembly including a pair of spaced apart strip clamps, one being fixed and the other mounted for limited movement toward and away from the fixed strip clamp, and a pair of shear block assemblies between the strip clamps having a fixed spacing therebetween, said pair of shear block assemblies also being mounted for movement toward and away from the fixed strip clamp to expose the trimmed ends of a pair of strips clamped by the strip clamps after shearing and establish a predetermined spacing therebetween.

3,403,834
TRAY
Donald W. Donovan, Glastonbury, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed July 11, 1966, Ser. No. 564,131
7 Claims. (Cl. 229—2.5)



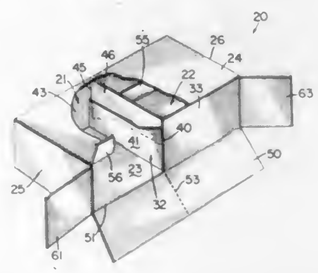
A tray having improved bend resistance provided by a plurality of substantially parallel, intersecting primary and secondary ribs integral with, and extending across the body of the tray.

3,403,835
BULK MATERIALS CONTAINER
Jon M. Schwaner, Zionsville, Ind., assignor to Inland Container Corporation, Indianapolis, Ind., a corporation of Indiana
Filed July 17, 1967, Ser. No. 653,895
2 Claims. (Cl. 229—15)



A multi-cell or compartmented container of corrugated board particularly adapted for flowable bulk materials, and formed of separate unitary cells which have certain panels of each cell secured in face-to-face relation permitting the container to be folded or collapsed into a generally flat contour, the final setting-up of the container forming it into its completed multi-cell form.

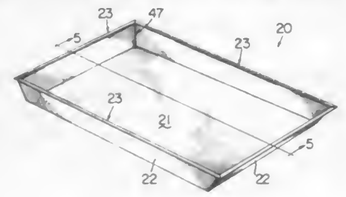
3,403,836
COMPARTMENTED CARTON AND BLANKS FOR MAKING SAME
Melville T. Farquhar, Bon Air, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Oct. 18, 1966, Ser. No. 587,557
13 Claims. (Cl. 229—27)



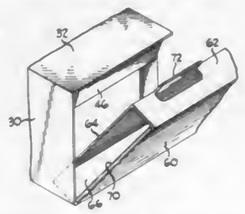
This disclosure relates to an enclosed carton, and a blank for making same, wherein such carton has two compartments one of which may be severed away to leave a fully enclosed container of reduced size.

3,403,837
DISHLIKE CONTAINER
Melville T. Farquhar, Bon Air, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed July 18, 1967, Ser. No. 654,140
1 Claim. (Cl. 229—31)

This disclosure relates to a dishlike container means made of multiple layer sheet means having a metallic foil layer defining its inside surface layer and an adjacent layer made of a material capable of being charred. Such dishlike container means has downwardly concave rolled flange means defining top peripheral edge means of its side wall means arranged so that such metallic foil layer protects such adjacent layer arranged therebeneath from heat rays traveling substantially normally toward the inside surface of the dishlike container means. This disclosure also relates to blanks for making such dishlike container means and to an improved method of making rolled flange means in multilayer sheet means of the character mentioned.

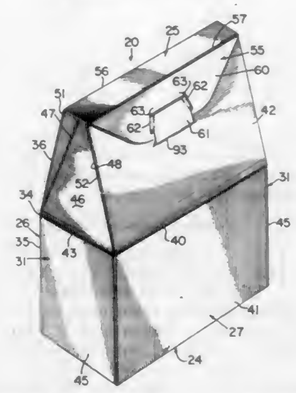


3,403,838
CORNER CONSTRUCTION FOR HOLLOW-WALL CARTON
Bruce E. Van Dyke, Chagrin Falls, Ohio, assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Dec. 12, 1966, Ser. No. 600,846
6 Claims. (Cl. 229—34)



A hollow wall construction wherein the end of a first wall is received within the adjacent end of a second wall and wherein the end of one panel of the second wall has hinged thereto a lock flap folded under said one panel approximately 180 degrees for engagement with a lock tab projecting upwardly from an inner panel of the first wall.

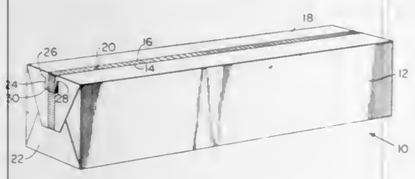
3,403,839
CARTON AND BLANKS FOR MAKING SAME
Melville T. Farquhar, Bon Air, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Nov. 8, 1966, Ser. No. 592,875
10 Claims. (Cl. 229—40)



This disclosure relates to a carton for containing a plurality of containers, each having upwardly tapering necks,

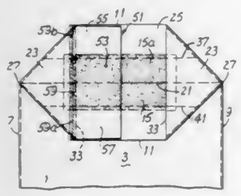
and to a blank for making such a carton, wherein the carton has upwardly converging vertical wall means which conform generally to the tapering configuration of the upper portion of such containers.

3,403,840
OPENING DEVICE FOR PACKAGES WRAPPED WITH SHRINKABLE PLASTIC FILMS
Howard Eugene Mathes, Harlan Township, Warren County, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Nov. 3, 1965, Ser. No. 506,157
10 Claims. (Cl. 229—51)



An opening device for packages wrapped with heat shrinkable plastic films. The longitudinal edges of the films are lapped and sealed to form a longitudinal seam. The film is cut transversely through the longitudinal seam to form an opening tab. When pulled, the opening tab causes tearing of the wrapper along the edges of the longitudinal seam.

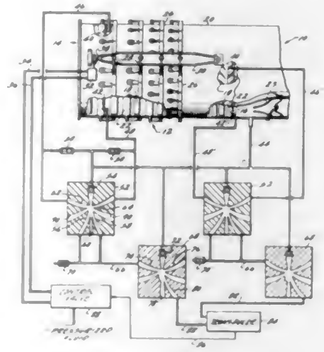
3,403,841
BAGS
Donovan D. Wendt, St. Paul, and Milton J. Heimos, Minneapolis, Minn., assignors to Bemis Bro. Bag Company, Minneapolis, Minn., a corporation of Missouri
Filed Mar. 19, 1965, Ser. No. 441,212
18 Claims. (Cl. 229—60)



A plastic bag having a diamond-fold closure comprising inwardly directed end flaps and side flaps, the side flaps being folded over on the end flaps and being heat-sealed together from one end flap to the other and heat-sealed at least to one end flap, heat-seal-inhibiting material being provided on the inside of the tube from which the bag is formed in a pattern such as to inhibit blocking of the closure where it is heat-sealed.

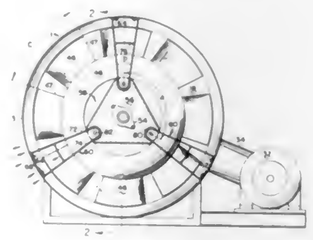
3,403,842
STALL PREVENTION IN AXIAL FLOW COMPRESSORS
Jean A. Roché, Reading, Ohio, assignor to General Electric Company, a corporation of New York
Filed Jan. 3, 1967, Ser. No. 606,757
4 Claims. (Cl. 230—114)

The disclosure shows an axial flow compressor in which a pair of angularly spaced probes are provided respectively in the first and last compressor stages. Fluidic means are responsive to the pressure signals in these probes. Whenever there is a difference in the pressure signals of the two sensors of either pair, a stall warning signal is generated which causes adjustment of the compressor stator vanes



to reduce the aerodynamic loading on the compressor and avoid a stall condition. The stall warning signal is generated regardless of which sensor of a given pair has a higher pressure signal.

3,403,843
BEARING BRACKET
Robert A. Cox, La Crosse, Wis., assignor to The Trane Company, La Crosse, Wis., a corporation of Wisconsin
Filed Dec. 27, 1966, Ser. No. 604,690
1 Claim. (Cl. 230—120)

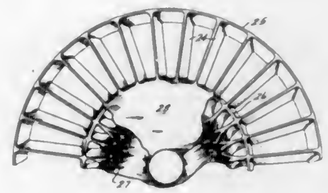


A plurality of brackets, each consisting of a unitary, V-shaped member having two spaced apart legs of relatively thin cross section, are utilized to support a drive shaft bearing assembly on the inlet side of an axial flow fan. The brackets are arranged along radial lines with respect to the fan center, and the angular orientation of brackets and bracket legs is such that the leading edge of only one fan blade passes behind a bracket leg at a given instant.

3,403,844
BLADED MEMBER AND METHOD FOR MAKING
Lewis J. Stoffer, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Continuation of application Ser. No. 541,410, Feb. 25, 1966. This application Oct. 2, 1967, Ser. No. 672,106
15 Claims. (Cl. 230—134)

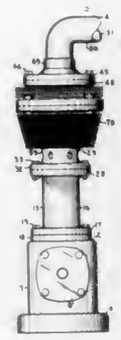
The disclosure illustrates a method of making a compositely formed, bladed rotor of the type which can be used in the compressor of a gas turbine engine. The rotor is fabricated by drawing a continuous strand of fibrous

material, e.g., glass fibers, along blade-defining portions of a form. The strand is drawn under tension in accordance with a predetermined winding pattern of reaches so that the blade-defining portions of the form are filled to approximately the same extent. Provision is also made for winding a circular band which encompasses the outer



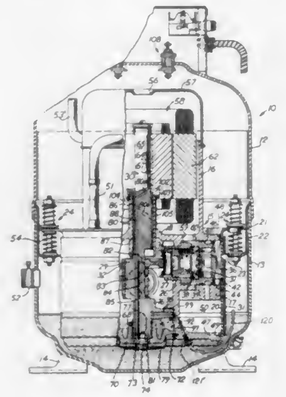
ends of the blade to give additional strength. The wound strands may be covered with glass cloth to protect the fiber thereof. The compositely formed rotor is bonded together, as by an appropriate resin, while on the form. An alternate embodiment illustrates the use of a winding form having blade-defining portions on opposite sides which enable the simultaneous winding of two rotors.

3,403,845
AIR COMPRESSING APPARATUS
Richard C. Marshall, 917 W. 43rd St., Kansas City, Mo. 64111
Filed Sept. 27, 1965, Ser. No. 490,281
9 Claims. (Cl. 230—190)



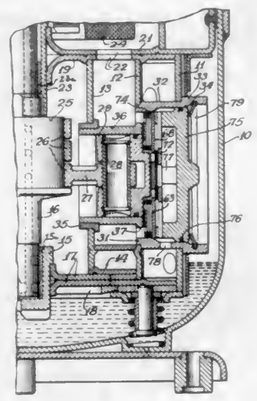
An apparatus for compressing gaseous fluid and including a reciprocating compressor and a receiver or tank connected with the discharge of the compressor for receiving the compressed gaseous fluid. The compressor including a cylinder with a reciprocating piston therein with one end of the cylinder being a discharge opening controlled by a discharge valve, said cylinder having inlet ports adjacent the other end thereof with said inlet ports having a total area as great as the cross sectional area of the cylinder bore. The piston has a passage therethrough controlled by an intake valve that is of large size but with the periphery spaced from the cylinder so that when the inlet valve is moved to an open position the passage area between the valve and cylinder is as great as the cross sectional area of the flow opening through the piston. The structure is such that the inlet ports, valve openings and flow passages are all of a size to permit substantially unrestricted gaseous fluid movement from the inlet through the compressor to the delivery pipe to the tank providing a compressor wherein the output varies substantially directly with the r.p.m. of the compressor.

3,403,846
CRANKCASE SCAVENGING PUMP FOR REFRIGERATION COMPRESSOR
Sidney A. Parker, Fort Worth, Tex., assignor to Lennox Industries, Inc., a corporation of Iowa
Filed May 23, 1966, Ser. No. 552,201
11 Claims. (Cl. 230—206)



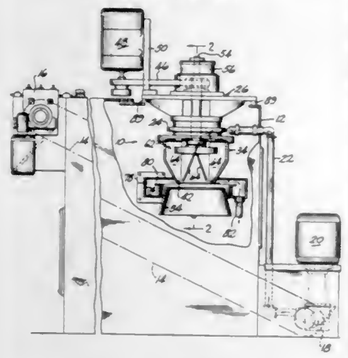
A refrigerant compressor with pump means in the upright crankshaft thereof communicating with a passage in the crankcase for removing lubricant above a predetermined level from the crankcase. A check valve may be provided in the outlet of the passage to prevent return of lubricant from the sump to the crankcase during the off cycle. In a modification, a conduit is connected at one end with the passage in the crankcase, with the other end being above the maximum lubricant level in the sump formed between the compression mechanism and the outer casing of the compressor.

3,403,847
CYLINDER AND VALVE ASSEMBLY
Sidney A. Parker, Fort Worth, Tex., assignor to Lennox Industries Inc.
Filed Oct. 17, 1966, Ser. No. 587,006
10 Claims. (Cl. 230—231)



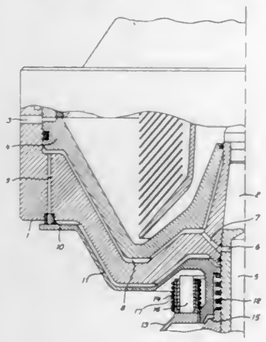
A cylinder sleeve and a valve structure are joined to one another to form a unit adapted to be tested and inserted into a compressor so as to facilitate fabrication thereof.

3,403,848
CENTRIFUGAL SEPARATOR APPARATUS
Meredith M. Windsor and Herbert R. Lincoln, Detroit, Mich., assignors to Star Cutter Company, Farmington, Mich., a corporation of Michigan
Filed Apr. 3, 1967, Ser. No. 627,840
9 Claims. (Cl. 233—7)



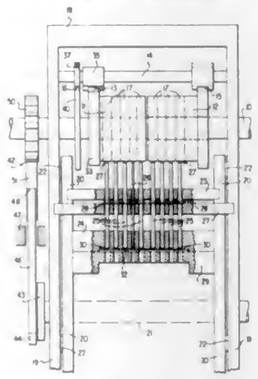
Apparatus for removing the solid particles from a liquid in which an inverted cup shape bowl is rotated about a vertical axis concurrently with the supply of a liquid containing solid particles to the upper end of the bowl, so that as the fluid runs down the inner surface of the bowl, the solid particles are centrifugally forced against the inner surface of the bowl and retained thereon. Blades, positioned within the bowl so that they have scraping edges located adjacent the bowl inner surface, are mounted independently of the bowl for rotation about the same vertical axis on which the bowl is rotated and normally rotate with the bowl. When the blade movement is braked, relative movement between the blade edges and the inner surface of the bowl is obtained so that the blades scrape the solid particles off the inner surface of the bowl so that the solid particles can fall out of the bowl through the open lower end.

3,403,849
SLUDGE CENTRIFUGE WITH INTERMITTENT DISCHARGE
Henric Wilhelm Thylefors, Stockholm, Sweden, assignor to Alfa-Lavel AB, Tumba, Sweden, a Swedish corporation
Filed Dec. 9, 1966, Ser. No. 600,641
Claims priority, application Sweden, Dec. 15, 1965, 16,230/65
6 Claims. (Cl. 233—20)



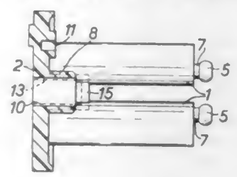
Separated sludge is discharged intermittently from the rotor of a sludge centrifuge by movements of a first valve located in the rotor and operable hydraulically by opening and closing of a second valve for controlling the discharge of the hydraulic operating liquid; and the second valve, biased in the direction to close the first valve and thereby cut off the sludge discharge, is associated with electromagnetic means for actuating it in the opposite direction.

3,403,850
PUNCH TAPE DATA LOGGING APPARATUS
Gavin F. Byrne, Reid, Australian Capital Territory, Australia, assignor to Commonwealth Scientific and Industrial Research Organization, East Melbourne, Victoria, Australia, a body corporate of Australia
Filed Mar. 3, 1966, Ser. No. 531,404
Claims priority, application Australia, Mar. 5, 1965, 55,992/65
4 Claims. (Cl. 234—99)



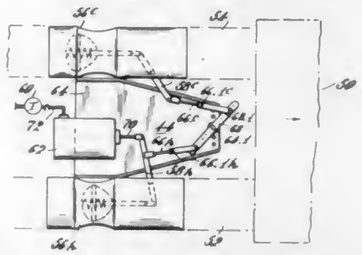
A punch tape data logging aparatus converts the rotational displacement of an input shaft, which may be proportional to the instantaneous value of a variable, to punch tape by utilizing two cylindrical drums mounted on the input shaft, one rigidly and the other freely. The freely mounted drum is coupled to the input shaft through an intermittent movement including a lay shaft and reduction gearing. The drums have relief calibrations and tape perforating punches adjacent the drums are moved by the tape and a female punch frame toward the drum so that the punches engaging the relief calibrations will not punch the tape. The apparatus includes tape feed means which feeds the tape relative to the female punch frame.

3,403,851
COUNTER MECHANISM
Kurt Rechlin, London, England, assignor to English Numbering Machines Limited, Middlesex, England, a British company
Filed July 18, 1967, Ser. No. 654,099
Claims priority, application Great Britain, July 29, 1966, 34,159/66
9 Claims. (Cl. 235—117)



A counter mechanism is disclosed which comprises a plurality of coaxial number rings. The number rings are carried on a plurality of support arms which extend through the number rings and are arranged uniformly around the axis of rotation of the number rings.

3,403,852
DUAL DUCT FLUID SUPPLY SYSTEM
Dimiter Gorchev, 30 Falmouth Road, Arlington, Mass. 02174
Filed July 28, 1966, Ser. No. 568,567
9 Claims. (Cl. 236—13)



7. In a dual duct system for supplying temperature conditioned air to various areas comprising a central unregulated source of heated air under pressure; a central unregulated source of cooled air under pressure; and a plurality of independent outlet units, one for each of the areas, each unit including: a chamber for mixing the heated air and the cooled air, a first conduit connecting the mixing chamber with the heated air source, and a second conduit connecting the mixing chamber with the cooled air source;

the improvement which comprises:

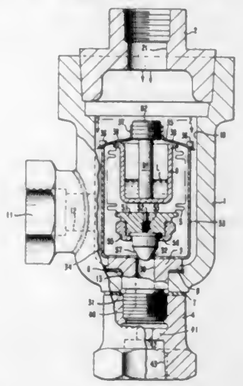
in each of the conduits, an adjustable valve of known type which, for each adjustment position, will pass fluid at a rate that is constant over a corresponding range of differential pressures;

an independent thermostatic control device for indicating the volumes of heated and cooled air that are to be supplied to the area; and

motor means responsive to the thermostatic control device for adjusting the valves to positions which correspond to the indicated volumes of air;

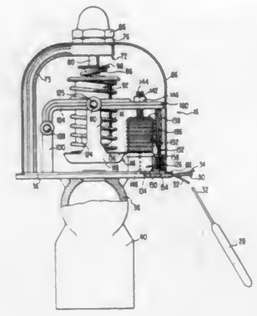
whereby each area is supplied with the volumes of heated and cooled air indicated by its control device.

3,403,853
STEAM TRAP DESIGN AND METHOD
Elmer Sylvester Monroe, Jr., Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 30, 1966, Ser. No. 561,769
5 Claims. (Cl. 236—56)



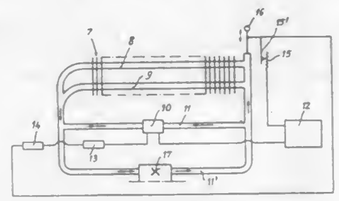
A liquid-filled bellows unit for actuation of a steam trap wherein the bellows unit is pre-stressed in elastic compression a predetermined amount to achieve a substantially constant trap actuation temperature excursion over a wide range of temperature-pressure steam trap operating conditions.

3,403,854
TEMPERATURE COMPENSATED PRESSURE RELIEF VALVE
Joseph P. Rutledge and Vernon N. Tramontini, Indianapolis, Ind., assignors to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Filed June 9, 1966, Ser. No. 556,377
7 Claims. (Cl. 236—92)



The following specification describes a temperature compensated relief valve in which a spring bias counteracts the spring bias normally applied for closing the pressure relief valve and a plurality of temperature responsive elements are provided for controlling the counteracting bias in accordance with the temperature of the vessel subjected to pressure.

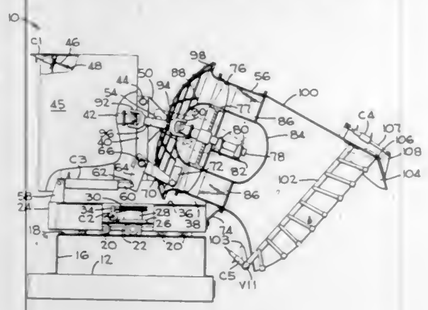
3,403,855
AUTOMATIC REGULATORS OF AIR CONDITIONING SYSTEMS OF VEHICLES
Pierre Bouthors and Pierre Ventre, Billancourt, France, assignors to Regie Nationale des Usines Renault, Billancourt, France
Filed June 9, 1967, Ser. No. 644,970
Claims priority, application France, July 16, 1966, 69,655
2 Claims. (Cl. 237—8)



Device for automatically regulating the air-conditioning system of an automotive vehicle, adapted to maintain constant air output rate and temperature values within the passengers' compartment of the vehicle, irrespective of the road speed of the vehicle and the external temperature, characterised in that it comprises, for regulating the air flow rate, a tachometric generator having inserted in its output circuit a rheostat for presetting the desired value of the air output rate and an electromagnet having a sliding core adapted to control the shutter controlling the ingress of air into the compartment, and the rheostat of an electric circuit controlling the motor fans, and, for regu-

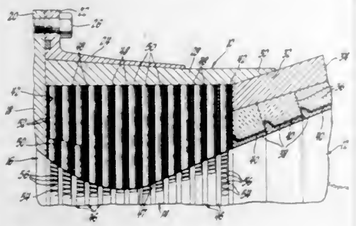
lating the heater, a radiator adapted to be regulated by means of a by-pass inserted in a secondary circuit connected to the water-pump circuit of the vehicle, said by-pass being operatively connected to an electromagnetic valve of which the energization is responsive to the output of the alternator of the vehicle, a manually operated valve controlling in the desired proportions the heating circuit being operatively connected to a rheostat inserted in the electric circuit comprising said alternator, said by-pass electromagnetic valve and thermistors responsive to the room temperature of said passengers' compartment and to the external temperature, respectively.

3,403,856
SPRAYING APPARATUS
Leon D. Greenwood, Lansing, Mich., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Aug. 25, 1966, Ser. No. 574,998
10 Claims. (Cl. 239—78)



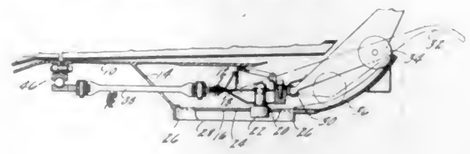
A spraying apparatus is mounted on a power driven turntable on the bed of a truck. A gasoline engine drives a power output shaft which is connected by a flexible coupling to a driven impeller shaft in a housing. The housing is pivotally mounted on an axis which is intersected by the axes of the output shaft and the driven shaft. An air deflecting vane is pivotally mounted on the impeller housing and the movement of the vane is synchronized with movement of the housing.

3,403,857
REACTION BARRIER MATERIAL FOR ROCKET NOZZLE SYSTEMS
Vernon L. Hill and Warren S. Sherman, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 9, 1964, Ser. No. 351,587
5 Claims. (Cl. 239—265.15)



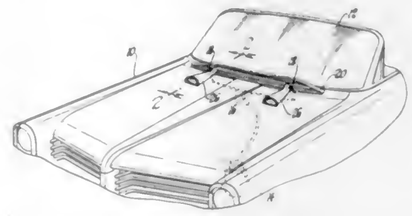
In high temperature operating devices, such as gas turbines, the carbon eutectic melting of tungsten elements due to the presence of carbon is prevented by a barrier layer of hafnium nitride adjacent the tungsten surfaces exposed to the carbon.

3,403,858
EXHAUST NOZZLE ACTUATION SYSTEM
Alexander Kurtl, West Hartford, and Donald E. Sheldon, East Hartford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Mar. 31, 1967, Ser. No. 627,428
4 Claims. (Cl. 239—265.39)



A variable area exhaust nozzle for gas turbine engine wherein the actuating mechanism applies a tangential force to a ring causing circumferential movement of the ring, the ring being connected to an axially movable member which causes a flap to translate, thereby varying the area of the exhaust nozzle.

3,403,859
VENTURI WASHER
Warren S. Daansen, Rochester, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 27, 1965, Ser. No. 516,324
6 Claims. (Cl. 239—284)

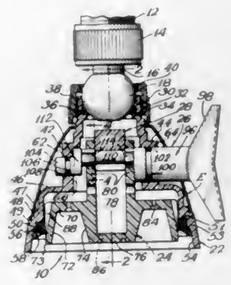


A windshield washing mechanism for washing the windshield of an automotive vehicle is disclosed. The windshield washing mechanism comprises a source of fluid which is adapted to be selectively dispensed under pressure for washing the windshield, a nozzle in communication with the source of fluid and disposed forwardly of the windshield for directing the fluid toward a predetermined area on the windshield to wash the same and a venturi means surrounding the nozzle and having an inlet for receiving air during vehicle movement and an outlet for directing the air received toward the windshield. The nozzle is disposed within the neck or throat of the venturi and the venturi directs air past the nozzle and forms a substantially annular air shield around the washing fluid being emitted from the nozzle to provide directional stability for the washing fluid and prevent random lateral dispersement thereof irrespective of the speed at which the vehicle is moving.

3,403,860
ADJUSTABLE SPRAY SHOWER HEADS
Harold Shames, 5 Agnes Circle, and Sidney J. Shames, 19 Agnes Circle, both of Ardsley, N.Y. 10502
Filed Oct. 29, 1965, Ser. No. 505,626
10 Claims. (Cl. 239—460)

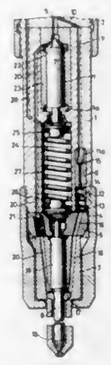
A shower head is provided constructed primarily from four parts, an outer shell, a hollow piston-like inner body, a shaped control shaft and an assembly retainer.

The outer shell has axially spaced coaxial bores of different diameter. The inner body has aperture means with a height dimension intermediate the bore diameters of the outer shell. When the apertures are aligned, the control shaft may be projected laterally through the apertures to assemble the shower head. A snap-on retainer on the control shaft prevents disassembly. The control shaft has a crank portion offset from its pivot axis for co-



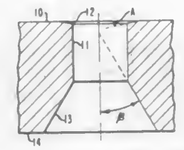
operation with the aperture means of the inner body to selectively adjust the relative position of the inner body and to thereby vary the spray defining apertures that are defined by tapering grooves on the inner body cooperating with a resilient seal ring carried by and projecting inwardly from the outer shell. The periphery of the crank portion is flatted to retain the inner body at selected axial portions. Preferably all major parts are made of inexpensive moulded plastic.

3,403,861
FUEL INJECTION VALVE FOR PRELIMINARY AND MAIN INJECTION
Helmut Eidtmann, Plattenhardt, and Josef Steiner, Korb, Germany, assignors to Robert Bosch GmbH, Stuttgart, Germany, a German company
Filed Mar. 30, 1967, Ser. No. 627,008
Claims priority, application Germany, Mar. 30, 1966, B 86,422
6 Claims. (Cl. 239—533)



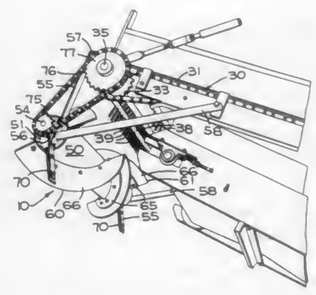
A fuel injection valve assembly for supplying a preliminary injection of fuel of a constant amount regardless of engine speed before the main injection of fuel begins comprising a spring biased, fuel supply pressure responsive, preliminary injection piston for the preliminary injection, a fuel supply pressure responsive loading piston for controlling the main injection fuel flow and a needle valve, both of the latter being biased oppositely by a common spring. Separate supply ducts for the preliminary and main fuel injections and the arrangement of the valve surfaces on the loading piston and needle valve enable the loading piston to be held closed and the needle valve to be opened by the pressure imposed on the preliminary injection piston and remain open long enough for the preliminary injection piston to travel its full stroke before closing and before the needle valve is opened for the main injection.

3,403,862
APPARATUS FOR PREPARING TANGLELACED NON-WOVEN FABRICS BY LIQUID STREAM JETS
Lee O. Dworjanyn, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Jan. 6, 1967, Ser. No. 607,698
3 Claims. (Cl. 239—566)



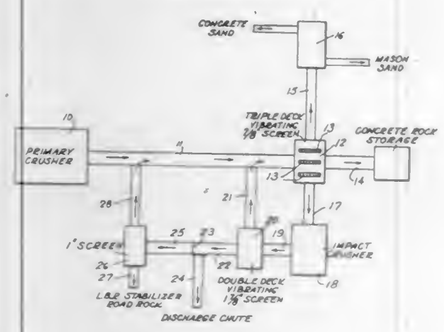
Apparatus is described for preparing tanglelaced nonwoven fabrics by jetting liquid streams into a layer of fibrous material to entangle the fibers. Liquid is jetted at 200 to 5000 pounds per square inch from a line of orifices 2 to 30 mils in diameter to form high energy streams. Improvements in jet manifolds are disclosed to provide more effective liquid streams.

3,403,863
VINE SPREADING APPARATUS
Everett R. Veech, Hoopeston, Ill., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed May 27, 1966, Ser. No. 553,447
6 Claims. (Cl. 239—272)



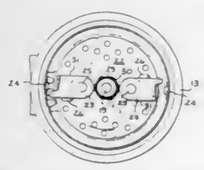
A spreader for the vines from which the crop has been stripped in a harvester is formed of a drum mounting of two radially opposed vanes, the vanes comprising oppositely inclined helical blades joined at the midplane of the drum and formed of a yieldable material such as rubber belting.

3,403,864
METHOD OF PRODUCING ROADROCK
Russell C. Cormican, Dania, and Charles B. Keene, Pompano Beach, Fla., assignors to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed June 8, 1966, Ser. No. 556,163
7 Claims. (Cl. 241—20)



This invention relates to a method of producing roadrock having a high carbonate and low silica content from composite mined material having a high silica content by repeated crushing and screening whereby entrapped silica is removed and a relatively high-grade material is produced from low-grade mined material.

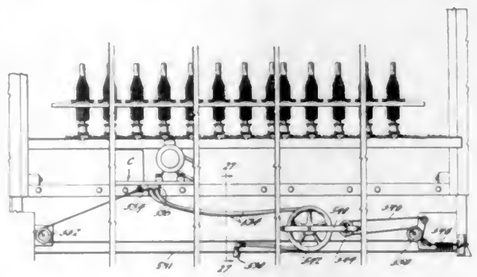
3,403,865
COMMINUTING ASSEMBLY FOR FOOD WASTE DISPOSER
Lauren W. Guth and Oliver R. Clark, Louisville, Ky., assignors to General Electric Company, a corporation of New York
Filed Aug. 15, 1966, Ser. No. 572,503
8 Claims. (Cl. 241—194)



A comminuting assembly for a food waste disposer. The assembly includes a rotatable member having at least one impeller pivotally secured to it. Securing means are provided for removably securing the rotatable member to a rotatable shaft for rotation therewith. The securing means has a peripheral surface with at least one substantially flat portion. The rotatable member has positioning means to position the securing means flat portion for engagement by the impeller whereby the flat portion serves as a stop to limit pivotal movement of the impeller relative to the rotatable member.

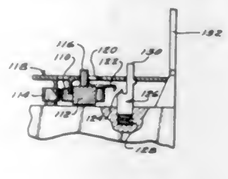
3,403,866
TEXTILE MACHINE
Charles C. Bell and Kurt W. Niederer, Warwick, R.I., assignors to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed Mar. 14, 1966, Ser. No. 534,081
8 Claims. (Cl. 242—47.5)

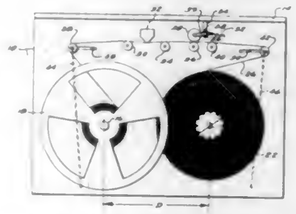
A textile spinning frame including apparatus for automatically doffing and donning bobbins and, if desired, for rejoining breaks occurring in a strand of yarn. A carriage passes the numerous spinning positions on the frame and



automatically delays its travel to service any spinning position requiring attention.

3,403,867
TAPE TRANSPORT
Robert A. Kleist, Anaheim, Calif., assignor to Dartex, Inc., Santa Ana, Calif.
Filed Oct. 24, 1965, Ser. No. 504,344
4 Claims. (Cl. 242—55.12)



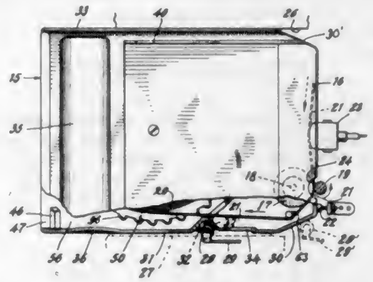


A tape transport which achieves small size by utilizing a flangeless take-up hub located close to the supply reel so that tape wound on the hub enters between the supply reel flanges. The tape transport is a high performance type providing controllable tension so the tape wound on the hub remain in place. The transport has a direct drive capstan constantly engaging the tape in cooperation with a pressure roller, and includes a cover, means for latching the pressure roller away from the cover when the cover is in an open position, and a mechanism for automatically moving the pressure roller from a latched position against the capstan when a transport cover is closed.

3,403,868
MAGNETIC TAPE CARTRIDGE SYSTEM
William P. Lear, Wichita, Kans., assignor to Lear Jet Industries, Inc., a corporation of Delaware
Original application Aug. 31, 1964, Ser. No. 393,083, now Patent No. 3,350,025, dated Oct. 31, 1967. Divided and this application Oct. 11, 1965, Ser. No. 494,645
12 Claims. (Cl. 242—55.19)

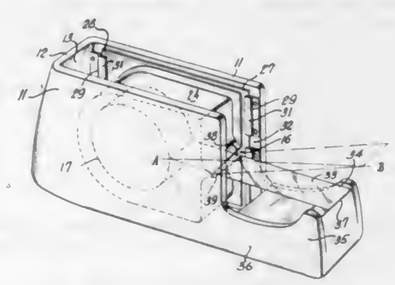
An endless tape cartridge with an apertured front wall exposing tape portions thereat, and a pressure roller adjacent thereto. A longitudinal side wall of the cartridge

is formed with a V-shaped recess to receive a retention detent of the player when the cartridge is inserted in play position. The single detent bears against the inclined forward wall of the recess, to firmly press the pressure roller



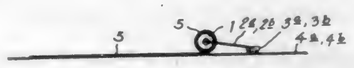
forwardly against a drive capstan for longitudinal transport of the tape, and simultaneously laterally press the opposite cartridge side wall into stable hold position. A second forward recess establishes an intermediate non-play hold position for the cartridge.

3,403,869
TAPE CARTRIDGE AND DISPENSER
Joseph Marchisen, Little Falls, and George J. Philippi, Plainfield, N.J., and Otto V. Vanoni, New York, N.Y., assignors to Johnson & Johnson, a corporation of New Jersey
Filed July 10, 1964, Ser. No. 381,657
7 Claims. (Cl. 242—55.53)



A dispenser, splicer, or the like, for pressure-sensitive adhesive tape and a cartridge therefor. The cartridge is adapted to act both as a package for the tape and as mounting means for positioning the tape roll in the dispenser and protecting the tape during dispensing.

3,403,870
WEB WINDING MACHINE
André Garaboux, 15 Rue Colonel Mioche, Billom, Puy-de-Dome, France
Filed Nov. 28, 1966, Ser. No. 597,297
Claims priority, application France, Dec. 3, 1965, 40,934; Jan. 31, 1966, 47,876
15 Claims. (Cl. 242—86.52)



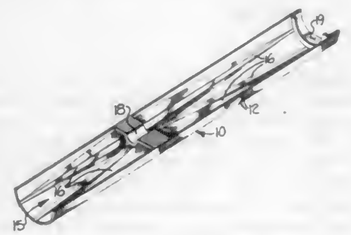
Apparatus for rolling and unrolling sheet-like elements comprising a propelled cylindrical means around which the elements are to be wound, a reduction-drive assembly incorporated in the cylindrical means for rotatably driving the cylindrical means, and means for guiding and supporting the cylindrical means.

3,403,871
SPOOL HAVING REINFORCED FLANGES
Marcel Rebillet, 167 Avenue Felix-Faure, Lyon 3, France
Filed Oct. 28, 1966, Ser. No. 590,285
5 Claims. (Cl. 242—118.7)



Large size spools designed to withstand great pressures from wound filament have cylindrical hubs and reinforced flanges. The spool material is thermosetting resin, and the flange reinforcement is a plurality of annular plates which are stacked in groups and vary in diameter in stair-step fashion.

3,403,872
PIRN
Thomas C. Williams, 1401 Cavendish Court, and Frank Mayhew, 4104C Providence Road, both of Charlotte, N.C. 28211
Filed Dec. 1, 1966, Ser. No. 598,473
8 Claims. (Cl. 242—118.31)



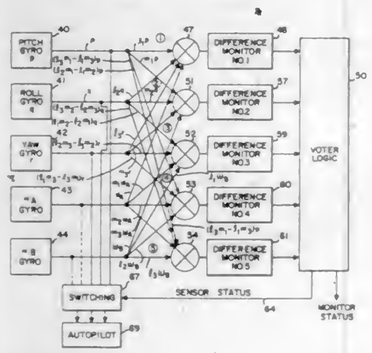
A pirn is formed as a lightweight one-piece body and is strengthened against radially directed compressive stress when yarn is wound thereon by a plurality of radially inwardly projecting internal reinforcing ribs circumferentially spaced apart within a central longitudinal cavity of the body. The internal reinforcing ribs taper longitudinally of the body in a predetermined manner from maximum dimensions intermediate the extremities of the pirn to minimum dimensions adjacent the ends of the pirn.

3,403,873
GUIDED MISSILE
Alfred J. Bell and Ralph W. Blevins, Silver Spring, Harvey J. Everett, Kensington Heights, and William Garten, Jr., and Everett J. Hardgrave, Jr., Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Jan. 24, 1963, Ser. No. 254,024
5 Claims. (Cl. 244—3.21)



1. In an aerial missile having a cylindrical body:
means for supporting in-flight behavior controlling components on the body exteriorly thereof,
said means including a plurality of housings mounted on the body symmetrically thereabout,
said housings each including a plurality of housing sections arranged longitudinally of the body, and
wings positioned exteriorly of said means and having portions secured to the body between the sections.

3,403,874
CONTROL APPARATUS FOR AIRCRAFT HAVING FAIL-SAFE MONITORING GYROS
Boris Boskovich and John C. Larson, Minneapolis, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed July 20, 1965, Ser. No. 473,400
15 Claims. (Cl. 244—77)



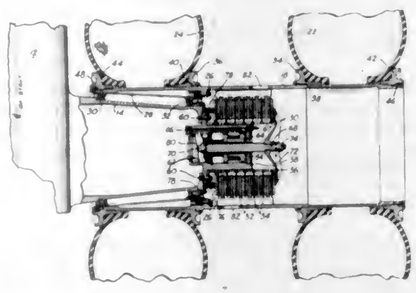
The disclosure pertains to a fail-safe monitoring apparatus using redundancy of condition sensing elements, and the apparatus specifically relates to techniques of arranging five sensing elements as rate gyros, for example, in an aircraft to provide three axis control about the conventional three orthogonal axes of the craft. In the arrangement of the gyros with respect to the three conventional axes, one gyro is arranged to sense primarily pitch rate, another is arranged primarily to sense the roll rate, a third is arranged to primarily sense yaw rate. The remaining two gyros each have a separate axis and each axis thereof is at an angle to the three orthogonal axes, so that the "skewed" axes on the gyros are responsive to craft movements about the three rectangular axes.

The responses of the five rate gyros to aircraft rotations about its axes are applied to a voter logic for identifying any failure in any of the three gyros associated with the rectangular axes. Upon such failure, a signal derived from the responses of the two skewed axes gyros and the two unfailed gyros associated with the remaining two rectangular axes is substituted for the signal from the failed gyro.

The voter logic controls suitable switching to effect such substitution.

Heretofore typical monitoring for three axes of an aircraft has been provided by three sensors per axes; however, in the present disclosure three axis monitoring is provided by merely arranging a total of five condition sensors.

3,403,875
DUAL TIRE WHEEL AND BRAKE ASSEMBLY
Frank Felix Hartman, South Bend, Ind., assignor to The Bendix Corporation, a corporation of Delaware
Filed May 9, 1966, Ser. No. 548,549
6 Claims. (Cl. 244—111)



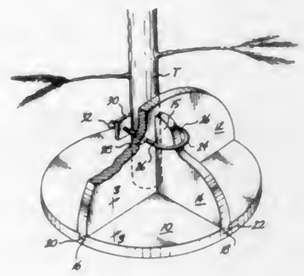
The following relates to a dual tire wheel and brake assembly wherein a hollow cylindrical wheel is removably secured to a support drum through a plurality of bolts so that the wheel can be removed from the strut axle without disturbing the bearings located between the axle and the support drum and without disturbing the brake mechanism which is mounted on the outer end of the axle. Conversely, servicing of the brake can be accomplished without disturbing the wheel.

3,403,876
PARACHUTES
John Rothwell Mitchell, Woking, England, assignor to G. Q. Parachute Company Limited, Woking, England, a British company
Filed Jan. 4, 1968, Ser. No. 695,724
Claims priority, application Great Britain, Jan. 26, 1967, 3,873/67
4 Claims. (Cl. 244—145)



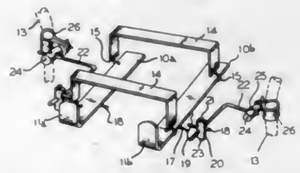
The canopy of a parachute is divided into four bands made of materials of differing porosities, the band nearest the apex extending over about one-third of the gore length having a porosity in the region of 15 to 25 cubic feet per square foot per second, the next adjacent section extending over about one-quarter of the gore length having a porosity of between nil and ten cubic feet, the next section having a porosity of about 200 cubic feet per square foot and the hem section having a porosity similar to that of the crown section.

3,403,877
CHRISTMAS TREE STAND
Kristinn F. Gudmundson, 515 Avenue B, Snohomish, Wash. 98290
Filed Sept. 12, 1966, Ser. No. 578,730
2 Claims. (Cl. 248—48)



This invention concerns a Christmas tree stand in which there is a broad base having T-shaped superstructure, rigidly connected to the base, adapted to have the butt of a tree trunk securely clamped thereto. The parts of the stand are easily assembled from a knocked-down disassembly and may be readily be disassembled for storage during non-use. Preferably the parts interfit and are joined by sliding motions.

3,403,878
CARRIER RACKS
Roger William Opay, 6030 N. 98th Court, Milwaukee, Wis. 53225
Filed Aug. 29, 1966, Ser. No. 575,819
7 Claims. (Cl. 248—201)



Adjustable racks which can be mounted on all types of handlebars, and the like, for carrying paraphernalia such as radios.

3,403,879
FAN HOUSING ATTACHING MEANS
Arthur C. Hollatz, Bloomington, Ill., assignor to National Union Electric Corporation, a corporation of Delaware
Filed June 16, 1966, Ser. No. 558,038
11 Claims. (Cl. 248—223)

Apparatus for securing a cup-shaped fan housing to a stator plate secured to the motor portion of a motor-fan unit. Displacement of a circumferentially extending bendable tap on the side wall of the fan housing over a reaction surface on the stator plate effects a positive, rigid connection of the fan housing to the stator plate. One edge of the tap is inclined with respect to the plane of the reaction surface on the stator plate so as to provide a cam action tending to clamp the housing to the stator

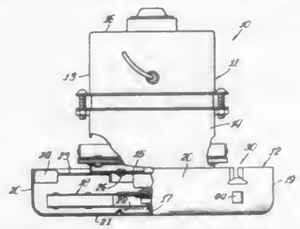
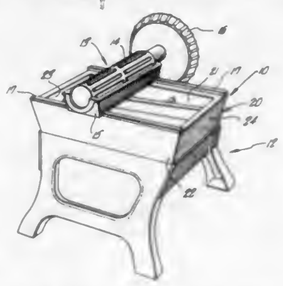


plate when the tab is displaced over the reaction surface. A pocket on the side wall of the fan housing functions as a stop to limit telescoping movement of the fan housing toward the stator plate and to position the inclined edge of the tab with respect to the reaction surface on the stator plate.

3,403,880
UNIVERSAL SUPPORT STRUCTURE FOR SPRINGBOARDS
Raymond C. Rude, 2468 Wagner, Pasadena, Calif. 91107
Filed Sept. 27, 1965, Ser. No. 490,288
3 Claims. (Cl. 248—346)

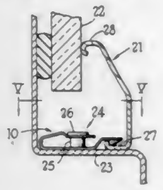


1. A foundation and support for a springboard fulcrum adapted to be secured to a springboard support structure comprising an open elongate frame having side and end walls, a pair of rib members extending rigidly between the frame end walls, the rib members converging from one end wall of the frame toward each other at the other end wall, three bolting pads extending downwardly from the frame adapting the frame for three-point bolted connection to the springboard support structure, the pads being positioned adjacent the frame corners at one end of the frame and adjacent the middle of the other end of the frame, and a pair of parallel rails carried on the frame along the upper edges of the side walls.

3,403,881
MOULDING CLIP
Jack Chilton Bennett, Yiewsley, and Clifford Alexander Seckerson, Iver Heath, England, assignors to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Apr. 3, 1967, Ser. No. 627,907
Claims priority, application Great Britain, Apr. 4, 1966, 14,964/66
6 Claims. (Cl. 248—361)

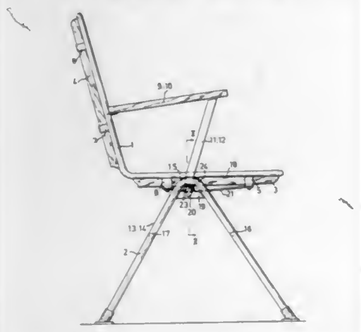
The present invention relates to a resilient clip for attaching a windshield moulding to a support surface having a headed stud projecting therefrom, the clip compris-

ing two flanges joined in a U-shape by a web, a slot being formed through the web and extended into the two flanges. The portions of the slot located in the flanges overlie one another and the clip is engaged on the stud by sliding the clip laterally towards the stud whereby the shank of the stud passes along the slot, the head of the stud cam-



ming the flange of the clip remote from the support surface downwardly thereby placing the clip under tension. The flange of the clip adjacent the support surface is provided with a lug for engaging the windshield moulding and a part of the moulding is snap engaged between the support surface and the lug when the clip is attached on the stud.

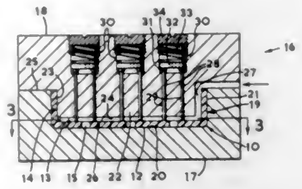
3,403,882
INCLINABLE ROCKING CHAIR
Artur Reinhold Lindqvist, Grythyttan, Sweden, assignor to AB Grythyttans Stalmobler, Grythyttan, Sweden, a corporation of Sweden
Filed Nov. 14, 1966, Ser. No. 593,790
6 Claims. (Cl. 248—373)



The present invention refers to an inclinable chair which can be made to rock, its seat part being mounted on a horizontal axis in swinging relationship to its leg support structure, the connecting element comprising a resilient torsion bar, the ends of which are secured to the leg structure, while its center portion is secured to the seat part, whereby the leg structure is provided with at least one cylindrical body, the center axis of which substantially coincides with the fixed pivot of the torsion bar, and upon which a bearing box secured to the seat part is abutting said bearing box embracing a maximum of 180° of the circumference of the cylindrical body.

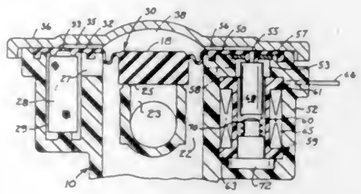
3,403,883
APPARATUS FOR PRODUCING INLAID ARTICLES
Michael Simko, London, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed May 6, 1965, Ser. No. 453,685
3 Claims. (Cl. 249—95)

A mold for forming inlaid articles of plastic material, in which the male half of the die carries a plurality of projecting pins adapted to bear against the rear face of a slotted blank in the die cavity whereby the male half is spaced from the blank to allow the flow of inlay material



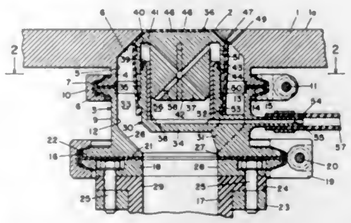
over the rear face of the blank and into the slots but not over the front face of the blank. The pins are withdrawn with the male half after the inlay material has set.

3,403,884
PILOT-OPERATED VALVE
Thomas E. Noakes, Detroit, and Darwin R. Grahl, Lincoln Park, Mich., assignors to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed July 26, 1965, Ser. No. 474,700
8 Claims. (Cl. 251—30)



The invention described herein involves an electromagnetic pilot-operated valve with the coil or coils of the pilot mounted on the body of the main valve rather than on the valve body cover. The coil is either encapsulated in the plastic valve body or mounted on an exterior surface of the valve body.

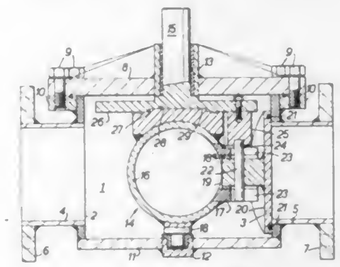
3,403,885
DISCHARGE VALVE FOR A CONTAINER
Richard K. Kretzschmann, Salt Lake City, Utah, assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
Filed Jan. 12, 1967, Ser. No. 608,808
8 Claims. (Cl. 251—63.5)



This application relates to a discharge valve designed for use in a mixing tank for slurry explosives, the valve being characterized in that it has a face that is flush with the inner surfaces of the tank, has a straight through discharge path with no pockets, and has no metal-to-metal contact in any area exposed to the explosive. In this

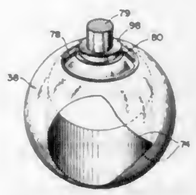
manner, there is no spot where the explosive can be deposited to avoid mixing, there is a discharge path that offers a minimum of resistance to flow of the slurry, a minimized danger of accidental detonation during operation of the valve or dismantling of it for cleaning.

3,403,886
ROTARY VALVE WITH POSITIVE REDUCTION CLOSURE MEMBER
Alfred Walter Barker, Sherington, England, assignor to The Sandall Precision Company Limited, Bletchley, England, a corporation of Great Britain
Filed Dec. 27, 1965, Ser. No. 516,412
4 Claims. (Cl. 251—163)



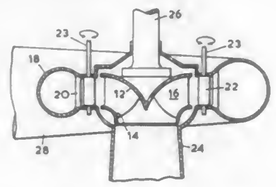
A valve chamber having opposed ports and containing a rotatable valve body provided with a passage which communicates the ports in the valve-open position. A closure member is mounted on the valve body for radially inwardly and outward movement, and is in register with one of the ports in the valve-closed position. A driving member rotated by an actuating shaft is in the valve chamber and has a lost-motion driving connection to the valve body. Cam means react between the driving member and the closure member to move the latter outwardly into sealing engagement with the port, as a function of rotation of the driving member while the lost-motion connection permits the valve body to remain stationary.

3,403,887
BALL VALVE
Edward B. Myers, Oreland, Pa., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Nov. 28, 1966, Ser. No. 597,379
9 Claims. (Cl. 251—209)



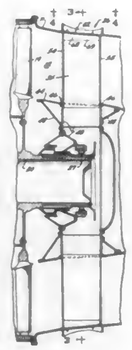
An improved fully rotatable ball valve provided with a spherical shaped plug having a flow passageway passing therethrough that has a V-shaped end portion to improve the sensitivity of conventional valves particularly in the initial stages of the opening of the valve and thereby provide a better streamline control of the fluid passing in either direction in a flow line without any of the parts of the valve being required to be disconnected and reassembled in the flow line.

3,403,888
REVERSIBLE PUMP TURBINES
Derek Hartland, Rugby, England, assignor to The English Electric Company Limited, London, England, a British company
Filed May 18, 1967, Ser. No. 639,575
Claims priority, application Great Britain, May 20, 1966, 22,716/66
4 Claims. (Cl. 253—1)



This invention is concerned with reducing the damaging pressure oscillation which tends to occur when a hydraulic turbine or reversible pump turbine abruptly and unexpectedly loses its load during turbine operation. A machine according to this invention has guide vanes which are arranged to close automatically according to a three-phase programme. During the first phase the guide vanes move relatively quickly towards their closed positions, but do not completely close; during the second phase they partially reopen; and during the third phase they move relatively slowly towards their closed positions.

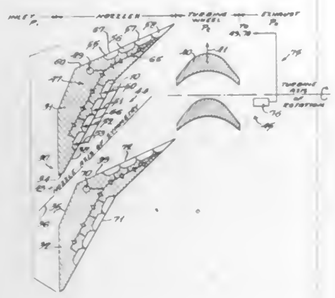
3,403,889
FRAME ASSEMBLY HAVING LOW THERMAL STRESSES
John J. Clokajlo, Loveland, Ohio, assignor to General Electric Company, a corporation of New York
Continuation-in-part of application Ser. No. 540,945, Apr. 7, 1966. This application June 26, 1967, Ser. No. 648,756
5 Claims. (Cl. 253—39)



A gas turbine engine includes a frame assembly in which struts extend across an annular motive fluid passage to interconnect inner and outer frame members, the outer frame member being annular and forming a portion of the wall structure defining the outer boundary of the motive fluid passage. The configuration of the frame assembly, and particularly that of the outer frame member,

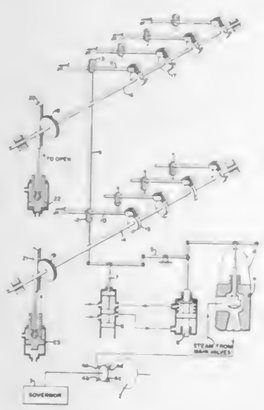
is such that thermal stresses are not excessive during either transient or steady state engine operation.

3,403,890
TURBINE
Robert E. Barber, Arvada, Colo., assignor to Sundstrand Corporation, a corporation of Delaware
Filed July 15, 1965, Ser. No. 472,227
12 Claims. (Cl. 253—59)



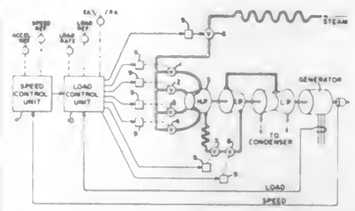
A turbine having supersonic nozzle velocities wherein each nozzle has diverging exit surfaces with the surfaces having passages therethrough for admitting control fluid to vary the boundary layer on the surfaces in response to variations in turbine back pressure, the passages in one of the surfaces providing a greater flow of control fluid to one surface to also vary the nozzle exit flow direction as the turbine back pressure varies.

3,403,891
FULL ARC/PARTIAL ARC ADMISSION USING CONTROL VALVES
Lloyd H. Johnson and Robert L. Carson, Scotia, N.Y., assignors to General Electric Company, a corporation of New York
Filed Jan. 12, 1967, Ser. No. 608,857
5 Claims. (Cl. 253—59)



A mechanical-hydraulic system for the control of steam admission to a turbine in either "full arc" or "partial arc" mode of operation at any load level.

3,403,892
FULL ARC-PARTIAL ARC TRANSFER SYSTEM FOR ELECTROHYDRAULIC TURBINE CONTROL
Markus A. Eggenberger and Peter G. Ipsen, Schenectady, N.Y., and Paul H. Troutman, Columbus, Ohio, assignors to General Electric Company, a corporation of New York
Filed Jan. 12, 1967, Ser. No. 608,858
5 Claims. (Cl. 253—59)



An electrohydraulic control system for controlling steam turbine valves either sequentially during partial-arc operation or in parallel during full-arc operation and transferring between the two types of operation at any load by simultaneously adjusting the gain and bias on individual valve amplifiers.

3,403,893
AXIAL FLOW COMPRESSOR BLADES
Lewis J. Stoffer, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Continuation of application Ser. No. 598,428, Dec. 1, 1966. This application Dec. 5, 1967, Ser. No. 695,818
4 Claims. (Cl. 253—77)

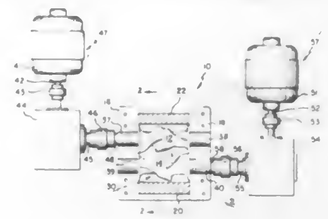


A compressor blade is shown having incremental, inclined airfoil-shaped portions along its leading edge, which portions are interconnected by other portions of the blade. The inclined and interconnecting portions are disposed on angles within specified limits. The teeth so formed are effective in reducing blade erosion, while maintaining desired aerodynamic characteristics.

3,403,894
ROTOR AND MIXER
James T. Matsuoka, Brecksville, and Jerome P. Koziatek, Hinckley, Ohio, assignors, by mesne assignments, to Stewart Bolling & Co., Inc., Cleveland, Ohio, a corporation of Ohio
Filed Aug. 3, 1967, Ser. No. 658,122
11 Claims. (Cl. 259—104)

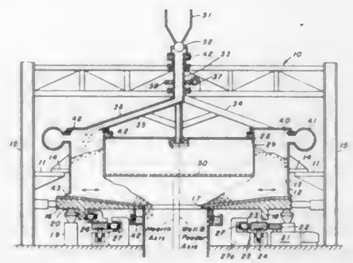
A mixer and rotors each rotor having a central body and four helical blades arranged in two pairs at opposite ends of a bladed portion. One pair of blades is longer than the other and the pairs of blades overlap centrally

of the rotor. The central body tapers inwardly from opposite ends of the bladed portion to progressively diminish



the cross sectional area. The blade curvatures are constant.

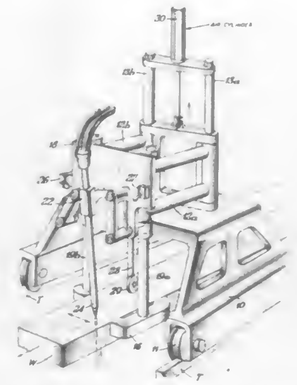
3,403,895
GAS-SOLID CONTACT DEVICE AND MATERIAL DISCHARGE MEANS
Paul E. Hatfield, Beaver, and Louis H. Jaquay, Bridgeville, Pa., assignors to Dravo Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 3, 1967, Ser. No. 627,839
16 Claims. (Cl. 263—29)



This invention relates to a gas-solid contact device and particularly to heat exchangers for the temporary containment of solid materials in a gas permeable bed while contacting the solid materials with a gas, and the continuous discharge of solid materials therefrom. The device comprises a hearth member with a central opening therein, a bowl member which surrounds material deposited on the hearth about the central opening, and means for orbiting one of the hearth or bowl members in a manner such that the vertical axis of the orbital member describes a circular path about the vertical axis of the other member, whereby to effect a continuous uniform discharge of material from the hearth through the central opening.

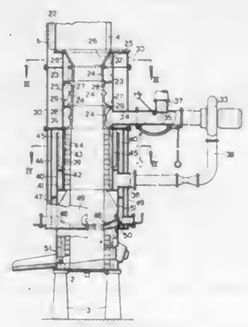
3,403,896
APPARATUS FOR UNIFORMLY CUTTING A MOVING METAL BODY REGARDLESS OF CAMBER THEREIN
Peter Mortellito, Jersey City, and Stanley H. Royer, Elizabeth, N.J., assignors to Union Carbide Corporation, a corporation of New York
Filed May 11, 1966, Ser. No. 549,315
7 Claims. (Cl. 266—23)

1. Apparatus for cutting off lengths of a moving metal body which comprises:
(a) a movable main frame adapted to straddle said metal body,
(b) a pair of sizing arms pivotally mounted upon said frame, each of said sizing arms having clamping means attached thereto for engaging opposite sides of said moving metal body, one of said sizing arms comprising a shaft rotatable about a vertical axis, the clamping means attached to said shaft comprising a clamping shoe,
(c) a vertical carrier plate connected to the sizing arm comprising said rotatable shaft for movement in unison therewith, said carrier plate being mounted upon one end of said shaft and the clamping shoe being affixed to the opposite end thereof whereby rotational movement of said clamping shoe will produce a corresponding movement of said carrier plate,



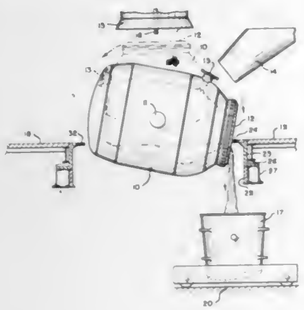
(d) a cutting tool movably attached to said carrier plate and positioned in a generally vertical direction adjacent the top surface of said metal body and in such manner that said cutting tool can move transversely of the metal body in a direction substantially parallel to the top surface thereof, and
(e) drive means for moving said cutting tool.

3,403,897
CUPOLA FURNACE WITH HEAT REGENERATION MEANS
Riccardo Formenti, Via Monte Grappa 27, Galliate, Novara, Italy
Filed Oct. 23, 1965, Ser. No. 503,144
8 Claims. (Cl. 266—30)



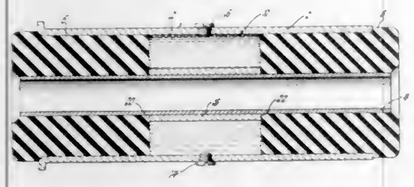
A cupola furnace having a shell and a chimney surmounted thereon in which exhaust gases from the chimney and ambient air are fed in relative controlled amounts to the furnace inlet nozzles after passing in heat exchange relation around the furnace in the region of the smelting zone, the exhaust gases undergoing heat exchange with the interior of the furnace before being fed to the nozzles.

3,403,898
OXYGEN CONVERTER APPARATUS
William Brill, Pueblo, Colo., assignor to CF & I Steel Corporation, a corporation of Colorado
Filed June 1, 1962, Ser. No. 199,453
1 Claim. (Cl. 266—36)



1. In an oxygen converter apparatus, a converter having a discharging mouth and a discharge spout, the converter being mounted to be turned about a horizontal axis from charging position to converting position and to steel discharging and slag discharging positions respectively, a floor having an opening therein in which the converter turns, groups of teeth mounted in stationary position at opposite sides of the floor opening and projecting close to the path of the charging mouth, and a horizontal support, below the floor level on which the teeth are mounted, the groups of teeth being disposed near the charging mouth to engage and dislodge material deposited on the charging mouth when such charging mouth is moved to the latter two recited positions.

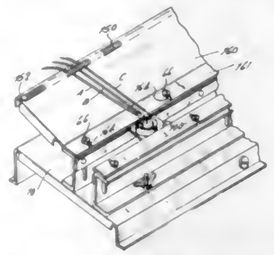
3,403,899
VISCOUS DAMPED BUSHING
Robert W. Plume, Utica, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 29, 1966, Ser. No. 546,323
4 Claims. (Cl. 267—35)



A bushing assembly having axially spaced annular elastic members disposed in compression between radially inner and outer metal cylinders to form a closed central annular void, with the void totally occupied by a viscous damping medium capable of affording significant resistance to high frequency relative deflection of the cylinders.

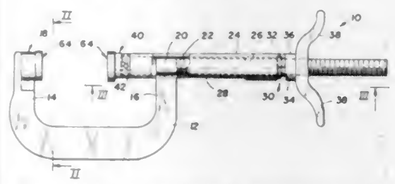
3,403,900
ADJUSTABLE SOLDERING AND ASSEMBLY AID
Jerome C. Turro, Yonkers, N.Y., assignor to Siks Manufacturing, Inc., Bronx, N.Y., a corporation of New York
Filed Oct. 21, 1966, Ser. No. 588,566
10 Claims. (Cl. 269—37)

1. A workpiece holder comprising a base member having a plurality of transverse slots, a pair of channel members movable relative to said base member in the direction of said transverse slots, fastening means associated with said slots for adjustably fastening said channel members to said base member, said channel members each carrying a bar member and an upstanding rail member,



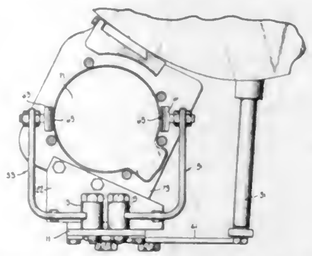
and adjusting means for adjustably attaching said bar members and said rail members to said channel members for supporting workpieces relative to said channel members.

3,403,901
SCREW CLAMP
Robert Servadio, 3721 Park View Ave., Pittsburgh, Pa. 15213
Filed Sept. 2, 1965, Ser. No. 484,586
4 Claims. (Cl. 269—243)



A screw clamp comprising a substantially C-shaped frame, a clamping jaw secured to the extremity of one leg of the frame and a screw integrally secured to the extremity of the other leg, a sleeve fitted about the screw with a slot surrounding one leg, and a separate handle screw threaded to the screw and detachably secured to the end of the sleeve in a manner so as to always move with the sleeve, that is, when the handle is turned in one direction or in opposite direction. Detachable work holders or dies are provided and so shaped to enable the work to be selectively held so as to be rotated, or, by tighter clamping, firmly held against rotation.

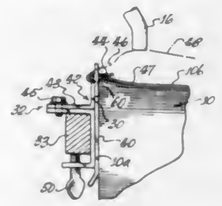
3,403,902
PACKAGING APPARATUS
Robert F. Schultz, Mount Prospect, Ill., assignor to National Dairy Products Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 6, 1967, Ser. No. 614,240
2 Claims. (Cl. 271—1)



Apparatus for use in combination with an automatic packaging machine which is adapted to lift a pre-selected

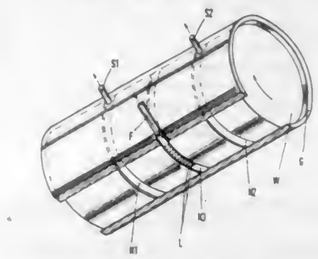
part of a stack of lids in timed relation to means for sliding the bottommost lid from the stack of lids so that the weight of the lifted part of the stack of lids will not interfere with the sliding.

3,403,903
TORSION BAR SHEET SEPARATOR
Jesse W. Crail, 3802 Edenhurst Ave., Los Angeles, Calif. 90039
Filed Apr. 17, 1967, Ser. No. 631,272
4 Claims. (Cl. 271—20)



A vacuum lifter removes the top sheet from a stack which has a vertical stop plate at the forward side of the stack adjacent the upper leading edge. Separator finger means are mounted on a tubular shaft which has associated therewith torsion bar structure for exerting a force on the separator fingers while the lifter means is removing a top sheet.

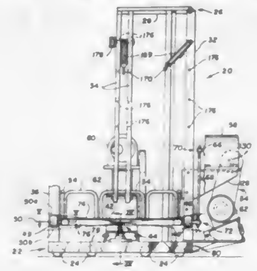
3,403,904
PNEUMATIC TRANSPORT DEVICE
Jong-Dok Kim, Munich, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany
Filed July 25, 1966, Ser. No. 567,621
Claims priority, application Germany, July 27, 1965, S 98,450
3 Claims. (Cl. 271—27)



A pneumatic transport device for sheet-like record carriers provided with a roller substantially closely surrounded by a casing and rotatably disposed therein, said roller having at least one annular groove which can be selectively connected with a suction device and at least one suction finger immersed in an additional annular grooved which is in close engagement with the record carrier against the roller prior to activating the said suction device.

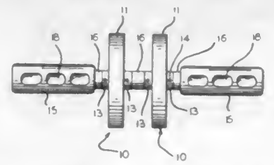
3,403,905
METHOD AND APPARATUS FOR ROCKING PLATFORMS
Alfred E. Hamilton, 106 Gladstone Road, Pittsburgh, Pa. 15217
Filed June 22, 1965, Ser. No. 465,995
10 Claims. (Cl. 272—57)

This patent discloses an apparatus and the method of using same for rehabilitating muscular members of a person. The apparatus comprises a platform universally mounted for reciprocal motion about two substantially mutually perpendicular horizontal axes simultaneously, both motions being at a continuously changing angle of tilt and at a continuously varying rate of speed. Epicycloidal drives are used to produce the motions mentioned above, e.g., in cooperation with mutually perpendicular arms underlying and attached to the platform.



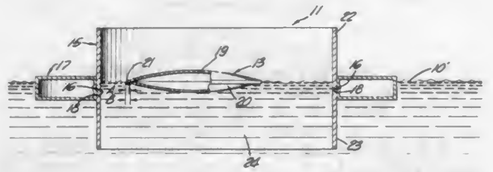
This invention relates to devices having rocking platforms which are adapted to support a person and which, through their rocking motion, aid in culminating and rehabilitating the muscular members of said person, and more particularly to a method and apparatus for rocking the platforms of devices of the type described, simultaneously about two intersecting axes.

3,403,906
EXERCISER WITH GRIPPERS ON A ROLLER MOUNTING SHAFT
Ralph Burzenski, 2429 N. 25th St., Milwaukee, Wis. 53206
Filed May 14, 1965, Ser. No. 455,775
2 Claims. (Cl. 272—57)



The device includes a roller which is mounted on a shaft with the shaft having gripping members on its opposite ends so that when the gripping members have force applied thereto and the roller contacts a surface, the exercising device can be moved along said surface by means of the roller rolling.

3,403,907
FLOATING TARGET AND DISC GAME APPARATUS
Clara M. Keller, 12630 Mitchell Ave., Los Angeles, Calif. 90066
Filed Apr. 16, 1965, Ser. No. 448,644
3 Claims. (Cl. 273—95)



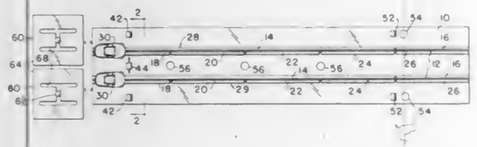
A hollow, open-ended receptacle is held in an upright position in the water of, say, a pool by a float member. One open end is submerged and the other ex-

tends above the water surface. Buoyant disc-like missiles with indicia provided on major outer surfaces thereof are thrown by game players toward the floating receptacle from a distance.

3,403,908
DRAG STRIP FOR SLOT RACERS

Philip Sheldon, Rochester, and Thomas J. Bacsanyi, Livonia, Mich., assignors to Model Products Corporation, Mount Clemens, Mich., a corporation of Michigan

Filed Nov. 8, 1965, Ser. No. 506,734
1 Claim. (Cl. 273—86)

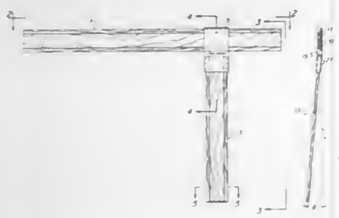


Drag strip for slot racing cars in which operators control their respective cars. For each slot track a series of sections have switches connected to electrical power such that the operator must coordinate the closing of the particular section switch with the position of the car to supply power. The operator moves simulated gear shifts to close the switches. When the car reaches the end of the strip an oppositely poled voltage acts as a brake through contact strips. Photocell actuated winner lights indicate the first car to cross the finish line.

3,403,909
BOOMERANG

Charles H. Cleveland, 1797 Quincy Ave., and Russell P. Hill, 1221 Westhills, both of Bend, Oreg. 97701

Filed Oct. 12, 1965, Ser. No. 495,069
10 Claims. (Cl. 273—106)



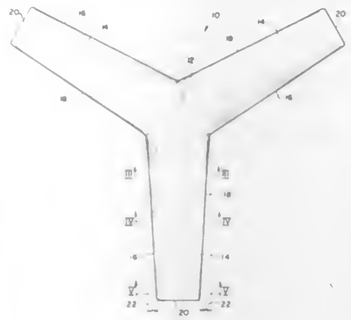
A boomerang having legs of substantially trapezoidal cross section. The legs are frictionally fitted in a connector, and the planes in which the legs lie are angularly related such that the smaller bases of the trapezoids are on the concave side of the boomerang. One of the legs is longitudinally slidable in its connector to vary the flight characteristics of the boomerang.

3,403,910
TOY BOOMERANG

Jack R. Claycomb, 261 Alva Way, Monroeville, Pa. 15146

Filed Oct. 23, 1965, Ser. No. 503,371
1 Claim. (Cl. 273—106)

A toy boomerang which, when thrown, follows a circular path so that it may be caught by the thrower. The boomerang is in the form of an integral plastic Y-shaped element with radially extending arms 120° apart, the upper faces of the boomerang arms have a concave shape and the lower faces are of convex shape. The arms are joined together in a plane from which the arms become gradually spaced in a radially outward direction, as well as

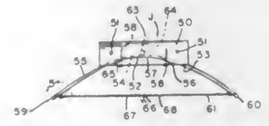


becoming progressively tilted in such radial outward direction.

3,403,911
REBOUNDING DEVICE FOR HALF-COURT SHUFFLEBOARD

Tallmon E. Horst, P.O. Box 111, Palo Alto, Calif. 94302

Filed Sept. 23, 1965, Ser. No. 489,596
1 Claim. (Cl. 273—126)

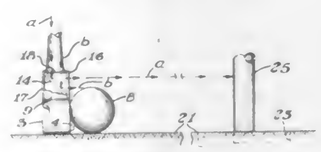


A half-court shuffleboard in which the two scoring areas are arranged almost side by side and a rebounding device for the slidable wooden discs is placed a predetermined distance from these areas and on a median line that extends midway between both of them. A player propels a wooden disc from one scoring area toward the rebounding device so that the disc will strike the latter and rebound in a direction toward the other scoring area.

3,403,912
GOLF PUTTER WITH ATTACHABLE SIGHTING DEVICE

Louis P. Maroun, 1081 Elodie Drive, Flint, Mich. 48504

Filed June 21, 1965, Ser. No. 465,308
8 Claims. (Cl. 273—163)

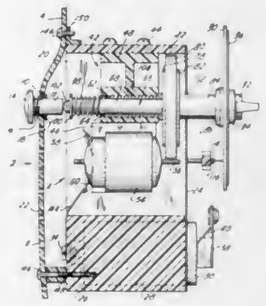


A golf putter having a blade provided with a recess in its upper edge in which is accommodated a transparent housing having secured therein a reflector the upper and lower edges of which are located at levels relative to the diameter of a golf ball as to enable the reflector to reflect the upper edge of the ball and a distant object such as a flagstaff.

3,403,913
DOLL WITH PHONOGRAPH

Ernest C. Freeman, Golden's Bridge, and Robert W. Freeman, Hawthorne, N.Y., assignors to Sevres Corporation, Brooklyn, N.Y., a corporation of New York

Original application Oct. 2, 1961, Ser. No. 152,373, now Patent No. 3,239,229, dated Mar. 8, 1966. Divided and this application Sept. 17, 1965, Ser. No. 516,176
5 Claims. (Cl. 274—1)

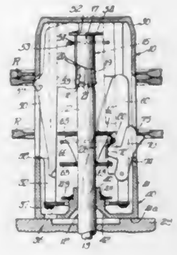


1. In combination, a doll comprising a body having a hollow portion between first and second wall portions thereof, a phonograph mounted in said hollow body portion and comprising a support, a record carrying member on said support and comprising connecting means for detachably connecting a record thereto, an electric motor operatively connected to said member for driving the latter, energy means mounted on said support and operatively connected to said motor for energizing the latter, and retaining means normally permanently attached to said support and movable between an operative position interposed between said energy means and said first doll body wall portion and there engaging said energy means so as to retain the latter on said support and an inoperative position exposing said energy means to said first wall portion, said first wall portion being detachably secured to said body, thereby to provide access to said hollow body portion for replacement of said energy means and the record adapted to be connected to said member; said wall portion carrying elements operatively engaging said energy means when said wall portion is in position, thereby to retain said energy means in position.

3,403,914
RECORD ADAPTER SPINDLE

Lloyd Osborn, Stevensville, Mich., assignor to V-M Corporation, Benton Harbor, Mich., a corporation of Michigan

Filed Mar. 4, 1966, Ser. No. 531,829
14 Claims. (Cl. 274—10)

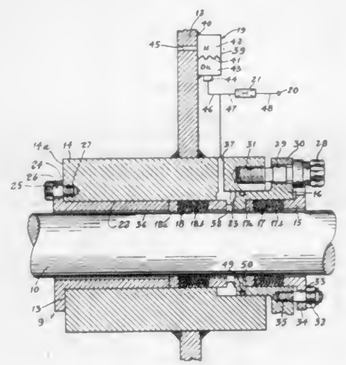


A record adapter spindle for mounting over and operation by a record changer center spindle of the type having a plurality of record lowering fingers which normally extend outwardly through slots formed in the spindle body and which move downwardly to lower a record to the turntable and are retracted inwardly to release the record and having at the upper end a plurality of extendable fingers that support a remaining stack of records during lowering. The adapter includes a cam to move the lowering fingers out of the way when the adapter is placed about or removed from the center spindle and includes records lowering pawls extending through slots in the adapter body for lowering a large center hole record and record supporting fingers which are extendable through the slots to support a remaining stack of records. The pawls and adapter supporting fingers operate in response to movement of the center spindle lowering fingers and extendable fingers respectively.

3,403,915
DIFFERENTIAL PRESSURE RESPONSIVE SHAFT SEAL APPARATUS

Harrison W. Roberts, 4904 N. 16th Road, Arlington, Va. 22207

Filed Jan. 18, 1966, Ser. No. 521,453
1 Claim. (Cl. 277—3)



A seal for the propeller shaft of a ship. A stuffing box, secured watertight to the hull of a ship at the opening in the hull through which the propeller shaft extends, supports two axially spaced apart seal members, each responsive to a difference in pressure axially thereacross to form a seal with the shaft that extends through the stuffing box and a fluid passage between the exterior of the stuffing box and the interior of the stuffing between the seals, and a fluid supply means coupled to the fluid passage and responsive to sea water pressure at the propeller end of the shaft for supplying fluid to the fluid passage at that pressure.

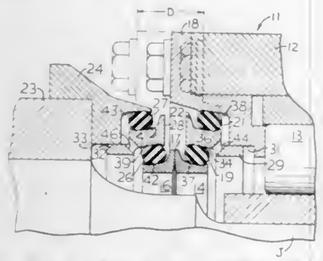
3,403,916
LOADING SYSTEMS FOR ROTARY FACE SEALS

Donald F. Durham, Peoria, and Donald D. Necessary, Morton, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Mar. 18, 1966, Ser. No. 535,485
3 Claims. (Cl. 277—92)

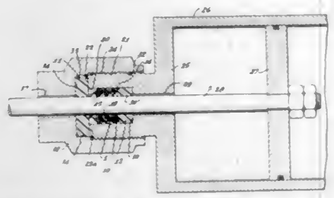
1. A face seal for the journal box of a railroad car effective to maintain fluid sealing contact between the seal faces during lateral movement of the journal within the journal box and comprising, a metal seal ring mounted for rotation with the journal and having a first radially extending seal face, a nonrotatable metal seal ring mounted in the journal box and having a second radially extending seal face, said first and second seal faces being in engagement, and a generally axially extending inclined

surface on the back side of each said seal ring, a resilient O-ring engaged with the inclined surface of each said seal ring, a ring retainer on each of said journal and journal box, each of said retainers having generally laterally extending inclined retainer surfaces, additional resilient O-rings engaged with said retainer surfaces, and adapter elements mounted for lateral movement within the re-



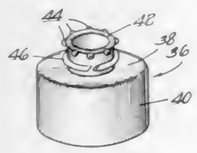
tainers, each of said adapter elements formed with generally laterally extending inclined surfaces opposed to the adjacent inclined surfaces of said seal rings and said retainers and engaged with the adjacent O-rings to transmit seal face loading forces from said retainers to said seal rings, and wherein the opposed inclined surfaces have a small amount of relative inclination.

3,403,917
DYNAMIC SHAFT SEALING DEVICE
Floyd E. MacSpadden, Jr., Huntington Park, Calif., assignor to Robbins Aviation, Inc., Vernon, Calif., a corporation of California
Filed Nov. 19, 1965, Ser. No. 508,739
6 Claims. (Cl. 277—110)



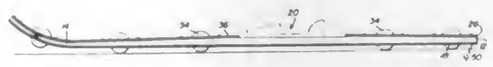
A shaft seal employing a Teflon seal sleeve snugly surrounding the shaft, being circumferentially corrugated, and whose corrugations make sealing engagement with the shaft and a seal bore, the sleeve having at one end a collar slideable in the seal bore, and at the other an enlarged head which is clamped between a retainer seating surface and an interior face on a bonnet screwed onto the retainer.

3,403,918
VALVE SEAL
Joseph M. Liebig, Wheaton, Ill., assignor to Illinois Milling, Incorporated, Chicago, Ill., a corporation of Illinois
Filed Mar. 18, 1965, Ser. No. 440,899
7 Claims. (Cl. 277—152)



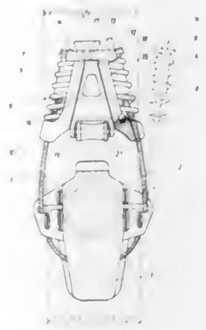
1. A valve seal for mounting on the stem of a valve of an internal combustion engine comprising a substantially cup-shaped member having an axial aperture there-through and having a tubular neck extending axially therefrom, and a resilient member encircling said neck for compressing said neck against a valve stem to fixedly interconnect the valve seal and valve stem.

3,403,919
SKI DEVICE WITH DEMOUNTABLE WHEELS
Robert L. Weibling, 5041 E. Lake Road, Sheffield Lake, Ohio 44054
Filed Feb. 18, 1966, Ser. No. 528,470
13 Claims. (Cl. 280—7.13)



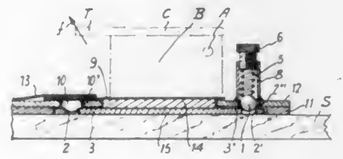
A convertible ski including an elongated ski-shaped and panel-like body together with a pair of bottom panels or plates selectively securable to the ski body so as to underlie the latter, one of the bottom plates including a longitudinally straight undersurface for skiing over a fluent medium and the other of the bottom plates including longitudinally spaced vertical openings formed therein through which journaled support wheels mounted in downwardly opening cavities formed in the ski body and registered with the openings formed in the second bottom plate project so as to adapt the ski for movement over grass covered or bare ground surfaces.

3,403,920
HEEL TIGHTENER FOR SKI BINDINGS
Günter Adam, Garmisch-Partenkirchen, Germany, assignor to Hannes Marker, Garmisch-Partenkirchen, Germany
Filed Mar. 8, 1966, Ser. No. 532,742
Claims priority, application Germany, Mar. 10, 1965, M 64,478
9 Claims. (Cl. 280—11.35)



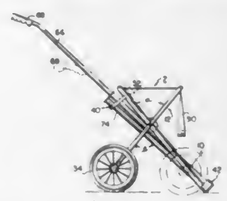
A heel tightener for ski bindings in combination with a ski and a boot, the improvement comprising two tensile elements extending along opposite sides of the heel of the boot and held to the ski at a part forward of the rear of the heel groove of the boot, a three-sided frame member opening forward and extending behind the heel generally in the direction of the tensile elements, a pusher shaped to fit the opening of the frame member and connected to the rear part of the latter for pivotal movement about an axis oriented transverse to the ski and generally parallel to the surface of the ski, the forward end of said pusher being shaped to engage the heel groove, when not in the clamping position said pusher being pivotally movable out of the frame member in a relative direction away from the ski surface and in the clamping position said pusher being pivotally moved to a position generally parallel with the frame member with the pusher's forward end engaging the heel groove and the rear part of the frame rotated upward and forward relative thereto, said frame including an abutment to prevent pivotal movement of the pusher beyond the frame member when the pusher is being pivoted relative to the frame member and ski surface, at least one spring coupled to and acting generally in the direction of the tensile elements being operatively coupled to act between the frame and the tensile elements to impart tension to the tensile elements when the frame and pusher are in their clamping position and to apply a clamping force to the heel groove through the frame member and pusher when in the clamping position.

3,403,921
SHOE-SECURING SYSTEM FOR SKIS
Alfred Raymond de Beausacq, 4 Rue Gustave Courbet, Paris, France
Filed June 27, 1966, Ser. No. 560,584
7 Claims. (Cl. 280—11.35)



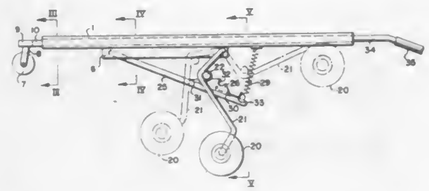
A shoe-securing system to be fitted in a ski between a front stop and a rear block adapted to rock round a vertical axis and round a horizontal axis, wherein two superposed discs coaxial with the geometrical line defining the vertical axis of the block and the diameter of which approximates the breadth of the ski, said discs being rigid respectively with the ski and with the block, whereby the tractional action exerted by the heel and passing substantially through the axis of the discs is absorbed by a large frictional area.

3,403,922
GOLF CART
James T. Francis, 325 Bathgate Road, North Madison, Ohio 44057
Filed May 10, 1966, Ser. No. 549,010
4 Claims. (Cl. 280—41)



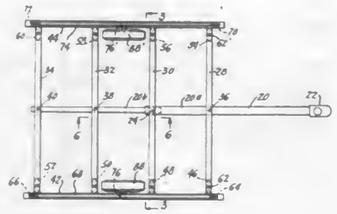
A collapsible golf cart comprising, a pair of U-shaped frame members physically connected to one another so as to enable one member to collapse upon the other member. A golf club supporting member is mounted on one of the frames and includes tube members adapted to receive golf clubs therein. A ground engaging member is disposed adjacent the lower end of one frame member, and wheel members are disposed adjacent the lower end of the other frame member. A flexible support member extends between the upper ends of the frame members, and is supported thereby to provide a seat for the user.

3,403,923
MANUALLY OPERATED CART OR WAGON
Claude Mouchet, Saint-Philbert-de-Grandlieu, France, assignor to Manufacture d'Armes & Cycles de Chatellerault, Chatellerault, Vienne, France
Filed Aug. 25, 1966, Ser. No. 575,086
Claims priority, application France, Sept. 3, 1965, 2,151; Oct. 12, 1965, 2,162; Apr. 27, 1966, 59,410
4 Claims. (Cl. 280—43.1)



A hand-operated cart having front wheels at one end of a platform and handles at the other end. Another pair of wheels is attached to the platforms between the front wheels and the handles by pivoting struts which may be arrested in several angular positions at different vertical distances of the other wheels from the platform to facilitate loading and travel over stairs.

3,403,924
TRAILER
John X. Oliveira, 9348 NW. 22nd Ave., Miami, Fla. 33147
Filed July 26, 1966, Ser. No. 567,871
2 Claims. (Cl. 280—63)

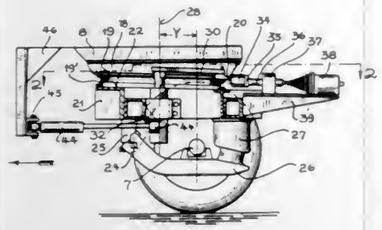


A trailer which may be easily disassembled and assembled comprising a pair of side assemblies each including a side bar, a wheel support member extending downwardly from the side bar, a reinforcing strap secured from the ends of the side bar to the bottom of the wheel support member, a wheel rotatably supported at the bottom of the wheel support member, dowels extending inwardly from each of the side assemblies, a plurality of tubular cross bars secured by the dowels transversely of the trailer and a two-piece tongue secured to the front and rear cross bars and an intermediate cross bar and extending forwardly with a hitch thereon for securement to a draft vehicle is disclosed.

3,403,925
SELF-CENTERING WHEELED AXLE
Roman Franz Sauer, 8752 Keilberg uber Aschaffenburg, Germany
Filed Dec. 28, 1966, Ser. No. 605,375
Claims priority, application Germany, Dec. 30, 1965, S 101,258; Jan. 5, 1966, S 101,320
10 Claims. (Cl. 280—81)

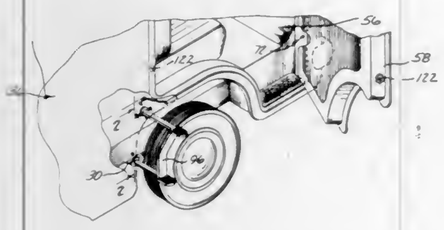
This invention relates to an oscillatable mobile assembly which includes a wheeled axle for supporting the same and is adapted for attachment to highway-drawn

load-carrying vehicles including a chassis adapted to support the load. A support means positioned beneath the chassis includes an upper, substantially horizontally disposed face which directly supports the chassis and the load of the trailer. The lower face of an annular raceway means may be formed as a part of the support means or be a separate element and is complemental to an annular element supported by a frame means, the latter being positioned for springing movement relative to a



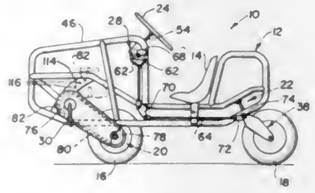
wheeled axle by shock absorbing means. The raceway means are canted downwardly and due to the pivotal manner in which the upper raceway means is associated with the frame means and a centering device which includes latching means that cooperates with the upper raceway means, the axle of the mobile assembly is normally transverse to the trailer chassis. However, the axle may be caused to be moved to the position shown in FIG. 3 of the drawings when traversing through a curved path.

3,403,926
EXTENDABLE AND RETRACTABLE STEP APPARATUS
Edgar G. Way, Los Angeles, and Peter J. Attina, Montebello, Calif. (both of P.O. Box 18948, Los Angeles, Calif. 90018)
Filed June 13, 1966, Ser. No. 557,132
14 Claims. (Cl. 280—166)



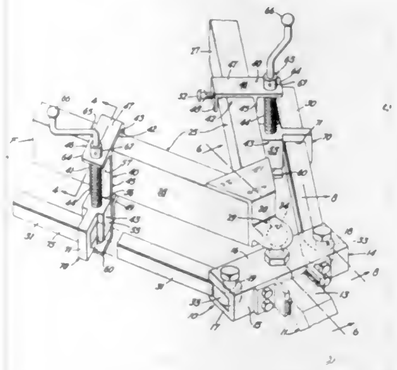
The specification discloses extendable and retractable step apparatus, in one preferred form intended primarily for use on a van type of motor vehicle adjacent to a van type door normally closing an interior access opening of a type which is sometimes difficult to enter if the door cannot be fully opened. The extendable and retractable step apparatus of the present invention solves this problem by providing a pair of conveniently located, properly spaced, and differently elevated entry steps for the door access opening which are normally retracted but which are extended only when needed for use. This is accomplished by controllably electrically energizable and de-energizable extension actuator means effectively coupled with respect to the pair of steps for controllable outward extension thereof from normal retracted positions thereof when said actuator means is energized in an extension manner and for controllable retraction thereof when said actuator means is energized in a retraction manner. The energization of said actuator means in the extension manner and in the retraction manner is under the control of energization initiation switch means adapted to be operated when a person wishes to enter or leave the interior of a van type motor vehicle or the like through the partially open door thereof by stepping upon the pair of step means of the present invention to facilitate the entering or leaving of the vehicle.

3,403,927
PEDAL-PROPELLED TRICYCLE VEHICLES
Harry C. Rettger, Jr., 3557 Ridgewood Drive, Pittsburgh, Pa. 15235
Filed Dec. 10, 1965, Ser. No. 512,859
8 Claims. (Cl. 280—261)



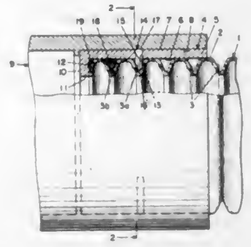
Tricycle vehicles of the type in which the rider provides the power for moving the vehicle, and more particularly to improvements in the steering action and drive arrangement of tricycle vehicles of the type described.

3,403,928
STABILIZER AND TENSIONING MEANS FOR TRAILER HITCH
William D. Laughlin, 1624 Palm—Space 304, Windsor, Calif. 95492
Filed Jan. 3, 1967, Ser. No. 606,893
10 Claims. (Cl. 280—406)



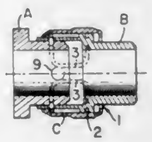
An apparatus for adjusting the tension between the sway bars and hitch head of a stabilized type sway control for a trailer hitch and comprising a clamp for each side of the V-shaped trailer tongue and which slidably embraces the tongue member for lengthwise adjustment therealong and vertically adjustably supports, by a screw-type elevating means, a yoke for slidably receiving the free end of the sway bar extending along the tongue on said side whereby the sway bar may be selectively adjustably tensioned.

3,403,929
COUPLING MEANS FOR CORRUGATED TUBING
Robert M. Russell, Newark, Del., assignor, by mesne assignments, to Hercules Incorporated, New Castle, Del., a corporation of Delaware
Filed July 28, 1967, Ser. No. 656,855
10 Claims. (Cl. 285—177)



This invention relates to coupling means for the end of a thermoplastic tubing and particularly tubing of a material such as polyethylene that resists adhesion, which coupling means comprises an adapter that telescopically receives the end of the tubing and is itself telescopically reecived with a conventional fitting, the adapter and fitting being of a material that can be readily connected adhesively. The tubing is mechanically secured to the adaptor by a key in a slot in the adaptor and extending into a valley of the tubing with an end section of the tubing compressed between the key and a flange at the end of the adaptor.

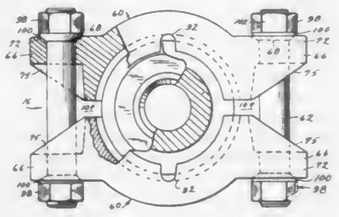
3,403,930
DEVICE FOR SELF-LOCKING AND QUICK-UNLOCKING OF TWO PARTS, MORE PARTICULARLY OF ELECTRICAL CONNECTORS
Raymond Bernier, Paris, France, assignor to Societe de Constructions Electriques Jupiter, a body corporate of France
Filed Nov. 29, 1965, Ser. No. 510,322
Claims priority, application France, Nov. 28, 1964, 996,733; Jan. 5, 1965, 920
2 Claims. (Cl. 285—315)



Self-locking device comprising a spigot having an outer groove, a socket having a slot, a U-shaped clip encircling the socket and secured to the same, the groove and the slot being simultaneously engageable by the intermediate leg of the clip and a slidable unlocking member for deflecting the clip and causing its intermediate leg to disengage said groove and said slot.

3,403,931
CLAMP
Robert L. Crain and Raymond E. Latham, Houston, Tex., assignors to Gray Tool Company, Houston, Tex., a corporation of Texas
Filed Aug. 11, 1964, Ser. No. 388,775
1 Claim. (Cl. 285—334.2)

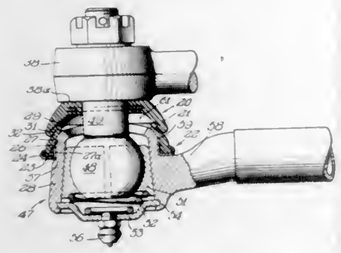
1. A coupling sealed against the leakage of fluid pressure comprising a plurality of complementary arcuate clamp segments; each segment including an arcuate element having two axially spaced arcuate sides, two angularly spaced ends, a radially inner wall and a radially outer wall; means defining a pair of axially spaced, radially inwardly projecting, generally parallel arcuate ribs on each clamp segment radially inner wall, each rib of each pair including an arcuate sealing surface generally facing the other rib of the pair and projecting radially inwardly of said segment and axially toward the nearest of the axially spaced clamp segment arcuate sides, thereby defining two axially spaced wedging surfaces on each segment substantially aligned with the like wedging surfaces on each other clamp segment; means defining at least one groove in each clamp segment extending substantially transversely to said ribs on said segment radially inner wall; each groove having a depth at least as great as the outward radial extent of each rib, said groove intersecting each rib on said segment; securement means on said segments adjacent each angularly spaced end thereof; each securement means comprising a substantially radially outwardly and axially extending lug closely adjacent each respective clamp segment and having means defining a laterally inner wall and a laterally outer wall; each lug having a pair of lateral apertures symmetrically disposed from the arcuate centerline of the clamp segment and extending between intersection with the respective lug laterally inner wall and the lug laterally outer wall, each aperture having means defining an outwardly concave spherically curved annular recess in the laterally outer wall of the respective lug peripherally immediately adjacent and radially inwardly delimited by each intersection of said apertures with said respective lug laterally outer wall, and each respective aperture being thereby constructed and arranged to receive against the respective spherically curved annular recess



one bearing surface of a spherical bearing surface nut and bolt assembly and to receive the shank of the bolt of the bolt and nut assembly through the respective aperture; said securement means being arranged to secure said segments to one another defining a clamp and said securement means being manipulatable to effect radial expansion and contraction of said clamp; a pair of elements presented endwise with respect to one another to said clamp for sealingly coupling therewith; each element have a circumferentially extending, radially outwardly and axially endwardly tapering wedging surface thereon adjacent the end of the element presented toward the other element, each of said wedging surfaces being arranged for surface to surface engagement with the wedging surface of one of the pair of said clamp segment ribs of each clamp segment when said clamp is radially contracted to draw said element ends toward one another and surface to surface sealingly engageable means cooperatively carried by said elements adjacent said ends thereof for sealing said elements with respect to one another when said clamp is radially contracted; the last-mentioned surface to surface sealingly engageable means including an annular, axially extending tapered sealing surface carrying projection on the first of said elements and an annular tapered shoulder on said second element defining a sealing surface thereon cooperatively sealingly engaged by the

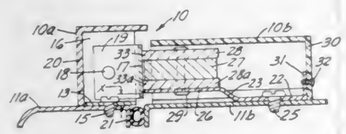
sealing surface of said first element, the projection carried sealing surface, when in an unstressed condition, tapering at a more shallow angle with respect to the longitudinal axis of the clamp than the taper of the shoulder on the second element, and said projection being elastically deflected into stressed sealing engagement with the shoulder when the clamp is radially contracted.

3,403,932
PRESSURE RELIEF BOOT SEAL
Eugene R. Kutcher, Warren, Mich., assignor to TRW Inc., a corporation of Ohio
Filed Apr. 30, 1963, Ser. No. 276,774
6 Claims. (Cl. 287—87)



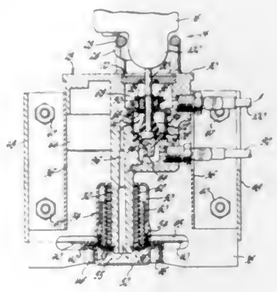
1. In combination with a joint assembly having a socket, a stud in said socket having a shank extending therefrom and a member secured to said stud having a radial wall facing said socket, a boot seal comprising a tubular resilient body around said shank between said socket and said wall, said body having an end face sealingly engaged with said wall and an opposite end around said socket, said body having an internal integral annular sealing lip adjacent said opposite end radially deformed by said socket to sealingly seat therearound, a collar secured to said opposite end beyond said lip and seated around said socket, said collar having vent means extending beyond said lip and being adjacent the side of the lip facing said opposite end of the body, and said lip being movable away from the socket to release excessive pressures from inside said body to said vent means.

3,403,933
MAGNETIC LATCH
Le Roy J. Rossow, 857 Rice St., St. Paul, Minn. 55117
Filed Dec. 15, 1966, Ser. No. 602,037
6 Claims. (Cl. 292—251.5)



1. A magnetic latch adapted to be attached to the exterior of a refrigerator, the refrigerator having a stationary box and a door attached thereto swingably mounted for positioning between an open and closed position, said magnetic latch comprising
- a striker plate assembly, said striker plate assembly comprising
- a door mounting bracket adapted to be affixed to the swingable door of the refrigerator, said door mounting bracket having outwardly projecting striker plate receiving flanges attached thereto,
- a striker plate, said striker plate having flanges projecting outwardly therefrom affixed to the flanges of said door mounting bracket whereby said striker plate is positioned substantially parallel with the edge of the swingable door of the refrigerator, and
- a magnet unit, said magnet unit comprising
- a magnet unit mounting plate adapted to be affixed to the stationary box of the refrigerator, said magnet unit mounting plate having a magnet receiving plate attached thereto and spaced apart therefrom by an offset plate portion whereby the magnet receiving plate is spaced apart from the stationary door of the refrigerator a predetermined distance and
- a magnet having poles thereon affixed to the magnet receiving plate, the poles positioned whereby the poles cooperate with said striker plate in the closed position of the swingable door relative to the stationary box of the refrigerator, thereby maintaining the swingable door of the refrigerator in closed position and whereby the magnetic forces of said magnet are directed toward said striker plate and away from the refrigerator in the open position of the door relative to the stationary box of the refrigerator.

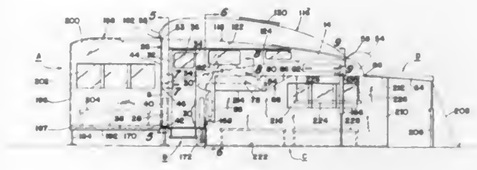
3,403,934
CLOSURE LATCH
Donald A. Butts, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 16, 1966, Ser. No. 550,184
7 Claims. (Cl. 292—341.16)



A vehicle rear deck lid is swingably mounted for movement between open and closed positions relative to a vehicle body compartment. The deck lid and the body are provided with latch means including a latch bolt and a striker engageable therewith to latch the deck lid to the body. The striker is slidably mounted for movement between an extended position for latching engagement with the bolt and a retracted position for moving the deck lid to fully closed position. A fluid pressure device and biasing means are provided for alternately moving the striker between extended and retracted positions. A valve control mounted on the striker is engaged upon latching engagement to control the fluid pressure device to effect movement of the striker to retracted position.

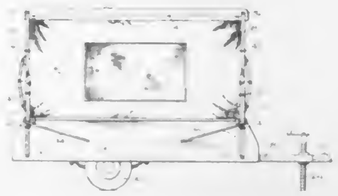
3,403,935
CAMPER UNIT
Vernon J. Spradling, 7536 King Memorial Road, Mentor, Ohio 44060
Filed June 4, 1965, Ser. No. 461,386
15 Claims. (Cl. 296—23)

A camper unit for mounting on a vehicle including a partially collapsible body, a wing member hinged to each of the side walls of the body, an interchangeable undercarriage detachably connected to the underside of



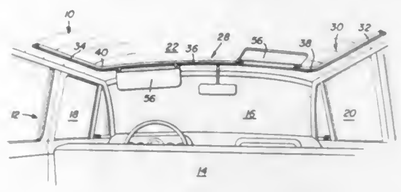
the body, and an excess section hinged to the undercarriage to provide access to the trunk area of the vehicle.

3,403,936
COLLAPSIBLE AND EXTENDABLE STANDARD
Charles H. Young, 3301 Phillips St., Elkhart, Ind. 46514
Filed Jan. 16, 1967, Ser. No. 609,576
8 Claims. (Cl. 296—27)



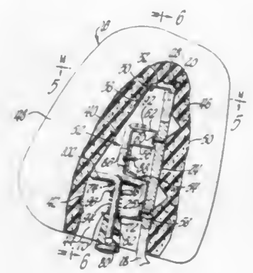
A standard comprising two pivotally joined hollow sections urged into extended position by tension applied by means of a cable attached at one end to a spring within one of the standard sections, running over a pulley at the pivot of the two standard sections and attached at its other end to the pivotal junction of a pair of arms respectively, pivotally attached to a section of the standard.

3,403,937
SUN VISOR CONSTRUCTION
Robert L. Quaine, 924 Merchant St., P.O. Box 557, Port Huron, Mich. 48060
Filed July 19, 1966, Ser. No. 566,417
8 Claims. (Cl. 296—97)



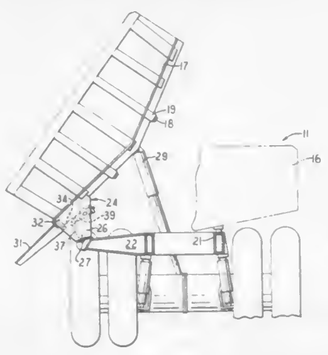
An elongated track member including generally straight angularly disposed adjacent sections curving smoothly into each other at adjacent ends and extending along the upper marginal portions of the windshield and side window portions of a vehicle with a sun visor member having follower members secured to its opposite ends slidingly engaged in the guide or track member for movement therealong and with the follower members being oscillatable relative to the sun visor member about an axis extending between the follower members, the follower members also being oscillatable relative to the guide or track member about upstanding axes.

3,403,938
FORE AND AFT ADJUSTABLE HEADREST
Frank N. Cramer, Warren, and Jack L. Curry, Rochester, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 17, 1967, Ser. No. 623,940
8 Claims. (Cl. 297—391)



A vehicle headrest having a head support pad hinged to a fixed rear portion including a manually operated cam mechanism for selectively positioning the head support pad relative to the rear portion in the fore and aft direction.

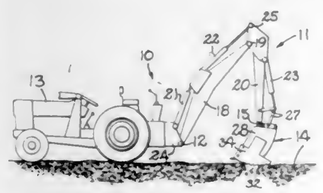
3,403,939
VEHICLE DUMP DOOR OPERATING LINKAGE
Sheldon L. Stark, Bloomington, and John H. Babbitt, Jr., Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Nov. 23, 1966, Ser. No. 596,670
9 Claims. (Cl. 298—23)



Fluid jack operated mechanism for manipulating the dump door of a truck body has a pair of coupled toggle links connected between the door and the body pivot axis with the jack being coupled to the knee of the toggle in an arrangement which provides a relatively constant

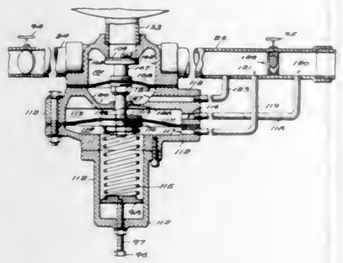
effective lever arm and an efficient variation of mechanical advantage and rate of door motion during the course of the door movement. The mechanism is readily adjustable to accommodate to manufacturing variations in the associated truck structure.

3,403,940
SAW ATTACHMENT FOR EXCAVATOR BUCKET
Harry C. Clark, 226 W. Perry St., Belvidere, Ill. 61008
Filed Dec. 9, 1966, Ser. No. 600,412
8 Claims. (Cl. 299—26)



An excavator having a bucket with spaced saw blades formed on or attached to the bucket to cut into frozen earth and the like during back and forth movement of the bucket, and with a wedge-shaped spike on the bucket for breaking off the earth upon completion of the sawing operation.

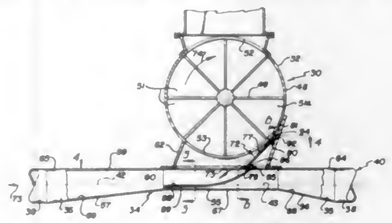
3,403,941
PNEUMATIC CONVEYING SYSTEM
Paul E. Solt, Allentown, Pa., assignor to Fuller Company, a corporation of Delaware
Filed Jan. 23, 1967, Ser. No. 611,442
27 Claims. (Cl. 302—42)



A pneumatic conveying system having a modulating control mechanism for instantaneously regulating the introduction of material into the system in response to variations in the kinetic conditions within the system.

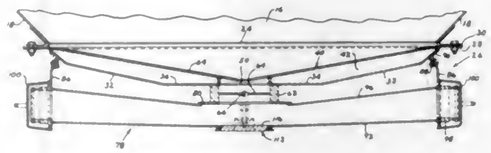
3,403,942
PARTICULATE MATERIAL FEEDING APPARATUS FOR FLUID CONVEYOR LINES
Wilfred Farnworth, North Vancouver, British Columbia, Canada, assignor to Rader Pneumatics & Engineering Co., Ltd., Burnaby, Ontario, Canada
Filed Dec. 28, 1966, Ser. No. 605,294
4 Claims. (Cl. 302—49)

Apparatus for feeding particulate material into a fluid conveyor line and including a distributor casing adapted to be connected in the conveyor pipe line so that conveying fluid will travel along a longitudinal axis thereof, and a rotary feeder having a rotational axis extending at right angles to the casing axis and connected to the casing to



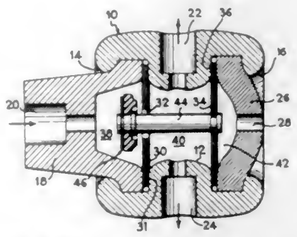
direct particulate material into the latter in the direction of movement of conveying fluid therethrough.

3,403,943
OUTLET STRUCTURE FOR UNLOADING BULK MATERIALS EITHER BY GRAVITY OR PNEUMATICALLY
Clair K. Stine, O'Fallon, and Richard H. Dugge, St. Louis County, Mo., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Sept. 11, 1967, Ser. No. 666,679
7 Claims. (Cl. 302—52)



An outlet structure mounted beneath a hopper of a covered hopper railway car to discharge particulate material selectively either by gravity or pneumatically. A butterfly valve is mounted in a tubular discharge conduit to control the flow of particulate material from the hopper and a removable elongate pneumatic discharge conduit is mounted beneath the butterfly valve for discharging the particulate material pneumatically. A removable lower cover forms a portion of the bottom of the pneumatic conduit and is positioned in vertical axial alignment with the butterfly valve to permit gravity unloading upon opening of the butterfly valve when the lower cover is removed.

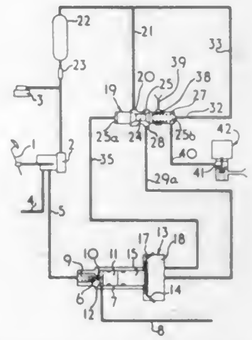
3,403,944
BRAKING PRESSURE MODIFYING DEVICE
René Thirion, Paris, France, assignor to Societe Anonyme D.B.A.
Filed July 20, 1967, Ser. No. 654,900
Claims priority, application France, July 30, 1966, 71,570
6 Claims. (Cl. 303—6)



A braking pressure modifying device for location in a braking system between the braking pressure control source such as a master cylinder and a set of receiver

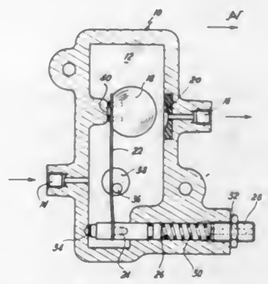
cylinders such as the wheel cylinders of a set of brakes which comprises resilient members both as pressure control means and valve means.

3,403,945
VEHICLE ANTI-SKID BRAKING SYSTEM
Douglas Dewar, Wolston, near Coventry, John Walter Davis, Balsall Common, Coventry, and Frank Radcliffe Mortimer, Styvechale, Coventry, England, assignors to Dunlop Rubber Company Limited, London England, a British corporation
Filed Apr. 28, 1966, Ser. No. 546,029
Claims priority, application Great Britain, May 4, 1965, 18,851/65
21 Claims. (Cl. 303—21)



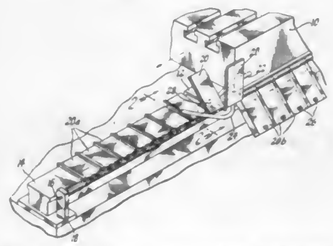
A vehicle braking system is provide with a hydraulic brake operating mechanism for a set of vehicle wheels and a skid sensing device associated with the vehicle wheel constructed to operate a relay valve to reduce pressure on the control cylinder which can shut off pressure from the hydraulic brake applying system to the brakes and reduce the brake applying pressure until such time that the wheels can obtain a restored speed as sensed by the inertia device.

3,403,946
VEHICLE BRAKING PRESSURE LIMITING DEVICE
René Thirion, Paris, France, assignor to Societe Anonyme D.B.A.
Filed Oct. 30, 1967, Ser. No. 678,794
Claims priority, application France, Nov. 10, 1966, 83,282
7 Claims. (Cl. 303—24)



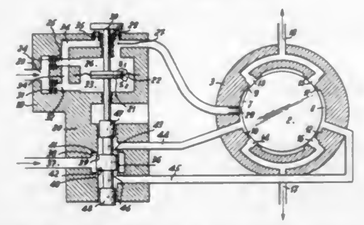
A brake pressure limiting device comprising an inertia member connected to a resiliently deformable leaf spring positioned perpendicular to the vehicle axis. The leaf spring cooperates with a manually operated adjusting member connected to the housing and with a pressure responsive plunger so that the leaf spring is subjected to a first return torque as a function of the position of the adjusting member and to a second return torque varying as a function of the position of the plunger.

3,403,947
MACHINE WAY GUARDS
Alvin E. Johnson, Western Springs, Ill., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 12, 1966, Ser. No. 586,063
5 Claims. (Cl. 308—3.5



A machine way cover comprising segmented portion pivoted about a rod adjacent the way, and lifted on and off the way by cam arms secured to a machine table as the table travels in different directions.

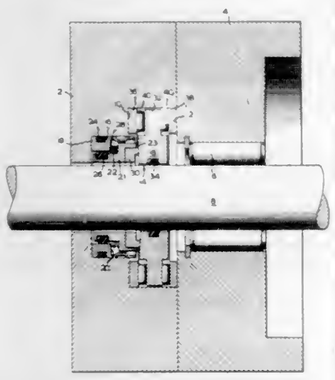
3,403,948
APPARATUS FOR MAINTAINING CLEARANCES IN FLUID DESIGNS SUBSTANTIALLY CONSTANT
Paul Deffrenne, Geneva, Switzerland, assignor to Mecanorga S.A., Geneva, Switzerland, a company of Switzerland
Filed Nov. 21, 1966, Ser. No. 595,971
Claims priority, application Switzerland, Nov. 29, 1965, 16,444/65
6 Claims. (Cl. 308—122)



1. Apparatus for keeping a clearance between two bodies substantially constant at a predetermined value, one of which bodies supports the other, through the intermediary of a pressure operating fluid in two zones opposite each other, against forces producing movements of said other body to alter said clearance, which apparatus comprises a source of pressure gas, control means having a casing which incorporates two chambers, a pressure sensitive element separating the two chambers from each other, and first and second restricted orifices placing the two chambers respectively in communication with said source, first and second outlets through which gas can escape from one of the chambers, a nozzle affording said first outlet and adapted to be fixed in one of said bodies adjacent a surface of the other body such that relative movement of the bodies altering said clearance alters the effective area of the first outlet, a third outlet through which pressure gas can escape from the other chamber, and means which is connected to move with the pressure sensitive element and which when so moved varies the effective areas of the second and third outlets in the same sense as the causal variation of the effective

area of the first outlet, and a valve to which the element is coupled for varying the operating fluid pressures in the two zones in relation to each other in a sense to maintain the clearance at said predetermined value, variation of the clearance in either sense from said predetermined value producing a corresponding variation in the effective area of the first outlet which acts to move the element to operate the valve, the sizes of said orifices and outlets in relation to each other and the operation of the means for varying the effective areas of the second and third outlets being such that the opposing forces on the element are equal only when the clearance has said predetermined value and that, under steady conditions, the forces on the element are balanced when the clearance has said predetermined value whatever the position of the element.

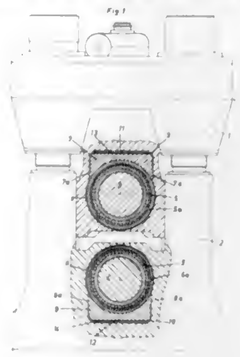
3,403,949
SEAL FOR ROTATING SHAFT
William R. Leissner, Brookfield, Wis., assignor to Applied Power Industries, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Oct. 23, 1965, Ser. No. 503,717
4 Claims. (Cl. 308—187.1)



A mechanical seal assembly for a shaft rotating in a housing in which a stationary axially biased sealing portion is mounted therearound having an axially translatable mating ring carried by the shaft in axial engagement with the sealing portion, the mating ring having opposite sides subjected to fluid from a common pressure source and also having an annular seal disposed between it and the shaft to block fluid flow therebetween, an interference fit between the seal, the ring and the shaft such that the ring is rotatably fixed to the shaft, and bearing means rotatably engaging the ring to block axial movement thereof with respect to the housing.

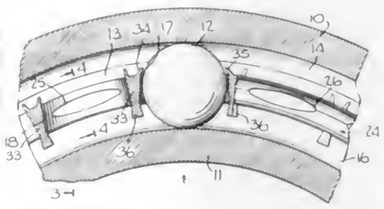
3,403,950
BEARING ARRANGEMENT FOR THE ROLLS OF A ROLLING MILL
Hans Siegfried Metzger, St. Ingbert-Saar, Germany, assignor to Verwaltungsgesellschaft Moeller & Neumann offene Handelsgesellschaft, St. Ingbert, Germany
Filed July 21, 1966, Ser. No. 566,887
Claims priority, application Germany, July 23, 1965, V 28,958
2 Claims. (Cl. 308—194)

A rolling mill including upper and lower rolls having end bearings positioned in openings provided in non-tilting upper and lower chocks, each bearing having an intermediate support member engageable with the bearing periphery and provided with an arcuate bearing surface slidably engageable with a complementary arcuate bearing surface on the chock with at least one of the bearing surfaces being provided with a coating of polytetrafluoroethylene to permit axial deflection of the rolls together



and tilting of the bearings relative to the chock to reduce sliding friction.

3,403,951
BEARING WITH ROLLING ELEMENTS AND A RETAINER THEREFOR
Joseph Kenneth Bailey, Lakewood, N.Y., assignor to TRW Inc., Euclid, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 404,591, Oct. 19, 1964. This application Apr. 10, 1967, Ser. No. 633,662
5 Claims. (Cl. 308—201)



Ball bearings are described having inner and outer rings with a retainer therebetween for spacing the bearing balls. The rings have races for the balls. The retainers may be made from a single piece or may be made in two pieces and riveted together. The retainers have circular pockets for the balls. Extending inwardly from the sides of the retainer are circumferentially extending V-shaped grooves which intersect with the pockets. Grooves may also be provided in the inner and outer surfaces of the bridge portions between the pockets. These grooves are unobstructed and provide for the flow of lubricant through the pockets.

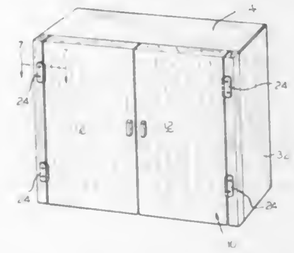
3,403,952
GRAVITY FEED SOAP DISPENSER
William H. Alley, Summit, N.J. (59 Forrest Drive, Springfield, N.J. 07081)
Filed Oct. 24, 1966, Ser. No. 588,981
5 Claims. (Cl. 312—61)

Thin, relatively fragile individual soap bars useful for handwashing purposes are issued from a dispenser system composed of an upright housing having an elongated passageway extending therewithin. The lower portion of the soap dispenser is formed to give access to one of the soap bars. The soap bars are positioned within the dispenser by means of two or more support members connected to the lower ends of the walls of the dispenser. At least two of the walls of the passageway of the dispenser are provided with guide members to which the soap bars are slidably engaged in their transit through the dispenser. Most desirably the soap bars and the dispenser passageway have a rectangular configuration. Preferably the soap bars are from 1.5 to 2″ in length and



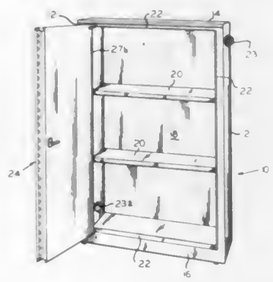
from 0.5 to 1.5″ in width and have a thickness varying from about 1/128 to 3/64″.

3,403,953
DEVICE FOR RENOVATING OLD CABINETS
Robert O. Clark, c/o Homewood Cabinet Top Co., 17641 S. Ashland Ave., Homewood, Ill. 60430
Filed Feb. 13, 1967, Ser. No. 615,806
5 Claims. (Cl. 312—204)



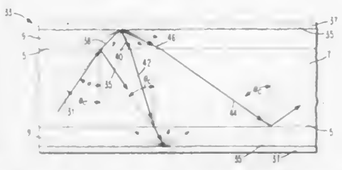
The device comprises, among other things, a door hingedly associated with a stile that is mountable to an old cabinet frame after removing the original doors and hinge structures from the access opening of the cabinet.

3,403,954
SAFETY STORAGE CABINET
Clarence E. Williams, % A & A Sheet Metal Products, 644 N. Orleans, Chicago, Ill. 60610
Filed Jan. 18, 1967, Ser. No. 610,053
6 Claims. (Cl. 312—351)



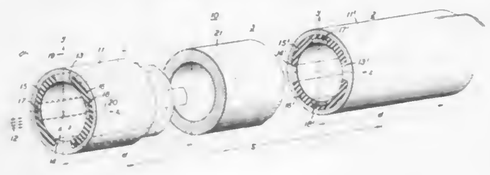
Storage cabinet is for combustible materials and automatically closes after opening and when retained in open position it automatically closes when heated.

3,403,955
RADIANT ENERGY CONDUCTOR WITH DIFFUSING SURFACE
Robert R. Jueneman, Huntsville, Ala., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 24, 1964, Ser. No. 413,451
4 Claims. (Cl. 350—96)



A low loss radiant energy transmission means having a central core that is transparent to the wavelength of radiation to be transmitted, and a cladding thereabout which is also transparent to said radiation. The cladding has an index of refraction of magnitude less than that of the central core. The surface of the cladding in contact with the core is without surface imperfections, while the outer surface of the cladding has imperfections of the order of the transmitted wavelength. This outer surface is coated with a material that is reflective to the wavelength of the transmitted energy.

3,403,956
THERMAL GASEOUS ELECTROMAGNETIC TRANSMISSION DEVICES
Stewart E. Miller, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 17, 1965, Ser. No. 456,342
7 Claims. (Cl. 350—179)

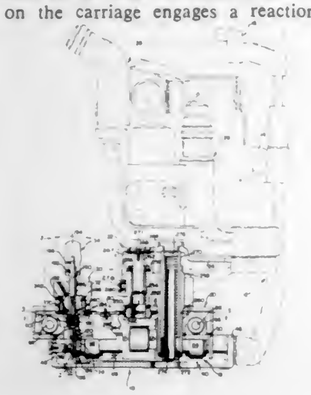


This application describes an electromagnetic wave guidance system employing thermal gaseous lenses. In a first illustrative embodiment guidance is obtained by means of a plurality of separate lenses longitudinally distributed along the wavepath. Each lens includes four temperature control elements, symmetrically distributed about the inside of a section of hollow cylindrical tubing. The desired temperature gradients are established in the gas flowing through the tubing by independently controlling the temperature of the four temperature control elements. In a second embodiment of the invention continuous focusing action is realized by making the temperature control elements in the form of longitudinally extending helical members which protrude into the tubing to impart a helical motion to the gas. The helical configuration also reduces distortion in the guidance system due to gravitational effects.

3,403,957
ADJUSTABLE CARRIAGE FOR SLIT LAMP
Leonard A. Wilkinson, Snyder, N.Y., assignor to American Optical Company, Southbridge, Mass.
Filed Sept. 23, 1964, Ser. No. 398,697
2 Claims. (Cl. 351—38)

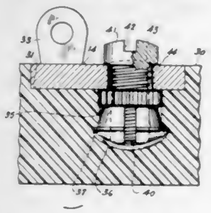
A base having guide rails mounting a frame having guide rails perpendicular to the first guide rails and mount-

ing a carriage so that the carriage is freely movable in a plane relative to the base. A control lever universally mounted on the carriage engages a reaction assembly



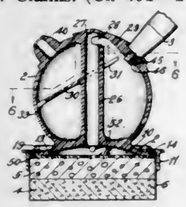
which resists movement of one end of the control lever while its opposite end is moved, thereby to impart motion to the carriage in the direction of movement of such opposite end of the control lever.

3,403,958
SPECTACLE HINGE CONSTRUCTION HAVING AN EXPANDABLE ANCHOR
Robert Gross, Hackensack, N.J., assignor to Hudson Optical Corporation, Long Island City, N.Y., a corporation of New York
Filed Apr. 26, 1965, Ser. No. 450,905
1 Claim. (Cl. 351—153)



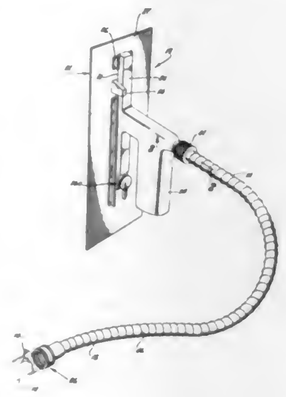
A spectacle construction having securement means for securing a hinge plate to a spectacle frame, said securement means comprising an externally serrated, annular member having a plurality of legs extending therefrom and shoulders on each of said legs for abutting engagement with an undercut in the frame piece upon spreading of the legs.

3,403,959
SELF-WRINGING MOP
Jim D. Holderman, 6714 Amigo St., Reseda, Calif. 91335
Filed Mar. 16, 1967, Ser. No. 623,632
4 Claims. (Cl. 401—148)



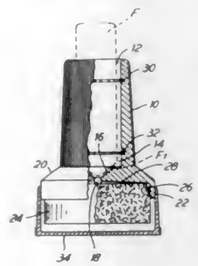
The mop is characterized by having a sponge type mop head with a liquid reservoir thereabove. A transfer tube leads from the top surface of the mop head to the highest level in the reservoir for passage of liquid from the sponge type mop head into the reservoir.

3,403,960
PLASTER DELIVERY MEANS FOR CONTROLLABLE FEED TROWEL
Louis M. Ballard, Arcadia, and Robert A. Nielsen, Sherman Oaks, Calif., assignors to Trowel Fast, Inc., Azusa, Calif., a corporation of California
Filed Mar. 17, 1967, Ser. No. 624,046
6 Claims. (Cl. 401—188)



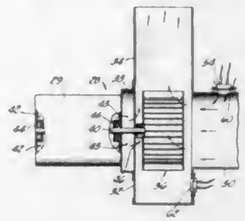
The invention concerns delivery of plaster from a pump to a dispensing head in such manner as to overcome surge-created problems. A thin walled surge hose is releasably attached to the head and also confined by metal wire coil turns so as to prevent hose bursting and also to permit rapid detachment of the hose from the head.

3,403,961
APPARATUS FOR THE CONTROLLED DISTRIBUTION OF LIQUIDS, IN PARTICULAR FOR TOILETRY
Giovanni Gazzani, Como, Italy, assignor to Neotis S.a.s., Como, Italy
Filed Feb. 27, 1967, Ser. No. 618,637
Claims priority, application Italy, Mar. 3, 1966, 4,746/66, Patent 15,145
5 Claims. (Cl. 401—202)



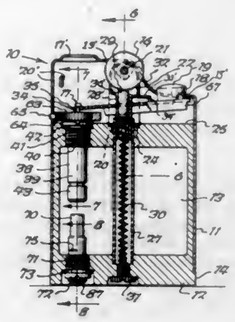
A dispensing device consisting of a hollow handle and distributor means provided with a calibrated opening to convey the content of the phial housed in said handle.

3,403,962
POWER VENTER FOR GAS FIRED APPLIANCES
Fay O. Suffron, Los Angeles, and Elwood M. Fairchild, North Hollywood, Calif., assignors to American Metal Products Corp., Los Angeles, Calif., a corporation of California
Filed Feb. 28, 1967, Ser. No. 619,460
4 Claims. (Cl. 431—20)



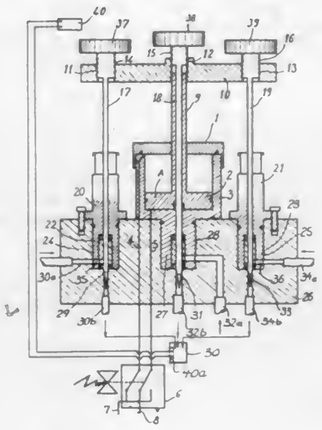
The invention is a power vent system for use with gas fired appliances normally equipped with a draft hood. A power driven blower is installed in the vent or stack. The power venter provides updraft from the appliance similar in magnitude as would be provided by gravity flow. Particular controls are provided for the motor driven power venter and the gas valve or the like that controls the supply of energy to the appliance. The power venter operates whenever temperatures in the vent reach a predetermined point. If the power venter fails the energy source to the appliance is interrupted. The energy source is interrupted in the event of a stoppage of air flow such as resulting from a blocked flue. The control means insures that the power venter will continue to operate in the event that a gas valve or the like fails to close in response to the thermostat. After the thermostat has been satisfied the power venter continues to operate sufficiently to purge the products of combustion from the appliance and the vent.

3,403,963
LIGHTER
Leonard S. Dexter, 29 Dewbourne, Toronto 10, Ontario, Canada
Filed Apr. 13, 1966, Ser. No. 542,244
8 Claims. (Cl. 431—254)



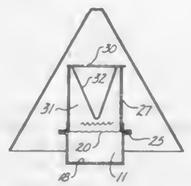
The present invention relates to an improved lighter of the type which utilizes a compressed fuel such as butane.

3,403,964
OXYACETYLENE BLOWPIPES
Ralph D. Delbourgo, Paris, Raymond G. Foulatier, Houilles, Paul F. Laffitte, Paris, Jean Meneret, Sevres, and Louis Minjolle, Tarbes, France, assignors to Commissariat à l'Energie Atomique, Paris, France
Filed June 8, 1967, Ser. No. 644,582
Claims priority, application France, June 17, 1966, 65,989
6 Claims. (Cl. 431—256)



A blowpipe assembly for oxyacetylene devices having at least three adjustable feed means connected to a combustible gas pipe, a combustion supporting gas pipe and a motivating gas pipe. Each feed means being controlled by a needle which coacts with an adjustable orifice through which the gases must pass, and electrical ignition means for the combustible mixture formed by the combustion and supporting gases. The needles are all connected to a common yoke which is displaced by a driving device actuated by the motivating gas and which cooperates with a contactor member controlling the electrical ignition means.

3,403,965
GAS-FIRED INFRARED BURNER
Adam A. Dreisziger, Lakewood, Ohio, assignor to Bettcher Manufacturing Corporation, Cleveland, Ohio
Filed May 25, 1966, Ser. No. 552,922
4 Claims. (Cl. 431—347)



A gas-fired infrared generator is provided for use in connection with space heating installations. The generator is adapted for use without need for ventilating equipment to exhaust the products of combustion. Greater heating efficiency is afforded by utilizing a wedge-shaped internal deflector which is heated to incandescence and which directs the gaseous products of combustion laterally outwardly through a perforate incandescent mantle.

CHEMICAL

3,403,966
DYEING METAL-MODIFIED POLYOLEFINS WITH O' - (ALKYL- AND ARYLAMINOCARBONYL-) AND O'-CYANOAZOPYRAZOLONE DYES

Shinya Itoh, Kyoto, Katsuo Kanno, Ohtsu-shi, Kazue Wakamatsu, Nishinomiya-shi, and Ryoichi Nakagawa, Fuse-shi, Osaka-fu, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

Filed Mar. 2, 1965, Ser. No. 436,507
Claims priority, application Japan, Mar. 11, 1964, 39/13,425
4 Claims. (Cl. 8—4)

A process for coloring a shaped polyolefinic article containing a transition metal compound wherein said shaped article is deeply dyed with a mono-azo dyestuff obtained by coupling a diazotised aromatic amine having cyano or an N,N-disubstituted carbonamido in the ortho-position to the amino group with a pyrazolone coupler.

3,403,967
2,4' - DIHYDROXY - 3',5' - DITERTIARY - BUTYLBENZOPHENONE AND COMPOSITIONS STABILIZED THEREWITH

Lester N. Stanley, Delmar, N.Y., assignor to GAF Corporation, a corporation of Delaware

No Drawing. Continuation of application Ser. No. 121,300, July 3, 1961. This application Nov. 18, 1966, Ser. No. 595,543
10 Claims. (Cl. 8—76)

As an ultra-violet light absorber a compound 2,4'-dihydroxy-3',5'-ditertiary-butylbenzophenone and compositions stabilized therewith.

3,403,968
THERMALLY STABILIZED CELLULOSIC MATERIAL PRODUCED BY TREATMENT WITH DIGLYCOLAMINE IN COMBINATION WITH PENTAERYTHRITOL

Berthal D. Brummet, Cincinnati, and Fred S. Sadler, Zanesville, Ohio, assignors to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

No Drawing. Filed Feb. 25, 1965, Ser. No. 435,342
7 Claims. (Cl. 8—116.2)

1. A method of treating cellulose fiber material to increase its physical properties at elevated temperatures, comprising the steps of impregnating the cellulose fibers with the combination of diglycolamine and pentaerythritol, said diglycolamine being present in a weight radio of 1:1 to 5:1 with respect to the pentaerythritol.

3,403,969
SOLVENT BONDING OF FIBER FLEECES INCLUDING SHOCK-LIKE HEAT TREATMENT PRIOR TO COMPLETE VAPORIZATION OF SOLVENT

Fritz Kautny, Post Pernitz, Lower Austria, and Rudolf Hemersan, Vienna, Austria, assignors to Firma Bunzl & Biach Aktiengesellschaft, Vienna, Austria, a corporation of Austria

No Drawing. Filed Oct. 22, 1963, Ser. No. 318,098
Claims priority, application Austria, Oct. 29, 1962, A 8,523/62
11 Claims. (Cl. 8—130.1)

1. A method of solidifying of acryl fiber fleeces, particularly polyacrylonitrile comprising the steps of:

treating an acryl fiber fleece with at least a single solvent mixture capable of swelling and dissolving, respectively, at least a part of the fibers of said fleece,

subjecting said treated fiber fleece to a short intensive shock-like heat treatment,

removing said mixture from said fleece by vaporization, and

said solvent mixture comprises dimethyl sulfoxide as a solving component and water.

3,403,970
PROCESS FOR PREPARING CHROMATES

James B. Culbertson, Charleston, W. Va., and Headlee Lamprey, Hamden, Conn., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed June 2, 1964, Ser. No. 372,121
5 Claims. (Cl. 23—56)

A process for the manufacture of chromate compounds comprises providing a mixture of chromium bearing material (e.g., Cr_2O_3, ferrochromium, chrome ore) with barium oxide; heating the mixture in the presence of an oxygen-bearing gas at a temperature in the range of 400° C. to 1000° C. to cause inter-reaction between the mixture constituents and oxygen and the formation of metal chromate; and subsequently recovering the chromate reaction product.

3,403,971
FERRIPOLYPHOSPHATES

James F. Hazel and Wallace M. McNabb, Havertown, and Mary Kieran McElroy, Philadelphia, Pa., assignors, by mesne assignments, to Research Corporation, New York, N.Y., a nonprofit corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 472,665, July 16, 1965. This application Feb. 20, 1967, Ser. No. 617,045
21 Claims. (Cl. 23—105)

Novel ferripolyphosphates have molar Fe_2O_3/P_2O_5 ratios from 0.35 to 0.5 corresponding to the empirical formula $Fe_2(OH)_x(PO)_y \cdot nH_2O$ wherein x has any value from 0.5 to 2, y is $6-x$ and n is any value from 0 to 15. They may be made by admixing a water-soluble ferric salt and an alkali metal glassy polyphosphate or the free acid thereof in the presence of water in the proportion of about one mole of iron to three moles of PO_3 groups. They are good reversible adsorbents of water and they adsorb ammonia and other Lewis bases.

3,403,972
PROCESS AND APPARATUS FOR A SALT MIXTURE FORMED OF SODIUM, MAGNESIUM AND OPTIONALLY CALCIUM ORTHOPHOSPHATES

Heinz Harnisch, Lovenich, near Cologne, Joseph Cremer, Hermulheim, near Cologne, and Arnulf Hinz, Knapsack, near Cologne, Germany, assignors to Knapsack Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany

Filed Jan. 13, 1966, Ser. No. 520,401
Claims priority, application Germany, Jan. 29, 1965, K 55,138
18 Claims. (Cl. 23—107)

A salt mixture formed of sodium, magnesium and optionally calcium orthophosphates and process for making same, said salt mixture being useful as an animal feed additive.

3,403,973
WATER-SOLUBLE POLYPHOSPHORIC ACID AND CALCIUM SALTS DERIVED THEREFROM

Donald E. Lee, Atlanta, Ga., and Ernest Csendes, Palisades, Calif., assignors, by mesne assignments, to Armour Agricultural Chemical Company, a corporation of Delaware

No Drawing. Filed Aug. 4, 1964, Ser. No. 387,499
6 Claims. (Cl. 23—109)

Wet process superphosphoric acid having a P_2O_5 content of about 64–72 weight percent is heated at about 600–800° C. for 1 to 120 minutes, preferably about 30 minutes, until a solid product having a P_2O_5 content of at least 80 weight percent is obtained and until at least 80 percent of its P_2O_5 content is water-soluble. Alternatively, the starting acid may be reacted with calcium carbonate

to bring the CaO/P_2O_5 ratio to about 0.20–1.00 and the resulting calcium polyphosphate heated to about 600–800° C. until a solid product is obtained having at least 80 weight percent P_2O_5 and at least 80 percent of the P_2O_5 water-soluble.

3,403,974
METHOD AND APPARATUS FOR CONCENTRATING PHOSPHORIC ACIDS CONTAINING IMPURITIES

William R. Mustian, Jr., Lakeland, Fla., assignor to Armour Agricultural Chemical Company, a corporation of Delaware

Filed Mar. 25, 1964, Ser. No. 354,669
10 Claims. (Cl. 23—165)

Wet process orthophosphoric acid containing metal impurities is heated with high velocity combustion gases to form cyclic metaphosphoric acid and other poly acids which form polymer complexes with said impurities, while phosphoric acid droplets substantially free of the complexes are entrained with the gases and recovered therefrom as the gases are withdrawn. Continued heating of the acid at temperatures in the range of 650–1000° F. convert the excess cyclic acids to acyclic phosphoric acids.

3,403,975
SYNTHESIS AND DECOMPOSITION OF AMMONIA

Vincent J. Frilette, Cherry Hill, and Daniel G. Jones, Pennington, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Nov. 20, 1964, Ser. No. 412,822
12 Claims. (Cl. 23—198)

A process for the decomposition of ammonia which comprises contacting a charge containing ammonia with a catalyst comprising a crystalline substantially nonreducible metal aluminosilicate salt having an ordered internal structure at a temperature of from about 300° C. to about 1000° C. The ordered internal structure of the aluminosilicate has a defined pore size from about 3.5 A. to about 15 A. in diameter.

A process for effecting synthesis of ammonia is also disclosed, in which hydrogen and nitrogen are contacted with certain crystalline aluminosilicate catalysts under appropriate synthesis conditions.

3,403,976
TANGENTIAL ENTRY PRECOMBUSTION-TYPE REACTOR WITH OFFSET TUNNEL

Ivan Ceresna, Houston, Tex., and John H. Sullivan, Greenville, S.C., assignors to Ashland Oil & Refining Company, Houston, Tex., a corporation of Kentucky

Filed Feb. 10, 1966, Ser. No. 526,547
10 Claims. (Cl. 23—209.4)

A tangential entry precombustion-type reactor in which the axis of the second, or reaction, chamber is offset from the axis of the first, or combustion, chamber, and in which one tangential inlet is employed for introducing the flaming fuel instead of the usual two.

3,403,977
METHOD FOR PRODUCTION OF TITANIUM DIOXIDE GRANULES

Kenneth W. Heywood, Overland, and Charles R. Trampler, Jr., Webster Groves, Mo., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed June 25, 1964, Ser. No. 378,044
3 Claims. (Cl. 23—202)

This invention covers the preparation of a nonpigmentary titanium dioxide granular material having a Tyler screen size range from −10 mesh to +400 mesh, with at least 75% +325 mesh, the granular material made up of individual particles of TiO_2 having a size from 0.07 to 0.1 micron. Such a material is free-flowing and is capable of being handled without dusting.

3,403,978
ANALYSIS OF FLUIDS

John A. Favre, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 14, 1964, Ser. No. 417,979
6 Claims. (Cl. 23—230)

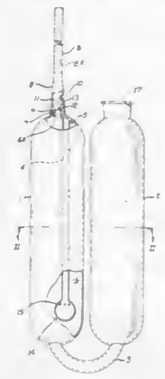


A quantitative analysis system wherein a sample fluid is passed to a chromatographic zone; the individual constituents of the chromatographic zone effluent are separately stored in a storage zone; the stored constituents are individually passed from the storage zone to a pyrolyzer; the effluent from the pyrolyzer is passed to a second chromatographic zone; and the composition of the effluent from the second chromatographic zone is measured. Alternately, the individual constituents of the first chromatographic zone effluent are separately pyrolyzed; the pyrolyzed products of each of the individual constituents are separately stored in a storage zone; the products of each of the constituents are separately passed from the storage zone to a second chromatographic zone; and the composition of the effluent from the second chromatographic zone is measured.

3,403,979
AUTO BUBBLER PIPET

Guy H. Burrell, Pittsburgh, Pa., assignor to Burrell Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

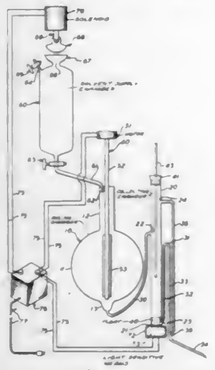
Filed Sept. 8, 1966, Ser. No. 578,005
1 Claim. (Cl. 23—254)



Improvements in gas analysis pipets of the type in which an absorption container and an expansion container are connected for receiving a reagent liquid capable of absorbing specific gaseous compounds from a mixture of gas. The volume change in the gas after passing through the reagent is the basis for calculating the percentage of that component. Shown is a gas analysis pipet in which the capillary tubing and is connecting seal, together with its tapered shape, is designed to prevent abruptly pulling the solution into the manifold and to bring the solution up into the capillary under good control. Also shown is a pipet in which the capillary manifold connecting tubing is sealed in such close proximity to the capillary opening that the volume of dead space inside the taper is mini-

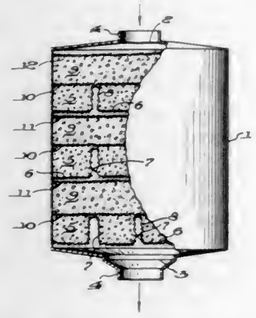
mized. Further shown is a pipet having a single indentation for retaining the ball valve in the chamber to facilitate cleaning by allowing the liquid to run out of the capillary as well as out of the large opening in the expansion container on inversion.

3,403,980
AUTOMATIC REPETITIVE LIQUID-LIQUID EXTRACTOR
Frank R. Litterio, 53 S. Maple Ave., East Orange, N.J. 07018
Filed Dec. 7, 1964, Ser. No. 416,408
4 Claims. (Cl. 23—267)



An automatic repetitive liquid-liquid extractor employing a solvent supply chamber, a mixing chamber and an extract collecting chamber with means to periodically discharge extract therefrom, and means to control mixing in the mixing chamber and solvent flow from the solvent supply chamber to the mixing chamber responsive to the liquid level in the collecting chamber. The liquid level in the collecting chamber has associated light sensing means to control the operation. Discharge from the collecting chamber is through a siphon having connected thereto a gas vent.

3,403,981
OXYGEN PRODUCING CANISTER
Walter K. Lemcke and Hans E. Reeck, Berlin, Germany, assignors to Auergesellschaft G.m.b.H., Berlin, Germany, a corporation of Germany
Filed Sept. 15, 1965, Ser. No. 487,476
Claims priority, application Germany, Sept. 22, 1964, A 47,138
3 Claims. (Cl. 23—281)



In a canister containing a chemical that produces oxygen when exposed to exhaled breath, the granular chemical is disposed in alternating discontinuous layers supported by grooved screens and continuous layers confined between two flat screens, the granules in the continuous layer being larger than those of the discontinuous layer. The layers are transverse to the direction of flow through the canister.

3,403,982
LABORATORY APPARATUS
Rudolph B. Fricioni, Cheswick, Pa., assignor to Allegheny Ludlum Steel Corporation, Brackenridge, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 18, 1964, Ser. No. 352,985
2 Claims. (Cl. 23—292)

An article of manufacture is described in which zirconia, iron and copper are employed in the production of a nonporous sintered crucible suitable for use in a combustion analyzer. There is also described a sintered zirconia crucible which is provided with a lining of a reaction product of a mixture of iron and copper components for sealing the pores and the method for producing the same.

3,403,983
STEAM DISTILLATION OF METAL VALUES IN SOLUTION
Charles O. Gerfen, Frontenac, and John R. Ruhoff, Webster Groves, Mo., assignors to Mallinckrodt Chemical Works, St. Louis, Mo., a corporation of Missouri
Filed Jan. 11, 1965, Ser. No. 424,835
3 Claims. (Cl. 23—312)

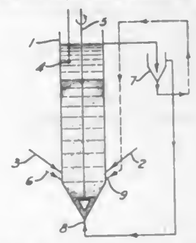


A solution of H_2TaF_7 in methyl isobutyl ketone (MIBK) is steam distilled. The MIBK passes off overhead as an azeotrope and is recovered. The H_2TaF_7 is recovered in the still residue as an aqueous solution having a tantalum concentration three to four times that in the MIBK solution charged.

3,403,984
SODIUM PERBORATE AND PROCESS FOR PREPARATION OF SAME
Paul Mollard, Sainte-Foy-les-Lyon, Rhone, France, assignor to Ugine Kuhlmann, Paris, France, a corporation of France
Filed Feb. 16, 1966, Ser. No. 527,884
Claims priority, application France, Feb. 17, 1965, 5,894
7 Claims. (Cl. 23—315)

A process for preparing a novel high strength hollow, unitary crystalline agglomerate perborate having an apparent density between 0.35–0.50 and an average diameter of 140–270μ by simultaneously introducing an aqueous sodium metaborate and a solution of hydrogen peroxide into a container, cooling the solution to below 5° C. to produce fine crystals that agglomerate. The agglomerates thus formed are introduced into a continuously

formed supersaturated solution of sodium perborate, said agglomerates maintained as a fluid bed in suspension, to

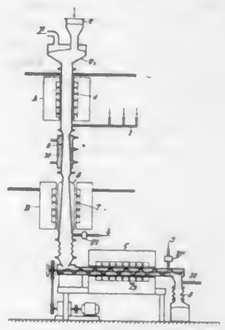


cause formation of the said high strength sodium perborate.

3,403,985
METHOD OF TREATING COATED-PARTICLE NUCLEAR-REACTOR FUELS
Ottmar Knacke, Aachen, and Manfred Laser, Erich Merz, and Hans-Jürgen Riedel, Julich, Germany, assignors to Kernforschungsanlage Julich des Landes Nordrhein-Westfalen-e.V., Julich, Germany, a corporation of Germany
No Drawing. Filed June 1, 1966, Ser. No. 554,339
Claims priority, application Germany, June 10, 1965, K 56,340
8 Claims. (Cl. 23—324)

A method of recovering components of coated-particle nuclear-reactor fuels containing uranium carbide as the nuclear-fuel element coated with pyrolytic carbon, silicon carbide, zirconium carbide, beryllium carbide, aluminum oxide, beryllium oxide or zirconium oxide, wherein the coated particles are reacted with a nonaqueous inorganic melt of sodium hydroxide or sodium peroxide at a temperature between 350° C. and 600° C. (preferably about 450° C.), the melt containing between 25 and 70 weight percent of a higher oxide (barium peroxide, sodium peroxide or potassium superoxide). Oxygen is introduced into the melt during the solution and the melt is granulated thereafter.

3,403,986
METHOD FOR THE OBTAINMENT OF URANIUM FLUORIDE
Maurice Delange, Mennecy, Henri Huet, Saint Vrain, and Paul Vertes, Antony, France, assignors to Commissariat à l'Energie Atomique, Paris, France, an organization of France
Continuation-in-part of application Ser. No. 102,740, Apr. 13, 1961. This application Mar. 29, 1965, Ser. No. 443,451
Claims priority, application France, Apr. 20, 1960, 824,748; Jan. 12, 1965, 1,620, Patent 1,267,178
2 Claims. (Cl. 23—353)



Hexavalent UO_3 is introduced in a continuous uninterrupted stream into a reduction zone where it is reduced to UO_2 which is then passed immediately into a hydrofluorination zone; both zones form a completely closed system but between the reduction zone and the hydrofluorination zone, the freshly formed UO_2 is cooled to a temperature of 200–300° C. thereby shifting the equilibrium to a complete conversion of HF while maintaining the UO_2 in highly reactive form. This avoids the need for removal of unreacted HF or for provision of a buffer zone between hydrofluorination and reduction zone.

3,403,987
METHOD FOR THE PREPARATION OF NITRONIUM SALTS
Stephen J. Kuhn, Sarnia, Ontario, Canada, assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Sept. 20, 1961, Ser. No. 139,374
5 Claims. (Cl. 23—356)

1. A process for the preparation of nitronium salts which comprises: introducing a fluorine containing Lewis acid substance into a solution of nitric acid and substantially anhydrous hydrogen fluoride while maintaining the temperature of the reaction mixture between about 20° C. and the freezing point of the mixture, agitating said solution during the introduction of said Lewis acid substance therein, and, precipitating the nitronium salt corresponding to the Lewis acid substance directly in the reaction mixture, said Lewis acid substance being a fluoride compound selected from the group consisting of boron trifluoride, phosphorus pentafluoride, silicon tetrafluoride, antimony pentafluoride, stannic tetrafluoride and iodine pentafluoride, said solution of nitric acid being concentrated with respect to HNO_3, the relative proportion of said nitric acid to said hydrogen fluoride in the initial reaction solution ranging from about 1/1 to about 1/4 on a molar basis and the ratio of said Lewis acid to said nitric acid ranging from about 1/1 to about 3/1 of the stoichiometric molar quantities needed for salt production.

3,403,988
CHROMIZED METAL SUBSTRATE
Giles F. Carter, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Original application Dec. 16, 1963, Ser. No. 330,540, now Patent No. 3,184,331, dated May 18, 1965. Divided and this application Sept. 17, 1964, Ser. No. 397,273
17 Claims. (Cl. 29—196.6)

A metal product having an iron-chromium alloy coating on an unstabilized ferrous metal substrate, particularly in the form of an automobile bumper, has outstanding corrosion resistance and formability.

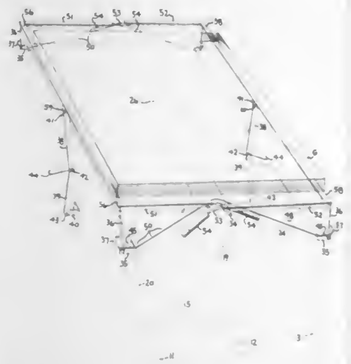
3,403,989
PRODUCTION OF BRIQUETTES FROM CALCINED CHAR EMPLOYING ASPHALT BINDERS AND SUCH BRIQUETTES
John H. Blake, Portola Valley, Calif., and Frank Philip McCandless, Bozeman, Mont., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 395,317, Sept. 9, 1964. This application Oct. 31, 1966, Ser. No. 590,509
7 Claims. (Cl. 44—23)

Carbonaceous briquettes having high mechanical strength and a homogeneous structure are produced from calcined coal char and a particular bituminous binder. The binder comprises an asphalt obtained as a residue from the thermal cracking of petroleum oils, having an asphaltene content of from 40% to 85% by weight, a softening point of from 100° to 225° F., a carbon to hydrogen atomic ratio of from about 0.9 to 1.4, and being at least 90% soluble in benzene.

3,403,990
PROCESS FOR MAKING FOAM GLASS
Ernst Otto Schulz, Neuhaus am Rennweg, Thuringia, Germany, assignor to VEB Schaumglaswerk Taubenbach, Kreis Neuhaus am Rennweg, Germany
No Drawing. Filed Dec. 28, 1964, Ser. No. 421,594
5 Claims. (Cl. 65—22)

A process for making foam glass wherein mixtures of sulfur trioxide-containing glass and active carbon are first sintered in a pure steam atmosphere having a partial pressure above 200 mm. Hg and subsequently heated at a temperature ranging from 800° to 900° C. to form a foam structure.

3,403,991
METHOD AND APPARATUS FOR BENDING GLASS SHEETS
John Comperatore, Natrona Heights, Pa., assignor to PPG Industries, Inc., a corporation of Pennsylvania
Filed Mar. 22, 1965, Ser. No. 441,421
7 Claims. (Cl. 65—107)



Method and mold for bending glass sheets supported at their end portions for downward bending on counterweighted support members whose downward motion from a flat glass supporting position to a molding position is regulated by pivoting the support members downward on opposite sides of the counterweights and constructing and arranging the counterweights relative to the support members so that the counterweights are sufficiently large to rotate the support members upward in the absence of a load of glass thereon, but sufficiently small to permit the support members to rotate downward in response to the combined mass of the support members and a load of heat-softened glass on the mold.

3,403,992
METHOD OF TREATING SOIL COMPRISING ADDING A FERTILIZER AND A CHELATING AGENT TO THE SOIL
Georg Ludvig Busch, Copenhagen, Denmark, assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Filed Mar. 5, 1954, Ser. No. 414,507
Claims priority, application Sweden, Mar. 9, 1953, 2,197/53
11 Claims. (Cl. 71—1)

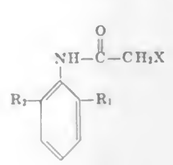
1. In a method of enhancing the growth of plant life in earth soils, the step which comprises adding to the soil in which the plant life is grown a small amount of a microbiologically stable water-soluble organic chelating agent in admixture with commercial fertilizer.

3,403,993
SHAPED BLOCK OF A SUBLIMABLE MATERIAL CONTAINING ROOT KILLING COMPOUNDS FOR USE IN SEWER LINES
Jean M. Hoff, Racine, Wis., assignor to Hoff Chemical Corporation, Flat Rock, Mich., a corporation of Delaware
Filed July 30, 1965, Ser. No. 476,115
4 Claims. (Cl. 71—65)

A method and means for inhibiting root growth in sewer lines whereby formed blocks of a composition having a sublimable matrix material, for example, naphthalene, paradichlorobenzene, camphor and camphene, an active root-killing ingredient, for example, acetate, borax and cupric sulfate and a denser material for example, copper, lead and barium sulfate, along the bottom surface thereof are placed in spaced relationship along the sewer lines to form partial dam structures therein so that pools of poisoned sewer liquid are formed. The matrix material of the blocks is only slightly soluble so that such blocks remain active in the sewer lines for considerable periods of time and inhibit root growth therein.

3,403,994
HERBICIDAL METHOD
John F. Olin, Ballwin, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation of application Ser. No. 568,973, July 29, 1966, which is a continuation of application Ser. No. 416,664, Oct. 15, 1964, which in turn is a division of application Ser. No. 134,166, Aug. 28, 1961, both now abandoned. This application Nov. 7, 1967, Ser. No. 681,298
9 Claims. (Cl. 71—118)

Plant growth is effectively controlled with a compound of the formula

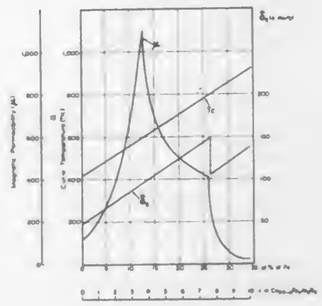


wherein R_1 is selected from the group consisting of primary alkyl and secondary alkyl of not more than 4 carbon atoms, R_2 is selected from the group consisting of primary alkyl and secondary alkyl of at least 2 and not more than 4 carbon atoms, and X is a halogen atom selected from the group consisting of chlorine, bromine and iodine.

3,403,995
PROCESS FOR PRODUCING CONCENTRATES OF HIGH MANGANESE CONTENT
Sándor Fekete, Budapest, and Albert Horváth, József Sever, and Jenó Szaló, Urkut, Hungary, assignors to Metalimpex Acel- es Femkulkereskedelmi Vallalat, Budapest, Hungary
No Drawing. Filed Jan. 27, 1964, Ser. No. 340,539
1 Claim. (Cl. 75—115)

Manganese is recovered in high concentration by establishing an aqueous slurry containing substantial quantities both of finely divided manganese carbonate ores and also of mineral raw material containing manganese oxide. The slurry is contacted with gas containing 0.2 to 5% by volume of sulfur dioxide to produce a manganous sulfate solution. The solution and the barren content of the slurry are separated from each other, and the manganese content is then recovered from the solution. It is the conjoint presence of the manganese oxide and manganese carbonate that permits recovery from the manganese carbonate.

3,403,996
FERROMAGNETIC MATERIAL
Hozumi Hirota, Neyagawa-shi, Osaka-fu, and Akira Yanase, Sendai-shi, Miyagi-ken, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan
Filed May 31, 1966, Ser. No. 554,122
Claims priority, application Japan, Sept. 17, 1965, 40/57,603
6 Claims. (Cl. 75—170)



1. A ferromagnetic material with a $Cr_{23}C_6$ type of crystal structure comprising essentially not more than

	Atomic percent
Iron	35
Aluminum	6.5 to 11.2
Boron	17.0 to 25.9
Cobalt	Balance

said crystal structure having such an atom arrangement that point positions *f* and *h* of Fm3m are occupied by cobalt atoms and iron atoms, point positions *a* and *c* of Fm3m are occupied by aluminum atoms, and point position *e* of Fm3m is occupied by boron atoms.

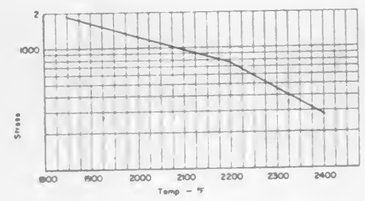
3,403,997
TREATMENT OF AGE-HARDENABLE COPPER-NICKEL-ZINC ALLOYS AND PRODUCT RESULTING THEREFROM
Frank A. Badia, Ringwood, N.J., assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 7, 1966, Ser. No. 525,358
9 Claims. (Cl. 75—157.5)

1. In a process for refining and cleansing a molten alloy bath for the production of an age-hardenable alpha nickel silver alloy product the improvement comprising introducing into the molten bath for said alloy, prior to a cleansing thereof, a magnesium-carbon alloyed composition to introduce small amounts of magnesium and carbon into said molten bath, said small amounts of magnesium and carbon being effective to render the said age-hardenable alpha nickel silver alloy hot workable.

5. A hot workable age-hardenable alpha nickel silver product produced by treating an alloy in accordance with the process set forth in claim 1 and thereafter casting and solidifying the thus treated alloy.

3,403,998
HIGH TEMPERATURE ALLOYS
Martin N. Ornitz, Wilkinsburg, and Ray H. English, McCandless Township, Allegheny County, Pa., assignors to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware
Filed Feb. 5, 1965, Ser. No. 430,544
3 Claims. (Cl. 75—171)

A high temperature alloy having high strength resistance to corrosion and thermal shock and low creep at temperatures up to 2500° F. of the composition, up to 1% carbon, about 26 to 38% chromium, up to 0.2% manganese, up to 0.2% silicon, about 10% to 25% tungsten and the balance nickel with residual impurities in ordinary amounts.



3,403,999
MANUFACTURE OF BRAZE SHIM STOCK
Bruce J. Bliss, North Attleboro, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Oct. 13, 1965, Ser. No. 495,505
12 Claims. (Cl. 75—208)

A base strip of metal is coated with a slurry composed of a binder and metal particles which with a metal of the strip can form an alloy. The slurry is heated only enough to dry it, after which the coated strip is first reduced by rolling to effect grain bonding only and then sintering at a temperature sufficient only to improve the grain bond without alloying. Thereafter, alloying is accomplished by heating at a higher temperature.

3,404,000
PROCESS FOR THE PRODUCTION OF COPPER BODIES OF HIGH MECHANICAL STRENGTH AND HIGH ELECTRICAL CONDUCTIVITY
Peter Michael Raw, Ewell, Surrey, England, assignor to British Insulated Callender's Cables Limited, London, England
Filed July 6, 1967, Ser. No. 651,603
Claims priority, application Great Britain, July 19, 1966, 32,270/66
12 Claims. (Cl. 75—214)

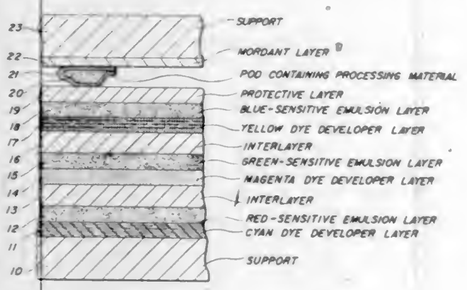
Copper bodies with high mechanical strength at high temperatures are formed by producing copper powder under controlled conditions and compacting it under controlled conditions. The powder is produced as oxidised particles, with a mean diameter less than 10 microns, of copper of a purity at least 99.5% (not counting oxygen) and preferably containing at least 0.1% of carbon; the oxygen content of the powder is reduced to below 0.1% by heating in a reducing atmosphere without sintering the powder; and the reduced powder is then compacted under conditions that prevent substantial increase in oxygen content, the absolute maximum rise allowable being up to 0.3%.

3,404,001
THERMOPLASTIC DEFORMATION IMAGING WITH COLOR REAGENTS
John T. Bickmore, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 17, 1964, Ser. No. 397,238
1 Claim. (Cl. 96—1.1)

A method and recording member for chemical frost which involves placing a color reagent beneath a frostable layer and using the hills and valleys of the frost pattern as a chemical resist so that when the frosted layer is treated with a material capable of undergoing a color

forming reaction with the color reagent, a colored, visible image corresponding to the frost pattern is formed beneath the frost layer.

3,404,002
INTERIMAGE CHARACTERISTICS OF SILVER HALIDE DYE DEVELOPER IMAGE TRANSFER SYSTEMS
Richard W. Becker, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 27, 1963, Ser. No. 291,056
12 Claims. (Cl. 96—3)



6. A process for preparing positive dye developer diffusion transfer prints wherein an exposed photographic element comprising a support, superposed red, green and blue light-sensitive gelatino-silver halide emulsion layers, and a gelatino layer containing dispersed therein finely-divided droplets of a water-immiscible organic solvent boiling above about 175° C. containing dissolved therein dye developers contiguous to each of said light-sensitive gelatino-silver halide emulsion layers; the said dye developer in the gelatino layer contiguous to said red light-sensitive gelatino-silver halide emulsion being 5,8-dihydroxy-1,4 - bis[β - hydroquinonyl-α-methyl)ethylamino] anthraquinone, the said dye developer in the gelatino layer contiguous to said green light-sensitive gelatino-silver halide emulsion being 4-propoxy-2-[p-(β-hydroxyquinonylethyl)phenylazo]-1-naphthol, and the said dye developer in the gelatino layer contiguous to said blue light-sensitive gelatino-silver halide emulsion being N-n-hexylcarboxamido - 4 - [p - (2',5' - dihydroxyphenethyl) phenylazo]-5-hydroxypyrazole; and said silver halide of said gelatino-silver halide emulsion layers consisting essentially of silver bromoiodide having about 1 to 20 mole percent iodide, the silver bromoiodide of said blue light-sensitive gelatino-silver bromoiodide emulsion having at least about one mole percent more iodide than each of said red and green light-sensitive gelatino-silver halide emulsion layers, is treated with an alkaline solution, developing latent images in the regions of exposure of the silver halide emulsions and thereby immobilizing the dye developers in said regions of exposure, remaining dye developers in undeveloped regions corresponding to a positive image diffusing imagewise to the surface of said photographic element, and transferring the resulting diffused positive dye image in register to a dye developer receiving sheet whereby interimage effects are produced which enhance color saturation of the transferred dye image.

7. A photographic element comprising a support, superposed red, green and blue light-sensitive silver halide emulsion layers, and a dye developer contiguous to said silver halide of each of said silver halide emulsion layers; the said dye developers having in the same molecule both the chromophoric system of a dye and a photographic silver halide developing moiety and being substantially complementary to the color of the spectral sensitivity of the respective contiguous silver halide emulsions; and said silver halide of at least one of said silver halide emulsion layers comprising at least one mole percent more iodide as mixed silver halide than the silver halide in at least one other of said silver halide emulsion layers, said iodide in said photographic element producing interimage effects which enhance color saturation when exposed, processed in alkaline media and the resulting image dyes transferred to a receiving sheet.

3,404,003
PROCESS FOR THE PREPARATION OF A PRINTING PLATE MADE FROM A DIAZONIUM SALT MIXED WITH AN ORGANIC ACID FROM THE GROUP CONSISTING OF PHOSPHONIC, PHOSPHINIC AND ARSONIC ACIDS
Hartmut Steppan, Wiesbaden-Dotzheim, Germany, assignor, by mesne assignments, to Azoplate Corporation, Murray Hill, N.J.
No Drawing. Filed Dec. 30, 1965, Ser. No. 517,806
Claims priority, application Germany, Jan. 2, 1965, K 54,926
22 Claims. (Cl. 96—33)

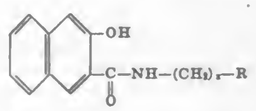
12. A process for making a printing plate which comprises exposing a coated metallic base material to light under a master and developing the resulting image with a developer liquid, the coating comprising a light-sensitive diazo compound and at least one organic acid selected from the group consisting of a phosphonic acid other than polyvinylphosphonic acid, a phosphinic acid, and an arsonic acid.

3,404,004
FINAL SOAK BATH FOR PROCESSED SILVER HALIDE PRINTS
Jean R. Ake, 904 Charles, St. Joseph, Mo. 64501
No Drawing. Filed Mar. 8, 1965, Ser. No. 438,050
8 Claims. (Cl. 96—50)

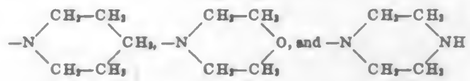
3. A rapid process for producing a stable visible image in a photographic silver halide emulsion layer containing a latent image comprising, developing said layer in a photographic developing solution, stopping the action of the developing solution by immersing the emulsion layer in a stop solution, fixing the resultant latent image by immersing the layer in a stabilizing solution, and subsequently treating the layer in a final soak bath to remove chemical residue for an interval in the range of one second to three minutes, said final soak bath comprising an aqueous solution containing an anionic synthetic detergent having a carbon chain length in the range of 7 to 18 carbon atoms per molecule and selected from the group consisting of ammonium lauryl sulfate, sodium lauryl sulfate, potassium lauryl sulfate, alkylated aromatic sulfonic acids, and mixtures thereof, in an amount in the range of 0.002 to 0.02 gram per liter, a print flattening agent selected from the group consisting of propylene glycol, hexylene glycol, ethylene glycol, glycerol and mixtures thereof in an amount in the range of 2.6×10^{-6} to 65×10^{-6} gram moles per liter, a defoaming agent selected from the group consisting of methylhexacarbonyl, sulfonated oils, sulfonated silicones, and mixtures thereof, in an amount in the range of 0.7×10^{-6} to 23×10^{-6} gram moles per liter, and a water softening agent selected from the group consisting of sodium hexametaphosphate, sodium pyrophosphate, sodium tetraphosphate, and mixtures thereof, in an amount in the range of 0.01 to 0.15 gram per liter, and rinsing the resultant photographic image layer in a moving water bath for an interval in the range of one to ten minutes.

3,404,005
DIAZO LIGHT-SENSITIVE COMPOSITION AND ELEMENT
Paul L. Tobey, Rehoboth, Mass., assignor to Industrial Dyestuff Company, East Providence, R.I., a corporation of Rhode Island
No Drawing. Filed Oct. 1, 1963, Ser. No. 312,886
3 Claims. (Cl. 96—91)

1. Light-sensitive diazotype composition comprising as a coupler component as amide of the formula



wherein x equals 2 to 4 and R is a group consisting of



and at least one light-sensitive compound selected from the group consisting of a secondary para aminobenzene diazonium salt and a tertiary para aminobenzene diazonium salt.

3,404,006
WINE PREPARATION BY FERMENTING A JUICE, CONCENTRATING THE FERMENTED PRODUCT, AND OPTIONALLY FORTIFYING THE CONCENTRATE
Emil A. Malick, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Aug. 31, 1964, Ser. No. 393,424
2 Claims. (Cl. 99—35)

A sugar-containing juice is fermented and the fermented product concentrated by fractional crystallization to give a concentrate having a high alcohol content and a favorable balance of alcohol and flavor bodies. The concentrate can be fortified if desired by the addition of alcohol.

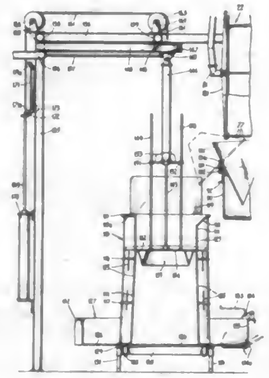
3,404,007
FREEZE DRIED COFFEE PROCESS AND PRODUCT
John G. Muller, Scarsdale, N.Y., assignor to Struthers Scientific and International Corporation, a corporation of Delaware
No Drawing. Filed Jan. 28, 1966, Ser. No. 523,574
5 Claims. (Cl. 99—71)

A process is provided for making concentrated coffee or tea in dry form by freeze concentration of an aqueous beverage extract in which solids are recovered from the ice crystals and the concentrated extract is freeze dried.

3,404,008
APPARATUS AND PROCESS FOR PASTEURIZING EGG PRODUCTS
Max Ballas and Marvin R. Painter, Zanesville, Ohio, assignors to Ballas Egg Products Corporation, Zanesville, Ohio
Continuation-in-part of applications Ser. No. 490,262, Sept. 27, 1965, and Ser. No. 573,325, Aug. 18, 1966. This application Oct. 17, 1967, Ser. No. 675,863
16 Claims. (Cl. 99—161)

Unstabilized egg product is pasteurized without coagulation by applying vacuum to remove entrapped air prior to heating it to pasteurizing temperature. The pressure is preferably increased after the vacuum treatment so that pressure of the raw product during regenerative heating is below that of the product with which it is in heat exchange relation. Apparatus with control means responsive to the temperature and vacuum are provided.

3,404,009
METHOD OF AND APPARATUS FOR CONDITIONING CHEESE CURD
Douglas R. M. Lambert, Caulfield, Victoria, and Joseph M. Sharkey, Box Hill, Victoria, Australia, assignors, by mesne assignments, to National Dairy Products Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 15, 1964, Ser. No. 403,993
Claims priority, application Australia, Aug. 14, 1964, 48,143/64
15 Claims. (Cl. 99—116)



Method and apparatus for conditioning cheese curd, in which curd granules are introduced into a first vessel, compressed to form a curd mass, and transferred to a second vessel in such a manner as to enable the curd mass to expand uniformly.

3,404,010
EDIBLE GELS
Calvin B. Wilds, 345 E. Taylor St., Reno, Nev. 89502
No Drawing. Continuation-in-part of applications Ser. No. 76,445, Dec. 19, 1960, and Ser. No. 362,969, Apr. 27, 1964. This application Dec. 9, 1966, Ser. No. 600,383
1 Claim. (Cl. 99—131)

A multi-element gel comprising a mixture of furcellaria extract, potassium chloride, potassium citrate and citric acid. Sweeteners and flavoring agents may also be added if desired by the user.

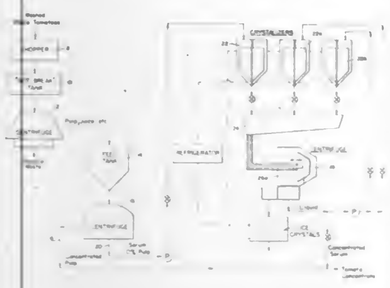
3,404,011
PROCESS FOR PREPARING AN ESSENTIAL OIL COMPOSITION
Dave Eolkin, San Francisco, Calif., assignor to Ingrams Food Products Co., Oakland, Calif., a corporation of California
No Drawing. Filed July 11, 1966, Ser. No. 564,047
4 Claims. (Cl. 99—140)

Preparation of an essential oil composition by mixing said oil with a polyoxyalkylene hexitol anhydride partial long chain fatty acid ester and combining therewith a synthetic inorganic powder selected from hydrous calcium silicate and hydrous silica.

3,404,012
PROCESS OF PREPARING TOMATO CONCENTRATE
Walton H. Craig, Winnetka, Ill., assignor to Pennsalt Chemicals Corporation, a corporation of Pennsylvania
Filed June 25, 1963, Ser. No. 290,497
2 Claims. (Cl. 99—204)

In a tomato concentrate process, the step of freeze concentrating serum centrifugally separated from solids

and derived from a heated mass of chopped tomatoes, thus forming ice crystals and serum concentrate, the latter



being centrifugally separated from the ice crystals and recombined with the separated solids.

3,404,013

ALLOY FOR METALIZING CERAMICS

Bobby Lynn Johnson, Kent, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware

No Drawing. Filed Dec. 21, 1964, Ser. No. 420,168
7 Claims. (Cl. 106—1)

A metal alloy comprising manganese, molybdenum, and palladium for metalizing surfaces of ceramic materials to facilitate brazing, soldering, or additional metallic plating to the ceramic material. The constituents are prepared in powder form and mixed with a vehicle for brush or spray application to the ceramic surface where the coating is sintered.

3,404,014

DUPLICATING INK

Walter G. Drautz, Delmar, N.Y., assignor to GAF Corporation, a corporation of Delaware

No Drawing. Filed Oct. 18, 1963, Ser. No. 317,152
13 Claims. (Cl. 106—22)

1. A duplicating ink formulation comprising a water solution of 3 to 10 parts of a metalliferous monoazo-dyestuff, which contains one atom of a metal bound in complex union to two molecules of different monoazo dyestuffs both of which are free from carboxylic acid groups in a position other than an ortho-position relative to the azo linkage and which together contain a single sulfonic acid group, 5 to 10 parts of a nonionic surface active agent, 5 to 35 parts of rosin size, 10 to 20 parts of a sulfonated castor oil and the balance water, said proportions being based on 100 parts by weight of said formulation.

3,404,015

LOW THERMAL EXPANSION GLASSES

William H. Dumbaugh, Jr., Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Apr. 28, 1965, Ser. No. 451,517
7 Claims. (Cl. 106—52)

1. A low thermal expansion glass composition, having a maximum coefficient of thermal expansion of about 30×10^{-7} per degree C., consisting essentially on the oxide basis of magnesium oxide 6–12 mole percent, aluminum oxide 8–18 mole percent, silica 64–70 mole percent, alkali metal oxide 0.5–3 mole percent and antimony trioxide oxide 1–3 mole percent.

3,404,016

MAGNESIA REFRACTORY AND METHOD OF PRODUCING SAME

Henry L. Marschall, Palo Alto, Calif., assignor to FMC Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 454,656, May 10, 1965. This application Mar. 2, 1966, Ser. No. 531,050
9 Claims. (Cl. 106—60)

A magnesia refractory having an increased resistance to erosion and spalling is produced by mixing together magnesium oxide or magnesium hydroxide, silica and ferrophosphorus sufficient to supply from about 1% to about 6% by weight of iron, expressed as Fe_2O_3, and firing this mixture to temperatures on the order of about 1600° to 1900° C. for a time sufficient to produce a sintered periclase containing about 80 to 95% MgO.

3,404,017

MODIFIED GELATIN FOR PHOTOGRAPHIC PURPOSES AND PROCESS FOR RENDERING COMPOUNDS FOR PHOTOGRAPHIC LAYERS RESISTANT TO DIFFUSION

Wolfgang Müller-Bardorff, Cologne, and Wolfgang Lässig, Cologne-Stammheim, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany

No Drawing. Filed Mar. 25, 1965, Ser. No. 442,815
Claims priority, application Germany, Apr. 21, 1964, A 45,820
3 Claims. (Cl. 106—135)

The invention relates to a process for modifying photographic gelatin by reacting the gelatin with carboxylic acid azides, the acid azide group being the substituent of a photographically active additive which is in this way rendered resistant to diffusion.

3,404,018

ESTERS OF POLYEPOXIDES AND HYDROXY-CARBOXYLIC ACIDS

Darrell D. Hicks, Louisville, Ky., assignor to Celanese Coatings Company, a corporation of Delaware

No Drawing. Filed Sept. 27, 1965, Ser. No. 490,708
9 Claims. (Cl. 106—252)

Aliphatic hydroxy-containing esters of polyepoxide resins are prepared by esterifying a polyepoxide resin with a hydroxy-aliphatic monocarboxylic acid wherein the esterification reaction takes place between the carboxylic acid group of the acid and the epoxide groups of the polyepoxide resins. Well cured coatings having excellent resistance and durability properties can be made from these esters in admixture with hydroxy reactive cross-linking agents.

3,404,019

COKE GROUND IN A NONOXIDIZING ATMOSPHERE

William W. Gotshall, Orchard Lake, Mich., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio

No Drawing. Filed Mar. 4, 1965, Ser. No. 437,285
13 Claims. (Cl. 106—307)

1. A non-staining finely divided carbon suitable for compounding with polymeric materials to form high strength, high modulus compositions, comprising comminuted coke having an average particle size of not over 2.5 microns, the coke having been ground to said particle size in a non-oxidizing atmosphere.

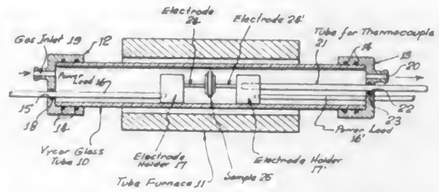
3. The finely divided carbon of claim 1 wherein the particles have a coating of a non-deleterious barrier to prevent contact with oxygen.

3,404,020

CERAMIC-TO-METAL BONDING METHOD

Donald D. Woolley, Ontario, Calif., assignor to General Dynamics Corporation, Pomona, Calif., a corporation of Delaware

Filed Dec. 23, 1964, Ser. No. 420,665
14 Claims. (Cl. 117—5.5)



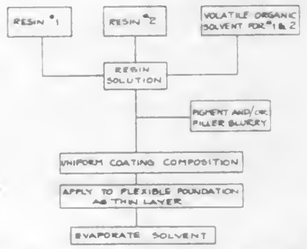
A method and apparatus for electrodiffusion of a metal into a ceramic in order to improve the strength, brittleness, and thermal shock properties of the ceramic. A ceramic-metallic member is produced by electrodiffusion of a metal, such as silver, into the pore structure of a dense fine-grained, preformed ceramic body, such as alumina, by heating the ceramic coated with metal to a desired temperature and directing a desired voltage across same, and then cooling the thus produced ceramic-metallic material.

3,404,021

TRANSFER ELEMENTS AND METHOD OF MAKING THE SAME

Douglas A. Newman, Glen Cove, and Allan T. Schlotzhauer, Locust Valley, N.Y., assignors to Columbia Ribbon and Carbon Manufacturing Co., Inc., Glen Cove, N.Y., a corporation of New York

Filed July 30, 1964, Ser. No. 386,402
10 Claims. (Cl. 117—36.1)



Preparation of novel transfer elements having a pressure-transferable imaging layer which is based on a mixture of incompatible resins and is free of oil, grease and wax. The imaging layer is applied by means of a volatile organic solvent system which codissolves the incompatible resins and which is evaporated after application.

3,404,022

PROCESS FOR FLAMEPROOFING CELLULOSIC MATERIAL

Leon H. Chance, New Orleans, and George L. Drake, Jr., and Wilson A. Reeves, Metairie, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Mar. 26, 1965, Ser. No. 443,108
7 Claims. (Cl. 117—62.2)

Flame retardant cotton fabric, durable to laundering, was prepared by treatment with aqueous precondensates of tetrakis(hydroxymethyl)phosphonium chloride (THPC) and tris(carbamoylethyl)phosphine (TCEP) or tris(carbamoylethyl)phosphine oxide (TCPO) in various mole ratios, the preferred mole ratio of THPC to TCEP or TCPO being 4:1 and preferably followed by fixation with ammonia gas.

3,404,023

METHOD OF IMPROVING THE STRENGTH CHARACTERISTICS OF GLASS REINFORCED LAMINATES

Malcolm E. Schrader, Brooklyn, and Irving Lerner, Woodside, N.Y., assignors to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed May 28, 1965, Ser. No. 459,954
5 Claims. (Cl. 117—69)

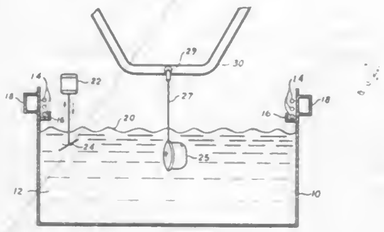
Coupling agents for glass fiber surfaces and application techniques for preceding bonding of the glass to resin as in glass reinforced plastic laminates, including applying to the glass surface an aqueous solution of diethyl phosphite, then drying and setting the applied solution where the glass surface may preliminarily have had applied thereto an aqueous solution of gamma-aminopropyl triethoxysilane that was dried and set.

3,404,024

METHOD OF DIP COATING

Otto H. Lindemann, Buffalo, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

Filed June 1, 1964, Ser. No. 371,517
7 Claims. (Cl. 117—113)



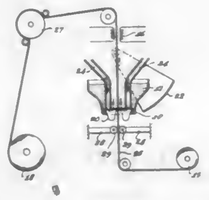
A method of decreasing sags produced on articles during dip coating which comprises immersing an article to be coated into a volume of coating composition, effecting a periodic wave movement on the surface of the coating composition, the amplitude of which wave movement is at least about 0.10 inch, and withdrawing the article through said surface.

3,404,025

METHOD AND APPARATUS FOR COATING A SHEET OR WEB

William A. Wootten, Palos Verdes Estates, Calif., assignor to Western Gear Corporation, Lynwood, Calif., a corporation of Washington

Filed July 13, 1964, Ser. No. 382,225
15 Claims. (Cl. 117—120)



A continuous web or a discrete sheet of paper or the like can be quickly and easily coated with a plastic material by forming a thin film of the plastic across a loop and depositing the film from the loop onto the web or sheet. One or both sides of the web or sheet can be coated as desired.

3,404,026
METHOD OF FORMING MAGNETIC FERRITE FILMS
William J. Skudera, Jr., Long Branch, and William L. Wade, Jr., Neptune, N.J., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Apr. 6, 1965, Ser. No. 446,126
6 Claims. (Cl. 117—123)

A substrate is coated with an hexagonally structured magnetic ferrite film by initially mixing a solution of ferric nitrate with a solution of barium nitrate and/or a solution of strontium nitrate using stoichiometric amounts of iron, barium and/or strontium necessary to form the ferrite up to a 40 percent excess of barium and/or strontium. A substrate that is thermally stable up to a temperature of 1100° C. such as alumina or fused quartz is then immersed in the mixed metallic nitrate solution. The coated substrate is then flash fired at 950 to 1100° C. for 30 seconds in a furnace under an air atmosphere. Then, the coated substrate is removed from the furnace and cooled to room temperature in air. The above-mentioned immersion, flash heating, and cooling steps are then repeated until the desired amount of magnetic material is deposited in situ on the substrate.

3,404,027
SATIN FINISH VITRIFIABLE ENAMELS
Raymond Kosiorek, Bridgeville, Pa., assignor, by mesne assignments, to Hercules Incorporated, a corporation of Delaware
Filed June 1, 1965, Ser. No. 460,223
2 Claims. (Cl. 117—124)

Satin finish enamels for glassware are provided by vitrifiable fluxes containing by weight, lead oxide 50 to 65 percent, silica 25 to 35 percent, boric oxide 2 to 10 percent, sodium oxide 0.5 to 4 percent, titanium dioxide 0 to 8 percent, lithium oxide 0 to 3 percent, zirconium oxide 0 to 5 percent, to which in accordance with the invention there is added as mill additions, by weight, about 0.1 to 4 percent of columbium oxide and from about 10 to 30 percent of aluminum oxide or titanium dioxide as a matting agent.

3,404,028
PROCESS FOR TREATING A CELLULOSIC TEXTILE FABRIC WITH AN INSOLUBLE TELLURIDE TO RENDER THE FABRIC RESISTANT TO ATTACK BY MICRO-ORGANISMS
Brenda J. Trask, Metairie, and Ralph J. Brysson, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Dec. 23, 1965, Ser. No. 516,102
1 Claim. (Cl. 117—138.5)

1. A process for rendering a cellulosic textile fabric resistant to the attack of micro-organisms which process consists of impregnating the cellulosic textile fabric with an aqueous-solvent emulsion system comprising a conventional alkyd resin binder, to which has been added a sufficient amount of a water insoluble metal telluride to insure the deposition of at least 0.10% by weight of tellurium on the finished fabric.

3,404,029
TRANSPARENTIZED DRAFTING PAPER
Joseph A. Dooley, Cedar Grove, and Joseph A. Faccone, Elizabeth, N.J., assignors to Interchemical Corporation, New York, N.Y., a corporation of Ohio
No Drawing. Filed Jan. 27, 1965, Ser. No. 428,570
3 Claims. (Cl. 117—155)

A transparentized drafting or tracing sheet comprising a paper sheet impregnated with a blend of sucrose acetate isobutyrate or sucrose diacetate hexaisobutyrate and poly-α-methylsytrene.

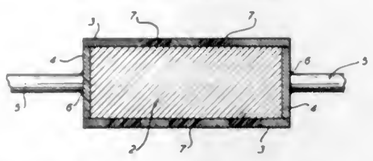
3,404,030
METHOD FOR IMPREGNATING POROUS BATTERY SUPPORTS WITH MELTABLE HYDRATED SALTS
Russell E. Palmateer, Emporium, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
No Drawing. Filed Feb. 8, 1965, Ser. No. 431,495
7 Claims. (Cl. 117—169)

A process for impregnating porous supports with an electrochemically active compound includes the steps of depositing a meltable hydrated salt onto the porous support, heating the salt and support up to the melting temperature of the salt, surrounding the salt and support with a steam atmosphere, melting the salt, and heating the melted salt to form an anhydrous salt and to decompose the anhydrous salt to a basic salt residue within the pores of the support.

3,404,031
EMISSIVE COATING
Wilson A. Clayton, Joseph M. Gunderson, and John C. Sargent, Seattle, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
No Drawing. Filed Sept. 3, 1963, Ser. No. 306,352
8 Claims. (Cl. 117—201)

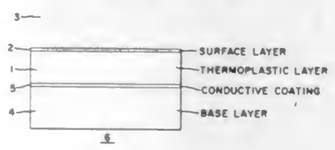
A coating for application to refractory surfaces to enhance their emissivity having the following ingredients: (1) a pigment consisting of silicon carbide, boron carbide, titanium carbide or platinum black; (2) an emissivity enhancing doping agent consisting of carbon, silicon, boron, titanium or combinations thereof; and (3) a binder consisting of a suspension of water glass, silicon dioxide, boric oxide or phosphoric pentoxide.

3,404,032
METHOD OF MAKING FILM RESISTOR
Franklyn M. Collins, Lewiston, N.Y., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed May 17, 1965, Ser. No. 456,119
4 Claims. (Cl. 117—212)



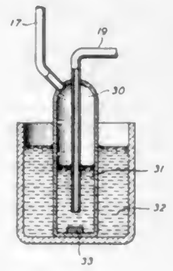
A method for adjusting the value of a resistor including a conductive film of thallium oxide dispersed in glass, according to which the said film is selectively heated in localized areas to render portions of said film comparatively non-conductive.

3,404,033
THERMOPLASTIC FILM COMPOSITION
Karl W. Laendle, Liverpool, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 14, 1964, Ser. No. 418,133
1 Claim. (Cl. 117—217)



A new thermoplastic recording process in which the deformation sensitivity to surface charge of the thermoplastic film is enhanced by depositing on the surface of the film an extremely thin insulating layer of silicon monoxide, having a thickness on the order of atomic dimensions, prior to formation of an image charge pattern.

3,404,034
PREPARATION OF METAL-COATED POWDERS AND CATHODE STRUCTURES
Dean W. Maurer, Berkeley Heights, and Charles M. Pleass, Reiffton, N.J., assignors to Bell Telephone Laboratories, Inc., Murray Hill, N.J., a corporation of New York
Continuation-in-part of application Ser. No. 520,488, Jan. 13, 1966, which is a continuation-in-part of application Ser. No. 310,040, Sept. 19, 1963. This application Nov. 15, 1967, Ser. No. 683,378
6 Claims. (Cl. 117—224)



Coated and matrix type cathode element destined for use in thermionic tubes include a base member bearing a coating of an emissive material in particulate form, the particles of which have been previously coated with a thin film of a metal.

3,404,035
SECONDARY BATTERY EMPLOYING MOLTEN ALKALI METAL REACTANT
Joseph T. Kummer, Ann Arbor, and Neill Weber, Dearborn, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Continuation-in-part of application Ser. No. 245,047, Dec. 17, 1962. This application Oct. 22, 1965, Ser. No. 507,624
19 Claims. (Cl. 136—6)

1. A method for generating electrical energy electrochemically which comprises maintaining
(1) an alkali metal anode-reactant and
(2) a cathodic reactant-electrolyte that is
(a) electrochemically reversibly reactive with cations of said alkali metal and
(b) in contact with a cathode
on opposite sides of and in contact with a solid, half-cell separator that separates said anode-reactant and the anodic half-cell reactions thereof from said cathodic reactant-electrolyte and the cathodic half-cell reactions thereof, said separator comprising a solid electrolyte that is selectively-ionically-conductive with respect to cations of said alkali metal when a difference of electrical potential is provided between said anode-reactant and said cathode, electrically connecting said anode-reactant and said cathode with a conductor which forms a portion of an electrical circuit and provides means for electron flow between said anode-reactant and said cathode, said electrical circuit being completed by ionic conduction between said anode-reactant and said cathode through said cathodic reactant-electrolyte and said solid electrolyte, and maintaining said anode-reactant and said cathodic reactant-electrolyte at a temperature sufficient to maintain both in molten state and effect said half-cell reactions.

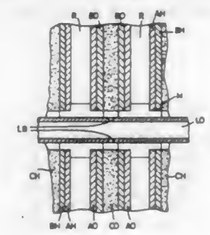
3,404,036
ENERGY CONVERSION DEVICE COMPRISING A SOLID CRYSTALLINE ELECTROLYTE AND A SOLID REACTION ZONE SEPARATOR
Joseph T. Kummer, Ann Arbor, and Neill Weber, Dearborn, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Continuation-in-part of application Ser. No. 458,596, May 25, 1965. This application May 2, 1966, Ser. No. 563,938
16 Claims. (Cl. 136—6)

An energy conversion device having an anodic reaction zone and a cathodic reaction zone and positioned therebetween a solid reaction zone separator comprising a solid crystalline electrolyte that consists essentially of ions of aluminum and oxygen in crystal lattice combination and cations of an alkali metal which migrate in relation to said crystal lattice under influence of an electric field; and a method of generating electrical energy employing said device.

3,404,037
MULTIPLE CELL THERMAL BATTERY
Walter K. McCarter, Joplin, Mo., assignor to Eagle-Picher Industries, Inc., a corporation of Ohio
Filed Apr. 23, 1964, Ser. No. 362,012
6 Claims. (Cl. 136—83)

A multiple cell thermal battery having a plurality of electrodes, each one of which is formed from a flat symmetrical plate of cathodic material folded upon itself along a line of symmetry. Each folded plate has a coating of anodic material on one outer exposed face. The folded electrodes are located in the battery with the coated side of one folded electrode located in juxtaposition to, but spaced from, the uncoated side of the next adjacent electrode, there being a solid fuseable electrolyte located between adjacent electrodes.

3,404,038
ELECTROCHEMICAL CELL, PARTICULARLY FUEL CELL, AND GAS-DIFFUSION ELECTRODES THEREFOR
August Winsel, Braunschweig, Germany, assignor of one-half to Siemens Aktiengesellschaft, Berlin, and one-half to Varta Aktiengesellschaft, Frankfurt am Main, Germany, both corporations of Germany
Filed Aug. 27, 1962, Ser. No. 219,681
Claims priority, application Germany, Aug. 30, 1961, S 38,213
6 Claims. (Cl. 136—86)

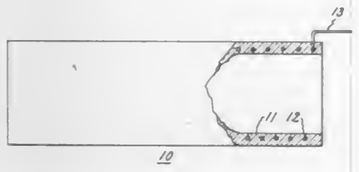


1. A gas diffusion electrode for electro-chemical cells, comprising an electrode body having a coarse-porous and gas-permeable inner layer and having fine-porous cover layers joined with said inner layer and forming respective opposite electrode surfaces to be contacted by electrolyte, said body having openings traversing said body from one to the other electrode surface, sealing means on the wall of said opening for hermetically sealing said opening, said sealing means having an opening at the location of said gas-permeable coarse inner layer.

3,404,039
ELECTRICAL DEVICE INCLUDING STABILIZED ZIRCONIA SOLID ELECTROLYTE
Stephan P. Mitoff, Elnora, N.Y., assignor to General Electric Company, a corporation of New York
Filed Nov. 18, 1964, Ser. No. 412,158
4 Claims. (Cl. 136—86)

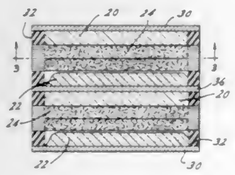
Solid oxygen-ion electrolyte material for high temperature fuel cells must be densified to minimize, and preferably obviate, the passage of gas therethrough. The addition of iron oxide to the oxygen-ion material to effect such densification at lower firing temperatures is disclosed, the exemplary description being the densification of stabilized zirconia with Fe_3O_4 (0.5 to 10.5 weight percent).

3,404,040
ARTICLE COMPRISING STABILIZED ZIRCONIA AND A CURRENT COLLECTOR EMBEDDED THEREIN
Stephan P. Mitoff, Elnora, N.Y., William E. Tragert, Chagrin Falls, Ohio, and Robert L. Fullman, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed June 29, 1965, Ser. No. 468,033
3 Claims. (Cl. 136—86)



1. A composite article comprising a member consisting of solid stabilized zirconia and, at least partially dissolved therein, 5.0 to 10.0 weight percent of iron oxide, and an electrically conductive current collector bonded to and in electrical contact with one surface of said member.

3,404,041
BATTERY SEPARATOR FOR A FUSED SALT BATTERY AND METHOD OF MAKING SAME
Yonemaru H. Inami, Norwalk, Calif., assignor to Philco-Ford Corporation, a corporation of Delaware
Filed Mar. 31, 1966, Ser. No. 539,039
7 Claims. (Cl. 136—146)



The invention in its method aspect comprises treating a fibrous material, preparatory to its use in a thermal-battery separator, by impregnating the material with a solution containing an alkali or alkaline-earth metal resinate. The impregnated separator is then fired to drive off the solvent and organic portions of the solution and to convert the metallic constituent of the compound to the oxide state. This step is followed by impregnation of the separator with a fusible salt electrolyte.

3,404,042
ELECTRIC BATTERY USING ORGANIC CHARGE TRANSFER LIQUID
Eric Otto Forster, Scotch Plains, and Arthur Walter Langer, Jr., Watchung, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Sept. 1, 1966, Ser. No. 576,561
5 Claims. (Cl. 136—154)

1. In an electric battery cell, the combination of electrodes with a charge transfer organic solution of organolithium and a Lewis base.

3,404,043
METAL COATING COMPOSITION AND PROCESS
Gaillard W. Dell, Detroit, Mich., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed Nov. 10, 1964, Ser. No. 410,296
16 Claims. (Cl. 148—6.2)

A composition for forming a protective coating on aluminum-containing surfaces which consists essentially of an aqueous acidic solution containing hexavalent chromium ions, fluoride ions, and at least 0.01% molybdenum as an activator for the composition. The aluminum surface to be coated is maintained in contact with this solution for a period sufficient to form the desired coating thereon.

3,404,044
METHOD FOR FORMING IMPROVED COATING ON METAL
William S. Russell, Warren, Mich., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed Mar. 9, 1965, Ser. No. 438,377
15 Claims. (Cl. 148—6.2)

A method for forming a protective coating on zinc-containing surfaces wherein a clean, zinciferous surface is coated with an aqueous acidic solution which contains hexavalent chromium ions, fluoride ions, and at least 0.01% by weight of the soultion of an activator formed of at least one ion selected from the group consisting of tungsten, molybdenum, vanadium, and uranium. After the zinc metal surface has been contacted with this solution for a period sufficient to form the desired coating thereon, the thus-coated surface is then rinsed with an aqueous solution containing hexavalent chromium ions.

3,404,045
CONVERSION COATING CONTAINING PARTIALLY REDUCED CHROMIC ACID, A METAL DICHROMATE AND PHOSPHORIC ACID
William J. T. Coulman, Jr., Novelty, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio
No Drawing. Filed Oct. 17, 1963, Ser. No. 317,045
13 Claims. (Cl. 148—6.16)

A composition consisting essentially of a dilute aqueous solution of partially reduced chromic acid, a calcium, zinc or nickel dichromate, and a phosphoric acid is useful for corrosion-proofing metal articles, especially ferrous metal articles. Surfaces which are thus treated and then coated with a siccative top-coat are less susceptible to "undercutting"—that is the loosening of the top-coat in areas adjacent to a scratch or score. Ordinarily, the metal article is first phosphated and then treated with the chromium-containing composition.

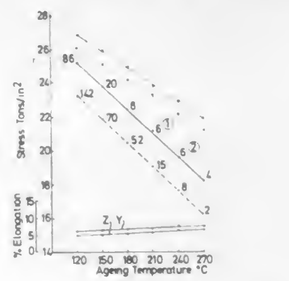
3,404,046
CHROMATING OF ZINC AND ALUMINUM AND COMPOSITION THEREFOR
William S. Russell, Warren, and Samuel Farina, Mount Clemens, Mich., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y.
No Drawing. Filed Sept. 25, 1964, Ser. No. 399,365
11 Claims. (Cl. 148—6.21)

A process for treating zinc and aluminum surfaces wherein the surface is first contacted with an alkaline solution having a pH of at least 11, the surface being maintained in contact with the alkaline solution for a period sufficient to effect activation of the surface. The thus-activated surface is then coated with an acidic chromate conversion coating solution, having a pH within the range of about 0.62 to 3.5, and the coated surface is then rinsed with a hexavalent chromium containing rinse solution. A preferred chromate conversion coating solution for use in this method is one which contains at least 0.5 gram per liter of zinc ions, from about 0.5 to 4.5 grams per liter of hexavalent chromium ions, calculated as CrO_3, from about 0.5 to 40 grams per liter of sulfate ions and at least 0.15 gram per liter of a fluoride radical. The solution may also contain at least 0.25 gram per liter of trivalent chromium ions.

3,404,047
METHOD FOR PRODUCING DEEP-DRAWING LOW-CARBON STEEL SHEET
Stephen R. Goodman, Monroeville, and Hsun Hu, Franklin Township, Westmoreland County, Pa., assignors to United States Steel Corporation, a corporation of Delaware
No Drawing. Filed Dec. 20, 1965, Ser. No. 515,232
5 Claims. (Cl. 148—12.1)

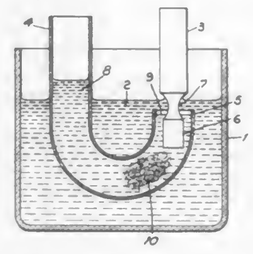
1. A method of producing low-carbon sheet steel of improved drawability and high yield strength which comprises cold rolling hot-rolled plate of low-carbon steel having more than 0.02% carbon to from 50 to 85% reduction into sheet gauge, annealing said cold-rolled sheet at a temperature in the range of from about 1025° F. to about 1550° F. for more than ten hours in an atmosphere containing dry hydrogen having a dew point less than —30° F. to result in a carbon content of from 0.004 to less than 0.02% and cooling the annealed sheet.

3,404,048
MAGNESIUM ALLOY
David James Stratford, Halesowen, Birmingham, England, assignor to Birmetals Limited, Birmingham, England, a British company
Filed May 11, 1966, Ser. No. 549,316
Claims priority, application Great Britain, May 11, 1965, 19,757/65
9 Claims. (Cl. 148—161)



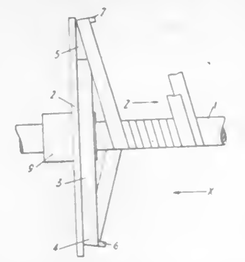
Magnesium alloys containing, in addition to magnesium, 2.0 to 30% zinc and 0.2 to 10% manganese are age-hardened following heat treatment or hot working and rapid cooling by ageing in a first stage at temperature of 60° C. to 90° C. for 3 to 31 hours and in a second stage at a temperature of 120° C. to 270° C. for 1 to 70 hours. The resulting alloys are greatly improved in their proof stress and tensile strength as compared to such alloys that are aged by prior known methods.

3,404,049
METHOD OF SHAPING A CRYSTAL BY ACID CUTTING
Daniel J. Shanefield, New York, N.Y., and Emery W. Currier, Bloomfield, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Mar. 12, 1965, Ser. No. 439,302
3 Claims. (Cl. 156—6)



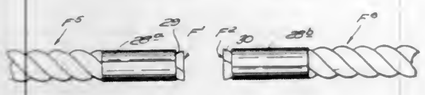
This is a method of shaping a solid crystal object. A container is filled with an acid which is capable of etching the crystal object. A U-shaped tube is placed in the container and one end is immersed in the acid. An inert liquid which is heavier than the acid is poured into the other end of the tube creating an interface between the two liquids at the immersed end of the tube. The object is submerged a predetermined distance into the immersed end of the tube so that the crystal can be cut at the interface between the two liquids.

3,404,050
METHOD AND APPARATUS FOR PRODUCING INSULATED ELECTRICAL CONDUCTORS
Ronald Yaxley Gill, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 16, 1964, Ser. No. 411,276
Claims priority, application Great Britain, Dec. 3, 1963, 47,658/63
4 Claims. (Cl. 156—53)



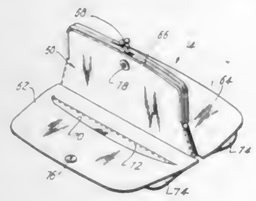
Interleaved insulating tapes are wound on a common rotatable supply reel which is mounted concentrically about a conductor. The tapes are then wound onto the conductor simultaneously from different peripheral portions of the reel in overlapping helical paths.

3,404,051
METHOD OF SPLICING THERMOPLASTIC ROPE ENDS BY FLAME TREATMENT
Edward H. Hall, Fitchburg, Mass., assignor to Morey Paper Mill Supply Co., Fitchburg, Mass., a corporation of Massachusetts
Filed Mar. 9, 1965, Ser. No. 438,303
2 Claims. (Cl. 156—82)



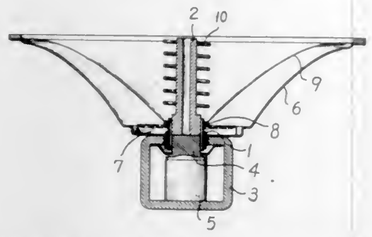
Method of permanently joining the ends of a paper machine carrier rope which consists predominantly of thermoplastic synthetic material by exposing the ends to be joined to an open flame thereby melting the end surfaces, and placing the melted end surfaces in abutting relation, and so holding them until the melted plastic has congealed.

3,404,052
METHOD OF FORMING A BEAD ON A CLUTCH BAG
Norbet Frost, New York, N.Y., assignor to Adam-Steven Leather Goods Inc., a corporation of New York
Filed Mar. 16, 1965, Ser. No. 440,128
4 Claims. (Cl. 156—91)



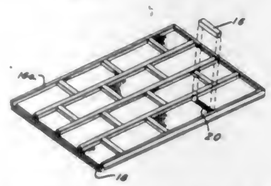
A method of forming a bead on a clutch bag comprising the steps of providing a clutch bag body assembly having a purse provided with a pair of inner wall bag members, providing an outer wall member having a continuous bead provided on a surface thereof, and securing the outer wall surface to opposing surfaces of the inner wall members.

3,404,053
PROCESS FOR MANUFACTURING THE SPEAKER
Tadao Tokuma, Kawasaki, and Kunimasa Nishimura, Tokyo, Japan, assignors to Victor Company of Japan, Limited, Yokohama, Japan, a corporation of Japan
Filed Nov. 30, 1964, Ser. No. 414,585
Claims priority, application Japan, Dec. 6, 1963, 38/65,316
3 Claims. (Cl. 156—272)



A method of manufacturing a speaker comprising melting powdery, granular or annular hot-melt adhesives by high frequency induction, allowing the adhesive to flow between parts to be joined, solidifying the adhesive to adhere a cone, damper, and voice coil of a speaker to their adjoining parts and melting similar adhesive and allowing it to flow about the periphery of the cone to solidify and adhere the periphery of the cone to the speaker housing.

3,404,054
METHOD FOR THE MANUFACTURE OF SANDWICH PANELS
Robert R. Wingert, 108 De Fillipo Drive, South Plainfield, N.J. 07080
Filed Apr. 6, 1965, Ser. No. 446,004
7 Claims. (Cl. 156—292)



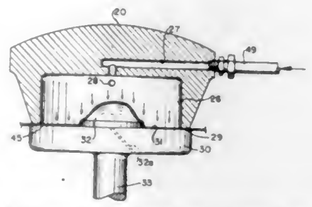
A method of making sandwich panels is disclosed using a jig having a plurality of recesses therein arranged in a grid pattern. Core pieces are partially disposed within the jig recesses. A first lamina is joined to the exposed surfaces on the core pieces. Then the lamina and core pieces are separated from the jig so that a second lamina may be secured to the core pieces parallel to the first lamina.

3,404,055
METHOD FOR ASSEMBLING MINIATURE TUBING
Franz Wieland, Bethlehem, Pa., Joseph J. Ciol, Parlen, N.J., and Jacob W. Zansitis, Easton, Pa., assignors to Rapidograph, Inc., Bloomsbury, N.J., a corporation of New Jersey
Filed Aug. 17, 1967, Ser. No. 661,372
9 Claims. (Cl. 156—294)



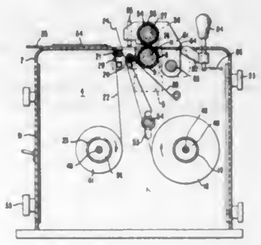
Method of assembling miniature tubing in co-axial alignment, particularly assembling of jewel points in stainless steel holders as used in stylographic writing instruments, the outside diameters of said jewel points being in the range 0.008–0.052 of an inch.

3,404,056
FORMATION OF PLASTIC DENTAL APPLIANCES
Leoniel C. Baldwin, Toledo, Ohio, assignor to Howmet Corporation, a corporation of Delaware
Filed July 17, 1964, Ser. No. 383,355
7 Claims. (Cl. 156—306)



For the formation of dental appliances, a precured thermoplastic sheet is heated to a temperature that causes the sheet to soften to a readily deformable state and the softened sheet is placed against the surface of a model. By then creating an air pressure differential on opposite sides of the softened sheet substantially uniform air pressure is applied to one side of the sheet to force it against the model to conform to the shape of the model where it is cooled and hardened.

3,404,057
STRIPPING AND LAMINATING MACHINE
Robert Bernard Heiart, Middletown, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 7, 1966, Ser. No. 525,469
6 Claims. (Cl. 156—522)

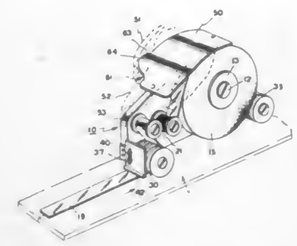


1. An apparatus for preparing photoresist-coated elements having a photopolymerizable layer obtained from a light sensitive element having a photopolymerizable composition arranged between a support and a protective cover layer which apparatus comprises:
(a) free moving feed means for said light sensitive photopolymerizable element,
(b) take-up means for removing said cover layer from said light sensitive element, said take-up means being actuated by said feed means at a rate greater than feed out,
(c) drive means for moving said coverless element, and
(d) pressure roll means for securing said coverless light sensitive photopolymerizable element to a base while pulling said coverless element through said roll means, said roll means being actuated by said drive means.

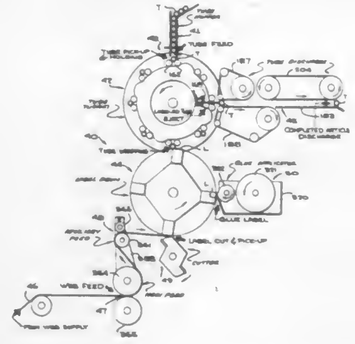
4. An apparatus as defined in claim 1 having cutting means in association with said roll means to cut said base as it leaves said roll means.

3,404,058
TAPE APPLICATOR
John F. Fink, Jr., 15407 Compton Road, Centreville, Va. 22020
Filed May 21, 1965, Ser. No. 457,735
1 Claim. (Cl. 156—527)

This invention relates to a tape applicator of a type for dispensing double faced pressure tape. The body member has a flat lower surface and an arcuate upper surface. The tape holder is affixed to the body to receive and hold the reel of tape, which is to be dispensed. Tape guiding means, consisting of rollers are affixed to the body to form a pathway for the tape from the supply means. At least one of the tape guiding means is disposed adjacent the forward upper edge of the body. A plurality of pressure rollers are located near the front and rear of the body, each of said rollers comprising grooved sealers affixed to the body near the flat surface thereof and extend therebeneath. The roller near the forward end of the body consists of a pressure applicator roller. The tear plate assembly is affixed to the body and spaced from the forward pressure roller. An arcuate finger plate carried by the tear plate assembly extends into proximity with the forward pressure roller by penetrating one of its grooves. A palm-conforming holding plate is affixed to the arcuate surface of the body and has a length less than that of the body.



3,404,059
APPARATUS FOR LABELLING CYLINDRICAL OBJECTS
Eric K. Ritterhoff, Hinsdale, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Sept. 19, 1962, Ser. No. 224,660
53 Claims. (Cl. 156—363)

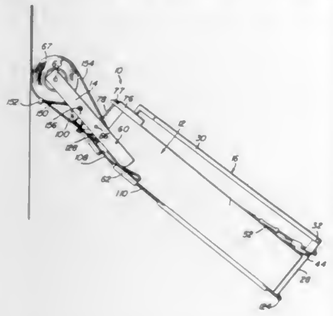


1. An apparatus for applying a label to an elongated flexible tube comprising chuck means for engaging opposite ends of a tube and supporting the same, means for effecting the rotation of a tube carried by said chuck means, and a label applying drum for applying a label to a tube carried by said chuck means, said label applying drum including label retaining means, and means for directing a leading edge of a label into engagement with a tube.

3,404,060
TAPING MACHINE
Laurence L. Taylor, Jr., Medford, Oreg. (214 E. 12th St., The Dalles, Oreg. 97058)
Filed Feb. 2, 1965, Ser. No. 429,754
18 Claims. (Cl. 156—526)

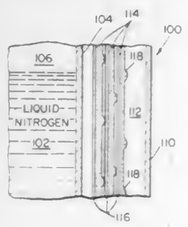
An elongated reservoir for flowable material having a pair of parallel arms pivotally mounted thereon and projecting longitudinally beyond one end thereof. The inner and outer portions of said arms mount rollers with the inner roller selectively sealing an aperture in the front

of the reservoir and with the outer roller normally being a roll of tape. The tape passes from the outer roller about the inner roller at which point the flowable material is picked up on the tape with the tape returning



to the outer roller and being pressured thereby into mounting engagement against a surface. The device includes both tape severing and tape guiding means as well as means for selectively pressurizing the fluid within the reservoir.

3,404,061
FLEXIBLE GRAPHITE MATERIAL OF EXPANDED PARTICLES COMPRESSED TOGETHER
James H. Shane, Acton, Robert J. Russell, Framingham, and Raymond A. Bochman, North Reading, Mass., assignors, by mesne assignments, to Union Carbide Corporation, a corporation of New York
Filed Apr. 15, 1963, Ser. No. 273,245
15 Claims. (Cl. 161—125)



1. A graphite material comprising a mass of expanded graphite particles compressed together in the absence of a binder, said expanded graphite particles prior to compression having a *c* direction dimension which is at least 80 times that of the graphite particles from which said expanded graphite particles are formed.

2. A graphite material according to claim 1 wherein at least one surface is embossed.

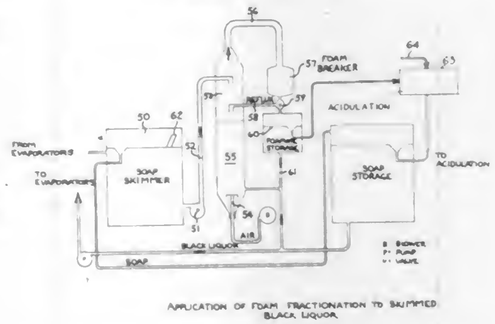
3,404,062
BULKY FIBROUS ELEMENT AND PROCESS FOR MAKING THE SAME
Donald Floyd Miller, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 21, 1965, Ser. No. 457,588
4 Claims. (Cl. 161—169)

1. A bulky fibrous element of finite length and of substantially uniform cross-sectional area throughout its length composed of crimped untwisted staple fibers having a total fiber weight in the range of from about 150 grains to about 1000 grains per yard and a variable fiber density, said fibers being oriented substantially longitudinally of said element, and said fiber density varying in the direction of fiber orientation from one end of said bulky fibrous element to the other end, the high density end be-



ing in the range of from about 1.25 to about 2.0 times that of the low density end.

3,404,063
BY-PRODUCT RECOVERY FROM KRAFT BLACK LIQUOR
Charles I. Harding, Gainesville, Fla., assignor to Owens-Illinois, Inc., a corporation of Ohio, and Florida Engineering and Industrial Experiment Station of the University of Florida
Filed Dec. 28, 1964, Ser. No. 421,213
14 Claims. (Cl. 162—16)



APPLICATION OF FOAM FRACTIONATION TO SKIMMED BLACK LIQUOR

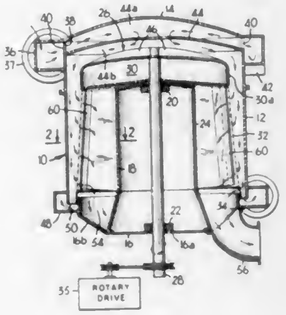
An improvement in the process for the recovery of heat and chemicals from spent kraft black liquor produced in the cooking process of making paper pulp wherein prior to the burning of the black liquor in a recovery furnace a reactive oxygen-containing gas such as air or oxygen is bubbled through the black liquor to oxidize the black liquor and cause foaming of the liquor. The foam rises to the surface and is collected and mechanically broken and a portion of the broken foam or collapsed foam is recycled and the remainder is collected for recovery of by-products such as by acidulation to recover tall oil. The process may be carried out in several stages of foam fractionation to obtain improved recovery of fatty acid soap and resin acid soaps. Apparatus is shown for contacting the kraft black liquor with the reactive oxygen-containing gas, collecting the foam produced and for recycling at least a portion of the collapsed foam and recovering the remainder of the collapsed foam and equipment for treating said remainder with an acidulation agent to obtain the by-product such as tall oil.

3,404,064
METHOD OF SIZING PAPER WITH FATTY ACID CONDENSATION PRODUCTS
Charles E. Feazel, Mountain Brook, Ala., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 299,157, Aug. 1, 1963. This application May 12, 1967, Ser. No. 637,933
1 Claim. (Cl. 162—179)

This application relates to a method of internally sizing paper by mixing with an aqueous slurry of paper pulp 0.2 to 2.5% by weight, based on the weight of the dry pulp, of a condensation product obtained by heating,

in the presence of a catalyst, at least one fatty acid of the formula RCOOH, wherein R is an unsubstituted long chain hydrocarbon radical containing 9 to 25 carbon atoms, the condensation product being further characterized by at least 32 percent by weight of unsaponifiable matter and by having a mean molecular weight of at least 3 times that of said acid, and then forming the thus treated paper pulp into sheets. Preferably the fatty acid starting material contains at least about 40% C_{20-22} saturated acids and the resultant condensation product is treated with alkali and has its water soluble fraction removed before mixing with the slurry.

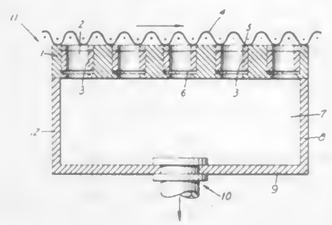
3,404,065
APPARATUS FOR CLEANING AND FRACTIONATING A PULP SUSPENSION
Gösta Ingemar Ingemarsson, Karlstad, Sweden, assignor to Aktiebolaget Karlstads Mekaniska Werkstad, Karlstad, Sweden, a company of Sweden
Filed Aug. 23, 1967, Ser. No. 662,754
Claims priority, application Sweden, Dec. 1, 1966, 16,452/66
7 Claims. (Cl. 162—233)



Apparatus for cleaning and fractionating a pulp suspension in which particles having higher sedimentation velocities and partices having larger dimensions than desired are separated and withdrawn from the suspension. The apparatus comprises a vessel having a cylindrical or frustoconical outer wall, a rotatable drum located in the vessel coaxially with the outer wall and carrying one or more screens, an inlet for introducing the suspension and outlets for withdrawing the reject and the accept portions. Rotation of the drum maintains a Couette flow in the suspension and causes particles having relatively high sedimentation velocities to be propelled outwardly toward the outer wall of the vessel by centrifugal forces. The outer ring of the Couette flow, which is thus made up of the reject portion, is withdrawn from the vessel. The remainder of the suspension, meanwhile, passes through the screen, thus separating out and leaving behind large particles for removal with the reject, and is withdrawn from a part of the vessel within the screen. The screen is kept clear by means of blades or vanes located within the screen which create pressure pulsations through the screen openings.

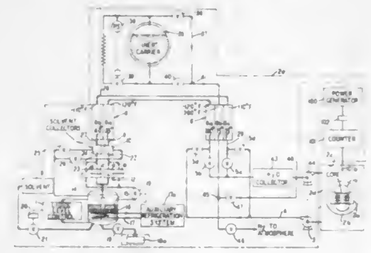
3,404,066
SUCTION BOX COVER
Pierre A. Francois, Indianapolis, Ind., assignor to Union Carbide Corporation, a corporation of New York
Filed Feb. 17, 1965, Ser. No. 433,367
3 Claims. (Cl. 162—374)

A suction box cover for use in a Fourdrinier paper making machine is provided which comprises a member having an upper surface which faces the Fourdrinier wire and a lower surface which faces the interior of a suction box with a plurality of apertures in the member providing communication between the upper and lower surfaces and a plurality of inserts positioned in a substantial



number of the apertures, the inserts having a hard wear resistant coating consisting of, by weight, either (1) about 70 percent tungsten carbide, about 24 percent chromium carbide, and about 6 percent nickel or (2) about 60 percent chromia and about 40 percent chromium.

3,404,067
PROCESS FOR REMOVING RADIOACTIVE MATERIALS FROM THE ENVIRONMENT OF AN ATOMIC REACTOR
John J. Rendos, Millington, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 12, 1965, Ser. No. 432,289
17 Claims. (Cl. 176—37)



1. In combination with a nuclear reactor comprising a core contained in a pressure vessel surrounded by shielding means forming a chamber, means to force air into said chamber during normal operation of said reactor to remove radioactive contaminants therefrom, further means to direct said air to the atmosphere after its exhaust from said chamber, detecting means to sense the concentrations of radioactive contaminants in said air, means comprising a closed conduit system to introduce an inert gas into said chamber to remove said contaminants from said chamber, said detecting means triggering said means for introducing inert gas when a predetermined level of contaminants has been sensed by said detecting means and means included in said system for removing said contaminants from said inert gas.

3,404,068
COMPOSITION FOR COMPACTING SOIL
Lawrence M. Batistoni, Bakersfield, Calif., assignor to Zymak Biochemical Corp., a Puerto Rican corporation
No Drawing. Continuation of applications Ser. No. 270,179, Apr. 3, 1963, and Ser. No. 532,816, Mar. 8, 1966. This application Dec. 1, 1966, Ser. No. 598,513
5 Claims. (Cl. 195—61)

1. An article of manufacture for the compaction of soil and the like which comprises an aqueous solution containing:

a fermenting agent selected from the group consisting of dry yeast and malt;
sucrose;
a wetting agent for penetrating the soil selected from the group consisting of polyethylene glycol of molecular weight of between 300 to 1500, a polyoxyethylene fatty alcohol ether, sodium tetradecyl sulfate, and a polyoxyethylene partial fatty acid ester; and
an antibiotic.

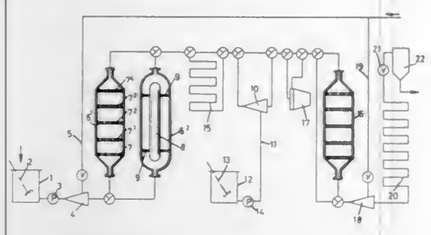
3,404,069
METHOD FOR MEASURING THE GLUCOSE CONTENT OF BLOOD SERUM
Arnold G. Ware, South Pasadena, Calif., assignor to Bioconsultants, Inc., Glendale, Calif., a corporation of California
No Drawing. Filed Mar. 10, 1965, Ser. No. 438,772
6 Claims. (Cl. 195—103.5)

Method for the determination of glucose in blood serum, which may be used without deproteinizing said serum sample, comprising adding a small amount of iodine to the serum to oxidize free reducing agents in said serum, measuring the color, adding an oxidase reagent, and measuring the color change. PVP is used to intensify the colors thus produced.

3,404,070
PROCESS FOR CULTIVATING TRYPANOSOMES
Nina Georgievna Kljueva, Rita Vladimirovna Krzhevova, Riva Vulfovna Fradkina, Natalia Nikolaevna Sukhareva, Georg Solomonovich Zilberblat, and Boris Moiseevich Parizh, Moscow, U.S.S.R., assignors to Gosudarstvenny Kontrolny Institut Meditsinskikh Biologicheskikh Preparatov im. L.A. Tarasevicha, Moscow, U.S.S.R.
No Drawing. Filed Apr. 13, 1965, Ser. No. 447,872
3 Claims. (Cl. 195—104)

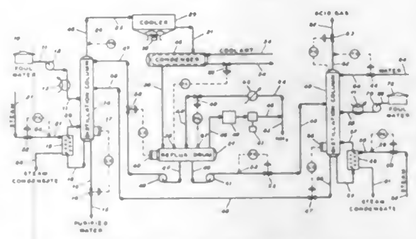
Trypanosomes are cultivated by supplying air deeply within a culture layer at a rate of 1.5 to 2.5 parts by volume per hour to one volume of nutrient medium.

3,404,071
APPARATUS FOR MANUFACTURE OF STARCH DECOMPOSITION PRODUCTS
Hanno Goos and Hans Wolfgang Maurer, Ravensburg, Germany, assignors, by mesne assignments, to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware
Original application Aug. 10, 1962, Ser. No. 216,105, now Patent No. 3,308,037, dated Mar. 7, 1967. Divided and this application Nov. 5, 1965, Ser. No. 515,797
10 Claims. (Cl. 195—127)



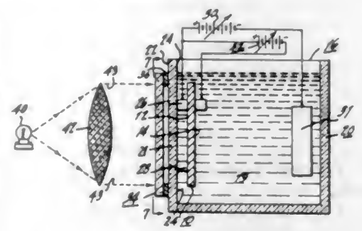
1. An installation for the continuous manufacture of starch decomposition products from a suspension of starch comprising a vessel for primary liquefaction to which said suspension of starch is continuously fed; means for admixing a chemically active starch modification substance to said suspension before it is fed to said vessel; said vessel being provided with means for enforcing temporary flow acceleration of the throughflowing suspension positioned immediately after said means for enforcing temporary flow acceleration and an inlet for steam to be admixed with said suspension; at least one additional vessel serving for continuation of the degradation reaction; means for inactivating the active substance; and conduit means for leading said suspension serially through said first named vessel, then through said additional vessel and then through said inactivating means; said additional vessel having a free cross-sectional area which is larger than that of the conduit means before and after said vessel for primary liquefaction.

3,404,072
AMMONIA RECOVERY FROM AN ACID GAS IN A PLURAL STAGE, CONTROLLED DISTILLATION SYSTEM
Walter M. Bollen and William L. Short, San Rafael, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
Filed Oct. 19, 1966, Ser. No. 587,799
6 Claims. (Cl. 203—1)



An improved method is provided for operating a fractionation process wherein an aqueous solution containing ammonia and acid gas is distilled in a distillation column, overhead vapors are partially condensed, a portion of the condensate is returned to the column as reflux, and another portion of the condensate is treated in another distillation column. The overhead vapors are condensed at a controlled constant temperature, the portion of condensate withdrawn for treatment in the other column is withdrawn at a fixed rate, the portion of the condensate returned as reflux is regulated responsive to reflux drum liquid level, and uncondensed vapors comprising purified ammonia are withdrawn from the reflux drum at a rate regulated to maintain a controlled constant pressure.

3,404,073
METHOD OF FORMING ALIGNED OXIDE PATTERNS ON OPPOSITE SURFACES OF A WAFER OF SEMICONDUCTOR MATERIAL
Joseph H. Scott, Jr., Newark, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 15, 1965, Ser. No. 487,427
3 Claims. (Cl. 204—15)



A method of forming aligned oxide patterns simultaneously on the opposite major surfaces of a wafer of semiconductor material comprises the steps of (1) immersing the wafer in an electrolyte, (2) biasing the wafer with a positive voltage relative to a cathode electrode in the electrolyte, (3) providing a potential difference between the opposite major surfaces of the wafer, and (4) directing a light image of the pattern to be formed onto one of the major surfaces of the wafer.

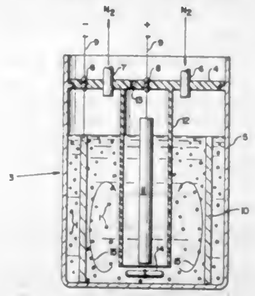
3,404,074
IRON PLATING METHOD AND COMPOSITION
Otto J. Klingenmaier, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
No Drawing. Filed Mar. 4, 1965, Ser. No. 437,276
7 Claims. (Cl. 204—25)

An antipitting agent for iron plating baths is used which eliminates the necessity for maintaining ferrous ion solutions substantially completely free of ferric ions. The antipitting agent is a condensate of an aromatic sulfonic acid with an aldehyde in which the condensate has the general graphical formula $(A—R—A')SO_3M$, wherein R is an aliphatic nucleus, A and A′ designate aromatic groups containing naphthalene rings joined to the aliphatic nucleus, and SO_3M designates at least one free sulfonic acid group in combination with a water-soluble, compound-forming radical M.

3,404,075
ELECTRODEPOSITION OF TIN
John Kempton Aiken, London, and Donald Kearey Howard, Manchester, England, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 269,761, Apr. 1, 1963. This application May 31, 1967, Ser. No. 642,305
Claims priority, application Great Britain, Apr. 5, 1962, 13,075/62
10 Claims. (Cl. 204—54)

An additive is used to produce bright tin deposits. The additive is made by sulphonating a phenolic material such as phenol or cresol and thereafter refluxing the product thus obtained for at least one hour at a pressure of 5 to 25 mm. Hg and a temperature of 120° to 190° C.

3,404,076
ELECTROLYTIC PREPARATION OF HYDRIDES
Ernest W. Haycock, El Cerrito, and Peter R. Rhodes, San Francisco, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Apr. 15, 1965, Ser. No. 448,475
13 Claims. (Cl. 204—101)

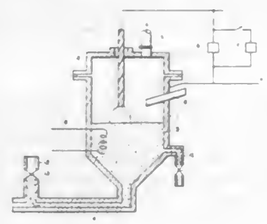


1. An improved electro-chemical process for preparing a hydride of an element directly from the element comprising:
(a) distributing the substantially pure element on the surfaces of finely divided electrically conductive particles;
(b) slurrying the resulting element-ladened particles with an electrolyte capable of furnishing hydrogen ions;
(c) passing a direct current through the resulting slurry of said element-ladened particles and said electrolyte through electrode elements;
(d) agitating said resulting slurry while said direct current is passing therethrough to achieve contact between said element-ladened particles and the more negative electrode; and
(e) recovering the hydride of the element from said slurry.

3,404,077
ELECTROCHEMICAL MACHINING USING A CHLORIDE ELECTROLYTE INCLUDING AN ALKALI METAL STYRENE SULFONATE
Warren R. Doty, Royal Oak, and Mitchell A. La Boda, East Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
No Drawing. Filed Oct. 23, 1965, Ser. No. 504,110
19 Claims. (Cl. 204—143)

An electrochemical machining electrolyte consisting essentially of an aqueous solution of an electrolyte and an electrochemical erosion-inhibiting film-forming additive from the group consisting of alkali metal salts of a sulfonated styrene wherein the preferred concentration of the sulfonated styrene is from about 6.0 to about 14.3% by weight.

3,404,078
METHOD OF GENERATING A PLASMA ARC WITH A FLUIDIZED BED AS ONE ELECTRODE
William M. Goldberger, Columbus, Ohio, assignor, by mesne assignments, to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware
Continuation-in-part of application Ser. No. 389,268, Aug. 13, 1964. This application May 25, 1965, Ser. No. 467,160
7 Claims. (Cl. 204—164)

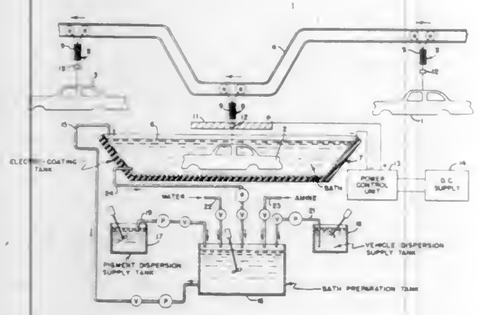


A method for exposing materials to the high temperature of a plasma arc and cooling the resulting heated products by intimate contact with a fluidized bed of particles comprising; establishing a fluidized bed of electrically conductive particles, positioning an electrode contiguous to said bed, establishing a continuous stable arc between said bed and said electrode and introducing said materials into the high-temperature zone of said arc so that the resulting heated products pass from said zone into said fluidized bed.

3,404,079
PROCESS FOR PREPARING AN ELECTROCOATING BATH
Peter J. Boardman, St. Paul, Minn., assignor, by mesne assignments, to Ashland Oil and Refining Company, a corporation of Kentucky
Filed Jan. 11, 1965, Ser. No. 424,550
8 Claims. (Cl. 204—181)

An electrocoating bath is prepared by bringing together

and admixing a pigment component and polycarboxylic acid resin binder component in the presence of sufficient



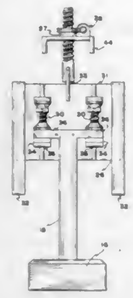
liquid diluent to provide an electrocoating bath with a total nonvolatile solids content suitable for electrocoating.

3,404,080
CABLES AND PROCESS FOR PRODUCING ELECTRICAL INSULATION THEREFOR
Glenn S. Peacock, Somerville, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed May 18, 1965, Ser. No. 456,833
13 Claims. (Cl. 204—181)

1. Method of making improved sheathed cables which comprises:
(a) electrodepositing a carboxyl-containing α-olefin polymer onto an anodic cable sheathing; and
(b) applying a polyolefin outer jacket to the electrodeposited polymer.

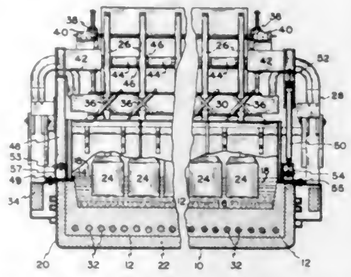
13. Sheathed cable article comprising a core of wire singles, an electroconductive metal sheathing around said core, an electrodeposited coating of carboxyl-containing α-olefin polymer on said sheathing, and an outer jacket of an olefin polymer around said coated sheathing.

3,404,081
ELECTROLYTIC REDUCTION CELL HAVING DETACHABLY SUPPORTED ELECTRODES
Errol W. Cummings, Moraga, and John R. Peterson, Oakland, Calif., assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed Aug. 9, 1965, Ser. No. 478,162
5 Claims. (Cl. 204—243)



1. An electrolytic reduction cell comprising:
(a) a lining which defines a cavity adapted to contain an electrolyte;
(b) a prebaked anode disposed within the cavity;
(c) a flexible bus conductor connected to an anode bus bar and positioned above the cavity in combination with
(d) an elongated electrical connection plate attached to the flexible bus conductor and positioned above the cavity, with the axis of the plate being substantially in a horizontal plane;
(e) slide means positioned above the cavity and adapted to receive the extremity of the connection plate removed from the anode bus and to be slidably adjustable along a vertical plane;
(f) a metal conductor bar, the upper portion of which is adapted to be held against the electrical connection plate in current transmitting contact;
(g) means for holding the metal conductor bar and electrical connection plate with vertical pressure in current transmitting contact;
(h) means for attaching the prebaked anode to the lower end of the metal conductor bar.

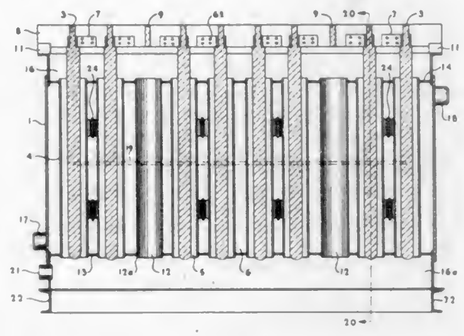
3,404,082
ELECTROLYTIC REDUCTION CELL WITH PIVOTALLY JOINED SUPERSTRUCTURE SUPPORT MEANS
Richard W. Henkie, Oakland, Calif., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed Aug. 12, 1965, Ser. No. 479,255
3 Claims. (Cl. 204—243)



1. In combination with an electrolytic reduction cell of the type wherein the cell having a lining which defines a cavity adapted to contain an electrolyte is encased in a supporting shell and wherein an electrode is suspended above and within the cavity from a superstructure mounted on the shell of the cell, the improvement which comprises:
(a) means for attaching one end of the superstructure to one end of the shell in distal, superposed relation thereto; the opposite end of the superstructure being supported above the other end of the shell in distal superposed relation thereto;
(b) a plurality of parallel legs, each of which is connected pivotally at its opposite ends to both the shell and the superstructure so as to permit reciprocating movement of that end of the shell with respect to the superstructure to compensate for thermal expansion and contraction.

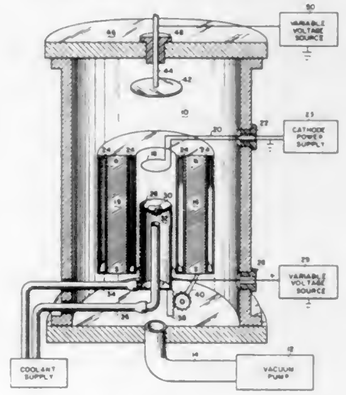
3,404,083
CYLINDRICAL ANODE ELECTROLYTIC STRUCTURE
Morton S. Kircher, Vancouver, British Columbia, Canada, assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 130,516, Aug. 10, 1961. This application Nov. 30, 1966, Ser. No. 607,104
3 Claims. (Cl. 204—272)

Electrolytic cell for the production of perchlorates and the like, having cylindrical cathode tubes vertically positioned within and extending through a heat exchanging shell. Rod-like anodes having a soft surface, such as a layer of crystalline PbO_2 deposited on a graphite base are detachably and adjustably suspended in the cathode tubes.



The electrolyte chamber extends above and below the shell. Downcomers like empty cathode tubes provide for electrolyte circulation and conductor bars inside the shell supplement cathode current flow.

3,404,084
APPARATUS FOR DEPOSITING IONIZED ELECTRON BEAM EVAPORATED MATERIAL ON A NEGATIVELY BIASED SUBSTRATE
Harold J. Hamilton, Sylmar, Calif., assignor to General Precision Systems Inc., a corporation of Delaware
Filed Oct. 20, 1965, Ser. No. 498,958
6 Claims. (Cl. 204—298)



1. An ion cleaning and deposition apparatus comprising:
a. a vacuum chamber,
b. pumping means for creating a vacuum within said chamber,
c. a tubular magnet within said chamber, said magnet being magnetized to produce a longitudinal flux field within the bore of said magnet,
d. a circular cathode element positioned within the bore of said magnet and perpendicular to the center line of said bore,
e. electrical means coupled to said cathode element for heating said element wherein an electron flow is emitted from said element,
f. an electrically conductive anode positioned within the bore of said magnet and spaced from said cathode element, the center of said anode being aligned so that a charge placed in said anode will be located upon the center line of said flux field,
g. electrical means coupled to said anode for polarizing said anode with respect to said cathode element causing electron flow to be emitted by said cathode element and accelerated through the magnetic conduit produced by said flux field to the charge in said anode heating and vaporizing the surface of said charge and causing said vapors to be ionized by bombardment from said electron flow,
h. adjustment means associated with said anode for adjusting the position of said charge along the center line of said flux field,
i. a substrate support within said chamber and positioned externally of said bore of said magnet and substantially on a line extending from the center of said anode and through said circular cathode element to said support, and
j. electrical means coupled to said substrate support for applying a variable potential to said support whereby a substrate may be bombarded with ions at a variable energy.

3,404,085
HYDROCRACKING PROCESS FOR HIGH OCTANE PRODUCT
Glen Porter Hamner, Baton Rouge, and Ralph Burgess Mason, Denham Springs, La., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Aug. 30, 1966, Ser. No. 575,949
2 Claims. (Cl. 208—111)

The present disclosure relates to an improved hydrocracking process wherein a basic nitrogenous compound is continually present thereby inhibiting the cracking activity of the zeolite catalyst. Hydrocracking temperatures greater than commonly used are employed, e.g., in the range of 700° to 1,000° F., thereby producing a highly aromatic naphtha product of high octane number. In a preferred embodiment sulfur compounds are excluded from the reaction zone.

3,404,086
HYDROTHERMALLY STABLE CATALYSTS OF HIGH ACTIVITY AND METHODS FOR THEIR PREPARATION
Charles J. Plank, Woodbury, and Edward J. Rosinski, Deptford, N.J., assignors to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Mar. 30, 1966, Ser. No. 538,608
10 Claims. (Cl. 208—120)

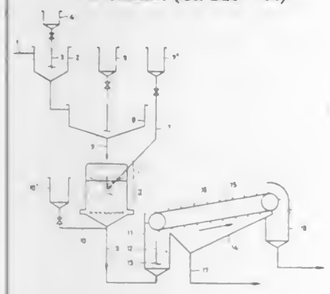
The invention is directed to a novel hydrothermally stable hydrogen form crystalline aluminosilicate catalyst of high hydrocarbon conversion activity produced by a process which comprises calcining an ammonium crystalline aluminosilicate, characterized by a silica to alumina mol ratio of at least 3, in an atmosphere consisting essentially of ammonia gas.

3,404,087
STABILIZING AND SWEETENING ADDITIVE FOR HYDROCARBONS
Bobby N. Scoggins and John W. Thompson, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 423,357, Jan. 4, 1965. This application Aug. 9, 1967, Ser. No. 659,324
5 Claims. (Cl. 208—207)

A composition for stabilizing and sweetening hydrocarbons boiling in the range of about 50° F. to about 750° F. comprising about 25–50 parts by weight N,N'-di-sec-lower-alkyl-o-phenylenediamine and about 50–75

parts by weight N,N'-di-sec-lower-alkyl-p-phenylenediamine.

3,404,088
METHOD FOR PURIFYING WATER
Albert Jean Armand Julien Dujardin, Remicourt, Belgium, assignor to Ecremeuses Melotte, Société Anonyme, Remicourt, Beligum, a Belgian company
Continuation-in-part of application Ser. No. 74,062, Dec. 6, 1960. This application Sept. 4, 1964, Ser. No. 394,425
Claims priority, application Luxembourg, Nov. 11, 1960, 39,396
4 Claims. (Cl. 210—44)



1. The method of purifying water which contains impurities a portion of which are flocculable and the remainder of which are non-flocculable which comprises the steps of: adding to said impure water a water soluble mineral salt which flocculates upon the addition of an electrolyte; subjecting said impure water with said salt in solution to agitation in the presence of air to obtain complete oxidation of the oxidizable constituents thereof; forming the impure water with its oxidized constituents into a high velocity sheet surrounded by air; directing said sheet against an impact surface for producing an intimate mixture of water, miniature air bubbles and impurities; adding said electrolyte to said impure water no later than said directing step; conveying said mixture to a separation tank; permitting flocs including said bubbles to form in said separation tank whereby said flocs rise to the surface leaving purified liquid below; skimming said flocs from the top of the liquid in said separation tank; and withdrawing purified liquid from beneath said flocs.

3,404,089
METHOD OF EXTINGUISHING FIRE
Rudolph J. Holzinger, Haddonfield, N.J., assignor to Mobil Oil Corporation, a corporation of New York
Filed Aug. 20, 1964, Ser. No. 390,960
10 Claims. (Cl. 252—2)

1. A method of extinguishing fire which comprises applying to the flames of the fire a thickened, aqueous fluid composition, prepared by reacting

(a) an aqueous emulsion containing water and from 1% to about 60% by weight of a polymer of an acrylic acid selected from the group consisting of acrylic acid polymer, methacrylic acid polymer, copolymers of the monomers thereof with acrylic acid ester and copolymers of the said monomers with methacrylic acid ester, styrene sulfonic acid polymer and α-methyl styrene sulfonic acid polymer, said polymer having free acid groups and a molecular weight of at least 1 million, and

(b) from about 0.5 to about 1.0 equivalent per acid group equivalent of said polymer of a base selected from the group consisting of alkali metal and ammonium hydroxides, alkali metal and ammonium basic inorganic salts, amines, and mixtures thereof, to produce a water-soluble product,

said reaction being conduction in the presence of a sufficient quantity of water to produce a concentration of polymer solids in the said thickened aqueous composition of from about 0.002% by weight to about 0.5% by weight.

3,404,090
WATER BASE LUBRICANT
Roy J. Betty, Chicago, Ill., and Robert E. Malec, Birmingham, Mich., assignors to Armour and Company, Chicago, Ill., a corporation of Delaware
No Drawing. Feb. 14, 1967, Ser. No. 615,924
4 Claims. (Cl. 252—47.5)

A pyrimidine thione and amine oxide composition for use as a water base lubricant and a process for imparting lubricity to aqueous systems.

3,404,091
OLEAGINOUS COMPOSITIONS
Herbert Takashima, New York, N.Y., and Edward N. Kresge, Elizabeth, and Darrell W. Brownawell, Scotch Plains, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Mar. 21, 1966, Ser. No. 535,818
3 Claims. (Cl. 252—50)

Multi-functional additives, e.g., sludge dispersants, V.I. improvers, etc., are prepared by hydroperoxidizing an ethylene-alpha-olefin copolymer, e.g., ethylene-propylene copolymer, and subsequently grafting thereto a polar monomer such as methylmethacrylate, acrylonitrile, etc. The resulting additives may be employed in oleaginous compositions such as gasoline, middle distillate fuels, or lubricating oils.

3,404,092
POLYMERS CONTAINING URETHANE GROUPS AS MULTIFUNCTIONAL V.I. IMPROVERS
Norman Jacobson, East Brunswick, N.J., and Herbert Takashima, New York, N.Y., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Mar. 21, 1966, Ser. No. 535,744
6 Claims. (Cl. 252—51.5)

V.I. improvers exhibiting improved thickening potencies and shear stabilities in petroleum oils are produced by reacting a hydroxylated, degraded copolymer with an organic isocyanate, such as a C_{10}–C_{25} alkyl monoisocyanate. The hydroxylated copolymer is preferably a polymer of ethylene and a C_3–C_{10} alpha olefin. Other polymers found useful include copolymers of ethylene with C_3–C_5 unsaturated esters, ethers or nitriles.

3,404,093
FLUORESCENT COMPOSITION FOR MAGNETIC PARTICLE INSPECTION
Paul Kenneth Borrows, Chicago, Ill., assignor to Magnaflux Corporation, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Mar. 29, 1965, Ser. No. 443,705
17 Claims. (Cl. 252—62.52)

A fluorescent magnetic material for use in non-destructive methods of testing ferromagnetic work pieces, comprising discrete magnetic particles coated with a thermoplastic resin containing a fluorescent dye, preferably in combination with an opacifier having a cascading effect in combination with said dye, the coated particles having an average particle size preferably of not over about 5 microns maximum dimension. The method of coating includes dissolving a thermoplastic resin and a fluoragent in a water-miscible organic solvent to form a solution thereof, separately forming a water dispersion of highly

divided magnetic particles, and then adding the solution to the water dispersion with thorough mixing until the resin and fluoragent are thrown out of solution, whereby the magnetic particles become coated with a sticky, adherent coating of the resin and fluoragent. The water dispersion of magnetic particles is formed under conditions of high shear. The thermoplastic resin, which is preferably a melamine-toluene sulfonamide-formaldehyde resin, is insoluble in water and therefore precipitates out upon dilution of the resin-fluoragent solution with the water of the water dispersion magnetic particles.

3,404,094
CORROSION INHIBITOR COMPOSITION
Bill R. Keeney, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware
No Drawing. Filed Sept. 7, 1965, Ser. No. 485,536
11 Claims. (Cl. 252—148)

A metal corrosion inhibitor for use with aqueous acids comprising specified amounts of an acetylenic alcohol or sulfide, an amine or nitrogen base compound and a non-acetylenic alcohol.

3,404,095
BREAKING FOAMS ON FOAMING AQUEOUS LIQUIDS
Lyle W. Colburn, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 345,067, Feb. 17, 1964. This application May 10, 1967, Ser. No. 637,353
2 Claims. (Cl. 252—321)

Reducing foaming of foamable and foaming aqueous liquids while delivering a body of such liquid to another location at a velocity normally causing foaming by passing such a liquid or foaming liquid through a permeable mass having tortuous interconnected pores throughout, which mass is wettable by, and permeable to the aqueous liquid.

3,404,096
PROCESS FOR IMPROVING TRIVALENT TITANIUM CATALYSTS
Bayard T. Lamborn, Matawan, N.J., assignor to Hercules Incorporated, a corporation of Delaware
No Drawing. Filed June 2, 1965, Ser. No. 460,846
5 Claims. (Cl. 252—429)

Titanium trichloride catalyst is improved for use in the polymerization of olefins by pretreatment in an inert diluent in the absence of an activator with an olefin having 2 to 6 carbon atoms in the amount of 0.2 to 2.0 millimoles per millimole of titanium. Use of the pretreated catalyst to polymerize olefins results in a polymer which is friable.

3,404,097
METHOD FOR PREPARING SILICA-MAGNESIA-FLUORIDE CATALYST
Charles P. Wilson, Jr., and Brownell Carr, Cincinnati, Ohio, and Frank G. Ciapetta, Silver Spring, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
Filed Aug. 16, 1965, Ser. No. 479,710
10 Claims. (Cl. 252—441)

A method for preparing a silica-magnesia-fluoride cracking catalyst wherein a carbon dioxide precipitated silica-magnesia-fluoride composite is sprayed dried and subsequently aged for a period of from 1 to 4 hours at a temperature of about 160° F. to 180° F. prior to washing and final drying. It is found that the silica-magnesia-fluoride catalyst prepared by the present method processes an extremely high degree of attrition resistance and activity.

3,404,098
PLATINUM GROUP METAL CATALYSTS SUPPORTED ON RARE EARTH CARBONATES
Alvin B. Stiles, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 23, 1965, Ser. No. 516,106
9 Claims. (Cl. 252—443)

The present disclosure relates to platinum group metal catalysts. A platinum group metal is supported upon a rare earth hydroxy carbonate, sometimes called a basic carbonate, to minimize formation of unwanted products in the hydrogenation of substituted cyclic rings.

3,404,099
PROCESS FOR THE PREPARATION OF IRON-BASE CATALYTIC MASSES AND THE RESULTING PRODUCTS
Andre Steinmetz, Aubervilliers, France, assignor to Produits Chimiques Pechiney-Saint-Gobain, Paris, France
No Drawing. Filed Feb. 2, 1965, Ser. No. 429,901
Claims priority, application France, Feb. 5, 1964, 962,728
24 Claims. (Cl. 252—459)

Catalyst compositions for various uses (such as preparing ammonia and chlorine from ammonium chloride, and synthesizing ammonia from hydrogen and nitrogen) are prepared by precipitating a compound such as iron oxide, iron hydroxide, and iron oxychloride by ionic reaction of gaseous oxygen on a readily hydrolyzable, water soluble iron compound, from aqueous solution containing additional iron, onto a support of inert particles suspended in the aqueous solution, filtering off the precipitate, calcining it, and partly reducing it. Typical catalysts consist of particles of carrier, such as silica, alumina, cupric oxide, and silico-aluminates, bearing and united to partly reduced iron oxide, the weight of iron expressed as Fe_2O_3 to the weight of the carrier in the composition lying between about 0.5 and 2.

3,404,100
METHANE PRODUCTION USING A PROMOTED CATALYST
William F. Taylor, Scotch Plains, and John H. Sinfelt, Berkeley Heights, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Oct. 21, 1963, Ser. No. 317,777
The portion of the term of the patent subsequent to Dec. 1, 1984, has been disclaimed
3 Claims. (Cl. 252—462)

A lanthanide rare earth promoter is used in a coprecipitated $Ni\text{-}Al_2O_3$ catalyst which is especially useful for the production of methane rich gas by reacting hydrocarbons having 5 to 8 carbon atoms per molecule with steam at reaction temperatures in the range of 600 to 925° F.

3,404,101
CATALYST FOR SELECTIVE HYDROGENATION OF DIOLEFINIC AND ACETYLENIC HYDROCARBONS
Edouard Weisang, Jean-Louis Weill, and Philippe Engelhard, Le Havre, France, assignors to Societe Anonyme: Compagnie Francaise de Raffinage, Paris, France, a French corporation
No Drawing. Filed June 3, 1965, Ser. No. 461,188
Claims priority, application France, June 5, 1964, 977,256
10 Claims. (Cl. 252—465)

A process is provided for the selective hydrogenation of diolefins and acetylenic hydrocarbons in a charge of olefinic hydrocarbons by passing the charge over a specific catalyst comprised of a refractory oxide support having an absorbing surface of at least 30 square meters per

gram and into which surface is absorbed chromic anhydride and nickel carbonate in an amount equal to between 0.5% and 8% of the support (calculated as in metallic form), and in which the ratio of chromium to nickel is between 1.5 and 2 chromium to 1 nickel, said impregnation being carried out by immersing the refractory support in an aqueous solution of chromic anhydride and nickel carbonate in which the combined concentration thereof is less than 15 grams per liter.

3,404,102

POLYCYCLIC EPOXIDE COMPOSITIONS AND RESINS PRODUCED THEREFROM

Paul S. Starcher and Samuel W. Tinsley, Charleston, and Bertrand D. Ash, St. Albans, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 9, 1964, Ser. No. 358,607
27 Claims. (Cl. 260—2)

Epoxide monomers, and resins thereof, which contain 2 to 4 epoxy groups existing in saturated aliphatic substituents bonded through an oxy, carbonyloxy, oxyalkylene or carbonyloxyalkylene group to a bicyclo[2.2.1] heptyl ring or a larger fused homocarbocyclic ring of which a bicyclo[2.2.1]heptyl ring is an integral part. The resins are used as clear coatings and laminations.

3,404,103

METHOD OF DECOMPOSING URETHANE POLYMER

Nobutaka Matsudaira, Sakae Muto, Yoshitake Kubota, and Toshio Yoshimoto, Tokyo, and Shigetake Sato, Yokohama, Japan, assignors to Bridgestone Tire Company Limited, Tokyo, Japan

Filed June 1, 1966, Ser. No. 554,581
Claims priority, application Japan, June 10, 1965, 40/34,052; Dec. 21, 1965, 40/78,234
7 Claims. (Cl. 260—2.3)

Polyurethane made from a polyether and an isocyanate is thermally decomposed in the presence of (i) an amine and (ii) an alkali metal oxide or hydroxide or an alkaline earth metal oxide or hydroxide. The products obtained are (a) the polyether and (b) an amine corresponding to the isocyanate used to prepare the polyurethane wherein the —NCO groups of the isocyanate are substituted with amino groups.

3,404,104

POLYOLEFIN FOAM

George R. Hill, Bartlesville, and Donald G. Needham, Ramona, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Dec. 21, 1964, Ser. No. 420,153
5 Claims. (Cl. 260—2.5)

A foamable composition formed by first blending a polyolefin resin and dispersing agent, and thereafter adding a temperature control agent and a blowing agent. A method of producing polyolefin foam by foaming the above mixture.

3,404,105

FOAMING PROCESS FOR POLYURETHANE IN THE PRESENCE OF PORE REGULATORS

Gerd Rossmy, Essen-Werden, Germany, assignor to Th. Goldschmidt A.G., Essen, Germany

No Drawing. Filed Feb. 9, 1965, Ser. No. 431,435
Claims priority, application Germany, Feb. 24, 1964, G 39,929
12 Claims. (Cl. 260—2.5)

Foaming processes for preparing elastomeric polyurethane foam from a reaction mixture of polyols, organic polyisocyanates and water, wherein the foam is stabilized by a surface active agent admixed with the reaction mixture. In accordance with the invention, the reaction mixture, in addition to the foam stabilizing surface active agent is admixed with a pore regulator for the foam. The pore regulator is a liquid organopolysiloxane having a viscosity, at room temperature, of less than 1,000 cp., and of the formula

$$R_xSiZ_yO_{\frac{4-x-y}{2}}$$

wherein R is hydrocarbon, Z is one of OH,

$$R'C(=O)-O-$$

wherein R' is hydrogen or hydrocarbon, OR' wherein R' is hydrocarbon,

$$-N(R')(R')$$

wherein R' is hydrocarbon or hydrogen, or a mixture of such groups, N has a value of between 1.0 to 2.1, y has the value of between 0.01 to 1.0 and $x+y=1.55$ to 3.

3,404,106

RIGID POLYURETHANE FOAMS FROM POLYESTERS AND HYDROXYL - CONTAINING COPOLYMERS

Charles R. Bearden, David H. Swisher, and David C. Garms, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 25, 1965, Ser. No. 442,782
5 Claims. (Cl. 260—2.5)

The invention concerns foamed polyurethane products prepared by reacting (1) an organic polyisocyanate with an (2) unsaturated polyester that is the reaction product of (a) the half ester of maleic anhydride and a hydroxyalkyl acrylate and (b) a stoichiometric amount of a diglycidyl ether of a bisphenol, (3) a copolymer of a hydroxyalkyl acrylate and a vinyl aromatic compound.

3,404,107

RIGID POLYURETHANE FOAMS FROM POLYESTERS, POLYETHER POLYOLS AND HYDROXYL-CONTAINING COPOLYMERS

Charles R. Bearden, David H. Swisher, and David C. Garms, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 25, 1965, Ser. No. 442,783
5 Claims. (Cl. 260—2.5)

The invention concerns polyurethanes that are the reaction product of an organic polyisocyanate and (1) a copolymer of a hydroxyl alkyl acrylate and a vinyl aromatic compound, (2) an unsaturated polyester that is the reaction product of the half-ester of maleic anhydride and a hydroxyalkyl acrylate reacted with a diglycidyl ether of a bisphenol and interpolymerized with a vinyl aromatic compound, and (3) a polyether polyol that is the condensation product of an alkylene oxide having from 2 to 3 carbon atoms in the molecule with a polyhydric alcohol having from 2 to 8 hydroxyl groups, which polyol has from 8 to 30 percent ethylene oxide moieties and an OH equivalent weight of from 60 to 120.

3,404,108

PAVEMENT COATING COMPOSITION COMPRISING PETROLEUM RESIN

Joseph Regenstein, Jr., Chicago, and John C. Tapas, Glenview, Ill., assignors to Velsicol Chemical Corporation, a corporation of Delaware

No Drawing. Filed Dec. 18, 1964, Ser. No. 419,558
The portion of the term of the patent subsequent to Jan. 10, 1984, has been disclaimed
9 Claims. (Cl. 260—4)

1. A coating composition for sealing and coloring pavements consisting essentially of

(1) from about 10 to about 40 weight percent pigment;
(2) from about 15 to about 40 weight percent water;
(3) from about 30 to about 80 weight percent of an aqueous emulsion comprising a mixture of substantially completely polymerized thermoplastic petroleum-derived hydrocarbon resin having a softening point range of from about 220° F. to about 300° F., a mixed aniline point of from about 20° C. to about 60° C., an iodine number of from about 40 to about 160, an acid number of from 0 to about 4, and a molecular weight of from about 600 to about 1700 as determined by cryoscopic means and viscous oil selected from the group consisting of aromatic oil, naphthenic oil consisting essentially of a mixture of viscous alicyclic hydrocarbons, and mixtures thereof; and
(4) from 0 to about 50 weight percent of an extender for the pigment.

3,404,109

PRODUCTION OF POLYETHER DIOLS USING WATER AS A TELOGEN

Jack Milgrom, Akron, Ohio, assignor to The General Tire & Rubber Company, a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 258,530, Feb. 14, 1963. This application Oct. 15, 1965, Ser. No. 496,721
11 Claims. (Cl. 260—611)

Low molecular weight hydroxy-terminated polyoxyalkylene diols having a hydroxyl functionality of approximately 2 are prepared by polymerization in the presence of a small amount of water of epoxide and/or oxetane monomers using certain double metal cyanide complexes, e.g., zinc cobalticyanide acyclic polyether complex, as polymerization catalysts. The resulting telomers may vary from light oils to greases and solids are useful in making polyurethane foams and elastomers by reaction with polyisocyanates.

3,404,110

WATER DILUTABLE SALTS OF ADDITION COPOLYMERS OF (1) AN ACID, (2) AN ETHER, (3) A CARBOXYL-FREE MONOMER AND (4) A DRYING OIL ACID OR ADDUCT THEREOF

Thomas Hunt, Cadoxton, Barry, Glamorgan, Wales, assignor to The Distillers Company Limited, Edinburgh, Scotland, a British company

No Drawing. Filed Mar. 30, 1965, Ser. No. 444,070
Claims priority, application Great Britain, Apr. 25, 1964, 17,265/64
16 Claims. (Cl. 260—23.5)

Addition copolymers the salts of which are suitable for water dilutable surface coating compositions and compositions containing these salts. The copolymers are formed by addition polymerizing an α,β - ethylenically unsaturated carboxylic acid, e.g., acrylic acid, a polyethylenically unsaturated compound containing at least one β,γ - ethylenically unsaturated ether group and an ethylenically unsaturated group through which addition copolymerization can take place, e.g., glycerol diallyl ether, an ethylenically unsaturated monomer free from carboxylic acid and carboxylic acid anhydride groups, e.g., styrene and a drying oil fatty acid, e.g., dehydrated castor oil fatty acid or an adduct of such an oil with an acyclic α - saturated olefinic polycarboxylic acid, e.g., maleic acid to give a copolymer having an acid value of at least 25 milligrams of potassium hydroxide per gram.

3,404,111

EMULSION POLYMERIZATION IN THE PRESENCE OF A HYDROCARBON LATEX EXTENDER OIL

Ralph E. McNay, Houston, Tex., assignor to Ashland Oil & Refining Company, Houston, Tex., a corporation of Kentucky

No Drawing. Filed Apr. 1, 1965, Ser. No. 444,844
16 Claims. (Cl. 260—23.7)

1. A method of producing latex by emulsion polymerization, comprising, forming an emulsion of water and a hydrocarbon latex extender oil in the presence of an emulsifying composition, mixing said emulsion with at least one polymerizable material, selected from the group consisting of conjugated dienes and conjugated dienes with at least one monomer copolymerizable therewith and subjecting the mixture of emulsion and polymerizable material to polymerization in the presence of a polymerization modifying composition and under emulsion polymerization conditions.

3,404,112

PAPER COATING COMPOSITION CONTAINING VINYL ACETATE-ETHYLENE-TRIALLYL CYANURATE TERPOLYMERS AND COATED PRODUCT FORMED THEREFROM

Martin K. Lindemann, Somerville, and Rocco P. Volpe, Newark, N.J., assignors, by mesne assignments, to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 31, 1965, Ser. No. 444,386
9 Claims. (Cl. 260—29.6)

A coating composition effective to deposit upon a fibrous web, such as paper or paperboard, a glossy, bright coating having desirable "pick" characteristics comprises an aqueous synthetic polymer latex and a mineral filler, the latex containing dispersed vinyl acetate-ethylene-triallyl cyanurate interpolymer of 5 to 40%, preferably more than 15%, ethylene content, the dispersed copolymer having a particle size of 0.1μ to 0.25μ, the latex preferably having a solids content of 35 to 70% of interpolymer and 100 parts of filler preferably being present per 5 to 25 parts of latex solids.

3,404,113

AQUEOUS COATING COMPOSITION CONTAINING VINYL ACETATE - ETHYLENE - TRIALLYL CYANURATE TERPOLYMER

Martin K. Lindemann, Somerville, and Rocco P. Volpe, Newark, N.J., assignors, by mesne assignments, to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 31, 1965, Ser. No. 444,417
9 Claims. (Cl. 260—29.6)

An aqueous paint composition effective to provide on a supporting surface, such as wood, a film effective for both interior and exterior exposure and of desirable characteristics comprises an aqueous synthetic polymer latex and a pigment, the latex containing dispersed vinyl acetate-ethylene-triallyl cyanurate interpolymer of 5 to 40%, preferably more than 15%, ethylene content, the dispersed interpolymer having a particle size of 0.1μ to 2μ, the latex preferably having a solids content of 35 to 70% of interpolymer and 10–1000 parts of pigment preferably being present per 100 parts of latex solids.

3,404,114

METHOD FOR PREPARING LATEXES HAVING IMPROVED ADHESIVE PROPERTIES

Walter C. Snyder, Freeport, and Fred C. Wright, Kerrville, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed June 18, 1965, Ser. No. 465,155
9 Claims. (Cl. 260—29.6)

This application is concerned with an emulsion polymerization process for preparing interpolymers of from 1 to 25% of an unsaturated carboxylic acid from 50–98%

of a monovinylidene monomer and from 1–25% of an alkyl amino alkyl ester of an unsaturated acid, the process comprising the sequential steps of heating an aqueous phase containing a polymerization catalyst and an emulsifier, then adding the unsaturated carboxylic acid and at least a portion of the monovinylidene monomer thereafter adding a nitrogenous alkaline compound to provide a pH of at least 7 and finally adding the alkyl amino alkyl ester of the unsaturated monomer and any remaining portion of the monovinylidene monomers.

3,404,115

METHOD OF TREATING MERCAPTAN MODIFIED POLYCHLOROPRENE RUBBERS WITH ACRYLONITRILE

Shu Kambara, Ichiro Fukuoka, and Shoji Kimura, Tokyo, Japan, assignors to Denki Kagaku Kogyo Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Aug. 3, 1964, Ser. No. 387,226
Claims priority, application Japan, Aug. 20, 1963, 38/51,994
1 Claim. (Cl. 260—29.7)

A method of manufacturing polychloroprene rubbers by polymerizing chloroprene by using aliphatic mercaptans as polymerization modifiers and adding a small amount of acrylonitrile to the resulting polychloroprene latex after removing unreacted chloroprene monomer from the latex and subjecting the latex to a further treatment by conventional methods to obtain a rubber and then vulcanizing the resulting rubbers.

3,404,116

LATICES OF BUTADIENE COPOLYMERS WITH MONOMERS HAVING HYDROXYL AND CARBOXYL GROUPS

Robert J. Pueschner, St. Louis, and Frederick A. Miller, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 5, 1965, Ser. No. 423,592
15 Claims. (Cl. 260—29.7)

1. A stable latex composition comprising an aqueous dispersion of a copolymer of ethylenically unsaturated monomers consisting essentially of from about 0.5 percent to about 10 percent by weight of a hydroxyl-containing ester of an aliphatic diol and an α,β-ethylenically unsaturated aliphatic monocarboxylic acid, from about 0.25 percent to about 10 percent by weight of an α,β-ethylenically unsaturated aliphatic carboxylic acid, from 0 to about 79 percent of a monovinylidene aromatic monomer, and from about 19.5 percent to about 97.5 percent of an aliphatic conjugated diene; all percentages being based on the total weight of the monomers.

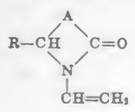
3,404,117

ADHESIVE FILM-FORMING COMPOSITIONS WHICH IN THE DRY STATE ARE INSOLUBLE IN WATER AND DRY CLEANING SOLVENTS

Melville W. Uffner, Easton, Pa., assignor to GAF Corporation, a corporation of Delaware

No Drawing. Filed July 6, 1966, Ser. No. 563,052
7 Claims. (Cl. 260—30.2)

Adhesive film-forming compositions which are nonflammable and substantially insoluble in water and dry cleaning solvents are being copolymer containing 1 part by weight of N-vinyl lactam of the formula



wherein R is hydrogen or alkyl and A represents an alkylene of $-CH_2-CH_2-$, or $-CH_2-CH_2-CH_2-$ or $-CH_2-CH_2-CH_2-CH_2-$, and from 2 to 2.5 parts by weight of a fluorinated monomer of the formula:



wherein R′ is hydrogen or methyl and n is a positive integer of from 1 to 7, a plasticizing agent is a N-ethyl-o-toluenesulfonamide, or N-ethyl-p-toluenesulfonamide, or methyl phthalyl ethyl glycolate, or ethyl phthalyl ethyl glycolate, or butyl phthalyl butyl glycolate, or liquid acrylonitrile polymer or sulfonamide-formaldehyde resin, polyamide or cyclohexanone-formaldehyde condensation product, dissolved in at least one solvent of toluene, or xylene, ethyl benzene, or aliphatic alcohols, or gamma-butyrolactone, or N-methyl-2-pyrrolidone, dialkyl formamides, or aliphatic ketones.

3,404,118

REACTIVE MODIFIERS FOR THERMOSETTING RESINS

Vernon L. Guyer, Minneapolis, Minn., and Roger H. Kottke, Hatboro, Pa., assignors, by mesne assignments, to Ashland Oil and Refining Company, a corporation of Kentucky

No Drawing. Filed Jan. 30, 1964, Ser. No. 341,420
10 Claims. (Cl. 260—30.4)

The speed of polymerization in thermosetting foundry binders and increase in their tensile strength with decrease in susceptibility to overcuring are accomplished by addition of tetrahydrofurfuryl glycidyl ether or furfuryl glycidyl ether to such thermosetting resins and thereafter such modified resins are employed in the production of foundry binders and foundry core compositions.

3,404,119

POLYAMIDES CONTAINING A PIGMENT AND A BASIC PRODUCT OBTAINED FROM A CONDENSATE OF NAPHTHALENE SULPHONIC ACID AND FORMALDEHYDE

Harold Roy Harper and Leslie Arthur Mather, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Jan. 17, 1966, Ser. No. 520,862
Claims priority, application Great Britain, Feb. 22, 1965, 7,603/65
2 Claims. (Cl. 260—37)

A pigmented synthetic linear polyamide composition which comprises a synthetic linear polyamide, an organic pigment in finely divided form which is stable to the action of molten synthetic linear polyamide and a dispersing agent selected from basic products which are condensates of naphthalene sulphonic acid and formaldehyde.

3,404,120

POLYMER COMPOSITIONS CONTAINING COAL WHICH HAS BEEN GROUND IN A NON-OXIDIZING ATMOSPHERE

William W. Gotshall, Orchard Lake, Mich., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio

No Drawing. Filed Aug. 2, 1965, Ser. No. 476,747
10 Claims. (Cl. 260—41.5)

The present invention comprises polymeric compositions containing above about 10 parts by weight of ground coal per 100 parts by weight of the polymer, said ground coal having an average particle size of from about 1 to 2.5 microns and having less than 10% particles greater than 5 microns, said coal having been ground in a non-oxidizing atmosphere.

3,404,121

POLYESTER CATALYST-STABILIZER USAGE

Kenneth T. Barkey, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed July 27, 1966, Ser. No. 568,109
8 Claims. (Cl. 260—45.7)

In processes for manufacturing stabilized superpolyesters of at least one dicarboxylic acid and at least one glycol, which processes involve an initial melt phase to prepare prepolymer followed by a solid phase to thereby build the molecular weight of the polyester to the desired level; the process being conducted with the use of zinc and titanium catalysts; it has been discovered that surprisingly improved reaction rates and product colors can be obtained by the use of a phosphorus-containing material as a stabilizer, provided that the concentrations of the zinc and titanium catalysts are carefully controlled and at least the major part of the stabilizer is blended into the product after at least about 98.5 percent of the molecular weight buildup has been completed.

3,404,122

STABILIZATION OF HIGH MOLECULAR WEIGHT POLYCARBONATES

Gerhard Fritz, Ulrich Curtius, Ludwig Bottenbruch, and Werner Göller, Krefeld-Bockum, and Hermann Schnell, Krefeld-Urdingen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Original application Mar. 6, 1964, Ser. No. 350,117, now Patent No. 3,321,435, dated May 23, 1967. Divided and this application Dec. 19, 1966, Ser. No. 602,586
Claims priority, application Germany, Mar. 9, 1963, F 39,209
4 Claims. (Cl. 260—45.7)

Polycarbonates containing small amounts of moisture which are stabilized against hydrolytic degradation with phosphoric acids, polyphosphoric acids, esters and anhydrides of these acids, phosphonic acids and/or phosphinic acids in a stabilizing amount.

3,404,123

POLYMERS HAVING IMPROVED OXIDATION RESISTANCE

Leo J. McCabe, Glassboro, Harry J. Andress, Jr., Pitman, and Francis M. Seger, Edison, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed May 19, 1965, Ser. No. 457,175
17 Claims. (Cl. 260—45.8)

Homopolymers and copolymers of olefins are stabilized against oxidation by incorporating therewith certain 9,10-boroxarophenanthrene compounds. Dilauryl-3,3′-thiodipropionate or a polyalkyl-hydroxyaromatic compound may also be incorporated.

3,404,124

DISPERSION OF ADDITIVES IN SOLID POLYMER

John N. Scott, Jr., and James L. Rakes, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Sept. 2, 1965, Ser. No. 484,548
5 Claims. (Cl. 260—45.85)

A concentrate of an organic stabilizer additive in a polymer is prepared by conventional melt blending techniques. Solid polymer is formed, for instance by extruding and pelletizing said concentrate, and said solid polymer containing said additive is blended with additional pelletized base polymer and ground to form a particulate mass having a particle size within the range of about 10 to 450 mesh. This resulting blend is allowed to stand as the additive migrates from the concentrate into the base polymer so as to stabilize the entire mass.

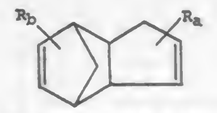
3,404,125

EPOXY RESIN COMPOSITIONS CONTAINING DIENOPHILE CURING AGENT AND POLYCYCLODIENES

Wen-Hsuan Chang, Gibsonia, Pa., assignor to PPG Industries, Inc., a corporation of Pennsylvania

No Drawing. Filed July 10, 1963, Ser. No. 294,190
16 Claims. (Cl. 260—47)

6. A composition comprising (1) an epoxide resin and (2) a curing agent, at least one of (1) and (2) containing a dienophile group, and (3) a reactive diluent selected from the class consisting of compounds corresponding to the formula:



wherein R_a and R_b are selected from the group consisting of hydrogen, halogen, and lower alkyl radicals.

3,404,126

PROCESS OF PREPARING COLOR IMPROVED GLYCIDYL POLYETHERS OF POLYHYDRIC PHENOLS

Robert W. Welch and Dale M. Magre, Louisville, Ky., assignors to Celanese Coatings Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 29, 1966, Ser. No. 605,593
6 Claims. (Cl. 260—47)

A process for preparing light colored glycidyl polyethers of polyhydric phenols by reacting a solution of the polyhydric phenol in epichlorohydrin with zinc and hydrochloric acid prior to dehydrohalogenation with sodium hydroxide.

3,404,127

SIMULTANEOUS POLYMERIZATION AND ALKYLATION OF ACRYLATE ESTERS

Ashot Merijan, Rahway, and Frederick Grosser, Midland Park, N.J., assignors to GAF Corporation, a corporation of Delaware

No Drawing. Filed Sept. 17, 1964, Ser. No. 397,298
20 Claims. (Cl. 260—47)

Monomers of acrylate esters of the formula

$$CH_2{=}CHCOOR$$

wherein R is an alkyl of from 1 to 8 carbon atoms or an alkoxyalkyl in which the total number of carbon atoms in the alkyl is from 3 to 6 and comonomers of such acrylate esters with 1 to 95% by weight of a polymerizable monoethylenically unsaturated monomer, other than α-olefinic hydrocarbon and heterocyclic polymerizable monomer, are simultaneously polymerized and alkylated by heating one mole of said monomer or comonomers with 0.05 to 12 moles of at least one α-olefin of at least two carbon atoms as the alkylating agent in solution of an organic solvent common to said monomer, comonomers and α-olefin in the presence of 0.025 to 0 30 mole of an organic peroxide catalyst per mole of said α-olefin at a temperature ranging from 80° to 200° C., to form alkylated polymer in which at least some of the said monomer units constituting the polymer chain contain at least one alkyl group of at least two carbon atoms.

3,404,128

METHOD FOR PREPARING A DIPHENOLIC ACID-AMIDE PHENOL-ALDEHYDE RESIN

Sol B. Radlove, Abraham Ravve, and Chester W. Fitko, Chicago, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed June 4, 1965, Ser. No. 461,546
11 Claims. (Cl. 260—51.5)

A diphenolic acid coating resin is prepared by reacting a diphenolic acid amino amide with a polyfunctional

phenol and formaldehyde, the diphenolic acid amino amide being prepared by the reaction of a polyamine and a diphenolic acid, the polyamine being present in excess of the stoichiometric amount required to react with the diphenolic acid. A thermosetting polymeric coating composition is prepared by reacting the diphenolic acid coating resin with an epoxy resin.

3,404,129

POTASSIUM CYANOZINCATE AS CATALYST IN THE PREPARATION OF POLYESTERS

William Peter Hoogendonk, Greenville, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 16, 1966, Ser. No. 534,645
6 Claims. (Cl. 260—75)

1. In the process for producing linear fiber-forming glycol-terephthalate polyesters from a glycol of the formula $HO(CH_2)_nOH$, where n is an integer from 2 to 10, and an alkyl terephthalate having 1 to 4 carbon atoms in the alkyl group, using an ester-interchange reaction followed by polymerization to form the polyester, the improvement which comprises carrying out the ester-interchange reaction in the presence of a catalytic amount of potassium-cyanozincate as a catalyst.

3,404,130

POLYURETHANE COATING COMPOSITION

Marnell A. Sigura and Julius P. Bilisoly, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Dec. 7, 1965, Ser. No. 512,220
2 Claims. (Cl. 260—77.5)

A coating composition comprising (1) a hydroxylated polymer of a C_4–C_8 conjugated diolefin or copolymer thereof with a vinyl aromatic hydrocarbon, (2) an organic polyisocyanate in an amount to give a NCO/OH ratio of 1/1 to 2/1 and 0.1 to 1.0 mole of a lower aliphatic alcohol, e.g., methanol.

3,404,131

ELASTIC FIBERS AND FILMS

Bernard Taub, Williamsville, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Nov. 10, 1964, Ser. No. 410,267
9 Claims. (Cl. 260—77.5)

Production of synthetic linear, segmented polyether-urethane-urea polymers which are soluble in organic solvents and are suitable for preparation of elastic fibers and films having excellent color stability to ultraviolet light by (1) reacting a hydroxyl-terminated polyether with a molar insufficiency of an aromatic diisocyanate to produce a hydroxyl-terminated polyether-urethane, (2) reacting said hydroxyl-terminated polyether-urethane with an aliphatic diisocyanate to produce an isocyanate-terminated intermediate, and (3) reacting said isocyanate-terminated intermediate with a specific chain-extending agent, p-menthane-1,8-diamine. Chain extension preferably is effected in an organic solvent to produce a storage stable solution from which elastic fibers with good elastic recovery are obtained by conventional procedures, e.g. by extrusion into water or by dry-spinning. Films are produced by applying the solution to a suitable substrate from which the solvent evaporates.

3,404,132

NOVEL POLYMER COMPOSITIONS AND METHOD

Ritchie A. Wessling, Midland, and Ray G. Zimmerman, Shepherd, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 23, 1967, Ser. No. 617,834
7 Claims. (Cl. 260—79.5)

The polymer compositions are the reaction product of a water-soluble polyelectrolyte derived from a sulfonium salt with a mercaptan or thiol compound or their salts or mixtures thereof in a basic solution, useful as water-resistant, non-conducting protective coatings.

3,404,133

PRODUCTION OF COPOLYMERS OF α,β-UNSATURATED ALDEHYDES IN A TWO-STEP POLYMERIZATION USING TWO DIFFERENT CATALYSTS

Werner Kern and Rolf Schulz, Mainz (Rhine), and Karl Wolfram Passmann, Frankfurt am Main-Sindlingen, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed July 1, 1964, Ser. No. 379,729
Claims priority, application Germany, July 2, 1963, D 41,873
8 Claims. (Cl. 260—64)

Production of copolymers essentially consisting in polymerizing in a first step an α,β-unsaturated aldehyde dissolved in a liquid $>C{=}CH_2$ group containing monomer in the presence of an ionic polymerization catalyst for the aldehyde, destroying such catalyst and then in a second step copolymerizing the aldehyde polymer with the liquid monomer with the aid of a radical forming catalyst.

3,404,134

PROCESS OF CROSSLINKING POLYMERS

Richard Watkin Rees, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of applications Ser. No. 168,839, Jan. 25, 1962, and Ser. No. 271,477, Apr. 8, 1963. This application Feb. 28, 1964, Ser. No. 348,293
The portion of the term of the patent subsequent to Aug. 2, 1983, has been disclaimed
7 Claims. (Cl. 260—78.5)

The process of ionically cross-linking copolymers containing carboxylic acid groups by adding the cation-supplying material at elevated pressure and at a temperature of above the melting point of the copolymer.

3,404,135

PROCESS FOR THE MANUFACTURE OF MALEIC ACID ANHYDRIDE COPOLYMERS

Wolfgang Tietz, Rheinkamp-Hochhalen, Germany, assignor to Rheinpreussen Aktiengesellschaft für Bergbau und Chemie, Homberg-Niederrhein (Lower Rhine), Germany, a corporation of Germany

No Drawing. Filed Jan. 19, 1965, Ser. No. 427,214
Claims priority, application Germany, Jan. 21, 1964, R 37,021
20 Claims. (Cl. 260—78.5)

Lower aliphatic secondary alcohol is used as a reaction medium for making copolymers of maleic acid anhydride and other polymerizable unsaturated organic compounds. The monomers are dissolved in the medium and the copolymer precipitates therefrom. The copolymer is well suited to use in production of water-soluble derivatives since adhering or included solvent does not cause difficulty as it is soluble or partially soluble in water.

3,404,136

CARBOHYDRATE DERIVED POLYMERS

William A. P. Black, Falkirk, Eric T. Dewar, Dalkeith, and David Rutherford, Edinburgh, Scotland, assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Original application Sept. 20, 1962, Ser. No. 225,168, now Patent No. 3,225,012, dated Dec. 21, 1965. Divided and this application June 16, 1965, Ser. No. 527,997
4 Claims. (Cl. 260—88.3)

2. Poly(1,2:5,6 - di - O-isopropylidene-3-O-vinyl-α-D-glucofuranose).

3,404,137

POLYMERIZATION CATALYSTS AND PROCESSES

John D. Calfee, Dayton, Ohio, assignor to Monsanto Company, a corporation of Delaware

No Drawing. Original application Aug. 31, 1960, Ser. No. 53,059, now Patent No. 3,262,887, dated July 26, 1966. Divided and this application Aug. 16, 1965, Ser. No. 487,350
3 Claims. (Cl. 260—91.1)

The process for polymerizing a vinyl alkyl ether is improved by the use of a catalyst prepared by contacting a chemically complex composition of an aluminum alkoxide and an aluminum halide (nonfluorinated) dissolved in a solvent with sufficient fluorinating agent such as boron trifluoride or hydrogen fluoride at a temperature of zero degrees centigrade or less and allowing a temperature rise to affect an in situ halogen interchange to convert the predominant portion of the aluminum halide of the complex to aluminum fluoride.

3,404,138

ANTISTATIC POLYVINYLCHLORIDE COMPOSITION

Thomas John Adams, Bound Brook, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Nov. 27, 1963, Ser. No. 326,344
8 Claims. (Cl. 260—92.8)

A polymeric composition comprising polyvinylchloride resin having dispersed therein from 0.2 to 5 weight percent of an amidopropyl trimethylammonium methosulfate to impart to the substrate improved antistatic properties and color stability when subjected to high temperature fabrication techniques.

3,404,139

METHOD OF POLYMERIZING ALPHA-OLEFINS

Osamu Fukumoto and Yuji Atarashi, Ohtsu-shi, Shiga-ken, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Apr. 6, 1964, Ser. No. 357,809
Claims priority, application Japan, Apr. 27, 1963, 38/21,975; June 8, 1963, 38/30,257; Aug. 24, 1963, 38/44,045; Sept. 9, 1963, 38/47,730
2 Claims. (Cl. 260—93.7)

A process for polymerizing alpha-monoolefins by the use of a catalyst comprising the following three components:

(1) An organoaluminum dihalide or sesquihalides;

(2) A halide of a transition metal of Groups IV–A–VI–A of the Periodic Table; and

(3) A compound selected from the group of silozanes aminosulfides, aminosulfoxides or aminosulfanes.

3,404,140

SHAPED ARTICLE OF POLYOLEFIN COMPOSITION HAVING IMPROVED DYEABILITY CONTAINING METAL COMPOUNDS AND A PROCESS FOR DYEING THE SAME

Osamu Fukumoto and Masayoshi Kubo, Ohtsu-shi, and Tsutomu Kamijo, Higashiyama-ku, Kyoto, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Sept. 9, 1964, Ser. No. 395,181
Claims priority, application Japan, Sept. 30, 1963, 38/52,951, 38/52,952; Oct. 25, 1963, 38/57,086; Feb. 27, 1964, 39/10,609
14 Claims. (Cl. 260—93.7)

A shaped polyolefin article having improved dyeability and a method for producing the same wherein said article comprises a polyolefin containing

(1) at least one organic metal salt of (a) a metal from Groups I*b*, II*b*, IV*b*, and VIII of the fourth period of the Periodic Table and (b) a carboxyl radical-containing compound, and

(2) at least one phosphoric acid ester.

3,404,141

POLYMERIZATION CATALYSTS AND THEIR USE

Gerald Digby Torrington Owen, Heswall, England, assignor to The Dunlop Company Limited, London, England, a British company

No Drawing. Filed Apr. 24, 1964, Ser. No. 362,476
Claims priority, application Great Britain, May 25, 1963, 20,979/63
19 Claims. (Cl. 260—94.3)

1. A method for the polymerization of isoprene comprising preparing a polymerization catalyst component by reacting under substantially-anhydrous conditions in the presence of an inert liquid diluent a higher halide of a metal selected from Group IVA of the Mendeleeff Periodic Table with a reducing agent selected from the class consisting of the metals of Groups I to III of the Mendeleeff Periodic Table, hydrides of said metals and organo-metallic compounds of said metals to reduce said higher halide to a lower halide, mixing said lower halide with a further high halide of a metal selected from Group VA of the Mendeleeff Periodic Table, reacting said further higher halide with said reducing agent to reduce said further higher halide to a lower halide, mixing said catalyst component with further catalyst components being an aluminium trialkyl and a zinc dialkyl, and polymerizing isoprene in the presence of the catalyst so produced to effect polymerization of the isoprene.

3,404,142

PRECIPITATION OF PROTEINS FROM WHEY USING SODIUM ALGINATE

Joseph L. Shank, Matteson, Ill., and William H. Cunningham, St. Louis, Mo., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed June 17, 1965, Ser. No. 464,870
6 Claims. (Cl. 260—112)

Method of separating proteins from whey solution comprising treating an acidified whey solution with a polysaccharide whereby the polysaccharide and proteins coprecipitate from the solution.

3,404,143

IODINATED X-RAY CONTRAST AGENTS

Jaromír Hebký and Václav Jelínek, Prague, and Miroslav Karásek, Modrany, Czechoslovakia, assignors to SOFA, Spojene podniky pro zdravolnichou vyrobu, Prague, Czechoslovakia

No Drawing. Filed Dec. 17, 1965, Ser. No. 514,694
Claims priority, application Czechoslovakia, Dec. 21, 1964, 7,232/64, 7,233/64
7 Claims. (Cl. 260—211)

4. N - (2,4,6 - triiodo - 3 - dimethylaminomethyleneaminobenzyl)-N-methylglucamine, having a decomposition temperature of 150° C.

3,404,144

1-β-D-ARABINOFURANOSYL-5-FLUOROCYTOSINE COMPOUNDS

Jack J. Fox, White Plains, and Naishun C. Miller, Riverdale, N.Y., assignors to Research Corporation, New York, N.Y., a non-profit corporation of New York

No Drawing. Filed Dec. 23, 1965, Ser. No. 516,133
4 Claims. (Cl. 260—211.5)

1. 1 - (β - D - arabinofuranosyl) - 4 - alkylmercapto - 5-fluoro-2-pyrimidinones in which the 4-alkyl group contains from one to eight carbon atoms.

3,404,145

N-ACYL DERIVATIVES OF CYCLIC IMINES

Evald L. Skau, Robert M. Mod, and Frank C. Magne, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Application Sept. 4, 1964, Ser. No. 394,636, which is a continuation-in-part of application Ser. No. 260,923, Feb. 25, 1963. Divided and this application Apr. 13, 1965, Ser. No. 459,495

1 Claim. (Cl. 260—239)

A number of N-acyl derivatives of cyclic amines have been found to be compatible primary plasticizers for vinyl chloride resins. These derivatives are N,N-disubstituted long chain aliphatic amides whose acyl component can be a normal, branched, or substituted alkanoic or alkenoic acyl having from 8 to 22 carbon atoms. The amide nitrogen is, in all cases, a member of a heterocyclic ring. Included among the compounds of this invention is N-decanoyl-3-aza-bicyclo[3·2·2]nonane.

3,404,146

3-OLEOYL-3-AZABICYCLO[3.2.2]NONANE

Evald L. Skau, Robert R. Mod, and Frank C. Magne, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Original application Apr. 2, 1964, Ser. No. 361,925, now Patent No. 3,248,396, dated Apr. 26, 1966. Divided and this application Sept. 10, 1965, Ser. No. 509,450

1 Claim. (Cl. 260—239)

A number of N-acyl derivatives of cyclic imines have been found to be compatible plasticizers for vinyl chloride homopolymers, copolymers of vinyl chloride with vinyl acetate, and for nitrile rubbers. The plasticizers are N,N-disubstituted long chain aliphatic amides. When the acyl moiety is saturated, it is derived from an alkanoic acid having from 10 to 18 carbon atoms. If unsaturated, the acyl moiety is derived from an alkenoic acid having from 18–22 carbon atoms.

3,404,147

MONOHALOALKYL AND POLYHALOALKYL LACTAMS

Raymond L. Mayhew, Summit, and Frederick Grosser, Midland Park, N.J., assignors to GAF Corporation, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 340,799, Jan. 28, 1964. This application Dec. 22, 1965, Ser. No. 515,728

9 Claims. (Cl. 260—239.3)

5-, 6- and 7-membered lactams are polyhaloalkylated by heating a mixture consisting of from 5 to 20 moles of said lactams with one mole of a monohalo- or polyhalo-α-olefin of at least 2 carbon atoms in the presence of approximately from 0.05 to 0.25 mole of an organic peroxide at a temperature of from 80° to 200° C.

3,404,148

PREPARATION OF ω-LAURINOLACTAM

Johan W. Garritsen, Geleen, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands

No Drawing. Filed Feb. 17, 1966, Ser. No. 528,097

Claims priority, application Netherlands, Feb. 17, 1965, 6501941, 6501942

9 Claims. (Cl. 260—239.3)

1. In the process for the preparation of ω-laurinolactam from cyclododecanone oxime, in which the oxime is brought into reaction with hydrogen chloride in the presence of a polar organic solvent, the improvement consisting essentially in using as the initial product cyclododecanone oxime in admixture with more than 0.5% by weight of cyclododecanone.

3,404,149

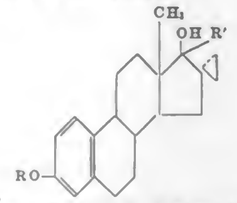
3-METHOXYSPIRO[ESTRA-1,3,5(10)TRIENE-16,1'-CYCLOPROPAN]-17β-OLS

David A. Tyner, Glenview, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 495,686, Oct. 13, 1965. This application June 6, 1966, Ser. No. 555,258

6 Claims. (Cl. 260—239.5)

1. A compound of the formula



wherein R is lower alkyl and R' is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl, and lower alkynyl.

6. 3-methoxyspiro[estra - 1,3,5(10)triene - 16,3'-1'-pyrazolin]-17-one.

3,404,150

PROCESS FOR THE ESTERIFICATION OF HYDROXY STEROIDS

Otto Halpern, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed May 25, 1966, Ser. No. 552,713

7 Claims. (Cl. 260—239.55)

1. A process for the esterification of hydroxy steroids which comprises treating the steroid with at least a 2 molar excess of a hydrocarbon carboxylic acyl anhydride under anhydrous conditions in the presence of a catalytic amount of iodine at a temperature ranging from about −50° C. to about +250° C.

3,404,151

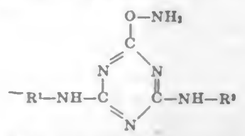
NOVEL HYDROXYL AMINE TRIAZINE COMPOUNDS AND PROCESS FOR PRODUCING THE SAME

Werner Heimberger, Hanau am Main, Germany, assignor to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed Oct. 3, 1966, Ser. No. 583,996

3 Claims. (Cl. 260—249.8)

1. A compound of the formula



wherein each of R^1 and R^2 are lower alkyl.

3,404,152

SUBSTITUTED PYRIDYL UREA COMPOUNDS

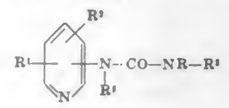
Kurt Thiele and Günter Steinmetz, Frankfurt am Main, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed Aug. 27, 1965, Ser. No. 483,329

Claims priority, application Germany, Aug. 29, 1964, D 45,304

5 Claims. (Cl. 260—295)

Compounds of the formula



in which R^1 and R^2 taken individually can be halogen, lower alkyl and lower alkoxy and in addition one of R^1 and R^2 can also be hydrogen and at least one of R^3 and R^5 is lower alkyl and the other is hydrogen or lower alkyl. The compounds have valuable therapeutic properties and in particular they possess an excellent anti-inflammatory action.

3,404,153

PREPARATION OF 7-[MONO- OR DI-(ACYLOXY)-METHYL] - 4 - HYDROXY - 1,8 - NAPHTHYRIDINES AND DERIVATIVES THEREOF

George Y. Lesher, Schodack, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 26, 1965, Ser. No. 428,221

5 Claims. (Cl. 260—295.5)

1. A lower-alkyl 7-[di-(lower-alkanoyloxy)methyl]-4-hydroxy-1,8-naphthyridine-3-carboxylate.

3,404,154

PROCESS FOR PREPARING PYRIDOXAL-5'-ORTHOPHOSPHATE

Kentaro Okumura, Kobe-shi, Hyogo-ken, Toji Nishihara, Sakai-shi, Osaka-fu, and Tatuo Oda, Osaka-shi, Japan, assignors to Tanabe Seiyaku Co., Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Filed Mar. 16, 1966, Ser. No. 534,654

Claims priority, application Japan, Apr. 3, 1965, 40/19,669

1 Claim. (Cl. 260—297)

A method of producing pyridoxal-5'-orthophosphate which involves the phosphorylating, N,N'-di-(2-methyl-3-hydroxy-5-hydroxymethyl - 4 - pyridylmethylidene)-hydrazine with polyphosphoric acid, hydrolizing the resultant polyphosphate with dilute inorganic acid to give N,N'-di-(2-methyl-3-hydroxy-5-phosphonoxymethyl - 4 - pyridylmethylidene)-hydrazine and treating said hydrazine intermediate with nitrous acid in acidic medium to recover desired product. Pyridoxal-5'-orthophosphate is a coenzyme in many enzymatic reactions of amino acids and it is accordingly considered to be useful as an active form of vitamin B_6.

3,404,155

METHOD FOR THE PRODUCTION OF UNSATURATED ALIPHATIC ALDEHYDES, UNSATURATED HETEROCYCLIC ALDEHYDES AND AROMATIC ALDEHYDES

Ludwig Hüter, Weisskirchen, Taunus, and Martin Petzold, Bad Homburg vor der Hohe, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

Filed Dec. 13, 1965, Ser. No. 513,310

Claims priority, application Germany, Dec. 23, 1964, D 46,124

7 Claims. (Cl. 260—297)

Method for the production of an aldehyde selected from the group consisting of unsaturated aliphatic aldehydes, unsaturated heterocyclic aldehydes and aromatic aldehydes which comprises oxidizing a volatile compound having a carbon double bond selected from the group consisting of unsaturated aliphatic hydrocarbons, aromatic hydrocarbons, and unsaturated heterocyclic compounds which except for their cyclic heteroatom content are of hydrocarbon nature, said aliphatic hydrocarbon, aromatic hydrocarbons and heterocyclic compounds carrying at least one methyl group in α position to a carbon double bond, in a homogeneous gas phase reaction in admixture with elemental oxygen and gaseous nitrous acid at a temperature between 200 and 600° C., the quantity of oxygen at most equivalent to the said at least one methyl group in α position to a carbon double bond.

3,404,156

IMIDAZOLIN-2-YL-ALKYL-SUBSTITUTED INDOLES

Sydney Archer, Bethlehem, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 23, 1966, Ser. No. 529,206

3 Claims. (Cl. 260—309.6)

A series of 1-(2-imidazolin-2-ylalkyl)-3-alkylindoles useful as nasal decongestants are prepared by interaction of (3-alkyl-1-indole)-alkanenitriles and ethylene diamine in the presence of a small amount of carbon disulfide.

3,404,157

SUBSTITUTED PYRROLOINDAZOLE COMPOUNDS

Francis Joseph McEvoy, Pearl River, N.Y., James Miller Smith, Jr., Ridgewood, N.J., and Duff Shederic Allen, Jr., Dobbs Ferry, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Feb. 24, 1965, Ser. No. 435,028

19 Claims. (Cl. 260—310)

Compounds of the pyrroloindazole series wherein the ring structure may be substituted in the 1 or 2 and 3, 4, 5, 6, 7, and 8-positions are prepared starting with substituted tetrahydroindoles and ring closing to produce the desired pyrroloindazoles using hydrazine hydrate, methyl hydrazine and similar reagents. The novel compounds are useful as analgesics and anti-inflammatory agents.

3,404,158

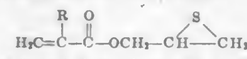
THIOGLYCIDYL COMPOUNDS

Arthur Jun-Shen Yu, Levittown, Pa., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed May 18, 1964, Ser. No. 368,384

3 Claims. (Cl. 260—327)

Thioglycidylacrylates of the formula



where R is selected from hydrogen and alkyl are disclosed. The thioglycidylacrylates can be polymerized through the ethylenically unsaturated groups thereof to form homopolymers with pendant episulfide groups through which they can be cross-linked. Alternatively, the monomers can be polymerized through the episulfide groups thereof to form homopolymers having pendant unsaturated groups through which they can be cross-linked. Also, the monomers can be polymerized with saturated episulfides to form copolymers having pendant unsaturated groups through which they can be cross-linked. Methods of making the monomers and polymers are disclosed. The polymers and copolymers obtained from the instant monomers have desirable mechanical and physical properties that can be varied as might be suitable for different applications, e.g., as sheet materals or as foams.

3,404,159

BIS HETERO METHYLENE MALONONITRILES

Albert F. Strobel, Delmar, and Sigmund C. Catino, Castleton, N.Y., assignors to GAF Corporation, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 242,353, Dec. 5, 1962. This application Dec. 19, 1966, Ser. No. 602,573

11 Claims. (Cl. 260—329)

Substantially colorless compounds which exhibit a prominent absorption peak between 250 mμ and 400 mμ and which are outstanding absorbents for ultra-violet radiation and excellent stabilizers for organic materials against the degradative effect of such radiation are characterized as bis monocyclic heterocyclic methylene malononitriles, said heterocyclics being of the group containing 5 and 6 members in the ring and wherein the hetero atom is at least one of the group of oxygen, nitrogen and sulfur.

3,404,160
BIS HETERO CYANOACRYLATES
Albert F. Strobel, Delmar, and Sigmund C. Catino, Castleton, N.Y., assignors to GAF Corporation, a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 244,023, Dec. 12, 1962. This application Dec. 15, 1966, Ser. No. 601,853
18 Claims. (Cl. 260—332.2)

Substantially colorless compounds which exhibit a prominent absorption peak between 2500 A. and 4000 A. and which are outstanding absorbents for ultra-violet radiation and excellent stabilizers for organic materials to protect them against the degradative effects of such radiation, are characterized as bis (monocyclic heterocyclic) α cyanoacrylates, said heterocycles being of the group containing 5 and 6 members in the ring and wherein the hetero atom is at least one of the group of oxygen, nitrogen and sulfur, and also including dimer forms of such compounds linked with a bivalent bridging radical.

3,404,161
ARYL HETERO CYANOACRYLATES
Albert F. Strobel, Delmar, and Sigmund C. Catino, Castleton, N.Y., assignors to GAF Corporation, a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 247,815, Dec. 28, 1962. This application Dec. 20, 1966, Ser. No. 603,126
16 Claims. (Cl. 260—332.2)

Substantially colorless compounds which exhibit a prominent absorption peak between 2500 A. and 4000 A. and which are outstanding absorbents for ultra-violet radiation and excellent stabilizers for organic materials to protect them against the degradative effects of such radiation, are characterized as α-cyano β-aryl, β-monocyclic heterocyclic acrylates, said heterocycles being of the group containing 5 and 6 members in the ring and wherein the hetero atom is at least one of the group of oxygen, nitrogen and sulfur, and also including dimer forms of such compounds linked with a bivalent bridging radical such as alkylene, phenylene, etc.

3,404,162
PERFLUORO-2-OXO-3,6-DIMETHYL-1,4-DIOXANE
Stanley Selman, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 226,737, Sept. 27, 1962. This application May 26, 1966, Ser. No. 553,049
3 Claims. (Cl. 260—340.2)

1. Perfluoro-2-oxo-3,6-dimethyl-1,4-dioxane.

2. A process for preparing the compound of claim 1 comprising contacting and reacting at a temperature below 100° C. in the presence of an alkali metal fluoride catalyst and an inert aprotic organic solvent, perfluoropyruvyl fluoride with hexafluoropropylene epoxide and obtaining as result thereof said compound of claim 1.

3,404,163
EPOXIDATION PROCESS
Walter M. Budde, Jr., Prior Lake, and William H. French, St. Paul, Minn., assignors to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky
No Drawing. Filed July 2, 1965, Ser. No. 469,347
12 Claims. (Cl. 260—348.5)

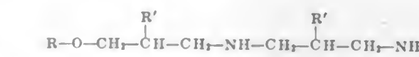
A process of epoxidizing olefinic materials employing a two phase liquid system by reaction of said material in an organic phase with an aliphatic peracid produced in situ in an aqueous phase, wherein the reaction system is agitated during said reaction to promote the reaction while maintaining a single continuous interface between said phases, which process results in improved yields of and conversions to epoxidized materials.

3,404,164
NOVEL SULPHO-SUCCINATE DERIVATIVES OF ETHOXY-STEROLS AND OF ETHOXY-STEROL ESTERS, THEIR PREPARATION AND EMPLOYMENT AS EMOLLIENTS
Kenneth Richard Dutton, New Malden, and Wolfgang Benjamin Reinisch, Kingston-on-Thames, England, assignors to Dutton and Reinisch Limited, London, England
No Drawing. Filed Sept. 8, 1964, Ser. No. 398,469
Claims priority, application Great Britain, Sept. 6, 1963, 35,241/63
(Filed under Rule 47(a) and 35 U.S.C. 116)
9 Claims. (Cl. 260—397.2)

1. The sulpho-succinates of compounds selected from the group consisting of ethoxy-cholesterol, of ethoxy-wool wax alcohols and of ethoxylated lanolin.

3,404,165
ACID SALTS OF ETHER DIAMINES
Walter M. Budde, Jr., Prior Lake, and Jack W. Sigan, Minneapolis, Minn., assignors to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky
No Drawing. Continuation-in-part of application Ser. No. 438,090, Mar. 3, 1965. This application Jan. 10, 1966, Ser. No. 519,531
4 Claims. (Cl. 260—404.5)

Either diamines having the general formula



where R is an aliphatic group having 1 to 13 carbon atoms, and R′ is selected from the group consisting of a hydrogen atom and a methyl group, and acid salts of said ether diamines, are used in corrosion inhibition, for example, in inhibiting the corrosion of various metal surfaces by corrosive fluids.

3,404,166
PROCESS FOR THE PREPARATION OF HYDROXY-ALKENOIC ACIDS
René V. J. Achard and Jacques Morel, Lyon, France, assignors to Rhone-Poulenc S.A., Paris, France, a corporation of France
No Drawing. Filed Jan. 13, 1964, Ser. No. 337,142
Claims priority, application France, Jan. 16, 1963, 921,617
1 Claim. (Cl. 260—413)

Trans-ω-hydroxy-2-alkenoic acids are made from ω-haloalkanols of 2 fewer carbon atoms by oxidation to the corresponding ω-haloalkanal, reaction of the latter with malonic acid or a derivative thereof, followed by decarboxylation and hydrolysis to give the desired acid.

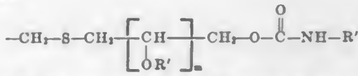
3,404,167
PROCESS FOR PREPARING ORGANOTIN HALIDES
Robert D. Gray, Gloucester, and Simon E. Mayer, Lexington, Mass., assignors to Argus Chemical Corporation, Brooklyn, N.Y., a corporation of New York
No Drawing. Filed Nov. 30, 1964, Ser. No. 414,841
12 Claims. (Cl. 260—429.7)

A process is provided for the preparation of organotin halides wherein an organo halide such as an alkyl, cycloalkyl, or aryl halide is reacted with finely divided tin having a particle size within the range from about 1 to about 300 microns, in the presence of an iodine-containing catalyst. The process can be carried out at temperatures ranging from room temperature to 200° C. and under pressures ranging from atmospheric to 150 p.s.i. Examples of suitable iodine-containing catalysts include elemental iodine, mercuric iodide, zinc iodide, magnesium iodide and butyl iodide.

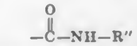
3,404,168
URETHANE MODIFIED MERCAPTOMETHYL SILOXANES
Walter Simmler, Cologne-Mulheim, Hans Niederprum, Monheim, Walter Noll, Leverkusen, and Karl Schnurrbusch, Cologne-Flittard, Germany, assignors to Farbenfabriken Bayer Aktiengeselischaft, Leverkusen, Germany, a German corporation
No Drawing. Filed July 20, 1964, Ser. No. 383,986
Claims priority, application Germany, July 22, 1963, F 40,294
5 Claims. (Cl. 260—448.2)

A urethane modified mercaptomethyl siloxane having the generic formula

wherein n is a numerical value larger than 1 and at most equal to 3, and at least one of the substituents R has the formula



wherein R′ is a member selected from the group consisting of hydrogen and



R″ is a radical remaining after removing one —NCO group from an organic isocyanate; m is a member selected from the group consisting of 0 and 1 and the remainder of the substituents R of the generic formula are monovalent organic radicals. The urethane mercaptomethyl siloxanes can be used as surfactants or emulsifiers.

3,404,169
PREPARATION OF VINYLSILANES BY Si-H-ACETYLENE ADDITION
Maurice Henri Robert Jules Gaignon, Tassin-la-Demi-Lune, and Marcel Joseph Celestin Lefort, Lyon, France, assignors to Rhone-Poulenc S.A., Paris, France, a corporation of France
No Drawing. Filed Dec. 10, 1964, Ser. No. 417,471
Claims priority, application France, Dec. 18, 1964, 957,652
5 Claims. (Cl. 260—448.2)

Vinyl-halosilanes are produced by reaction of acetylene with a halo-hydrogenosilane at atmospheric pressure and elevated temperature in a liquid aromatic diluent in the presence of a platinum catalyst. The vinyl-halosilanes produced can be used in the manufacture of various organosilicon polymers, such as elastomers and resins.

3,404,170
PREPARATION OF ISOCYANATES
Henri Ulrich, North Branford, Conn., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Sept. 27, 1965, Ser. No. 490,650
10 Claims. (Cl. 260—453)

A process for the conversion of an N-hydrocarbylurethane to the corresponding hydrocarbyl isocyanate. The urethane is reacted with phosgene at 25° C. to 180° C. (preferably 80° C. to 150° C.) in the presence of a catalytic quantity of an N,N-dialkyl-aliphatic amide (e.g. dimethylformamide) or an N,N,N′, N′-tetraalkylurea.

3,404,171
PREPARATION OF ALKYL ISOTHIOCYANATES
Henri Ulrich, North Branford, Conn., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Sept. 27, 1965, Ser. No. 490,704
12 Claims. (Cl. 260—454)

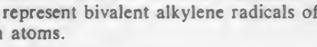
Alkyl (1–12 C atoms) isothiocyanates are prepared by treating the corresponding alkylamine salt of the N-alkyldithiocarbamic acid with phosgene at 0° C. to 20° C. and heating the resulting mixture at 40° C. to 120° C. The alkylamine salts of N-alkyldithiocarbamic acid employed as starting materials can be preformed or formed in situ by reaction of carbon disulfide and the corresponding alkylamine in the molar ratio of 1:2 in an inert solvent. The alkyl isothiocyanates so obtained are known compounds useful as nematocides and insecticides.

3,404,172
PREPARATION OF 2-CHLOROALKYL-ISOTHIOCYANATES
Donald A. Tomalia, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Nov. 29, 1965, Ser. No. 510,377
7 Claims. (Cl. 260—454)

1. A method for the preparation of 2-chloroalkylisothiocyanate which comprises admixing an aziridine with thiophosgene at a reaction temperature between about —10 and 35° C. and recovering 2-chloroalkylisothiocyanate from the reaction mixture.

3,404,173
BIS(ALKYLXANTHATE)-ALKYNES
Nathan A. Edelson, Philadelphia, Pa., assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Feb. 25, 1966, Ser. No. 529,956
3 Claims. (Cl. 260—455)

1. Compounds having the formula:



wherein each of R_1 and R_2 represent the same or different alkyl radicals of from 1 to 4 carbon atoms and each of R_3 and R_4 represent bivalent alkylene radicals of from 1 to 4 carbon atoms.

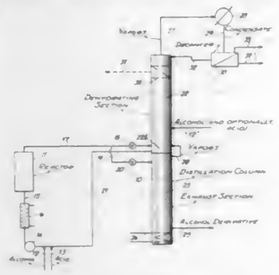
3,404,174
PREPARATION OF UNSATURATED DICARBOXYLIC ACID ESTERS
James C. Wygant, Creve Coeur, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed July 21, 1965, Ser. No. 473,864
The portion of the term of the patent subsequent to Dec. 26, 1984, has been disclaimed
14 Claims. (Cl. 260—485)

This invention relates to a process for the preparation of bis(2,3 - dihydroxypropyl)α,β - ethylenically unsaturated dicarboxylic acid esters. According to this invention bis (2,3 - dihydroxypropyl)α,β - ethylenically unsaturated dicarboxylic acid esters are prepared by a process which comprises reacting an α,β - ethylenically unsaturated dicarboxylic acid with glycidol in an inert organic solvent in the presence of certain basic catalysts and terminating the reaction when the ester product has a certain acid number.

3,404,175
PROCESS FOR FORMING AND SEPARATING ETHERS OR ESTERS BY PLURAL STAGE DISTILLATION WITH REMOVAL OF WATER AS AN AZEOTROPE
Jules Mercier, Melle, Deux-Sevres, France, assignor to Les Usines de Melle (Societe Anonyme), Melle, Deux-Sevres, France, a corporation of France
Filed Mar. 4, 1965, Ser. No. 437,065
Claims priority, application France, Apr. 6, 1964, 969,896
9 Claims. (Cl. 260—488)

Process for the formation and separation of ester or ether derivatives of alcohols by distilling in a two section

distillation column having an upper dehydration section and a lower exhausting section wherein vapors from the exhausting section are passed to the dehydrating section, alcohol containing liquid is removed from the base of the dehydrating section divided into two portions one of which



is returned to the reactor and the other portion to the exhaust section, recovering the ether or ester as product from the bottom of the exhaust section and recovering a heterogenous azeotrope containing water and alcohol overhead. In some instances an auxiliary entrainer is used to remove water overhead in the dehydration section.

3,404,176

PROCESS FOR DIRECT PREPARATION OF ALPHA-KETO ESTERS

Paul E. Burton, Westfield, and Herbert K. Wiese, Cranford, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Jan. 27, 1965, Ser. No. 428,534

26 Claims. (Cl. 260—497)

A one-step process for the preparation of alpha-keto alkyl esters comprising reacting a Type II or IV olefin with a nitrosating agent and a carboxylic acid reactant consisting of either carboxylic acids, carboxylic acid anhydrides, or mixtures thereof in the presence of a strong acid catalyst. The process is conducted most efficiently at pressures ranging from 1 to 75 atmospheres and at temperatures in the range of from about −10 to 100°. Preferably, monocarboxylic acids and monoolefins are used.

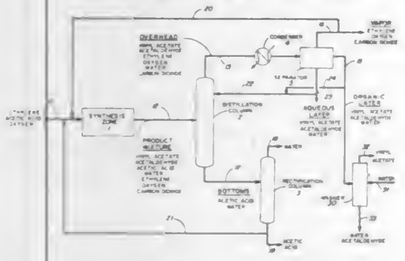
3,404,177

PRODUCING AND RECOVERING VINYL ACETATE FROM A GASEOUS MIXTURE BY FRACTIONAL DISTILLATION

Theodore B. Baba, Hillsdale, N.J., and Irving L. Mador, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

Filed Sept. 2, 1965, Ser. No. 484,631

2 Claims. (Cl. 260—497)



A process for separating vinyl acetate from a gaseous feed mixture comprising vinyl acetate, acetic acid, water, and other gases such as ethylene, oxygen and carbon dioxide, as well as mixtures thereof. The process comprises distilling the gaseous feed mixture at an elevated temperature, recovering a bottom fraction containing acetic acid and a major portion of the water, and an overhead fraction containing vinyl acetate and the other gases. The overhead fraction is cooled to condense the vinyl acetate component which is then recovered. Unreacted acetic acid, ethylene and oxygen may be recycled to a vinyl acetate vapor phase synthesis step.

3,404,178

SUBSTITUTED METHYLENE DIPHOSPHONIC ACIDS AND THEIR SALTS

Clarence H. Roy, Oxford, Conn., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 266,055, Mar. 18, 1963. This application Oct. 7, 1965, Ser. No. 493,925

1 Claim. (Cl. 260—502.4)

Benzyl and carboxymethyl substituted methylene diphosphonic acids and their water-soluble salts as novel compounds useful as detergency builder salts.

3,404,179

PROCESS FOR PREPARING ADIPIC ACIDS BY ALKALINE FUSION OF E - HYDROXY - CAPROIC ACID AND ITS DERIVATIVES

Francis Weiss, Jacques Modiano, and André Lakodey, Pierre-Benite, France, assignors to Societe d'Electro-Chimie, d'Electro-Metallurgie et des Acieries Electriques d'Ugine, Paris, France, a corporation of France

No Drawing. Filed Mar. 12, 1965, Ser. No. 439,431

Claims priority, application France, Mar. 13, 1964, 967,230; Aug. 7, 1964, 984,546; Aug. 10, 1964, 984,670

10 Claims. (Cl. 260—537)

A process for preparing adipic acid by the alkaline fusion of E(epsilon)-hydroxycaproic acid or its derivatives to form an alkaline or alkaline earth adipate and the subsequent conversion of the adipate into adipic acid by an inorganic acid or cation exchanger resin.

3,404,180

MANUFACTURE OF CARBONYL FLUORIDE

Kenneth Lester Cordes, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 31, 1964, Ser. No. 422,497

2 Claims. (Cl. 260—544)

Carbonyl fluoride of high purity can be produced by a process in which C_2F_4 and O_2 are mixed in stoichiometric proportions and reacted at 200–450° C. in a diluent and heat sink of 10–100 moles of carbonyl fluoride per mole of O_2. The reaction is nearly quantitative and produces a product that is about 99% carbonyl fluoride.

3,404,181

PRODUCTION OF CYCLODODECANONE OXIME

Horst Metzger, Ludwigshafen (Rhine), Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed July 29, 1963, Ser. No. 298,471

Claims priority, application Germany, Aug. 4, 1962, B 68,311

1 Claim. (Cl. 260—566)

1. A process for preparing cyclododecanone oxime comprising reacting 2-chlorocyclododecanone oxime with hydrogen in the presence of hydrogen chloride, a palladium hydrogenation catalyst and an inert solvent, and separating cyclododecanone oxime from the reaction mixture.

3,404,182

PROCESS FOR THE PREPARATION OF CYCLOHEXANONEOXIME

Giuseppe Ribaldone, Gallarate, Varese, and Corrado Brichta and Adriano Nenz, Milan, Italy, assignors, by mesne assignments, to Montecatini Edison S.p.A., Milan, Italy

No Drawing. Filed Apr. 10, 1963, Ser. No. 271,860

Claims priority, application Italy, Apr. 11, 1962, 7,150/62; Dec. 28, 1962, 25,490/62

4 Claims. (Cl. 260—566)

1. A process for preparing cyclo-hexanone-oxime, reacting 2-chlorocyclohexanone oxime in the presence of a strong acid selected from the group consisting of sulfuric acid, hydrochloric acid, phosphoric acid, benzenesulfonic acid and p-toluenesulfonic acid and of an organic polar solvent capable of dissolving the 2-chlorocyclohexanone oxime and its salt in said strong acid and selected from the group consisting of acetic acid, ethyl alcohol and methylene chloride with hydrogen in the presence of a hydrogenation catalyst comprising the element palladium, at a temperature in the range of between 0° C. and 70° C., the equivalent ratio between said strong acid and said 2-chlorocyclohexanone oxime being greater than 1:1, and separating said cyclohexanone oxime from the reaction mixture.

3,404,183

MONO- AND DIALKOXYALKYL QUATERNARY AMMONIUM COMPOUNDS

Graham K. Hughes, Minneapolis, Minn., assignor to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky

No Drawing. Filed Apr. 22, 1966, Ser. No. 544,415

11 Claims. (Cl. 260—567.6)

Quaternary ammonium compounds useful as fabric softeners and surfactants containing as one ammonium nitrogen substituent, a long chain alkoxyalkyl group having a total of 15 to 23 carbon and oxygen atoms and 1 to 3 oxygen atoms; a second ammonium nitrogen substituent being an alkoxyalkyl group as described above, or an alkyl group having 15 to 23 carbon atoms; and the remaining two ammonium substituents being lower alkyl groups.

3,404,184

DIMETHOXYHEXANITROBIPHENYL AND PROCESS FOR PRODUCING SAME AND DIAMINOHEXANITROBIPHENYL

Robert E. Oesterling, Adelphi, Md., Joseph C. Dacons, Washington, D.C., and Lloyd A. Kaplan, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed May 28, 1964, Ser. No. 371,139

16 Claims. (Cl. 260—581)

1. The compound 3,3′-dimethoxy-2,2′,4,4′,6,6′-hexanitrobiphenyl.

2. The method of preparing 3,3′-diamino-2,2′,4,4′,6,6′-hexanitrobiphenyl which comprises:

(a) nitrating a m-haloanisole to obtain 3-halo-2,4,6-trinitroanisole, said halo substituent being selected from the group consisting of chlorine, bromine and iodine;

(b) condensing two molecules of said 3-halo-2,4,6-trinitroanisole by reaction thereof with a slurry comprising copper powder and a diluent to obtain 3,3′-dimethoxy-2,2′,4,4′,6,6′-hexanitrobiphenyl; and

(c) aminating said 3,3′-dimethoxy-2,2′,4,4′,6,6′-hexanitrobiphenyl to obtain 3,3′-diamino-2,2′,4,4′,6,6′-hexanitrobiphenyl.

3,404,185

CHROMIUM AMINE COMPLEX CATALYZED OXIDATION OF CYCLIC HYDROCARBONS TO KETONES

Donald C. Thomas and Joe T. Adams, St. Albans, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 29, 1964, Ser. No. 363,584

6 Claims. (Cl. 260—586)

Cyclic hydrocarbons, especially tetrahydronaphthalene and cyclohexane are oxidized to their corresponding ketones with gaseous oxygen in the presence of novel chromium amine catalyst complexes, especially chromium acetate 2-methyl-5-ethylpyridine.

3,404,186

RECOVERY OF ETHANOL FROM A METHYL ETHYL KETONE-ETHYL ACETATE FRACTION SUCH AS PRODUCED BY HYDROCARBON OXIDATION

Walton W. Bailey, Edward P. Maglaughlin, and William H. Nichols, Pampa, Tex., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 7, 1966, Ser. No. 525,360

10 Claims. (Cl. 260—593)

A fraction comprising methyl ethyl ketone and ethyl acetate is resolved into separate components including ethanol and methyl ethyl ketone by a method which comprises hydrolyzing the fraction; recovering from the hydrolysis product a mixture comprising ethanol and methyl ethyl ketone; adding water to the mixture; and extracting with a hydrocarbon whereby the methyl ethyl ketone is recovered in the extract and the ethanol in the raffinate. A particularly useful embodiment is application of the method to the recovery of ethanol from a methyl ethyl ketone-ethyl acetate fraction produced in the liquid-phase oxidation of hydrocarbons such as butane; in this embodiment the methyl ethyl ketone in the extract can be recycled to the liquid-phase oxidation reaction system as desired.

3,404,187

ETHERS OF HYDROXYALKYL PHOSPHINE OXIDES AND THE PREPARATION THEREOF

Ehrenfried H. Kober and Gerhard F. Ottmann, Hamden, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Mar. 10, 1965, Ser. No. 438,728

7 Claims. (Cl. 260—606.5)

Ethers of hydroxyalkyl phosphine oxides are prepared by reacting tris(hydroxymethyl-phosphine oxide with glycidol in the presence of a condensing catalyst, such as a Friedel-Crafts catalyst. The molar ratio of glycidol to said phosphine oxide is in the range of about 2.1:1 and about 15:1. Compounds of this type are useful as polyols in the preparation of polyurethane foams and resins, and as a fluid base stock for fire resistant, water-base, hydraulic fluids.

3,404,188

PROCESS FOR THE PREPARATION OF POLYHYDRIC ALCOHOLS

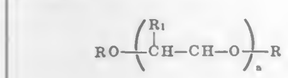
Walter Reynolds Privette, La Grange, Ill., and James Eli Knap, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Nov. 1, 1963, Ser. No. 320,916

11 Claims. (Cl. 260—617)

1. In a hydroformylation process wherein olefinic compounds having 5 to about 15 carbon atoms and containing at least two conjugated double bonds per molecule are contacted in an initial reaction zone with the carbon monoxide and hydrogen in the presence of a cobalt-containing hydroformylation catalyst at a temperature of from about 100° C. to about 250° C., thereby producing a crude hydroformylation product comprising aldehydes, which is subsequently decobalted, and the aldehydes hy-

drogenated to alcohols, the improvement in said process comprising conducting said hydroformylation and hydrogenation in the presence of a glycol ether solvent wherein the ratio of the solvent to the olefinic compounds is from about 1 to 1 to about 3 to 1, said glycol ether solvent having the formula:



wherein R_1 represents a member selected from the group consisting of hydrogen and methyl; R represents a member selected from the group consisting of hydrogen and alkyl of from 1 to 10 carbon atoms with the proviso that both R's are not hydrogen; and *n* represents a whole positive integer of from 1 to 4; whereby the ratio of polyhydric alcohols to monohydric alcohols formed by said process is maximized.

3,404,189

PREPARATION OF FLUORINATED ALKYL IODIDES BY SELECTIVE TELOMERIZATION

Walter Blochl, Karlsruhe, Germany, assignor to FMC Corporation, New York, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 417,227, Dec. 9, 1964. This application Nov. 4, 1966, Ser. No. 603,072

12 Claims. (Cl. 260—653.1)

One to one addition of a fluorinated alkyl iodide to tetrafluoroethylene is effected by conducting the reaction in the gaseous state at about 240° C.–450° C. for residence periods of about 3 seconds to about 10 minutes at no greater pressure than about atmospheric.

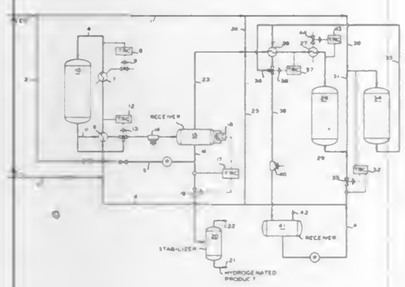
3,404,190

HYDROGENATION

Oliver P. Proctor, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Feb. 21, 1966, Ser. No. 529,054

2 Claims. (Cl. 260—667)



A method of hydrogenating a relatively pure feedstream such as a benzene stream with a relatively impure hydrogen stream wherein the stream of hydrogen is passed serially through at least two hydrogenation zones, and the pure feedstream is passed serially through the hydrogenation zones to form intermediate hydrogenation product streams in a manner so that a first portion of the most hydrogenated intermediate product stream is contacted with the richest hydrogen-containing stream in a hydrogenation zone and a second portion of the most hydrogenated intermediate product stream is recycled to the pure feed stream entering the process.

3,404,191

METHOD OF PREPARING AROMATIC HYDROCARBONS FROM CYCLOPENTADIENE COMPOUNDS

Frederick J. Soderquist, Essexville, Harold D. Boyce, Coleman, and Maurice W. Putman, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 27, 1966, Ser. No. 604,553

14 Claims. (Cl. 260—673)

A process for converting cyclopentadiene hydrocarbons to aromatic hydrocarbons by conducting a mixture of a diluent, such as steam, and cyclopentadiene hydrocarbons through a first reaction zone maintained at a temperature range of from about 250° to 400° C. and conducting the hot effluent from the first reaction zone through a second reaction zone maintained at about 700° to 900° C. and separating the resultant aromatic hydrocarbons from the hydrocarbon product phase.

3,404,192

PROCESS FOR SELECTIVE HYDROGENATION OF OLEFINS WITH DEACTIVATED ZEOLITE CATALYST

Stephen M. Kovach, Highland, Ind., assignor to Sinclair Research, Inc., Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 7, 1962, Ser. No. 177,989

5 Claims. (Cl. 260—676)

1. A process for selective hydrogenation of a straight chain olefin from a mixture of straight chain and branch chain olefins, which consists essentially of contacting said mixture under hydrogenation conditions with hydrogen, and a solid crystalline zeolite having a uniform pore size sufficiently large to admit said straight chain olefin, but sufficiently small to exclude said branch chain olefin, and containing a platinum hydrogenation component as the result of combining said solid crystalline zeolite having said uniform pore size with aqueous chloroplatinic acid and calcining the resulting composite at a temperature of about 750 to 1200° F., the external exposed surfaces of said zeolite having been poisoned with a poisoning compound of such molecular size and shape as to be excluded from entering the pores of the zeolite and making contact with said hydrogenation component on the interior thereof, and effecting catalytic hydrogenation of the straight chain olefin admitted to contact with said hydrogenation component to a hydrogenated product.

3,404,193

DEHYDROGENATION OF HYDROCARBONS

Laimonis Bajars, Princeton, N.J., assignor to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware

No Drawing. Continuation-in-part of applications Ser. No. 52,776, Aug. 30, 1960; Ser. No. 72,327, Nov. 29, 1960; Ser. No. 145,992 and Ser. No. 145,993, Oct. 18, 1961; Ser. No. 156,953 and Ser. No. 156,956, Dec. 4, 1961; and Ser. No. 196,870, May 23, 1962. This application Dec. 4, 1962, Ser. No. 242,094

6 Claims. (Cl. 260—680)

1. The method for dehydrogenating aliphatic hydrocarbons of 4 to 6 carbon atoms which comprises heating in the vapor phase at a temperature of greater than 400° C. the aliphatic hydrocarbons with oxygen in a molar ratio of at least one-fourth mol of oxygen per mol of said aliphatic hydrocarbons, iodine in a molar ratio of at least about 0.001 mol of iodine per mol of said aliphatic hydrocarbons, the partial pressure of said aliphatic hydrocarbons being equivalent to less than about 10 inches mercury at one atmosphere total pressure, with an aluminum oxide catalyst.

3,404,194

METHOD FOR CONVERTING ETHYLENE TO HIGHER MOLECULAR WEIGHT HYDROCARBONS

Donald L. Crain and Robert E. Reusser, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Apr. 30, 1965, Ser. No. 452,337

7 Claims. (Cl. 260—683.15)

Organomagnesium halide compounds obtained by heating an ether solution of an organomagnesium halide to drive off the ether are mixed with an organolithium compound to form a catalyst which is used for converting ethylene to higher hydrocarbons, principally 1-olefins.

3,404,195

PROCESS FOR IMPROVING THE THERMAL PROPERTIES OF HARDENED EPOXIDE RESINS

Erwin Weinrich, Dusseldorf-Holthausen, Germany, assignor to Henkel & Cie GmbH., Dusseldorf-Holthausen, Germany, a corporation of Germany

No Drawing. Filed Dec. 20, 1966, Ser. No. 603,100

Claims priority, application Germany, Apr. 6, 1966, H 59,035

6 Claims. (Cl. 260—830)

This invention relates to a novel process for improving the thermal properties of hardened epoxide resins without substantially effecting the mechanical properties which comprises reacting glycidylethers of polyhydric phenols with organic dicarboxylic acid anhydrides and up to 40% by weight of a crystallized triglycidyl isocyanurate while being molded.

3,404,196

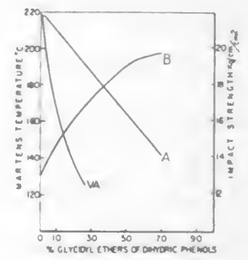
PROCESS FOR IMPROVING THE PROPERTIES OF HARDENED ELASTIC EPOXIDE RESINS

Erwin Weinrich, Dusseldorf-Holthausen, Germany, assignor to Henkel & Cie GmbH, Dusseldorf-Holthausen, Germany, a corporation of Germany

Filed Dec. 20, 1966, Ser. No. 603,210

Claims priority, application Germany, Feb. 16, 1966, H 58,571

6 Claims. (Cl. 260—830)



This invention relates to a new process for improving the mechanical properties of hardened epoxide resins without substantially effecting their thermal properties which comprises reacting crystallized triglycidyl isocyanurates with di- or polycarboxylic acid anhydrides and up to 60% by weight of a glycidyl ether of a dihydric phenol during the molding.

3,404,197

COATING COMPOSITIONS COMPRISING A MIXTURE OF: (1) A PHENOL-FORMALDEHYDE RESIN; (2) A MELAMINE-ALDEHYDE RESIN; (3) A POLYISOCYANATE AND (4) A BLEND OF HIGH AND LOW MOLECULAR WEIGHT POLYVINYL FORMAL RESINS

Lionel J. Payette, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Oct. 10, 1966, Ser. No. 585,257

9 Claims. (Cl. 260—839)

Higher wire coating speeds and curing temperatures are possible with polyvinyl formal resin base coating compositions when blends of high and low molecular weight polyvinyl formal resins are used.

3,404,198

PHENOL-FORMALDEHYDE-UREA RESIN AND METHOD OF PREPARATION

Vernon L. Guyer, Minneapolis, Minn., assignor to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky

No Drawing. Filed July 30, 1965, Ser. No. 476,164

7 Claims. (Cl. 260—840)

A phenolic resin is prepared by condensing a mixture containing 2.6 to 4.0 moles (preferably 2.85 to 3.4 moles) of formaldehyde (F) for each combined mole of phenol (P) and urea (U), the urea component amounting to 4 to 17 percent (preferably 9 to 12 percent) by weight (on a charge basis) of the final resin product. When the water miscibility of the reaction product is reduced 3 to 5-fold, an acidic material is added to reduce the pH to 4 to 7, the resulting acidified reaction mixture is heated to remove excess water and to produce a reaction product having a viscosity between S and Z on the Gardner-Holdt scale. The resulting reaction product is useful as a hot-box core binder.

3,404,199

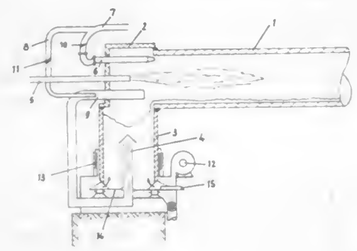
HEATING PROCESS IN A ROTARY KILN

Friedrich Hoffmann, Wulfrath, Germany, assignor to Rheinische Kalkstein-Werke G.m.b.H., Wulfrath, Germany

Filed Sept. 26, 1966, Ser. No. 582,064

Claims priority, application Germany, Oct. 1, 1965, R 41,662

5 Claims. (Cl. 263—52)



In the calcination of refractories in a rotary kiln, two secondary air flows are blown into the kiln separately and spaced from the flame; one of said flows is heated in the cooler to a temperature which is less than 200° C. below the temperature of the charge leaving the kiln and injected between the flame and the charge, and the other of said flows is less hot and injected between the flame and the upper wall of the kiln.

3,404,200
METHOD OF PREPARING A CERMET NUCLEAR FUEL

Carl A. Burgess, Kennewick, Wash., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Aug. 8, 1967, Ser. No. 659,572
5 Claims. (Cl. 264—.5)

A method of preparing a cermet nuclear fuel comprising preparing rounded particles of stoichiometric plutonium dioxide or uranium dioxide or mixtures thereof having a density substantially less than theoretical, mixing these particles with metal particles, compressing the mixture into pellets, loading the pellets into a heavy can, and coextruding the can and contents.

3,404,201
METHOD OF MAKING SINTERED NUCLEAR FUEL PELLETS, IN PARTICULAR CONSISTING OF URANIUM DIOXIDE

Camille Braun, Itteville, and Roger Delmas and Bernard François, Grenoble, France, assignors to Commissariat à l'Energie Atomique, Paris, France, an organization of France

Filed Feb. 21, 1966, Ser. No. 529,143
Claims priority, application France, Feb. 22, 1965, 6,520
7 Claims. (Cl. 264—.5)

The fuel is made from a powder by preforming an element by subjecting this powder to pressure, and then sintering the element under an increasing temperature to obtain the sintered fuel having an intergranular microstructure. The parameters of powder fineness and rate of heating up during sintering are first chosen from fairly wide ranges. Then the preforming pressure for the element is determined, for the chosen powder fineness and rate of heating up, which will be necessary to ensure that the desired microstructure will be obtained on sintering, this preforming pressure being the important parameter.

3,404,202
ELECTRIC RESISTANCE HEATER AND METHOD OF MAKING

Ronald J. Carlson, Galloway, and Charles C. Simons, Columbus, Ohio, assignors, by mesne assignments, to Basic Incorporated, Cleveland, Ohio, a corporation of Ohio

Filed Nov. 6, 1964, Ser. No. 409,486
11 Claims. (Cl. 264—84)

A method of making an electrical resistance heater from silicon carbide particles in which a body of such particles is closely packed in a sealed container and subjected to explosive compaction. The container is then removed and the heater element is subjected to further heating to provide a substantially completely metallurgically bonded resistance heater of silicon carbide particles.

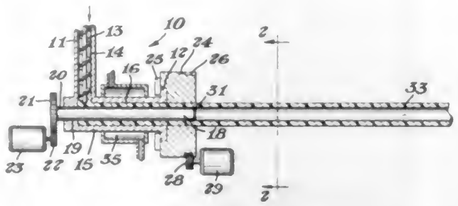
3,404,203
METHOD OF EXTRUDING BI-HELICALLY ORIENTED THERMOPLASTIC TUBE

Harold Jack Donald, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Continuation-in-part of application Ser. No. 363,039, Apr. 3, 1964. This application Jan. 28, 1965, Ser. No. 429,957
4 Claims. (Cl. 264—108)

1. In a method for the extrusion of a thermoplastic resinous tube comprising

extruding a heat plastified thermoplastic resinous material through an annular die, the annular die orifice being defined by inner and outer orifice walls, and subsequently cooling the heat plastified thermoplastic material below its heat plastifying temperature to provide a generally cylindrical tube having a diameter about equal to the diameter of the die orifice, the improvement which comprises rotating the orifice walls in opposite directions thereby and molecularly orienting the heat



plastified thermoplastic material adjacent the inner and outer walls as it is discharged from the extrusion orifice in a generally helical manner, the helical pattern of orientation adjacent the inner surface of the tube being of opposite hand than the helical pattern adjacent the outer surface.

3,404,204
METHOD OF PRODUCING HIGH-SHRINKAGE ACRYLIC FIBERS

Kazumi Nakagawa, Keitaro Shimoda, and Koji Miyashita, Saidaiji, Japan, assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Mar. 1, 1965, Ser. No. 436,285
Claims priority, application Japan, Mar. 7, 1964, 39/12,693; Mar. 9, 1964, 39/13,169
4 Claims. (Cl. 264—210)

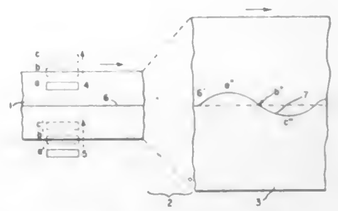
In the process of preparing fibers of acrylonitrile polymer comprising the steps of wet-spinning said polymer to form a tow of wet gel fibers, stretching the wet gel fibers in said tow, dehydrating and collapsing the wet gel fibers in said tow, treating the thus dehydrated and collapsed fibers in a relaxed free-to-shrink condition with steam at about 110° C. to about 140° C., and drying the thus relaxed fibers; the improvement comprising: (a) subsequent to stretching the wet gel fibers and prior to relaxing the fibers with steam, preheating said fibers with an aqueous medium to between 60° C. to 95° C. and mechanically crimping the thus preheated fibers and (b) restretching the dried relaxed fibers 1.15× to 1.35× at 100° C. to 260° C. in a dry atmosphere.

3,404,205
ROLL FORMATION CHARACTERISTICS OF CONTINUOUS FILM

John Le Roy Ballard, Columbus, Ohio, and Bruce James Case, Southport, Conn., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 13, 1964, Ser. No. 359,168
5 Claims. (Cl. 264—289)

A continuous travelling web of a drawable, organic polymer flat film having at least one substantially straight longitudinal lane of a thickness which deviates from the average thickness across the film is continuously heated, or cooled, along edge lanes of the film just prior to, or in the initial stage of transverse drawing, of the film, by either subjecting the film to uniform heating or cooling in longitudinal sinuous paths, or by subjecting the film in longitudinal paths to cyclically increasing and decreasing levels of heating or cooling, whereby to continuously



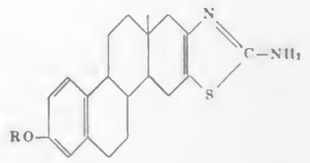
and cyclically modify to a predetermined degree the drawing characteristics of the film.

3,404,206
NOVEL 2'-AMINO-THIAZOLO STEROIDS

Daniel Bertin, Montrouge, and Jacques Perronnet, Paris, France, assignors to Roussel-UCLAF, Paris, France, a corporation of France

No Drawing. Filed July 21, 1966, Ser. No. 566,740
Claims priority, application France, July 23, 1965, 25,797; Oct. 21, 1965, 35,779
15 Claims. (Cl. 424—241)

1. A 2'-amino-thiazolo-[5',4'-16,17]-$\Delta^{1,3,5(10),16}$-estratetraene of the formula



wherein R is selected from the group consisting of hydrogen, alkyl of 1 to 8 carbon atoms and phenyl alkyl with 1 to 2 alkyl carbon atoms.

14. A method of curbing excessive hypophysial activity in warm-blooded animals with comprises administering to warm-blooded animals a safe and effective amount of at least one 2'-amino-thiazolo-[5',4'-16,17]-$\Delta^{1,3,5(10),16}$-estratetraene of claim 1.

3,404,207
BIS CARBANILATES

Joseph W. Baker and Kenneth L. Godfrey, Kirkwood, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed June 8, 1964, Ser. No. 373,551
9 Claims. (Cl. 424—300)

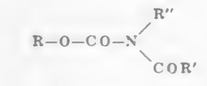
This disclosure covers a class of new compounds wherein a pair of carbanilic groups are separated by a glycol bridge which is formed from 2,2'-methylenebis(substituted phenol). These compounds have been found to be useful in the control of certain bacteria and fungi.

3,404,208
PESTICIDAL N-ACYL-N-LOWER ALKYL CARBAMATES OF PHENOLS AND NAPHTHOLS WITH DECREASED MAMMALIAN TOXICITY

William Alexander Hamilton Robertson, Londonderry, North Ireland, Patrick Geoffrey Clinch, Wellington, New Zealand, and James Fraser, Nottingham, England, assignors to Boots Pure Drug Company Limited, Nottingham, England

No Drawing. Continuation-in-part of applications Ser. No. 278,464, May 6, 1963, and Ser. No. 398,109, Sept. 21, 1964. This application Aug. 17, 1965, Ser. No. 480,499
Claims priority, application Great Britain, May 24, 1962, 20,033/62
19 Claims. (Cl. 424—300)

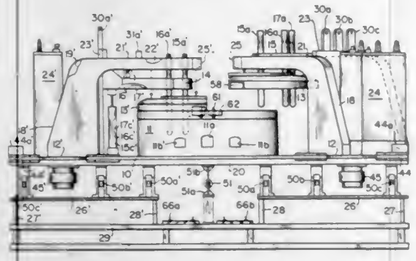
1. A pesticidal composition which comprises a conventional pesticide adjuvant and a pesticidally effective amount of a compound of the formula



in which R″ is lower alkyl; R is a radical selected from the group consisting of naphthyl, phenyl, and phenyl containing at least one substituent selected from the group consisting of lower alkyl, lower alkoxy, lower cycloalkyloxy, lower cycloalkyl, lower cycloalkenyl, lower alkenyl, lower alkylthio, phenyl-lower alkyl, phenyl-lower alkoxy, phenyl-lower alkylthio, di-(lower alkyl)amino, nitro, hydroxy, phenyl, halogen and the radical —OCON(R″)COR′; and R′ is a radical selected from the group consisting of alkyl with less than 16 carbon atoms, alkenyl with less than 16 carbon atoms, halogenated alkyl with less than 16 carbon atoms, phenyl, lower alkyl-phenyl, halophenyl, hydroxyphenyl, nitrophenyl, lower alkoxy-lower alkyl, lower alkoxy-lower alkoxy-lower alkyl, phenyl-lower alkoxy-lower alkyl, lower alkylthio-lower alkyl, lower alkylsulphinyl-lower alkyl, lower alkylsulphonyl-lower alkyl, nitrophenyl-lower alkyl, aminophenyl-lower alkyl, phenoxy-lower alkyl, lower alkylphenoxy-lower alkyl, lower alkoxyphenoxy-lower alkyl, halophenoxy-lower alkyl, phenylthio-lower alkyl, lower alkyphenylthio-lower alkyl, lower alkoxyphenylthio-lower alkyl, halophenylthio-lower alkyl, thiocyanato-lower alkyl, phenylsulphinyl-lower alkyl, lower alkyl phenysulphinyl-lower alkyl, lower alkoxy phenylsulphinyl-lower alkyl, halophenylsulphinyl-lower alkyl, phenylsulphonyl-lower alkyl, lower alkyl phenylsulphonyl-lower alkyl, lower alkoxy phenylsulphonyl-lower alkyl, halophenylsulphonyl-lower alkyl, carboxyl (in a form selected from the free acid salts thereof, and lower alkyl esters thereof), carboxy-lower alkyl (in a form selected from the free acid, salts thereof, and lower alkyl esters thereof, sulphoalkyl (in a form selected from the free acid, salts thereof, lower alkyl esters thereof), benzyl esters thereof and phenyl esters thereof and the radical $\geqslant N^+ (X^-)$-alk- in which the individual valency bonds of the nitrogen atom taken separately are linked with radicals selected from the group consisting of lower alkyl, lower cycloalkyl, phenyl and phenyl-lower alkyl, alk is lower alkylene, and X is a quaternising anion.

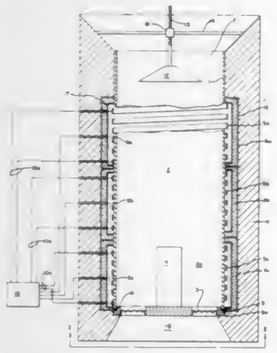
ELECTRICAL

3,404,209
FURNACE CONSTRUCTION AND UTILIZATION
Frank Wharton Brooke, King Edward Apartments, Pittsburgh, Pa. 15213
Filed May 25, 1965, Ser. No. 458,620
15 Claims. (Cl. 13—10)



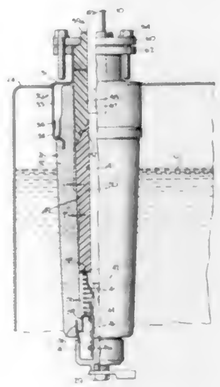
An arc furnace for continuous melting of metals and alloys having a sectioned roof. Each section has its own electrical equipment and is suspended separately to swing-away for charging materials after which the section is re-aligned to an operating position. Meanwhile heat generation proceeds in the closed off section so that pouring and slagging may be accomplished without interruption of the heat. The furnace roof sections, their handling and electrical equipment are all arranged in a balanced relation with respect to each other.

3,404,210
MELTING FURNACE
George K. Weber, Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed June 23, 1967, Ser. No. 648,437
7 Claims. (Cl. 13—22)



A furnace to melt a thermoplastic material including a crucible defining a chamber in which thermoplastic material is melted, the crucible being provided with heating means so selected segments of the outer surface of the crucible can be heated to different temperatures to maintain the molten thermoplastic material at different temperatures in different portions of the chamber. The crucible further includes a baffle arrangement to restrict formation of undesirable convection currents in the molten pool and also includes a multiplicity of orifices to provide means to withdraw the material from the chamber in the form of fine filaments.

3,404,211
HERMETICALLY SEALED ELECTRICAL TRANSFORMER CONNECTIONS
Carlton T. Nicholson, Orchard Park, N.Y., assignor to Niagara Mohawk Power Corporation, Buffalo, N.Y., a corporation of New York
Filed Jan. 10, 1964, Ser. No. 336,957
6 Claims. (Cl. 174—18)

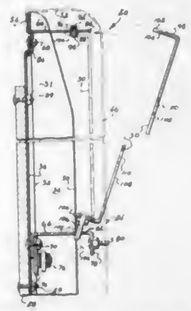


1. A transformer for buried installation in underground electrical distribution systems, comprising a hermetically sealed corrosion resistant, transformer housing having a selected quantity of oil therein, and at least one cable entrance connector on said housing, said connector comprising a hermetic insulating bushing hermetically sealed to said housing and having an aperture for receiving an end of a cable, a readily-releasable frictional engaging means within and at one end of said aperture for engaging the end of said cable, resilient insulating means in said aperture in engagement with said bushing and engageable with said cable, means on said housing engageable with said resilient insulating means for compressing said resilient insulating means, a moisture-impervious secondary cable connecting means including a further bushing mounted on and sealed to said housing, a water-proof sleeve secured at one end thereof to said further bushing and adapted to extend around an end of a secondary cable, means for securing the other end of said sleeve to said secondary cable, and a removable plastic, insulating material filling said sleeve.

3,404,212
TERMINAL DEVICE FOR WIRE OR CABLE FACILITIES
Jules A. Mack, Conover, N.C., and Kay C. Tompers, Dallas, Tex., assignors to Superior Continental Corporation, a corporation of Delaware
Filed Jan. 13, 1965, Ser. No. 425,264
11 Claims. (Cl. 174—38)

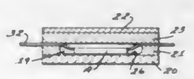
A terminal device for housing and providing access to the interconnections of electrical components of wiring systems. A mounting bracket is pivotally and swingably mounted on spaced support members in the housing to

permit easy access to the interconnections mounted thereon. The bracket is provided with key hole slots to provide better mounting means for connector blocks without requiring removal of the mounting elements secured to



the blocks. The housing parts are further made of glass fibres bonded together by a plastic which can be assembled and secured without the use of tools. A single, simple locking device is manipulated by a special wrench to make the housing temper proof.

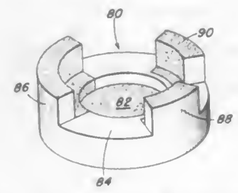
3,404,213
HERMETIC PACKAGES FOR ELECTRONIC COMPONENTS
George B. Brookover and Carl J. Hudecek, Toledo, and John H. Oliver, Maumee, Ohio, assignors, by mesne assignments, to Owens-Illinois, Inc., a corporation of Ohio
Filed July 26, 1962, Ser. No. 212,563
3 Claims. (Cl. 174—52)



1. A hermetic enclosure for an electronic component having extended lead wires, said enclosure consisting of a pair of metal plates, said metal plates having a common perimetrical design, one of said metal plates being thicker than the other of said metal plates, an endless solder glass rib joining said metal plates in spaced apart relation and defining a hermetically sealed recess in which said electrical component is received, an electrical component having extended wire leads, said component being in said recess and on the thicker of said metal plates, said glass solder rib insulatingly separating, holding and surrounding each of the wire leads of said electronic component and spacedly joining said metal plates together, said solder glass rib having thermal expansion characteristics matching the thermal expansion characteristics of said metal plates.

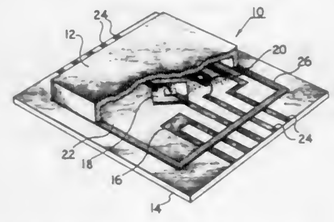
3,404,214
FLAT PACKAGE FOR SEMICONDUCTORS
Charles G. Elliott, Setauket, N.Y., assignor to Alloys Unlimited, Inc., Melville, N.Y.
Filed July 17, 1967, Ser. No. 653,931
6 Claims. (Cl. 174—52)

Square or rectangular flat packages which can be inverted and bonded directly to printed circuit boards and the like (often called "flip packages") without external wire connections are described in applicant's U.S. Patent No. 3,271,507. By means of grooves and selective unmetallized sections which define discrete conductive areas, all connections to the semiconductive device are made within the package. It has now been discovered that by changing the basic package configuration from square to round, and making the packages somewhat larger, substantial cost advantages are obtained. These packages embrace a novel design which has many applications where space is not such a limiting factor but cost is. Advantages



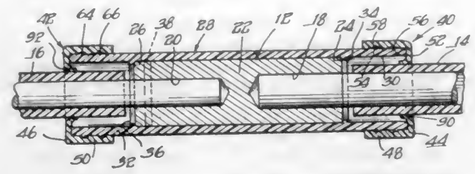
of this new design to the manufacturer include elimination of the grooving step and simplification of metallizing and other procedures. Advantages to the user include adaptability to automatic handling equipment and greater freedom in circuit design.

3,404,215
HERMETICALLY SEALED ELECTRONIC MODULE
Darnall P. Burks and Jacob H. Martin, Williamstown, Mass., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Apr. 14, 1966, Ser. No. 542,609
1 Claim. (Cl. 174—52)



A nonconducting substrate having conductive terminals affixed thereto is provided with a ring of insulating material which surrounds an area of the substrate and overlies the terminals extending from that area. At least one component is located within the surrounded area and electrically connected to one of the terminals within the area. A shell encloses the surrounded area and is sealed to the substrate by metallic means in association with the insulating ring.

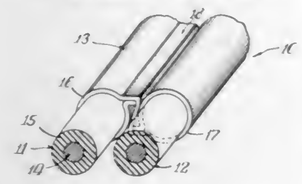
3,404,216
INSULATED COMPRESSION SLEEVE
Paul F. Amann and Lester R. Crane, Erie, Pa., assignors to Penn-Western Electric Corporation, Hawthorne, Calif., a corporation of Pennsylvania
Filed Dec. 22, 1967, Ser. No. 692,872
2 Claims. (Cl. 174—84)



There is disclosed a compression sleeve type electrical connector having a sheath or sleeve of plastic insulated material telescoped thereover. Rib means project between the connector and the sheath at opposite ends thereof for retaining the parts in assembled relationship. Caps are

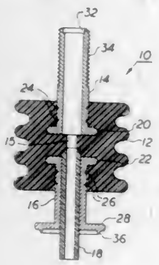
assembled over opposite ends of the sheath and interengaging rib and groove means are provided between the sheath and the caps for retaining the caps.

3,404,217
MULTICONDUCTOR CABLE AND METHOD OF FORMING THE SAME
William D. Kelly, 12 Blodgett St., Clarendon Hills, Ill. 60514
Filed Oct. 2, 1967, Ser. No. 672,281
14 Claims. (Cl. 174—103)



A multiconductor cable and method of forming the same. The cable comprises a pair of insulated wires retained in spaced association by a conduit which is formed about the respective wires and includes a connecting portion providing facilitated manufacture and defining interlocking means for maintaining the wrapped configuration of the conduit relative to the wires.

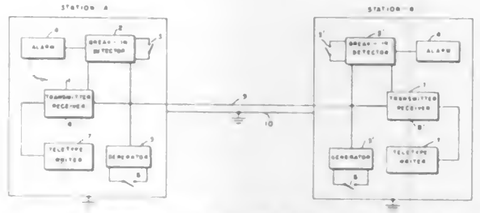
3,404,218
WELDABLE HIGH VOLTAGE TERMINAL
Philip B. Thompson, Pownal Center, Vt., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Dec. 21, 1966, Ser. No. 603,538
1 Claim. (Cl. 174—177)



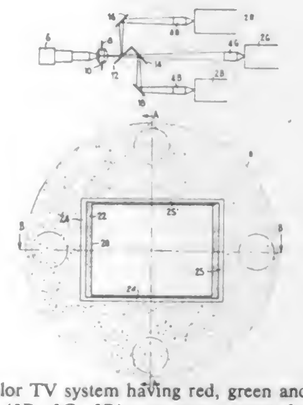
The terminal is provided by a generally cylindrical bushing of organic polymeric material having extended metal inserts whose diameters within the bushing are less than two-thirds that of the adjacent bushing and at least one of which has a weldable flange at the extended end thereof.

3,404,219
IN-BAND BREAK-IN SYSTEM
Robert A. Couturier, Stamford, Conn., assignor to the United States of America as represented by the Secretary of the Army
Filed May 20, 1964, Ser. No. 369,030
3 Claims. (Cl. 178—4.1)

A system for interrupting a going transmission on a two-wire voice-frequency telegraph network is disclosed. In a half duplex system only one station can send at a time. For any one of a number of reasons the receiving station may desire to interrupt the sending station. The only means by which the receiving station can break-in is by using the available pair of wires and the allocated band of frequencies. In the disclosed system each communication site is provided with a tone generator and a tone detector. The frequency of the tone from the tone generators is selected to be as far removed as possible from the lowest channel frequency without going outside the allocated frequency band. The detector comprises of a filter, an amplifier, a rectifier, an integrator, and a bistable device, all connected in series to the transmission line. An alarm is connected to the output of the detector. When the receiving station wishes to break-in, the tone generator at the receiving station is turned on. This tone is picked up by the detectors at both sites. The output from each detector actuates its associated alarm and causes the teletypewriters to run open. The system is reset by momentarily closing a reset switch at the sending station.

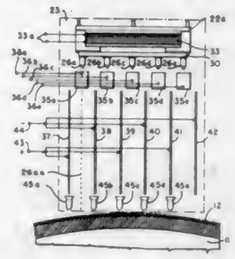


3,404,220
COLORED VIDEO SYSTEMS
Michel Favreau, Neuilly-sur-Seine, France, assignor to Compagnie Francaise Thomson - Houston - Hotchkiss Brandt
Filed July 9, 1965, Ser. No. 470,679
Claims priority, application France, July 17, 1964, 982,025
17 Claims. (Cl. 178—5.2)



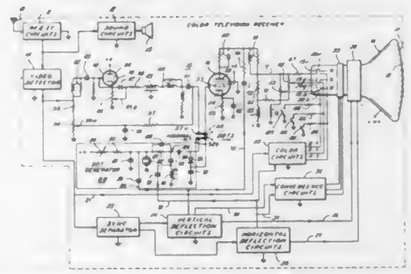
In a color TV system having red, green and blue pick-up tubes (2R, 2G, 2B), an arrangement for achieving accurate register between the color pictures comprising: a luminous frame-like reference pattern (8) arranged to be projected on the tubes to be scanned together with the televised scene so as to produce start-of-scan and end-of-scan marker pulses in each of the line and frame scan cycles; time discriminator means developing an error signal in response to a time displacement of the marker signals produced by different tubes relative to a reference marker signal, e.g. the marker signal from one of the tubes; and means applying the error signal to the scanning means of a tube to modify the scan cycles thereof so as to reduce said displacement and maintain accurate register.

3,404,221
CONTROLLED INK-JET COPY-REPRODUCING APPARATUS
Arthur V. Loughren, 22 Broadlawn Ave., Kings Point, N.Y. 11024
Filed Oct. 22, 1965, Ser. No. 500,947
16 Claims. (Cl. 178—5.2)



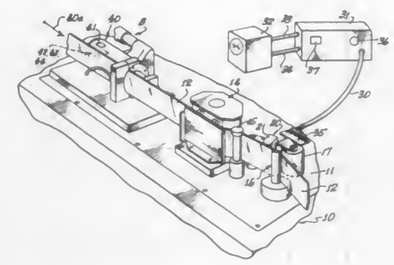
A controlled ink-jet aparatus for producing multi-color reproductions of a subject copy comprises a photoelectric scanner for developing video signals representative of the red, green, and blue components of the signal picked up by the scanner. The copy is reproduced on a record sheet disposed on a drum rotated in synchronism with the scanner. For each color component there is provided a set of ink jets disposed on a head which scans the record sheet. Each set comprises a plurality of ink jets or nozzles. The jets from these nozzles pass through individual electric charging cylinders which individually charge the ink droplets emerging from the jets and these droplets then traverse deflecting fields which direct the ink drops either to the record sheet or to the drain. By supplying inks of different optical densities to the several jets of each set and by selectively deflecting ink from predetermined jets to the drain, the optical density of each ink spot on the record can be controlled over a wide range of values to produce effectively a continuous tone color reproduction of the original copy.

3,404,222
COLOR TELEVISION RECEIVER WITH BUILT-IN DOT GENERATOR
Don G. Rupley, St. Joseph, Mich., assignor to Heath Company, St. Joseph, Mich., a corporation of Delaware
Continuation of application Ser. No. 665,938, Sept. 6, 1967, which is a continuation of application Ser. No. 329,098, Dec. 9, 1963. This application Feb. 20, 1968, Ser. No. 706,991
9 Claims. (Cl. 178—5.4)



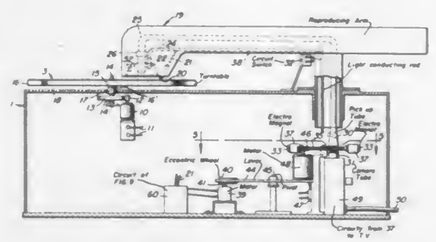
The disclosed invention relates to a color television receiver with a built-in test signal circuit for producing an ordered array of dots on the picture tube and additionally providing a direct current reference level. Included are switch means for selectively alternatively connecting either the test signal or regular video signals to the receiver.

3,404,223
VIDEO TAPE MONITOR WITH LONGITUDINAL SCANNING OF TRANSVERSE VIDEO TRACK
Roy F. La Violette, 3256 Stoner Ave., Los Angeles, Calif. 90066
Filed Mar. 26, 1965, Ser. No. 442,945
3 Claims. (Cl. 178—6.6)



A video tape monitor in which a monitor head is supported on a retractable monitor head carried adjacent the path of the video tape, at a location which is immediately downstream from the video recording head during recording; and automatic retracter means responsive to the travel of the video tape, for retracting the monitor head from an active position adjacent to tape, when the tape is not in recording movement; and including amplifier and oscilloscope presentation means for displaying in wave form and output from said monitor head to reveal the quality of the record being made on said video tape.

3,404,224
AUDIO AND VIDEO TRANSMITTING AND RECEIVING SYSTEM FOR USE AS AN EDUCATIONAL DEVICE
Omar N. Revelo and George A. Revelo, both of 445 Ellington Ave., San Francisco, Calif. 94112
Filed Nov. 23, 1964, Ser. No. 413,158
11 Claims. (Cl. 178—7.1)

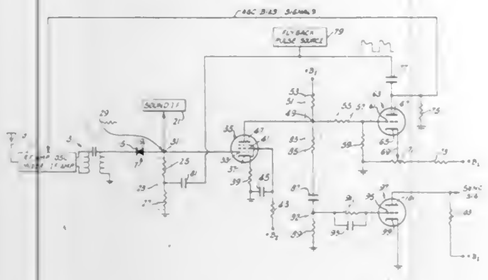


This invention is an audio and video transmitting and receiving system for use as an education device or the like, and includes a circular disc recording, rather than a tape recording, which circular disc has both audio and video information on the same side thereon which may be repeated on the reverse side. The audio information is transmitted through a phonograph needle to the audio circuit of a suitable connected conventional television set, the video information, in the form of a series of pictures, is transmitted by light conducting rods to a television pick up tube and thence to the video circuit of the television, the television set being thus connected in closed circuit for reproducing the audio and video information on the circular disc recording.

3,404,225
CIRCUITRY FOR ELECTRON DEVICES HAVING OUTPUT TO INPUT FEEDBACK SIGNAL COUPLING

Joseph V. De Marinis and Charles Bailey Neal, Batavia, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Oct. 21, 1965, Ser. No. 499,289
6 Claims. (Cl. 178—7.3)

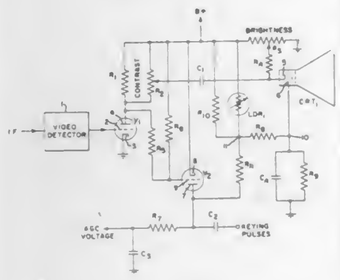


A television receiver employs a triode keyed AGC tube with large amplitude keying pulses applied to the triode anode. A fraction of the keying pulse appears at the triode grid due to the relatively large inherent anode-to-grid capacitance of a triode. The portion of the keying pulse fed back to the grid produces deleterious effects on the operation of the AGC circuit and an associated sync separator circuit. These effects are minimized or eliminated by supplying to the triode grid an inverted keying pulse to cancel out the undesired keying pulse appearing at the grid.

3,404,226
AUTOMATIC CONTRAST AND BRIGHTNESS CONTROL FOR TELEVISION RECEIVER UTILIZING A LIGHT DEPENDENT RESISTOR

Norman Szeremy and Paul J. Pelczynski, Syracuse, N.Y., assignors to General Electric Company, a corporation of New York

Filed Mar. 25, 1965, Ser. No. 442,625
7 Claims. (Cl. 178—7.5)

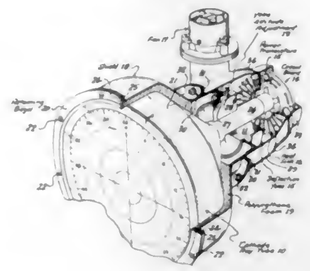


In a television receiver, a voltage divider is connected between B+ and ground to provide automatic contrast and brightness control in a controlless keyed automatic gain control circuit. The divider includes a light dependent resistance, which is inversely proportional to the ambient light and connected in series with first and second resistances. A first intermediate terminal between the first and second resistances is connected to the grid of the cathode ray tube to provide automatic brightness control. A second intermediate terminal between the light dependent resistance and the first resistance is coupled to the high impedance anode of a keyer tube in the automatic gain control stage to provide automatic contrast control.

3,404,227
CATHODE RAY TUBE PACKAGE

Joe E. Alcala, Pomona, and Martin E. Wilfert, Glendora, Calif., assignors to General Dynamics Corporation (Pomona Division), Pomona, Calif., a corporation of Delaware

Filed Aug. 17, 1965, Ser. No. 480,278
6 Claims. (Cl. 178—7.8)

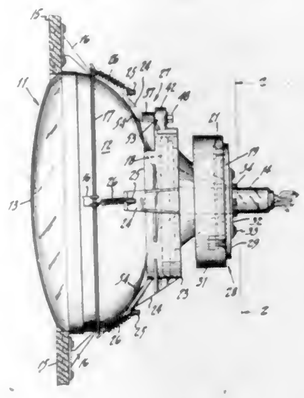


A self-contained cathode ray tube display package having a mounting and supporting means incorporating some of the final electronic drive stages for the cathode ray tube and including means permitting the tube to withstand severe shock and vibration.

3,404,228
DEFLECTION YOKE MOUNTING STRUCTURE

James W. McLeod, Jr., Indianapolis, and William R. Abraham, New Whiteland, Ind., assignors to Radio Corporation of America, a corporation of Delaware

Filed Mar. 28, 1966, Ser. No. 538,074
9 Claims. (Cl. 178—7.8)



1. An assembly for mounting an electron beam deflection yoke, having a circular front end and a peripherally notched terminal plate adjacent its rear end, relative to a picture tube, having a flared forward section sousing a viewing screen and a rearwardly extending connecting neck section housing electron gun structure, said mounting assembly comprising:

a discontinuous annular collar having an inside diameter substantially equal to the outside diameter of the circular front end of said yoke and a plurality of forwardly extending feet;

an arcuate bridging member substantially spanning the two ends of said discontinuous annular collar and having at least a first end movable relative to said collar;

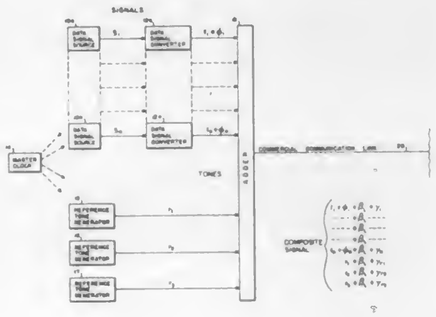
first means for adjustably attaching said movable first end of said arcuate bridging member to said annular collar adjacent to one end thereof to effect a secure gripping of the circular front end of said yoke by said collar; and

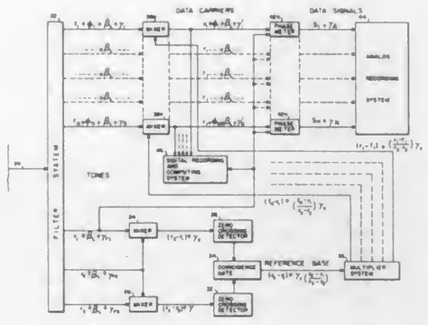
means attached to said feet for urging said mounting assembly and said yoke forwardly to press said feet firmly against the flared forward section of said picture tube.

3,404,229
SYSTEM FOR REDUCING PHASE DISTORTION IN THE PHASE REFERENCE SIGNALS OF A MULTICHANNEL PHASE-SHIFT DATA SYSTEM

Francis X. Downey, Annandale, Va., and Charles H. Weaver, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy

Filed July 30, 1965, Ser. No. 476,213
11 Claims. (Cl. 178—67)



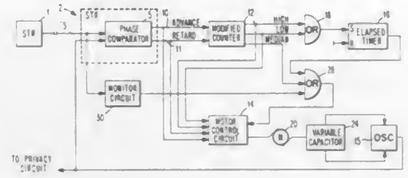


A data transmission system wherein a plurality of constant frequency reference tones and data in the form of phase modulated data tones are combined to form a composite signal for transmission over a commercial communications links which introduces phase distortion to the tones. After transmission, the reference tones are recovered and combined by mixers and a coincidence gate to produce a reference base signal which is essentially noise free and phase locked to a master clock. After frequency multiplication, the reference base signal is used to recover the data from the data tones by heterodyning and phase comparison.

3,404,230
FREQUENCY CORRECTOR FOR USE IN A DATA TRANSMISSION SYSTEM

Robert R. Hailey, Endicott, George J. Laurer, Endwell, and Robert J. Simpson, Owego, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed July 24, 1964, Ser. No. 384,863
10 Claims. (Cl. 178—69.5)

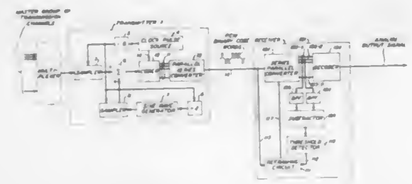


This system provides for adjustment of a local oscillator to hold it in synchronism with a master oscillator. A phase comparator generates a signal indicating the direction of the correction needed to restore synchronism. Pulses from the phase comparator increase or decrease the value in a counter. When the limits of the counter are reached, an elapsed timer is set to energize a motor for a predetermined time period. The motor is connected to a tuning impedance associated with the local oscillator and is driven in a direction to restore synchronism between the master oscillator and the local oscillator.

3,404,231
FRAMING OF PULSE CODE TRANSMISSION SYSTEMS BY USE OF AN ADDED TONE SIGNAL

Marvin R. Aaron, Whippany, James R. Gray, Martinsville, and Frederick A. Saal, Plainfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Jan. 5, 1965, Ser. No. 423,558
8 Claims. (Cl. 178—69.5)



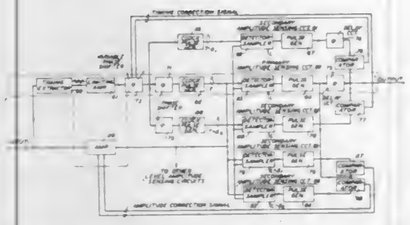
1. Apparatus for automatically reframing the receiver of a pulse code transmission system at which there is received a sequence of code words in which each code word comprises n pulses representing in binary form the amplitude of the sum of one sample of an input signal and one simultaneously obtained sample of a tone signal, where n is a selected positive integer, said tone signal having a frequency which is a predetermined submultiple of the frequency at which said input signal and said tone signal are sampled, which comprises:

means for deriving from a predetermined plurality of code words in said sequence a control signal indicative of both the average magnitude and the phase of pulse occupying the most significant digit position in each of said plurality of code words,

means for comparing said control signal with a selected reference signal to derive a framing signal that represents the framing condition of said receiver, and

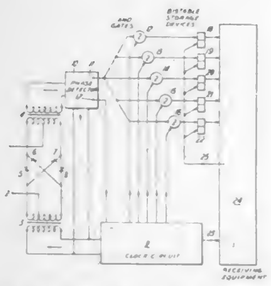
means responsive to said framing signal for adjusting said sequence of code words to bring said receiver into frame.

3,404,232
STABILIZED PULSE REGENERATOR
Thomas M. Burford, Madison, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 1, 1964, Ser. No. 415,054
10 Claims. (Cl. 178—70)



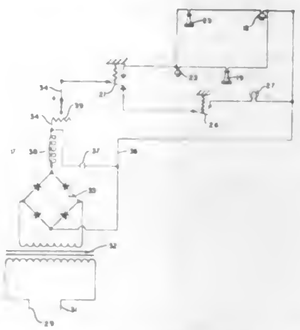
This application relates to arrangements for stabilizing pulse amplitude detectors of the type used in pulse regenerators. This is accomplished by sampling each pulse at a so-called "primary" decision point and at at least two other so-called "secondary" decision points which bracket the primary decision point, where each decision point is characterized by a specified reference level and timing. Whenever a pulse falls between a pair of secondary decision points, correcting signals are generated which readjust the relative level and/or timing of the decision points relative to said pulses.

3,404,233
TELEGRAPH LINE TERMINATION MEANS WITH SWITCHING FROM HIGH SAMPLING RATE TO LOW SAMPLING RATE ON DETECTION OF AN INCOMING SIGNAL
Frederick P. Mason and John W. Peters, Hollingbury, Brighton, England, assignors to Creed & Company Limited, Hollingbury, Brighton, Sussex, England, a British company
Filed Sept. 16, 1965, Ser. No. 487,836
Claims priority, application Great Britain, Oct. 16, 1964, 42,305/64
8 Claims. (Cl. 178—88)



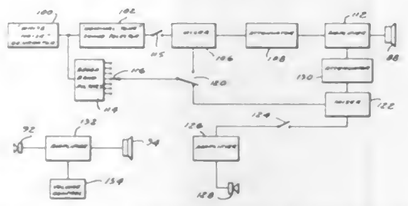
A telegraph line isolator for an electronic teleprinter which enables the teleprinter to be cognizant of signals on a telegraph line without there being a direct electrical connection therebetween. The teleprinter is arranged to interrogate the line by a series of brief pulses applied thereto via a transformer, the answer to which interrogation, also in the form of brief pulses, is applied to the teleprinter via another transformer.

3,404,234
CONFESSIONAL CONSTRUCTION
Dacian W. Batt and Maynard M. Tetreault, both of 4536 Vine St., St. Bernard, Ohio 45217
Filed May 28, 1964, Ser. No. 370,994
3 Claims. (Cl. 179—1)



A telephone equipped confessional in which the operation of the telephones is controlled by switch means operated by a priest and in which, while the telephones are inoperative, a warning light can be actuated by switch means operable by the penitent.

3,404,235
METHOD AND APPARATUS FOR THE TESTING OF HEARING
Hyman Goldberg, 2904 Ewing Ave. S., Minneapolis, Minn. 55416
Continuation-in-part of application Ser. No. 420,323, Dec. 22, 1964. This application Jan. 18, 1966, Ser. No. 525,816
8 Claims. (Cl. 179—1)

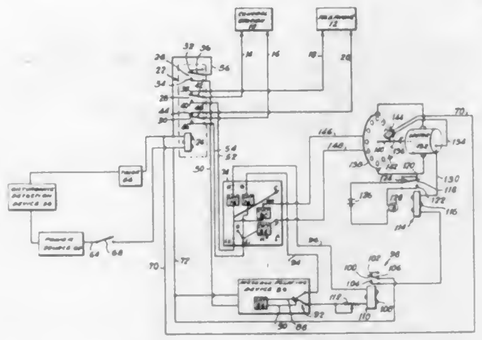


The hearing of an individual is tested at different sound frequencies by providing, for each nominal frequency, a composite sound containing sounds of random frequencies extending over a substantial spectrum of the normal audible frequency range, thereby substantially eliminating the deleterious effects of standing waves on the accuracy and effectiveness of the hearing test. Background noise, either in the nature of speech or a composite sound comprising sounds of random frequency defining a broad band sound, or both, may also be provided in order to make the testing more accurately correspond to normal everyday conditions.

3,404,236
TELEPHONE AUTOMATIC ALARM APPARATUS
Josef Halaby, 681 Howard Ave., Apt. B4, Brooklyn, N.Y. 11212
Filed Oct. 22, 1965, Ser. No. 500,706
8 Claims. (Cl. 179—5)

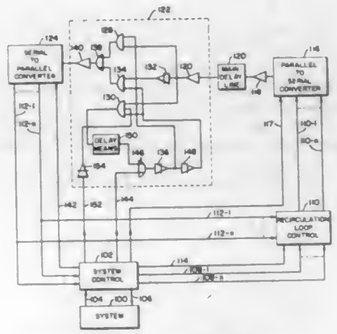
An alarm apparatus in which use is made of available telephone circuits to communicate an alarm automatically in response to a disturbance such as a fire, burglary or the like. The apparatus includes a system of relays for

interrupting the conventional circuit between a telephone and a central station and for substituting a source of a dialing signal and a message relating device. The dialing signal is generated by means of a motor which is provided with power upon the detection of a disturbance,



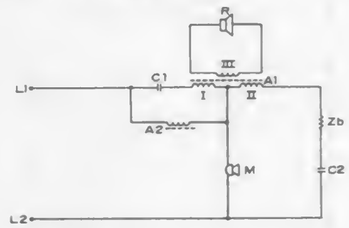
this power also being supplied to the message relating device so that first there is generated a dialing signal and subsequently a message is related. A circuit is also provided for interrupting telephone conversations in order to clear the line for the message reporting the disturbance.

3,404,237
TIME DIVISION MULTIPLEX RECIRCULATING STORAGE MEANS INCORPORATING COMMON HALF-ADDER
William F. Bartlett, Rochester, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Continuation of application Ser. No. 378,225, June 26, 1964. This application Feb. 27, 1967, Ser. No. 619,524
4 Claims. (Cl. 179—15)



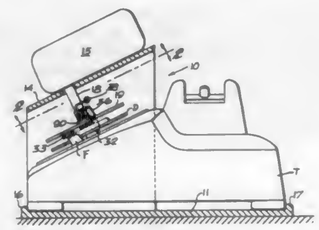
A recirculation loop apparatus is described for recirculating registration and counter storage information. The loop includes a parallel-to-serial converter, a serial-to-parallel converter, and a single common half-adder inserted between these converters at a position wherein the stored information is in serial form. The arrangement is such that multibit characters may be placed into counter storage without interfering with recirculation of any information which is placed in registration storage. The common half-adder applies a bit to be counted to the first-occurring time slot of a group of consecutively occurring time slots allocated to counter storage, with each time slot receiving a single bit. The carry output of the common half-adder is applied through a one bit delay gate to the input of the serial-to-parallel converter to provide serial storage of the built-up multibit character. The carry output is inhibited during the last occurring time slot of the group of consecutively occurring time slots allocated to counter storage so as to prevent the built-up character from extending into the time slots of the group which follows the group allocated to that multibit character.

3,404,238
TELEPHONE SUBSTATION MINIATURIZATION CIRCUIT
Giorgio Dal Monte and Pasquale Postorino, Milan, Italy, assignors to Società Italiana Telecomunicazioni Siemens S.p.A.
Filed Nov. 27, 1964, Ser. No. 414,348
Claims priority, application Italy, Nov. 27, 1963, 24,177/63
4 Claims. (Cl. 179—81)



A telephone set having a pair of line terminals and an anti-side tone hybrid coil connected to the terminals with condensers on the opposite line sides of the coil, a microphone connected to one line terminal and to a tap of the hybrid coil windings, and a high-impedance second coil connected to the other line terminal and the tap. The hybrid coil has a magnetic core without air gap and the second coil has a magnetic core with air gap, permitting miniaturization of the set.

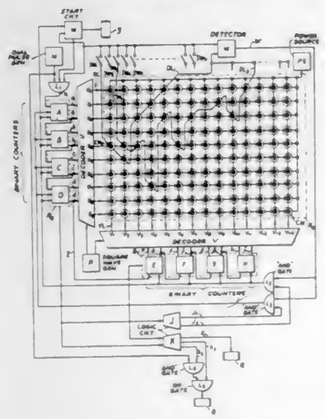
3,404,239
AUTOMATIC DIALING ATTACHMENT FOR TELEPHONES
Siefe J. Awad, 2331 W. Utopia Drive, Miramar, Fla. 33023
Filed Dec. 7, 1964, Ser. No. 416,575
7 Claims. (Cl. 179—90)



1. An automatic dialing attachment device for use with a rotary disc dial telephone set comprising, in combination, a motor having a rotary drive output shaft, means for supporting said output shaft in coaxial relation with respect to the rotary axis of the rotary disc dial of a telephone set, a dialing disc rotatably journalled on said output shaft, means interconnecting said dialing disc with the telephone rotary disc dial for their rotation in unison, a selector arm connected to said output shaft for rotation therewith and for radial movement with respect thereto

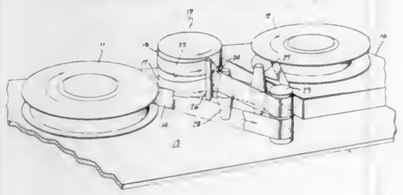
and having a finger portion slidable against one side of said dialing disc, a plurality of catch means on said dialing disc and operative to be engaged in sequence by said finger portion for carrying said dialing disc in rotary motion along with said drive shaft, means for disengaging each catch means at a particular angular position of said selector arm during each cycle of revolution of said drive shaft, and means for advancing said finger portion during each cycle of revolution of said drive shaft into a new position whereat it will engage the next successive catch means.

3,404,240
REPERTORY DIAL IMPULSE SYSTEM USING A MAGNETIC MEMORY
Takeo Shinohara and Keisaku Nomura, Tokyo, Japan, assignors to Nippon Electric Company Limited, Minatoku, Tokyo, Japan, a corporation of Japan
Filed June 22, 1965, Ser. No. 465,980
Claims priority, application Japan, June 26, 1964, 39/36,197
7 Claims. (Cl. 179—90)



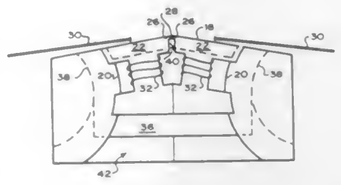
A repertory abstract dialer producing pulses according to a programmable magnetic memory which consists of ferrite cores in a matrix configuration. The memory is programmed by threading a wire, which would effectively represent a stored number, through the cores so as to obtain the desired number and sequence of digits as determined by the number and respective cores threaded.

3,404,241
HELICAL SCAN MAGNETIC TAPE APPARATUS WITH SELF-ENERGIZED AIR LUBRICATION
John H. Streets, Redwood City, and Alexander R. Maxey, Newark, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Feb. 12, 1965, Ser. No. 432,312
10 Claims. (Cl. 179—100.2)



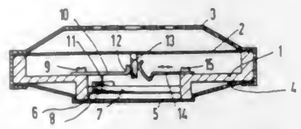
A helical scanning magnetic tape apparatus having a pair of coaxially aligned closely spaced drums defining a gap therebetween with means for rotating at least one magnetic transducer head in the vicinity of the gap. Guiding means guide the tape along a helical path about the drums in a substantial diagonal path across the gap. At least one of the drums is rotated to establish an air film beneath the tape as it moves helically about the drums.

3,404,242
MAGNETIC HEAD HOLDING ELEMENT
William I. Girdner, Portola Valley, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed June 14, 1965, Ser. No. 463,496
5 Claims. (Cl. 179—100.2)



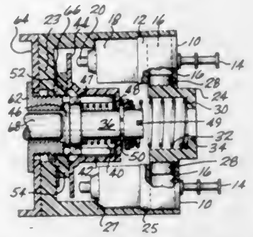
A generally spool-shaped member is formed from a body of nonmagnetic material. Circular shoulders are formed around the central portion of this spool-shaped member. A pair of matching bracket-shaped side frames are then formed from portions of the spool-shaped member on opposite sides of a plane containing its longitudinal axis. These matching side frames are joined together to provide a pair of spaced, oppositely facing, convexly arcuate inner surfaces having pairs of spaced, oppositely facing, transversly aligned shoulders. An electromagnetic transducer is fixedly engaged between each of these pairs of shoulders, and a shielding element is fixedly positioned on each side of each transducer between the oppositely facing, convexly arcuate inner surfaces of the side frames.

3,404,243
OVERLOAD PROTECTION OF PRESSURE SENSITIVE TRANSDUCER
Friedrich Krieger, Gilching, and Adolf Pascher, Bad-Heilbrunn, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany
Filed Aug. 12, 1965, Ser. No. 479,254
Claims priority, application Germany, Sept. 9, 1964, S 93,043
25 Claims. (Cl. 179—110)



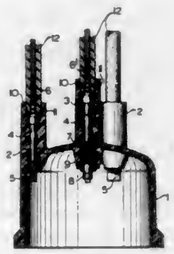
1. In a crystal transducer, such as a microphone, having a semiconductor containing a PN junction upon which pressure is exerted by movements of a control member, through a pressure exerting element engaged with the semiconductor, the improvement comprising
   a transmitting member connected to the control member for control thereby and having at least one side which extends essentially in the direction of motion thereof in response to motion of the control member, and a resilient movable holding member carrying said pressure element, said transmitting member being in force-transmitting engagement with the holding member only so long as the force exerted on the transmitting member by the control member does not exceed a predetermined magnitude.

3,404,244
COMPACT ELECTRICAL SWITCH ASSEMBLY WITH IMPROVED ACTUATOR MEANS
James W. Amis, Jr., Bellevue, and Gary E. Anderson, Seattle, Wash., assignors to Korry Manufacturing Company, Seattle, Wash., a company of Washington
Filed Jan. 30, 1967, Ser. No. 612,431
9 Claims. (Cl. 200—5)



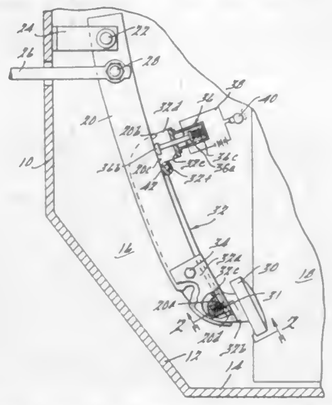
A cluster type electrical switch assembly wherein a plurality of button-actuated microswitches, referred to in the art as subminiature basic switches, are compactly positioned within a common housing around an axially located plunger-type actuator, which includes a flanged actuator member mounted for relative movement along a plunger between mutually aligned actuator and return springs and operable to engage and operate the microswitch buttons. The actuator member and springs are arranged within the assembly so that the actuator spring, by which actuation force is transmitted, absorbs overtravel of the plunger after the microswitch buttons are depressed, and the return and actuator springs restore the actuator member and the plunger to their respective initial positions after pressure is released from the plunger. The actuator also incorporates means for mounting the assembly on a panel or other component.

3,404,245
DISTRIBUTOR CAP FOR AN IGNITION DISTRIBUTOR CONSISTING OF THERMOPLASTIC SYNTHETIC MATERIAL
Ernst Kohler, Hofingen, Kreis Leonberg, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed Dec. 29, 1965, Ser. No. 517,405
Claims priority, application Germany, Feb. 13, 1965, B 60,691
13 Claims. (Cl. 200—19)



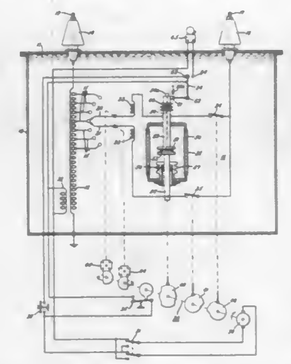
An ignition distributor cap for use in internal combustion engines and consisting essentially of a thermoplastic synthetic material having fibrous reinforcing material distributed therethrough.

3,404,246
BRAKE SWITCH ASSEMBLY
Donald E. Stimpson, Madison Heights, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Sept. 1, 1966, Ser. No. 576,609
7 Claims. (Cl. 200—61.89)



1. A brake pedal and brake assembly for a motor vehicle comprising:
   (a) a brake pedal;
   (b) a brake pedal arm entirely supporting said brake pedal in position to be engaged and depressed by the foot of an operator of said motor vehicle;
   (c) means providing a yieldable connection between said brake pedal and said pedal arm to allow a controlled amount of relative movement therebetween;
   (d) a brake switch having contacts; and
   (e) means operative to make and break said contacts in response to the aforesaid relative movement between said brake pedal and said pedal arm.

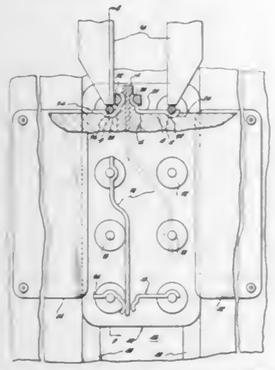
3,404,247
PRESSURE RESPONSIVE PROTECTIVE MEANS FOR VACUUM TYPE CIRCUIT INTERRUPTERS
Andrew Glassanos, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Mar. 8, 1966, Ser. No. 532,697
6 Claims. (Cl. 200—144)



1. A vacuum circuit interrupting apparatus comprising, a vacuum interrupting device having an evacuated envelope and including fixed and movable cooperating contact members extending through wall portions of said envelope in sealed relation therewith, said fixed contact member including a stem portion fixedly sealed to said

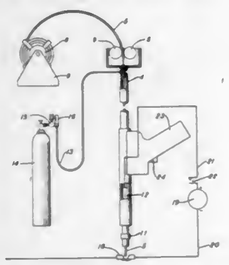
envelope and provided with an internal passageway opening into the interior of said evacuated envelope, an expansible chamber fixed to said stem outside said envelope and in communication with said passageway, an ambient body of liquid in which said envelope is at least partially immersed, actuating means for said movable contact member operable between contact closing and opening positions, and means operable in response to expansion of said chamber upon significant increase of pressure within said envelope to disable said actuating means in said contact closing position.

3,404,248
ALIGNING AND WELDING OF PARTS
Richard R. Bower, 10012 Wilbur Ave., Northridge, Calif. 91324
Filed Mar. 14, 1966, Ser. No. 534,006
6 Claims. (Cl. 200—166)



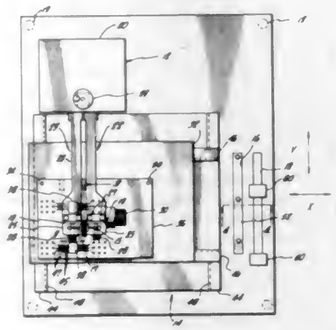
An assembly having a strip of electrically-conductive material and a recess therein which is substantially longer than its transverse dimension. A post is placed in the recess and axially aligned therewith over their common length such that a weld bonds the post to the strip over a substantial portion of the area of contact between them. The method of welding and aligning the parts includes the step of forcing a length of the post which is substantially greater than its transverse dimension into the recess and thereby into axial alignment therewith. Thereafter the parts are resistance welded to each other.

3,404,249
WELDING OF HIGH YIELD STRENGTH STEEL
Karl E. Dorschu, Basking Ridge, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 284,453, May 31, 1963, now Patent No. 3,215,814. This application May 12, 1964, Ser. No. 366,702
6 Claims. (Cl. 219—74)



An alloy steel welding wire for gas shielded or submerged arc welding low alloy steels. The wire by percentage weight analysis contains from 0.010 to 0.025 titanium and a minimum of 1.40 manganese, together with nickel, chromium, molybdenum, silicon, and carbon in proper balance to obtain the desired high yield strength and toughness. The chromium content may be reduced to zero or near zero where exceptional toughness is required but extremely high yield strength is not. Residual copper, phosphorus and sulfur may appear in the analysis, and in some cases copper is added.

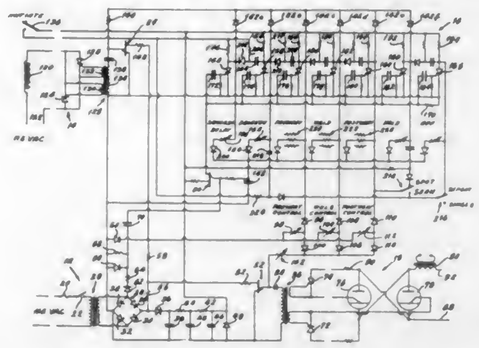
3,404,250
WELDING APPARATUS
Derek J. Griffiths, Arcadia, Calif., assignor to Unitek Corporation, Monrovia, Calif., a corporation of California
Continuation-in-part of application Ser. No. 441,021, Mar. 19, 1965. This application July 1, 1966, Ser. No. 564,493
12 Claims. (Cl. 219—81)



An automatic welding machine for completing a plurality of interconnections between electronic components. The machine utilizes a detector operatively linked to an adjustable welding program for controlling the travel of the welding electrodes. At suitable intervals a predetermined position is detected corresponding to the presence of a connection to be made. At this position a signal is generated energizing a force transducer and subsequently causing a pulse of energy to be transmitted to a pair of welding electrodes. Both roller electrodes and conventional parallel gap electrodes are contemplated. The work table of the machine is capable of both X and Y directional movement for complete flexibility in applying interconnections at any point in the area covered by the welding electrodes.

3,404,251
CONTROL CIRCUIT
Bobby Gene Hubbard, Florissant, Mo., assignor to Weltronic Company, Southfield, Mich., a corporation of Michigan
Filed Apr. 19, 1965, Ser. No. 449,206
9 Claims. (Cl. 219—108)

A control circuit for a process having a plurality of steps and employing controlled rectifiers in a counter arranged so that each of a plurality of the rectifiers control a step of the process. All but one rectifier of the counter is conducting in operation and the non-conducting rectifier is the active control element for the currently effective step. The active element affords a direct actuation of step controls. As applied to a welding control using silicon controlled rectifiers the interval of each process step is controlled from a unijunction transistor timer directly driven from the rectifiers and set to the interval defined by the active stage. Load circuits can be driven from each rectifier as with unijunction transistors as active elements. Welding sequences include a "squeeze

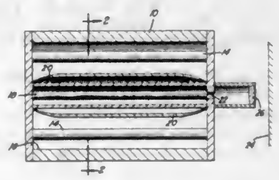


delay," "squeeze," "preheat," "weld," "postheat," "hold," and "off" steps and selected combinations thereof.

3,404,252
HEAT CONTROL METHOD AND APPARATUS FOR SPOT-WELDS
Leroy D. Michael, Selleck, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Jan. 3, 1966, Ser. No. 518,183
2 Claims. (Cl. 219—110)

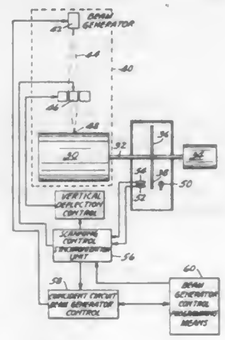
A resistance welding method and apparatus wherein the physical expansion of the weld bead is measured to generate an electrical signal which is compared with a pre-established reference electrical expansion signal to derive a control feedback electrical signal which alters the heat application to the weld bead to conform with the pre-established conditions.

3,404,253
LASER WELDING
John E. Anderson, John E. Jackson, and Robert J. Baird, Indianapolis, Ind., assignors to Union Carbide Corporation, a corporation of New York
Filed Nov. 24, 1964, Ser. No. 413,535
4 Claims. (Cl. 219—121)



A process for pulse laser welding by a drill fill technique with energy produced by a laser device. The laser device employs pulse generating means for sequentially firing four radiant energy sources and blocking the generating pulses to each of the four radiant energy sources for a predetermined sequential time interval such that when one radiant energy source is fired, energy is emitted from a laser material onto a workpiece to be welded to create a molten puddle. By controlling the frequency of firing of the radiant energy sources such that the laser energy directed onto the workpiece lies within the range defined by a particular relationship of laser beam intensity at the focused spot, thermal conductivity of the metal, boiling point of metal, original temperature of metal, radiation adsorptivity of the metal at the wave length of the laser beam, thermal diffusivity of metal, length of laser pulse, and diameter of the focused laser spot, the drill fill technique is perfected.

3,404,254
METHOD AND APPARATUS FOR ENGRAVING A GENERALLY CROSS-SECTIONALLY CIRCULAR SHAPED BODY BY A CORPUSCULAR BEAM
Derrick A. Jones, Somerset Township, St. Croix County, Wis., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Feb. 26, 1965, Ser. No. 435,555
7 Claims. (Cl. 219—121)

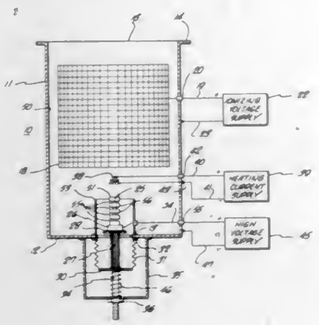


A method and apparatus are shown for engraving a generally cross-sectionally circularly shaped body with a corpuscular beam which melts localized portions of the body. The engraving apparatus includes means for directing the corpuscular beam at the body, means connected to and adapted for rotating the body along an axis while the corpuscular beam melts localized portions of the body and the body is rotated at a peripheral velocity sufficient to remove the melted localized portions from the body by centrifugal force, and a programming means positions the corpuscular beam at discrete positions on the body which maintains the body at the sufficient velocity to continually remove the melted body portions to produce an engraved body.

3,404,255
SOURCE OF VAPORIZABLE MATERIAL FOR BOMBARDMENT THEREOF BY AN ELECTRON BOMBARDING MEANS
Allen R. Hamilton, Rochester, N.Y., assignor, by mesne assignments, to The Bendix Corporation, Detroit, Mich., a corporation of Delaware
Continuation-in-part of application Ser. No. 387,407, Aug. 4, 1964. This application June 23, 1965, Ser. No. 470,314
16 Claims. (Cl. 219—121)

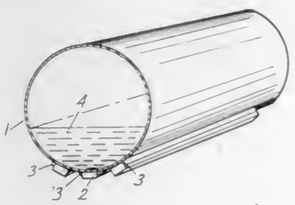
A source of vaporizable material which employs either a rod of vaporizable material having a plurality of mutually spaced annular grooves distributed therealong or a rod

having a plurality of mutually spaced pellets of vaporizable material stacked on a supporting pin. The rod of vaporizable material may include a progressively increasing cross-sectional area as seen from a top surface to a bottom surface. An electron bombarding means is spaced



from a free end of the vaporizable rod to cause vaporization of material from the free end of the rod. An adjustment means is provided for adjusting the position of the rod to control the spacing between the free end of the rod and the electron bombarding means.

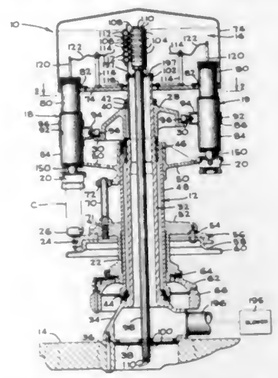
3,404,256
ELECTRICALLY HEATED VESSEL
John J. Finn, Erie, Pa., assignor to Glenn Electric Heater Corporation, Erie, Pa., a corporation of Pennsylvania
Filed June 24, 1965, Ser. No. 466,572
4 Claims. (Cl. 219—311)



An electrically heated aluminum vessel with a curved exterior surface has an aluminum bar arc welded at its edges to the surface and with exterior grooves replaceably receiving a sheathed electric heating element. This gives the heat transfer of a cast in element without its disadvantages.

3,404,257
AIR-HEATING SYSTEM FOR HEAT-SEALING CONTAINERS
Francis L. Hoff, Santa Clara, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Sept. 29, 1965, Ser. No. 491,297
7 Claims. (Cl. 219—374)

An air heating system for rendering the thermo-plastic coating of paper containers tacky prior to sealing such containers includes a turret having air directed through a tubular column into a closed rotatable housing which housing has a plurality of openings for slidably receiving heating assemblies. Each assembly has one end communicating with the housing and has a distribution nozzle on the other end. Means are provided within each assembly to define a series of elongated concentric tubular passageways which cause the air to flow progressively from the outer passageway to the innermost passageway, which innermost passageway has a heating element therein



whereby the air is gradually raised to a desired temperature.

3,404,258
DOMESTIC OVEN WITH SEPARATE HEAT-CLEANING COMPARTMENT
William K. Winkler, Anchorage, Ky., assignor to General Electric Company, a corporation of New York
Filed Dec. 23, 1965, Ser. No. 516,021
3 Claims. (Cl. 219—391)

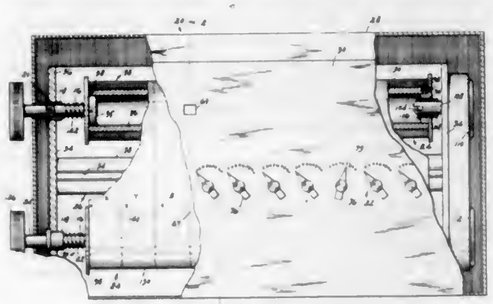


In a housing comprising a cooking oven and a separate pyrolytic compartment in combination, a first heater element is disposed in the oven, a second heater element and a smoke eliminator in communication with the compartment, said second heater element having a predetermined heating rate as a function of the rate of heat loss from the compartment thereby controlling the maximum compartment temperature and eliminating the need for a compartment thermostat. The compartment is of a small size just to receive the removable panels of the oven in a stacked relationship.

3,404,259
COMPARATOR APPARATUS AND METHOD OF OPERATION THEREOF
William G. Atkinson, Jr., 19 Westerly Road, Saddle River, N.J. 07458; Robert P. De Soto, 87 Iroquois Ave., Oakland, N.J. 07436; Bruce B. Landis, 423 Monmouth Ave., New Milford, N.J. 07646; and Candelario Paredes, 89 Danna Way, Saddle Brook, N.J. 07662
Filed Sept. 17, 1963, Ser. No. 309,541
18 Claims. (Cl. 235—61.7)

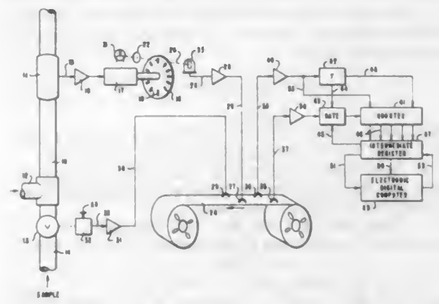
1. In an apparatus for automatically comparing an indicia of identification, in succession, with a plurality of such indicia to determine any coincidence therebetween, a housing, a plurality of adjustably positionable detecting means supported from said housing for representing said first-mentioned indicia in accordance with the respective positions thereof, a memory device supported from said housing and cooperatively associated with said detecting

means, said memory device and said detecting means being relatively movable, said memory device including a plurality of means for successively representing said second-mentioned indicia to said detecting means in accordance with the respective relative positions thereof, said detecting means including means responsive to said memory device means for actuation thereby only if the relative respective positions thereof coincide, indicating means cooperatively associated with said detecting means and responsive only to simultaneous actuation of said means responsive to said memory device means to provide indication of such actuation, and means to effect relative movement between said detecting means and said memory device, whereby the said indicia will be successively compared and indication provided only if the first-mentioned



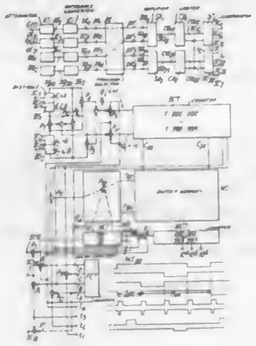
indicia, as represented by the respective positions of the detecting means, coincide with any of the second-mentioned indicia, as represented by the relative respective positions of the memory device means, said housing comprising guide means, and said detecting means comprising mounting means slidably supported by said guide means and adjustably positionable relative thereto, said means responsive to said memory device being operatively supported by said mounting means, and said mounting means comprising light transmision aperatures formed therein and said means responsive to said memory device means comprising light activated switches positioned within said mounting means in light transmission communication with said light transmission apertures whereby light may pass through said apertures to impinge upon and activate the said switches.

3,404,260
ANALYZING VARYING SIGNALS
Henry Wilson Johnson, Jr., Walnut Creek, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 77,554, Dec. 22, 1960. This application Sept. 8, 1965, Ser. No. 490,764
17 Claims. (Cl. 235—151.35)



1. A method for determining the magnitudes of excursions of a signal amplitude, said signal being of the type which deviates from and returns to a base amplitude, said method comprising the steps of: converting said signal into a series of signal pulses having a frequency which varies with changes in amplitude of the said signal; recording said signal pulses with respect to time; measuring the density of said recorded pulses within successive segments of the record which represent successive time periods; and accumulating the number of pulses within a consecutive series of said segments within which the pulse density exceeds a predetermined base density corresponding to said base level.

3,404,261
CORRELATION APPARATUS FOR COMPUTING TIME AVERAGES OF FUNCTIONS
Paul Gustave Amélie Jespers, Tervueren, and Pe Tsi Chu, Antwerp, Belgium, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 6, 1963, Ser. No. 263,234
Claims priority, application Belgium, Mar. 7, 1962, 289,898, Patent 614,757
37 Claims. (Cl. 235—181)

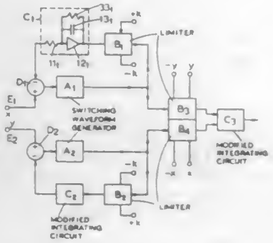


1. Apparatus for computing time averages of functions which vary with time, characterized in this, that k comparator means are provided to compare each sampled value of one of k functions to be analyzed with a sampled value of one out of k reference functions, said k reference functions being statistically independent from one another, k being determined by the number of functions to be analyzed each of said comparator means providing a binary valued output depending on the result of each comparison between one of said k functions and its associated reference function, that a logical circuit means is fed from the outputs of said k comparator means and provides a binary valued output depending on whether the number out of said k comparator means providing a binary valued output of one type is even or odd, and that the output of said logical circuit feeds means for computing a measure of the average of the binary values provided at the output of said logical circuit.

3,404,262
ELECTRIC ANALOGUE INTEGRATING AND DIFFERENTIATING CIRCUIT ARRANGEMENTS
Anthony John Shawcross Udall, Ashford, Middlesex, England, assignor to Electric & Musical Industries Limited, Middlesex, England, a company of Great Britain
Filed June 11, 1964, Ser. No. 374,446
Claims priority, application Great Britain, June 14, 1963, 23,727/63
10 Claims. (Cl. 235—183)

This specification describes a circuit for producing a rectangular waveform of which the mark-to-space ratio varies to represent the first derivative with respect to time

of an input signal comprising an integrator and a rectangular waveform generator or bistable circuit connected in a closed loop in which the input signal is added to the output signal of the integrator for application to the rectangular wave generator or bistable circuit. The rectangular waveform output of the circuit can be modu-



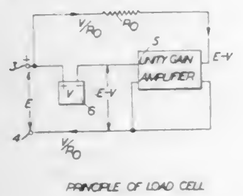
lated by a second variable so that the modulated signal on further integration produces the integral of the second variable with respect to the variable represented by the input signal. Two such circuits may be used to produce $\int y.dx+\int x.dy=x.y$. Drift stabilisation of the circuit may be provided by a resistor connected in parallel with each integrating capacitor.

3,404,263

FLUID FLOW SIMULATION APPARATUS

Raymond Wilson Williams, Hitchen, England, assignor to British Aircraft Corporation (Operating) Limited, London, England, a British company

Filed Mar. 25, 1964, Ser. No. 354,704
Claims priority, application Great Britain, Mar. 28, 1963, 12,372/63
6 Claims. (Cl. 235—184)



To achieve a constant current flow, independent of changes of input voltages (as required in fluid network distribution analysers), the circuit input voltage is combined with a fixed opposing voltage at the input of the unity gain amplifier without phase reversal. A resistance connected between the output of the unit gain amplifier and the circuit input terminal then passes a current dependent only on the fixed opposing voltage and the value of the said resistance.

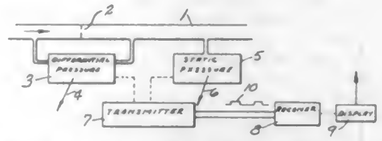
3,404,264

TELEMETERING SYSTEM FOR DETERMINING RATE OF FLOW

Carl J. Kugler, Philadelphia, Pa., assignor to American Meter Company, Incorporated, Philadelphia, Pa., a corporation of Delaware

Filed July 19, 1965, Ser. No. 473,117
8 Claims. (Cl. 235—194)

1. A telemetering system comprising a first stylus positioned in accordance with the value of a first quantity, a first switch actuated by the first stylus, a second stylus positioned in accordance with the value of a second quantity, a second switch actuated by the second stylus, first and second cams rotated at a synchronous speed, said first cam cooperating with the first stylus and having a logarithmic surface whereby the first switch is actuated for a first interval corresponding to the logarithm of the first quantity, said second cam having a logarithmic surface cooperating with the second stylus whereby the second switch is actuated for a second interval cor-



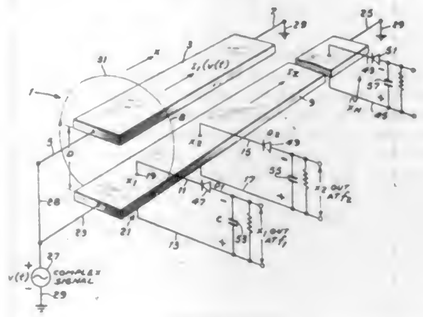
responding to the logarithm of the second quantity, means positioning said cams so said first and second intervals are in additive relation and the total interval corresponds to the logarithm of the first and second quantities plus the logarithm of a third quantity, and means for generating a pulse of duration proporational to said total interval and corresponding to the product of the first, second, and third quantities.

3,404,265

DISTRIBUTED HALL EFFECT MULTIPLIER

Lucio M. Vallese, Glen Ridge, and Louis A. De Rosa, Upper Montclair, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Aug. 26, 1965, Ser. No. 482,861
6 Claims. (Cl. 235—194)



A distributed Hall effect multiplier consisting of an elongated conductor slab and a parallel slab of Hall effect material magnetically coupled thereto, with pairs of output terminals spaced along the Hall effect slab, each pair coupled to an integrating circuit either directly or via a diode. In other embodiments the Hall effect material in the second slab is alternated with strips of ordinary conductor material, or is connected to a pair of output electrodes distributed along the length of the slab and the electrodes are in turn connected to a distributed capacitor via high resistivity plates.

3,404,266

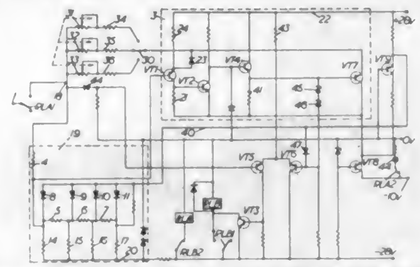
FLUID FLOW SIMULATION APPARATUS INCLUDING A FUNCTION-GENERATION CIRCUIT

Frank J. Woodley, Knebworth, England, assignor to British Aircraft Corporation (Operating) Limited, London, England, a British company

Filed Apr. 8, 1964, Ser. No. 358,333
Claims priority, application Great Britain, Apr. 16, 1963, 14,879/63
8 Claims. (Cl. 235—197)

To provide an electrical analogue of the expression $E=K_0f(I)$ a curve-forming network of the kind including a network of resistances and biased rectifiers

provides different effective resistances for different values of the input voltage, the first resistor of the network being always effective. To permit easy adjustment of the constant K_0, a unity gain amplifier of high im-



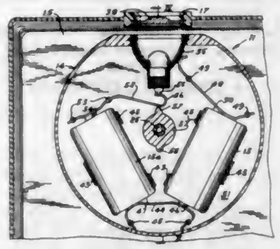
pedance and having no phase reversal has its input connected to the circuit input through the first network resistor and its output connected to the circuit input through a further resistor, adjustment of which varies the value of K_0.

3,404,267

LIGHTS FOR PORTABLE DEVICES

Armand S. Zucker, Skokie, Ill., assignor to Famous Keystone Corporation, Chicago, Ill., a corporation of Illinois

Filed Sept. 27, 1966, Ser. No. 582,421
1 Claim. (Cl. 240—6.4)



1. In a portable device, a housing, a battery operated light unit mounted in said housing and arranged to selectively project light either outwardly from said housing or inwardly into said housing, said light unit including a single lamp selectively movable between a first position to project light outwardly from said housing and a second position to project light inwardly into said housing, a control knob connected to said light unit and extending outside said housing to control the position of said light unit, means journalling said light unit for rotation on its axis and having two projections at positions corresponding to said first and second positions of said lamp, and a switch element for energizing and de-energizing said lamp located in said light unit and arranged to contact one of said two projections to be activated when said lamp is in either said first or said second position, whereby said lamp is automatically energized when said lamp is in either said first or said second position.

3,404,268

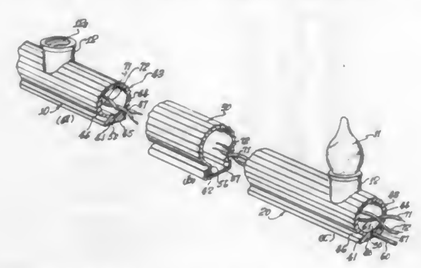
FORMABLE LIGHT STRIP

Lawrence M. Fowler, 419 W. Palmer Ave., Glendale, Calif. 91204

Filed Dec. 23, 1966, Ser. No. 604,406
3 Claims. (Cl. 240—10)

A series of flexible tubular strip sections connected together and adjustable to a desired configuration. Each section contains an upper passage for electrical wiring and a lower mounting base having a passage for a shape-retaining stiffening wire. The strip sections having an upper open-

ing for light bulb socket outlets. The base is formed with a pair of external longitudinal slots on each side and is provided with a longitudinal split to provide access to interior surfaces. The strips are held in a closed position by mounting clips. The mounting clips are provided with



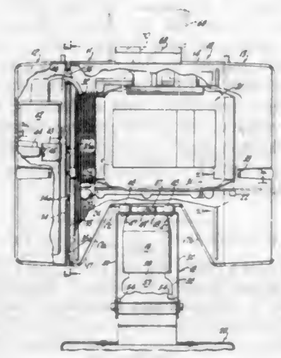
resilient side fingers adapted to fit closely into the longitudinal base slots. The strip sections are connected together, end to end by slip-on coupling tubes. The coupling tubes are provided with an internal longitudinal shoulder construction to accommodate the external longitudinal construction of the strip sections.

3,404,269

MERCURY VAPOR LIGHTING FIXTURE

Henry C. Schiffer, Chesire, and Thomas E. Creed, Yalesville, Conn., assignors to The Miller Company, Meriden, Conn., a corporation of Connecticut

Filed Oct. 26, 1966, Ser. No. 589,732
11 Claims. (Cl. 240—11.4)



A lighting fixture having a multisectioned housing enclosing electrical components for operating a depending lamp carried by the housing. The housing has a double open ended hollow central section with spaced metal plates positioned therebetween for holding a transformer ballast. Two end closure sections are secured to the central section in heat insulating relationship for carrying electrical components which should not be subjected to high temperatures.

3,404,270

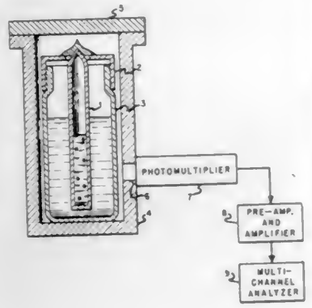
RADIOACTIVE ISOTOPE-ACTIVATED LIGHT SOURCE FOR COLOR PHOTOMETER

Harley H. Ross, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Oct. 23, 1965, Ser. No. 504,268
5 Claims. (Cl. 250—43.5)

A radioactivity-activated scintillator is utilized as a light source for a color photometer for quantitative

chemical analysis, whereby illumination is obtained without external power consumption. The output of such a



photometer, utilizing the above light source, is digital in nature and the precision obtainable thereby is substantially greater than heretofore possible.

3,404,271
METHOD FOR INSPECTING SEMICONDUCTOR DEVICES USING ELECTRON MIRROR MICROSCOPY

Kurt Lehovec and Hans Schier, Williamstown, Mass., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

No Drawing. Filed Nov. 2, 1966, Ser. No. 591,448
13 Claims. (Cl. 250—49.5)

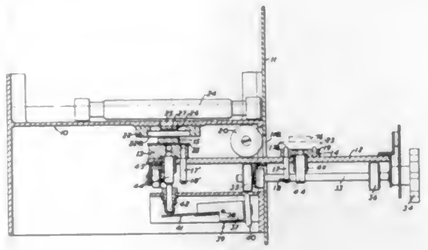
1. A process for nondestructive inspection of semiconductor devices by means of electron mirror microscopy comprising the steps of directing a beam of electrons towards a surface of said device which is biased slightly negative with respect to the source of said electrons so as to reflect them in front of said surface and provide an image thereof, energizing said surface by exposing said surface to radiation so as to produce electrical potential variations thereon, and ascertaining the electron distribution of said reflected electrons to determine the electrical characteristics of said device.

3,404,272
RADIATION SENSITIVE DEVICES

Robert G. Bryer, Ruislip, Middlesex, England, assignor to R. A. Stephen and Company Limited

Filed May 15, 1964, Ser. No. 367,627
Claims priority, application Great Britain, May 22, 1963, 20,378/63
7 Claims. (Cl. 250—83)

1. A dosimeter measuring device comprising a housing, receptacle-defining means supported within the housing for receiving a radiation-sensitive element in said receptacle and having a first window for permitting radiation to fall on an element in said receptacle from one direction and a second window to allow radiation to emerge from the element in a different direction, means for sensing the radiation in said different direction, light guide means for directing the radiation in said different direction from said second window to said sensing means, a draw-out holder rectilinearly movable in an access aperture in the housing and between two limit positions, two platforms carried by said holder for supporting reference and specimen radiation sensitive elements, said platforms being spaced so that in one limit position of the holder the reference element can be positioned adjacent the receptacle-defining means whilst the specimen element can be loaded onto or unloaded from the holder externally of the housing and in the other limit position the specimen element is positioned adjacent the receptacle-defining means, and manually operated cam means carried by said holder and operative to lift each said platform when positioned with its associated element adjacent said receptacle



defining means whereby to position said element in said receptacle to close said receptacle in light sealing relationship from the interior of the housing accommodating said draw-out holder.

3,404,273
DEVICE FOR MEASURING THE CONCENTRATION OF FISSION PRODUCTS IN SUSPENSION IN A FLUID

Paul Douet, Savigny-sur-Orge, and André Roguin, Antony, France, assignors to Commissariat à l'Energie Atomique, Paris, France

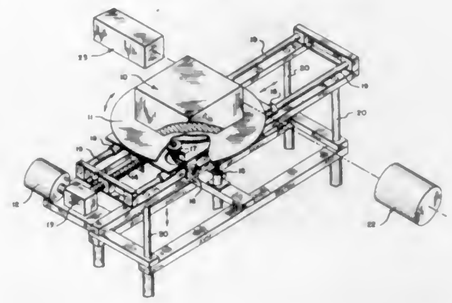
Filed Jan. 28, 1965, Ser. No. 428,802
Claims priority, application France, Feb. 7, 1964, 963,092
4 Claims. (Cl. 250—83.1)

The present invention relates to an apparatus for monitoring fluid streams in order to detect radiation emanating from said streams as an indication of the concentration of fission products carried therein. The invention is particularly adapted for use in a system which senses the presence or occurrence of ruptured fuel element cans in a nuclear reactor. The apparatus of the present invention basically includes a neutron detector around which are arranged a plurality of identical sample pipes. The sample pipes are disposed parallel to the longitudinal axis of the cylindrical counter, all being equidistant therefrom, and are embedded in a lead sleeve. Each of the sample pipes is connected to a different channel of the nuclear reactor whereby a plurality of separate samples, each from a different channel, may be simultaneously monitored. An outer sleeve of neutron-moderating material lined with cadmium foil may be used to shield the detector from exterior neutrons and an inner sleeve of neutron-moderating material may be used between the outer sleeve and the lead sleeve as a reflector.

3,404,274
METHOD FOR MEASURING THE SHIELDING EFFECTIVENESS OF A HETEROGENEOUS STRUCTURE FOR SHIELDING AGAINST FUNDAMENTAL CHARGED PARTICLES

Phillip Sidney Mittelman and Richard C. Ross, Armonk, N.Y., assignors to United Nuclear Corporation, White Plains, N.Y., a corporation of New York

Filed Sept. 12, 1963, Ser. No. 308,593
2 Claims. (Cl. 250—83.3)



1. A method for measuring the shield effectiveness of a heterogeneous structure for shielding against fundamental charged particles comprising:

(a) directing a beam of gamma radiation of a predetermined initial intensity to a plurality of locations of said structure;

(b) detecting separately for each location only the intensity of the attenuated and substantially unscattered gamma radiation passed through said structure;

(c) correlating the initial intensity (I_0) to the intensity (I) of the attenuated and substantially unscattered gamma radiation of each location;

(d) determining for each location the integral areal electron density of the path of said beam of gamma radiation in accordance with the mathematical relationship

$$\frac{1}{\mu_e} \ln \left(\frac{I_0}{I}\right)$$

wherein μ_e is the Compton cross section per electron; and

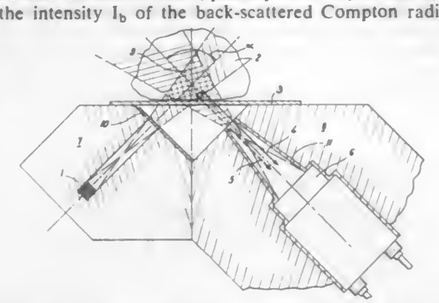
(e) relating each integral areal electron density to the location to which the beam of gamma radiation is directed whereby the measurement for the total shield effectiveness of said area against said charged particles are obtained.

3,404,275
METHOD OF ASSAYING AND DEVICES FOR THE APPLICATION OF SAID METHOD

Pierre Martinelli, Chatillon-sous-Bagneux, France, assignor to Commissariat à l'Energie Atomique, Paris, France

Filed Mar. 30, 1964, Ser. No. 355,760
Claims priority, application France, Apr. 1, 1963, 930,019
2 Claims. (Cl. 250—83.3

1. Method of analysis for determination of the quantity of heavy elements contained in a sample, the steps of exciting a fluorescent K line of a heavy element by gamma radiation emitted by a radio element, the energy of said gamma radiation being several times higher than the energy of said K line of the heavy element, simultaneously effecting separate counts for determining the intensity I_k of said excited K line (quantity of heavy element) and the intensity I_b of the back-scattered Compton radiation

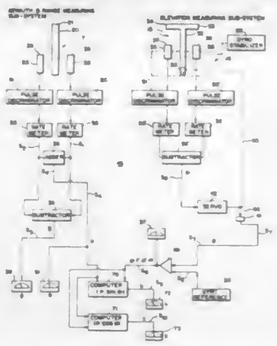


(quantity of sample tested), the ratio I_k/I_b of said intensity being directly dependent on the content of heavy element.

3,404,276
AIRCRAFT GUIDANCE SYSTEM FOR LOCATING A LANDING AREA

Angelo J. Campanella, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio

Filed June 9, 1964, Ser. No. 373,790
8 Claims. (Cl. 250—83.3)



2. An aircraft guidance system comprising,

an aircraft,

a beacon positioned in a landing area for emitting a substantially omnidirectional nuclear radiation beam,

first means mounted on said aircraft for sensing the direction of radiation from said beacon and producing a first signal that is a function of the azimuth angular deviation of said aircraft heading from said beacon,

second means mounted on said aircraft for sensing the direction of radiation from said beacon and producing a second signal that is a function of the elevation angular deviation of said aircraft heading from said beacon, and

means responsive to said first and second signals for providing guidance information.

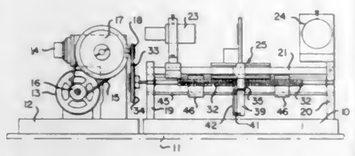
3,404,277
CONSTANT VELOCITY DRIVE FOR MOSSBAUER EFFECT ANALYZER

David A. Jerko, Pittsburgh, Pa., assignor, by mesne assignments, to International Chemical & Nuclear Corporation, Burbank, Calif., a corporation of California

Filed Sept. 4, 1964, Ser. No. 394,541
1 Claim. (Cl. 250—106)

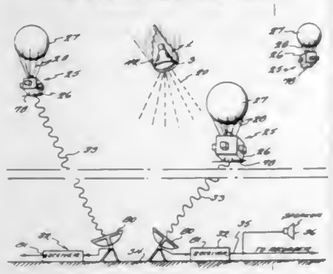
A Doppler effect analyzer and particularly a mechanical Mossbauer analyzer providing a constant velociy

of source relative to absorber. A plurality of spaced parallel rods carry a source of gamma radiation, a gamma radiation detector adjacent the other end and resonant absorber for said gamma radiation between said source and said detector, one of the source and absorber being slidably mounted on the rods for movement thereof, a



lead screw means parallel to the rods and threadingly engaging a moving nut, a nut engaging means on one of said movable source and absorber, drive means from the lead screw and a resilient shock absorbing connection between the drive means and the lead screw which are isolated from one another by motion absorbing means.

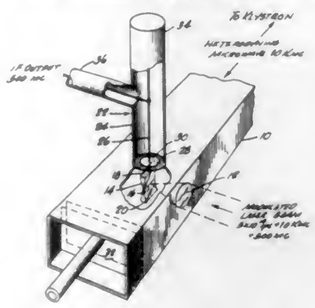
3,404,278
RE-ENTRY COMMUNICATIONS SYSTEM AND METHOD
Henry R. Chope, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Continuation-in-part of application Ser. No. 125,797, July 21, 1961. This application Nov. 12, 1963, Ser. No. 322,671
5 Claims. (Cl. 250—199)



1. A method of communications between a space vehicle and a planet during reentry into the atmosphere, comprising the steps of:
disposing an X-ray transmitter in said space vehicle,
radiating an X-ray beam from said space vehicle in the direction of the planet during re-entry,
modulating said X-ray transmitter with an intelligence signal,
deploying at least one airborne station for receiving the modulated X-ray beam transmitted from said space vehicle and restransmitting said intelligence signal to the planet by another communications means.

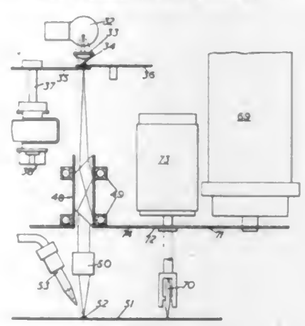
3,404,279
MODULATED LIGHT DETECTOR
Herbert F. Mataré, Pacific Palisades, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Apr. 5, 1965, Ser. No. 445,612
5 Claims. (Cl. 250—199)

1. A receiver for modulated optical frequency beams, comprising:
a bicrystal including a junction area sensitive to optical frequency electromagnetic waves, said bicrystal having electrical characteristics which vary according to the frequency of electromagnetic waves incident thereon and also according to voltages impressed thereacross;
lens means for directing a modulated electromagnetic beam of optical frequencies on said junction area of said bicrystal;
means for impressing, across said junction area of said bicrystal, a local heterodyning signal of the same order of magnitude as the highest modulating frequency of said modulated electromagnetic beam to produce beat frequency signals therewith; and



conductor means for conducting said beat frequency signals to detector means, said conductor means including low pass filter means for preventing the conduction of high, sum frequency, beat signals to the detector means.

3,404,280
METHOD AND APPARATUS FOR FOLLOWING AN OUTLINE ON A SUBSTRATE
Kenneth V. Diprose, Westbury-on-Trym, Bristol, England, assignor to Hancock & Co. (Engineers) Limited, Croydon, Surrey, England, a British company
Filed Oct. 29, 1964, Ser. No. 407,395
20 Claims. (Cl. 250—202)

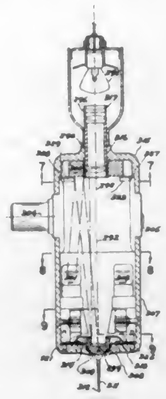


Method and apparatus for following an outline on a substrate, in which a series of consecutive spots of light is formed on one side of the outline, each spot crossing the outline at an oblique angle and being extinguished on the other side, thereby producing a scanning pattern which is asymmetrical with respect to the outline to compensate for the asymmetrical placing with respect to the outline of a tool whose movements are controlled by the outline.

3,404,281
ULTRA-SENSITIVE PHOTOELECTRIC CONTOUR PROBING DEVICE
Werner H. Fengler, 23651 Fordson Drive, Dearborn, Mich. 48124
Filed Mar. 8, 1965, Ser. No. 437,810
22 Claims. (Cl. 250—202)

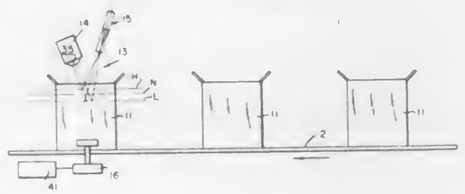
The device is an ultrasensitive probe for use with contour-reproducing apparatus. The probe uses a balanced

light path between a plurality of photoelectric cells and a light source. A mirror attached to the probe reflects the light from the light source. At the selected or null position of the probe all light cells receive equal amounts



of light. Any deviation from the null position produces a signal in a servo system to bring the probe to its null position. The servo system may also produce signals which may control other desired apparatus such as a cutting tool, drafting equipment etc.

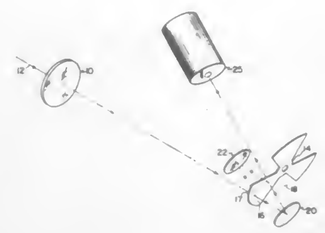
3,404,282
APPARATUS FOR CHECKING SUBSTANCE LEVEL IN CONTAINERS WITHIN VARIABLE LIMITS
Harris Walker, Baldwin, N.Y., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Continuation of abandoned application Ser. No. 99,780, Mar. 31, 1961. This application Oct. 5, 1964, Ser. No. 401,443
6 Claims. (Cl. 250—222)



Apparatus for checking the level of a substance in a filled moving container within an acceptable deviation range comprises a light source angularly projecting a parallel light beam onto the top of the substance in the container and a photocell unit for receiving light reflected from that surface, there being a calibrated adjustable iris diaphragm on the unit for selectively varying the field of view of the photocell as the sole adjustment necessary to adapt the apparatus to different deviation ranges.

3,404,283
DIFFERENTIAL SPECTRAL COMPARATOR
Daniel F. Stanfill III, Stamford, and John D. Rehnberg, Norwalk, Conn., assignors to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware
Filed Jan. 10, 1966, Ser. No. 519,513
2 Claims. (Cl. 250—226)

A radiometer is provided which selectively compares two different spectral bands from the same field of view of a single detector. A chopper with a reflective surface on one side is flanked by selective reflecting means, each of which passes radiation in a different spectral band. These elements are positioned such that the detector al-



ternately looks at the selected spectral bands, and the field of view of the detector in any position of the chopper remains the same regardless of the spectral band being viewed.

3,404,284
PIN-HOLE DETECTOR WITH AIR NOZZLES FOR CLEANING SCANNER WINDOW
Philip C. Doolittle, Valparaiso, Ind., assignor to United States Steel Corporation, a corporation of Delaware
Filed Jan. 18, 1966, Ser. No. 521,332
3 Claims. (Cl. 250—239)

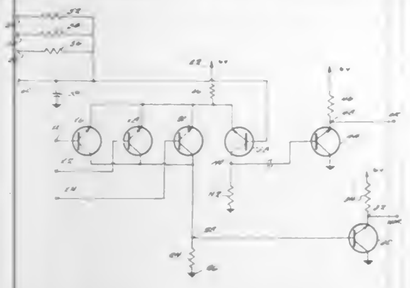


1. A pin-hole detector with air nozzles for cleaning the scanner window thereof, said detector being provided with guide rails for adjustable blinders, said rails having incorporated therein air nozzles adapted to direct a forceful flow of air across the surface of said scanner window.

3,404,285
BIAS SUPPLY AND LINE TERMINATION SYSTEM FOR DIFFERENTIAL LOGIC
Lester H. Hazlett, St. Paul, Minn., assignor to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed May 3, 1965, Ser. No. 452,840
5 Claims. (Cl. 307—203)

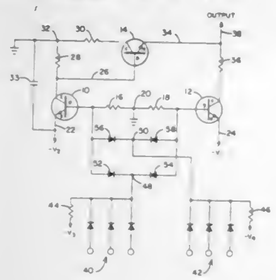
Apparatus for supplying a bias in a system of logic circuits which provides differential logic signal outputs. Re-

sistors are connected between each differential logic signal output and a common bus to form a reference voltage on



the bus, this reference voltage being applied as a bias to the logic circuits.

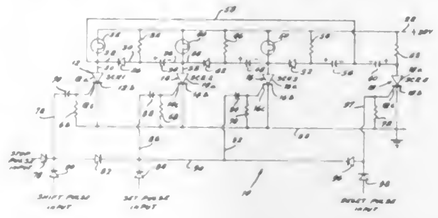
3,404,286
SIGNAL RESPONSIVE APPARATUS
Peter Figielski, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 18, 1965, Ser. No. 480,711
3 Claims. (Cl. 307—218)



A high fan-out driver circuit capable of driving a relatively large number of similar logic circuits while maintaining a rapid switching time is described. First and second transistors are connected in a balanced configuration to a suitable diode logic input circuit. Resistors in the base circuit assist in providing a balanced circuit operation. The balanced transistors are coupled to an amplifier output transistor. When the input conditions to the diode logic are such that the amplifier stage is rendered conductive, a relatively large current is available for supplying charging currents to the capacity loads which may be present between the output of the amplifier circuit and the inputs to the logic circuits being driven. When the input conditions are such that the amplifier stage is non-conducting, one of the balanced pair of transistor circuits is heavily conductive and provides essentially a short circuit path for the discharge of the capacitive loads.

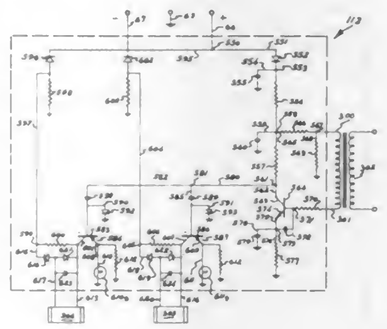
3,404,287
RING COUNTER
Bobby Gene Hubbard, Florissant, Mo. (2615 Park Ave., Cairo, Ill. 62914)
Filed July 8, 1964, Ser. No. 381,065
14 Claims. (Cl. 307—223)

A multi-stage ring counter circuit employing a single silicon controlled rectifier in each counter circuit stage, the circuit being characterized by the fact that the active stage or stages are those in which the silicon controlled rectifier is non-conducting. The circuit is also characterized by coupling the anodes of the rectifiers in adjacent stages through circuits which include a capacitor in series with a diode so connected that when a non-conducting rectifier goes into a conducting condition it establishes a path for discharging the capacitor and dissipating the



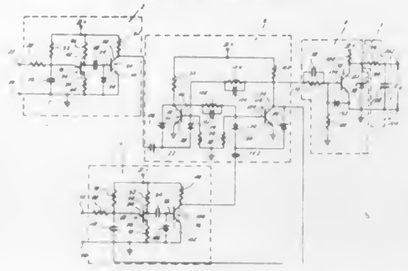
change on the anode of the rectifier in the succeeding stage to cause the said rectifier in the succeeding stage to become non-conducting. The present circuit is also distinguished by novel means for stepping, shifting, stopping and resetting the counter and the counter stages.

3,404,288
ELECTRONIC PHASE COMPARATOR SENSING MEANS
Jack D. Noble, Lafayette, Calif., and William Fleming, 2024 10th Ave., Oakland, Calif. 94606; said Noble assignor to said Fleming
Original application Oct. 4, 1960, Ser. No. 60,510, now Patent No. 3,259,199, dated July 5, 1966. Divided and this application Oct. 21, 1965, Ser. No. 516,811
2 Claims. (Cl. 307—232)



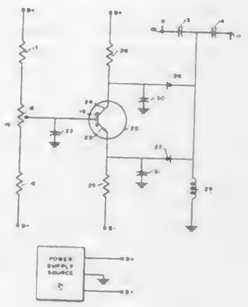
An electronic sensing device for providing an output signal responsive to the comparison between two input signals is disclosed. The device comprises a transformer with power leads from taps thereon adapted to carry current of opposite phase relationship, a rectifying means of opposite phase sensitivity in each power lead forming an intermittent pulsing voltage of opposite phase with each power lead being connected to a relay transistor. Means are provided for receiving two separate input signals of alternating current in bucking relationship and providing a resultant alternating current which is amplified. The positive pulses of this resultant alternating current are filtered out and the negative pulses are applied to the bases of the relay transistors. When the negative input impulse of the amplified alternating current is applied to the transistors it will be in-phase with and match the intermittent pulses on one of them, depending on the relative strength of each bucking voltage, thereby producing an output from the in-phase transistor.

3,404,289
SIGNAL RATIO SYSTEM UTILIZING VOLTAGE CONTROLLED OSCILLATORS
Richard F. Broderick, 1502 Smallwood, Houston, Tex. 77023
Filed May 21, 1965, Ser. No. 457,874
1 Claim. (Cl. 307—235)



The invention relates to a signal ratio system wherein two signals whose ratio is to be determined are each fed into a first voltage controlled oscillator and a second voltage controlled oscillator, respectively. The voltage controlled oscillators are used to control the conduction states of a bistable flip-flop circuit. The output signal of the flip-flop circuit is then used to measure the ratio of the two input signals.

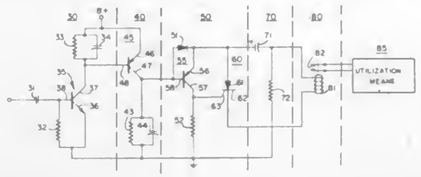
3,404,290
PEAK-TO-PEAK INTERMEDIATE FREQUENCY SINGLE CONTROL LIMITER
David A. Meyer, Seaford, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed May 25, 1965, Ser. No. 458,798
3 Claims. (Cl. 307—237)



A peak-to-peak I.F. amplitude limiter circuit which includes a transistor having a pair of back-biased diodes, one of which is in the emitter circuit and the other in the collector circuit. A potential divider in the base electrode circuit selectively varies the potential at the base and in turn at the diodes. Thus, by varying the divider the limiting or clipping I.F. level is adjusted.

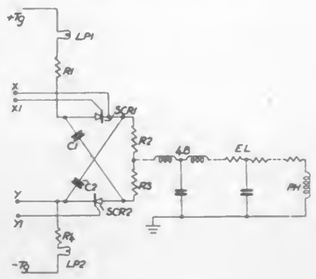
3,404,291
CONTROL CIRCUIT
Charles R. Green, Mount Prospect, and George G. Rychtytzkyj, Chicago, Ill., assignors to Admiral Corporation, Chicago, Ill., a corporation of Delaware
Filed July 14, 1965, Ser. No. 471,804
3 Claims. (Cl. 307—239)

A high speed switching circuit held in a "ready" condition by the presence of a continuous signal of predetermined frequency and minimum amplitude. A pulse responsive load circuit is connected to a charged storage capacitor through the output of silicone controlled rectifier (SCR), the gate circuit of which is transistor controlled. A reverse bias is maintained across the control



transistor to preclude false triggering of the SCR. Upon cessation of the signal, the control transistor rapidly fires the SCR discharging the capacitor into the pulse responsive output circuit.

3,404,292
ELECTRONIC TELEGRAPH RELAY INCLUDING SILICON CONTROLLED RECTIFIERS RESPONSIVE TO BINARY INPUT SIGNALS
Ernest Sydney Simmonds, Bexley, Kent, England, assignor to Telephone Manufacturing Company Limited, London, England, a British company
Filed July 6, 1965, Ser. No. 469,480
Claims priority, application Great Britain, Aug. 4, 1964, 31,669/64
5 Claims. (Cl. 307—252)

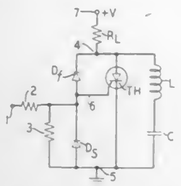


The specification of this application discloses a form of electronic telegraph relay wherein a continuously running oscillator serves as a source of control signals for switching a pair of silicon controlled rectifiers in response to a binary input signal.

3,404,293
THYRISTOR SWITCH UTILIZING SERIES DIODES TO IMPROVE DYNAMIC BREAKDOWN CAPABILITY AND REDUCE TIME TO RESTORE FORWARD BLOCKING
William B. Harris, Bernardsville, Richard P. Massey, Westfield, and Frank J. Zgebura, Whippany, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 25, 1966, Ser. No. 537,544
12 Claims. (Cl. 307—252)

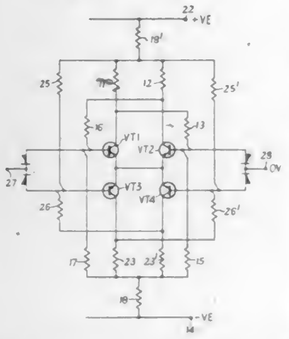
1. A switch circuit comprising at least one thyristor having four layers forming three junctions between said layers, an anode terminal connected to the first of said layers, a gate terminal connected to the third of said layers and a cathode terminal connected to the fourth of said layers, the middle junction existing between said second and third layers having an inherent reverse recovery time, a series-resonant turn-off circuit connected into

a circuit in series with said anode and cathode terminals, a first diode connected between said cathode and gate terminals, a second diode connected between said anode



and gate terminals, the inherent reverse recovery time of said middle junction being less than that of said first diode and greater than that of said second diode.

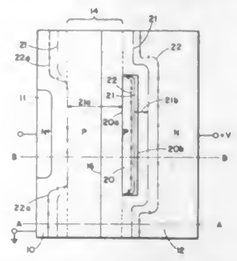
3,404,294
POLY-STABLE TRANSISTOR CIRCUITS
Eric Metcalf, Farnborough, England, assignor to The Solartron Electronic Group Limited, Farnborough, England, a British company
Filed Mar. 10, 1965, Ser. No. 438,498
Claims priority, application Great Britain, Mar. 18, 1964, 11,510/64
1 Claim. (Cl. 307—288)



A penta-stable transistor circuit is disclosed which comprises two bi-stable transistor circuits, the transistors in one circuit being complementary to the transistors in the other circuit and the emitters of the four transistors being connected together. The collector electrodes of the transistors in each bi-stable circuit have a common collector load to which the base electrodes of the transistors in the other bi-stable circuit are connected through impedance elements. The arrangement is such that there are five stable states of the circuit, four of them being the four different combinations of stable states of the two bi-stable circuits and the other being the state in which all four transistors are off.

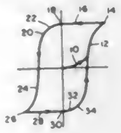
3,404,295
HIGH FREQUENCY AND VOLTAGE TRANSISTOR WITH ADDED REGION FOR PUNCH-THROUGH PROTECTION
Raymond M. Warner, Jr., Scottsdale, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Nov. 30, 1964, Ser. No. 414,525
15 Claims. (Cl. 307—302)

A semiconductor structure having a pair of rectifying junctions respectively separating regions of opposite conductivity type materials, with one junction being of greater extent than the other. A lock region having a conductivity type of the intermediate region is embedded in the region adjacent the longer junction and extends in spaced parallel relationship to that junction for limiting the penetration of any depletion layer toward said second junction



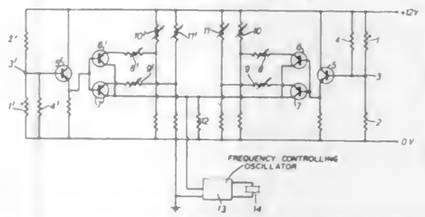
thereby preventing voltage punch-through of the intermediate region. The lock region extends only partially across the semiconductor structure.

3,404,296
TRANSDUCER HAVING A TRANSITION FROM A FERROELECTRIC STATE TO AN ANTIFERROELECTRIC STATE
Hans Jaffe, Cleveland Heights, and Don A. Berlincourt, Chagrin Falls, Ohio, assignors to Clevite Corporation, a corporation of Ohio
Filed July 16, 1963, Ser. No. 295,422
6 Claims. (Cl. 310—8)



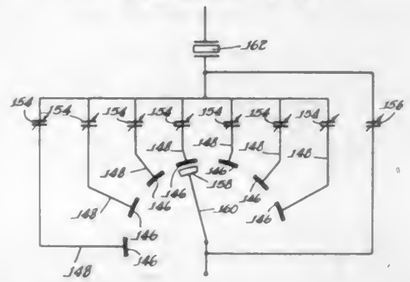
1. An electromechanical transducer comprising: a pair of electrodes; and a ceramic element interposed between said electrodes operative to undergo a transition from a polarized ferroelectric state to an antiferroelectric state upon application of a compressive mechanical stress to generate an electrical output across said electrodes.

3,404,297
PIEZO-ELECTRIC CRYSTAL CIRCUIT ARRANGEMENTS
David John Fewings, Chelmsford, and Harvey Joyce Pipe, Maldon, England, assignors to The Marconi Company Limited, London, England, a British company
Filed Mar. 31, 1966, Ser. No. 539,059
Claims priority, application Great Britain, Apr. 13, 1965, 15,732/65
9 Claims. (Cl. 310—8.1)



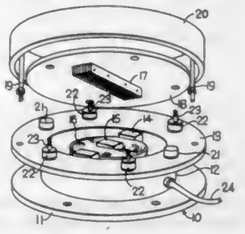
A temperature control circuit arrangement is provided for a crystal control oscillator in which the crystal has an arched temperature-frequency characteristic. A temperature control voltage is provided by two potentiometers each including a thermistor in series with a resistance and a combining arrangement which combines the output voltages from across the thermistor of one potentiometer and the voltage across the resistor of the other potentiometer in such a manner as to produce an arched control voltage which is arched in the opposite sense to the arched temperature-frequency characteristic of the crystal and which has a turn-over point at substantially the same temperature as the turn-over point of the crystal. The control voltage is applied in any known manner to compensate for the variation of the oscillator frequency with temperature. For example, the control voltage may be utilized to alter the capacitance of a variable capacitance diode.

3,404,298
THERMALLY SENSITIVE COMPENSATING DEVICE
Edward A. Roberts, Lincolnwood, Ill., assignor to Kenton Engineering Corporation, Skokie, Ill., a corporation of Illinois
Filed Aug. 19, 1966, Ser. No. 573,574
6 Claims. (Cl. 310—8.9)



1. Apparatus comprising electrical circuitry having a resonant frequency which varies with variations in temperature of said circuitry, a thermally responsive transducer means connected to said electrical circuitry for offsetting the variations on the resonant frequency with variations in the temperature of said electrical circuitry, said transducer includes a variable capacitor having a plurality of shaped plates with a stator configuration which is a function of variations in the resonant frequency of said electrical circuitry, and a thermally responsive rotor means intermediate to said shaped plates for altering the capacitance of said variable capacitor as a function of changes in the temperature of said transducers means.

3,404,299
ELECTROMAGNETIC CONVEYOR MOTOR
James H. MacBlane, Rte. 119, Homer City Road, Indiana, Pa. 15701
Filed Apr. 20, 1966, Ser. No. 543,944
3 Claims. (Cl. 310—17)



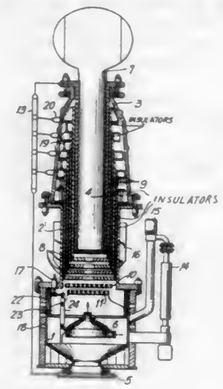
An electromagnetic vibrator for imparting vibrations to materials handling devices such as conveyors and feed hoppers including a housing having a radial flange, rubber bushings mounted on the flange by threaded studs, a core and coil mounted in the housing; a metal plate having an armature secured to it, the plate being mounted on the studs against the rubber bushings. Nuts on the bushings limit movement of the plate away from the coil.

3,404,300
SYNCHRONOUS MOTOR
Jacques Johannes Hendrik Croymans and Louis Adrianus Leopold Leblans, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 26, 1966, Ser. No. 545,483
3 Claims. (Cl. 310—164)



1. A compact high torque self-starting synchronous motor comprising a stator assembly including a pair of opposite side plates of magnetic material, a coil former and field coil between said plates, inwardly projecting pole pieces pressed from each of said plates for intermeshed relationship defining a circular stator cage remote from said field coil; a permanent magnet rotor, having peripheral, alternate magnetic polarity, means journaling said rotor between said plates for rotation within said stator cage, a gear train between said plates driven by said rotor and means coupled with said gear train for preventing movement of said gear train in one direction.

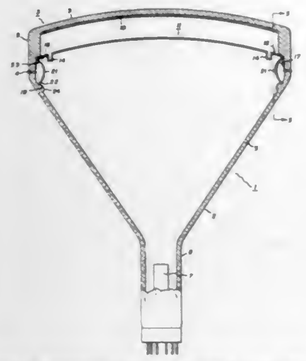
3,404,301
HIGH-VOLTAGE MERCURY-ARC RECTIFIER
Filipp Ivanovich Butaev, Krasnokazarmennaya ulitsa 19, kv. 43, Nikolai Semenovich Klimov, Krasnokazarmennaya ulitsa 19, kv. 94, Alexei Alexandrovich Pertsev, Krasnokazarmennaya ulitsa 19, kv. 136, Nikolai Pavlovich Stepanov, Sadovo-Sukharevskaya ulitsa 2/34, kv. 6, Alexandr Mikhailovich Shemaev, Metrostroevskaya ulitsa 9, kv. 3, and Ilya Dmitrievich Shkolin, B. Spasskaya ulitsa 7, kv. 15, all of Moscow, U.S.S.R.
Filed Aug. 3, 1965, Ser. No. 476,841
2 Claims. (Cl. 313—33)



A high-voltage mercury arc rectifier having a grid in the form of a disc with cuts radiating from the center towards the edge, the grid being located between intermedi-

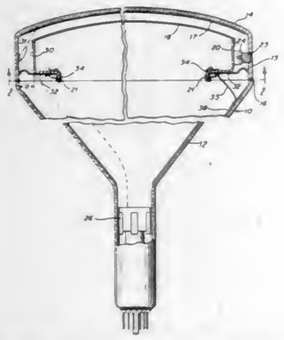
ate electrodes and an anode on one side of the grid, and a cathode and excitation anode on the other side, the latter being surrounded by a screen which covers the end portion of the excitation anode while only partially covering the cylindrical portion thereof.

3,404,302
ENVELOPE WALL WITH TWO CONTINUOUS LEDGES FOR POSITIONING AND SUPPORTING APERTURE MASK
William H. Nicklas, North Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed June 21, 1967, Ser. No. 647,699
3 Claims. (Cl. 313—85)



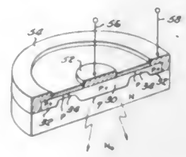
A support arrangement for an aperture mask including a continuous self-stiffened periphery and a number of integral male or female registry points thereabout. The support arrangement includes a pair of continuous spaced peripheral ledges molded from the interior surface of the tube envelope, one of which ledges includes a number of male or female registry points molded therein. The aperture mask, as supported in the tube, is disposed so that the periphery thereis is in juxtaposition with said one ledge and the registry points are aligned. Tensioning means, in the form of elongated wire springs, span the ledges to firmly restrain the aperture mask from movement.

3,404,303
COLOR TUBE WITH MASK INTERIOR PERIPHERAL SHIELD OF TREATED STEEL FOIL FOR IMPROVED HEAT RADIATION
Nathan D. Levin, Highland Park, Ill., assignor to Admiral Corporation, Chicago, Ill., a corporation of Delaware
Filed Sept. 22, 1967, Ser. No. 669,774
2 Claims. (Cl. 313—89)



An improvement in color television picture tubes comprising utilization of steel foil electron shields having black oxide surfaces to intercept misdirected electrons from the electron gun. The steel foil may be easily cleaned, is sufficiently rigid to retain its shape during handling incident to assembly, and when treated to obtain a black oxide coating, its thermal emissive characteristics are substantially increased.

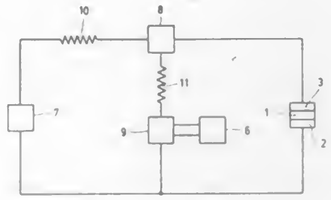
3,404,304
SEMICONDUCTOR JUNCTION DEVICE FOR GENERATING OPTICAL RADIATION
Edward L. Bonin, Richardson, and Gary E. Pittman and Bruce S. Reed, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Apr. 30, 1964, Ser. No. 363,885
15 Claims. (Cl. 313—108)



12. A semiconductor device, comprising:
(a) a body of Group III–Group V semiconductor compound having a first zone of one conductivity type and a second zone of an opposite conductivity type contiguous to and forming a rectifying junction with said first zone, and having means for emitting photons in the optical region of the electromagnetic spectrum when forward biased,
(b) said second zone defining a first, inner, relatively deep, low resistivity region spaced from the periphery of said rectifying junction and a second, shallow, high resistivity region laterally surrounding said first region and separating said first region from said periphery,
(c) means attached to said first zone and only to said first region in said second zone, effecting forward biasing of said rectifying junction, and emission, from said body, of said photons in said optical region of the electromagnetic spectrum,
(d) a portion of the major face of said body opposite said first region being unobstructed by any material that will not transmit photons,
whereby said second high resistance region alleviates adverse degradation of the photon emitting property of said portion of said surface of (d) and induces a more nearly linear emission of photons in proportion to degree of forward biasing across said junction.

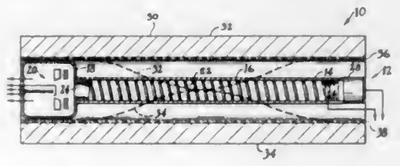
3,404,305
THREE REGION SEMICONDUCTOR HAVING RECTIFYING JUNCTIONS OF DIFFERENT COMPOSITIONS SO THAT WAVELENGTH OF EMITTED RADIATION DEPENDS ON DIRECTION OF CURRENT FLOW
Hubert Charles Wright, Redhill, Surrey, England, assignor to North American Philips Company Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 18, 1966, Ser. No. 542,705
Claims priority, application Great Britain, Jan. 18, 1965, 2,100/65
6 Claims. (Cl. 313—108)

A two-terminal semiconductor lamp comprising three regions alternating in conductivity type forming two rectifying junctions, which have soft electrical characteristics. The composition of the semiconductor at the two junctions is different. When a voltage of one polarity is applied, radiation at certain wavelengths occurs at one of the junctions. When a voltage of the opposite polarity is applied,



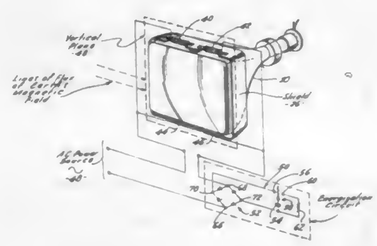
radiation at different wavelengths occurs at the other junction.

3,404,306
TRAVELING-WAVE TUBE FOCUSING FIELD STRAIGHTENER
Richard G. Johnson, Sunnyvale, Calif., assignor to Alltronics, Inc., a corporation of California
Filed Apr. 6, 1966, Ser. No. 540,761
9 Claims. (Cl. 315—3.5)



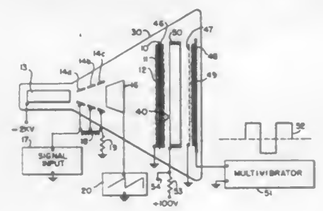
1. For a traveling-wave tube of the character including an electron gun for emitting a stream of electrons and directing it along a predetermined lineal path and having an elongated slow wave structure disposed about said stream and along said path in electromagnetic energy exchange relationship with said stream and having a straight field focusing magnet for providing an axial focusing and confining field along said path and in which said slow wave structure is immersed, a focusing magnetic field straightener comprising:
hollow tubular body member adapted to be disposed over said traveling-wave tube concentrically with said path and within said focusing field;
said tubular body being composed of substantially nonmagnetic rigid material and having an inner diameter substantially equal to the outer diameter of the traveling-wave tube, plus clearance tolerances, and having an outer diameter to permit its disposition within said focusing magnet,
said hollow tubular body member being further formed to define a spiral, strand receiving channel in the outer cylindrical surface thereof,
said channel having a predetermined depth and width and being of relatively close pitch compared to said inner diameter of said tubular body, and
magnetic strand material having a substantially constant cross dimension approximately equal to said predetermined width,
said strand material being disposed continuously and evenly along and within said strand receiving channel.

3,404,307
SWITCH-OPERATED COLOR TELEVISION DEMAGNETIZATION SYSTEM
Fred M. Hayden, Sherman Oaks, Calif., assignor to Packard-Bell Electronics Corporation, Los Angeles, Calif., a corporation of California
Filed Mar. 3, 1965, Ser. No. 436,731
12 Claims. (Cl. 315—8)



3. A demagnetization system for a television receiving set having a picture tube with a display face and a shield mounted around the picture tube comprising: a first coil mounted on the shield above the display face of the picture tube; a second coil mounted on the shield below the display face of the picture tube; the first and second coils being arranged relative to each other in such a manner that their magnetic poles are opposed; a source of AC power coupled to a first end of the first coil and a first end of the second coil; a rectifier means coupled to a second end of the first coil and a second end of the second coil; a storage capacitor having a first plate coupled to a first output terminal of the rectifier means; a resistor having a first end coupled to the first plate of the capacitor; and means for switching a second plate of the capacitor between connection with a second output terminal of the rectifier means and connection with a second end of the resistor.

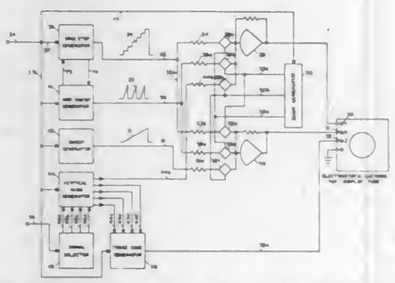
3,404,308
CATHODE-RAY SIGNAL-TRANSLATING DEVICE
Joseph Burns, Pequannock, N.J., assignor to Fairchild Camera and Instrument Corporation, a corporation of Delaware
Original application Dec. 4, 1961, Ser. No. 156,627. Divided and this application May 20, 1966, Ser. No. 551,769
2 Claims. (Cl. 315—12)



A cathode-ray signal-translating device includes a first target comprising a thin glass substrate having a phosphor screen adhering to one side and a layer of photoemissive material, for example a photocathode of a caesium-antimony or silver-caesium alloy on the other side. A conventional electron gun and deflection system scans the phosphor screen with a signal-modulated cathode ray which causes the photocathode to develop a space-modulated electron beam representative of the input signal. The device further includes a barrier grid assembly disposed adjacent a target comprising a conductive plate on

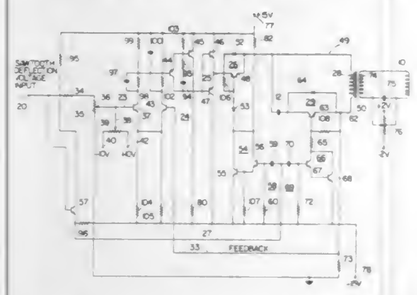
which is disposed a continuous layer of dielectric material having a substantial secondary electron emission ratio characteristic. Interposed between this barrier grid assembly and the photoemissive layer is a collector electrode. A multivibrator is provided for shifting the potential of the conductive plate between two desired potential levels. During application of a positive potential to the conductive plate, the electron beam from the photoemissive cathode is effective to write on the dielectric layer of the barrier grid assembly. When a negative potential is applied to the conductive plate, the charge pattern on the dielectric layer is read out by scanning the first target with a beam from the electron gun.

3,404,309
DISPLAY SYSTEM
Edward M. Massell, Red Bank, N.J., and Gunther Hagedorn, Soberg-Copenhagen, Denmark, assignors to Electronic Associates, Inc., Long Branch, N.J., a corporation of New Jersey
Filed Aug. 23, 1965, Ser. No. 481,838
24 Claims. (Cl. 315—18)



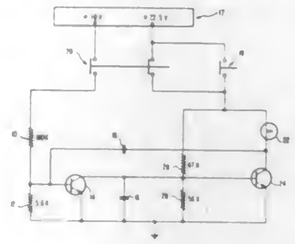
Plural information signals may be coded for display on the face of a cathode ray tube by time multiplexing the plural information signals with each other, sweep and grid pattern signals, and timing signals whereby the information signals are applied to the tube only during the times between display of the grid pattern signals as controlled by the timing signals.

3,404,310
DEFLECTION COIL DRIVING CIRCUIT
Edward L. Williams, Fort Wayne, Ind., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Mar. 2, 1966, Ser. No. 531,107
10 Claims. (Cl. 315—27)



1. In a deflection system for an electron beam, a driving circuit for magnetic deflection coil means comprising: a source of periodic sweep voltage signals having alternate scanning periods and retrace periods; first means for coupling said coil means to said source for energization thereby during said scanning periods and for disconnecting said coil means from said source during said retrace periods; a capacitor; and second means for coupling said capacitor to said coil means for charging said capacitor thereby dissipating the energy stored in said coil means and for discharging said capacitor thereby supplying substantially equal and opposite energy to said coil means during said retrace periods, said second coupling means disconnecting said capacitor from said coil means during said scanning periods.

3,404,311
INDICATOR LAMP CIRCUITRY FOR A RECORDER
Keith D. Ruppert, Decatur, Ill., assignor to General Electric Company, a corporation of New York
Filed Jan. 3, 1966, Ser. No. 518,069
4 Claims. (Cl. 315—172)



1. A circuit for selectively indicating playback mode and record mode operation in a recorder that comprises a lamp and first means to cause said lamp to generate a steady light indicating one mode of operation and second means to cause said lamp to generate a blinking light indicating the other mode of operation, said first means including:

(1) a first transistor having collector, base and emitter electrodes,
(2) a first source of voltage for said first transistor,
(3) means connecting said lamp and said first transistor in series for DC,
(4) a first switch means for connecting said first source in series with (3),

whereby upon operation of (4) said lamp generates a steady light, and said second means including:

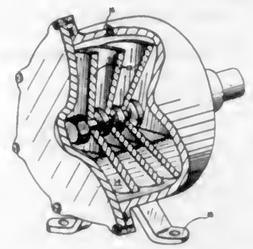
(1), (2) and (3), and
(5) a second transistor having collector, base and emitter electrodes,
(6) a second source of voltage for said second transistor,
(7) means connecting the collector of the second transistor to the base of the first transistor,
(8) a first capacitor connected across the emitter-collector of the second transistor,
(9) a second capacitor connected between the base of the second transistor and the collector of the first transistor, and
(10) a second switch means for connecting said first source in series with (3) and for connecting said second source to the base of the second transistor,

whereby upon operation of (10) said lamp generates a blinking light.

3,404,312
GROUNDED SHAFT STRUCTURE FOR ELECTRICAL ROTATING MACHINE
Charles H. Gilbert, La Mirada, Calif. (541 Teakwood, La Habra, Calif. 90631)
Filed Sept. 20, 1966, Ser. No. 580,733
7 Claims. (Cl. 317—13)

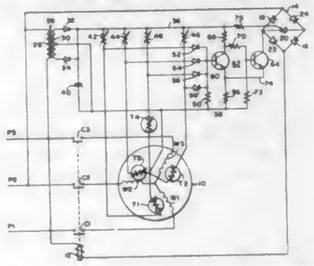
1. An electrical grounding device for cooperation with a rotatable shaft-to-be-grounded, and comprising

a metallic casing adapted to be mounted in electrical contact with an earth potential, said casing providing an enclosure for a quantity of liquid mercury; and



a metallic shaft mounted for rotation within said casing and having a portion extending externally thereof adapted to be mechanically coupled in electrical contact with said shaft-to-be-grounded, said mounted shaft having a plurality of metallic plates fixedly mounted thereon at longitudinally spaced intervals therealong and oriented substantially transversely thereof.

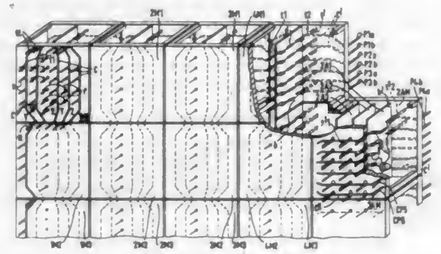
3,404,313
TEMPERATURE RESPONSIVE CIRCUIT APPARATUS EMPLOYING THERMISTORS
William J. Happel, Pittsburgh, and Robert Murray, Jr., Monroeville, Pa., assignors to Power Control Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 4, 1966, Ser. No. 525,031
7 Claims. (Cl. 317—41)



Described is circuit apparatus for actuating an alternating current switch in response to an increase in temperature above a predetermined limit. This is accomplished by circuitry including thermistors in parallel for producing an output signal whenever the temperature of any one of the thermistors rises above a predetermined limit, and including means for sensing an off-normal condition, other than excessive temperature, at any one of a plurality of locations.

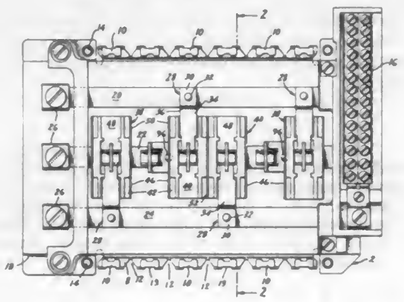
3,404,314
MODULAR TRANSLATOR
Bloomfield James Warman, Charlton, London, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed Apr. 12, 1966, Ser. No. 542,171
Claims priority, application Great Britain, Apr. 22, 1965, 17,036/65
5 Claims. (Cl. 317—101)

A code point translator built up from modular cells and thereby providing great flexibility of growth. Each cell is completely self-contained and has two end faces through which project the terminals of diodes contained in the cells and on which faces are conductive strips providing for connection to the diodes and to another adjacent cell. When a plurality of cells are arranged together in a modular assembly of row and column formation the conductive strips connected end-to-end form multipling connections across the two assembly faces, those on one



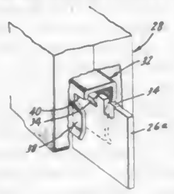
face extending orthogonally with respect to those on the other and constituting respectively digit marking connections and code point marking connections.

3,404,315
PANEL BOARD CONTACT ASSEMBLY
Lewis W. Jacobs, Garden City, N.Y., and Joseph J. Mrowka, Plainville, and Robert J. Sabatella, Southington, Conn., assignors to General Electric Company, a corporation of New York
Filed June 1, 1967, Ser. No. 642,852
14 Claims. (Cl. 317—119)



There is disclosed an electrical control device panel board including a base member providing a generally planar center portion and multipart contact means secured on the busbars and a plurality of parallel extending busbars above the center portion.

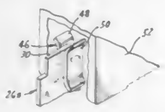
3,404,316
CIRCUIT BREAKER SEGREGATION SYSTEM
Lewis W. Jacobs, Garden City, N.Y., assignor to General Electric Company, a corporation of New York
Filed June 23, 1967, Ser. No. 648,451
4 Claims. (Cl. 317—119)



A circuit breaker panel board having contacts which permit the engagement of certain types of circuit breakers, but prevent the engagement of other types of circuit breakers. Outwardly extending, blade-like contacts are

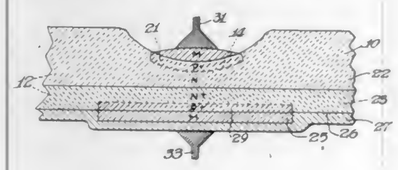
provided which have slight protrusions on the upper edge. Circuit breakers including contact engaging clips which have a small notch are rejected from engagement because an edge of the clip abuts the protrusion on the contact. However, circuit breakers including a clip having a substantial cut-away portion so that the protrusion does not abut the clip easily engage the contact. Also, circuit breakers having either type of clip can engage contacts which do not have any protrusions thereon.

3,404,317
CIRCUIT BREAKER PANEL ASSEMBLY
Robert J. Sabatella, Southington, Conn., assignor to General Electric Company, a corporation of New York
Filed June 23, 1967, Ser. No. 648,503
3 Claims. (Cl. 317—119)



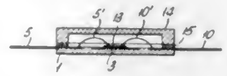
A circuit breaker panel assembly having contact members which accept certain types of circuit breakers and reject other closely similar types. Stationary panel contact blades are notched at their outer ends so that circuit breakers having a given configuration of notched resilient contact engaging clips will be rejected thereon, but circuit breakers having an unnotched resilient clip can be readily engaged.

3,404,318
NEGATIVE RESISTANCE DIODE
Joseph Lindmayer and Charles Y. Wrigley, Williamstown, Mass., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Continuation-in-part of application Ser. No. 288,798, June 18, 1963. This application May 8, 1964, Ser. No. 366,104
7 Claims. (Cl. 317—234)



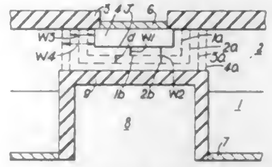
Negative resistance diode has semiconductor body with a first zone of one conductivity type and a high carrier concentration forming a junction, preferably of the micro type, with a second zone of the opposite conductivity type and extremely low carrier concentration, the second zone merging into a third zone having the same conductivity type but with much higher carrier concentration, the third zone forming another junction with a fourth zone having the first type of conductivity and a high carrier concentration. The third and fourth zones are short-circuited together by an external ohmic conductor. Terminals are connected to the first zone and to the short-circuiting connector, and the application of a very high frequency voltage between these terminals causes the diode to develop a negative resistance at relatively low voltages. The diode is particularly desirable for use in a heterodyne stage such as in a UHF television receiver and will provide conversion with substantial gain.

3,404,319
SEMICONDUCTOR DEVICE
Shigeru Tsuji and Shinzo Anazawa, Tokyo, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan
Filed Aug. 18, 1965, Ser. No. 480,642
Claims priority, application Japan, Aug. 21, 1964, 39/47,636
5 Claims. (Cl. 317—234)



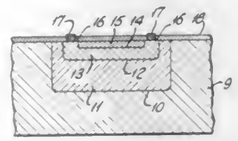
A semiconductor device including a base of insulating material, a semiconductor element mounted on the base, a plurality of ribbon leads pressed into the base material and generally flush with the surface thereof, and a cover sealed to the base and the leads by means of a low melting point glass, to provide a hermetically sealed enclosure.

3,404,320
VARACTOR DIODE WITH MEANS FOR CHANGING VOLTAGE-TO-CAPACITANCE RATIO
Derek Hubert Mash, Harlow, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 13, 1966, Ser. No. 542,287
Claims priority, application Great Britain, May 20, 1965, 21,344/65
13 Claims. (Cl. 317—234)



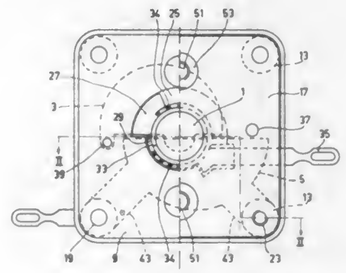
A varactor diode has a p-n junction disposed in a portion of a semiconductor body having a relatively high conductivity. A region of a relatively low conductivity is spaced from the p-n junction but within the expansion reach of the depletion layer boundary upon a predetermined reverse voltage value. At this voltage level the capacitance to voltage ratio changes.

3,404,321
TRANSISTOR BODY ENCLOSING A SUBMERGED INTEGRATED RESISTOR
Toshio Kurosawa, Hiroshi Shiba, Ichiemon Sasaki, and Takayuki Yanagawa, Tokyo, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan
Filed Jan. 6, 1964, Ser. No. 335,896
Claims priority, application Japan, Jan. 29, 1963, 38/3,978
1 Claim. (Cl. 317—235)



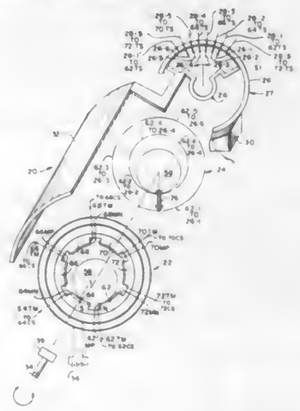
A semiconductor structure is described wherein a resistive element is located deeply within the body of the semiconductive material whereby it is provided with a relatively high resistivity. The resistive element is combined with a transistor to form a unique integrated structure.

3,404,322
ROTARY CAPACITOR WITH INSULATED ELECTRODES
Jan Dirk Repko, Marinus Gerard Verheijden, and Jan Lefeber, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 21, 1967, Ser. No. 624,950
Claims priority, application Netherlands, Mar. 22, 1966, 6603708
4 Claims. (Cl. 317—253)



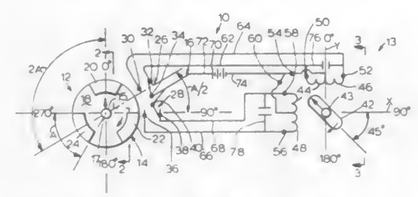
A rotary capacitor in which the stator plates are precisely located on a frame rod structure which interconnects a front and rear frame plate. The frame plates are fabricated out of insulation material. A metal plate supports the front frame plate and a rotary shaft containing the rotor plates is journalled therein.

3,404,323
CLOSED LOOP STEPPING SERVOMOTOR SYSTEM
John F. Gifford, P.O. Box 117, Sandoval, N. Mex. 87048
Filed Mar. 10, 1964, Ser. No. 350,828
10 Claims. (Cl. 318—18)



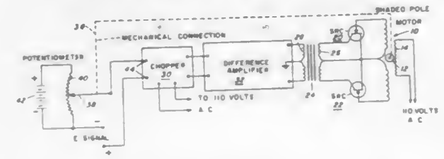
1. In combination, a master motor and a slave motor, each having relatively movable members, an oscillatory switch forming part of the master motor, means connected for changing the condition of said switch from an original condition by displacement of one such member of the master motor in a predetermined direction, means responsive to said change of switch condition for effecting a change in energization of the slave motor in order to drive the same, a commutating switch in the slave motor, means responsive to said change in energization of the slave motor to operate the commutation switch therein, and means operative in response to said commutation switch operation to drive the master motor members relatively in a predetermined direction.

3,404,324
STEP MOTOR POSITION CONTROL WITH ROTARY REED SWITCH TRANSMITTER
Allan Gerard, Fort Lee, N.J., assignor to General Precision Systems Inc., a corporation of Delaware
Filed July 15, 1964, Ser. No. 382,857
2 Claims. (Cl. 318—27)



A shaft angle repeater including a stepper motor with a rotor and windings selectively energized and de-energized in appropriate directions in accordance with the rotation of a shaft. A transmitter at the shaft includes magnet members circumferentially spaced about the shaft and bistable reed switches actuable by both the approach and departure of a magnet to change position. A change in position of a reed switch changes the direction of energization of a motor winding to advance the rotor of the motor.

3,404,325
PROPORTIONAL MOTOR CONTROL ARRANGEMENT
Joseph Didwall, Loreley Beach Road, White Marsh, Md. 21162
Filed Sept. 1, 1965, Ser. No. 484,237
1 Claim. (Cl. 318—208)

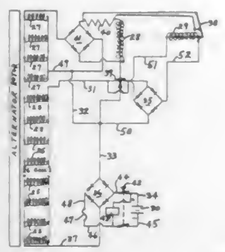


A motor control arrangement utilizing the instant switching action of silicon controlled rectifiers to close the appropriate shading coil circuit for a reversible induction motor. The anodes of the rectifiers are powered through a direct connection to the shading coils where a voltage is reduced by transformer action from the motor running coil.

3,404,326
CHARGING RATE VARIED BY ARMATURE CONTROL
Kenneth Lester Repke, 7788 Auburn, Detroit, Mich. 48228
Continuation-in-part of application Ser. No. 183,943, Mar. 30, 1962. This application Oct. 22, 1965, Ser. No. 502,122
6 Claims. (Cl. 320—23)

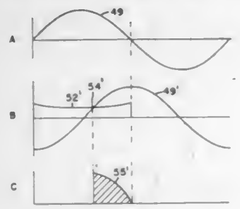
1. In a regulated power supply system, the combination of an electrical load; a rotating member including a rotor comprising a ring carrying a plurality of radially spaced apart permanent magnets; a stator including a plurality of radially spaced apart lamination stacks static with respect to said rotating member, each of said stacks having a wire coil wound therearound and having electric current induced therein by said permanent magnets; said coils being electrically in parallel with each other and being arranged in two parallel groups; a first means rectifying the current induced in said coils; one group of said two groups of coils being connected directly across said rectifying means; a battery supplying direct potential

across said first rectifying means differing in response to variation in current demand of the electrical load across said first rectifying means; the other of said two groups of coils being connected across said first rectifying means by a normally closed relay switch means responsive to a different direct potential being supplied across said first rectifying means; said normally closed relay switch means



including a relay coil energized by electrical current supplied from said one group of coils through a second rectifying means and a resistor; and a shunting circuit means for said resistor to cause said normally closed relay switch means to open when said battery is fully charged and disconnect said other group of coils from said first rectifying means.

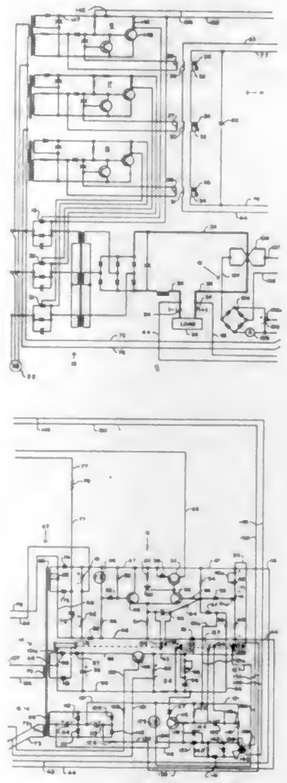
3,404,327
CONVERSION SYSTEMS COMPRISING SCR's WITH GATE CONTROL ARRANGEMENTS
Frank W. Gutzwiller, Lyons, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 16, 1958, Ser. No. 780,801
16 Claims. (Cl. 321—8)



2. In combination, a semi-conductor device comprising semi-conducting material zones of p and n types forming an odd number of p-n junctions and wherein at least an intermediate junction is biased oppositely to the outside junctions, means for supplying a voltage variable in magnitude to at least a value sufficient to reverse the bias of said intermediate junction to one of the zones, a surface of which constitutes a part of said intermediate junction and for varying the phase of the voltage.

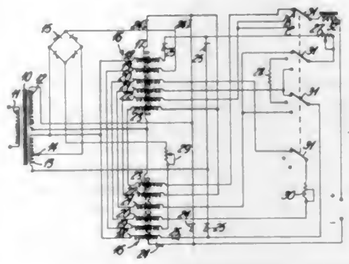
3,404,328
APPARATUS FOR GRADUAL LOADING OF AC LINE POWER BY AN AC TO DC CONVERTER
Robert J. Plow, Avon Lake, Ohio, assignor to Lorain Products Corporation, a corporation of Ohio
Filed Aug. 2, 1965, Ser. No. 476,613
9 Claims. (Cl. 321—18)

A control circuit for polyphase AC to DC converters which employ phase controlled rectification. A start control circuit gradually increases power transmission to the full load value without impressing undesirable transients in the associated AC line. This is accomplished by the use of a bias activating SCR and a biasing capacitor which, when discharged, permits conduction through a start control transistor to inhibit excessive starting in-rush current and, as the capacitor charges, reverse biases the



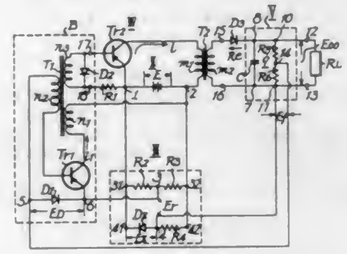
start control transistor to afford normal, operating current to the converter.

3,404,329
MAGNETIC AMPLIFIER CONTROLLED POWER SUPPLY REGULATORS
Alexander Jura Sevenco, Burlington, Ontario, Canada, assignor to Lincoln Electric Company Limited, Hertfordshire, England, a British company
Filed Apr. 7, 1966, Ser. No. 540,952
Claims priority, application Great Britain, Apr. 15, 1965, 16,342/65
17 Claims. (Cl. 321—19)



A magnetic flux reset transductor for regulating the characteristics of both the current and voltage provided to a load, comprises at least one pair of magnetic elements, each magnetic element including a main winding and a reset winding wherein the main winding and the reset winding are simultaneously energized from alternate half cycles of current from an alternating current source such that the change in flux density in the cores of the magnetic elements will occur within the half cycle of the alternating current in which current flows through the reset windings. A main feedback winding on each of the magnetic elements, energized by a signal representing the load current, provides a means for controlling the characteristics of the voltage and currents applied to the load. A secondary feedback winding, energized by a signal representing the combined current in the reset windings, may be provided to furnish additional feedback control.

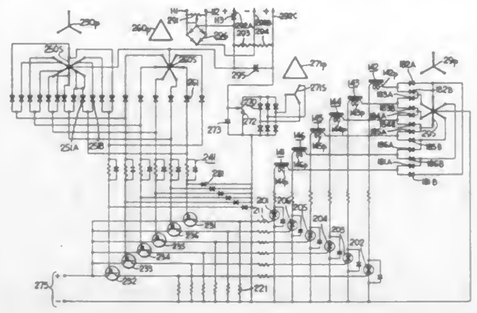
3,404,330
DC CONSTANT-VOLTAGE DEVICE
Miyaji Tomota, Kenzo Sasaoka, and Akihisa Hashimoto, Musashino-shi, Tokyo, Japan, assignors to Kabushikikaisha Yokogawa Denki Seisakusho (Yokogawa Electric Works Ltd.), Musashino-shi, Tokyo, Japan, a corporation of Japan
Filed Oct. 21, 1964, Ser. No. 405,465
Claims priority, application Japan, Oct. 23, 1963, 38/56,833
3 Claims. (Cl. 323—22)



A direct current constant voltage device for operation from a power source of direct current voltage. The device includes circuit means to develop a reference voltage which is serially added in opposite polarity to a feedback voltage which is taken from the output of the device. The reference voltage and feedback voltage are applied to a blocking oscillator circuit to control the operation thereof. As the voltage at the output of the device decreases and becomes smaller than a predetermined value, a switching circuit is rendered operative to connect the DC power source to the output terminals through a filler circuit.

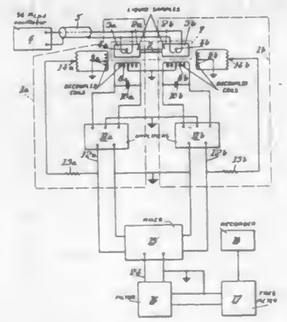
3,404,331
TRIGGER CIRCUIT UTILIZING UNIJUNCTION TRANSISTORS
Harold Winograd, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Original application July 31, 1964, Ser. No. 386,569, now Patent No. 3,330,998, dated July 11, 1967. Divided and this application Nov. 23, 1964, Ser. No. 413,094
8 Claims. (Cl. 323—22)

A system furnishes power for the magnetic windings of a particle accelerator from a three wave source produced by a set of generators. The magnetic windings are connected at different phase relationships to provide the appropriate power to the magnetic windings at the proper period for the required time to create the acceleration function. Mercury are rectifiers are connected to control the application of power to the windings. The mercury arc rectifiers are turned on to the required time by a group of thyratrons which are in turn basically controlled through a transformer from a group of silicon controlled rectifiers. The silicon controlled rectifiers are controlled by a trigger circuit utilizing unijunction transistors that receives the phase signals from selected portions of the power source and utilizes appropriate biasing circuits to control the timing of the operation of the trigger circuit.



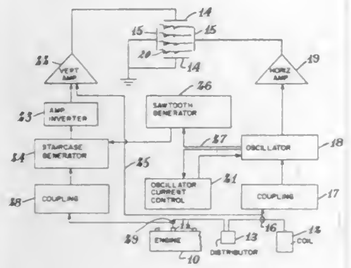
The unijunction transistors turn on at the appropriate desired time relative to their controlling phase input depending on the bias selection to, in turn, gate on the silicon controlled rectifier and to the mercury arc rectifiers.

3,404,332
MAGNETIC RESONANCE DEVICES FOR ACCURATELY MEASURING MAGNETIC FIELDS, IN PARTICULAR LOW MAGNETIC FIELDS, ON BOARD OF A MOVABLE BODY
Anatole Abragam, Paris, and Ionel Solomon, Boulogne, France, assignors to Commissariat à l'Energie Atomique, Paris, France, an organization of France
Filed Dec. 9, 1964, Ser. No. 417,061
Claims priority, application France, Dec. 12, 1963, 956,900
5 Claims. (Cl. 324—.5)



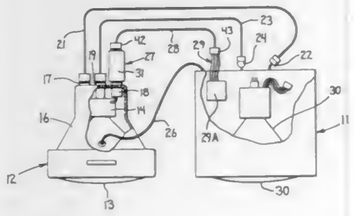
The magnetometer comprises two magnetic resonance generators linked together side by side, the two active subnuclear particles of said generators having different gyromagnetic ratios, said generators delivering therefore two voltages at two frequencies proportional to the intensity of the magnetic field in which are located the generators, but with different proportionality factors, a frequency converter, e.g. a mixer, receiving said two two voltages and delivering a third voltage at a third frequency equal to the algebraic difference of said two voltages, and a frequency meter measuring the frequency of said third voltage which is proportional to said intensity and independent of the rotations of said generators.

3,404,333
OSCILLOSCOPE RASTER DISPLAY CIRCUIT
Roy H. Roberts, Glenview, Ill., assignor to Sun Electric Corporation, a corporation of Delaware
Filed May 17, 1965, Ser. No. 456,405
1 Claim. (Cl. 324—15)



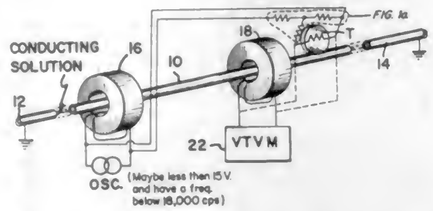
An improved oscilloscope raster display circuit for separately and simultaneously displaying on an oscilloscope screen a plurality of patterns indicative of the ignition characteristics of each of the cylinders of an internal combustion engine. The invention provides a substantial reduction in the cost and complexity of prior systems of this nature by applying the output of the horizontal sweep oscillator to a sawtooth wave generator to provide simultaneous and synchronous operation. The output of the sawtooth generator is applied to a staircase generator which provides a series of discrete steps in the vertical sweep waveform to display the individual cylinder patterns in a vertically spaced and simultaneous displayed raster.

3,404,334
COLOR TELEVISION TEST APPARATUS
Cecil L. Marshall, 406 Brewer Drive, Greenwood, Ind. 46142
Filed May 8, 1967, Ser. No. 636,812
11 Claims. (Cl. 324—20)



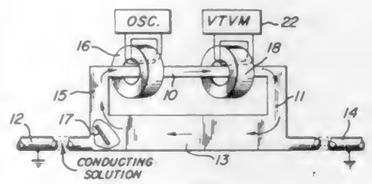
A color television picture tube with ninety degree deflection yoke and a plug mounted to the tube case and wired to the deflection coils. An adaptor assembly including a socket connected to the plug and thereby mounting the adaptor box on the picture tube case. A second socket in the box and connected by a plug and cable to the horizontal and vertical output stage terminal clips of the color television receiver being tested, the color tube thereof being disconnected from the output stages. Resistance means mounted on the first socket and placing resistance across the coupling from the seventy degree vertical output stages of the receiver tested to vertical coils of the ninety degree deflection yoke of the test unit. Capacitors mounted on the first socket and placing capacitance across the coupling of the seventy degree output stages to the horizontal coils of the ninety degree yoke.

3,404,335
APPARATUS FOR MEASURING ELECTRICAL CONDUCTIVITY OF A CONDUCTING MEDIUM CAPABLE OF FLOWING IN A CONDUIT
Richard J. Kidder, Great Notch, N.J., assignor, by mesne assignments, to Beckman Instruments, Inc., Fullerton, Calif., a corporation of California
Filed July 26, 1965, Ser. No. 474,655
4 Claims. (Cl. 324—30)



Apparatus for measuring the electrical conductivity of an electrically conducting medium which is present in a conduit and through which the medium may flow. Means are provided externally of the conduit for inducing the flow of alternating current in the medium within the conduit, and additional means are provided externally of the conduit for measuring said current.

3,404,336
APPARATUS FOR MEASURING ELECTRICAL CONDUCTIVITY OF A FLUID
Robert Rosenthal, Tenafly, N.J., assignor to Beckman Instruments, Inc., a corporation of California
Original application July 26, 1965, Ser. No. 474,655. Divided and this application Jan. 25, 1968, Ser. No. 700,473
7 Claims. (Cl. 324—30)

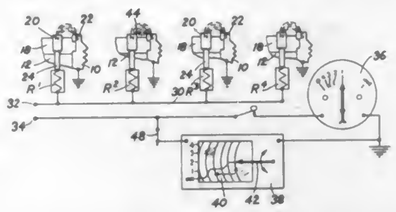


Apparatus for determining the conductivity of an electrically conducting fluid such as a liquid, sludge, slurry, mud, oil and mixtures thereof with or without solids which utilizes a tubular closed loop having spaced inlet and outlet conduits communicating with said loop and having cross-sectional areas smaller than the cross-sectional area of a part of the tubular closed loop between said inlet and outlet. An alternating current input source and a measuring device are respectively coupled to different coils surrounding different portions of the loop.

3,404,337
MAGNETIC CHIP GAUGE
James L. Pool and Richard K. Graham, Clarinda, Iowa, assignors to Lisle Corporation, Clarinda, Iowa, a corporation of Iowa
Filed Nov. 8, 1965, Ser. No. 506,777
4 Claims. (Cl. 324—41)

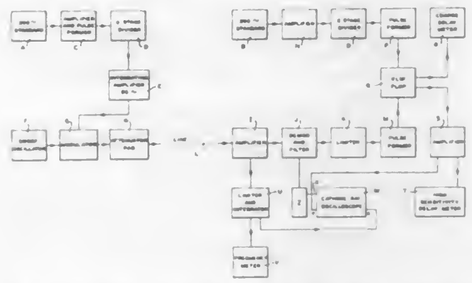
A magnetic chip gauge which monitors the quanity of metallic chips bridging a plurality of magnetic gaps by measuring the flow of current across the gaps. Since such chips are of low electrical resistance, in order to provide a distinction between varying numbers of gaps

which are so bridged, an indicating circuit is arranged with the gaps in parallel, and each gap has in series therewith a high resistance element, which elements are



also in the parallel circuit. Therefore a single meter for the current flow shows a step-like increase as successive gaps are bridged by chips.

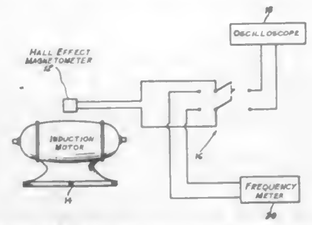
3,404,338
METHOD AND MEANS FOR MEASURING AND CORRECTING DELAY AND ATTENUATION IN A TRANSMISSION CHANNEL
William D. Cannon, Metuchen, N.J., assignor to The Western Union Telegraph Company, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 13,866, Mar. 9, 1960. This application Feb. 24, 1965, Ser. No. 439,512
17 Claims. (Cl. 324—57)



A method and means is disclosed for rapidly measuring relative delay and attenuation in a transmission circuit over which frequency-modulated waves are transmitted. Upon reception of the transmitted modulated carrier wave, measurements are made of frequency of the transmitted carrier, and of attenuation during transmission. The received modulated carrier wave is detected, the modulating wave is recovered, filtered, squared and then compared with a locally generated reference wave to obtain a measurement of delay in transmission. Frequency-attenuation and frequency-delay characteristics are displayed by curve tracing means using the obtained measurements. Adjustable networks are also provided to compensate and correct for irregularities in attenuation and delay while the extent of compensation and correction are monitored by the curve tracing means.

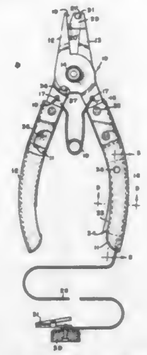
3,404,339
MEASUREMENT OF ROTATIONAL SPEED OF INDUCTION MOTORS
Dana D. Mitchell, Yonkers, N.Y., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 16, 1965, Ser. No. 487,938
2 Claims. (Cl. 324—70)

A method is proposed for measuring the speed of rotation of a rotor in a polyphase induction motor by measuring the magnetic field outside the motor housing, generated by the rotor current inside the housing when



the rotor speed is not equal to the speed of rotation of the energizing field.

3,404,340
IMPLEMENT FOR SELECTIVELY DISLODGING A SINGLE ELECTRICAL WIRE FROM A BUNDLE OF INSULATED ELECTRICAL WIRES AND CIRCUIT TESTING THE SAME
Gerald H. Labrie, North Dartmouth, Mass., assignor to Labrie & Labrie Associates, North Dartmouth, Mass.
Filed Feb. 11, 1966, Ser. No. 526,787
8 Claims. (Cl. 324—72.5)

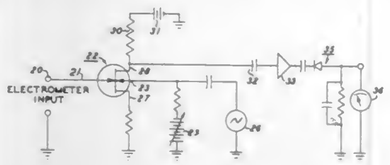


An implement for selectively dislodging a single electrical wire from a bundle of insulated electrical wires and circuit testing the same, including pivotally connected spring-loaded handles with jaws at one end, probe means carried by one of the jaws adjacent a terminal thereof, the probe means being in opposed relation to the other of the jaws, a supporting saddle plate mounted on a lateral extremity of the other jaw and extending towards the first jaw, the upper edge of the saddle plate being centrally recessed to form an arcuate pocket for reception of an insulated electrical wire, the upper edge of the wall defining the recess being provided with an inwardly directed extension forming a hook for dislodging a single wire from the bundle of wires, a lamp mounted in one of the handles and in electrical connection with the probe means, and ground means in circuit with the lamp.

3,404,341
ELECTROMETER UTILIZING A DUAL PURPOSE FIELD-EFFECT TRANSISTOR
James E. Young, Pittsford, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Apr. 3, 1964, Ser. No. 357,082
4 Claims. (Cl. 324—109)

A solid state electrometer utilizing a dual gate field effect transistor to obtain amplification and modulation of a voltage to be measured in a single stage and where

one gate of the field effect transistor serves as the electrometer probe and the second gate of the field effect



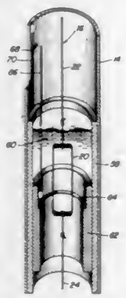
transistor is driven by an AC signal source to vary the internal capacitance of the field effect transistor to obtain a dynamic capacitor.

3,404,342

GALVANOMETER DAMPING ARRANGEMENT USING ADJUSTABLE VOLUME FLUID DAMPING

Harry R. Allen, Jr., Littleton, Colo., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed June 15, 1965, Ser. No. 464,041
4 Claims. (Cl. 324—125)



1. In a galvanometer of the fluid damped variety having a vibratory assembly, including a mirror and coil, extending through the longitudinal bore of a tubular outer body, the improvements which comprise:

a slidably adjustable tubular member coaxially arranged within said tubular outer body for surrounding a portion of said vibratory assembly, and

adjustment means for varying said adjustable tubular member along the longitudinal axis of said tubular outer body, whereby adjustment of said adjustable tubular member varies the volume of the space between said coil and said tubular outer body and thereby varies the damping of said vibratory assembly.

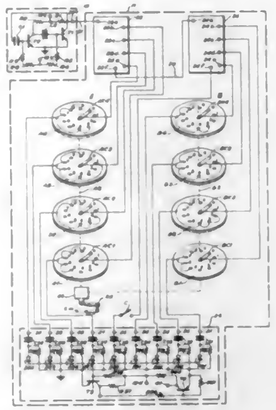
3,404,343

ADJUSTABLE DIGITAL PULSE DELETERS

Sanford M. Strand, Milwaukee, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed June 18, 1964, Ser. No. 376,040
7 Claims. (Cl. 328—42)

A digital pulse deleter which when fed with a series of input pulses provides a series of output pulses of uniform amplitude and duration which are selectively less in number by even decrements than a given series of input pulses. Pulses are fed into a digital counter which provides pulses at a plurality of output terminals in a binary coded decimal sequence at a rate in accordance with that of the input pulses. A digital pulser having a plurality of input terminals and a single pulse output terminal through selectable or programmed operator of switch elements interposed between its input terminals and individually



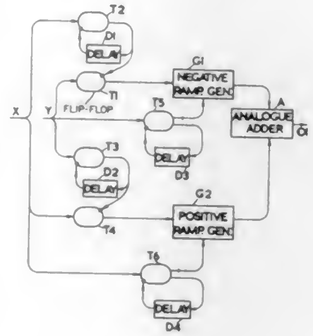
associated output terminals of the counter provides a pulse at its output terminal for each pulse received at any of its input terminals that are actively connected to associated counter output terminals.

3,404,344

TIME MEASURING CIRCUITS

Cecil Riddle, Sevenoaks, Kent, England, assignor to National Research Development Corporation, London, England

Filed May 10, 1965, Ser. No. 454,308
Claims priority, application Great Britain, May 13, 1964, 19,976/64
11 Claims. (Cl. 328—129)



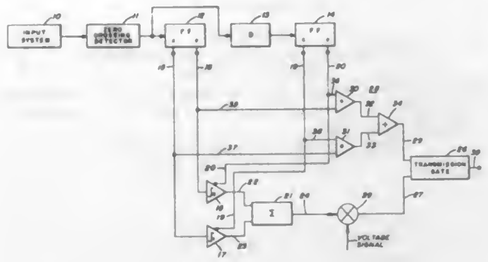
A circuit for providing an analog voltage whose magniture is a measure of the time interval separating a signal and a reference pulse, and the polarity of which shows which pulse occurs first. The reference pulses are applied to a first monostable circuit and a first trigger circuit. The signal pulses are applied to a second monostable circuit and a second trigger circuit. Ramp signal generators are driven by the trigger circuits and are reset either by the first and second monostable circuits or other monostable circuits connected to receive the pulses. The first monostable circuit inhibits the second trigger and the second monostable circuit inhibits the first trigger.

3,404,345

FREQUENCY DEVIATION SENSING DEVICE

Michael F. Marx, Apalachin, and Richard G. Buscher, Vestal, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Oct. 29, 1964, Ser. No. 407,600
7 Claims. (Cl. 328—141)



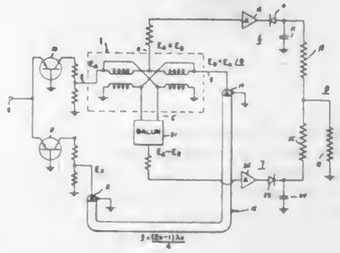
This invention is directed to a system for measuring the deviation of a frequency variable signal from a reference frequency. The system utilizes a detector which gives a pulse output when the input signal makes a zero crossing. Two flip-flops are triggered by the pulse output. These in turn control the operation of two integrators. The integrators are alternatively operable to give an output which is a function of the time interval between pulses from the detector. A comparator compares the outputs of the integrators with a reference signal representing the desired time interval. The comparator yields an output which is proportional to the difference between the reference signal and the integrator signal.

3,404,346

HYBRID JUNCTION WIDEBAND FM DEMODULATOR

James A. Hall and Harry J. Peppiatt, Lynchburg, Va., assignors to General Electric Company, a corporation of New York

Filed Jan. 4, 1965, Ser. No. 422,924
7 Claims. (Cl. 329—116)



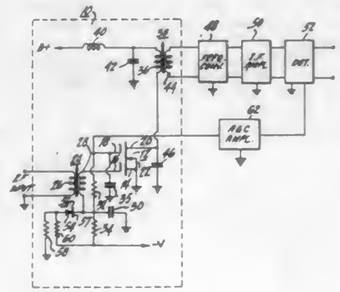
A wideband, FM demodulator in which the incoming FM signal is split into two equal, in-phase components. One component is coupled to a lossless linear phase-shift network consisting of a transmission line having an odd multiple quarter-wave length frequency f_c to shift the phase of one component by an odd multiple of 90°, and applied to one input port of a wideband hybrid constructed of a plurality of distributed line transformers. The other signal component is applied to the other input port of the hybrid. The output signals appearing at the two output ports of the hybrid are respectively the sum and difference of the two signal components applied to the input ports. The sum and difference signals are detected differentially in a pair of envelope detectors to produce a varying unidirectional output signal the magnitude and sign of which varies as a function of the frequency deviation of the input signal from f_c.

3,404,347

GAIN CONTROLLED AMPLIFIER USING MULTIPLE GATE FIELD-EFFECT TRANSISTOR AS THE ACTIVE ELEMENT THEREOF

Leonard A. Kaplan, Fords, and Oliver P. Hart, Berkeley Heights, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed Nov. 3, 1966, Ser. No. 591,821
9 Claims. (Cl. 330—29)



4. In an amplifier circuit of the type including a field-effect transistor having source, drain, and a plurality of gate electrodes, means coupled between one of said gate electrodes and said source electrode providing a tuned signal input circuit, and means coupled between the drain and source electrodes providing a tuned signal output circuit, the improvement comprising:

gain controlling potential means coupled to another of said gate electrodes for controlling the gain of said amplifier circuit as a function of the amplitude of said gain controlling potential; and

circuit means coupling a portion of said gain controlling potential to said one gate electrode.

3,404,348

LOW LEVEL SIGNAL LIMITER

Irving G. Hansen, Bellevue, and Victor S. Peterson, Sandusky, Ohio, assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Sept. 22, 1966, Ser. No. 582,213
10 Claims. (Cl. 330—103)

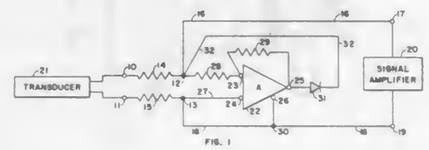
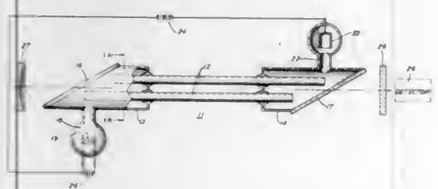


FIG. 1

1. In a signal limiting circuit including signal input means adapted to receive a signal from a transducer and signal output means adapted for connection to a signal amplifier, the combination of: isolating means connecting said signal input means to said signal output means; an operational amplifier having an input and an output; voltage dropping means connected between said operational amplifier input and said signal output means to isolate the voltage at the input of said operational amplifier from

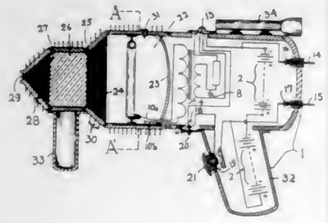
the voltage at said signal output means; a linear feedback network connected between said output and said input of said operational amplifier to reduce the voltage at said input of said operational amplifier to substantially zero when the voltage between said signal output terminals is below a predetermined magnitude; and, a nonlinear feedback network connected between said output of said operational amplifier and said signal output means whereby, as the output voltage of said operational amplifier increases, the feedback to said signal output means increases faster than the feedback to said input of said operational amplifier to limit the voltage at said signal output means to a predetermined value.

3,404,349
OPTICAL MASER FOR HIGHER ORDER MODES
William W. Rigrod, Millington, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 28, 1964, Ser. No. 363,113
9 Claims. (Cl. 331—94.5)



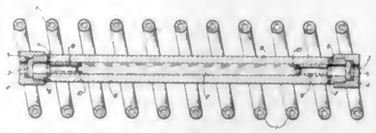
An optical maser is made to oscillate in higher order modes instead of the fundamental mode by utilizing dielectric boundaries to enhance the higher modes and masking techniques to suppress the fundamental. Particular higher order modes can be used as rotation rate sensors.

3,404,350
DIRECTED-BEAM PORTABLE LASER SYSTEM
Arthur M. Muncheryan, 1735 Morningside St., Orange, Calif. 92667
Filed June 2, 1964, Ser. No. 371,994
7 Claims. (Cl. 331—94.5)



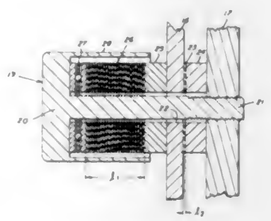
A directed-beam portable laser system is described which comprises a pistol-configured housing with an aiming telescope. Internally, the housing comprises two main compartments: a forward compartment having a laser-beam generator and a beam-intensity amplifying means with an outlet section adapted to convert the laser radiation into a parallel beam at the beam emergence port; and, a rear compartment containing a rechargeable direct-current power supply connected, through a controlled vibrator mechanism and a step-up transformer, across the laser-beam generator means for activation thereof. A multiple-switch mechanism imparts safety for triggering the laser-beam generator means. Laser-cooling means and a temperature indicator are also provided in the system.

3,404,351
NEODYMIUM DOPED DEUTERIUM OXIDE LASER
Adam Heller, Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 24, 1964, Ser. No. 377,737
2 Claims. (Cl. 331—94.5)



1. A liquid laser device comprising an active medium consisting of 1% to 13% of trivalent neodymium in liquid deuterium oxide, a source of light radiation incident on said active medium for pumping the trivalent neodymium.

3,404,352
MIRROR-SUPPORTING STRUCTURE FOR LASERS
Colin Bowness, Weston, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Feb. 8, 1965, Ser. No. 430,939
9 Claims. (Cl. 331—94.5)



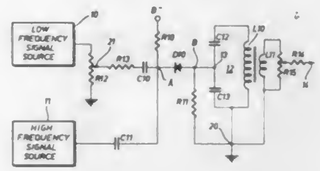
1. A laser structure comprising:
a radiation producing medium; and
reflecting means at each end of said medium forming a resonant cavity for reflecting radiation from said medium back into the cavity;
said reflecting means at one end of the cavity comprising a mirror positioned in the path of said radiation,
a rigid member adjacent and spaced from said mirror,
a plate supporting the mirror and movable therewith toward and away from said rigid member,
and means for moving said plate and adjusting said mirror with respect to said member comprising
a screw threadedly mounted in said rigid member and having a pressure-inducing portion thereon,
a first elastic member between said plate and rigid member,
and a second elastic member between said plate and pressure-inducing portion of the screw, the screw being adjustable toward and away from the support to vary the compression of the elastic members and thereby the adjustment of said mirror.

3,404,353
BIREFRINGENT APPARATUS FOR DEMODULATING PHASE MODULATED LIGHT
Stephen E. Harris, Palo Alto, and Carl F. Buhrer, Bayside, Calif., assignors to Research Corporation, New York, N.Y., a corporation of New York
Filed Mar. 31, 1965, Ser. No. 444,341
9 Claims. (Cl. 332—1)



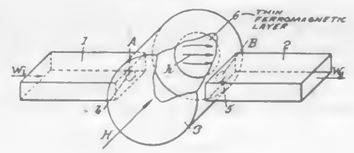
Apparatus for demodulating a phase modulated light signal by converting it into an amplitude modulated light signal. The phase modulated light signal is first linearly polarized and then transmitted through a first birefringent crystal to thus develop a pair of orthogonally related phase modulated signal components which are shifted in time relative to one another. These two components are equivalent to a pair of orthogonally related amplitude modulated signal components, out of phase by 180° at the modulation frequency. The phase difference between these two components is corrected by transmitting them through a second birefringent crystal which has a length and indices of refraction such that it shifts the two amplitude modulated components relative to one another by approximately 180° at the modulation frequency to thus develop a resultant amplitude modulated signal.

3,404,354
AMPLITUDE MODULATOR EMPLOYING FORWARD BIASED UNIDIRECTIONAL CONDUCTING DEVICE
Harry W. Verlinden, Waterloo, Ontario, Canada, assignor to Dominion Electrohome Industries Limited, Kitchener, Ontario, Canada
Filed Apr. 25, 1966, Ser. No. 545,067
8 Claims. (Cl. 332—31)



1. A modulator comprising a first source producing a relatively low frequency signal; a second source producing a relatively high frequency signal to be amplitude modulated by said relatively low frequency signal; a unidirectional conducting device having anode and cathode electrodes; a source of biasing potential; a terminal at a reference potential; first and second resistors; said source of biasing potential, said resistors, said terminal and said unidirectional conducting device being connected in a circuit such that said unidirectional device is biased into conduction in the forward direction with one of said resistors being connected between said source of biasing potential and one of said electrodes of said unidirectional conducting device, and the other of said resistors being connected between the other of said electrodes of said unidirectional conducting device and said terminal; and means connecting said first and second sources to the same one of said electrodes of said unidirectional conducting device for applying said relatively low frequency signal and said relatively high frequency signal to said unidirectional conducting device for passage of said relatively low frequency signal and a part of said relatively high frequency signal through said unidirectional conducting device and development of an amplitude modulated signal across one of said resistors; one-half the peak to peak amplitude of said relatively high frequency signal applied to said unidirectional conducting device being greater than the absolute value of said biasing potential applied to said unidirectional conducting device and one-half the peak to peak amplitude of said relatively high frequency signal applied to said unidirectional conducting device less the absolute value of said biasing potential applied to said unidirectional conducting device being greater than one-half the peak to peak amplitude of said relatively low frequency signal applied to said unidirectional conducting device.

3,404,355
POWER LIMITING DEVICES FOR HIGH FREQUENCY WAVES
André-Jean Charles Berteaud, Bourg-la-Reine, Hubert Marcel Joseph Pascard, Meudon, and Roger Jean Joseph Vautier, Bourg-la-Reine, France, assignors to Centre National de la Recherche Scientifique, Paris, France
Filed May 6, 1966, Ser. No. 548,149
Claims priority, application France, May 17, 1965, 17,320
2 Claims. (Cl. 333—17)



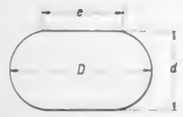
The device comprises at least one ferromagnetic thin layer, which may be electrically conducting, disposed parallel to the magnetic field of the wave to be controlled, and means for magnetizing this layer by means of a continuous magnetic field whose resultant has at least one component perpendicular to that layer. The value of this component is chosen such that it corresponds to a maximum power absorption by the layer (ferromagnetic resonance), or at least to a relatively high absorption, when the power level of the wave is equal to that which it is desired to limit as much as possible, this value being, in the preferred case where the power of the wave is variable, lower than that corresponding to the maximum absorption for the minimum power level of the wave.

3,404,356
HOUSING FOR A SEMICONDUCTOR DIODE
Hans Keller, Freiburg im Breisgau, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 17, 1966, Ser. No. 528,198
Claims priority, application Germany, Apr. 3, 1965, J 27,832
8 Claims. (Cl. 333—83)



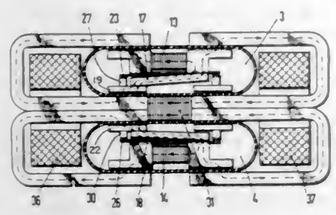
This is an arrangement for housing a semiconductor tuner diode. The diode is mounted in a hollow body open on one side. The open side of the body is sealed by a closure which has one portion adjacent the body and a second portion of a diameter less than the first portion. A conductive material is disposed on the outside of the second portion of the closure.

3,404,357
WAVEGUIDE
Wolfgang Krank, Gerhard Schickle, and Erich Schuttloffel, Backnang, Germany, assignors to Telefunken Patentverwertungsgesellschaft m.b.H., Ulm (Danube), Germany
Continuation of application Ser. No. 452,277, Apr. 30, 1965. This application May 1, 1967, Ser. No. 635,265
Claims priority, application Germany, Apr. 30, 1964, T 26,117; Dec. 18, 1964, T 27,645
12 Claims. (Cl. 333—95)



A flexible waveguide whose cross section is in the form of a flattened circle, the degree of flattening being just sufficient to prevent interfering wave types from occurring in the range of the desired operating frequency, the ratio of the minor axis of the waveguide cross section to the major axis thereof being at least 0.5.

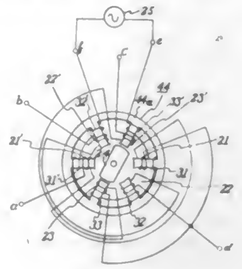
3,404,358
MAGNETIC RELAY STRUCTURE AND SYSTEM
Gundokar Braumann, Walter Klor, and Hans Rotter, Munich, Germany, assignors to Siemens Aktiengesellschaft, Munich and Berlin, Germany
Filed Sept. 23, 1966, Ser. No. 581,627
Claims priority, application Germany, Sept. 30, 1965, S 99,785
18 Claims. (Cl. 335—78)



This invention relates to a multiple contact relay structure, and systems employing a plurality of said structures. In particular, the relay structure comprises a magnetizable armature which can be actuated to assume a plurality of contact positions by either movable permanent magnets or by electromagnetic means. Further, additional magnetic means are provided to initially polarize the relay.

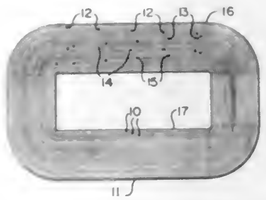
3,404,359
CONTROL SIGNAL GENERATOR FOR STEP MOTOR
Shin-Ichi Kawada, Totsuka-ku, Yokohama, Japan, assignor to Kabushikikaisha Tokyo Keiki Seizosho (Tokyo Keiki Seizosho Co., Ltd.), Tokyo, Japan
Continuation of application Ser. No. 342,402, Feb. 4, 1964. This application June 30, 1966, Ser. No. 562,004
Claims priority, application Japan, June 24, 1963, 38/38,171
4 Claims. (Cl. 336—135)

1. A signal control device for a step motor comprising a cylindrical stator having a plurality of pairs of pole pieces, the number of said pole pieces being multiples of six and said pole pieces of each pair confronting each other along a diameter of said stator, a primary winding mounted on said stator in such a manner that the direction of the magnetic field established thereby in one pole piece of each pair of said stator pole pieces is the same as that in the other pole piece thereof, a rotor disposed coaxially with said cylindrical stator and provided with at least two pole pieces, one of said rotor pole pieces confronting one of one pair of said stator pole pieces when the other of said rotor pole pieces opposite said one rotor piece confronts the other of said one pair of stator pole pieces, said rotor being freely rotated at any



desired unlimited angle, a plurality of pairs of secondary windings each pair being wound on respective pairs of said stator pole pieces, said pairs of secondary windings being connected to one another with one end of each pair forming a common terminal and the other end of each pair forming a respective outer terminal, said common terminal and said outer terminals being disposed for connection to the step motor for delivering control signals thereto.

3,404,360
TRANSFORMER CORE CONSTRUCTION
Rex V. Woodward, Mount Vernon, Ill., assignor to Power Cores, Inc., Mount Vernon, Ill., a corporation of Illinois
Filed Oct. 22, 1965, Ser. No. 501,058
9 Claims. (Cl. 336—211)

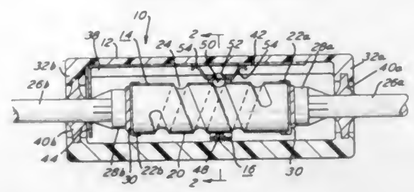


A laminated transformer core in which the butt-joints of all laminations in one of the core legs are staggered relative to each other and distributed over the entire length of the leg exclusive of the stressed regions immediately adjacent the corners of the core.

3,404,361
ELECTRICAL RESISTOR WHICH CAN BE ADJUSTED AS TO RESISTANCE VALUE
George W. Wood, Hammonton, N.J., assignor to IRC, Inc., Philadelphia, Pa.
Filed Sept. 28, 1966, Ser. No. 582,578
7 Claims. (Cl. 338—143)

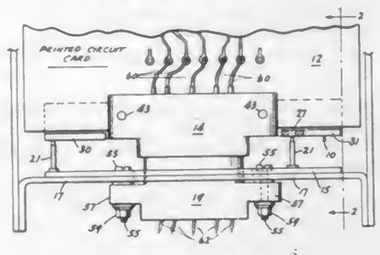
An electrical resistor which is adjustable as to its resistance value comprising a tubular casing having a resistance element mounted therein and rotatable with respect thereto. The resistance element comprises an elongated substrate of an electrical insulating material, an electrical resistance material on the surface of the substrate and extending on a path between the ends of the

substrate, and a separate terminal wire of an electrically conductive metal secured to each end of the substrate and electrically connected to the resistance material. The terminal wires of the resistance element extend through and project beyond the opposite ends of the casing. A contact of an electrically conductive metal is mounted in



the casing and slidably engages the resistance material of the resistance element. The contact is mounted in the casing so as to move along the resistance material upon rotation of the casing with respect to the resistance element. An electrically conductive means within the casing electrically connects the contact to one of the terminals.

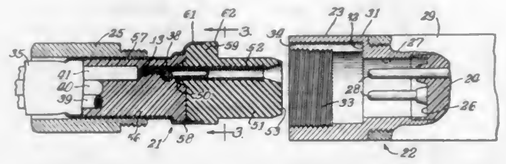
3,404,362
SELECTIVE INDEXING GUIDE DEVICE FOR ELECTRICAL CONNECTORS OF PRINTED CIRCUIT CARDS
Dino Amendola, Paramus, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed July 29, 1966, Ser. No. 568,963
6 Claims. (Cl. 339—17)



A selective indexing guide device for electrical connectors of printed circuit cards whereby the device either excepts or rejects a printed circuit card for mating with the connector thereby eliminating improper connections. The device also provides a guide for the mating of the proper connectors so as to reduce the amount of damage to connector pins and sockets.

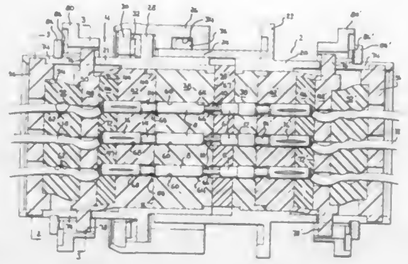
3,404,363
ELECTRICAL CABLE CONNECTOR PART
Kurt Fischer, Bluffton, Ind., assignor to Franklin Electric Co., Inc., Bluffton, Ind., a corporation of Indiana
Filed Oct. 12, 1966, Ser. No. 586,227
6 Claims. (Cl. 339—60)

1. A plug part for association with a socket part to form a sealed electrical connector and adapted to be secured to at least one wire, said plug part comprising at least one generally tubular clamp member which is closed at one end and open at its other end, said clamp member in said open end being adapted to receive an end of said wire in electrical engagement therewith, at least one generally tubular contact member, said closed end of said clamp member being positioned in one end of said contact member and in press fit engagement therewith, and electrical insulating means around said members and supporting said members for telescopic engagement of the other end of said contact member with a prong of the socket part of said electrical connector, said insulating means comprising a relatively yieldable portion around said contact member and a relatively rigid portion around



said clamp member, said yieldable and rigid portions abutting each other and the interface between said yieldable and rigid portions being irregular around said contact member to increase the length of hte creepage paths along said interface between said yieldable and rigid portions.

3,404,364
ELECTRICAL CONNECTOR
Clarence Leonard Paullus, Camp Hill, and John Aaron Zimmerman, Hershey, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Continuation-in-part of application Ser. No. 439,817, Mar. 15, 1965. This application July 19, 1966, Ser. No. 567,331
11 Claims. (Cl. 339—61)

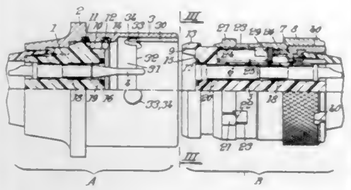


Multi-contact electrical connector comprises shell member and insert contained in shell. Insert has cavities extending therethrough which are adapted to receive contact terminals. Insert comprises a hard layer of material and a soft layer, these layers extending in planes disposed normally of the connector axis. Hard layer can be moved laterally by a short distance relative to the soft layer after insertion of the contact terminals thereby to render the cavities tortuous and prevent removal of the contact terminals.

3,404,365
CONNECTORS, IN PARTICULAR FOR ELECTRIC CIRCUITS
Albert Obeissart, Boulogne-sur-Seine, France, assignor to Societe Souriau & Cie, Billancourt, France
Filed June 9, 1966, Ser. No. 556,841
Claims priority, application France, June 10, 1965, 20,283
6 Claims. (Cl. 339—90)

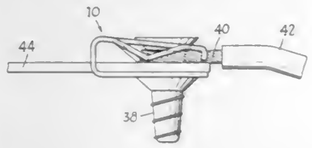
A connector constituted by two axially engageable bodies, a first of which externally carries a slidable and rotatable ring and the second of which carries a socket, the first body together with the ring being insertable into the socket to couple together electrical connectors carried by the bodies after which the ring is slidably moved

forwardly against the action of a spring and rotated to be locked in said socket whereafter the spring returns



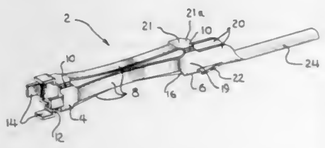
the ring to its rearward position in which its is locked against rotation to the first body.

3,404,366
APERTURED CLIP
Clifford A. Seckerson, Iver Heath, England, assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Nov. 26, 1965, Ser. No. 509,735
Claims priority, application Great Britain, Dec. 1, 1964, 48,776/64
5 Claims. (Cl. 339—119)



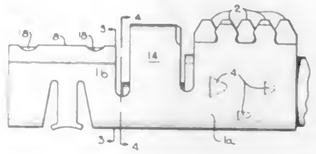
This is a clip for attaching a cable to an apertured plate member. The clip has at least one pair of notches formed on an edge for engaging a cable and has side edge portions which are deformed downwardly to act as guides for the cable.

3,404,367
DISENGAGEABLE ELECTRICAL CONNECTIONS
Homer Ernst Henschen, Carlisle, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed June 20, 1966, Ser. No. 558,955
6 Claims. (Cl. 339—217)



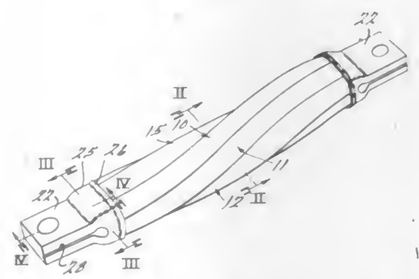
Electrical contact socket comprises two square frame sections, the corresponding sides of which are connected to each other by four semi-elliptic springs. Springs are inwardly concave relative to the socket axis and are adapted to engage an inserted contact pin. Retaining ears extend from each side of the free end of one of the frame sections and are adapted to lodge in an enlarged end of a housing cavity. These ears provide guiding means for the pin during insertion and retain the socket against movement through the cavity in one direction. Additional retaining means, in the form of a lance, is provided on other end adjacent to other frame section to prevent movement of the socket relative to the cavity in the opposite direction.

3,404,368
ELECTRICAL CONNECTOR OF THE PLUG OR SOCKET VARIETY
Lincoln Edwin Roberts and Charles Edward Reynolds, Harrisburg, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Aug. 4, 1965, Ser. No. 477,094
9 Claims. (Cl. 339—223)



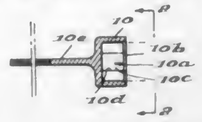
An electrical connector comprises a contact member at one end for engagement with a spark plug or a distributor and a ferrule member at the other end, the ferrule member includes an insulation-engaging section and a conductor-engaging section. The insulation-engaging section is provided with tabs at ends thereof for interlocking engagement within the insulation of a conductor means upon the insulation-engaging section being crimped into engagement therewith. The conductor-engaging section includes leg members which are foldable inwardly toward each other and are engageable with each other along sections thereof over a stripped area exposing a section of the conductive member of the conductor means to define a conductor-engaging area for bearing against the exposed section of the conductive member and pressing this exposed section against the stripped area.

3,404,369
WELDING CABLE AND TERMINAL ASSEMBLY
Earl I. Grove, Walled Lake, Mich., assignor to Gar Wood Industries, Inc., Wayne, Mich., a corporation of Michigan
Filed Sept. 1, 1966, Ser. No. 576,666
2 Claims. (Cl. 339—223)



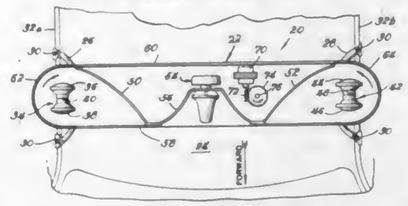
A flexible isopolarity cable is formed of metallic strands which are grouped into a plurality of rope sections. Each rope is encased in a rubber sleeve throughout most of its length, but the bare ends of the strands project beyond the rubber sleeves and all the strands of all ropes are compressed in and electrically connected to a tubular sheet metal terminal. The terminal has an integral flared skirt diverging from the portion which is compressed onto the strands and overlapping and compressed against all of the outer rubber sleeves in an area spaced from its free edge. Beyond such area and to its free edge the skirt is flared outwardly at a steeper angle.

3,404,370
CAP AND LEAD CONSTRUCTION FOR ELECTRICAL COMPONENTS
Ernest J. Bryner, Custer City, and Joseph N. Ianuzzi, Bradford, Pa., assignors to Sigma Engineering Service, Inc., Custer City, Pa., a corporation of Pennsylvania
Filed Aug. 4, 1966, Ser. No. 570,289
6 Claims. (Cl. 339—256)



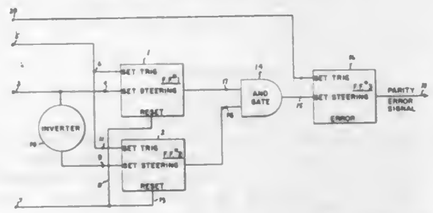
A terminal for an electrical component comprises a unitary cap and lead formed of material having elastic memory, e.g. of metal, plated metal, or plastic coated with metal. The cap is in the shape of a continuously walled cup having chamfered edges and provision for venting gases during heat curing in coating of components. Cups of polygonal cross-section forced onto cylindrical components of greater diameter than the inscribed circle, and deformed toward arcuate shape thereby are preferred.

3,404,371
WARNING DEVICE FOR EMERGENCY VEHICLES
Earl W. Gosswiller, Chicago, Ill., assignor to Federal Sign and Signal Corporation, Blue Island, Ill., a corporation of New York
Filed Jan. 19, 1967, Ser. No. 610,365
17 Claims. (Cl. 340—87)



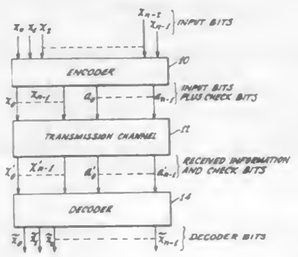
A rotating signal light of the type used on police and fire department vehicles and other emergency vehicles in combination with a mirror, preferably a generally parabolic mirror, the mirror being positioned relative to the signal light so as to deflect the light beams generally forwardly while producing a lateral shifting of such light beams as the signal light rotates.

3,404,372
INCONSISTENT PARITY CHECK
Floyd B. Robbins, Lynchburg, Va., assignor to General Electric Company, a corporation of New York
Filed Apr. 29, 1964, Ser. No. 363,365
5 Claims. (Cl. 340—146.1)



A parity-checking circuit which senses the internal consistency of the character parity within a record or block of characters, rather than determining whether the parity is odd or even. A pair of flip-flops are provided which are responsive respectively to the presence of odd and even parity. The outputs of the odd and even parity flip-flops are connected to an AND GATE which is actuated *only* if both the odd and even flip-flops are set during a record or block of characters indicating that the block of characters contains both odd and even parity. The AND GATE actuates an error-indicating flip-flop which is set only if the character parity within a record or block is inconsistent; i.e., contains characters with both odd and even parity. Thus, the parity-checking circuit does not require prior identification of the precise type of parity being utilized.

3,404,373
SYSTEM FOR AUTOMATIC CORRECTION OF BURST ERRORS
Chitoor V. Srinivasan, Trenton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Feb. 18, 1965, Ser. No. 433,709
4 Claims. (Cl. 340—146.1)



Each transmitted word consists of two parts, an information word having n binary digits (bits) $x_0 \ldots x_{n-1}$ and a code word having n bits $a_0 \ldots a_{n-1}$. Each ith code bit a_i is equal to the modulo 2 sum of the ith information bit x_i and the

$$\underset{n}{(i\oplus 1)}\text{th}$$

information bit

$$x_{\underset{n}{i\oplus 1}}$$

where:

$$\underset{n}{(i\oplus 1)}$$

is the modulo n sum of i and 1. The bits are preferably rearranged into a particular order prior to transmission. Each received bit $\tilde{x}_i$ is obtained by decoding the received information and code bits in accordance with the following expression:

$$\tilde{x}_i = \text{Maj.}\ (x'_i),\ (a'_i \oplus x'_{\underset{n}{i\oplus 1}}),\ (a'_{\underset{n}{i\oplus 1}} + x'_{\underset{n}{i\ominus 1}})$$

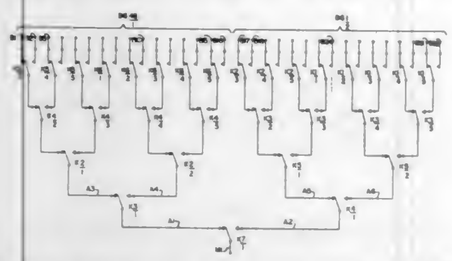
where

$\underset{n}{\ominus}$ represents the modulo n difference.

3,404,374
CONTROL APPARATUS
Christopher E. Burrows, Woburn Sands, England, and Lloyd S. Mills, New Brighton, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Feb. 15, 1965, Ser. No. 432,566
Claims priority, application Great Britain, Feb. 22, 1964, 7,498/64
9 Claims. (Cl. 340—147)

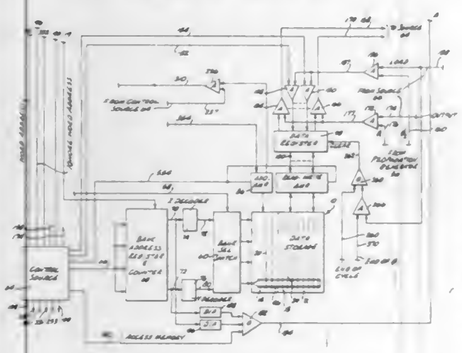
A system of relay trees is shown wherein the trees overlay so that connections can be made between a given branch connection and the main or trunk connection of

more than one tree. The overlapping of the trees is effected by connecting groups of branch connections to two or more trees. The disclosure also shows a matrix for



coupling selected signals to the main connections of the relay trees and a tape-controlled system for controlling the relays to establish signal paths through the matrix and relay trees.

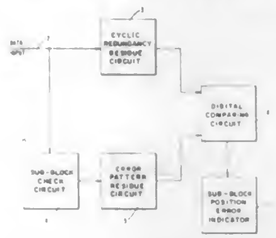
3,404,375
COMBINATION RANDOM ACCESS AND MASS STORE MEMORY
Richard L. Snyder, Fullerton, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Apr. 2, 1964, Ser. No. 356,706
9 Claims. (Cl. 340—172.5)



A random access magnetic shift register system including a plurality of storage banks, each having a magnetic medium for each bit position of a word to be handled and each controlled by a single polyphase propagating array. A magnetic medium is also provided in each bank for storing word addresses. Binary words and addresses are stored as series of magnetic domains along the mediums movable in response to propagating fields. Read-write conductors are provided at both ends of the mediums for reading and writing binary informational domains being propagated in a selected direction therethrough. In one mode of operation, a bank is selected and a control arrangement reads the address and positions the addressed word for reading. In another mode of operation the words are read from a selected bank without considering the word addresses.

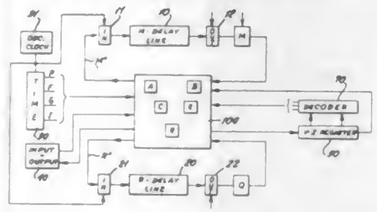
3,404,376
COMPUTER SUB-SYSTEM CIRCUITS
Paul J. Brown, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Apr. 6, 1964, Ser. No. 357,370
5 Claims. (Cl. 340—172.5)

A counter or clocking arrangement operating without a driving oscillator source. Latches or triggers operate in a sequence to provide an output address which can identify an I/O unit or can locate a portion of a system, depending



upon the use to which the arrangement is applied. A plurality of input gates are provided to control the operation of the arrangement in accordance to its intended use.

3,404,377
GENERAL PURPOSE DIGITAL COMPUTER
Stanley P. Frankel, 411 N. Martel, Los Angeles, Calif. 90036
Filed Oct. 1, 1965, Ser. No. 491,953
63 Claims. (Cl. 340—172.5)

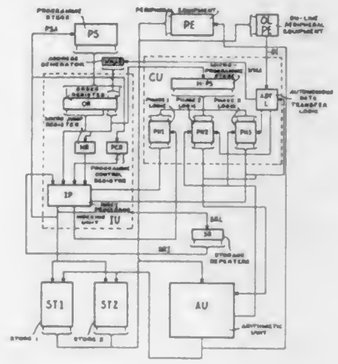


A general purpose, stored program, digital computer is disclosed in which a recirculating register in form of a delay line is provided as principal storage unit and a short recirculating delay line serves for temporary storage for control information and data information and also as accumulator. Through interleafing of bits, the short circulating register can handle three different numbers simultaneously for multiplication and division. Control information in the short register is sequentially set into an order register. All information is stored in the principal memory register in interleaved format, and at times transferred to or from the short delay line. The principal register is addressed by counting cycles of the short delay line in between sequential couplings for data transfer between the long delay line (memory) and the short delay line (operating register). All data processing including arithmetic is handled on a serial-by-bit basis. Data are fed externally into the computer by asynchronous coupling of an external memory extension to the circulating operating register. Output operations are performed by timing the presentation of pulses which can be withdrawn externally.

3,404,378
COMPUTERS
Ronald Threadgold, David Hartley, Hamish Vernon Bell, George Edward Lynch, John Christopher Bines, and Orran Terence Pate, Liverpool, England, assignors to Automatic Telephone & Electric Company Limited, Liverpool, England, a British company
Filed Oct. 29, 1965, Ser. No. 505,638
17 Claims. (Cl. 340—172.5)

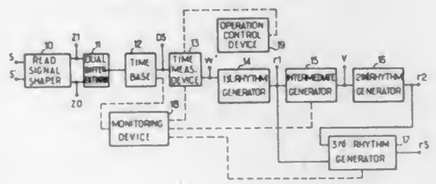
An asynchronous stored-programme data processing device has a main data processing store and a micro-programme store. A main programme order word is read

from the main store into an order register and a coded instruction in the order word is used by the micro-programme store to generate the first of a series of micro-orders forming a micro-programme. Three groups of micro-instruction leads are provided and a micro-order consists of a plurality of instruction leads in each group. The first group of leads controls through a control unit



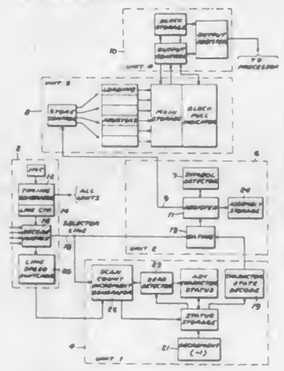
an index processor, the second group controls through the control unit an arithmetic unit, and the third controls through the control unit and the index processor either the changing of the coded instruction in the order word to enable the micro-programme store to generate the next order word in the series or at the end of the series to read the next main programme order word from the main store.

3,404,379
CIRCUIT ARRANGEMENT FOR EXPLOITING READING SIGNALS
Pierre Jean Lhermite, Paris, France, assignor to Societe Industrielle Bull-General Electric (Societe Anonyme), Paris, France
Filed May 23, 1966, Ser. No. 552,075
Claims priority, application France, June 1, 1965, 19,096
12 Claims. (Cl. 340—172.5)



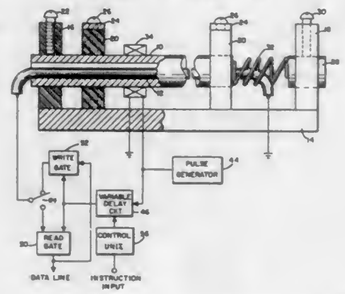
A system for exploiting read signals exhibiting transitions indicative of bit cell limits and middle-cell transitions. Generator means supply one pulse *r*1 and one pulse *r*2 respectively 0.75T and 1.25T after each "limit" transition, T being the nominal duration of a bit period, which may vary slightly. A first comparator cooperates with bistable stores to extract "1" and "0" information and to detect errors with regard to said pulses *r*1, *r*2 during a normal reading operation. Another comparator permits a more severe checking during a write check reading operation.

3,404,380
BIT-AT-A-TIME ASSEMBLY DEVICE USING MAGNETOSTRICTIVE DELAY LINES
Joseph M. Murgio, Clifton, N.J., assignor to International Telephone and Telegraph Corporation, a corporation of Delaware
Filed May 31, 1966, Ser. No. 553,848
8 Claims. (Cl. 340—172.5



1. A data system for controlling the receipt and transmission of data between a plurality of information lines and an information processor comprising:
- status storage means for identifying serial information from selected information lines;
- assembly storage means responsive to the output of the status storage means for accumulating information characters;
- timing means interconnecting the information lines, status storage means and assembly storage means so as to selectively monitor the information lines to provide time shared samples of the signals on the information line to the status storage and control the transfer of completed characters to the assembly storage means;
- main storage means responsive to the assembly storage means for accumulating a plurality of assembled characters from the assembly storage means; and
- block storage means interconnecting the main storage means and the processor whereby accumulated blocks of information are transferred from the main storage means to the processor.

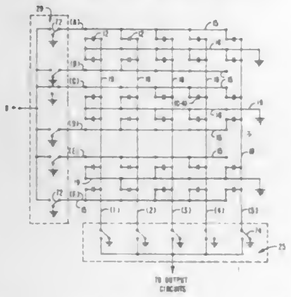
3,404,381
MECHANICAL BIASED FERROACOUSTIC MEMORY
Joseph W. Gratian, Rochester, N.Y., assignor to General Dynamics Corporation, a corporation of Delaware
Filed Aug. 31, 1964, Ser. No. 393,189
5 Claims. (Cl. 340—173)



A ferroacoustic memory system is disclosed wherein a line of magnetostrictive material (**10**) is provided for stor-

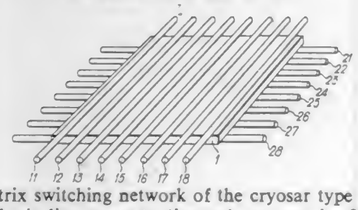
ing information at various locations therein by the coincident application of mechanical signals and electric field. The signals are propagated down the line by a transducer (34) and the field is applied by means of a conductor (12). The addressing for read-write is accomplished by electronic circuitry (44–45). The strain sensitivity of the line is enhanced by applying a mechanical bias. The use of a tension spring (32) for biasing is illustrated. Such biasing permits the use of a magnetically soft material for the line since it improves the strain sensitivity of such material.

3,404,382
CAPACITIVE SEMI-PERMANENT MEMORY
Albert D. Rosenheck, Orange, and Douglas R. Maure, South Pasadena, Calif., assignors, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Oct. 19, 1964, Ser. No. 404,885
12 Claims. (Cl. 340—173)



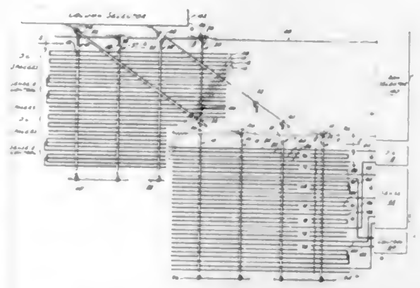
2. The capacitive read-only memory of claim 1 wherein said switch means coupled to each address line comprises: a first switching element coupling the address line to the ground potential source; a second switching element coupling the address line to the drive potential source; both said first and said second switching elements being responsive to applied signals for closing or opening a conductive path to the address line from their respective potential sources; means for applying a bias signal for maintaining said first switching element closed to the ground potential source and said second switching element open; and means responsive to the means for momentarily actuating one of said switch means for generating a short duration switching signal to each of said switching elements to open said first switching element and close said second switching element to the drive potential source.

3,404,383
BISTABLE CRYOSAR MATRIX MEMORIES AND METHOD OF FABRICATING THE SAME
Maurice J. Menoret, 12 Ave. de Verdun, Chatillon-sous-Bagneux, and Jean N. Bejat, 4 Rue Antoine Petit, Fontenay-aux-Roses, France
Filed Nov. 20, 1964, Ser. No. 412,710
Claims priority, application France, Nov. 26, 1963, 955,086
2 Claims. (Cl. 340—173)



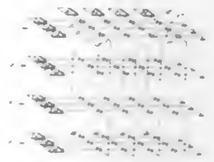
A matrix switching network of the cryosar type wherein the ohmic line contacts disposed on opposite faces of a wafer of N-tube germanium are two perpendicular sets of parallel gold-clad platinum wires, each set being soldered to a face of said wafer by formation of a gold-germanium eutectic alloy along the whole length of the wires, the wires serving as external connections for the matrix network.

3,404,384
WIRE MEMORY STORAGE SYSTEM
Richard L. Snyder, Fullerton, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Oct. 31, 1963, Ser. No. 320,349
5 Claims. (Cl. 340—174)



A reliable and simplified woven memory system that utilizes storage and inductive selection elements of magnetic wires having conductors wound or spun therearound in helices, which elements are in turn woven with sense and control conductors to form a single structure that provides both the storage and selection functions. Biasing arrangements are included in the woven structure to provide isolation between adjacent bit positions along the storage wire. The helical conductors of the storage elements and of the selection elements have a pitch ratio selected to provide reliable current control during selection and switching operations.

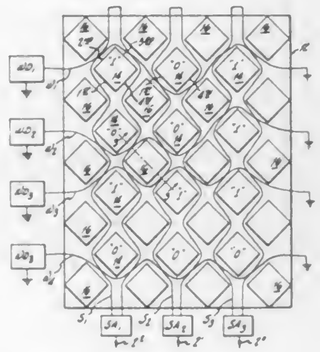
3,404,385
SYSTEM FOR INTERROGATING AND DETECTING THE CONTENTS OF AN ASSOCIATIVE MEMORY DEVICE
Hiroshi Ihara, Tokyo, Japan, assignor to Nippon Electric Company Limited, Tokyo, Japan
Filed Jan. 23, 1964, Ser. No. 339,785
Claims priority, application Japan, Jan. 29, 1963, 38/3,979
10 Claims. (Cl. 340—174)



A memory system of the content addressed type in which words stored in memory are interrogated by a word external to memory to determine the presence or absence of coincidence. The memory system is comprised of at least one matrix having conventional means for writing in data words. Interrogation is performed by the application of interrogation pulses whose polarity represent binary ONE or binary ZERO states respectively, to the corresponding bit position of every word in the matrix. Detection circuits coupled in common to all corresponding

words develop a read-out pulse in the absence of coincidence. Additional storage means may be provided for identifying the address or location of each word in memory and the presence or absence of coincidence for each word. By interrogating each of the multiple matrices sequentially a single group of detection means may be employed and time-shared by the entire memory to greatly reduce the circuitry necessary for providing a content addressed capability.

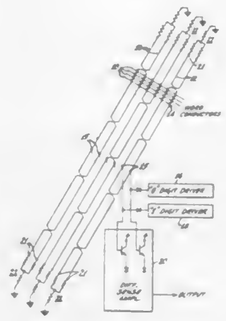
3,404,386
FIXED READ-ONLY MEMORY
Donald H. Montgomery, Mantua, and Stuart T. Jolly, Collingswood, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Oct. 9, 1964, Ser. No. 402,780
10 Claims. (Cl. 340—174)



5. A fixed memory comprising
top and bottom sheets of magnetic material assembled in sandwich fashion, at least one surface at the interface between the top and bottom sheets being provided with diagonal crosshatch grooves forming rows and columns of magnetic information storage elements each including a central square magnetic post and adjacent portions on first, second, third and fourth sides of four adjacent posts,
sense conductors in said grooves each extending in zig-zag fashion along first and second sides of all central magnetic posts of a column and returning along third and fourth sides of the central magnetic posts of the same column,
word conductors in said grooves each extending in zig-zag fashion along a row of central magnetic posts with the conductor positioned to pass along the first and fourth sides of central magnetic posts at which it is desired to store "0" information bits, and positioned to pass along the second and third sides of central posts at which it is desired to store "1" information bits,
means to apply a pulse to any selected one of said word conductors, and
sense amplifiers each coupled to a respective one of said sense conductors.

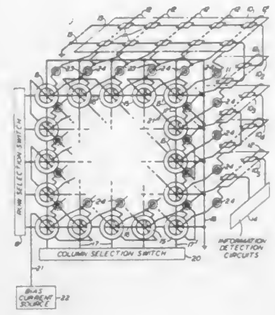
3,404,387
MEMORY SYSTEM HAVING IMPROVED ELECTRICAL TERMINATION OF CONDUCTORS
Hiroshi Amemiya, Willingboro, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 16, 1964, Ser. No. 404,430
6 Claims. (Cl. 340—174)

1. A memory comprising
a plurality of word conductors,
a plurality of digit conductor pairs arranged transverse to said word conductors,
memory elements located at at least some of the cross-overs of word and digit conductors,
digit drivers and a differential sense amplifier coupled to each digit conductor pair, and



a plurality of three-element three-terminal impedance networks each having two terminals connected to ends of the conductors of a digit conductor pair and a third terminal connected to a point of reference potential, said networks having impedance values to provide terminations for both common-mode and differential-mode signals on the respective digit conductor pair.

3,404,388
NOISE SUPPRESSION CIRCUIT
Jules R. Conrath, Salisbury Township, Lehigh County, Pa., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 2, 1965, Ser. No. 429,844
11 Claims. (Cl. 340—174)

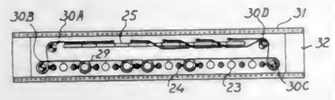


1. A matrix switch comprising a plurality of magnetic cores arranged in rows and columns, an output circuit for each of said cores, each of said output circuits sharing a common conducting path with each of its adjacent output circuits, a plurality of row and column selection conductors threading said rows and columns of cores, respectively, means for applying half-select pulses to a selected row and column selection conductor, and means for suppressing shuttle currents in said output circuits comprising magnetic core means on each of said common conducting paths.

3,404,389
MATRIX MEMORY ASSEMBLY

Jean Henri Cocquart, Boulogne-Billancourt, France, assignor to Societe Industrielle Bull-General Electric (Societe Anonyme), Paris, France

Filed Apr. 8, 1965, Ser. No. 446,524
Claims priority, application France, Apr. 24, 1964, 972,150
6 Claims. (Cl. 340—174)

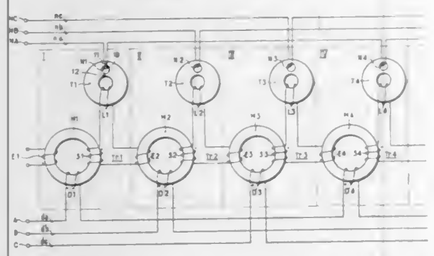


1. In a matrix arrangement for the storage of binary words, composed of a number *n* of transformer elements, *n* being equal to the number of binary position, each element consisting of an elongate prismatic core on which a secondary winding is wound, all the transformer elements being spaced apart in parallel relationship in a plane, and a number N of word windings for storing N words, each of the said word windings consisting of a single conductive wire extending perpendicularly to the said transformer elements and comprising coupling turns, one turn forming a primary coil about a transformer element, only in the binary positions in which a significant bit is stored, all the said word windings being disposed in parallel relationship along the length of the transformer elements, the improvement consisting in a circuit plate of thin insulating material disposed at a distance from and in parallel relationship to the said plane, the said plate comprising a plurality of strips which are separated by notches and which overhang the said word windings, soldering surfaces being secured to the said strips on the face opposite to the said transformer elements, there being provided at least one strip with a surface for the soldering of first ends of the wires of a group of the said word windings, and at least a number *q* of other strips, each with a surface for soldering a second end of a wire of a different word winding when the said group comprises *q* word windings, and securing means for positioning the said transformer elements and the said circuit plate.

3,404,390
MAGNETIC CORE SHIFT REGISTER

Yves-Jean Francois Brette, Sevres, and Michel Carbonel, Fontenay-sous-Bois, France, assignors to Société Industrielle Bull-General Electric (Société Anonyme), Paris, France

Filed May 27, 1965, Ser. No. 459,414
Claims priority, application France, June 8, 1964, 977,458
2 Claims. (Cl. 340—174)



1. In a three cores-per-bit magnetic core shift register, a plurality of storage magnetic cores of high residual flux density material arranged in a sequence and successively designated as SA, SB and SC, in each group of three successive cores provided for each binary bit of information,

an input winding, an output winding and a drive winding on each of said storage cores,

a transfer circuit associated with each of said storage cores, said transfer circuit comprising

an auxiliary magnetic core of low residual flux density material having a main aperture and a secondary aperture,

a transfer winding wound through the main aperture of the auxiliary magnetic core,

an inductance control winding wound through the secondary aperture of the auxiliary magnetic core,

and circuit means connecting the transfer winding in series with the output winding of the storage core to which the transfer circuit is associated and with the input winding of the next succeeding storage core,

means for separately generating three drive pulse trains designated as I*a*, I*b* and I*c*, having the same pulse recurrence frequency, a phase shift of a third of a cycle with respect to each other, and a pulse duration-to-pulse interval ratio larger than one,

means for separately generating three inductance control pulse trains designated as I*na*, I*nb* and I*nc*, in phase with the drive pulse trains I*a*, I*b* and I*c* respectively, and having a pulse duration-to-pulse interval ratio equal to one-half,

means for applying the pulse trains I*a*, I*b* and I*c* to the drive windings of the storage cores SA, SB and SC respectively,

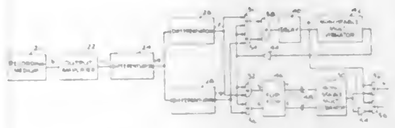
and means for applying the pulse trains I*na*, I*nb* and I*nc* to the inductance control windings comprised in the transfer circuits associated with the storage cores SA, SB and SC respectively,

application of an inductance control pulse to the inductance control winding of an auxiliary core preventing flux variation through such an auxiliary core, and the operating characteristics of the storage cores and of the auxiliary cores being so adapted that the value of the current which is equal to the flux change obtained in a storage core as the latter switches from one to the other of its stable states of residual flux, is less than the minimum value of the current which is necessary for bringing about a change in the flux state of the storage core.

3,404,391
BINARY DIGIT DISCRIMINATOR

Sung Pal Chur, Inglewood, Calif., assignor to Data Products Corporation, Culver City, Calif., a corporation of Delaware

Filed July 8, 1964, Ser. No. 381,121
6 Claims. (Cl. 340—174.1)

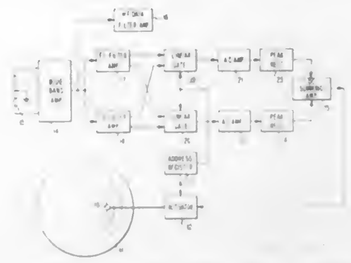


An apparatus for discriminating between binary digits recorded in accordance with a Gabor code. Discrimination is achieved by comparing the plurality of signal spikes spaced by a bit interval, rather than by detecting whether or not a spike occurs within a bit interval. The apparatus includes a flip-flip which is set in response to a first polarity voltage spike and is reset in response to a second polarity voltage spike. A multivibrator responds to either polarity voltage spike by switching to an unstable state. Voltage spikes developed while the multivibrator is in its unstable state are inhibited from having any effect on the flip-flop.

3,404,392
MAGNETIC TRACK FOLLOWING SERVO SYSTEM

Frank J. Sordello, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Continuation of application Ser. No. 245,572, Dec. 18, 1962. This application Apr. 14, 1967, Ser. No. 631,103
4 Claims. (Cl. 340—174.1)

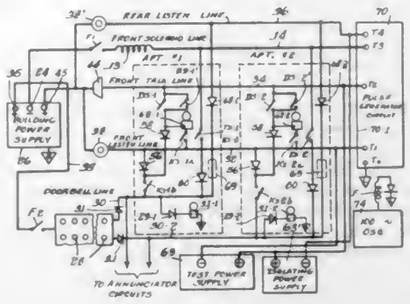


A servo positioning system for accurately positioning a transducer over a data track by detecting a null zone between two adjacent servo tracks. Two magnetic layers of different coercivity are used such that a plurality of continuous servo tracks are recorded in the lower layer while data tracks are recorded in the upper layer, centered over the null zone between adjacent servo tracks. A single read gap magnetic head is used for simultaneously reading signals from both servo tracks in the lower magnetic layer and the data track from the upper magnetic layer.

3,404,393
ALARM SYSTEM

Sidney L. Blivice, 6247 N. Monticello, Chicago, Ill. 60645, and David J. Cohen, Chicago, Ill. (3838 W. Jerome, Skokie, Ill. 60076)

Filed Apr. 1, 1965, Ser. No. 444,568
47 Claims. (Cl. 340—276)

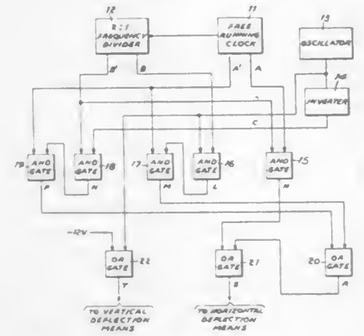


1. In a building or the like including a number of sections having a first common line extending therebetween and forming part of a first common circuit, a second common line extending between said building sections and forming part of a second common circuit and an individual line extending to each section of the building and completing an individual circuit associated with the building section, and power supply means for providing energizing power on said common and individual lines for said circuits, the improvement comprising a monitoring system superimposed on said common and individual lines for monitoring a given condition in each section of the building comprising: a separate condition sensing switch means for each section of the building operated to an alarm condition when the condition to be monitored is present in the associated building section; a preparing switch means for each section of the building having an alarm preparing and an alarm disabling condition; control signal generating means for applying a first control signal having a first distinguishing characteristic to said first common line and a second control signal having a second distinguishing characteristic to said second common line; means coupling each of said separate condition sensing switch means between said first common line and the individual line extending to the associated building section for providing on the individual line involved said first control signal only when the associated condition sensing switch means is in its alarm condition; means coupling each preparing switch means between said second common line and the individual line extending to the associated building section for providing on the individual line involved said second control signal only when the preparing switch means is in its alarm preparing condition; and control signal responsive annunciator means responsive only to the combined presence of said first and second control signals on any of said individual lines for signalling an alarm for the section of the building involved.

3,404,394
SYMBOL GENERATOR

Raymond C. Bassett, West Caldwell, N.J., assignor to International Telephone and Telegraph Corporation, a Corporation of Maryland

Filed Oct. 23, 1965, Ser. No. 503,825
5 Claims. (Cl. 340—324)



Methods and apparatus for generating patterns on a cathode ray tube screen. A pulse frequency divider driven by a clock pulse generator and an oscillator provide pulses and sine waves respectively. The clock pulse generator controls gating circuits to gate out alternate segments of pulses and sine waves which are applied to an oscilloscope. In the second embodiment the oscillator signal is also inverted and segments thereof are additionally selected through an "AND" gate. In a third embodiment there is added to the first embodiment a plurality of dividers in cascade which are then coupled via summing amplifiers to the cathode ray tube.

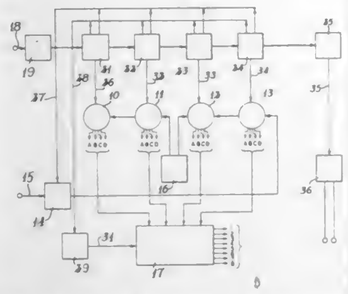
3,404,395
ELECTROMECHANICAL ACCUMULATOR

Robert T. Brumbaugh, Wilmette, and Earle G. Cromer, Jr., Mount Prospect, Ill., and Chester S. Czyryk, Silver Lake, Wis., assignors to Mangood Corporation, a corporation of Illinois

Filed Nov. 23, 1964, Ser. No. 413,032
7 Claims. (Cl. 340—347)

A electromechanical data accumulator having a plurality of rotatable disks, each with coded conductive tracks

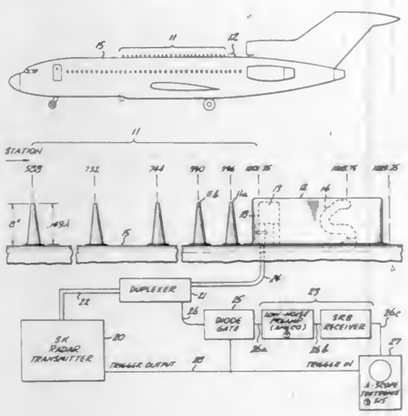
thereon. The disks are moved to different positions in response to the digital value of the measured condition, and the coded conductive tracks correspond thereto. On command, the tracks are succesively scanned and voltage pulses therefrom feed into a translator device which converts the pulses into electrical code pulses compatible to a computer.



3,404,396
AIRBORNE CLEAR AIR TURBULENCE RADAR

Walter E. Buehler, Issaquah, Charles H. King, Kent, and Clarence D. Lunden, Tacoma, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware

Filed Jan. 24, 1967, Ser. No. 611,461
10 Claims. (Cl. 343—5)



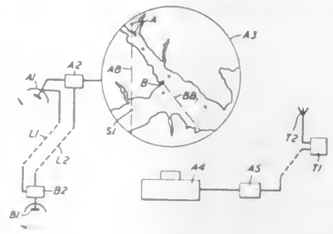
A monopole array antenna is attached atop an aircraft fuselage so as to irradiate in fixed, relative-to-the-aircraft, spotlight-like narrow-beam fashion, the area of space directly preceding the aircraft. High transmitted power, long wavelength, high receiver sensitivity radar is connected in conventional pulsed or preferably Doppler radar manner to the antenna in order to provide a special A-scope display of clear air turbulence.

3,404,397
RADIO NAVIGATION AIDS

Victor James Cooper, Chelmsford, Essex, England, assignor to The Marconi Company Limited, London, England, a British company

Filed May 17, 1965, Ser. No. 456,233
13 Claims. (Cl. 343—6)

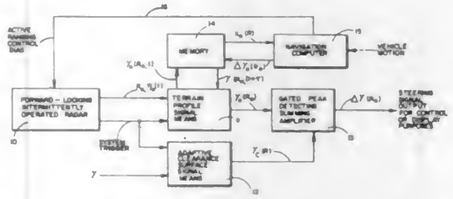
1. A navigation aid comprising radar means for transmitting and receiving radar pulses including a first scanning directional aerial for scanning a predetermined area, and a second scanning directional aerial geographically spaced from said first aerial for scanning substantially the same predetermined area, display means responsive to said radar means for producing a P.P.I. display of said area, said display means including means for producing a first angularly moving marker moving in synchronism with said first scanning directional aerial, television means for broadcasting said P.P.I. display including said first marker, and means for providing a second angularly moving marker in the broadcast P.P.I., said radar means having at least one distinguishable operating characteristic for distinguishing the transmitted signals of said radar means from normal vehicle borne radar transmitter signals.



3,404,398
TERRAIN FOLLOWING SYSTEM EMPLOYING INTERMITTENT RADIATION

Thomas W. Hoban, Fullerton, and Richard L. Smith, Anaheim, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware

Filed June 12, 1967, Ser. No. 646,155
6 Claims. (Cl. 343—7)



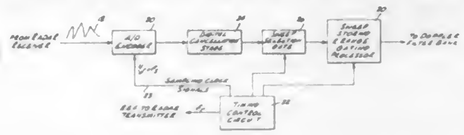
An automatic terrain following system for airborne use and employing an intermittently-operated pulsed energy directional ranging system in cooperation with a dead-reckoning navigation computer and data matrix storage means. The navigation computer continuously predicts the present positions (relative to a utilizing vehicle) of terrain obstacles sensed during previous operation of the intermittently-operated pulsed energy system (and stored in the storage means). In this way, the detection of the utilizing aircraft is reduced. The low altitude terrain-following flight profile of the aircraft reduces the probability of active detection of the aircraft by a hostile radar system, while intermittent operation of the aircraft's own pulsed energy system decreases the probability of passively detecting and locating such aircraft.

3,404,399
DIGITAL CLUTTER REJECTION SYSTEM

Albert Eschner, Jr., Fullerton, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Apr. 22, 1966, Ser. No. 545,804
14 Claims. (Cl. 343—7.7)

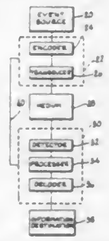
A cluttter rejection system including a moving target digital cancellation stage and a transient suppression gate which prevents preselected sweeps of the radar dwell time which have not been completely cancelled from passing to the accompanying processor. As a result, the spreading of the clutter frequency spectrum is greatly reduced to decrease the clutter to target signal ratio in the target frequency region. The system also includes a clutter rejection range gated Doppler filter system requiring a minimum number of filters.



3,404,400
SIGNALLING METHOD AND APPARATUS

Park H. Miller, Jr., Del Mar, Calif., assignor, by mesne assignments, to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware

Filed Apr. 17, 1967, Ser. No. 631,267
27 Claims. (Cl. 343—17.2)

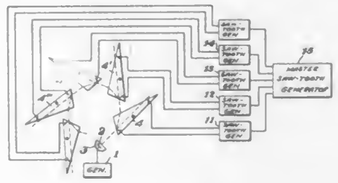


A novel matched filter and a method of signalling utilizing such a matched filter are used with a particular signal to produce a compressed pulse. The transmitted signal is a number of short wave trains of different frequencies. The received signal is applied to the matched filter comprising active filters tuned to respective transmitted frequencies to produce filtered wave trains corresponding to the transmitted wave trains. The filtered wave trains are combined in the matched filter in such predetermined relationship as to produce a pulse signal compressed in time relative to the duration of the respective wave trains.

3,404,401
DIRECTIVE BEAM ROTATING MEANS

Maurice Arditi, New York, N.Y., assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 1, 1948, Ser. No. 52,152
6 Claims. (Cl. 343—100)

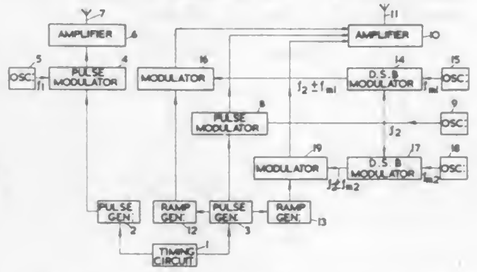


2. In combination, a plurality of prismatic envelopes, each envelope containing spaced electrodes and an ionizable gas, a first of said envelopes being placed to receive and deflect wave energy, a second of said envelopes placed to receive said wave energy which is deflected through a predetermined angle by said first envelope, a voltage source, and means successively applying the voltage of said source to the electrodes of said envelopes.

3,404,402
AIRCRAFT LANDING AIDS USING CROSS CORRELATION TECHNIQUES

John Benjamin, Farnborough, and George Farren Clarke, Franham, England, assignors to Minister of Aviation in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England

Filed Sept. 18, 1964, Ser. No. 397,657
Claims priority, application Great Britain, Sept. 20, 1963, 37,200/63; Feb. 19, 1964, 6,990/64
31 Claims. (Cl. 343—108)

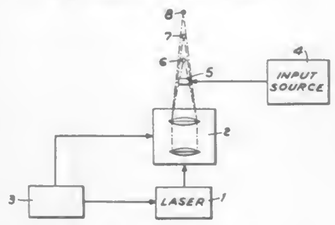


1. Transmitter apparatus for an instrument landing system and comprising a first transmitter aerial and a second transmitter aerial both located adjacent an aircraft runway, signal generator means for controlling the timing and form of first, second, third and fourth time varying signals, means connected to the said first transmitter aerial and to said signal generator means for generating a first carrier frequency signal carrying as modulation said first time varying signal, means connected to the said second transmitter aerial and to said signal generator means for generating a second carrier frequency signal carrying as modulation said second time varying signal, means connected to one of the said first transmitter aerial and the said second transmitter aerial and to said signal generator means for generating a third carrier frequency signal carrying as modulation said third time varying signal and means connected to the second aerial and to said signal generator means for generating a fourth carrier frequency signal carrying as modulation said fourth time varying signal, the timing and form of said time varying signals being such that they yield cross-correlation products the amplitudes of two of which vary differentially as a point of reception moves from one side to the other of a desired guidance path and the amplitude of one of which is a maximum on the desired guidance path.

3,404,403
LASER BEAM ANTENNA

Lucio M. Vallese, Glen Ridge, N.J., and Arnold Shostak, Arlington, Va., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Jan. 20, 1966, Ser. No. 521,978
9 Claims. (Cl. 343—700)

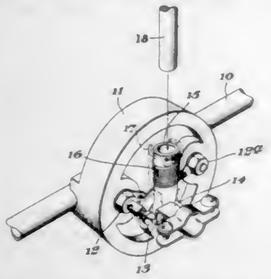


1. A laser beam antenna comprising:
laser means for producing at least one laser beam;
means coupled to said laser means for repeatedly pulsing on said laser means;

focusing means for focusing said laser beam at different points to thereby ionize a column of air; and

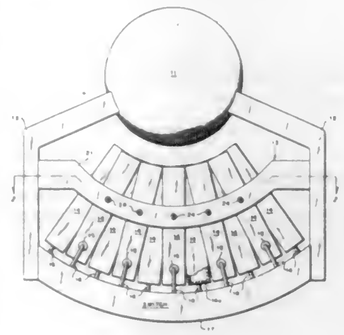
means coupling a source of input signals to the base of said ionized column of air.

3,404,404
COMBINED DIPOLE AND LINEAR ANTENNA WITH BALUN
John Herbert Theakston, Westonia, Weston Favell, England, assignor to J. Beam Aerials Limited, Rothersthorpe Crescent, Northampton, England
Filed May 24, 1965, Ser. No. 457,915
4 Claims. (Cl. 343—727)



This invention concerns a transformer or balun for a radio antenna intended for the reception of an optimum frequency or band of frequencies, and employing balanced radiator elements, such as a folded dipole. The transformer comprises a former on which a wire is noninductively wound, the ends of the wire being connected to said elements. The conductors of a feeder cable are connected to the former and to one of said elements respectively.

3,404,405
LUNEBERG LENS WITH STAGGERED WAVEGUIDE FEED
Walter J. Young, Jr., Tonawanda, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 30, 1965, Ser. No. 452,418
14 Claims. (Cl. 343—754)

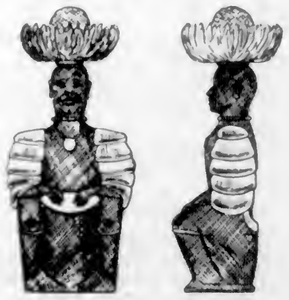


An antenna array including a spherical dielectric lens and two rows of wave guides each wave guide extending from the locus of the lens focal points to a feedback wall along a respective axis passing through the center of the lens. The wave guides in one row are staggered relative to those in the other row, and each wave guide is positioned relative to the others to eliminate null points in the antenna scan wave pattern. A switch controls signal means connected to each wave guide for enabling the array to scan the wave pattern.

DESIGNS

OCTOBER 1, 1968

212,318
BOTTLE
Harold Raymond Aslin, 4580 Circle Road, Montreal, Quebec, Canada
Filed Nov. 28, 1966, Ser. No. 4,831
Term of patent 14 years
(Cl. D9—33)



212,319
JUG
David G. Hills, Collinsville, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Oct. 6, 1967, Ser. No. 8,900
Term of patent 14 years
(Cl. D9—39)



212,320
BOTTLE OR SIMILAR ARTICLE
David G. Hills, Collinsville, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Aug. 9, 1967, Ser. No. 8,178
Term of patent 14 years
(Cl. D9—100)



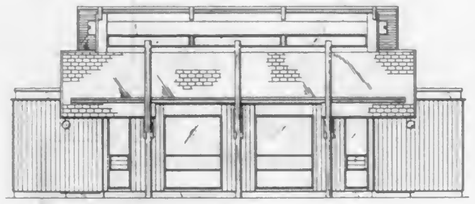
212,321
BOTTLE OR SIMILAR ARTICLE
David G. Hills, Collinsville, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Aug. 9, 1967, Ser. No. 8,191
Term of patent 14 years
(Cl. D9—100)



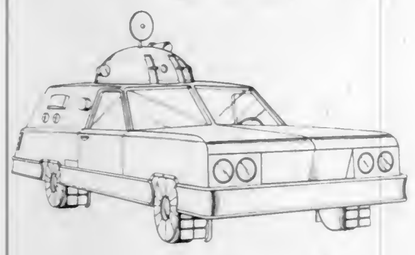
212,322
BOTTLE OR SIMILAR ARTICLE
Victor Koenigsberg, 702 Hall St., Franklin Square, N.Y. 11010
Filed Nov. 21, 1967, Ser. No. 9,490
Term of patent 14 years
(Cl. D9—169)



212,323
BUILDING STRUCTURE
Igor Sazevich, San Francisco, Calif., assignor to Rian's Incorporated, Portland, Oreg., a corporation of Oregon
Filed Mar. 4, 1968, Ser. No. 10,838
Term of patent 14 years
(Cl. D13—1)



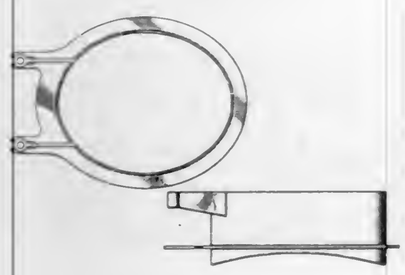
212,324
LAW ENFORCEMENT AUTOMOTIVE VEHICLE
William C. House, Claremont, Calif., assignor to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio
Filed Nov. 21, 1967, Ser. No. 9,483
Term of patent 14 years
(Cl. D14—3)



212,325
COMBINED CARRIAGE AND INFANT SEAT
Stanley F. Korol, Everett, Pa., assignor to Hedstrom Union Company, Bedford, Pa.
Filed Jan. 30, 1968, Ser. No. 10,367
Term of patent 14 years
(Cl. D14—14)



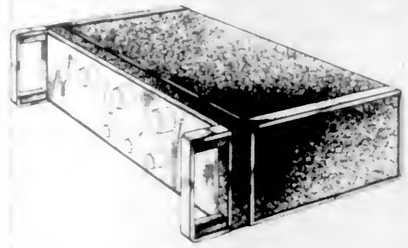
212,326
TOILET SEAT ELEVATOR
William R. Brewer, Arleta, Calif., assignor to Hamilton C. de Jong (doing business as Safety Brothers), Pasadena, Calif.
Filed Dec. 15, 1967, Ser. No. 9,804
Term of patent 14 years
(Cl. D23—71)



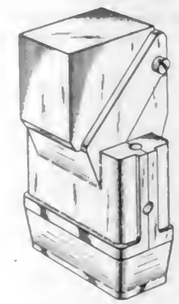
212,327
TOILET SEAT
William R. Brewer, Arleta, Calif., assignor to Hamilton C. de Jong (doing business as Safety Brothers), Pasadena, Calif.
Filed Dec. 15, 1967, Ser. No. 9,806
Term of patent 14 years
(Cl. D23—71)



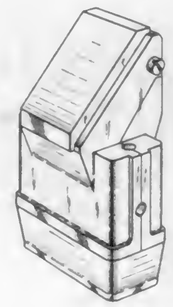
212,328
CABINET FOR ELECTRICAL APPARATUS
Lonnie C. Pogue, San Diego, Calif., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Aug. 3, 1966, Ser. No. 3,323
Term of patent 14 years
(Cl. D26—1)



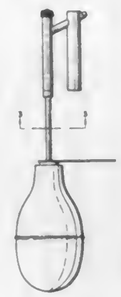
212,329
ELECTRICAL CONNECTOR HOUSING ASSEMBLY
Wladimiro Teagno and Franco Trevisiol, Turin, Italy, assignors to AMP Incorporated, Harrisburg, Pa.
Filed May 26, 1967, Ser. No. 7,278
Claims priority, application Italy Dec. 17, 1966
Term of patent 14 years
(Cl. D26—1)



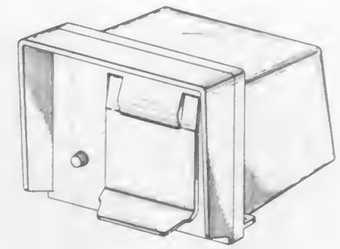
212,330
ELECTRICAL CONNECTOR HOUSING ASSEMBLY
Wladimiro Teagno and Franco Trevisiol, Turin, Italy, assignors to AMP Incorporated, Harrisburg, Pa.
Filed May 26, 1967, Ser. No. 7,280
Claims priority, application Italy Dec. 17, 1966
Term of patent 14 years
(Cl. D26—1)



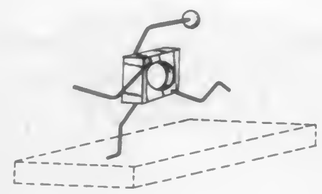
212,331
SOLDER REMOVER ATTACHMENT FOR ELECTRICAL SOLDERING IRONS
Charles Sydney Richard Wotton, Worthing, Sussex, England, assignor to Oryx Electrical Laboratories Limited, Worthing, Sussex, England, a British company
Filed June 23, 1967, Ser. No. 7,583
Claims priority, application Great Britain Apr. 14, 1967
Term of patent 14 years
(Cl. D26—1)



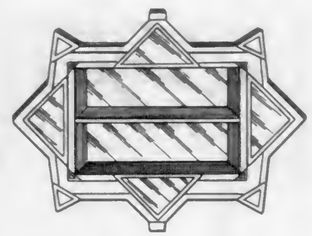
212,332
CARD READER
Christopher Kingsley Brown, Camp Hill, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Mar. 21, 1966, Ser. No. 1,571
Term of patent 14 years
(Cl. D26—5)



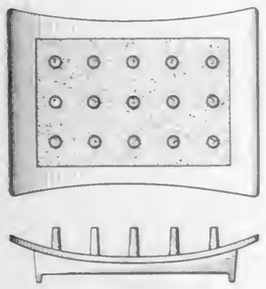
212,333
FIGURINE
Joseph A. Del Porto, 5000 C St., Sacramento, Calif. 95819
Filed Sept. 1, 1967, Ser. No. 8,470
Term of patent 14 years
(Cl. D29—23)



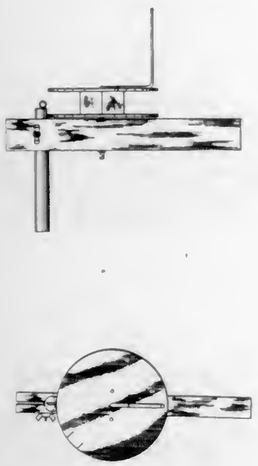
212,334
SHADOW BOX
J. C. Scott, 637 E. 43rd St., Chicago, Ill. 60653
Filed Aug. 31, 1967, Ser. No. 8,449
Term of patent 14 years
(Cl. D33—3)



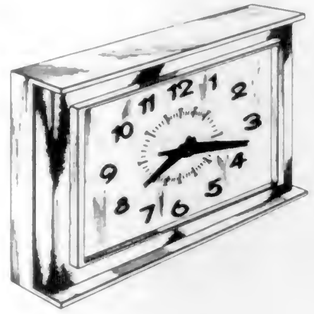
212,335
SOAP CRADLE OR SIMILAR ARTICLE
Michel S. Schwartz, 14 Clover Drive, Great Neck, N.Y. 11021
Filed Dec. 22, 1967, Ser. No. 9,883
Term of patent 14 years
(Cl. D33—24)



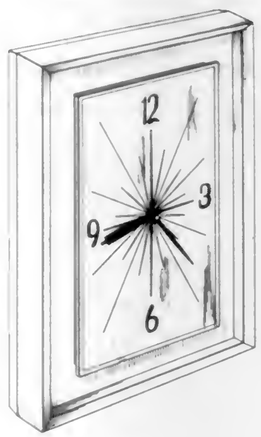
212,336
KITE STRING WINDER
John G. Kircher, Woodford Road and Ridge Ave., Cincinnati, Ohio 45213
Filed Jan. 4, 1968, Ser. No. 10,049
Term of patent 14 years
(Cl. D41—1)



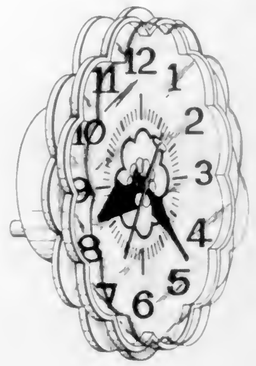
212,337
CLOCK OR SIMILAR ARTICLE
Horst John Kretschmer, New York, N.Y., and William V. Judson, Westport, Conn., assignors to General Electric Company, a corporation of New York
Filed Dec. 14, 1967, Ser. No. 9,782
Term of patent 3½ years
(Cl. D42—7)



212,338
CLOCK OR SIMILAR ARTICLE
Theodore G. Daher, Stratford, and William V. Judson, Westport, Conn., assignors to General Electric Company, a corporation of New York
Filed Jan. 18, 1968, Ser. No. 10,211
Term of patent 7 years
(Cl. D42—7)



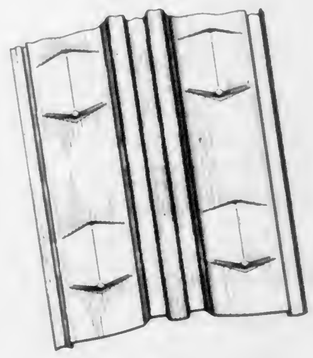
212,339
CLOCK OR SIMILAR ARTICLE
William Macowski, Jr., Caldwell, N.J., assignor to General Electric Company, a corporation of New York
Filed Jan. 22, 1968, Ser. No. 10,257
Term of patent 7 years
(Cl. D42—7)



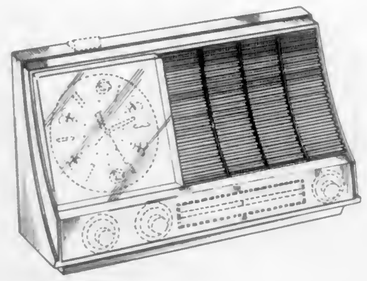
212,340
LEFT, CENTER AND RIGHT READING YARDSTICK
Charles E. Hull, 713 1st St., Westfield, N.J. 07090
Filed Oct. 10, 1967, Ser. No. 8,943
Term of patent 14 years
(Cl. D52—6)



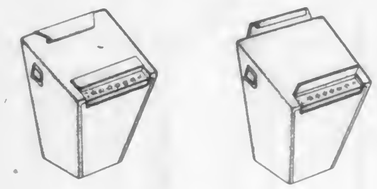
212,341
WALL PANELING
William C. Heirich, 2912 Waubilah Drive, Muskogee, Okla. 74401
Continuation-in-part of design application Ser. No. 4,525, Nov. 2, 1966. This application Oct. 27, 1967, Ser. No. 9,675
Term of patent 14 years
(Cl. D54—2)



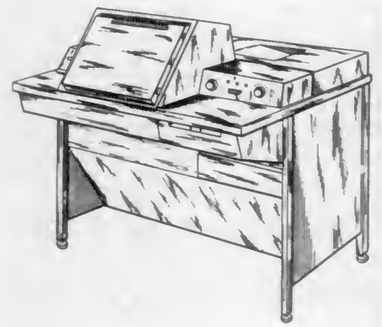
212,342
CLOCK RADIO
David B. Rote, Fort Wayne, Ind., assignor to Arvin Industries, Inc., Columbus, Ind., a corporation of Indiana
Filed Nov. 6, 1967, Ser. No. 9,272
Term of patent 14 years
(Cl. D56—4)



212,343
COMBINED MUSIC STAND AND AMPLIFIER HOUSING OR SIMILAR ARTICLE
Stanley Cutler, Van Nuys, and Clyde L. Tichenor, Sepulveda, Calif., assignors to Warwick Electronics Inc., Chicago, Ill., a corporation of Delaware
Filed Dec. 28, 1967, Ser. No. 9,967
Term of patent 14 years
(Cl. D56—4)



212,344
PHOTOLITHOGRAPHIC PLATE MAKING MACHINE OR SIMILAR ARTICLE
Daniel H. Robbins and Robert H. Powers, Rochester, N.Y., assignors to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed Feb. 14, 1967, Ser. No. 5,807
Term of patent 14 years
(Cl. D61—1)



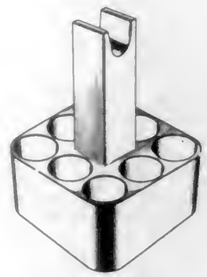
212,345
SAILBOAT OR SIMILAR ARTICLE
John W. Best, 67 Palm Ave., Arcadia, Calif. 91006
Filed Mar. 1, 1967, Ser. No. 6,009
Term of patent 14 years
(Cl. D71—1)



212,346
DISPLAY STAND
David P. Shea, Chagrin Falls, Ohio, assignor to Crawford Fitting Company, Solon, Ohio, a corporation of Ohio
Original design application Feb. 8, 1967, Ser. No. 5,731. Divided and this application Dec. 29, 1967, Ser. No. 9,996
Term of patent 14 years
(Cl. D80—9)



212,347
CIGARETTE EXTINGUISHER
John B. Morton, Culver City, Calif.
(2137 Viking Ave., Anaheim, Calif. 92806)
Filed July 3, 1967, Ser. No. 7,699
Term of patent 14 years
(Cl. D85—2)



212,348
POCKETBOOK
Raphael S. Teller, 91 Elm St., Belmont, Mass. 02178
Filed Nov. 13, 1967, Ser. No. 9,360
Term of patent 14 years
(Cl. D87—3)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 1ST DAY OF OCTOBER, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Deuschle, Fritz, and J. L. Higgins, to Roehr Products Co., Inc. Aspirating device. Re. 26,470, 10–1–68, Cl. 32—33.
Higgins, John L.: *See*—
Deuschle, Fritz, and Higgins. Re. 26,470.
Peterson, William H., to Pullman Inc. Hydraulic draft gear arrangement. Re. 26,472, 10–1–68, Cl. 213—43.
Pullman Inc.: *See*—
Peterson, William H. Re. 26,472.
Roehr Products Co., Inc.: *See*—
Deuschle, Fritz, and Higgins. Re. 26,470.

LIST OF PLANT PATENTEES

Amling-De Vor Nurseries, Inc.: *See*—
Lammerts, Walter E. 2,838.
Armstrong, David L., and H. C. Swim, to Armstrong Nurseries, Inc. Rose plant. 2,836, 10–1–68, Cl. 15.
Armstrong Nurseries, Inc.: *See*—
Armstrong, David L., and Swim. 2,836.
Griffith, Ralph B., to Stark Bro's Nurseries & Orchards Co. Apple tree. 2,835, 10–1–68, Cl. 34.
Lammerts, Walter E., to Amling-De Vor Nurseries, Inc. Rose plant. 2,838, 10–1–68, Cl. 29.
Shammarello, Anthony M. Semi-double white azalea plant. 2,837, 10–1–68, Cl. 55.
Stark Bro's Nurseries & Orchards Co.: *See*—
Griffith, Ralph B. 2,835.
Swim, Herbert C.: *See*—
Armstrong, David L., and Swim. 2,836.

LIST OF DESIGN PATENTEES

AMP Inc.: *See*—
Brown, Christopher K. 212,332.
Teagno, Wladimiro, and Trevisiol. 212,329.
Teagno, Wladimiro, and Trevisiol. 212,330.
Aerojet-General Corp.: *See*—
House, William C. 212,324.
Arvin Industries, Inc.: *See*—
Rote, David B. 212,342.
Aslin, Harold R. Bottle. 212,318, 10–1–68, Cl. D9—33.
Best, John W. Sailboat or similar article. 212,345, 10–1–68, Cl. D71—1.
Brewer, William R., to Hamilton C. de Jong (d.b.a. Safety Bros.). Toilet seat elevator. 212,326, 10–1–68, Cl. D23—71.
Brewer, William R., to Hamilton C. de Jong (d.b.a. Safety Bros.). Toilet seat. 212,327, 10–1–68, Cl. D23—71.
Brown, Christopher K., to AMP Inc. Card reader. 212,332, 10–1–68, Cl. D26—5.
Crawford Fitting Co.: *See*—
Shea, David P. 212,346.
Cutler, Stanley, and C. L. Tichenor, to Warwick Electronics Inc. Combined music stand and amplifier housing or similar article. 212,343, 10–1–68, Cl. D56—4.
Daher, Theodore G., and W. V. Judson, to General Electric Co. Clock or similar article. 212,338, 10–1–68, Cl. D42—7.
De Jong, Hamilton C.: *See*—
Brewer, William R. 212,326.
Brewer, William R. 212,327.
Del Porto, Joseph A. Figurine. 212,333, 10–1–68, Cl. D29—23.
General Electric Co.: *See*—
Daher, Theodore G., and Judson. 212,338.
Kretschmer, Horst J., and Judson. 212,337.
Macowski, William, Jr. 212,339.
Hedstrom Union Co.: *See*—
Korol, Stanley F. 212,325.
Heirich, William C. Wall paneling. 212,341, 10–1–68, Cl. D54—2.
Hills, David G., to Monsanto Co. Jug. 212,319, 10–1–68, Cl. D9—39.
Hills, David G., to Monsanto Co. Bottle or similar article. 212,320, 10–1–68, Cl. D9—100.
Hills, David G., to Monsanto Co. Bottle or similar article. 212,321, 10–1–68, Cl. D9—100.
Honeywell Inc.: *See*—
Pogue, Lonnie C. 212,328.
House, William C., to Aerojet-General Corp. Law enforcement automotive vehicle. 212,324, 10–1–68, Cl. D14—3.
Hull, Charles E. Left, center and right reading yardstick. 212,340, 10–1–68, Cl. D52—6.
Itek Corp.: *See*—
Robbins, Daniel H., and Powers. 212,344.
Judson, William V.: *See*—
Kretschmer, Horst J., and Judson. 212,337.
Daher, Theodore G., and Judson. 212,338.
Kircher, John G. Kite string winder. 212,336, 10–1–68, Cl. D41—1.
Koenigsberg, Victor. Bottle or similar article. 212,322, 10–1–68, Cl. D9—169.
Korol, Stanley F., to Hedstrom Union Co. Combined carriage and infant seat. 212,325, 10–1–68, Cl. D14—14.
Kretschmer, Horst J., and W. V. Judson, to General Electric Co. Clock or similar article. 212,337, 10–1–68, Cl. D42—7.
Macowski, William, Jr., to General Electric Co. Clock or similar article. 212,339, 10–1–68, Cl. D42—7.
Monsanto Co.: *See*—
Hills, David G. 212,319.
Hills, David G. 212,320.
Hills, David G. 212,321.
Morton, John B. Cigarette extinguisher. 212,347, 10–1–68, Cl. D85—2.
Oryx Electrical Laboratories Ltd.: *See*—
Wotton, Charles S. R. 212,331.
Pogue, Lonnie C., to Honeywell Inc. Cabinet for electrical apparatus. 212,328, 10–1–68, Cl. D26—1.
Powers, Robert H.: *See*—
Robbins, Daniel H., and Powers. 212,344.
Rian's Inc.: *See*—
Sazevich, Igor. 212,323.
Robbins, Daniel H., and R. H. Powers, to Itek Corp. Photolithographic plate making machine or similar article. 212,344, 10–1–68, Cl. D61—1.
Rote, David B., to Arvin Industries, Inc. Clock radio. 212,342, 10–1–68, Cl. D56—4.
Sazevich, Igor, to Rian's Inc. Building structure. 212,323, 10–1–68, Cl. D13—1.
Schwartz, Michel S. Soap cradle or similar article. 212,335, 10–1–68, Cl. D33—24.
Scott, J. C. Shadow box. 212,334, 10–1–68, Cl. D33—3.
Shea, David P., to Crawford Fitting Co. Display stand. 212,346, 10–1–68, Cl. D80—9.
Teagno, Wladimiro, and F. Trevisiol, to AMP Inc. Electrical connector housing assembly. 212,329, 10–1–68, Cl. D26—1.
Teagno, Wladimiro, and F. Trevisiol, to AMP Inc. Electrical connector housing assembly. 212,330, 10–1–68, Cl. D26—1.
Teller, Raphael S. Pocketbook. 212,348, 10–1–68, Cl. D87—3.
Tichenor, Clyde L.: *See*—
Cutler, Stanley, and Tichenor. 212,343.
Trevisiol, Franco: *See*—
Teagno, Wladimiro, and Trevisiol. 212,329.
Teagno, Wladimiro, and Trevisiol. 212,330.
Warwick Electronics Inc.: *See*—
Cutler, Stanley, and Tichenor. 212,343.
Wotton, Charles S. R., to Oryx Electrical Laboratories Ltd. Solder remover attachment for electrical soldering irons. 212,331, 10–1–68, Cl. D26—1

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 1ST DAY OF OCTOBER, 1968

NOTE — Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

AB Grythyttans Stalmobler: *See*—
Lindqvist, Artur R. 3,403,882.
ACF Industries, Inc.: *See*—
Stine, Clair K., and Dugge. 3,403,943.
AMP Inc.: *See*—
Henschen, Homer E. 3,404,367.
Paulius, Clarence L., and Zimmerman. 3,404,364.
Roberts, Lincoln E., and Reynolds. 3,404,368.
Aaron, Marvin R., J. R. Gray, and F. A. Saal, to Bell Telephone Laboratories, Inc. Framing of pulse code transmission systems by use of an added tone signal. 3,404,231, 10–1–68, Cl. 178—69.5.
Abragam, Anatole, and I. Solomon, to Commissariat a l'Energie Atomique. Magnetic resonance devices for accurately measuring magnetic fields, in particular low magnetic fields, on board of a movable body. 3,404,332, 10–1–68, Cl. 324—.5.
Abraham, William R.: *See*—
McLeod, James W., Jr., and Abraham. 3,404,228.
Abt, Andreas: *See*—
Steinemann, Willy, and Abt. 3,403,411.
Achard, Rene V. J., and J. Morel, to Rhone-Poulenc S.A. Process for the preparation of hydroxy-alkenoic acids. 3,404,166, 10–1–68, Cl. 260—413.
Adam, Gunter, to Hannes Marker. Heel tightener for ski bindings. 3,403,920, 10–1–68, Cl. 280—11.35.
Adam-Steven Leather Goods, Inc.: *See*—
Frost, Norbet. 3,404,052.
Adams, Joe T.: *See*—
Thomas, Donald C., and Adams. 3,404,185.
Adams, Milton R.: *See*—
Franz, Dale W., and Adams. 3,403,598.
Adams, Thomas J., to American Cyanamid Co. Antistatic polyvinylchloride composition. 3,404,138, 10–1–68, Cl. 260—92.3.
Admiral Corp.: *See*—
Green, Charles R., and Rychtytzkyj. 3,404,291.
Levin, Nathan D. 3,404,303.
Agfa Aktiengesellschaft: *See*—
Muller-Bardorff, Wolfgang, and Lassig. 3,404,017.
Agostini, Antoine, to Societe Anonyme Societe des Automobiles Simca. Torque wrenches. 3,403,551, 10–1–68, Cl. 73—139.
Ahlander, Karl-Gustav M., and C.-L. Viel Lamare, to Aktiebolaget Celleco. Method of producing SO_3-water and gas with low SO_2-content from combustion gas with SO_2-content. 3,403,496, 10–1–68, Cl. 55—73.
Ahlees, Clarence E. Folding door. 3,403,720, 10–1–68, Cl. 160—231.
Aiken, John K., and D. K. Howard, to Geigy Chemical Corp. Electrodeposition of tin. 3,404,075, 10–1–68, Cl. 204—54.
Air Products and Chemicals, Inc.: *See*—
Berreth, Raymond L., Howells, Klee, and Miller. 3,403,527.
Air Reduction Co., Inc.: *See*—
Collins, Franklyn M. 3,404,032.
Dorschu, Karl E. 3,404,249.
Lindemann, Martin K., and Volpe. 3,404,112.
Lindemann, Martin K., and Volpe. 3,404,113.
Rendos, John J. 3,404,067.
Ake, Jean R. Final soak bath for processed silver halide prints. 3,404,004, 10–1–68, Cl. 96—50.
Aktiebolaget Celleco: *See*—
Ahlander, Karl-Gustav M., and Lamare. 3,403,496.
Aktiebolagt Karlstads Mekaniska Werkstad: *See*—
Ingemarsson, Gosta I. 3,404,065.
Alcala, Joe E., and M. E. Wilfert, to General Dynamics Corp. Cathode ray tube package. 3,404,227, 10–1–68, Cl. 178—7.8.
Alfa Laval AB: *See*—
Thylefors, Henric W. 3,403,849.
Alimanestiano, Constantin. Massaging apparatus with simulated hands. 3,403,674, 10–1–68, Cl. 128—61.
Allegheny Ludlum Steel Corp.: *See*—
Fricioni, Rudolph B. 3,403,982.
Allen, Duff S., Jr.: *See*—
McEvoy, Francis J., Smith, and Allen. 3,404,157.
Allen, Harry R., Jr., to Honeywell Inc. Galvanometer damping arrangement using adjustable volume fluid damping. 3,404,342, 10–1–68, Cl. 324—125.
Aller, Willis F., to The Bendix Corp. Gaging device. 3,403,448, 10–1–68, Cl. 33—174.
Alley, William H. Gravity feed soap dispenser. 3,403,952, 10–1–68, Cl. 312—61.
Allied Chemical Corp.: *See*—
Feazel, Charles E. 3,404,064.
Taub, Bernard. 3,404,131.
Vander Mey, John E. 3,403,497.
Allis-Chalmers Mfg. Co.: *See*—
Winograd, Harold. 3,404,331.
Alloys Unlimited, Inc.: *See*—
Elliott, Charles G. 3,404,214.
Alltronics, Inc.: *See*—
Johnson, Richard G. 3,404,306.
Amann, Paul F., and L. R. Crane, to Penn-Western Electric Corp. Insulated compression sleeve. 3,404,216, 10–1–68, Cl. 174—84.
Amemiya, Hiroshi, to Radio Corp. of America. Memory system having improved electrical termination of conductors. 3,404,387, 10–1–68, Cl. 340—174.
Amendola, Dino, to The Bendix Corp. Selective indexing guide device for electrical connectors of printed circuit cards. 3,404,362, 10–1–68, Cl. 339—17.
American Air Filter Co., Inc.: *See*—
Mutchler, Paul A. 3,403,670.
Pasha, Mohiuddin. 3,403,498.
Weber, George K. 3,404,210.
American Cyanamid Co.: *See*—
Adams, Thomas J. 3,404,138.
Bova, Joseph D. 3,403,542.
McEvoy, Francis J., Smith, and Allen. 3,404,157.
Nakagawa, Kazumi, Shimoda, and Miyashita. 3,404,204.
American Hydrotherm Corp.: *See*—
Geiringer, Paul L. 3,403,719.
American Metal Products Corp.: *See*—
Suffron, Fay O., and Fairchild. 3,403,962.
American Meter Co., Inc.: *See*—
Kugler, Carl J. 3,404,264.
American-Mobile Products Corp.: *See*—
Dinkel, Richard A. 3,403,744.
American Optical Co.: *See*—
Wilkinson, Leonard A. 3,403,957.
American Radiator & Standard Sanitary Corp.: *See*—
Noakes, Thomas E., and Grahl. 3,403,884.
American Tractor Equipment Corp.: *See*—
Kant, Alvin W. 3,403,521.
Amis, James W., Jr., and G. E. Anderson, to Korry Mfg. Co. Compact electrical switch assembly with improved actuator means. 3,404,244, 10–1–68, Cl. 200—5.
Ampex Corp.: *See*—
Streets, John H., and Maxey. 3,404,241.
Anazawa, Shinzo: *See*—
Tsuji, Shigeru, and Anazawa. 3,404,319.
Anderson, Gary E.: *See*—
Amis, James W., Jr., and Anderson. 3,404,244.
Anderson, Gerald R.: *See*—
Hirahara, Katsuji, and Anderson. 3,403,639.
Anderson, Gerald R., S. H. Creed, and J. T. Parker, to FMC Corp. Apple orienting apparatus. 3,403,769, 10–1–68, Cl. 198—33.
Anderson, John E., J. E. Jackson, and R. J. Baird, to Union Carbide Corp. Laser welding. 3,404,253, 10–1–68, Cl. 219—121.
Andery, Paulo A., to Zuplatec A.G. Gesellschaft fur Technische Planung und Industrielle Entwicklung. Flotation of phosphate containing materials. 3,403,783, 10–1–68, Cl. 209—167.
Andress, Harry J., Jr.: *See*—
McCabe, Leo J., Andress, and Seger. 3,404,123.
Andrew, Margaret J., N. J. Bullock, and K. J. Sisson, to General Motors Corp. Automatic clothes washing apparatus with improved agitation control. 3,403,538, 10–1–68, Cl. 68—12.
Andrews, James S., to The C. S. Card Iron Works Co. Internally tilting dumping mine car. 3,403,636, 10–1–68, Cl. 105—3.
Angus, George, & Co. Ltd.: *See*—
Turner, Denys G. 3,403,603.
Applied Power Industries, Inc.: *See*—
Leissner, William R. 3,403,949.
Archer, Sydney, to Sterling Drug Inc. Imidazolin-2-YL-alkyl-substituted indoles. 3,404,156, 10–1–68, Cl. 260—309.6.
Arditi, Maurice, to International Standard Electric Corp. Directive beam rotating means. 3,404,401, 10–1–68, Cl. 343—100.
Argus Chemical Corp.: *See*—
Gray, Robert D., and Mayer. 3,404,167.
Armington, Raymond Q., to The Triax Co. Position sensing device. 3,403,793, 10–1–68, Cl. 214—16.4.
Armour Agricultural Chemical Co.: *See*—
Lee, Donald E., and Csendes. 3,403,973.
Mustian, William R., Jr. 3,403,974.
Armour and Co.: *See*—
Betty, Roy J., and Malec. 3,404,090.
Armstrong, Edward: *See*—
Hawgood, John, and Armstrong. 3,403,807.
Armstrong, James E., and B. O. Johann, Container and container system. 3,403,808, 10–1–68, Cl. 220—23.4.
Aro Corp., The: *See*—
Brandenberg, Karl A. 3,403,693.
Burkhart, Larry L., Hitt, and Troike. 3,403,738.
Arutunoff, Armais, to Reda Pump Co. Slip setting mechanism for well casing. 3,403,731, 10–1–68, Cl. 166—211.
Asenbauer, Donald J., to Shell Oil Co. Stacking container with tapered ledge and rib for stacking interlock. 3,403,814, 10–1–68, Cl. 220—97.

Ash, Bertrand D.: *See*—
Starcher, Paul S., Tinsley, and Ash. 3,404,102.
Ashikian, Baruir: *See*—
Hayes, William F., Ashikian, and Kwok. 3,403,691.
Ashland Oil and Refining Co.: *See*—
Boardman, Peter J. 3,404,079.
Budde, Walter M., Jr., and French. 3,404,163.
Budde, Walter M., Jr., and Sigan. 3,404,165.
Ceresna, Ivan, and Sullivan. 3,403,976.
Guyer, Vernon L., and Kottke. 3,404,118.
Guyer, Vernon L. 3,404,198.
Hughes, Graham K. 3,404,188.
Impola, Clarence N., and Leitheiser. 3,403,608.
McNay, Ralph E. 3,404,111.
Robins, Janis, and Schafer. 3,403,721.
Asseo, Albert, and R. H. Neyman. Resilient fastening device. 3,403,427, 10–1–68, Cl. 24—73.
Associated Electrical Industries Ltd.: *See*—
Warman, Bloomfield J. 3,404,314.
Atarashi, Yuji: *See*—
Fukumoto, Osamu, and Atarashi. 3,404,139.
Ateliers et Chantiers de Nantes (Bretagne-Loire): *See*—
Chollet, Maurice F. M. E. 3,403,444.
Atkinson, William G., Jr., R. P. De Soto, B. B. Landis, and C. Paredes. Comparator apparatus and method of operation thereof. 3,404,259, 10–1–68, Cl. 235—61.7.
Atlas-Mak Maschinenbau G.m.b.H.: *See*—
Nemitz, Paul. 3,403,539.
Attina, Peter J.: *See*—
Way, Edgar G., and Attina. 3,403,926.
Auergesellschaft G.m.b.H.: *See*—
Lemcke, Walter K., and Reeck. 3,403,981.
Auriol, Jean, to Regie Nationale des Usines Renault. Freewheel devices. 3,403,762, 10–1–68, Cl. 192—45.
"Automatic" Sprinkler Corp.: *See*—
Benzel, Howard A., and Strzelec. 3,403,410.
Koester, Norman C. 3,403,556.
Trudel, Charles P. 3,403,715.
Automatic Telephone & Electric Co. Ltd.: *See*—
Threadgold, Ronald, Hartley, Bell, Lynch, Bines, and Pate. 3,404,378.
Automotive Products Co., Ltd.: *See*—
Ellis, Frederick E., and Standbridge. 3,403,584.
Aviation Electric Ltd.: *See*—
Hayes, William F., Ashikian, and Kwok. 3,403,691.
Awad, Siefe J. Automatic dialing attachment for telephones. 3,404,239, 10–1–68, Cl. 179—90.
Azoplate Corp.: *See*—
Steppan, Hartmut. 3,404,003.
Baba, Theodore B., and I. L. Mador, to National Distillers and Chemical Corp. Producing and recovering vinyl acetate from a gaseous mixture by fractional distillation. 3,404,177, 10–1–68, Cl. 260—497.
Babbitt, John H., Jr.: *See*—
Stark, Sheldon L., and Babbitt. 3,403,939.
Bacsanyi, Thomas J.: *See*—
Sheldon, Philip, and Bacsanyi. 3,403,908.
Bade, Heinz E., to J. F. Behrens. Pneumatic fastening machines for staples, nails or the like fasteners. 3,403,600, 10–1–68, Cl. 91—409.
Badia, Frank A., to The International Nickel Co., Inc. Treatment of age-hardenable copper-nickel-zinc alloys and product resulting therefrom. 3,403,997, 10–1–68, Cl. 75—157.5.
Badische Anilin- & Soda-Fabrik Aktiengesellschaft: *See*—
Metzger, Horst. 3,404,181.
Bailey, Herbert S.: *See*—
Becker, William C., Bailey, and Kirby. 3,403,779.
Bailey, Joseph K., to TRW Inc. Bearing with rolling elements and a retainer therefor. 3,403,951, 10–1–68, Cl. 308—201.
Bailey, Louis G., to Texas Instruments Inc. Electrical isolation of circuit components of monolithic integrated circuits. 3,403,439, 10–1–68, Cl. 29—578.
Bailey, Walton W., E. P. Maglaughlin, and W. H. Nichols, to Celanese Corp. Recovery of ethanol from a methyl ethyl ketone-ethyl acetate fraction such as produced by hydrocarbon oxidation. 3,404,186, 10–1–68, Cl. 260—593.
Baird, Robert J.: *See*—
Anderson, John E., Jackson, and Baird. 3,404,253.
Bajars, Laimonis, to Petro-Tex Chemical Corp. Dehydrogenation of hydrocarbons. 3,404,193, 10–1–68, Cl. 260—680.
Baker, Harold L., ⅓ to R. J. Smith, and ⅓ to E. J. Lukas. Brackets for assembling knockdown cabinets. 3,403,641, 10–1–68, Cl. 108—152.
Baker, Joseph W., and K. L. Godfrey, to Monsanto Co. Bis carbanilates. 3,404,207, 10–1–68, Cl. 424—300.
Baldwin, Leoniel C., to Howmet Corp. Formation of plastic dental appliances. 3,404,056, 10–1–68, Cl. 156—306.
Balko, William F. Irrigation conduit assembly. 3,403,519, 10–1–68, Cl. 61—13.
Ballard, John Le Roy, and B. J. Case, to E. I. du Pont de Nemours and Co. Roll formation characteristics of continuous film. 3,404,205, 10–1–68, Cl. 264—289.
Ballard, Louis M., and R. A. Nielsen, to Trowel Fast, Inc. Plaster delivery means for controllable feed trowel. 3,403,960, 10–1–68, Cl. 401—188.
Ballas Egg Products Corp.: *See*—
Ballas, Max, and Painter. 3,404,008.
Ballas, Max, and M. R. Painter, to Ballas Egg Products Corp. Apparatus and process for pasteurizing egg products. 3,404,008, 10–1–68, Cl. 99—161.
Barber-Colman Co.: *See*—
Livingston, Richard D. 3,403,494.
Barber, Robert E., to Sundstrand Corp. Turbine. 3,403,890, 10–1–68, Cl. 253—59.
Barfield, Charles G.: *See*—
Ralston, William K., and Barfield. 3,403,619.
Barker, Alfred W., to The Sandall Precision Co. Ltd. Rotary valve with positive reduction closure member. 3,403,886, 10–1–68, Cl. 251—163.
Barkey, Kenneth T., to Eastman Kodak Co. Polyester catalyst-stabilizer usage. 3,404,121, 10–1–68, Cl. 260—45.7.
Barkhurst, Ernest F., to The National Acme Co. Indexing mechanism. 3,403,585, 10–1–68, Cl. 74—813.
Barnes Drill Co.: *See*—
Estabrook, Mark R. 3,403,478.
Barnes Engineering Co.: *See*—
Stanfill, Daniel F., III, and Rehnberg. 3,404,283.
Barrett, Robert D., and K. Raciunas, to International Harvester Co. Brake return and automatic adjustment means. 3,403,754, 10–1–68, Cl. 188—72.
Barrett, Robert D., and J. T. Rohrbacher, to International Harvester Co. Brake return and automatic adjustment means. 3,403,755, 10–1–68, Cl. 188—72.
Barrows, Irvin R. Mathematical educational apparatus using blocks. 3,403,460, 10–1–68, Cl. 35—31.
Barry, Austin W., and R. P. Schake, to Weston Instruments, Inc. Pointer locking mechanisms for exposure meters and the like. 3,403,656, 10–1–68, Cl. 116—129.
Bartels, Erich, to Firma Rheinmetall G.m.b.H. Obturator arrangement for gun barrels. 3,403,596, 10–1–68, Cl. 89—26.
Bartlett, Roscoe G., Jr.: *See*—
Swet, Charles J., and Bartlett. 3,403,612.
Bartlett, William F., to General Dynamics Corp. Time division multiplex recirculating storage means incorporating common half-adder. 3,404,237, 10–1–68, Cl. 179—15.
Bartoletti, Louis F. Removable fishing rod guide. 3,403,468, 10–1–68, Cl. 43—24.
Basic Inc.: *See*—
Carlson, Ronald J., and Simons. 3,404,202.
Basic Products Corp.: *See*—
Miller, Charles F. 3,403,575.
Bassett, Raymond C., to International Telephone and Telegraph Corp. Symbol generator. 3,404,394, 10–1–68, Cl. 340—324.
Batistoni, Lawrence M., to Zymak Biochemical Corp. Composition for compacting soil. 3,404,068, 10–1–68, Cl. 195—61.
Batt, Dacian W., and M. M. Tetreault. Confessional construction. 3,404,234, 10–1–68, Cl. 179—1.
Battelle Development Corp., The: *See*—
Goldberger, William M. 3,404,078.
Bauer, Earl J., and C. M. Lents. Process and apparatus for the preparation and dispensing of a beverage. 3,403,523, 10–1–68, Cl. 62—70.
Beacon Machinery, Inc.: *See*—
Fenton, Frank W. 3,403,697.
Beam, J., Aerials Ltd.: *See*—
Theakston, John H. 3,404,404.
Bearden, Charles R., D. H. Swisher, and D. C. Garms, to The Dow Chemical Co. Rigid polyurethane foams from polyesters and hydroxyl-containing copolymers. 3,404,106, 10–1–68, Cl. 260—2.5.
Bearden, Charles R., D. H. Swisher, and D. C. Garms, to The Dow Chemical Co. Rigid polyurethane foams from polyesters, polyether polyols and hydroxyl-containing copolymers. 3,404,107, 10–1–68, Cl. 260—2.5.
Beaver, Thomas R.: *See*—
English, Jack A., Van Benthuysen, and Beaver. 3,403,580.
Becker, Richard W., to Eastman Kodak Co. Interimage characteristics of silver halide dye developer image transfer systems. 3,404,002, 10–1–68, Cl. 96—3.
Becker, Rudolf, to Linde Aktiengesellschaft. Crossflow countercurrent heat exchanger with inner and outer-tube sections made up of closely packed coaxially nested layers of helicoidally wound tubes. 3,403,727, 10–1–68, Cl. 165—160.
Becker, William C., H. S. Bailey, and T. E. Kirby, Jr., to Reynolds Metals Co. Opening device for package means. 3,403,779, 10–1–68, Cl. 206—65.
Beckman Instruments, Inc.: *See*—
Kidder, Richard J. 3,404,335.
Rosenthal, Robert. 3,404,336.
Beckman, William R., and J. G. Dunn, to United States Steel Corp. Apparatus for cutting a groove in the inside surface of a pipe. 3,403,597, 10–1–68, Cl. 90—12.
Beckwith, Sterling, and R. E. Vogel, to Dual Jet Refrigeration Co. Defrost system for air curtain type refrigerated display case. 3,403,525, 10–1–68, Cl. 62—82.
Bedford, Beryl A. Animal skinner. 3,403,421, 10–1–68, Cl. 17—21.
Behrens, John F.: *See*—
Bade, Heinz E. 3,403,600.
Bejat, Jean N.: *See*—
Menoret, Maurice J., and Bejat. 3,404,383.
Beley, Michael, to Dravo Corp. Percussion drill bit for shattering hard formations. 3,403,443, 10–1–68, Cl. 30—168.
Bell, Alfred J., R. W. Blevins, H. J. Everett, W. Garten, Jr., and E. J. Hardgrave, Jr., to United States of America, Navy. Guided missile. 3,403,873, 10–1–68, Cl. 244—3.21.
Bell, C. C., and K. W. Niederer, to Leesona Corp. Textile machine. 3,403,866, 10–1–68, Cl. 242—47.5.
Bell, Hamish V.: *See*—
Threadgold, Ronald, Hartley, Bell, Lynch, Bines, and Pate. 3,404,378.
Bell Telephone Laboratories, Inc.: *See*—
Aaron, Marvin R., Gray, and Saal. 3,404,231.
Burford, Thomas M. 3,404,232.
Conrath, Jules R. 3,404,388.
Harris, William B., Massey, and Zgebura. 3,404,293.
Heller, Adam. 3,404,351.
Maurer, Dean W., and Pleass. 3,404,034.
Miller, Stewart E. 3,403,956.
Rigrod, William W. 3,404,349.

Bemis Bro Bag Co.: *See*—
Wendt, Donovan D., and Helmos. 3,403,841.
Bencene, Robert C., to Weber-Knapp Co. Latching mechanism for a burial casket or the like. 3,403,432, 10–1–68, Cl. 27—17.
Bendix Corp., The: *See*—
Aller, Willis F. 3,403,448.
Amendola, Dino. 3,404,362.
Brandon, Thomas A., Jr. 3,403,602.
Carnes, Randall. 3,403,614.
Eastman, James M., and Howland. 3,403,509.
Eddy, Robert T. 3,403,601.
Franz, Dale W., and Adams. 3,403,598.
Fulmer, Keith H., and Goerke. 3,403,515.
Hamilton, Allen R. 3,404,255.
Hartman, Frank F. 3,403,875.
Holcomb, Orla L., Jr. 3,403,759.
Hooten, Robert L. 3,403,753.
Krieger, Darwin, and Wortz. 3,403,516.
Lewis, Richard L. 3,403,517.
Schuster, Robert W. 3,403,507.
Stout, Gilbert T. 3,403,758.
Benjamin, John, and G. F. Clarke, to Minister of Aviation in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland. Aircraft landing aids using cross correlation techniques. 3,404,402, 10–1–68, Cl. 343—108.
Bennett, Jack C., and C. A. Seckerson, to United-Carr Inc. Moulding clip. 3,403,881, 10–1–68, Cl. 248—361.
Benzel, Howard A., and S. J. Strzelec, to "Automatic" Sprinkler Corp. Disposable urine container. 3,403,410, 10–1–68, Cl. 4—110.
Berchtold, Max, and H. P. Lenz, to Motor-Patent AG. Fuel injection system. 3,403,664, 10–1–68, Cl. 123—139.
Berger, Jacob: *See*—
Gottfried, Louis, and Berger. 3,403,412.
Bergishagen, Finn: *See*—
Langhjelm, Henrik G., Di Gioia, and Bergishagen. 3,403,735.
Berlincourt, Don A.: *See*—
Jaffe, Hans, and Berlincourt. 3,404,296.
Berman, George A.: *See*—
Clark, Hubert M., Drutchas, and Berman. 3,403,630.
Bernier, Raymond, to Societe de Constructions Electriques Jupiter. Device for self-locking and quick-unlocking of two parts, more particularly of electrical connectors. 3,403,930, 10–1–68, Cl. 285—315.
Berreth, Raymond L., R. A. Howells, D. J. Klee, and K. A. Miller, to Air Products and Chemicals, Inc. Transverse-parallel flow cryogenic freezer. 3,403,527, 10–1–68, Cl. 62—266.
Berteaud, André-Jean C., H. M. J. Pascard, and R. J. J. Vautier, to Centre National de la Recherche Scientifique. Power limiting devices for high frequency waves. 3,404,355, 10–1–68, Cl. 333—17.
Bertin, Daniel, and J. Perronnet, to Roussel-UCLAF. Novel 2'-amino-thiazolo steroids. 3,404,206, 10–1–68, Cl. 424—241.
Best, Howard S., and R. E. Bowser, to Corning Glass Works. Process for joining transistor chip to printed circuit. 3,403,438, 10–1–68, Cl. 29—577.
Bettcher Mfg. Corp., The: *See*—
Dreisziger, Adam A. 3,403,965.
Betty, Roy J., and R. E. Malec, to Armour and Co. Water base lubricant. 3,404,090, 10–1–68, Cl. 252—47.5.
Bickmore, John T., to Xerox Corp. Thermoplastic deformation imaging with color reagents. 3,404,001, 10–1–68, Cl. 96—1.1.
Biehl, Heinrich. Apparatus for preparing and distributing a forage pulp for feeding livestock. 3,403,824, 10–1–68, Cl. 222—176.
Bilisoly, Julius P.: *See*—
Segura, Marnell A., and Bilisoly. 3,404,130.
Bines, John C.: *See*—
Threadgold, Ronald, Hartley, Bell, Lynch, Bines, and Pate. 3,404,378.
Binkley, Richard G., and J. A. Bouras, to E. I. du Pont de Nemours and Co. Stacked tray palletized package for rolls. 3,403,780, 10–1–68, Cl. 206—65.
Binks Mfg. Co.: *See*—
Hopkins, Blake. 3,403,695.
Binks Research and Development Corp.: *See*—
Bassie, Bruno E. 3,403,818.
Bioconsultants, Inc.: *See*—
Ware, Arnold G. 3,404,069.
Birmetals Ltd.: *See*—
Stratford, David J. 3,404,048.
Bishop and Babcock Corp., The: *See*—
Jaworski, Leonard S. 3,403,437.
Bishop, Edward W., and G. W. Phillips, to Olin Mathieson Chemical Corp. Shooting jacket. 3,403,407, 10–1–68, Cl. 2—94.
Black, James B.: *See*—
Hilpert, Conrad R., and Black. 3,403,763.
Black, Walter L., to United States of America, Navy. Release mechanism. 3,403,650, 10–1–68, Cl. 114—20.
Black, William A. P., E. T. Dewar, and D. Rutherford, to United States of America, Agriculture. Carbohydrate derived polymers. 3,404,136, 10–1–68, Cl. 260—88.3.
Blackburne, Edward F., to Continental Aviation and Engineering Corp. Variable compression ratio piston assembly. 3,403,662, 10–1–68, Cl. 123—78.
Blackwood, William R. Method and apparatus for marking symbols and other subject matter on charts, graphs and the like. 3,403,623, 10–1–68, Cl. 101—368.
Blake, John H., and F. P. McCandless, to FMC Corp. Production of briquettes from calcined char employing asphalt binders and such briquettes. 3,403,989, 10–1–68, Cl. 44—23.
Blavier, Paul P.: *See*—
Delepiere, Guy H. V., and Blavier. 3,403,660.
Blew-Knox Co.: *See*—
Ornitz, Martin H., and English. 3,403,998.
Blevins, Ralph W.: *See*—
Bell, Alfred J., Blevins, Everett, Garten, and Hardgrave. 3,403,873.
Bliss, Bruce J., to Texas Instruments, Inc. Manufacture of braze shim stock. 3,403,999, 10–1–68, Cl. 75—208.
Blivice, Sidney L., and D. J. Cohen. Alarm system. 3,404,393, 10–1–68, Cl. 340—276.
Blochl, Walter, to FMC Corp. Preparation of fluorinated alkyl iodides by selective telomerization. 3,404,189, 10–1–68, Cl. 260—653.1.
Blood, Paul B. Liquid proportioning apparatus. 3,403,821, 10–1–68, Cl. 222—63.
Blumberg, Waldorf H., to Detroit Filter Corp. Filter machine and method. 3,403,784, 10–1–68, Cl. 210—67.
Boardman, Peter J., to Ashland Oil and Refining Co. Process for preparing an electrocoating bath. 3,404,079, 10–1–68, Cl. 204—181.
Bobst, Gerhard, to Von Roll AG. Hydraulic control apparatus. 3,403,628, 10–1–68, Cl. 103—38.
Bochman, Raymond A.: *See*—
Shane, James H., Russell, and Bochman. 3,404,061.
Boeing Co., The: *See*—
Buchler, Walter E., King, and Lunden. 3,404,396.
Clayton, Wilson A., Gunderson, and Sargent. 3,404,031.
Johnson, Bobby L. 3,404,013.
Michael, Leroy D. 3,404,252.
Bolle, Victor W., to Iowa State University Research Foundation, Inc. Whole body perfusion time monitor and method. 3,403,678, 10–1–68, Cl. 128—2.07.
Bollen, Walter M., and W. L. Short, to Chevron Research Co. Ammonia recovery from an acid gas in a plural stage, controlled distillation system. 3,404,072, 10–1–68, Cl. 203—1.
Bollenbacher, Larry L., to General Motors Corp. Refrigerator with upright dividing wall. 3,403,533, 10–1–68, Cl. 62—408.
Bonin, Edward L., G. E. Pittman, and B. S. Reed, to Texas Instruments Inc. Semiconductor junction device for generating optical radiation. 3,404,304, 10–1–68, Cl. 313—108.
Boots Pure Drug Co. Ltd.: *See*—
Robertson, William A. H., Clinch, and Fraser. 3,404,208.
Borrows, Paul K., to Magnaflux Corp. Fluorescent composition for magnetic particle inspection. 3,404,093 10–1–68, Cl. 252—62.52.
Bosch, Robert, G.m.b.H.: *See*—
Eheim, Franz, and Hofer. 3,403,629.
Eidtmann, Helmut, and Steiner. 3,403,861.
Kohler, Ernst. 3,404,245.
Soehner, Gerhard, and Steinberg. 3,403,666.
Boskovich, Boris, and J. C. Larson, to Honeywell Inc. Control apparatus for aircraft having fail-safe monitoring gyros. 3,403,874, 10–1–68, Cl. 244—77.
Botello, Americo. Load displacing device for hand trucks. 3,403,800, 10–1–68, Cl. 214—511.
Bottenbruch, Ludwig: *See*—
Fritz, Gerhard, Curtius, Bottenbruch, Goller, and Schnell. 3,404,122.
Bouras, James A.: *See*—
Binkley, Richard G., and Bouras. 3,403,780.
Bourgeois, Francis H.: *See*—
Westby, Lloyd R., and Bourgeois. 3,403,573.
Bouthors, Pierre, and P. Ventre, to Regie Nationale des Usines Renault. Automatic regulators of air conditioning systems of vehicles. 3,403,855, 10–1–68, Cl. 237—8.
Bova, Joseph D., to American Cyanamid Co. Method for expanding aluminum honeycomb. 3,403,542, 10–1–68, Cl. 72—302.
Bowen Tools, Inc.: *See*—
Brown, Robinson W. 3,403,739.
Bower, Richard R. Aligning and welding of parts. 3,404,248, 10–1–68, Cl. 200—166.
Bowles, Romald E., to United States of America, Army. Fluid stream motion transducer. 3,403,563, 10–1–68, Cl. 73—505.
Bowness, Colin, to Raytheon Co. Mirror supporting structure for lasers. 3,404,352, 10–1–68, Cl. 331—94.5.
Bowser, Robert E.: *See*—
Best, Howard S., and Bowser. 3,403,438.
Boyce, Harold D.: *See*—
Soderquist, Frederick J., Boyce, and Putman. 3,404,191.
Boyce, John, and S. H. Creed, to FMC Corp. Article orienting apparatus. 3,403,770, 10–1–68, Cl. 198—33.
Brackin, Wayne L.: *See*—
Marks, William M., and Brackin. 3,403,791.
Bradshaw, Wilbert C., and D. W. Ruschhaupt, to California-Fresno Asphalt Co. Material spreading device. 3,403,609, 10–1–68, Cl. 94—46.
Brandenberg, Karl A., to The Aro Corp. OR valve for fluid logic circuits. 3,403,693, 10–1–68, Cl. 137—112.
Brandon, Thomas A., Jr., to The Bendix Corp. Dual wheel cylinder. 3,403,602, 10–1–68, Cl. 92—61.
Braumann, Gundokar, W. Klor, and H. Rotter, to Siemens Aktiengesellschaft. Magnetic relay structure and system. 3,404,358, 10–1–68, Cl. 335—78.
Braun, Camille, R. Delmas, and B. Francois, to Commissariat a l'Energie Atomique. Method of making sintered nuclear fuel pellets in particular consisting of uranium dioxide. 3,404,201, 10–1–68, Cl. 264—.5.
Brette, Yves-Jean F., and M. Carbonel, to Societe-Industrielle Bull-General Electric (Societe Anonyme). Magnetic core shift register. 3,404,390, 10–1–68, Cl. 340—174.

Brichta, Corrado: *See*—
Ribaldone, Giuseppe, Brichta, and Nenz. 3,404,182.
Bridgestone Tire Co. Ltd.: *See*—
Matsudaira, Nobuntaka, Muto, Kubota, Yoshimoto, and Sato. 3,404,103.
Briggs & Stratton Corp.: *See*—
Santi, John D. 3,403,667.
Bright, James A., and J. J. O'Connell, to General Motors Corp. Condensation control system for humidified refrigerator. 3,403,534, 10–1–68, Cl. 62—419.
Brill, William, to CF & I Steel Corp. Oxygen converter apparatus. 3,403,898, 10–1–68, Cl. 266—36.
Brindley, Richard B., to La Crosse Cooler Co. Auger type ice making machine. 3,403,526, 10–1–68, Cl. 62—188.
British Aircraft Corp. (Operating) Ltd.: *See*—
Williams, Raymond W. 3,404,263.
Woodley, Frank J. 3,404,266.
British Insulated Callender's Cables Ltd.: *See*—
Raw, Peter M. 3,404,000.
Broderick, Richard F. Signal ratio system utilizing voltage controlled oscillators. 3,404,289, 10–1–68, Cl. 307—235.
Brooke, Frank W. Furnace construction and utilization. 3,404,209, 10–1–68, Cl. 13—10.
Brookover, George B., C. J. Hudecek, and J. H. Oliver, to Owens-Illinois, Inc Hermetic packages for electronic components. 3,404,213, 10–1–68, Cl. 174—52.
Brooks, Clive R.: *See*—
Davidson, John W., Brooks, Volsey, and Burton. 3,403,488.
Brown, Norman F., to Otis Engineering Corp. Gas lift valve. 3,403,694, 10–1–68, Cl. 137—155.
Brown, Paul J., to International Business Machines Corp. Computer sub-system circuits. 3,404,876, 10–1–68, Cl. 340—172.5.
Brown, Robinson W., to Bowen Tools, Inc. Fluid-actuated impact tool. 3,403,739, 10–1–68, Cl. 173—73.
Brown and Williamson Tobacco Corp.: *See*—
Horsewell, Henry G., and Tolman. 3,403,690.
Kilburn, Keith D., and Dymond. 3,403,686.
Brownawell, Darrell W.: *See*—
Takashima, Herbert, Kresge, and Brownawell. 3,404,091.
Browning, James L. Hanger bar. 3,403,787, 10–1–68, Cl. 211—124.
Bruet, Henri R., ½ to Etablissements A. Gazeneuve. V-belt speed-changing mechanisms operated by liquid under pressure. 3,403,567, 10–1–68, Cl. 74—230.17.
Brumbaugh, Robert T., E. G. Cromer, Jr., and C. S. Czyryk, to Mangood Corp Electromechanical accumulator. 3,404,395, 10–1–68, Cl. 340—347.
Brummet, Berthal D., and F. S. Sadler, to McGraw-Edison Co. Thermally stabilized cellulosic material produced by treatment with diglycolamine in combination with pentaerythritol. 3,403,968, 10–1–68, Cl. 8—116.2.
Bryer, Robert G., to R. A. Stephen and Co. Ltd. Radiation sensitive devices 3,404,272, 10–1–68, Cl 250—83.
Bryner, Ernest J., and J. N. Ianuzzi, to Sigma Engineering Service, Inc. Cap and lead construction for electrical components. 3,404,370, 10–1–68, Cl. 339—256.
Brysson, Ralph J.: *See*—
Trask, Brenda J., and Brysson. 3,404,028.
Bucko, Edward P. Crate for shipping glass and like frangible materials. 3,403,777, 10–1–68, Cl. 206—62.
Budde, Walter M., Jr., and W. H. French, to Ashland Oil & Refining Co Epoxidation process. 3,404,163, 10–1–68, Cl. 260—348.5.
Budde, Walter M., Jr., and J. W. Sigan, to Ashland Oil & Refining Co Acid salt of ethers diamines. 3,404,165, 10–1–68, Cl. 260—404.5.
Buehler, Walter E., C. H. King, and C. D. Lunden, to The Boeing Co Airborne clear air turbulence radar. 3,404,396, 10–1–68, Cl. 343—5
Buford, Charles G., and W. E. Power actuated dispensing valve. 3,403,826, 10–1–68, Cl. 222—334.
Buford, Wesley E.: *See*—
Buford, Charles G., and W. E. 3,403,826.
Buhrer, Carl F.: *See*—
Harris, Stephen E., and Buhrer. 3,404,353.
Bullock, Norman J.: *See*—
Andrew, Margaret J., Bullock, and Sisson. 3,403,538.
Burford, Thomas M., to Bell Telephone Laboratories, Inc. Stabilized pulse regenerator. 3,404,232, 10–1–68, Cl. 178—70.
Burgess, Carl A., to United States of America, Atomic Energy Commission. Method of preparing a cermet nuclear fuel. 3,404,200, 10–1–68, Cl. 264—.5.
Burkhart, Larry L., O. D. Hitt, and P. E. Troike, to The Aro Corp. Drill/screwdriver with impact mechanism. 3,403,738, 10–1–68, Cl. 173—48.
Burks, Darnall P., and J. H. Martin, to Sprague Electric Co. Hermetically sealed electronic module. 3,404,215, 10–1–68, Cl. 174—52.
Burns, Joseph, to Fairchild Camera and Instrument Corp. Cathode-ray signal-translating device. 3,404,308, 10–1–68, Cl. 316—12.
Burrell Corp.: *See*—
Burrell, Guy H. 3,403,979.
Burrel, Guy H., to Burrel Corp. Auto bubbler pipet. 3,403,979, 10–1–68, Cl. 23—254.
Burrows, Christopher E., and L. S. Mills, to Honeywell Inc. Control apparatus. 3,404,374, 10–1–68, Cl. 340—147.
Burton, John D.: *See*—
Davidson, John W., Brooks, Volsey, and Burton. 3,403,488.
Burton, Paul E., and H. K. Wiese, to Esso Research and Engineering Co. Process for direct preparation of alpha-keto esters. 3,404,176, 10–1–68, Cl. 260—497.
Burzenski, Ralph, Exerciser with grippers on a roller mounting shaft. 3,403,906, 10–1–68, Cl. 272—57.
Busch, Georg L., to W. R. Grace & Co. Method of treating soil comprising adding a fertilizer and a chelating agent to the soil. 3,403,992, 10–1–68, Cl. 71—1.
Buscher, Richard G.: *See*—
Marx, Michael F., and Buscher. 3,404,345.
Bush, Herold. Sails. 3,403,653, 10–1–68, Cl. 114—103.
Butaev, Filipp I., N. S. Klimov, A. A. Pertsev, N. P. Stepanov, A. M. Shemaev, and I. D. Shkolin. High-voltage mercury arc rectifier. 3,404,301, 10–1–68, Cl. 313—83.
Butler, Bernard B., to J. O. Cloyd. Boat anchor. 3,403,431, 10–1–68, Cl. 24—261.
Butts, Donald A., to General Motors Corp. Closure latch. 3,403,934, 10–1–68, Cl. 292—341.16.
Byrd, Wylie A. Drawbar spacer. 3,403,737, 10–1–68, Cl. 172—421.
Byrne, Gavin F., to Commonwealth Scientific and Industrial Research Organization. Punch tape data logging apparatus. 3,403,850, 10–1–68, Cl. 234—99.
CF & I Steel Corp.: *See*—
Brill, William. 3,403,898.
Cage, James K., and J. R. Veeder, to The Pillsbury Co. Food storage and dispensing container suited for use under zero gravity conditions. 3,403,822, 10–1–68, Cl. 222—107.
Calabro, Anthony V., to United States Steel Corp. Bearing race extractor. 3,403,434, 10–1–68, Cl. 29—200.
Calfee, John D., to Monsanto Co. Polymerization catalysts and processes. 3,404,137, 10–1–68, Cl. 260—91.1.
Calhoun, Francis R., and S. G. Codella. Head and body supporting apparatus. 3,403,413, 10–1–68, Cl. 5—338.
California-Fresno Asphalt Co.: *See*—
Bradshaw, Wilbert C., and Ruschhaupt. 3,403,609.
Caminada, Bruno G. Automatic centering and centrifugal dragging device of cops for spinning and twisting spindles. 3,403,502, 10–1–68, Cl. 57—129.
Campanella, Angelo J., to Industrial Nucleonics Corp. Aircraft guidance system for locating a landing area. 3,404,276, 10–1–68, Cl. 250—83.3.
Cannaday, Sheridan S., to Physical Sciences Corp. Wire coating apparatus. 3,403,659, 10–1–68, Cl. 118—249.
Cannon, William D., to The Western Union Telegraph Co. Method and means for measuring and correcting delay and attenuation in a transmission channel. 3,404,338, 10–1–68, Cl. 324—57.
Carbonel, Michel: *See*—
Brette, Yves-Jean F., and Carbonel. 3,404,390.
Card, C. S., Iron Works Co., The: *See*—
Andrews, James S. 3,403,636.
Carlson, Ronald J., and C. C. Simons, to Basic Inc. Electric resistance heater and method of making. 3,404,202, 10–1–68, Cl. 264—84.
Carnes, Randall, to The Bendix Corp. Environmental enclosure with ceiling air plenum. 3,403,614, 10–1–68, Cl. 98—40.
Carr, Brownell: *See*—
Wilson, Charles P., Jr., Carr, and Ciapetta. 3,404,097.
Carr, John W. Universal dynamic traction carriage. 3,403,675, 10–1–68, Cl. 128—75.
Carson, Robert L.: *See*—
Johnson, Lloyd H., and Carson. 3,403,891.
Carter, Giles F., to E. I. du Pont de Nemours and Co. Chromized metal substrate. 3,403,988, 10–1–68, Cl. 29—196.6.
Carter, Harry V., to Perkin-Elmer Ltd. Chromatograph having a heated enclosure. 3,403,545, 10–1–68, Cl. 73—23.1.
Casalou, Robert A. Outside rear view remote controlled mirror for vehicles. 3,403,379, 10–1–68, Cl. 74—501.
Case, Bruce J.: *See*—
Ballard, John L., and Case. 3,404,205.
Case, J. I., Co.: *See*—
Kulhavy, Joseph A. 3,403,736.
Caskey, Kenneth C., to Kelsey-Hayes Co. Air cooled, composite rotor for disk brakes. 3,403,760, 10–1–68, Cl. 188—218.
Caterpillar Tractor Co.: *See*—
Durham, Donald F., and Necessary. 3,403,916.
Stark, Sheldon L., and Babbitt. 3,403,930.
Catino, Sigmund C.: *See*—
Strobel, Albert F., and Catino. 3,404,159.
Strobel, Albert F., and Catino. 3,404,160.
Strobel, Albert F., and Catino. 3,404,161.
Celanese Coatings Co.: *See*—
Hicks, Darrell D. 3,404,018.
Welch, Robert W., and Magre. 3,404,126.
Celanese Corp.: *See*—
Bailey, Walton W., Maglaughlin, and Nichols. 3,404,186.
Celanese Corp. of America: *See*—
Schoeneberg, Werner A. P. 3,403,433.
Cellucap Mfg. Co.: *See*—
Wagenfeld, Gilbert B. 3,403,409.
Center National de la Recherche Scientifique: *See*—
Berteaud, André-Jean C., Pascard, and Vautier. 3,404,355.
Ceresna, Ivan, and J. H. Sullivan, to Ashland Oil & Refining Co. Tangential entry precombustion-type reactor with offset tunnel. 3,403,976, 10–1–68, Cl. 23—209.4.
Cermat: *See*—
Khol, Danny J. 3,403,557.
Cernosek, Louis C., to The Youngstown Sheet and Tube Co. Telescoping portable mast. 3,403,485, 10–1–68, Cl. 52—121.
Chabane, Ronald A.: *See*—
Gjertsen, Paul R., and Chabane. 3,403,483.

Chance, Leon H., G. L. Drake, Jr., and W. A. Reeves, to United States of America, Agriculture. Process for flameproofing cellulosic material. 3,404,022, 10–1–68, Cl. 117—62.2.

Chang, Wen-Hsuan, to PPG Industries, Inc. Epoxy resin compositions containing dienophile curing agent and polycyclodienes. 3,404,125, 10–1–68, Cl. 260—47.

Chelminski, Roman, to Singmaster & Breyer. Vacuum cooling for multi-stage chemical processes. 3,403,528, 10–1–68, Cl. 62—268.

Chevalier, Henri, C. Lakme, and J. Max, to Commissariat a l'Energie Atomique. Device for the study of bubble flow within a pipe. 3,403,554, 10–1–68, Cl. 73—194.

Chevron Research Co.: *See*—
Bollen, Walter M., and Short. 3,404,072.

Chollet, Maurice F. M. E., to Ateliers et Chantiers de Nantes (Bretagne-Leire). Machine for the production of cheese. 3,403,444, 10–1–68, Cl. 31—46.

Chope, Henry R., to Industrial Nucleonics Corp. Re-entry communications system and method. 3,404,278, 10–1–68, Cl. 250—199.

Chrysler Corp.: *See*—
Stimpson, Donald E. 3,404,246.

Chu, Fe T.: *See*—
Jespers, Paul G. A.., and Chu. 3,404,261.

Chur, Sung P., to Data Products Corp. Binary digit discriminator. 3,404,391, 10–1–68, Cl. 340—174.1.

Ciapetta, Frank G.: *See*—
Wilson, Charles P., Jr., Carr, and Ciapetta. 3,404,097.

Ciokajlo, John J., to General Electric Co. Frame assembly having low thermal stresses. 3,403,889, 10–1–68, Cl. 253—39.

Ciol, Joseph J.: *See*—
Wieland, Franz, Ciol, and Zansitis. 3,404,055.

Ciucani, Augusto. Window and door structures. 3,403,476, 10–1–68, Cl. 49—401.

Clark, Harry C. Saw attachment for excavator bucket. 3,403,940, 10–1–68, Cl. 299—26.

Clark, Hubert M., G. H. Drutchas, and G. A. Berman, to TRW, Inc. Power steering pump. 3,403,630, 10–1–68, Cl. 103—42.

Clark, Oliver R.: *See*—
Guth, Lauren W., and Clark. 3,403,865.

Clark, Robert O. Device for renovating old cabinets. 3,403,953, 10–1–68, Cl. 312—204.

Clarke, George F.: *See*—
Benjamin, John, and Clarke. 3,404,402.

Claycomb, Jack R. Toy boomerang. 3,403,910. 10–1–68, Cl. 273—106.

Clayton, Wilson A., J. M. Gunderson, and J. C. Sargent, to The Boeing Co. Emissive coating. 3,404,031, 10–1–68, Cl. 117—201.

Clement, Genevieve, M. Rebeller, and C. Zarrouk, to Institut Francois du Petrole, des Carburants et Lubrifiants. Method of culturing algae in an artificial medium. 3,403,471, 10–1–68, Cl. 47—1.4.

Cleveland, Charles H., and R. P. Hill. Boomerang. 3,403,909, 10–1–68, Cl. 273—106.

Clevite Corp.: *See*—
Jaffe, Hans, and Berlincourt. 3,404,296.

Clinch, Patrick G.: *See*—
Robertson, William A. H., Clinch, and Fraser. 3,404,208.

Cloyd, Joseph O.: *See*—
Butler, Bernard B. 3,403,431.

Cocquart, Jean H., to Societe Industrielle Bull-General Electric (Societe Anonyme). Matrix memory assembly. 3,404,389, 10–1–68, Cl. 340—174.

Codella, Sylvio G.: *See*—
Calhoun, Francis R., and Codella. 3,403,413.

Cohen, David J.: *See*—
Silvice, Sidney L., and Cohen. 3,404,393.

Colburn, Lyle W., to The Dow Chemical Co. Breaking foams on foaming aqueous liquids. 3,404,095, 10–1–68, Cl. 252—321.

Colgate-Palmolive Co.: *See*—
Walker, Harris. 3,404,282.

Collins, Franklyn M., to Air Reduction Co., Inc. Method of making film resistor. 3,404,032, 10–1–68, Cl. 117—212.

Colombo, Roberto, to L.M.P. Lavorazione Materie Plastiche S.p.A. Blown bottle of flexible plastics. 3,403,804, 10–1–68, Cl. 215—31.

Colonial Sugar Refining Co. Ltd.: *See*—
Guiffre, Vincent. 3,403,530.

Columbia Ribbon and Carbon Mfg. Co., Inc.: *See*—
Newman, Douglas A., and Schlotzhauer. 3,404,021.

Commissariat a l'Energie Atomique: *See*—
Abragam, Anatole, and Solomon. 3,404,332.
Braun, Camille, Delmas, and Francois. 3,404,201.
Chevalier, Henri, Lakme, and Max. 3,403,554.
Delange, Maurice, Huet, and Vertes. 3,403,986.
Delbourgo, Ralph D., Foulatier, Lafitte, Meneret, and Minjolle. 3,403,964.
Douet, Paul, and Roguin. 3,404,273.
Martinelli, Pierre. 3,404,275.

Commons, Ward T. Tricycle swamp buggy. 3,403,745, 10–1–68, Cl. 180—26.

Commonwealth Scientific and Industrial Research Organization: *See*—
Byrne, Gavin F. 3,403,850.

Compagnie Francaise Thomson-Houston-Hotchkiss Brandt: *See*—
Favreau, Michel. 3,404,220.

Comperatore, John, to PPG Industries, Inc. Method and apparatus for bending glass sheets. 3,403,991, 10–1–68, Cl. 65—107.

Computer Instruments Corp.: *See*—
Howitt, Roy W. 3,403,657.

Conrath, Jules R., to Bell Telephone Laboratories, Inc. Noise suppression circuit. 3,404,388, 10–1–68, Cl. 340—174.

Consolidation Coal Co.: *See*—
Lee, Arthur L., and Coval. 3,403,797.

Container Corp. of America: *See*—
Van Dyke, Bruce E. 3,403,838.

Continental Aviation and Engineering Corp.: *See*—
Blackburne, Edward F. 3,403,662.

Continental Baking Co.: *See*—
Tobey, Hubert E., and McCutchen. 3,403,768.

Continental Can Co., Inc.: *See*—
Kehe, Alfred W. 3,403,810.
Radlove, Sol B., Ravve, and Fitko. 3,404,128.
Ritterhoff, Eric K. 3,404,059.
Trnka, Ralph J. 3,403,446.

Control Data Corp.: *See*—
Hazlett, Lester H. 3,404,285.

Cooper, Albert S., Jr.: *See*—
Hamalinen, Carl, St. Mard, and Cooper. 3,403,504.

Cooper, Victor J., to The Marconi Co. Ltd. Rad.o navigation aids. 3,404,397, 10–1–68, Cl. 343—6.

Cordes, Kenneth L., to E. I. du Pont de Nemours and Co. Manufacture of carbonyl fluoride. 3,404,180, 10–1–68, Cl. 260—544.

Cormican, Russell C., and C. B. Keene, to Houdaille Industries, Inc. Method of producing roadrock. 3,403,864, 10–1–68, Cl. 241—20.

Corning Glass Works: *See*—
Best, Howard S., and Bowser. 3,403,438.
Dumbaugh, William H., Jr. 3,404,015.
Reese, Robert C., and Wesel. 3,403,442.

Coulman, William J. T., Jr., to The Lubrizol Corp. Conversion coating containing partially reduced chromic acid, a metal dichromate and phosphoric acid. 3,404,045, 10–1–68, Cl. 148—6.16.

Couturier, Robert A., to United States of America, Army. Inband break-in system. 3,404,219, 10–1–68, Cl. 178—4.1.

Coval, Arthur B.: *See*—
Lee, Arthur L., and Coval. 3,403,797.

Cox, Robert A., to The Trane Co. Bearing bracket. 3,403,843, 10–1–68, Cl. 230—120.

Craig, Walton H., to Pennsalt Chemicals Corp. Process of preparing tomato concentrate. 3,404,012, 10–1–68, Cl. 99—204.

Crail, Jesse W. Torsion bar sheet separator. 3,403,903, 10–1–68, Cl. 271—20.

Crain, Donald L., and R. E. Reusser, to Phillips Petroleum Co. Method for converting ethylene to higher molecular weight hydrocarbons. 3,404,194, 10–1–68, Cl. 260—683.15.

Crain, Robert L., and R. E. Latham, to Gray Tool Co. Clamp. 3,403,931, 10–1–68, Cl. 285—334.2.

Cramer, Frank N., and J. L. Curry, to General Motors Corp. Fore and aft adjustable headrest. 3,403,938, 10–1–68, Cl. 297—391.

Crane, Lester R.: *See*—
Amann, Paul F., and Crane. 3,404,216.

Creed & Co. Ltd.: *See*—
Mason, Frederick P., and Peters. 3,404,233.
Mason, Frederick P. 3,403,766.

Creed, Sherman H.: *See*—
Boyce, John, and Creed. 3,403,770.
Anderson, Gerald R., Creed, and Parker. 3,403,769.

Creed, Thomas E.: *See*—
Schiffer, Henry C., and Creed. 3,404,269.

Cremer, Joseph: *See*—
Harnisch, Heinz, Cremer, and Hinz. 3,403,972.

Cromer, Earle G., Jr.: *See*—
Brumbaugh, Robert T., Cromer, and Czyryk. 3,404,395.

Cromley, Robert F. Electron impulse applicator and method of using electron impulse applicator. 3,403,685, 10–1–68, Cl. 128—419.

Crompton & Knowles Corp.: *See*—
Schedin, Robert S. 3,403,707.
Shackleton, John D., Jr., and Kronoff. 3,403,706.
Sundquist, Gustaf A., Jr. 3,403,708.

Crosman, Dorland L., to De Luxe Topper Corp. Toy cannon with barrel recoil mechanism. 3,403,669, 10–1–68, Cl. 124—29.

Crowder, Wyly K., to Docutel, Inc. Automatically controlled railway passenger vehicle system. 3,403,634, 10–1–68, Cl. 104—138.

Croymans, Jacques J. H., and L. A. L. Leblans, to North American Philips Co., Inc. Synchronous motor. 3,404,300, 10–1–68, Cl. 310—164.

Csendes, Ernest: *See*—
Lee, Donald E., and Csendes. 3,403,973.

Culbertson, James B., and H. Lamprey, to Union Carbide Corp. Process for preparing chromates. 3,403,970, 10–1–68, Cl. 23—56.

Cummings, Errol W., and J. R. Peterson, to Kaiser Aluminum & Chemical Corp. Electrolytic reduction cell having detachably supported electrodes. 3,404,081, 10–1–68, Cl. 204—243.

Cummins Engine Co., Inc.: *See*—
Valentine, Donald E., and St. Clair. 3,403,661.

Cunningham, William H.: *See*—
Shank, Joseph L., and Cunningham. 3,404,142.

Currier, Emery W.: *See*—
Shanefield, Daniel J., and Currier. 3,404,049.

Curry, Jack L.: *See*—
Cramer, Frank N., and Curry. 3,403,938.

Curtis, Gerald R., to Statham Instruments, Inc. Periarterial blood flow and blood pressure measuring devices. 3,403,672, 10–1–68, Cl. 128—2.05.

Curtius, Ulrich: *See*—
Fritz, Gerhard, Curtius, Bottenbruch, Goller, and Schnell. 3,404,122.

Cutler-Hammer, Inc.: *See*—
Strand, Sanford M. 3,404,343.

Czyryk, Chester S.: *See*—
Brumbaugh, Robert T., Cromer, and Czyryk. 3,404,395.

Daansen, Warren S., to General Motors Corp. Venturi washer. 3,403,859, 10–1–68, Cl. 239—284.

Dacons, Joseph C.: *See*—
Oesterling, Robert E., Dacons, and Kapian. 3,404,184.

Dal Monte, Giorgio, and P. Postorino, to Societa Italiana Telecomunicazioni Siemens S.p.A. Telephone substation miniaturization circuit. 3,404,238, 10–1–68, Cl. 179—81.

Damm, Daniel A., and D. E. Powell, to Owens-Illinois, Inc. Apparatus for applying bonding material between implosion band and glass for cathode ray tubes. 3,403,658, 10–1–68, Cl. 118—6.

Darchem Engineering Ltd.: *See*—
Hawgood, John, and Armstrong. 3,403,807.

Dartex, Inc.: *See*—
Kleist, Robert A. 3,403,867.

Data Products Corp.: *See*—
Chur, Sung P. 3,404,391.

Davidson, John W., C. R. Brooks, E. J. Volsey, and J. D. Burton, to The Greater London Council, J. W. Davidson, C. R. Brooks, and E. J. Volsey. Building panel with a synthetic plastic shell. 3,403,488, 10–1–68, Cl. 52—204.

Davis, John W.: *See*—
Dewar, Douglas, Davis, and Mortimer. 3,403,945.

Day, Donald D.: *See*—
Larson, Arthur G., and Day. 3,403,570.

Daymon, Robert C. Multiple wheel drive and steering vehicle. 3,403,743, 10–1–68, Cl. 180—24.

Dayus, Lloyd G., to Lloyd Register and Grille Co., Ltd. Louvre plate for use in a forced air heating system. 3,403,615, 10–1–68, Cl. 98—101.

De Beaussacq, Alfred R. Shoe-securing system for skis. 3,403,921, 10–1–68, Cl. 280—11.35.

De Coye de Castelet, Gaëtan, to Regie Nationale des Usines Renault. Mechanical control devices. 3,403,574, 10–1–68, Cl. 74—471.

De Coye de Castelet, Gaëtan, to Regie Nationale des Usines Renault. Control devices acting as a function of frequency and of at least one auxiliary parameter. 3,403,587, 10–1–68, Cl. 74—866.

De Coye de Castelet, Gaëtan, to Regie Nationale des Usines Renault. Automatic transmission control circuit. 3,403,747, 10–1–68, Cl. 180—105.

Deffrenne, Paul, to Mecanorga S.A. Apparatus for maintaining clearances in fluid designs substantially constant. 3,403,948, 10–1–68, Cl. 308—122.

Degenhart, Ernst. Safety window construction. 3,403,475, 10–1–68 Cl. 49—371.

Delange, Maurice, H .Huet, and P. Vertes, to Commissariat a l'Energie Atomique. Method for the obtainment of uranium fluoride. 3,403,986, 10–1–68, Cl. 23—353.

Delbourgo, Ralph D., R. G. Foulatier, P. F. Lafitte, J. Meneret, and L. Minjolle, to Commissariat a l'Energie Atomique. Oxy acetylene blowpipes. 3,403,964, 10–1–68, Cl. 431—256.

Delepiere, Guy H. V., and P. P. Blavier. Device for processing articles of non-magnetic material. 3,403,660, 10–1–68, Cl. 118—503.

Dell, Gaillard W., to Hooker Chemical Corp. Metal coating composition and process. 3,404,043, 10–1–68, Cl. 148—6.2.

Delmas, Roger: *See*—
Braun, Camille, Delmas, and Francois. 3,404,201.

De Luxe Topper Corp.: *See*—
Crosman, Dorland L. 3,403,669.

De Marinis, Joseph V., and C. B. Neal, to Sylvania Electric Products Inc. Circuitry for electron devices having output to input feedback signal coupling. 3,404,225, 10–1–68, Cl. 178—7.3.

Dempster Industries, Inc.: *See*—
Tangeman, Lawrence N. 3,403,631.

Denig, Fred. Method and apparatus for incinerating combustible refuse, rubbish and miscellaneous waste organic material. 3,403,643, 10–1–68, Cl. 110—10.

Denki Kagaku Kogyo Kabushiki Kaisha: *See*—
Kambara, Shu, Fukuoka, and Kimura. 3,404,115.

Denny, Thomas A., to Johnson & Johnson. Sterile surgical package. 3,403,776, 10–1–68, Cl. 206—56.

De Raucourt, Francois. Temperature controlled closure. 3,403,472, 10–1–68, Cl. 49—21.

De Rosa, Louis A.: *See*—
Vallese, Lucio M., and De Rosa. 3,404,265.

De Soto, Robert P.: *See*—
Atkinson, William G., Jr., De Soto, Landis, and Paredes. 3,404,259.

Detroit Filter Corp.: *See*—
Blumberg, Waldorf H. 3,403,784.

Deutsche Gold- und Silber-Scheideanstalt vormals Roessler: *See*—
Heimberger, Werner. 3,404,151.
Hüter, Ludwig, and Petzold. 3,404,155.
Kern, Werner, Schulz, and Passmann. 3,404,133.
Thiele, Kurt, and Steinmetz. 3,404,152.

Dewar, Douglas, J. W. Davis, and F. R. Mortimer, to Dunlop Rubber Co. Ltd. Vehicle anti-skid braking system. 3,403,945, 10–1–68, Cl. 303—21.

Dewar, Eric T.: *See*—
Black, William A. P., Dewar, and Rutherford. 3,404,136.

Dexter, Leonard S. Lighter. 3,403,963, 10–1–68, Cl. 431—254.

Didwall, Joseph. Proportional motor control arrangement. 3,404,325, 10–1–68, Cl. 318—208.

Di Gioia, Charles: *See*—
Langhjelm, Henrik G., Di Gioia, and Bergishagen. 3,403,736.

Dinkel, Richard A., to American-Mobile Products Corp. Industrial personnel vehicle. 3,403,744, 10–1–68, Cl. 180—25.

Diprose, Kenneth V., to Hancock & Co. (Engineers) Ltd. Method and apparatus for following an outline on a substrate. 3,404,280, 10–1–68, Cl. 250—202.

Distillers Co. Ltd., The: *See*—
Hunt, Thomas. 3,404,110.

Divilbiss, James L. Toy mechanical computer. 3,403,459, 10–1–68, Cl. 35—30.

Docter, Charles F. Mobile home anchor. 3,403,487, 10–1–68, Cl. 52—148.

Docutel, Inc.: *See*—
Crowder, Wyly K. 3,403,634.

Dolan, William T.: *See*—
Stem, Richard K., Dolan, and C. C. Stem. 3,403,452.

Dole Valve Co., The: *See*—
Janous, Donald F. 3,403,559.

Dominion Electrohome Industries Ltd.: *See*—
Verlinden, Harry W. 3,404,354.

Donald, Harold J., to The Dow Chemical Co. Method of extruding bi-helically oriented thermoplastic tube. 3,404,203, 10–1–68, Cl. 264—108.

Donovan, Donald W., to Monsanto Co. Tray. 3,403,834, 10–1–68, Cl. 229—2.5.

Dooley, Joseph A., and J. A. Faccone, to Interchemical Corp. Transparentized drafting paper. 3,404,029, 10–1–68, Cl. 117—155.

Doolittle, Philip C., to United States Steel Corp. Pin-hole detector with air nozzles for cleaning scanner window. 3,404,284, 10–1–68, Cl. 250—239.

Dorschu, Karl E., to Air Reduction Co., Inc. Welding of high yield strength steel. 3,404,249, 10–1–68, Cl. 219—74.

Doty, Warren R., and M. A. La Boda, to General Motors Corp. Electrochemical machining using a chloride electrolyte including an alkali metal styrene sulfonate. 3,404,077, 10–1–68, Cl. 204—143.

Douet, Paul, and A. Roguin, to Commissariat a l'Elergie Atomique. Device for measuring the concentration of fission products in suspension in a fluid. 3,404,273, 10–1–68, Cl. 250—83.1.

Dow Chemical Co., The: *See*—
Bearden, Charles R., Swisher, and Garms. 3,404,106.
Bearden, Charles R., Swisher, and Garms. 3,404,107.
Colburn, Lyle W. 3,404,095.
Donald, Harold J. 3,404,203.
Hickey, Charles J. 3,403,729.
Kuhn, Stephen J. 3,403,987.
Pueschner, Robert J., and Miller. 3,404,116.
Snyder, Walter C., and Wright. 3,404,114.
Soderquist, Frederick J., Boyce, and Putman. 3,404,191.
Tomalia, Donald A. 3,404,172.
Wessling, Ritchie A., and Zimmerman. 3,404,132.

Downey, Francis X., and C. H. Weaver, to United States of America, Navy. System for reducing phase distortion in the phase reference signals of a multi-channel phase-shift data system. 3,404,229, 10–1–68, Cl. 178—67.

Downing, Joe B. Musical instrument with string tension adjustment. 3,403,588, 10–1–68, Cl. 84—306.

Drago, Robert J. Method and apparatus for cleaning and grading dry beans. 3,403,781, 10–1–68, Cl. 209—10.

Drake, George L., Jr.: *See*—
Chance, Leon H., Drake, and Reeves. 3,404,022.

Drautz, Walter G., to GAF Corp. Duplicating ink. 3,404,014, 10–1–68, Cl. 106—22.

Dravo Corp.: *See*—
Beley, Michael. 3,403,443.
Hatfield, Paul E., and Jaquay. 3,403,895.

Dreissiger, Adam A., to The Bettcher Mfg. Corp. Gas-fired infrared burner. 3,403,965, 10–1–68, Cl. 431—347.

Dresser Industries, Inc.: *See*—
Marks, William M., and Brackin. 3,403,791.

Drutchas, Gilbert H.: *See*—
Clark, Hubert M., Drutchas, and Berman. 3,403,630.

Dual Jet Refrigeration Co.: *See*—
Beckwith, Sterling, and Vogel. 3,403,525.

Dubuque Awning & Tent Co.: *See*—
Frommelt, Cyril P. and S. J. 3,403,489.

Dugge, Richard H.: *See*—
Stine, Clair K., and Dugge. 3,403,943.

Dujardin, Albert J. A. J., to Societe Anonyme Ecemenses Melotte. Method for purifying water. 3,404,088, 10–1–68, Cl. 210—44.

Dumbaugh, William H., Jr., to Corning Glass Works. Low thermal expansion glasses. 3,404,015, 10–1–68, Cl. 106—52.

Dunlop Co. Ltd., The: *See*—
Owen, Gerald D. T. 3,404,141.

Dunlop Rubber Co. Ltd.: *See*—
Dewar, Douglas, Davis, and Mortimer. 3,403,945.

Dunn, James G.: *See*—

Du Pont de Nemours, E. I., and Co.: *See*—
Beckman, William R., and Dunn. 3,403,597.
Ballard, John L., and Case. 3,404,205.
Binkley, Richard G., and Bouras. 3,403,780.
Carter, Giles F. 3,403,988.
Cordes, Kenneth L. 3,404,180.
Dworjanyn, Lee O. 3,403,862.
Gajjar, Bharat J. 3,403,537.
Helart, Robert B. 3,404,057.
Hoogendonk, William P. 3,404,129.
Masters, Steven G., and Poats. 3,403,457.
Miller, Donald F. 3,404,062.
Monroe, Elmer S., Jr. 3,403,853.

Du Pont de Nemours, E. I., and Co.: *See*—(Continued)
Rees, Richard W. 3,404,134.
Seiman, Stanley. 3,404,162.
Stiles, Alvin B. 3,404,098.
Van Scoy, Victor S. 3,403,503.

Durham, Donald F., and D. D. Necessary, to Caterpillar Tractor Co. Loading systems for rotary face seals. 3,403,916, 10–1–68, Cl. 277—92.

Dutton, Kenneth R., and W. B. Reinisch, to Dutton and Reinisch Ltd. Novel sulpho-succinate derivatives of ethoxysterols and of ethoxy-sterol esters, their preparation and employment as emollients. 3,404,164, 10–1–68, Cl. 260—397.7.

Dutton and Reinisch Ltd.: *See*—
Dutton, Kenneth R., and Reinisch. 3,404,164.

Dworjanyn, Lee O., to E. I. du Pont de Nemours and Co. Apparatus for preparing tangleiaced non-woven fabrics by liquid stream jets. 3,403,862, 10–1–68, Cl. 239—566.

Dymond, Harry F. D.: *See*—
Kilburn, Keith D., and Dymond. 3,403,686.

Eagle, Edward: *See*—
Koonz, Carl H., Strandine, and Eagle. 3,403,683.

Eagle-Picher Industries, Inc.: *See*—
McCarter, Walter K. 3,404,037.

Eastman, James M., and G. R. Howland, to The Bendix Corp. Pure fluid temperature sensor. 3,403,509, 10–1–68, Cl. 60—39.28.

Eastman Kodak Co.: *See*—
Barkley, Kenneth T. 3,404,121.
Becker, Richard W. 3,404,002.
Lawson, William S., Jr., and Sigl. 3,403,831.
Scoggins, Bobby N., and Thompson. 3,404,087.
Sublett, Bobby J., and Sloan. 3,403,689.
Wilson, Robert J. 3,403,455.

Eaton Yale & Towne, Inc.: *See*—
Sutaruk, Alex. 3,403,764.
Ulinski, Bronislaus I. 3,403,801.

Ebeling, Jack F.: *See*—
Hanna, Daniel C., and Ebeling. 3,403,417.

Eberlen, George P. Method of accurately positioning a halftone screen and template therefor. 3,403,449, 10–1–68, Cl. 33—174.5.

Ecemeuses, Melotte, Societé Anonyme: *See*—
Dujardin, Albert J. A. J. 3,404,088.

Eddy, Robert T., to The Bendix Corp. Effort selector. 3,403,601, 10–1–68, Cl. 91—438.

Edelson, Nathan A., to Monsanto Research Corp. Bis(alkylxanthate)-alkynes. 3,404,173, 10–1–68, Cl. 260—455.

Edwards, Lawrence & Co. (Engineers), Ltd.: *See*—
Grimshaw, Alan. 3,403,627.

Efros, Magdalena: *See*—
Kahane, Wilhelm, and M. and N. Efros. 3,403,687.
Kahane, Wilhelm, and M. and N. Efros. 3,403,688.

Efros, Norbert: *See*—
Kahane, Wilhelm, and M. and N. Efros. 3,403,687.
Kahane, Wilhelm, and M. and N. Efros. 3,403,688.

Eggenberger, Markus A., P. G. Ipsen, and P. H. Troutman, to General Electric Co. Full arc-partial arc transfer system for electrohydraulic turbine control. 3,403,892, 10–1–68, Cl. 253—59.

Eheim, Franz, and G. Hofer, to Robert Bosch, G.m.b.H. Fuel injection pump for internal combustion engines. 3,403,629, 10–1–68, Cl. 103—41.

Eichmann, Ellis V. Framing structure for glazed walls and partitions. 3,403,491, 10–1–68, Cl. 52—397.

Eidtmann, Helmut, and J. Steiner, to Robert Bosch, G.m.b.H. Fuel injection valve for preliminary and main injection. 3,403,861, 10–1–68, Cl. 239—533.

Eisel, August F., to United Engineering and Foundry Co. Method and apparatus for cooling workpieces. 3,403,541, 10–1–68, Cl. 72—201.

Ek, Stig Y.: *See*—
Jacobson, David E., and Ek. 3,403,625.
Jacobson, David E., and Ek. 3,403,626.

Electric & Musical Industries Ltd.: *See*—
Udall, Anthony J. S. 3,404,262.

Electronic Associates Inc.: *See*—
Massell, Edward M., and Hagedorn. 3,404,309.

Elliott, Charles G., to Alloys Unlimited, Inc. Flat package for semiconductors. 3,404,214, 10–1–68, Cl. 174—52.

Elliott, James F., to General Electric Co. Piezoresistive thermometer. 3,403,558, 10–1–68, Cl. 73—362.

Ellis, Frederick E., and P. J. Standbridge, to Automotive Products Co., Ltd. Power transmission systems providing changes of gear ratio. 3,403,584, 10–1–68, Cl. 74—757.

Engelhard, Phillippe: *See*—
Welsang, Edouard, Weill, and Engelhard. 3,404,101.

English Electric Co., Ltd., The: *See*—
Hartland, Derek. 3,403,888.

English, Jack A., J. D. Van Benthuysen, and T. R. Beaver. Indexing mechanism and method of making the same. 3,403,580, 10–1–68, Cl. 74—527.

English Numbering Machines Ltd.: *See*—
Rechlin, Kurt. 3,403,851.

English, Ray H.: *See*—
Ornitz, Martin N., and English. 3,403,998.

Enssle, Bruno E., to Binks Research and Development Corp. Portable airless sprayer. 3,403,818, 10–1–68, Cl. 222—23.

Eolkin, Dave, to Ingrams Food Products Co. Process for preparing an essential oil composition. 3,404,011, 10–1–68, Cl. 99—140.

Erickson, William F., to General Motors Corp. Brake band and method of manufacturing the same. 3,403,757, 10–1–68, Cl. 188—77.

Erisman, Maurice J., to FMC Corp. Chain tension adjusting apparatus. 3,403,552, 10–1–68, Cl. 73—143.

Eschner, Albert, Jr., to Hughes Aircraft Co. Digital clutter rejection system. 3,404,399, 10–1–68, Cl. 343—7.7.

Esso Research and Engineering Co.: *See*—
Burton, Paul E., and Wiese. 3,404,176.
Forster, Eric O., and Langer. 3,404,042.
Hamner, Glen P., and Mason. 3,404,085.
Jacobson, Norman, and Takashima. 3,404,092.
Segura, Marnell A., and Billisoly. 3,404,130.
Takashima, Herbert, Kresge, and Brownawell. 3,404,091.
Taylor, William F., and Sinfelt. 3,404,100.

Estabrook, Mark R., to Barnes Drill Co. Automatic feed control for abrading machine. 3,403,478. 10–1–68, Cl. 51—34.

Etablissementa A. Caseneuve: *See*—
Bruet, Henri R. 3,403,567.

Ethicon, Inc.: *See*—
Robson, John. 3,403,815.

Ethyl Corp.: *See*—
Jaasma, Wilbur C. 3,403,495.

Eubanks, Floyd G., 10% to R. M. McManigal. Composite wire stripping blades. 3,403,441, 10–1–68, Cl. 30—90.1.

Everett, Harvey J.: *See*—
Bell, Alfred J., Blevins, Everett, Garten, and Hardgrave. 3,403,873.

FMC Corp.: *See*—
Anderson, Gerald R., Creed, and Parker. 3,403,769.
Blake, John H., and McCandless. 3,403,989.
Biochi, Walter. 3,404,189.
Boyce, John, and Creed. 3,403,770.
Erisman, Maurice J. 3,403,552.
Gardiner, Ralph G., and Reimers. 3,403,771.
Gartin, John L. 3,403,606.
Geiger, Joseph A., and Schneebell. 3,403,649.
Greenwood, Leon D. 3,403,856.
Hirahara, Katsuji, and Anderson. 3,403,639.
Hoff, Francis L. 3,404,257.
Marschall, Henry L. 3,404,016.
Vadas, Leslie. 3,403,772.
Veech, Everett R. 3,403,863.
Verrinder, Ernest A., and Rose. 3,403,816.

FWD Corp.: *See*—
Stieg, Robert W. 3,403,742.

Faccone, Joseph A.: *See*—
Dooley, Joseph A., and Faccone. 3,404,029.

Fairchild Camera and Instrument Corp.: *See*—
Burns, Joseph. 3,404,308.

Fairchild, Elwood M.: *See*—
Suffron, Fay O., and Fairchild. 3,403,962.

Famous Keystone Corp.: *See*—
Zucker, Armand S. 3,404,267.

Fanabe Seiyaku Co., Ltd.: *See*—
Okumura, Kentaro, Nishihara, and Oda. 3,404,154.

Farbenfabriken Bayer Aktiengesellschaft: *See*—
Fritz, Gerhard, Curtius, Bottenbruch, Goller, and Schnell. 3,404,122.

Farina, Samuel: *See*—
Russell, William S., and Farina. 3,404,046.

Farnworth, Wilfred, to Bader Pneumatics & Engineering Co., Ltd. Particulate material feeding apparatus for fluid conveyor lines. 3,403,942, 10–1–68, Cl. 302—49.

Farquhar, Melville T., to Reynolds Metals Co. Compartmented blanks for making the same. 3,403,776, 10–1–68, Cl. 206—46.14.

Farquhar, Melville T., to Reynolds Metal Co. Compartmented carton and blanks for making same. 3,403,836, 10–1–68, Cl. 229—27.

Farquhar, Melville T., to Reynolds Metals Co. Dishlike container. 3,403,837, 10–1–68, Cl. 229—31.

Farquhar, Melville T., to Reynolds Metals Co. Carton and blanks for making same. 3,403,839, 10–1–68, Cl. 229—40.

Favre, John A., to Phillips Petroleum Co. Analysis of fluids. 3,403,978, 10–1–68, Cl. 23—230.

Favreau, Michel, to Compbanie Francaise Thomson-Houston-Hotchkiss Brandt. Color video systems. 3,404,220, 10–1–68, Cl. 178—5.2.

Feazel, Charles E., to Allied Chemical Corp. Method of sizing paper with fatty acid condensation products. 3,404,064, 10–1–68, Cl. 162—179.

Federal Sign and Signal Corp.: *See*—
Gosswiller, Earl W. 3,404,371.

Fekete, Sándor, A. Horváth, J. Sever, and J. Szalo, to Metalimpex Acel- es Femkulkereskedelmi Vallalat. Process for producing concentrates of high manganese content. 3,403,995, 10–1–68, Cl. 75—115.

Fengler, Werner H. Ultra-sensitive photoelectric contour probing device. 3,404,281, 10–1–68, Cl. 250—202.

Fenton, Frank W., to Beacon Machinery, Inc. Safety valve. 3,403,697, 10–1–68, Cl. 137—517.

Ferreirinha, Eduardo de Almeida. Apparatus for finishing oval workpieces. 3,403,479, 10–1–68, Cl. 51—105.

Fewings, David J., and H. J. Pipe, to The Marconi Co. Ltd. Piezo-electric crystal circuit arrangements. 3,404,297, 10–1–68, Cl. 310—8.1.

Figielski, Peter, to Sperry Rand Corp. Signal responsive apparatus. 3,404,286, 10–1–68, Cl. 307—218.

Fink, John F., Jr. Tape applicator. 3,404,058, 10–1–68, Cl. 156—627.

Finn, John J., to Glenn Electric Heater Corp. Electrically heated vessel. 3,404,256, 10–1–68, Cl. 219—311.

Firma Bunzl & Biach Aktiengesellschaft: *See*—
Kautny, Fritz, and Hemersan. 3,403,969.

Firma Rheinmetall G.m.b.H.: *See*—
Bartels, Erich. 3,403,596.

Fischer, Kurt, to Franklin Electric Co., Inc. Electrical cable connector part. 3,404,363, 10–1–68, Cl. 339—60.

Fites, Cyril B., to Wagner Electric Corp. Supply and exhaust type control valve. 3,403,699, 10–1–68, Cl. 137—627.5.

Fitko, Chester W.: *See*—
Radlove, Sol B., Ravve, and Fitko. 3,404,128.

Flachbarth, Charles T., and R. S. Friedman, to Textron, Inc. Boat trailers. 3,403,798, 10–1–68, Cl. 214—84.

Flaherty, John J., and P. J. Rosauer, to Magnaflux Corp. Ultrasonic transducer system. 3,403,671, 10–1–68, Cl. 128—2.

Fleming, William: *See*—
Noble, Jack D., and Fleming. 3,404,288.

Flow Technology, Inc.: *See*—
Francisco, Edward E., Jr. 3,403,544.

Flowers, George H., Jr., to Waste Combustion Corp. Incinerator. 3,403,645, 10–1–68, Cl. 110—18.

Fluid Energy Processing & Equipment Co.: *See*—
Stephanoff, Nicholas N. 3,403,451.

Fluidrive Engineering Co., Ltd.: *See*—
James, Walter H. K. 3,403,514.

Focke, Heinz. Device for forming a batch of cigarettes. 3,403,493, 10–1–68, Cl. 53—151.

Ford Motor Co.: *See*—
Kummer, Joseph T., and Weber. 3,404,035.
Kummer, Joseph T., and Weber. 3,404,036.

Formenti, Riccardo. Cupola furnace with heat regeneration means. 3,403,897, 10–1–68, Cl. 266—30.

Forster, Eric O., and A. W. Langer, Jr., to Esso Research and Engineering Co. Electric battery using organic charge transfer liquid. 3,404,042, 10–1–68, Cl. 136—154.

Fosler, Robert H., and E. W. Rollman, to United States of America, Navy. Explosive ordnance launching and actuation arrangement. 3,403,624, 10–1–68, Cl. 102—8.

Foulatier, Raymond G.: *See*—
Delbourgo, Ralph D., Foulatier, Lafitte, Meneret, and Minjolle. 3,403,964.

Fowler, Lawrence M. Formable light strip. 3,404,268, 10–1–68, Cl. 240—10.

Fox, Charles H., and W. H. McGlade, to Westinghouse Air Brake Co. Flexible drive for tractor-type prime mover. 3,403,746, 10–1–68, Cl. 180—70.

Fox, Jack J., and N. C. Miller, to Research Corp. 1-β-D-arabinofuranosyl-5-fluorocytosine compounds. 3,404,144, 10–1–68, Cl. 260—211.5.

Fradkina, Riva V.: *See*—
Kljueva, Nina G., Krzhevova, Fradkina, Sukhareva, Zilberblat, and Parizh. 3,404,070.

Francis, James T. Golf cart. 3,403,922, 10–1–68, Cl. 280—41.

Francisco, Edward E., Jr., to Flow Technology, Inc. Flowmeter calibration. 3,403,544, 10–1–68, Cl. 73—3.

Francois, Bernard: *See*—
Braun, Camille, Delmas, and Francois. 3,404,201.

Francois, Pierre A., to Union Carbide Corp. Suction box cover. 3,404,066, 10–1–68, Cl. 162—374.

Frank, William F., to Monsanto Co. Dispensing container. 3,403,828, 10–1–68, Cl. 222—486.

Frankel, Stanley P. General purpose digital computer. 3,404,377, 10–1–68, Cl. 340—172.5.

Franklin Electric Co., Inc.: *See*—
Fischer, Kurt. 3,404,363.

Franz, Dale W., and M. R. Adams, to The Bendix Corp. Control apparatus having variable effective lever ratio force balance mechanism. 3,403,598, 10–1–68, Cl. 91—47.

Fraser, James: *See*—
Robertson, William A. H., Clinch, and Fraser. 3,404,208.

Frazier, Billy G.: *See*—
Richardson, Vernon C. H., and Frazier. 3,403,728.

Freeman, Ernest C., and R. W., to Sevres Corp. Doll with phonograph. 3,403,913, 10–1–68, Cl. 274—1.

Freeman, Robert W.: *See*—
Freeman, Ernest C., and R. W. 3,403,918.

Freeman, William P., Jr.: *See*—
Mitchell, Orville, Roden, Freeman, Harris, and Smith. 3,403,524.

French, William H.: *See*—
Budde, Walter M., Jr., and French. 3,404,163.

Fried, Robert. Automatically programmed piano. 3,403,589, 10–1–68, Cl. 84—478.

Friedman, Ronald S.: *See*—
Flachbarth, Charles T., and Friedman. 3,403,798.

Friciont, Rudolph B., to Allegheny Ludlum Steel Corp. Laboratory apparatus. 3,403,982, 10–1–68, Cl. 23—292.

Frilette, Vincent J., and D. G. Jones, to Mobil Oil Corp. Synthesis and decomposition of ammonia. 3,403,975, 10–1–68, Cl. 23—198.

Fritz-Buser, A.G.: *See*—
Moser, Hans R., and Thierstein. 3,403,622.

Fritz, Gerhard, U. Curtius, L. Bottenbruch, W. Goller, and H. Schnell, to Farbenfabriken Bayer Aktiengesellshaft. Stabilization of high molecular weight polycarbonates. 3,404,122, 10–1–68, Cl. 260—45.7.

Frommelt, Cyril P., and S. J., to Dubuque Awning & Tent Co. Loading dock shelters. 3,403,489, 10–1–68, Cl. 52—204.

Frommelt, Sylvan J.: *See*—
Frommelt, Cyril P., and S. J. 3,403,489.

Frost, Norbet, to Adam-Steven Leather Goods, Inc. Method of forming a bead on a clutch. 3,404,052, 10–1–68, Cl. 156—91.

Fukumoto, Osamu, and Y. Atarashi, to Toyo Rayon Kubushiki Kaisha. Method of polymerizing alpha-olefins. 3,404,139, 10–1–68, Cl. 260—93.7.

Fukumoto, Osamu, M. Kubo, and T. Kamijo, to Toyo Rayon Kabushiki Kaisha. Shaped article of polyolefin composition having improved dyeability containing metal compounds and a process for dyeing the same. 3,404,140, 10–1–68, Cl. 260—93.7.

Fukuoka, Ichiro: *See*—
Kambara, Shu, Fukuoka, and Kimura. 3,404,115.

Fuller Co.: *See*—
Solt, Paul E. 3,403,941.

Fulmer, Keith H., and F. E. Goerke, to The Bendix Corp. Brake means. 3,403,515, 10–1–68, Cl. 60—54.5.

Fumat S.A.: *See*—
Samson, Pierre. 3,403,705.

GAF Corp: *See*—
Drautz, Walter G. 3,404,014.
Mahew, Raymond L., and Grosser. 3,404,147.
Merijan, Ashot, and Grosser. 3,404,127.
Stanley, Lester N. 3,403,967.
Strobel, Albert F., and Catino. 3,404,159.
Strobel, Albert F., and Catino. 3,404,160.
Strobel, Albert F., and Catino. 3,404,161.
Uffner, Melville W. 3,404,117.

G. Q. Parachute Co., Ltd.: *See*—
Mitchell, John R. 3,403,876.

G & W Electric Specialty Co.: *See*—
Kovats, William S. 3,403,565.

Gaignon, Maurice H. R. J., and M. J. C. Lefort, to Rhone-Poulenc S.A. Preparation of vinyisilanes by Si-H-acetylene addition. 3,404,169, 10–1–68, Cl. 260—448.2.

Gajjar, Bharat J., to E. I. du Pont de Nemours and Co. Warp-knitted fabric. 3,403,537, 10–1–68, Cl. 66—195.

Gar Wood Industries, Inc.: *See*—
Grove, Karl I. 3,404,369.

Garaboux, Andre. Web winding machine. 3,403,870, 10–1–68, Cl. 242—86.52.

Gardiner, Ralph G., and J. L. Reimers, to FMC Corp. Container orienting mechanism. 3,403,771, 10–1–68, Cl. 198—33.

Garlock Inc.: *See*—
Watson, Richard W. 3,403,595.

Garms, David C.: *See*—
Bearden, Charles R., Swisher, and Garms. 3,404,106.
Bearden, Charles R., Swisher, and Garms. 3,404,107.

Garrett, Edward O., Jr., and P. M. Noble, to Westinghouse Air Brake Co. Railway car retarder braking apparatus. 3,403,752, 10–1–68, Cl. 188—62.

Garrison, Richard D. Fence post end sharpener. 3,403,710, 10–1–68, Cl. 144—30.

Garritsen, Johan W., to Stamicarbon N.V. Preparation of ω-laurinolactam. 3,404,148, 10–1–68, Cl. 260—239.3.

Garten, William, Jr.: *See*—
Bell, Alfred J., Blevins, Everett, Garten, and Hardgrave. 3,403,873.

Gartin, John L., to FMC Corp. Carton feeding and forming apparatus. 3,403,606, 10–1–68, Cl. 93—44.1.

Gaz-Transport, S.A.R.L.: *See*—
Gilles, Auguste. 3,403,651.

Gazzani, Giovanni, to Neotis S.a.s. Apparatus for the controlled distribution of liquids, in particular for toiletry. 3,403,961, 10–1–68, Cl. 401—202.

Geiger, Joseph A., and J. P. Schneebell, to FMC Corp. Method of seaming metallic containers. 3,403,649, 10–1–68, Cl. 113—121.

Geigy Chemical Corp.: *See*—
Aiken, John K., and Howard. 3,404,075.

Geiringer, Paul L., to American Hydrotherm Corp. Multi-effect evaporation system. 3,403,719, 10–1–68, Cl. 159—26.

General Dynamics Corp.: *See*—
Alcala, Joe E., and Wilfert. 3,404,227.
Bartlett, William F. 3,404,237.
Gratian, Joseph W. 3,404,381.
Woolley, Donald D. 3,404,020.

General Electric Co.: *See*—
Clokajlo, John J. 3,403,889.
Eggenberger, Markus A., Ipsen, and Troutman. 3,403,892.
Elliott, James F. 3,403,558.
Glassanos, Andrew. 3,404,247.
Guth, Lauren W., and Clark. 3,403,865.
Gutzwiller, Frank W. 3,404,327.
Hall, James A., and Pepplatt. 3,404,346.
Jacobs, Lewis W. 3,404,316.
Jacobs, Lewis W., Mrowka, and Sabatella. 3,404,315.
Johnson, Lloyd H., and Carson. 3,403,891.
Laendle, Karl W. 3,404,033.
Mitoff, Stephan P. 3,404,039.
Mitoff, Stephan P., Tragert, and Fullman. 3,404,040.
Nicklas, William H. 3,404,302.
Payette, Lionel J. 3,404,197.
Robins, Floyd B. 3,404,372.
Roche, Jean A. 3,403,342.
Ruppert, Keith D. 3,404,311.
Sabatella, Robert J. 3,404,317.
Stoffer, Lewis J. 3,403,844.
Stoffer, Lewis J. 3,403,893.
Szeremy, Norman, and Pelczynski. 3,404,226.
Winkler, William K. 3,404,258.

General Motors Corp.: *See*—
Andrew, Margaret J., Bullock, and Sisson. 3,403,538.
Bollenbacher, Larry L. 3,403,533.
Bright, James A., and O'Connell. 3,403,584.
Butts, Donald A. 3,403,934.
Cramer, Frank N., and Curry. 3,403,938.
Daansen, Warren S. 3,403,859.
Doty, Warren R., and La Boda. 3,404,077.
Erickson, William F. 3,403,757.
Harness, Gerald A. 3,403,581.
Hawkins, Cyril M. 3,403,550.
Hill, Vernon L., and Sherman. 3,403,857.
Holcombe, Harry J. 3,403,568.
Hulsing, Kenneth L. 3,403,632.
Jaquish, Paul E., Jr. 3,403,513.
Johnson, Alvin E. 3,403,947.
Klingenmaier, Otto J. 3,404,074.
Light, James W. 3,403,477.

General Motors Corp.: *See*—(Continued)
Maci, Raymond J., and Schmidt. 3,403,583.
Morden, Russell L. 3,403,582.
Plume, Robert W. 3,403,899.
Zemeck, Leonard D. 3,403,604.
General Precision Systems Inc.: *See*—
Gerard, Allan. 3,404,324.
Hamilton, Harold J. 3,404,084.
General Signal Corp.: *See*—
Malott, Thomas J. 3,403,512.
General Steel Industries, Inc.: *See*—
Lich, Richard L. 3,403,637.
General Tire & Rubber Co., The: *See*—
Milgrom, Jack. 3,404,109.
Gerard, Allan, to General Precision Systems Inc. Step motor position control with rotary reed switch transmitter. 3,404,-324, 10–1–68, Cl. 318—27.
Gerfen, Charles O., and J. R. Ruhoff, to Mallinckrodt Chemical Works. Steam distillation of metal values in solution. 3,403,983, 10–1–68, Cl. 23—312.
Gerisch, Rudolph F. Two-way switch means for conveyor system. 3,403,767, 10–1–68, Cl. 198—20.
Gibbons, De Lamar J. Plastic foam splint. 3,403,676, 10–1–68, Cl. 128—87.
Gifford, John F. Closed loop stepping servo motor system. 3,404,323, 10–1–68, Cl. 318—18.
Gilbert, Charles H. Grounded shaft structure for electrical rotating machine. 3,404,312, 10–1–68, Cl. 317—13.
Gill, Ronald Y., to International Standard Electric Corp. Method and apparatus for producing insulated electrical conductors. 3,404,050, 10–1–68, Cl. 156—52.
Gilles, Auguste, to Societe a Responsabilite Limitee Dite: Gaz-Transport. Integral tank for transporting liquefied gas. 3,403,651, 10–1–68, Cl. 114—74.
Girard, Harry J.: *See*—
Knapp, Mary M., and Girard. 3,403,418.
Knapp, Mary M., and Girard. 3,403,701.
Girdner, William I., to Hewlett-Packard Co. Magnetic head holding element. 3,404,242, 10–1–68, Cl. 179—100.2.
Gisiger-Lusa, Armin. Watchcase having improved means for attaching wristband. 3,403,505, 10–1–68, Cl. 58—88.
Gjertsen, Paul R., and R. A. Chabane, to Precision Hone Co. Honing device for cylinders. 3,403,483, 10–1–68, Cl. 51—347.
Glassanos, Andrew, to General Electric Co. Pressure responsive protective means for vacuum type circuit interrupters. 3,404,247, 10–1–68, Cl. 200—144.
Glenn Electric Heater Corp.: *See*—
Finn, John J. 3,404,256.
Godfrey, Kenneth L.: *See*—
Baker, Joseph W., and Godfrey. 3,404,207.
Goerke, Fred E.: *See*—
Fulmer, Keith H., and Goerke. 3,403,515.
Goldberg, Hyman. Method and apparatus for the testing of bearing. 3,404,235, 10–1–68, Cl. 179—1.
Goldberger, William M., to The Battelle Development Corp. Method of generating a plasma arc with a fluidized bed as one electrode. 3,404,078, 10–1–68, Cl. 204—164.
Goldman, Maurice, to Morse Shoe, Inc. Piercing device. 3,403,-646, 10–1–68, Cl. 112—104.
Goller, Werner: *See*—
Fritz, Gerhard, Curtius, Bottenbruch, Goller, and Schnell. 3,404,122.
Good, Elmer H., and L. D. Hammond, to Nash-Hammond, Inc. Cushioning container. 3,403,713, 10–1–68, Cl. 150—.5.
Goodman, Jack P. Method for setting poles. 3,403,520, 10–1–68, Cl. 61—53.5.
Goodman, Stephen R., and H. Hu, to United States Steel Corp. Method for producing deep-drawing low-carbon steel sheet. 3,404,047, 10–1–68, Cl. 148—12.1.
Goodsite, James R.: *See*—
Voytko, Joseph, and Goodsite. 3,403,778.
Goos, Hanno, and H. W. Maurer, to West Virginia Pulp and Paper Co. Apparatus for manufacture of starch decomposition products. 3,404,071, 10–1–68, Cl. 195—127.
Gorchev, Dimiter. Dual duct fluid supply system. 3,403,852, 10–1–68, Cl. 236—13.
Gosswiller, Earl W., to Federal Sign and Signal Corp. Warning device for emergency vehicles. 3,404,371, 10–1–68, Cl. 340—87.
Gosudarstvenny Kontrolny Institut Meditsinskikh Biologicheskikh Preparatov im. L.A. Tarasevicha: *See*—
Kljueva, Nina G., Krzhevova, Fradkina, Sukhareva, Zilberblat, and Parizh. 3,404,070.
Gotshall, William W., to Marathon Oil Co. Coke ground in a nonoxidizing atmosphere. 3,404,019, 10–1–68, Cl. 106—307.
Gotshall, William W., to Marathon Oil Co. Polymer compositions containing coal which has been ground in a nonoxidizing atmosphere. 3,404,120, 10–1–68, Cl. 260—41.5.
Gottfried, Louis, and J. Berger. Convertible crib bed. 3,403,-412, 10–1–68, Cl. 5—100.
Grace, W. R., & Co.: *See*—
Busch, Georg L. 3,403,992.
Wilson, Charles P., Jr., Carr, and Ciapetta. 3,404,097.
Graham, Richard K.: *See*—
Pool, James L., and Graham. 3,404,337.
Grahl, Darwin R.: *See*—
Noakes, Thomas E., and Grahl. 3,403,884.
Gratian, Joseph W., to General Dynamics Corp. Mechanical biased ferroacoustic memory. 3,404,381, 10–1–68, Cl. 340—173.
Gray, James R.: *See*—
Aaron, Marvin R., Gray, and Saal. 3,404,281.
Gray, Robert D., and S. E. Mayer, to Argus Chemical Corp. Process for preparing organotin halides. 3,404,167, 10–1–68, Cl. 260—429.7.
Gray Tool Co.: *See*—
Crain, Robert L., and Latham. 3,403,931.
Greater London Council, The: *See*—
Davidson, John W., Brooks, Voisey, and Burton. 3,403,-488.
Green, Charles R., and G. G. Rychtytzkyj, to Admiral Corp. Control circuit. 3,404,291, 10–1–68, Cl. 307—239.
Greenwood, Leon D., to FMC Corp. Spraying apparatus. 3,403,856, 10–1–68, Cl. 239—78.
Gregory, John B., A. T. McClinton, and P. A. Whittington, to United States of America, Navy. Apparatus for forming flattened tubes with constant radii edge sections. 3,403,543, 10–1–68, Cl. 72—398.
Griffin, Alvin G. Test piece gripping device. 3,403,549, 10–1–68, Cl. 73—103.
Griffiths, Derek J., to Unitek Corp. Welding apparatus. 3,404,-250, 10–1–68, Cl. 219—81.
Grimshaw, Alan, to Lawrence Edwards & Co. (Engineers) Ltd. Injectors for fluid pumps. 3,403,627, 10–1–68, Cl. 103—6.
Gross, Robert, to Hudson Optical Corp. Spectacle hinge construction having an expandable anchor. 3,403,958, 10–1–68, Cl. 351—153.
Grosser, Frederick: *See*—
Merijan, Ashot, and Grosser. 3,404,127.
Mayhew, Raymond L., and Grosser. 3,404,147.
Grosshans, Georges F.: *See*—
Oller, Jacques H. G., Grosshans, and Masson. 3,403,829.
Grove, Earl L., to Gar Wood Industries, Inc. Welding cable and terminal assembly. 3,404,369, 10–1–68, Cl. 339—223.
Grzych, Stanley J.: *See*—
Landis, H. Richard, and Grzych. 3,403,820.
Gudmundson, Kristinn F. Christmas tree stand. 3,403,877, 10–1–68, Cl. 248—48.
Guiffre, Vincent, Colonial Sugar Refining Co. Ltd. Liquid carbon dioxide refrigeration. 3,403,530, 10–1–68, Cl. 62—303.
Guild Metal Joining Equipment Co.: *See*—
Wheeler, Donald J., and Lohrenz. 3,403,833.
Guinot, Gabriel L., to Societe Anonyme Poclain. Hydraulic motor change-speed system. 3,403,599, 10–1–68, Cl. 91—205.
Gulf General Atomic Inc.: *See*—
Miller, Park H., Jr. 3,404,400.
Gunderson, Joseph M.: *See*—
Clayton, Wilson A., Gunderson, and Sargent. 3,404,031.
Guth, Lauren W., and O. R. Clark, to General Electric Co. Comminuting assembly for food waste disposer. 3,403,865, 10–1–68, Cl. 241—194.
Gutkowski, Janusz. Heat exchangers. 3,403,724.
Gutzwiller, Frank W., to General Electric Co. Conversion systems comprising SCR's with gate control arrangements. 3,404,327. 10–1–68, Cl. 321—8.
Guyer, Vernon L., and R. H. Kottke, to Ashland Oil and Refining Co. Reactive modifiers for thermosetting resins. 3,404,118, 10–1–68, Cl. 260—30.4.
Guyer, Vernon L., to Ashland Oil & Refining Co. Phenolformaldehyde-urea resin and method of preparation. 3,404,-198, 10–1–68, Cl. 260—840.
Hagedorn, Gunther: *See*—
Massell, Edward M., and Hagedorn. 3,404,309.
Hailey, Robert R., G. J. Laurer, and R. J. Simpson, to International Business Machines Corp. Frequency corrector for use in a data transmission system. 3,404,230, 10–1–68, Cl. 178—69.5.
Halaby, Josef. Telephone automatic alarm apparatus. 3,404,-236, 10–1–68, Cl. 179—5
Halpern, Otto, to Syntex Corp. Process for the esterification of hydroxy steroids. 3,404,150, 10–1–68, Cl. 260—239.55.
Hall, Edward H., to Morey Paper Mill Supply Co. Method of splicing thermoplastic rope ends by flame treatment. 3,404,051. 10–1–68, Cl. 156—82.
Hall, James A., and H. J. Peppiatt, to General Electric Co. Hybrid junction wideband FM demodulator. 3,404,346, 10–1–68, Cl. 329—116.
Halliburton Co.: *See*—
Keeney, Bill R. 3,404,094.
Hamalainen, Carl, H. H. St. Mard, and A. S. Cooper, Jr., to United States of America, Agriculture. Stretchable textiles produced from the back-twisting of highly swollen cellulosic yarns. 3,403,504, 10–1–68, Cl. 57—164.
Hamilton, Alfred E. Method and apparatus for rocking platforms. 3,403,905, 10–1–68, Cl. 272—57.
Hamilton, Allen R., to Bendix Corp. Source of vaporizable material for bombardment thereof by an electron bombarding means. 3,404,255, 10–1–68, Cl. 219—121.
Hamilton, Harold J., to General Precision Systems, Inc. Apparatus for depositing ionized electron beam evaporated material on negatively biased substrate. 3,404,084, 10–1–68, 204—298.
Hamlyn, Maxwell C.: *See*—
Kidney, Allan J., Hamlyn, and Owen. 3,403,453.
Hammond, Lowell D.: *See*—
Good, Elmer H., and Hammond. 3,403,713.
Hamner, Glen P., and R. B. Mason, to Esso Research and Engineering Co. Hydrocracking process for high octane product. 3,404,085, 10–1–68, Cl. 208—111.
Hancock & Co. (Engineers) Ltd.: *See*—
Diprose, Kenneth V. 3,404,280.
Hanna, Daniel C., and J. F. Ebeling; said Ebeling, assor., to said Hanna. Car ends and sides cleaning brushes. 3,403,417, 10–1–68, Cl. 15—21.

Hans Biel: *See*—
Schafer, Helmut. 3,403,782.
Hansen, Irving G., and V. S. Peterson, to United States of America, National Aeronautics and Space Administration. Low level signal limiter. 3,404,348, 10–1–68, Cl. 330—103.
Happel, William J., and R. Murray, Jr., to Power Control Corp. Temperature responsive circuit apparatus employing thermistors. 3,404,313, 10–1–68, Cl. 317—41.
Harada, Seiji: *See*—
Omori, Mineharu, Matsubara, Nakamura, and Harada. 3,403,440.
Hardgrave, Everett J., Jr.: *See*—
Bell, Alfred J., Bievins, Everett, Garten, and Hardgrave. 3,403,873.
Harding, Charles I., to Owens-Illinois, Inc., and University of Florida. By-product recovery from kraft black liquor. 3,404,063, 10–1–68, Cl. 162—16.
Hardy, Derek J., to Westland Aircraft Ltd. Hovership. 3,403,652, 10–1–68, Cl. 114—43.5.
Harness, Gerald A., to General Motors Corp. Latch mechanism. 3,403,581, 10–1–68, Cl. 74—530.
Harnisch, Heinz, J. Cremer, and A. Hinz, to Knapsack Aktiengesellschaft. Process and apparatus for a salt mixture formed of sodium, magnesium and optionally calcium orthophosphates. 3,403,972, 10–1–68, Cl. 23—107.
Harper, Harold R., and L. A. Mather, to Imperial Chemical Industries Ltd. Polyamides containing a pigment and a basic product obtained from a condensate of naphthalene sulphonic acid and formaldehyde. 3,404,119, 10–1–68, Cl. 260—37.
Harris, John D.: *See*—
Mitchell, Orville, Roden, Freeman, Harris, and Smith. 3,403,524.
Harris, Stephen E., and C. F. Buhrer, to Research Corp. Birefringent apparatus for demodulating phase modulated light. 3,404,353. 10–1–68, Cl. 332—1.
Harris, William B., R. P. Massey, and F. J. Zgebura, to Bell Telephone Laboratories, Inc. Thyristor switch utilizing series diodes to improve dynamic breakdown capability and reduce time to restore forward blocking. 3,404,293, 10–1–68, Cl. 307—252.
Hart, Oliver P.: *See*—
Kaplan, Leonard A., and Hart. 3,404,347.
Hartland, Derek, to The English Electric Co., Ltd. Reversible pump turbines. 3,403,888, 10–1–68, Cl. 253—1.
Hartley, David: *See*—
Threadgold, Ronald, Hartley, Bell, Lynch, Bines, and Pate. 3,404,378.
Hartman, Frank F., to The Bendix Corp. Dual tire wheel and brake assembly. 3,403,875, 10–1–68, Cl. 244—111.
Hashimoto, Akihisa: *See*—
Tomota, Miyaju, Sasaoka, and Hashimoto. 3,404,330.
Hatfield, Paul E., and L. H. Jaquay, Dravo Corp. Gas-solid contact device and material discharge means. 3,403,895, 10–1–68, Cl. 263—29.
Hatschek, Rudolf: *See*—
List, Hans, Zeiringer, and Hatschek. 3,403,561.
Hawgood, John, and E. Armstrong, to Darchem Engineering Ltd. Thermal insulation. 3,403,807, 10–1–68, Cl. 220—9.
Hawkins, Cyril M., to General Motors Corp. Torque indicator. 3,403,550, 10–1–68, Cl. 73—136.
Haycock, Ernest W., and P. R. Rhodes, to Shell Oil Co. Electrolytic preparation of hydrides. 3,404,076, 10–1–68, Cl. 204—101.
Hayden, Fred M., to Packard-Bell Electronics Corp. Switch-operated color television demagnetization system. 3,404,-307, 10–1–68, Cl. 315—8.
Hayes, William F., B. Ashikian, and C. C. K. Kwok, to Aviation Electric Ltd. Vortex vent for fluid amplifiers. 3,403,-691, 10–1–68, Cl. 137—81.5.
Hazel, James F., W. M. McNabb, and M. K. McElroy, to Research Corp. Ferripolyphosphates. 3,403,971, 10–1–68, Cl. 23—105.
Hazelrigg, Charles H. Mortar joint finishing tool. 3,403,419, 10–1–68, Cl. 15—235.3.
Hazen Engineering Co.: *See*—
Jones, Robert L., and Hazen. 3,403,726.
Hazen, Frank D.: *See*—
Jones, Robert L., and Hazen. 3,403,726.
Hazlett, Lester H., to Control Data Corp. Bias supply and line termination system for differential logic. 3,404,285, 10–1–68, Cl. 307—203.
Heald Machine Co., The: *See*—
Robillard, Edward G. 3,403,480.
Heath Co.: *See*—
Rupley, Don G. 3,404,222.
Hebký, Jaromír, V. Jeliínek, and M. Karásek, to SOFA, Spojene podniky pro zdrovolnichou vyrobu, Iodinated X-ray contrast agents. 3,404,143, 10–1–68, Cl. 260—211.
Heiart, Robert B., to E. I. Du Pont de Nemours and Co. Stripping and laminating machine. 3,404,057, 10–1–68, Cl. 156—522.
Heimberger, Werner, to Deutsche Gold-und Silber-Scheideanstalt vormals Roessler. Novel hydroxyl amine triazine compounds and process for producing the same. 3,404,151, 10–1–68, Cl. 260—249.8.
Heimos, Milton J.: *See*—
Wendt, Donovan D., and Heimos. 3,403,841.
Heits, Charles T. Cover for trash burners. 3,403,644, 10–1–68, Cl. 110—18.
Helfer, Blanche. Hand covering. 3,403,408, 10–1–68, Cl. 2—158.
Heller, Adam, to Bell Telephone Laboratories, Inc. Neodymium doped deuterium oxide laser. 3,404,351, 10–1–68, Cl. 331—94.5.
Hemersan, Rudolf: *See*—
Kautny, Fritz, and Hemersan. 3,403,969.
Henkel & Cie G.m.b.H.: *See*—
Weinrich, Erwin. 3,404,195.
Henkel & Cie G.m.b.H.: *See*—
Weinrich, Erwin. 3,404,196.
Henkie, Richard W., to Kaiser Aluminum & Chemical Corp. Electrolytic reduction cell with pivotally joined superstructure support means. 3,404,082, 10–1–68, Cl. 204—243.
Henry, Walter L. Apparatus for low temperature dehydration of gases. 3,403,522, 10–1–68, Cl. 62—37.
Henschen, Homer E., to AMP Inc. Disengageable electrical connections. 3,404,367, 10–1–68, Cl. 339—217.
Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, of State for Defence in: *See*—
Sinclair, Kenneth, and Watson. 3,403,679.
Sinclair, Kenneth, and Watson. 3,403,680.
Benjamin, John, and Clarke. 3,404,402.
Hercules Inc.: *See*—
Kretzschmann, Richard K. 3,403,885.
Lamborn, Bayard T. 3,404,096.
Kosiorek, Raymond. 3,404,027.
Russell, Robert M. 3,403,929.
Herrmann, Bruno, to M.A.N. Turbo G.m.b.H. Control means for rotary wing aircraft. 3,403,734, 10–1–68, Cl. 170—135.74.
Hewlett-Packard Co.: *See*—
Girdner, William I. 3,404,242.
Rhodes, William A., Jr. 3,403,436.
Heywood, Kenneth W., and C. R. Trampier, Jr., to National Lead Co. Method for production of titanium dioxide granules. 3,403,977, 10–1–68, Cl. 23—202.
Hickey, Charles J., to The Dow Chemical Co. Apparatus useful for treating wells. 3,403,729, 10–1–68, Cl. 166—75.
Hicks, Darrell D., to Celanese Coatings Co. Esters of polyepoxides and hydroxy-carboxylic acids. 3,404,018, 10–1–68, Cl. 106—252.
Hill, George R., and D. G. Needham, to Phillips Petroleum Co. Polyolefin foam. 3,404,104, 10–1–68, Cl. 260—2.5.
Hill, Russell P.: *See*—
Cleveland, Charles H., and Hill. 3,403,909.
Hill, Vernon L., and W. S. Sherman, to General Motors Corp. Reaction barrier material for rocket nozzle systems. 3,403,-857, 10–1–68, Cl. 239—265.15.
Hilpert, Conrad R., and J. B. Black, to Twin Disc, Inc. Power transmitting device having hydraulically actuated friction plates and torque sensing means. 3,403,763, 10–1–68, Cl. 192—56.
Hinz, Arnulf: *See*—
Harnisch, Heinz, Cremer, and Hinz. 3,403,972.
Hirahara, Katsuji, and G. R. Anderson, to FMC Corp. Frangible frozen slab handling. 3,403,639, 10–1–68, Cl. 107—4.
Hirota, Hozumi, and A. Yanase, to Matsushita Electric Industrial Co., Ltd. Ferromagnetic material. 3,403,996, 10–1–68, Cl. 75—170.
Hirst, Archie J., to Metalastik Ltd. Railway vehicle suspension. 3,403,638, 10–1–68, Cl. 105—199.
Hitachi Maxell Ltd.: *See*—
Omori, Mineharu, Matsubara, Nakamura, and Harada. 3,403,440.
Hitt, Otis D.: *See*—
Burkhart, Larry L., Hitt, and Troike. 3,403,738.
Hoban, Thomas W., and R. L. Smith, to North American Rockwell Corp. Terrain following system employing intermittent radiation. 3,404,398, 10–1–68, Cl. 343—7.
Hobbs, Ralph E., Jr.: *See*—
McMorrow, Philip E., and Hobbs. 3,403,423.
Hoey, Raymond M., and D. Patience, to The Kendall Co. Sanitary napkin. 3,403,681, 10–1–68, Cl. 128—290.
Hofer, Gerald: *See*—
Eheim, Franz, and Hofer. 3,403,629.
Hoff Chemical Corp.: *See*—
Hoff, Jean M. 3,403,993.
Hoff, Francis L., to FMC Coorp. Air-heating system for heat-sealing containers. 3,404,257, 10–1–68, Cl. 219—374.
Hoff, Jean M., to Hoff Chemical Corp. Shaped block of a sublimable material containing root killing compounds for use in sewer lines. 3,403,993, 10–1–68, Cl. 71—65.
Hoffmann, Friedrich, to Rheinische Kalkstein-Werke G.m.b.H. Heating process is a rotary kiln. 3,404,199, 10–1–68, Cl. 263—52.
Holcomb, Ora L., Jr., to The Bendix Corp. Disc element construction for disc brake. 3,403,759, 10–1–68, Cl. 188—218.
Holcombe, Harry J., to General Motors Corp. Transmission. 3,403,568, 10–1–68, Cl. 74—333.
Holder, Lorrain A. Tire stud and method for installing same. 3,403,435, 10–1–68, Cl. 29—450.
Holderman, Jim D. Self-wringing mop. 3,403,959, 10–1–68, Cl. 401—148.
Hollatz, Arthur C., to National Union Electric Corp. Fan housing attaching means. 3,403,879, 10–1–68, Cl. 248—223.
Holzinger, Rudolph J., to Mobil Oil Corp. Fire-fighting process and preparation of same. 3,404,089, 10–1–68, Cl. 252—2.
Honeywell Inc.: *See*—
Allen, Harry R., Jr. 3,404,342.
Boskovich, Boris, and Larson. 3,403,874.
Burrows, Christopher E., and Mills. 3,404,374.
Myers, Edward B. 3,403,887.
Shiiki, Akira. 3,403,692.

Hoogendonk, William P., to E. I. du Pont de Nemours and Co. Potassium cyanozincate as catalyst in the preparation of polyesters. 3,404,129, 10–1–68, Cl. 260—75.

Hooker Chemical Corp.: *See*—
Dill, Gaillard W. 3,404,043.
Kircher, Morton S. 3,404,083.
Lindemann, Otto H. 3,404,024.
Russell, William S. 3,404,044.
Russell, William S., and Farina. 3,404,046.

Hooten, Robert L., to The Bendix Corp. Disc brake. 3,403,753, 10–1–68, Cl. 188—70.

Hopkins, Blake, to Binks Mfg. Co. Spray painting apparatus with separate solvent material cleaning means. 3,403,695, 10–1–68, Cl. 137—240.

Horsch, Richard P.: *See*—
Sheffer, Marcus B. 3,403,428.

Horsewell, Henry G., and T. W. C. Tolman, to Brown and Williamson Tobacco Corp. Filters for tobacco smoke. 3,403,690, 10–1–68, Cl. 131—267.

Horst, Tallmon E. Rebounding device for half-court shuffleboard. 3,403,911, 10–1–68, Cl. 273—126.

Horváth, Albert: *See*—
Fekete, Sándor, Horváth, Sever, and Szalo. 3,403,995.

Houdaille Industries, Inc.: *See*—
Cormican, Russell C., and Keene. 3,403,864.

Howard, Donald K.: *See*—
Aiken, John K., and Howard. 3,404,075.

Howells, Roger A.: *See*—
Berreth, Raymond L., Howells, Klee, and Miller. 3,403,527.

Howitt, Roy W., to Computer Instruments Corp. Pointer assembly. 3,403,657, 10–1–68, Cl. 116—129.

Howland, George R.: *See*—
Eastman, James M., and Howland. 3,403,509.

Howmet Corp.: *See*—
Baldwin, Leoniel C. 3,404,056.

Hu, Hsun: *See*—
Goodman, Stephen R., and Hu. 3,404,047.

Hubbard, Bobby G., to Weltronic Co. Control circuit. 3,404,251, 10–1–68, Cl. 219—108.

Hubbard, Bobby G. Ring counter. 3,404,287, 10–1–68, Cl. 307—223.

Huber, Richard. Ventilated wardrobe. 3,403,613, 10–1–68, Cl. 98—39.

Hudecek, Carl J.: *See*—
Brookover, George B., Hudecek, and Oliver. 3,404,213.

Hudson Optical Corp.: *See*—
Gross, Robert. 3,403,958.

Huet, Henri: *See*—
Delange, Maurice, Huet, and Vertes. 3,403,986.

Hughes Aircraft Co.: *See*—
Eschner, Albert, Jr. 3,404,399.
Snyder, Richard L. 3,404,375.
Snyder, Richard L. 3,404,384.

Hughes, Graham K., to Ashland Oil & Refining Co. Mono- and dialkoxyalkyl quaternary ammonium compounds. 3,404,183, 10–1–68, Cl. 260—567.6.

Hughes, Norman J., to United-Carr, Inc. Flanged insert with retaining means. 3,403,718, 10–1–68, Cl. 151—41.73.

Hulm, John M. Safety receptacle. 3,403,714, 10–1–68, Cl. 150—.5.

Hulsing, Kenneth L., to General Motors Corp. External spring needle valve fuel injector. 3,403,632, 10–1–68, Cl. 103—154.

Hunt, Thomas, to The Distillers Co. Ltd. Water dilutable salts of addition copolymers of (1) an acid, (2) an ether, (3) a carboxyl-free monomer and (4) a drying oil acid or adduct thereof. 3,404,110, 10–1–68, Cl. 260—23.5.

Hurwitz, Paul D., to Sherman Car Wash Equipment Co. Automotive vehicle washing unit. 3,403,416, 10–1–68, Cl. 15—21.

Hurwitz, Sol: *See*—
Simson, Walter A., and Hurwitz. 3,403,621.

Hüter, Ludwig, and M. Petzold, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Method for the production of unsaturated aliphatic aldehydes, unsaturated heterocyclic aldehydes and aromatic aldehydes. 3,404,155, 10–1–68, Cl. 260—297.

IGLA, Narodni Podnik: *See*—
Supitar, Petr. 3,403,647.

IRC, Inc.: *See*—
Wood, George W. 3,404,361.

Ianuzzi, Joseph N.: *See*—
Bryner, Ernest J., and Ianuzzi. 3,404,370.

Ihara, Hiroshi, to Nippon Electric Co. Ltd. System for interrogating and detecting the contents of an associative memory device. 3,404,385, 10–1–68, Cl. 340—174.

Illinois Milling, Inc.: *See*—
Liebig, Joseph M. 3,403,918.

Imperial Chemical Industries Ltd.: *See*—
Harper, Harold R., and Mather. 3,404,119.

Impola, Clarence N., and R. H. Leithelser, to Ashland Oil & Refining Co. Waterproofing of porous silicious materials. 3,403,608, 10–1–68, Cl. 94—25.

Improved Machinery, Inc.: *See*—
Luthi, Oscar. 3,403,786.

Inabi, Kunzi, to Yamamoto Machinery Works Co., Ltd. Yarn feeding means for raschel knitting machines. 3,403,536, 10–1–68, Cl. 66—86.

Inami, Yonemaru H., to Philco-Ford Corp. Battery separator for a fused salt battery and method of making same. 3,404,041, 10–1–68, Cl. 136—146.

Industrial Dyestuff Co.: *See*—
Tobey, Paul L. 3,404,005.

Industrial Nucleonics Corp.: *See*—
Campanella, Angelo J. 3,404,276.
Chope, Henry R. 3,404,278.

Ingemarsson, Gosta I., to Aktiebolaget Karlstads Mekaniska Werkstad. Apparatus for cleaning and fractionating a pulp suspension. 3,404,065, 10–1–68, Cl. 162—233.

Ingrams Food Products Co.: *See*—
Eolkin, Dave. 3,404,011.

Inland Container Corp.: *See*—
Schwaner, Jon M. 3,403,835.

Institut Francois du Petrole, des Carburants et Lubrifiants: *See*—
Clement, Genevieve, Rebeller, and Zarrouk. 3,403,471.

Interchemical Corp.: *See*—
Dooley, Joseph A., and Faccone. 3,404,029.

International Business Machines Corp.: *See*—
Brown, Paul J. 3,404,376.
Hailey, Robert R., Laurer, and Simpson. 3,404,230.
Jueneman, Robert R. 3,403,955.
Sordello, Frank J. 3,404,392.

International Chemical & Nuclear Corp.: *See*—
Jerko, David A. 3,404,277.

International Harvester Co.: *See*—
Barrett, Robert D., and Raciunas. 3,403,754.
Barrett, Robert D., and Rohrbacher. 3,403,755.
Ralston, William K., and Barfield. 3,403,619.

International Nickel Co., Inc., The: *See*—
Badia, Frank A. 3,403,997.

International Standard Electric Corp.: *See*—
Arditi, Maurice. 3,404,401.
Gill, Ronald Y. 3,404,050.
Jespers, Paul G. A., and Chu. 3,404,261.
Keller, Hans. 3,404,356.
Mash, Derek H. 3,404,320.
Sindzinski, Willy, and Stiller. 3,403,790.

International Steel Co.: *See*—
Sheckells, Amuel E. 3,403,571.

International Telephone and Telegraph Corp.: *See*—
Bassett, Raymond C. 3,404,394.
Murgio, Joseph M. 3,404,380.
Shanefield, Daniel J., and Currier. 3,404,049.
Vallese, Lucio M., and De Rosa. 3,404,265.
Vallese, Lucio M., and Shostak. 3,404,403.
Williams, Edward L. 3,404,310.

Iowa State University Research Foundation, Inc.: *See*—
Bolle, Victor W. 3,403,678.

Ipsen, Peter G.: *See*—
Eggenberger, Markus A., Ipsen, and Troutman. 3,403,892.

Itoh, Shinya, K. Kanno, K. Wakamatsu, and R. Nakagawa, to Toyo Rayon Kabushiki Kaisha. Dyeing metal-modified polyolefins with O'-(alkyl- and arylaminocarbonyl-) and O'-cyanoazopyrazolone dyes. 3,403,966, 10–1–68, Cl. 8—4.

Jaasma, Wilbur C., to Ethyl Corp. Tetraalkyllead recovery process. 3,403,495, 10–1–68, Cl. 55—72.

Jackson, John E.: *See*—
Anderson, John E., Jackson, and Baird. 3,404,253.

Jacobs, Lewis W., J. J. Mrowka, and R. J. Sabatella, to General Electric Co. Panel board contact assembly. 3,404,315, 10–1–68, Cl. 317—119.

Jacobs, Lewis W., to General Electric Co. Circuit breaker segregation system. 3,404,316, 10–1–68, Cl. 317—119.

Jacobson, David E., and S. Y. Ek, to Wegematic Corp. Wear reduction additives. 3,403,625, 10–1–68, Cl. 102—38.

Jacobson, David E., and S. Y. Ek, to Wegematic Corp. Wear reduction additives. 3,403,626, 10–1–68, Cl. 102—38.

Jacobson, Norman, and H. Takashima, to Esso Research and Engineering Co. Polymers containing urethane groups as multifunctional V.I. improvers. 3,404,092, 10–1–68, Cl. 252—51.5.

Jaekel, Robert F., and J. K. Wayne, to United Aircraft Corp. Engine ignition system. 3,403,511, 10–1–68, Cl. 60—39.82.

Jaffe, Hans, and D. A. Berlincourt, to Clevite Corp. Transducer having a transition from a ferroelectric state to an antiferroelectric state. 3,404,296, 10–1–68, Cl. 310—8.

Jahnes, Henry J., to Union Carbide Corp. Dispensing apparatus with plural oscillating movements. 3,403,827, 10–1–68, Cl. 222—362.

James, Walter H. K., to Fluidrive Engineering Co., Ltd. Scoop trimmed hydraulic turbocouplings. 3,403,514, 10–1–68, Cl. 60—54.

Janous, Donald F., to The Dole Valve Co. Element piston lubricator. 3,403,559, 10–1–68, Cl. 73—368.3.

Japan Exlan Co. Ltd.: *See*—
Nakagawa, Kazumi, Tsutsui, and Zoda. 3,403,422.

Jaquay, Louis H.: *See*—
Hatfield, Paul E., and Jaquay. 3,403,895.

Jaquish, Paul E., Jr., to General Motors Corp. Power drive mechanism. 3,403,513, 10–1–68, Cl. 60—53.

Jarrett, Kenneth L. Attachment for sewing machine. 3,403,648, 10–1–68, Cl. 112—130.

Jaworski, Leonard S., to The Bishop and Babcock Corp. Method of making a nut impression to effect a liquid-tight seal with a screw. 3,403,437, 10–1–68, Cl. 29—481.

Jelínek, Vaclav: *See*—
Hebký, Jaromir, Jelínek, and Karásek. 3,404,143.

Jerko, David A., to International Chemical & Nuclear Corp. Constant velocity drive for Mossbauer effect analyzer. 3,404,277, 10–1–68, Cl. 250—106.

Jespers, Paul G. A., and P. T. Chu, to International Standard Electric Corp. Conelation apparatus for computing time averages of functions. 3,404,261, 10–1–68, Cl. 235—181.

Jetru Inc.: *See*—
Ratliff, Harvey L., Jr. 3,403,576.

Johann, Bernard O.: *See*—
Armstrong, James E., and Johann. 3,403,808.

Johnson, Alvin E., to General Motors Corp. Machine way guards. 3,403,947, 10–1–68, Cl. 308—3.5.

Johnson, Bobby L., to The Boeing Co. Alloy for metallizing ceramics. 3,404,013, 10–1–68, Cl. 106—1.

Johnson, Henry W., Jr., to Shell Oil Co. Analyzing varying signals. 3,404,260, 10–1–68. Cl. 235—151.35.

Johnson & Johnson: *See*—
Denny, Thomas A. 3,403,776.
Marchisen, Joseph, Philippi, and Vanoni. 3,403,869.

Johnson, Lloyd H., and R. L. Carson, to General Electric Co. Full arc/partial arc admission using control valves. 3,403,891, 10–1–68, Cl. 253—59.

Johnson, Richard G., to Alltronics, Inc. Traveling-wave tube focusing field straightener. 3,404,306, 10–1–68, Cl. 315—3.5.

Jolly, Stuart T.: *See*—
Montgomery, Donald H., and Jolly. 3,404,386.

Jones, Berlin L., and J. A. Combination waste and soiled clothes receptacle for an automobile. 3,403,830, 10–1–68, Cl. 224—29.

Jones, Daniel G.: *See*—
Frilette, Vincent J., and Jones. 3,403,975.

Jones, Derrick A., to Minnesota Mining and Mfg. Co. Method and apparatus for engraving a generally cross-sectionally circular shaped body by a corpuscular beam. 3,404,254, 10–1–68, Cl. 219—121.

Jones, Jane A.: *See*—
Jones, Berlin L. 3,403,830.

Jones, Robert L., and F. D. Hazen, to Hazen Engineering Co. Spray and negative pressure cooling system. 3,403,726, 10–1–68, Cl. 165—142.

Josam Mfg. Co.: *See*—
Kennedy, Joseph T., and Scheuer. 3,403,809.

Ju, Howard. Fishhook device. 3,403,467, 10–1–68, Cl. 43—15.

Jueneman, Robert R., to International Business Machines Corp. Radiant energy conductor with diffusing surface. 3,403,955, 10–1–68, Cl. 350—96.

Jury, Claude L., Jr.: *See*—
Retherford, Curtis A., and Jury. 3,403,709.

Kabushiki Kaisha Tokyo Keiki Seizosho (Tokyo Keiki Seizosho Co., Ltd.): *See*—
Kawada, Shin-Ichi. 3,404,359.

Kabushiki Kaisha Yokogawa Denki Seisakusho (Yokogawa Electric Works Ltd.): *See*—
Tomota, Miyaji, Sasaoka, and Hashimoto. 3,404,330.

Kahane, Wilhelm, M. Efros, and N. Efros. Method of handling and protecting harvested tobacco leaves from radioisotope contamination. 3,403,687, 10–1–68, Cl. 131—140.

Kahane, Wilhelm, M. Efros, and N. Efros. Treating of tobacco leaves. 3,403,688, 10–1–68, Cl. 131—140.

Kaiser Aluminum & Chemical Corp.: *See*—
Cummings, Errol W., and Peterson, 3,404,081.
Henkie, Richard W. 3,404,082.

Kaltenegger, Benno. Tandem road roller. 3,403,610, 10–1–68, Cl. 94—50.

Kambara, Shu, I. Fukuoka, and S. Kimura, to Denki Kagaku Kogyo Kabushiki Kaisha. Method of treating mercaptan modified polychloroprene rubbers with acrylonitrile. 3,404,115, 10–1–68, Cl. 260—29.7.

Kamijo, Tautomu: *See*—
Fukumoto, Osamu, Kubo, and Kamijo. 3,404,140.

Kanno, Katsuo: *See*—
Itoh, Shinya, Kanno, Wakamatsu, and Nakagawa. 3,403,966.

Kant, Alvin W., to American Tractor Equipment Corp. Cable plow. 3,403,521, 10–1–68, Cl. 61—72.6.

Kaplan, Leonard A., and O. P. Hart, to Radio Corp. of America. Gain controlled amplifier using multiple gate field-effect transistor as the active element thereof. 3,404,347, 10–1–68, Cl. 330—29.

Kaplan, Lloyd: *See*—
Oesterling, Robert E., Dacons, and Kaplan. 3,404,184.

Karásek, Miroslav: *See*—
Hebký, Jaromir, Jelínek, and Karásek. 3,404,143.

Kautny, Fritz, and R. Hemersan, to Firma Bunzl & Biach Aktiengesellschaft. Solvent bonding of fiber fleeces including shock-like heat treatment prior to complete vaporization of solvent. 3,403,969, 10–1–68, Cl. 8—130.1.

Kawada, Shin-Ichi, to Kabushiki Kaisha Tokyo Keiki Seizosho (Tokyo Keiki Seizosho Co., Ltd.). Control signal generator for step motor. 3,404,359, 10–1–68. Cl. 336—135.

Keeler and Dunkel, Inc.: *See*—
Lane, John. 3,403,465.

Keene, Charles B.: *See*—
Cormican, Russell C., and Keene. 3,403,864.

Keeney, Bill R., to Halliburton Co. Corrosion inhibitor composition. 3,404,094, 10–1–68, Cl. 252—148.

Kehe, Alfred W., to Continental Can Co., Inc. Tape sealed container. 3,403,810, 10–1–68, Cl. 220—53.

Keller, Clara M. Floating target and disc game apparatus. 3,403,907, 10–1–68, Cl. 273—95.

Keller, Hans, International Standard Electric Corp. Housing for a semiconductor diode. 3,404,356, 10–1–68, Cl. 333—83.

Kelly, Donald A. Stirling cycle engine with wave-cam means interconnecting pistons and drive shaft thereof. 3,403,508, 10–1–68, Cl. 60—24.

Kelly, William D. Multiconductor cable and method of forming the same. 3,404,217, 10–1–68, Cl. 174—103.

Kelsey-Hayes Co.: *See*—
Caskey, Kenneth C. 3,403,760.

Kendall Co., The: *See*—
Hoey, Raymond M., and Patience. 3,403,681.

Kennedy, Joseph T., and N. G. Scheuer, to Josam Mfg. Co. Vent pipe vandal-proof hooded vent cap. 3,403,809, 10–1–68, Cl. 220—44.

Kenton Engineering Corp.: *See*—
Roberts, Edward A. 3,404,298.

Kern, Gottlo, & Sohn: *See*—
Sauter, Martin. 3,403,741.

Kern, Werner, R. Schulz, and K. W. Passmann, to Deutsche Gold- und Silber-Scheidenstalt vormals Roessler. Production of copolymers of α,β-unsaturated aldehydes in a two step polymerization using two different catalysts. 3,404,133, 10–1–68, Cl. 260—73.

Kernforschungsanlage Julich des Landes Nordrhein-Westfalen-e.V.: *See*—
Knacke, Ottmar, Laser, Merz, and Riedel. 3,403,985.

Khol, Danny J., to Cermat. System for measuring the level of a liquid or pulverulent solid. 3,403,557, 10–1–68, Cl. 73—313.

Kidder, Richard J., to Beckman Instruments, Inc. Apparatus for measuring electrical conductivity of a conducting medium capable of flowing in a conduit. 3,404,335, 10–1–68, Cl. 324—30.

Kidney, Allan J., M. C. Hamlyn, and A. Owen, to Unilever Ltd. Method of making edible tubular products. 3,403,453, 10–1–68, Cl. 34—21.

Kilburn, Keith D., and H. F. D. Dymond, to Brown and Williamson Tobacco Corp. Flavorant incorporation in smoking tobacco. 3,403,686, 10–1–68, Cl. 131—17.

Kim, Jong-Dok, to Siemens Aktiengesellschaft. Pneumatic transport device. 3,403,904, 10–1–68, Cl. 271—27.

Kimura, Shoji: *See*—
Kambara, Shu, Fukuoka, and Kimura. 3,404,115.

King, Charles H.: *See*—
Buehler, Walter E., King, and Lunden. 3,404,396.

Kirby, Thomas E., Jr.: *See*—
Becker, William C., Bailey, and Kirby. 3,403,779.

Kircher, Morton S., to Hooker Chemical Corp. Cylindrical anode electrolytic structure. 3,404,083, 10–1–68, Cl. 204—272.

Klee, David J.: *See*—
Berreth, Raymond L., Howells, Klee, and Miller. 3,403,527.

Kleist, Robert A., to Dartex, Inc. Tape transport. 3,403,867, 10–1–68, Cl. 242—55.12.

Klimov, Nikolai S.: *See*—
Butaev, Filipp I., Klimov, Pertsev, Stepanov, Shemaev, and Shkolin. 3,403,301.

Klingenmaier, Otto J., to General Motors Corp. Iron plating method and composition. 3,404,074, 10–1–68, Cl. 204—25.

Klinger Mfg. Co. Ltd., The: *See*—
Mattingly, Denis A. E. 3,403,566.

Kljueva, Nina G., R. V. Krzhevova, R. V. Fradkina, N. N. Sukhareva, G. S. Zilberblat, and B. M. Parizh, to Gosudarstvenny Kontroiny Institut Meditsinskikh Biologicheskikh Preparatov im. L.A. Tarasevicha. Process for cultivating trypanosomes. 3,404,070, 10–1–68, Cl. 195—104.

Klor, Walter: *See*—
Braumann, Gundokar. Klor, and Rotter. 3,404,358.

Klun, Godfrey H., to Union Carbide Corp. Micro-valve. 3,403,698, 10–1–68, Cl. 137—614.11.

Knacke, Ottmar, M. Laser, E. Merz, and H.-J. Riedel, to Kernforschungsanlage Julich des Landes Nordrhein-Westfalen-e.V. Method of treating coated-particle nuclear-reactor fuels. 3,403,985, 10–1–68, Cl. 23—324.

Knap, James E.: *See*—
Privette, Walter R., and Knap. 3,404,188.

Knapp, Mary M., and H. J. Girard. Pipeline pig or swipe. 3,403,418, 10–1–68, Cl. 15—104.06.

Knapp, Mary M., and H. J. Girard. Pressure sealing pipe line pig. 3,403,701, 10–1–68, Cl. 137—802.

Knapsack Aktiengesellschaft: *See*—
Harnisch, Heinz, Cremer, and Hinz. 3,403,972.

Knickerbocker, Karl. Coin operated dispensing mechanism. 3,403,765, 10–1–68, Cl. 194—54.

Knowles, Frank W. Flake ice-making machine. 3,403,532, 10–1–68. Cl. 62—347.

Kober, Ehrenfried H., and G. F. Ottmann, to Olin Mathieson Chemical Corp. Ethers of hydroxyalkyl phosphine oxides and the preparation thereof. 3,404,187, 10–1–68, Cl. 260—606.5.

Koester, Norman C., to "Automatic" Sprinkler Corp. Flow measuring device. 3,403,556, 10–1–68, Cl. 73—207.

Kohler, Ernst, to Robert Bosch G.m.b.H. Distributor cap for an ignition distributor consisting of thermoplastic synthetic material. 3,404,245, 10–1–68, Cl. 200—19.

Koonz, Carl H., E. J. Strandine, and E. Eagle, to Swift & Co. Method of preventing breast blisters in poultry. 3,403,683, 10–1–68, Cl. 128—303.14.

Korry Mfg. Co.: *See*—
Amis, James W., Jr., and Anderson. 3,404,244.

Kosiorek, Raymond, to Hercules Inc. Satin finish vitrifiable enamels. 3,404,027, 10–1–68, Cl. 117—124.

Kottke, Roger H.: *See*—
Guyer, Vernon L., and Kottke. 3,404,118.

Kovach, Stephen M., to Sinclair Research, Inc. Process for selective hydrogenation of olefins with deactivated zeolite catalyst. 3,404,192, 10–1–68, Cl. 260—676.

Kovats, William S., to G & W Electric Specialty Co. Spring energized switch operator with roller type stop and release elements. 3,403,565, 10–1–68. Cl. 74—97.

Koziatek, Jerome P.: *See*—
Matsuoka, James T., and Koziatek. 3,403,894.

Krank, Wolfgang, G. Schickle, and E. Schuttloffel, to Telefunken Patentverwertungsgesellschaft m.b.H. Waveguide. 3,404,357, 10–1–68, Cl. 333—95.

Kratochvil, Jiri: *See*—
Petrik, Milos, and Kratochvil. 3,403,548.

Kreeger, Elsmer W., to Pinckney Molded Plastics, Inc. Nest and stack trays. 3,403,788, 10–1–68, Cl. 211—126.

Kresge, Edward N.: *See*—
Takashima, Herbert, Kresge, and Brownawell. 3,404,091.

Kretzschmann, Richard K., to Hercules Inc. Discharge valve for a container. 3,403,885. 10–1–68. Cl. 251—63.5.

Krieger, Darwin, and H. E. Wortz, to The Bendix Corp. Tilting valve master cylinder. 3,403,516, 10–1–68, Cl. 60—54.6.

Krieger, Friedrich, and A. Pascher, to Siemens Aktiengesellschaft. Overload protection of pressure sensitive transducer. 3,404,243, 10–1–68, Cl. 179—110.

Kronoff, Clarence R.: *See*—
Shackleton, John D., Jr., and Kronoff. 3,403,706.

Krzhevova, Rita V.: *See*—
Kljueva, Nina G., Krzhevova, Fradkina, Sukhareva, Zilberblat, and Parizh. 3,404,070.

Kubo, Masayoshi: *See*—
Fukumoto, Osamu, Kubo, and Kamijo. 3,404,140.

Kubota, Yoshitake: *See*—
Matsudaira, Nobutaka, Muto, Kubota, Yoshimoto, and Sato. 3,404,103.

Kugler, Carl J., to American Meter Co., Inc. Telemetering system for determining rate of flow. 3,404,264, 10–1–68, Cl. 235—194.

Kuhn, Stephen J., to Dow Chemical Co. Method for the preparation of nitronium salts. 3,403,987, 10–1–68, Cl. 23—356.

Kulhavy, Joseph A., to J. I. Case Co. Draft control system for tractor drawn implements. 3,403,736, 10–1–68, Cl. 172—9.

Kummer, Joseph T., and N. Weber, to Ford Motor Co. Secondary battery employing molten alkali metal reactant. 3,404,033, 10–1–68, Cl. 136—6.

Kummer, Joseph T., and N. Weber, to Ford Motor Co. Energy conversion device comprising a solid crystalline electrolyte and a solid reaction zone separator. 3,404,036, 10–1–68, Cl. 136—6.

Kurosawa, Toshio, H. Shiba, I. Sabaki, and T. Yanagawa, to Nippon Electric Co. Ltd. Transistor body enclosing a submerged integrated resistor. 3,404,321, 10–1–68, Cl. 317—235.

Kurtz, Alexander, and D. E. Sheldon, to United Aircraft Corp. Exhaust nozzle actuation system. 3,403,858, 10–1–68, Cl. 239—265.39.

Kutcher, Eugene R., to TRW Inc. Pressure relief boot seal. 3,403,932, 10–1–68, Cl. 287—87.

Kwok, Clyde C. K.: *See*—
Hayes, William F., Ashikian, and Kwok. 3,403,691.

L.M.P. Lavorazione Materie Plastiche S.p.A.: *See*—
Colombo, Roberto. 3,403,804.

La Boda, Mitchell A.: *See*—
Doty, Warren R., and La Boda. 3,404,077.

Labrie, Gerald H., to Labrie & Labrie Associates. Implement for selectively dislodging a single electrical wire from a bundle of insulated electrical wires and circuit testing the same. 3,404,340, 10–1–68, Cl. 324—72.5.

Labrie & Labrie Associates: *See*—
Labrie, Gerald H. 3,404,340.

La Crosse Cooler Co.: *See*—
Brindley, Richard B. 3,403,526.

Laendle, Karl W., to General Electric Co. Thermoplastic film composition. 3,404,033, 10–1–68, Cl. 117—217.

Laffitte, Paul F.: *See*—
Delbourgo, Ralph D., Fonlatier, Laffitte, Meneret, and Minjolle. 3,403,964.

Lagg, Jerry W. Teabag dipper. 3,403,618, 10–1–68, Cl. 99—321.

Lakme, Claude: *See*—
Chevalier, Henri, Lakme, and Max. 3,403,554.

Lakodey, Andre: *See*—
Weiss, Francis, Modiano, and Lakodey. 3,404,179.

Lamare, Charles-Louis V.: *See*—
Ahlander, Karl-Gustav M., and Lamare. 3,403,496.

Lambert, Douglas R. M., and J. M. Sharkey, to National Dairy Products Corp. Method of and apparatus for conditioning cheese curd. 3,404,009, 10–1–68, Cl. 99—116.

Lamborn, Bayard T., to Hercules Inc. Process for improving trivalent titanium catalysts. 3,404,096, 10–1–68, Cl. 252—429.

La Morte, Howard W., and L. McIsaac, to Vita-Pakt Citrus Products Co. Telescoping tray for retractable display rack. 3,403,789, 10–1–68, Cl. 211—150.

Lampe, Willy G., to Universal Oil Products Co. Apparatus for piercing containers for use in beverage producing machines. 3,403,617, 10–1–68, Cl. 99—295.

Lamprey, Headlee: *See*—
Culbertson, James B., and Lamprey. 3,403,970.

Landis, Bruce B.: *See*—
Atkinson, William G., Jr., De Soto, Landis, and Paredes. 3,404,259.

Landis, H. Richard, and S. J. Grzych, to Landis Tile & Mfg. Corp. Liquid dispensing appartaus. 3,403,820, 10–1–68, Cl. 222—61.

Landis Tile & Mfg. Corp.: *See*—
Landis, H. Richard, and Grzych. 3,403,820.

Lane, John, to Keeler and Dunkel, Inc. Dissolve motion display. 3,403,465, 10–1–68, Cl. 40—65.

Langer, Arthur W., Jr.: *See*—
Forster, Eric O., and Langer. 3,404,042.

Langhjelm, Henrik G., C. Di Giola, and F. Bergishagen. Adjustable variable pitch propeller. 3,403,735, 10–1–68, Cl. 170—160.51.

Lape, William H., to Textile Machine Works. Vertical stacker. 3,403,792, 10–1–68, Cl. 214—6.

Larson, Arthur G., and D. D. Day, to McQuay, Inc. Anti-reverse motor. 3,403,570, 10–1–68, Cl. 74—411.5.

Larson, Charles O., to Charles O. Larson Co. Staple structure. 3,403,592, 10–1–68, Cl. 85—49.

Larson, Charles O., Co.: *See*—
Larson, Charles O. 3,403,592.

Larson, John C.: *See*—
Boskovich, Boris, and Larson. 3,403,874.

Larue, Pierre, to Office National d'Etudes et de Recherches Aerospatiales. Solid propellant rocket motors of spherical shape. 3,403,518, 10–1–68, Cl. 60—253.

Laser, Manfred: *See*—
Knacke, Ottmar, Laser, Merz, and Riedel. 3,403,985.

Lassig, Wolfgang: *See*—
Muller-Bardorff, Wolfgang, and Lassig. 3,404,017.

Latham, Raymond E.: *See*—
Crain, Robert L., and Latham. 3,403,931.

Lauck, Lawrence J., to United Aircraft Corp. Removable and replaceable fuel nozzle holder assembly for an annular combustion burner. 3,403,510, 10–1–68, Cl. 60—39.74.

Laughlin, William D. Stabilizer and tensioning means for trailer hitch. 3,403,928, 10–1–68, Cl. 280—406.

Laurer, George J.: *See*—
Hailey, Robert R., Laurer, and Simpson. 3,404,230.

Lautenschlager, Alfred J., to Oerlikon-Buhrle Holding Ltd. Apparatus for bringing two stationary gearwheels into engagement with one another on a lapping or testing machine. 3,403,569, 10–1–68, Cl. 74—388.

La Violette, Roy F. Video tape monitor with longitudinal scanning of transverse video track. 3,404,223, 10–1–68, Cl. 178—6.6.

Lawson, William S., Jr., and P. F. Sigl, to Eastman Kodak Co. Film drive unit. 3,403,831, 10–1–68, Cl. 226—62.

Lear Jet Industries, Inc.: *See*—
Lear, William P. 3,403,868.

Lear Siegler, Inc.: *See*—
Rosenheck, Albert D., and Maure. 3,404,382.

Lear, William P., to Lear Jet Industries, Inc. Magnetic tape cartridge system. 3,403,868, 10–1–68, Cl. 242—55.19.

Leblans, Louis A. L.: *See*—
Croymans, Jacques J. H., and Leblans. 3,404,300.

Lee, Arthur L., and A. B. Coval, to Consolidation Coal Co. Flexible shuttle car. 3,403,797, 10–1–68, Cl. 214—83.36.

Lee, Donald E., and E. Csendes, to Armour Agricultural Chemical Co. Water-soluble polyphosphoric acid and calcium salts derived therefrom. 3,403,973, 10–1–68, Cl. 23—109.

Lee, William F. Carding machines. 3,403,424, 10–1–68, Cl. 19—107.

Leesona Corp.: *See*—
Bell, Charles C., and Niederer. 3,403,866.

Lefeber, Jan: *See*—
Repko, Jan D., Verheijdene, and Lefeber. 3,404,322.

Lefort, Marcel J. C.: *See*—
Galgnon, Maurice H. R. J., and Lefort. 3,404,169.

Lehovec, Kurt,and H. Schier, to Sprague Electric Co. Method for inspecting semiconductor devices using electron mirror microscopy. 3,404,271, 10–1–68, Cl. 250—49.5.

Leissner, William R., to Applied Power Industries, Inc. Seal for rotating shaft. 3,403,949, 10–1–68, Cl. 308—187.1.

Leitheiser, Robert H.: *See*—
Impola, Clarence N., and Leitheiser. 3,403,608.

Lemcke, Walter K., and H. E. Reeck, to Auergesellschaft G.m.b.H. Oxygen producing canister. 3,403,981, 10–1–68, Cl. 23—281.

Lemelson, Jerome H. Sealing and bonding device. 3,403,717, 10–1–68, Cl. 151—37.

Lennox Industries, Inc.: *See*—
Parker, Sidney A. 3,403,846.
Parker, Sidney A. 3,403,847.

Lents, Charles M.: *See*—
Bauer, Earl J., and Lents. 3,403,523.

Lenz, Hans P.: *See*—
Berchtold, Max, and Lenz. 3,403,664.

Lerner, Irving: *See*—
Schrader, Malcolm E., and Lerner. 3,404,023.

Les Usines de Melle (Societe Anonyme): *See*—
Mercier, Jules. 3,404,175.

Lesher, George Y., to Sterling Drug Inc. Preparation of 7-[mono-or di-(acyloxy)methyl]-4-hydroxy-1,8-naphthyridines and derivatives thereof. 3,404,153, 10–1–68, Cl. 260—295.5.

Levin, Nathan D., to Admiral Corp. Color tube with mask interior peripheral shield of treated steel foil for improved heat radiation. 3,404,303, 10–1–68, Cl. 313—89.

Lewis, Richard L., to The Bendix Corp. Vortex valve control for master cylinder. 3,403,517, 10–1–68, Cl. 60—54.6.

Lhermite, Pierre J., to Societe Industrielle Bull-General Electric (Societe Anonyme). Circuit arrangement for exploiting reading signals. 3,404,379, 10–1–68, Cl. 340—172.5.

Lich, Richard L., to General Steel Industries, Inc. Variable gauge railway truck. 3,403,637, 10–1–68, Cl. 105—178.

Liebig, Joseph M., to Illinois Milling, Inc. Valve seal. 3,403,918, 10–1–68, Cl. 277—152.

Lifeber, Jan: *See*—
Repko, Jan D., Verheijden, and Lifeber. 3,404,322.

Light, James W., to General Motors Corp. Door construction. 3,403,477, 10–1–68, Cl. 49—486.

Lincoln Electric Co. Ltd.: *See*—
Sevenco, Alexander J. 3,404,329.

Lincoln, Herbert R.: *See*—
Windsor, Meredith M., and Lincoln. 3,403,848.

Linde Aktiengesellschaft: *See*—
Becker, Rudolf. 3,403,727.

Lindemann, Martin K., and R. P. Volpe, to Air Reduction Co., Inc. Paper coating composition containing vinyl acetate-ethylene-triallyl cyanurate terpolymers and coated product formed therefrom. 3,404,112, 10–1–68, Cl. 260—29.6.

Lindemann, Martin K., and R. P. Volpe, to Air Reduction Co., Inc. Aqueous coating composition containing vinyl acetate-ethylene-triallyl cyanurate terpolymer. 3,404,113, 10–1–68, Cl. 260—29.6.

Lindemann, Otto H., to Hooker Chemical Corp. Method of dip coating. 3,404,024, 10–1–68, Cl. 117—113.

Lindmayer, Joseph, and C. Y. Wrigley, to Sprague Electric Co. Negative resistance diode. 3,404,318, 10–1–68, Cl. 317—234.

Lindqvist, Artur R., to AB Grythyttans Stalmobler. Inclinable rocking chair. 3,403,882, 10–1–68, Cl. 248—373.

Lippmann, Seymour A.: *See*—
Stiebel, Ariel I., and Lippmann. 3,403,684.

Lipscombe, John A., to Walton Engineering Co. Ltd. Thermostat elements. 3,403,560, 10–1–68, Cl. 73—368.3.

Lisle Corp.: *See*—
Pool, James L., and Graham. 3,404,337.

List, Hans, R. Zelringer, and R. Hatschek, said Zelringer and said Hatschek assors. to said List. Pressure-metering device. 3,403,561, 10–1–68, Cl. 73—389.

Lithonia Lighting, Inc.: *See*—
Meckler, Gershon. 3,403,728.

Litterio, Frank R. Automatic repetitive liquid-liquid extractor. 3,403,980, 10–1–68, Cl. 23—267.

Livingston, Richard D., to Barber-Colman Co. Apparatus for loading bobbins and the like. 3,403,494, 10–1–68, Cl. 53—246.

Lloyd Register and Grille Co., Ltd.: *See*—
Dayus, Lloyd G. 3,403,615.

Loesch, Claude E., and L. J. Livestock feeder using open ended reciprocating trough. 3,403,773, 10–1–68, Cl. 198—52.

Loesch, Leo J.: *See*—
Loesch, Claude E., and L. J. 3,403,773.

Lohrenz, Victor: *See*—
Wheeler, Donald J., and Lohrenz. 3,403,833.

Lopez, Ralph. Apparatus for stacking and unstacking articles. 3,403,794, 10–1–68, Cl. 214—16.6.

Loralin Products Corp.: *See*—
Plow, Robert J. 3,404,328.

Loughren, Arthur V. Controlled ink-jet copy-reproducing apparatus. 3,404,221, 10–1–68, Cl. 178—5.2.

Lubrizol Corp., The: *See*—
Coulman, William J. T., Jr. 3,404,045.

Luedtke, Roy H. Metal window construction. 3,403,490, 10–1–68, Cl. 52—213.

Lukas, Edwin J.: *See*—
Baker, Harold L. 3,403,641.

Lundell, Vernon J. Farm tractor. 3,403,802, 10–1–68, Cl. 214—778.

Lunden, Clarence D.: *See*—
Buehler, Walter E., King, and Lunden. 3,404,396.

Luthi, Oscar, to Improved Machinery, Inc. Rotary drum filter. 3,403,786, 10–1–68, Cl. 210—217.

Lynch, George E.: *See*—
Threadgold, Ronald, Hartley, Bell, Lynch, Blnes and Pate. 3,404,378.

M. A. N. Turbo G.m.b.H.: *See*—
Herrmann, Bruno. 3,403,734.

MacBlane, James H. Electromagnetic conveyor motor. 3,404,299, 10–1–68, Cl. 310—17.

Maci, Raymond J., and J. W. Schmidt, to General Motors Corp. Transmission. 3,403,583, 10–1–68, Cl. 74—720.5.

Mack, Jules A., and K. C. Tompers, to Superior Continental Corp. Terminal device for wire or cable facilities. 3,404,212, 10–1–68, Cl. 174—38.

MacLaughlin, Lucius T. Window swab. 3,403,420, 10–1–68, Cl. 15—244.

MacLeod, Norman A., 30% to R. W. Whann, and 10% to Frank F. Reed. Means and method for stimulating arterial and venous blood flow. 3,403,673, 10–1–68, Cl. 128—40.

MacSpadden, Floyd E., Jr., Robbins Aviation, Inc. Dynamic shaft sealing device. 3,403,917, 10–1–68, Cl. 277—110.

Mador, Irving L.: *See*—
Baba, Theodore B., and Mador. 3,404,177.

Maglaughlin, Edward P.: *See*—
Bailey, Walton W., Maglaughlin, and Nichols. 3,404,186.

Magnaflux Corp.: *See*—
Borrows, Paul Kenneth. 3,404,093.
Flaherty, John J., and Rosauer. 3,403,671.

Magne, Frank C.: *See*—
Skau, Vald L., Mod, and Magne. 3,404,145.
Skau, Vald L., Mod, and Magne. 3,404,146.

Magre, Dale M.: *See*—
Welch, Robert W., and Magre. 3,404,126.

Malec, Robert E.: *See*—
Betty, Roy J., and Malec. 3,404,090.

Malick, Emil A., to Phillips Petroleum Co. Wine preparation by fermenting a juice, concentrating the fermented product, and optionally fortifying the concentrate phosphinic and arsonic acids. 3,404,006, 10–1–68, Cl. 99—35.

Mallinckrodt Chemical Works: *See*—
Gerfen, Charles O., and Ruhoff. 3,403,983.

Malott, Thomas J., to General Signal Corp. Power steering system and control valve therefor. 3,403,512, 10–1–68, Cl. 60—52.

Mangood Corp.: *See*—
Brumbaugh, Robert T., Cromer, and Czyrk. 3,404,395.

Mann, Julius W., and G. F. Russell. Means for and process of approximating equalization of the residual moisture content within a sheet of veneer and the like. 3,403,450, 10–1–68, Cl. 34—1.

Manufacture d'Armes & Cycles de Chatellerdult: *See*—
Mouchet, Claude. 3,403,923.

Marathon Oil Co.: *See*—
Gotshall, William W. 3,404,019.
Gotshall, William W. 3,404,120.

Marchisen, Joseph, G. J. Philippi, and O. V. Vanoni, to Johnson & Johnson. Tape cartridge and dispenser. 3,403,869, 10–1–68, Cl. 242—55.53.

Marconi Co., Ltd., The: *See*—
Cooper, Victor J. 3,404,397.
Fewings, David J., and Pipe. 3,404,297.

Maremont Corp.: *See*—
Stiepel, Erhard E., and Wallace. 3,403,426.

Marker, Hannes: *See*—
Adam, Gunter. 3,403,920.

Markowitz, Isral J. Safety bottle closure. 3,403,803, 10–1–68, Cl. 215—9.

Marks, William M., and W. L. Brackin, to Dresser Industries, Inc. Pipe elevator for use with split block. 3,403,791, 10–1–68, Cl. 214—2.5.

Maroun, Louis P. Golf putter with attachable sighting device. 3,403,912, 10–1–68, Cl. 273—163.

Marschall, Henry L., to FMC Corp. Magnesia refractory and method of producing same. 3,404,016, 10–1–68, Cl. 106—60.

Marshall, Cecil L. Color television test apparatus. 3,404,334, 10–1–68, Cl. 324—20.

Marshall, Richard C. Air compressing apparatus. 3,403,845, 10–1–68, Cl. 230—190.

Martens, Vincent A., to Scovill Mfg. Co. Electric iron with pushbutton valve control mechanism for converting from dry to steam operation and vice versa. 3,403,464, 10–1–68, Cl. 38—77.

Martin, Jacob H.: *See*—
Burks, Darnall P., and Martin. 3,404,215.

Martinelli, Pierre, to Commissariat a l'Energie Atomique. Method of assaying and devices for the application of said method. 3,404,276, 10–1–68, Cl. 250—83.3.

Marx, Michael F., and R. G. Buscher, to United States of America, Navy. Frequency deviation sensing device. 3,404,345, 10–1–68, Cl. 328—141.

Mash, Derek H., to International Standard Electric Corp. Varactor diode with means for changing voltage-to-capacitance ratio. 3,404,320, 10–1–68, Cl. 317—234.

Mason, Frederick P., and J. W. Peters, to Creed & Co. Ltd. Telegraph line termination means with switching from high sampling rate to low sampling rate or detection of an incoming signal. 3,404,233, 10–1–68, Cl. 178—58.

Mason, Frederick P., to Creed & Co. Ltd. Keyboard blocking arrangement. 3,403,766, 10–1–68, Cl. 197—107.

Mason, Ralph B.: *See*—
Hamner, Glen P., and Mason. 3,404,085.

Massell, Edward M., and G. Hagedorn, to Electronic Associates Inc. Display system. 3,404,309, 10–1–68, Cl. 315—18.

Massey, Richard P.: *See*—
Harris, William B., Massey, and Zgebura. 3,404,293.

Masson, Robert G.: *See*—
Ollier, Jacques H. G., Grosshans, and Masson. 3,403,829.

Masters, Steven G., and W. D. Poats, to E. I. du Pont de Nemours and Co. Dryer seal. 3,403,457, 10–1–68, Cl. 34—242.

Matare, Herbert F., to McDonnell Douglas Corp. Modulated light detector. 3,404,279, 10–1–68, Cl. 250—199.

Mather, Leslie A.: *See*—
Harper, Harold R., and Mather. 3,404,119.

Mathes, Howard E., to The Procter & Gamble Co. Opening device for packages wrapped with shrinkable plastic films. 3,403,840, 10–1–68, Cl. 229—51.

Matsubara, Shozo: *See*—
Omori, Mineharu, Matsubara, Nakamura, and Harada. 3,403,440.

Matsudaira, Nobutaka, S. Muto, Y. Kubota, T. Yoshimoto, and S. Sato, to Bridgestone Tire Co. Ltd. Method of decomposing urethane polymer. 3,404,103, 10–1–68, Cl. 260—2.3.

Matsuoka, James T., and J. P. Koziatek, to Stewart Bolling & Co., Inc. Rotor and mixer. 3,403,894, 10–1–68, Cl. 259—104.

Matsushita Electric Industrial Co., Ltd.: *See*—
Hirota, Hozumi, and Yanase. 3,403,996.

Mattingly, Denis A. E., to The Klinger Mfg. Co. Ltd. Means for driving spindles. 3,403,566, 10–1–68, Cl. 74—210.

Maure, Douglas R.: *See*—
Rosenheck, Albert D., and Maure. 3,404,382.

Maurer, Dean W., and C. M. Pleass, to Bell Telephone Laboratories, Inc. Preparations of metal coated powders and cathode structures. 3,404,034, 10–1–68, Cl. 117—224.

Maurer, Hans W.: *See*—
Goos, Hanno, and Maurer. 3,404,071.

Max, Jaques: *See*—
Chevalier, Henri, Lakme, and Max. 3,403,554.

Maxey, Alexander R.: *See*—
Streets, John H., and Maxey. 3,404,241.

Mayer, Simon E.: *See*—
Gray, Robert D., and Mayer. 3,404,167.

Mayhew, Frank: *See*—
Williams, Thomas C., and Mayhew. 3,403,872.

Mayhew, Raymond L., and F. Grosser, to GAF Corp. Monohaloalkyl and polyhaloalkyl lactams. 3,404,147, 10–1–68, Cl. 260—239.3.

Mayrath, Martin. Snap-over belt tightener for conveyors. 3,403,774, 10–1–68, Cl. 198—213.

McCabe, Leo J., H. J. Andress, Jr., and F. M. Seger, to Mobil Oil Corp. Polymers having improved oxidation resistance. 3,404,123, 10–1–68, Cl. 260—45.8.

McCandless, Frank P.: *See*—
Blake, John H., and McCandless. 3,403,989.

McCann, Thomas A. Shoemaking apparatus. 3,403,415, 10–1–68, Cl. 12—1.

McCarney, Harold A. Football cleat. 3,403,461, 10–1–68, Cl. 36—67.
McCarter, Walter K., to Eagle-Picher Industries, Inc. Multiple cell thermal battery. 3,404,037, 10–1–68, Cl. 136—83.
McClinton, Arthur T.: *See*—
Gregory, John B., McClinton, and Whittington. 3,403,543.
McCutchen, George J.: *See*—
Tobey, Hubert E., and McCutchen. 3,403,768.
McDonald, Clarence A., to National Automatic Tool Co., Inc. Honing assembly including abrasive holder. 3,403,481, 10–1–68, Cl. 51—204.
McDonell, Timothy H. Incontinence devices. 3,403,682, 10–1–68, Cl. 128—295.
McDonnell Douglas Corp.: *See*—
Matare, Herbert F. 3,404,279.
Warren, Robert A. 3,403,749.
McElroy, Mary K.: *See*—
Hazel, James F., McNabb, and McElroy. 3,403,971.
McElroy, Francis J., J. M. Smith, Jr., and D. S. Allen, Jr., to American Cyanamid Co. Substituted pyrroloindazole compounds. 3,404,157, 10–1–68, Cl. 260—310.
McGehee, Maurice S., to United States of America, Navy. Volumetric compensator for temperature changes. 3,403,562, 10–1–68, Cl. 73—393.
McGlade, Wayne H.: *See*—
Fox, Charles H., and McGlade. 3,403,746.
McGraw-Edison Co.: *See*—
Brummet, Berthal D., and Sadler. 3,403,968.
McIsaac, Leo: *See*—
La Morte, Howard W., and McIsaac. 3,403,789.
McLeod, James W., Jr., and W. R. Abraham, to Radio Corp. of America. Deflection yoke mounting structure. 3,404,228, 10–1–68, Cl. 178—7.8.
McManigal, Robert M.: *See*—
Eubanks, Floyd G. 3,403,441.
McMorrow, Philip E., and R. E. Hobbs, Jr., to United Shoe Machinery Corp. Direct molding of heels to soled shoe bottoms. 3,403,423, 10–1–68, Cl. 18—42.
McNabb, Wallace M.: *See*—
Hazel, James F., McNabb, and McElroy. 3,403,971.
McNay, Ralph E., to Ashland Oil & Refining Co. Emulsion polymerization in the presence of a hydrocarbon latex extender oil. 3,404,111, 10–1–68, Cl. 260—23.7.
McQuay, Inc.: *See*—
Larson, Arthur G., and Day. 3,403,570.
Mecanorga S.A.: *See*—
Delfrenne, Paul. 3,403,948.
Meckler, Gershon, to Lithonia Lighting, Inc. Dynamically integrated comfort conditioning system. 3,403,723, 10–1–68, Cl. 165—19.
Mendell, Stanley, to Planalog, Inc. Graphical chart display devices and system. 3,403,458, 10–1–68, Cl. 35—24.
Menegret, Jean: *See*—
Delbourgo, Ralph D., Foulatier, Laffitte, Menegret, and Minjolle. 3,403,964.
Menegret, Maurice J., and J. N. Bejat. Bistable cryosar matrix memories and method of fabricating the same. 3,404,383, 10–1–68, Cl. 340—173.
Mercier, André, to Societe Fives Lille-Cail. Centrifugal drier. 3,403,785, 10–1–68, Cl. 210—178.
Mercier, Jules, to Les Usines de Melle (Societe Anonyme). Process for forming and separating ethers or esters by plural stage distillation with removal of water as an azeotrope. 3,404,175, 10–1–68, Cl. 260—488.
Merijan, Ashot, and F. Grosser, to GAF Corp. Simultaneous polymerization and alkylation of acrylate esters. 3,404,127, 10–1–68, Cl. 260—47.
Merz, Erich: *See*—
Knacke, Ottmar, Laser, Merz, and Riedel. 3,403,985.
Metalastik Ltd.: *See*—
Hirst, Archie J. 3,403,638.
Metallimpex Acel- es Femkulkereskedelmi Vallalat: *See*—
Fekete, Sándor, Horváth, Sever, and Szalo. 3,403,995.
Metcalf, Eric, to The Solartron Electronic Group Ltd. Polystable transistor circuits. 3,404,294, 10–1–68, Cl. 307—288.
Metler, Alvin V., to Mobil Oil Corp. Erosion protection for wells. 3,403,732, 10–1–68, Cl. 166—242.
Metzger, Hans S., to Verwaltungsgesellschaft Moeller & Neumann offene Handelsgesellschaft. Bearing arrangement for the rolls of a rolling mill. 3,403,950, 10–1–68, Cl. 308—194.
Metzger, Horst, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of cyclododecanone oxime. 3,404,181, 10–1–68, Cl. 260—566.
Meyer, David A., to United States of America, Navy. Peak-to-peak intermediate frequency single control limiter. 3,404,290, 10–1–68, Cl. 307—237.
Meynell, Lionel C., to Meynell & Sons Ltd. Fluid mixing valve with adjustable cam actuator. 3,403,700, 10–1–68, Cl. 137—636.1.
Meynell & Sons Ltd.: *See*—
Meynell, Lionel C. 3,403,700.
Michael, Leroy D., to The Boeing Co. Heat control method and apparatus for spot-welds. 3,404,252, 10–1–68, Cl. 219—110.
Midland-Ross Corp.: *See*—
Zanow, Andrey L. 3,403,790.
Milgrom, Jack, to The General Tire & Rubber Co. Production of polyether diols using water as a telogen. 3,404,109, 10–1–68, Cl. 260—6.
Miller, Charles F., to Basic Products Corp. Micromanipulator. 3,403,575, 10–1–68, Cl. 74—471.
Miller Co., The: *See*—
Schiffer, Henry C., and Creed. 3,404,269.
Miller, Donald F., to E. I. du Pont de Nemours and Co. Bulky fibrous element and process for making the same. 3,404,062, 10–1–68, Cl. 161—109.
Miller, Frederick A.: *See*—
Pueschner, Robert J., and Miller. 3,404,116.
Miller, Keith A.: *See*—
Berreth, Raymond L., Howells, Klee, and Miller. 3,403,527.
Miller, Naishun C.: *See*—
Fox, Jack J., and Miller. 3,404,144.
Miller, Park H., Jr., to Gulf General Atomic Inc. Signalling method and apparatus. 3,404,400, 10–1–68, Cl. 343—17.2.
Miller, Stewart E., to Bell Telephone Laboratories, Inc. Thermal gaseous electromagnetic transmission devices. 3,403,956, 10–1–68, Cl. 350—179.
Mills, Lloyd S.: *See*—
Burrows, Christopher E., and Mills. 3,404,374.
Miner, Robert G., to The Trane Co. Axial flow fan arrangement for fan coil unit. 3,403,725, 10–1–68, Cl. 165—122.
Minjolle, Louis: *See*—
Delbourgo, Ralph D., Foulatier, Laffitte, Meneret, and Minjolle. 3,403,964.
Minnesota Mining and Mfg. Co.: *See*—
Jones, Derrick A. 3,404,254.
Mishcon, Lester, to The Singer Co. Stacked pattern wheels for knitting machines. 3,403,535, 10–1–68, Cl. 66—40.
Mitchell, Dana D., to United States of America, Navy. Measurement for rotational speed of induction motors. 3,404,339, 10–1–68, Cl. 324—70.
Mitchell, John E., Co.: *See*—
Mitchell, Orville, Roden, Freeman, Harris, and Smith. 3,403,524.
Mitchell, John R., to G.Q. Parachute Co., Ltd. Parachutes. 3,403,876, 10–1–68, Cl. 244—145.
Mitchell, Orville, R. L. Roden, W. P. Freeman, Jr., J. D. Harris, and D. C. Smith, to John E. Mitchell Co. Machine for dispensing semi-frozen drinks and control therefor. 3,403,524, 10–1–68, Cl. 62—70.
Mitoff, Stephan P., to General Electric Co. Electrical device including stabilized zirconia solid electrolyte. 3,404,039, 10–1–68, Cl. 136—86.
Mitoff, Stephan P., W. E. Tragert, and R. L. Fullman, to General Electric Co. Article comprising stabilized zirconia and a current collector embedded therein. 3,404,040, 10–1–68, Cl. 136—86.
Mittelman, Phillip S., and R. C. Ross, to United Nuclear Corp. Method for measuring the shielding effectiveness of a heterogeneous structure for shielding against fundamental charged particles. 3,404,274, 10–1–68, Cl. 250—83.3.
Mix-Mill, Inc.: *See*—
Skelton, Robert F. 3,403,819.
Miyashita, Koji: *See*—
Nakagawa, Kazumi, Shimoda, and Miyashita. 3,404,204.
Mobil Oil Corp.: *See*—
Frilette, Vincent J., and Jones. 3,403,975.
Holzinger, Rudolph J. 3,404,089.
McCabe, Leo J., Andress, and Seger. 3,404,123.
Metler, Alvin V. 3,403,732.
Plank, Charles J., and Rosinski. 3,404,086.
Mod, Robert M.: *See*—
Skau, Evald L., Mod, and Magne. 3,404,145.
Skau, Evald L., Mod, and Magne. 3,404,146.
Model Products Corp.: *See*—
Sheldon, Philip, and Bacsanyi. 3,403,908.
Modiano, Jacques: *See*—
Weiss, Francis, Modiano, and Lakodey. 3,404,179.
Modjeski, Richard N., to UMC Industries, Inc. Dispenser for fluent solid material. 3,403,825, 10–1–68, Cl. 222—232.
Mollard, Paul, to Ugine Kuhlmann. Sodium perborate and process for preparation of same. 3,403,984, 10–1–68, Cl. 23—315.
Moller, Jens L., and F. A. Siemonsen, to Reynolds Metals Co. Container opening means and pull tab therefor or the like. 3,403,811, 10–1–68, Cl. 220—54.
Monroe, Elmer S., Jr., to E. I. du Pont de Nemours and Co. Steam trap design and method. 3,403,853, 10–1–68, Cl. 236—56.
Monsanto Co.: *See*—
Baker, Joseph W., and Godfrey. 3,404,207.
Calfee, John D. 3,404,137.
Donovan, Donald W. 3,403,834.
Frank, William F. 3,403,828.
Olin, John F. 3,403,994.
Wygant, James C. 3,404,174.
Monsanto Research Corp.: *See*—
Edelson, Nathan A. 3,404,173.
Montecatini Edison S.p.A.: *See*—
Ribaldone, Giuseppe, Brichta, and Nenz. 3,404,182.
Montgomery, Donald H., and S. T. Jolly, to Radio Corp. of America. Fixed read-only memory. 3,404,386, 10–1–68, Cl. 340—174.
Moore, Anthony W. Rivet. 3,403,593, 10–1–68, Cl. 85—68.
Moore, Howard. Tool having retractable and removable centering sleeve. 3,403,711, 10–1–68, Cl. 145—51.
Morash, Daniel. Method of and apparatus for the distribution of fibers for flocking machines. 3,403,817, 10–1–68, Cl. 222—1.
Morden, Russell L., to General Motors Corp. Limited slip differential. 3,403,582, 10–1–68, Cl. 74—711.
Morel, Jacques: *See*—
Achard, Rene V. J., and Morel. 3,404,166.
Morey Paper Mill Supply Co.: *See*—
Hall, Edward H. 3,404,051.
Morse, John F. Adjusting drum for remote transfer system. 3,403,578, 10–1–68, Cl. 74—501.

Morse Shoe, Inc.: *See*—
Goldman, Maurice. 3,403,646.
Mortellito, Peter, and S. H. Royer, to Union Carbide Corp. Apparatus for uniformly cutting a moving metal body regardless of camber therein. 3,403,896, 10–1–68, Cl. 266—23.
Mortimer, Frank R.: *See*—
Dewar, Douglas, Davis, and Mortimer. 3,403,945.
Moser, Hans R., and H. Thierstein, to Fritz-Buser, A.G. Web printing machines. 3,403,622, 10–1–68, Cl. 101—126.
Motor-Patent AG: *See*—
Berchtold, Max, and Lenz. 3,403,664.
Motorola, Inc.: *See*—
Warner, Raymond M., Jr. 3,404,295.
Mouchet, Claude, to Manufacture d'Armes & Cycles de Chatellerdult. Manually operated cart or wagon. 3,403,923, 10–1–68, Cl. 280—43.1.
Mrowka, Joseph J.: *See*—
Jacobs, Lewis W., Mrowka, and Sabatella. 3,404,315.
Muller-Bardorff, Wolfgang, and W. Lassig, to Agfa Aktiengesellschaft. Modified gelatin for photographic purposes and process for rendering compounds for photographic layers resistant to diffusion. 3,404,017, 10–1–68, Cl. 106—135.
Muller, John G., to Struthers Scientific and International Corp. Freeze dried coffee process and product. 3,404,007, 10–1–68, Cl. 99—71.
Muncheyan, Arthur M. Directed-beam portable laser system. 3,404,350, 10–1–68, Cl. 331—94.5.
Murgio, Joseph M., to International Telephone and Telegraph Corp. Bit-at-a-time assembly device using magnetostrictive delay lines. 3,404,380, 10–1–68, Cl. 340—172.5.
Murray, Robert, Jr.: *See*—
Happel, William J., and Murray. 3,404,313.
Mustian, William R., Jr., to Armour Agricultural Chemical Co. Method and apparatus for concentrating phosphoric acids containing impurities. 3,403,974, 10–1–68, Cl. 23—165.
Mutchler, Paul A., to American Air Filter Co., Inc. Liquid fired cooking apparatus. 3,403,670, 10–1–68, Cl. 126—44.
Muto, Sakae: *See*—
Matsudaira, Nobutaka, Muto, Kubota, Yoshimoto, and Sato. 3,404,103.
Myers, Edward B., to Honeywell Inc. Ball valve. 3,403,887, 10–1–68, Cl. 251—209.
Nakagawa, Kazumi, N. Tsutsui, and K. Zoda, to Japan Exlan Co. Ltd. Apparatus for spinning multicomponent fibers. 3,403,422, 10–1–68, Cl. 18—8.
Nakagawa, Kazumi, K. Shimoda, and K. Miyashita, to American Cyanamid Co. Method of producing high-shrinkage acrylic fibers. 3,404,204, 10–1–68, Cl. 264—210.
Nakagawa, Ryoichi: *See*—
Itoh, Shinya, Kanno, Wakamatsu, and Nakagawa. 3,403,966.
Nakamura, Tadayoshi: *See*—
Omori, Mineharu, Matsubara, Nakamura, and Harada. 3,403,440.
Nash-Hammond, Inc.: *See*—
Good, Elmer H., and Hammond. 3,403,713.
National Acme Co., The: *See*—
Barkhurst, Ernest F. 3,403,585.
National Automatic Tool Co., Inc.: *See*—
McDonald, Clarence A. 3,403,481.
National Dairy Products Corp.: *See*—
Lambert, Douglas R. M., and Sharkey. 3,404,009.
Schultz, Robert F. 3,403,902.
National Distillers and Chemical Corp.: *See*—
Baba, Theodore B., and Mador. 3,404,177.
National Lead Co.: *See*—
Heywood, Kenneth W., and Trampler. 3,403,977.
National Research Development Corp.: *See*—
Riddle, Cecil. 3,404,344.
National Union Electric Corp.: *See*—
Hollatz, Arthur C. 3,403,879.
Navarro, Agustin A. Reversible door opening arrangement. 3,403,473, 10–1–68, Cl. 49—193.
Neal, Charles B.: *See*—
De Marinis, Joseph V., and Neal. 3,404,225.
Necessary, Donald D.: *See*—
Durham, Donald F., and Necessary. 3,403,916.
Needham, Donald G.: *See*—
Hill, George R., and Needham. 3,404,104.
Nelson, Arthur W. Combination storm louver and automatic back-draft damper. 3,403,616, 10–1–68, Cl. 98—119.
Nemitz, Paul, to Atlas-Mak Maschinenbau G.m.b.H. Apparatus for the deformation of metal sheets. 3,403,539, 10–1–68, Cl. 72—56.
Nenz, Adriano: *See*—
Ribaldone, Giuseppe, Brichta, and Nenz. 3,404,182.
Neotis S.a.s.: *See*—
Gazzani, Giovanni. 3,403,961.
Newell, Arthur D., to Zimmer, Keller and Calvert, Inc. Anchor assembly for retaining bolts in drilled holes. 3,403,594, 10–1–68, Cl. 85—74.
Newman, Douglas A., and A. T. Schlotzhauer, to Columbia Ribbon and Carbon Mfg. Co., Inc. Transfer elements and method of making the same. 3,404,021, 10–1–68, Cl. 117—36.1.
Neyman, Rene H.: *See*—
Asseo, Albert, and Neyman. 3,403,427.
Niagara Mohawk Power Corp.: *See*—
Nicholson, Carlton T. 3,404,211.
Nichols, William H.: *See*—
Bailey, Walton W., Maglaughlin, and Nichols. 3,404,186.
Nicholson, Carlton T., to Niagara Mohawk Power Corp. Hermetically sealed electrical transformer connections. 3,404,211, 10–1–68, Cl. 174—18.
Nicklas, William H., to General Electric Co. Envelope wall with two continuous ledges for positioning and supporting aperture mask. 3,404,302, 10–1–68, Cl. 313—85.
Niederer, Kurt W.: *See*—
Bell, Charles C., and Niederer. 3,403,866.
Nielsen, Robert A.: *See*—
Ballard, Louis M., and Nielsen. 3,403,960.
Nippon Electric Co. Ltd.: *See*—
Ihara, Hiroshi. 3,404,385.
Kurosawa, Toshio, Shiba, Sabaki and Yanagawa. 3,404,321.
Shinohara, Takeo, and Nomura. 3,404,240.
Tsuji, Shigeru, and Anazawa. 3,404,319.
Nishihara, Toji: *See*—
Okumura, Kentaro, Nishihara, and Oda. 3,404,154.
Nishimura, Kunimasa: *See*—
Tokuma, Tadao, and Nishimura. 3,404,053.
Noakes, Thomas E., and D. R. Grahl, to American Radiator & Standard Sanitary Corp. Pilot-operated valve. 3,403,884, 10–1–68, Cl. 251—30.
Noble, Jack D., and W. Fleming; said Noble, assor. to said Fleming. Electronic phase comparator sensing means. 3,404,288, 10–1–68, Cl. 307—232.
Noble, Peter M.: *See*—
Garrett, Edward O., Jr., and Noble. 3,403,752.
Nomura, Keisaku: *See*—
Shinohara, Takeo, and Nomura. 3,404,240.
North American Philips Co., Inc.: *See*—
Croymans, Jacques J. H., and Leblans. 3,404,300.
Repko, Jan D., Verheijden, and Lefeber. 3,404,322.
Werner, Willy. 3,403,470.
Wright, Hubert C. 3,404,305.
North American Rockwell Corp.: *See*—
Hoban, Thomas W., and Smith. 3,404,398.
Northern Electric Co. Ltd.: *See*—
Simko, Michael. 3,403,883.
Nuissl, Carl W., to Nuval Co. Yarn-treatment, method and apparatus. 3,403,501, 10–1–68, Cl. 57—77.3.
Nuval Co.: *See*—
Nuissl, Carl W. 3,403,501.
Obeissart, Albert, to Societe Souriau & Cie. Connectors, in particular for electric circuits. 3,404,365, 10–1–68, Cl. 339—90.
O'Connell, John J.: *See*—
Bright, James A., and O'Connell. 3,403,534.
Oda, Tatuo: *See*—
Okumura, Kentaro, Nishihara, and Oda. 3,404,154.
O'Donnell, William R., to Valve Corp. of America. Tamper-proof actuator cap. 3,403,823, 10–1–68, Cl. 222—153.
Oerlikon-Buhrle Holding Ltd.: *See*—
Lautenschlager, Alfred J. 3,403,569.
Oesterheld, Karl A. Chimney cooler for the cooling of liquids by means of atmospheric air. 3,403,531, 10–1–68, Cl. 62—314.
Oesterling, Robert E., J. C. Dacons, and L. A. Kaplan, to United States of America, Navy. Dimethoxyhexanitrobiphenyl and process for producing same and diaminohexanitrobiphenyl. 3,404,184, 10–1–68, Cl. 260—581.
Office National d'Etudes et de Recherches Aerospatiales: *See*—
Larue, Pierre. 3,403,518.
Ohashi, Tamaki. Pushbutton apparatus for radios and the like. 3,403,564, 10–1–68, Cl. 74—10.33.
Okumura, Kentaro, T. Nishihara, and T. Oda, to Fanabe Seiyaku Co., Ltd. Process for preparing pyridoxal-5'-orthophosphate. 3,404,154, 10–1–68, Cl. 260—297.
Olin John F., to Monsanto Co. Herbicidal method. 3,403,994, 10–1–68, Cl. 71—118.
Olin Mathieson Chemical Corp.: *See*—
Bishop, Edward W., and Phillips. 3,403,407.
Kober, Ehrenfried H., and Ottmann. 3,404,187.
Oliveira, John X. Trailer. 3,403,924, 10–1–68, Cl. 280—63.
Oliver, John H.: *See*—
Brookover, George B., Hudecek, and Oliver. 3,404,213.
Ollier, Jacques H. G., G. F. Grosshans, and R. G. Masson. Devices for feeding a fluid product into packing containers. 3,403,829, 10–1–68, Cl. 222—571.
Omori, Mineharu, S. Matsubara, T. Nakamura, and S. Harada, to Hitachi Maxell Ltd. Electric dry shaver formed of coaxial assemblies. 3,403,440, 10–1–68, Cl. 30—43.6.
Opay, Roger W. Carrier racks. 3,403,878, 10–1–68, Cl. 248—201.
Ornitz, Martin N., and R. H. English, to Blaw-Knox Co. High temperature alloys. 3,403,998, 10–1–68, Cl. 75—171.
Osborn, Lloyd, to V-M Corp. Record adapter spindle. 3,403,914. 10–1–68, Cl. 274—10.
Otis Engineering Corp.: *See*—
Brown, Norman F. 3,403,694.
Ottmann, Gerhard F.: *See*—
Kober, Ehrenfried H., and Ottmann. 3,404,187.
Owen, Alexander: *See*—
Kidney, Allan J., Hamlyn, and Owen. 3,403,453.
Owen, Gerald D. T., to The Dunlop Co. Ltd. Polymerisation catalysts and their use. 3,404,141, 10–1–68, Cl. 260—94.3.
Owens-Illinois, Inc.: *See*—
Brookover, George B., Hudecek, and Oliver. 3,404,213.
Damm, Daniel A., and Powell. 3,403,658.
Harding, Charles I. 3,404,063.
Powell, Daryl E., and Spear. 3,403,805.
Osaki, Nobuo, to Yoshigai Kikai Kinsoku Co., Ltd. Brake operating device for bicycle handles. 3,403,577, 10–1–68, Cl. 74—480.
PPG Industries, Inc.: *See*—
Chang, Wen-Hsuan. 3,404,125.
Comperatore, John. 3,403,991.
Pabich, Robert W. Combination staple former and stapling machine. 3,403,832, 10–1–68, Cl. 227—91.

Packard-Bell Electronics Corp.: *See*—
Hayden, Fred M. 3,404,307.
Painter, Marvin R.: *See*—
Ballas, Max, and Painter. 3,404,088.
Palmateer, Russell E., to Sylvania Electric Products, Inc. Method for impregnating powers battery supports with meltable hydrated salts. 3,404,030, 10–1–68, Cl. 117—169.
Paredes, Candelario: *See*—
Atkinson, William G., Jr., De Soto, Landis, and Paredes. 3,404,259.
Parish, Boris M.: *See*—
Kiljueva, Nina G., Krzhevova, Fradkina, Sukhareva, Zilberblat, and Parish. 3,404,070.
Parker, John T.: *See*—
Anderson, Gerald R., Creed, and Parker. 3,403,769.
Parker, Sidney A., to Lennox Industries, Inc. Crankcase scavenging pump for refrigeration compressor. 3,403,846, 10–1–68, Cl. 230—206.
Parker, Sidney A., to Lennox Industries, Inc. Cylinder and valve assembly. 3,403,847, 10–1–68, Cl. 230—231.
Parkin, Alvin. Emergency shutdown operation of recovery boilers. 3,403,642, 10–1–68, Cl. 110—7.
Pascard, Hubert M. J.: *See*—
Berteaud, André-Jean C., Pascard, and Vautier. 3,404,355.
Pascher, Adolf: *See*—
Krieger, Friedrich, and Pascher. 3,404,243.
Pasha, Mohiuddin, to American Air Filter Co., Inc. Method for removing saponifiable and foreign substances from a gas stream. 3,403,498, 10–1–68, Cl. 55—90.
Passmann, Karl W.: *See*—
Kern, Werner, Schulz, and Passmann. 3,404,133.
Pate, Orran T.: *See*—
Threadgold, Ronald, Hartley, Bell, Lynch, Bines, and Pate. 3,404,378.
Paterson, David R. Latch devices for indexing tables and the like. 3,403,586, 10–1–68, Cl. 74—820.
Patience, Donald: *See*—
Hoey, Raymond M., and Patience. 3,403,681.
Paullus, Clarence L., and J. A. Zimmerman, to AMP Inc. Electrical connector. 3,404,364, 10–1–68, Cl. 339—61.
Payette, Lionel J., to General Electric Co. Coating compositions comprising a mixture of (1) a phenolformaldehyde resin, (2) a melamine-aldehyde resin; (3) a polyisocyanate and (4) a blend of high and low molecular weight polyvinyl vormal resins. 3,404,197, 10–1–68, Cl. 260—839.
Peacock, Glenn S., to Union Carbide Corp. Cables and process for producing electrical insulation therefor. 3,404,080, 10–1–68, Cl. 204—181.
Pelczynski, Paul J.: *See*—
Szeremy, Norman, and Pelczynski. 3,404,226.
Pennsalt Chemicals Corp.: *See*—
Craig, Walton H. 3,404,012.
Penn-Western Electric Corp.: *See*—
Amann, Paul F., and Crane. 3,404,216.
Pepplatt, Harry J.: *See*—
Hall, James A., and Pepplatt. 3,404,346.
Perkin-Elmer Ltd.: *See*—
Carter, Harry V. 3,403,545.
Perronnet, Jacques: *See*—
Bertin, Daniel, and Perronnet. 3,404,206.
Pertsev, Alexei A.: *See*—
Butaev, Filipp I., Klimov, Pertsev, Stepanov, Shemaev, and Shkolin. 3,404.301.
Peters, John W.: *See*—
Mason, Frederick P., and Peters. 3,404,233.
Peterson, John R.: *See*—
Cummings, Errol W., and Peterson. 3,404,081.
Peterson, Victor S.: *See*—
Hansen, Irving G., and Peterson. 3,404,348.
Petrik, Milos, and J. Kratochvil, to Vyzkumny ustav automatisacnich prostredku. Vibrating wire with phase resonance indication. 3,403,548, 10–1–68, Cl. 73—88.5.
Petro-Tex Chemical Corp.: *See*—
Bajars, Laimonis. 3,404,193.
Petzold, Martin: *See*—
Hüter, Ludwig, and Petzold. 3,404,155.
Phelon, R. E., Co., Inc.: *See*—
Phelon, Russell E. 3,403,665.
Phelon, Russell E., to R. E. Phelon Co., Inc. Ignition system for internal combustion engine and breaker point mechanism therefor. 3,403,665, 10–1–68, Cl. 123—148.
Philco-Ford Corp.: *See*—
Inami, Yonemaru H. 3,404,041.
Reber, Carroll J., Jr. 3,403,529.
Philippi, George J.: *See*—
Marchisen, Joseph, Philippi, and Vanoni. 3,403,869.
Phillips, Gail W.: *See*—
Bishop, Edward W., and Phillips. 3,403,407.
Phillips Petroleum Co.: *See*—
Crain, Donald L., and Reusser. 3,404,194.
Favre, John A. 3,403,978.
Hill, George R., and Needham. 3,404,104.
Malick, Emil A. 3,404,006.
Proctor, Oliver P., Jr. 3,404,190.
Scott, John N., Jr., and Rakes. 3,404,124.
Weber, William J. 3,403,812.
Physical Sciences Corp.: *See*—
Cannaday, Sheridan S. 3,403,659.
Pillsbury Co., The: *See*—
Cage, James K., and Veeder. 3,403,822.
Pinckney Molded Plastics, Inc.: *See*—
Kreeger, Elsmer W. 3,403,788.
Pioch, Robert J. Loading and compacting apparatus particularly for refuse. 3,403,620, 10–1–68, Cl. 100—214.
Pipe, Harvey J.: *See*—
Fewings, David J., and Pipe. 3,404,297.
Pittman, Gary E.: *See*—
Bonin, Edward L., Pittman, and Reed. 3,404,304.
Planalog, Inc.: *See*—
Mendell, Stanley. 3,403,458.
Plank, Charles J., and E. J. Rosinski, to Mobil Oil Corp. Hydrothermally stable catalysts of high activity and methods for their preparation. 3,404,086, 10–1–68, Cl. 208—120.
Pleass, Charles M.: *See*—
Maurer, Dean W., and Pleass. 3,404,034.
Plow, Robert J., to Lorain Products Corp. Apparatus for gradual loading of AC line power by an AC to DC converter. 3,404,328, 10–1–68, Cl. 321—18.
Plume, Robert W., to General Motors Corp. Viscous damped bushing. 3,403,899, 10–1–68, Cl. 267—35.
Poats, William D.: *See*—
Masters, Steven G., and Poats. 3,403,457.
Pohl, Alexander. Collapsible container construction. 3,403,806, 10–1–68, Cl. 220—6.
Pomagalski, Jean. Rescue device. 3,403,750, 10–1–68, Cl. 182—189.
Pool, James L., and R. K. Graham, to Lisle Corp. Magnetic chip gauge. 3,404,337, 10–1–68, Cl. 324—41.
Poole, Charles M., to J. P. Stevens & Co., Inc. Self-cleaning air duct. 3,403,702, 10–1–68, Cl. 138—37.
Postorino, Pasquale: *See*—
Dal Monte, Giorgio, and Postorino. 3,404,238.
Powell, Daryl E.: *See*—
Damm, Daniel A., and Powell. 3,403,658.
Powell, Daryl E., and B. W. Spear, to Owens-Illinois, Inc. Cathode-ray and other vacuumized tubes resistant to violent devacuation. 3,403,805, 10–1–68, Cl. 220—2.1.
Power Control Corp.: *See*—
Happel, William J., and Murray. 3,404,313.
Power Cores, Inc.: *See*—
Woodward, Rex V. 3,404,360.
Precision Hone Co.: *See*—
Gjertsen, Paul R., and Chabane. 3,403,483.
Price, Herbert K., to Reynolds Metals Co. End sealant for metal cans. 3,403,813, 10–1–68, Cl. 220—81.
Privette, Walter R., and J. E. Knap, to Union Carbide Corp. Process for the preparation of polyhydric alcohols. 3,404,188, 10–1–68, Cl. 260—617.
Procter & Gamble Co., The: *See*—
Mathes, Howard E. 3,403,840.
Roy, Clarence H. 3,404,178.
Proctor, Oliver P., Jr., to Phillips Petroleum Co. Hydrogenation. 3,404,190, 10–1–68, Cl. 260—667.
Produits Chemiques Pechiney Saint-Gobain: *See*—
Steinmetz, Andre. 3,404,099.
Pueschner, Robert J., and F. A. Miller, to The Dow Chemical Co. Latices of butadiene copolymers with monomers having hydroxyl and carboxyl groups. 3,404,116, 10–1–68, Cl. 260—29.7.
Pullman, Robert L.: *See*—
Mitoff, Stephan P., Tragert, and Pullman. 3,404,040.
Putman, Maurice W.: *See*—
Soderquist, Frederick J., Boyce, and Putman. 3,404,191.
Pynchon, George. Silent check valve. 3,403,696, 10–1–68, Cl. 137—516.13.
Quaine, Robert L. Sun visor construction. 3,403,937, 10–1–68, Cl. 296—97.
Quinton, Bernard. Instruction fingerboard for string instruments. 3,403,590, 10–1–68, Cl. 84—470.
Raciunas, Kazys: *See*—
Barrett, Robert D., and Raciunas. 3,403,754.
Rader Pneumatics & Engineering Co., Ltd.: *See*—
Farnworth, Wilfred. 3,403,942.
Radio Corp. of America: *See*—
Amemiya, Hiroshi. 3,404,387.
Kaplan, Leonard A., and Hart. 3,404,347.
McLeod, James W., Jr., and Abraham. 3,404,228.
Montgomery, Donald N., and Jolly. 3,404,386.
Scott, Joseph H., Jr. 3,404,073.
Srinivasan, Chitoor V. 3,404,373.
Radlove, Sol B., A. Ravve, and C. W. Fitko, to Continental Can Co., Inc. Method for preparing a diphenolic acid-amide phenol-aldehyde resin. 3,404,128, 10–1–68, Cl. 260—51.5.
Rakes, James L.: *See*—
Scott, John N., Jr., and Rakes. 3,404,124.
Ralston, William K., and C. G. Barfield, to International Harvester Co. Self-stripping wire twister hook for wire balers. 3,403,619, 10–1–68, Cl. 100—31.
Rapidograph, Inc.: *See*—
Wieland, Franz, Ciol, and Zansitis. 3,404,055.
Rataiczak, James J., to TRW, Inc. Adapter apparatus for resizing pistons, 3,403,482, 10–1–68, Cl. 51—227.
Ratliff, Harvey L., Jr., to Jetru Inc. Single lever control assembly. 3,403,576, 10–1–68, Cl. 74—471.
Ravve, Abraham: *See*—
Radlove, Sol B., Ravve, and Fitko. 3,404,128.
Raw, Peter M., to British Insulated Callender's Cables Ltd. Process for the production of copper bodies of high mechanical strength and high electrical conductivity. 3,404,000, 10–1–68, Cl. 75—214.
Raytheon Co.: *See*—
Bowness, Colin. 3,404,352.
Rebek, Dennis C. Adjustable loom. 3,403,704, 10–1–68, Cl. 139—84.
Rebeller, Michel: *See*—
Clement, Genevieve, Rebeller, and Zarrouk. 3,403,471.
Reber, Carroll J., Jr., to Philco-Ford Corp. Refrigeration condensate handling means. 3,403,529, 10–1–68, Cl. 62—277.

Rebillet, Marcel. Spool having reinforced flanges. 3,403,871, 10–1–68, Cl. 242—118.7.
Rechlin, Kurt, to English Numbering Machines Ltd. Counter mechanism. 3,403,851, 10–1–68, Cl. 235—117.
Reda Pump Co.: *See*—
Arutunoff, Armais. 3,403,731.
Redey, George. Adjustable construction joint strips. 3,403,484. 10–1–68, Cl. 52—98.
Reeck, Hans E.: *See*—
Lemcke, Walter K., and Reeck. 3,403,981.
Reed, Bruce S.: *See*—
Bonin, Edward L., Pittman, and Reed. 3,404,304.
Reed, Frank F.: *See*—
Mac Leod, Norman A., and Reed. 3,403,673.
Rees, Richard W., to E. I. du Pont de Nemours and Co. Process of crosslinking polymers. 3,404,134, 10–1–68, Cl. 260—78.5.
Reese, Robert C., and P. E. Wesel, to Corning Glass Works. Device for scoring glass articles. 3,403,442, 10–1–68, Cl. 30—164.95.
Reeves, Wilson A.: *See*—
Chance, Leon H., Drake and Reeves. 3,404,022.
Regenstein, Joseph, Jr., and J. C. Tapas, to Velsicol Chemical Corp. Pavement coating composition comprising petroleum resin. 3,404,108, 10–1–68, Cl. 260—4.
Regie Nationale des Usines Renault: *See*—
Auriol, Jean. 3,403,762.
Bouthors, Pierre, and Ventre. 3,403,855.
De Coye de Castelet, Gaëtan. 3,403,574.
De Coye de Castelet, Gaëtan. 3,403,587.
De Coye de Castelet, Gaëtan. 3,403,747.
Rehnberg, John D.: *See*—
Stanfill, Daniel F., III, and Rehnberg. 3,404,283.
Reimann, August P. Access channel. 3,403,703, 10–1–68, Cl. 138—92.
Reimers, James L.: *See*—
Gardiner, Ralph G., and Reimers. 3,403,771.
Reinisch, Wolfgang B.: *See*—
Dutton, Kenneth R., and Reinisch. 3,404,164.
Rekewitz, Rudolf, to Siemens Aktiengesellschaft. Precision gear mechanism for drive shafts which cross one another. 3,403,572, 10–1–68, Cl. 74—426.
Rendos, John J., to Air Reduction Co., Inc. Process for removing radioactive materials from the environment of an atomic reactor. 3,404,067, 10–1–68, Cl. 176—37.
Repke, Kenneth L. Charging rate varied by armature control. 3,404,326, 10–1–68, Cl. 320—23.
Repko, Jan D., M. G. Verheijden, and J. Lefeber, to North American Philips Co., Inc. Rotary capacitor with insulated electrodes. 3,404,322, 10–1–68, Cl. 317—253.
Research Corp.: *See*—
Fox, Jack J., and Miller. 3,404,144.
Harris, Stephen E., and Buhrer. 3,404,353.
Hazel, James F., McNabb, and McElroy. 3,403,971.
Retherford, Curtis A., and C. L. Jury, Jr. Panel board power saw apparatus. 3,403,709, 10–1–68, Cl. 143—47.
Rettger, Harry C., Jr. Pedal-propelled tricycle vehicles. 3,403,927, 10–1–68, Cl. 280—261.
Reusser, Robert E.: *See*—
Crain, Donald L., and Reusser. 3,404,194.
Revelo, George A.: *See*—
Revelo, Omar N., and G. A. 3,404,224.
Revelo, Omar N. and G. A. Audio and video transmitting and receiving system for use as an educational device. 3,404,224, 10–1–68, Cl. 178—7.1.
Reynolds, Charles E.: *See*—
Roberts, Lincoln E., and Reynolds. 3,404,368.
Reynolds Metals Co.: *See*—
Becker, William C., Bailey, and Kirby. 3,403,779.
Farquhar, Melville T. 3,403,776.
Farquhar, Melville T. 3,403,836.
Farquhar, Melville T. 3,403,837.
Farquhar, Melville T. 3,403,839.
Moller, Jens L., and Siemonsen. 3,403,811.
Price, Herbert K. 3,403,813.
Rheinische Kalkstein-Werke G.m.b.H.: *See*—
Hoffman, Friedrich. 3,404,199.
Rheinpreussen Aktiengesellschaft fur Bergbau und Chemie: *See*—
Tietz, Wolfgang. 3,404,135.
Rhodes, Peter R.: *See*—
Haycock, Ernest W., and Rhodes. 3,404,076.
Rhodes, William A., Jr., to Hewlett-Packard Co. Method of placing a sheath over a filament-like member. 3,403,436. 10–1–68, Cl. 29—450.
Rhone-Poulenc S.A.: *See*—
Achard, Rene V. J., and Morel. 3,404,166.
Gaignon, Maurice H. R. J., and Lefort. 3,404,169.
Ribaldone, Giuseppe, C. Brichta, and A. Nenz, to Montecatini Edison S.p.A. Process for the preparation of cyclohexanone-oxime. 3,404,182, 10–1–68, Cl. 260—566.
Richardson, Vernon C. R., and B. G. Frazier, to Transport Engineering, Inc. Apparatus for the suspension of well bore devices. 3,403,728, 10–1–68, Cl. 166—.5.
Riddle, Cecil, to National Research Development Corp. Time measuring circuits. 3,404,344, 10–1–68, Cl. 328—129.
Riedel, Hans-Jürgen: *See*—
Knacke, Ottmar, Laser, Merz, and Riedel. 3,403,985.
Rigrod, William W., to Bell Telephone Laboratories, Inc. Optical maser for higher order modes. 3,403,349, 10–1–68, Cl. 331—94.5.
Ritetrhoff, Eric K., to Continental Can Co., Inc. Apparatus for labelling cylindrical objects. 3,404,059, 10–1–68, Cl. 156—363.
Robbins Aviation, Inc.: *See*—
MacSpadden, Floyd E., Jr. 3,403,917.
Robbins, William K. Connecting link for chains and the like. 3,403,506, 10–1–68, Cl. 59—85.
Roberts, Edward A., to Kenton Engineering Corp. Thermally sensitive compensating device. 3,404,298, 10–1–68, Cl. 310—8.9.
Roberts, Harrison W. Differential pressure responsive shaft seal apparatus. 3,403,915, 10–1–68, Cl. 277—3.
Roberts, Lincoln E., and C. E. Reynolds, to AMP Inc. Electrical connector of the plug or socket variety. 3,404,368, 10–1–68, Cl. 339—223.
Roberts, Roy H., to Sun Electric Corp. Oscilloscope raster display circuit. 3,404,333, 10–1–68, Cl. 324—15.
Robertson, William A. H., P. G. Clinch, and J. Fraser, to Boots Pure Drug Co. Ltd. Pesticidal N-acyl-N-lower alkyl carbamates of phenols and naphthols with decreased mammalian toxicity. 3,404,208, 10–1–68, Cl. 424—300.
Robillard, Edward G., to The Heald Machine Co. Machine tool using the abrasion process. 3,403,480, 10–1–68, Cl. 51—165.
Robins, Floyd B., to General Electric Co. Inconsistent parity check. 3,403,372, 10–1–68, Cl. 340—146.1.
Robins, Janis, and R. J. Schafer, to Ashland Oil & Refining Co. Tensile strengths of certain sand cores. 3,403,721, 10–1–68, Cl. 164—43.
Robson, John, to Ethicon, Inc. Dispensing package. 3,403,815, 10–1–68, Cl. 221—34.
Roche, Jean A., to General Electric Co. Stall prevention in axial flow compressors. 3,403,842, 10–1–68, Cl. 230—114.
Rockwell, Edward A. Disc brake with compensation, anti-skid control, and fail-safe system. 3,403,761, 10–1–68, Cl. 188—265.
Roden, Richard L.: *See*—
Mitchell, Orville, Roden, Freeman, Harris, and Smith. 3,403,524.
Roguin, André: *See*—
Douet, Paul, and Roguin. 3,404,273.
Rohrbacher, James T.: *See*—
Barrett, Robert D., and Rohrbacher. 3,403,765.
Rollman, Edward W.: *See*—
Fosler, Robert H., and Rollman. 3,403,624.
Rolls Offset Printing Co., Inc.: *See*—
Simson, Walter A., and Hurwitz. 3,403,621.
Rosauer, Peter J.: *See*—
Flaherty, John J., and Rosauer. 3,403,671.
Rose, Boyd W.: *See*—
Verrinder, Ernest A., and Rose. 3,403,816.
Rosenheck, Albert D., and D. R. Maure, to Lear Siegler, Inc. Capacitive semi-permanent memory. 3,404,382, 10–1–68, Cl. 340—173.
Rosenthal, Robert, to Beckman Instruments, Inc. Apparatus for measuring electrical conductivity of a fluid. 3,404,336, 10–1–68, Cl. 324—30.
Rosinski, Edward J.: *See*—
Plank, Charles J., and Rosinski. 3,404,086.
Ross, Harley H., to United States of America, Atomic Energy Commission. Radioactive isotope-activated light source for color photometer. 3,404,270, 10–1–68, Cl. 250—43.5.
Ross, Richard C.: *See*—
Mittelman, Phillip S., and Ross. 3,404,274.
Rossmy, Gerd, to Th. Goldschmidt A.G. Foaming process for polyurethane in the presence of pore regulators. 3,404,105, 10–1–68, Cl. 260—2.6.
Rossow, Le Roy J. Magnetic latch. 3,403,933, 10–1–68, Cl. 292—251.5.
Rotter, Hans: *See*—
Braumann, Gundokar, Klor, and Rotter. 3,403,358.
Roussel-UCLAF: *See*—
Bertin, Daniel, and Perronnet. 3,404,206.
Roy, Clarence H., to The Procter & Gamble Co. Substituted methylene diphosphonic acids and their salts. 3,404,178, 10–1–68, Cl. 260—502.4.
Royer, Stanley H.: *See*—
Mortellito, Peter, and Royer. 3,403,896.
Rude, Raymond C. Universal support structure for springboards. 3,403,880, 10–1–68, Cl. 248—346.
Ruhoff, John R.: *See*—
Gerfen, Charles O., and Ruhoff. 3,403,983.
Rupley, Don G., to Heath Co. Color television receiver with built-in dot generator. 3,404,222, 10–1–68, Cl. 178—5.4.
Ruppert, Keith D., to General Electric Co. Indicator lamp circuitry for a recorder. 3,404,311, 10–1–68, Cl. 315—172.
Ruschhaupt, Dolph W.: *See*—
Bradshaw, Wilbert C., and Ruschhaupt. 3,403,609.
Russell, George F.: *See*—
Mann, Julius W., and Russell. 3,403,450.
Russell, Robert J.: *See*—
Shane, James H., Russell, and Bochman. 3,404,061.
Russell, Robert M., to Hercules Inc. Coupling means for corrugated tubing. 3,403,929, 10–1–68, Cl. 285—177.
Russell, William S., to Hooker Chemical Corp. Method for forming improved coating on metal. 3,404,044, 10–1–68, Cl. 148—6.2.
Russell, William S., and S. Farina, to Hooker Chemical Corp. Chromating of zinc and aluminum and composition therefor. 3,404,046, 10–1–68, Cl. 148—6.21.
Rutherford, David: *See*—
Black, William A. P., Dewar, and Rutherford. 3,404,136.
Rutledge, Joseph P., and V. N. Tramontini, to Stewart-Warner Corp. Temperature compensated pressure relief valve. 3,403,854, 10–1–68, Cl. 236—92.
Rychtytzkyj, George G.: *See*—
Green, Charles R., and Rychtytzkyj. 3,404,291.
SOFA, Spojene podniky pro zdrovolnichou vyrobu: *See*—
Hebký, Jaromir, Jelinek, and Karásek. 3,404,143.
Saal, Frederick A.: *See*—
Aaron, Marvin R., Gray, and Saal. 3,404,231.

Sabaki, Ichiemon : *See*—
Kurosawa, Toshio, Shiba, Sabaki, and Yanagwa. 3,404,321.

Sabatella, Robert J. : *See*—
Jacobs, Lewis W., Mrowka, and Sabatella. 3,404,315.

Sabatella, Robert J., to General Electric Co. Circuit breaker panel assembly. 3,404,317, 10–1–68, Cl. 317—119.

Sadler, Fred S. : *See*—
Brummet, Berthal D., and Sadler. 3,403,968.

St. Clair, Glenn W. : *See*—
Valentine, Donald E., and St. Clair. 3,403,661.

St. Mard, Hubert H. : *See*—
Hamalainen, Carl, St. Mard, and Cooper. 3,403,504.

Samson, Pierre, to Fumat S.A. Dobby for looms. 3,403,705, 10–1–68, Cl. 139—68.

Sandall Precision Co. Ltd., The : *See*—
Barker, Alfred W. 3,403,886.

Santi, John D., to Briggs & Stratton Corp. Compression relief for internal combustion engines. 3,403,667, 10–1–68, Cl. 123—182.

Sargent, John C. : *See*—
Clayton, Wilson A., Gunderson, and Sargent. 3,404,031.

Sasaoka, Kenzo : *See*—
Tomota, Miyaji, Sasaoka, and Hashimoto. 3,404,330.

Sato, Shigetake : *See*—
Matsudaira, Nobutaka, Muto, Kubota, Yoshimoto, and Sato. 3,404,103.

Sauer, Roman F. Self-centering wheeled axle. 3,403,925, 10–1–68, Cl. 280—81.

Sauer, Vernon B., to United States of America, Interior. Polar coordinate chart reader. 3,403,445, 10–1–68, Cl. 33—1.

Sauter, Martin, to Gottl, Kern & Sohn. Balance. 3,403,741, 10–1–68, Cl. 177—243.

Schaefer, John W., to A. O. Smith Harvestors Products, Inc. Unloading mechanism for a storage structure. 3,403,795, 10–1–68, Cl. 214—17.

Schafer, Helmut, to Hans Biel. Sheet material cutting and sorting apparatus. 3,403,782, 10–1–68, Cl. 209—75.

Schafer, Robert J. : *See*—
Robins, Janis, and Schafer. 3,403,721.

Schake, Richard P. : *See*—
Harry, Austin W., and Schake. 3,403,656.

Schedin, Robert S., to Crompton & Knowles Corp. Box motion. 3,403,707, 10–1–68, Cl. 139—171.

Scheuer, Nicholas G. : *See*—
Kennedy, Joseph T., and Scheuer. 3,403,809.

Schickle, Gerhard : *See*—
Krank, Wolfgang, Schickle, and Schuttloffel. 3,404,357.

Schier, Hans : *See*—
Lehovec, Kurt, and Schier. 3,404,271.

Schiffer, Henry C., and T. E. Creed, to The Miller Co. Mercury vapor lighting fixture. 3,404,269, 10–1–68, Cl. 240—11.4.

Schlotzhauer, Allan T. : *See*—
Newman, Douglas A., and Schlotzhauer. 3,404,021.

Schmidt, Frederick H., to TRW Inc. Single pin boss piston. 3,403,605, 10–1–68, Cl. 92—187.

Schmidt, Jack W. : *See*—
Maci, Raymond J., and Schmidt. 3,403,583.

Schneebeli, Jean P. : *See*—
Geiger, Joseph A., and Schneebeli. 3,403,649.

Schnell, Hermann : *See*—
Fritz, Gerhard, Curtius, Bottenbruch, Goller, and Schnell. 3,404,122.

Schoeneberg, Werner A. P., to Celanese Corp. of America. Method of producing pill resistant polyester fiber containing fabrics. 3,403,433, 10–1–68, Cl. 28—74.

Schottler, Henry. Fluid transducer. 3,403,668, 10–1–68, Cl. 123—197.

Schrader, Malcolm E., and I. Lerner, to United States of America, Navy. Method of improving the strength characteristics of glass reinforced laminates. 3,404,023, 10–1–68, Cl. 117—69.

Schroder, Herbert. Dough dividing or batching machine. 3,403,640, 10–1–68, Cl. 107—68.

Schubeis, Ewald I. E. Supporting frame for door frames. 3,403,486, 10–1–68, Cl. 52—127.

Schultz, Robert F., to National Dairy Products Corp. Packaging apparatus. 3,403,902, 10–1–68, Cl. 271—1.

Schulz, Ernst O., to Veb Schoumglaswerk Tanbenbach. Process for making foam glass. 3,403,990, 10–1–68, Cl. 65—22.

Schulz, Rolf : *See*—
Kern, Werner, Schulz, and Passmann. 3,404,133.

Schuster, Robert W., to The Bendix Corp. Control apparatus for equalizing an engine operating condition of a plurality of gas turbine engines. 3,403,507, 10–1–68, Cl. 60—39.15.

Schuttloffel, Erich : *See*—
Krank, Wolfgang, Schickle, and Schuttloffel. 3,404,357.

Schwaner, Jon M., to Inland Container Corp. Bulk materials container. 3,403,835, 10–1–68, Cl. 229—15.

Schwartz, Joseph I., to United States of America, Navy. Compensated electromagnetic velocity transducer. 3,403,547, 10–1–68, Cl. 73—71.2.

Schwartz, Theodore F. Machine for cutting and forming opposed axial conductors of electronic components. 3,403,540, 10–1–68, Cl. 72—185.

Schwarzkopf, Anton. Amusement ride. 3,403,633, 10–1–68, Cl. 104—68.

Scoggins, Bobby N., and J. W. Thompson, to Eastman Kodak Co. Stabilizing and sweetening additive for hydrocarbons. 3,404,087, 10–1–68, Cl. 208—207.

Scott, John N., Jr., and J. L. Rakes, to Phillips Petroleum Co. Dispersion of additives in solid polymer. 3,404,124, 10–1–68, Cl. 260—45.85.

Scott, Joseph H., Jr., to Radio Corp. of America. Method of forming aligned oxide patterns on opposite surfaces of a wafer of semiconductor material. 3,404,043, 10–1–68, Cl. 204—15.

Scott Paper Co. : *See*—
Taylor, Ruel E., Jr. 3,403,447.

Scovill Mfg. Co. : *See*—
Martens, Vincent A. 3,403,464.

Searle, G. D., & Co. : *See*—
Tyner, David A. 3,404,149.

Seckerson, Clifford A., to United-Carr Inc. Apertured clip. 3,404,366, 10–1–68, Cl. 339—119.

Seckerson, Clifford A. : *See*—
Bennett, Jack C., and Seckerson. 3,403,881.

Seger, Francis M. : *See*—
McCabe, Leo J., Andress, and McCabe. 3,404,123.

Segura, Marnell A., and J. P. Billisoly, to Esso Research and Engineering Co. Polyurethane coating composition. 3,404,130, 10–1–68, Cl. 260—77.5.

Selman, Stanley, to E. I. du Pont de Nemours and Co. Perfluoro-2-oxo-3,6-dimethyl-1,4-dioxane. 3,404,162, 10–1–68, Cl. 260—340.2.

Servadio, Robert. Screw clamp. 3,403,901, 10–1–68, Cl. 269—243.

Sevenco, Alexander J., to Lincoln Electric Co. Ltd. Magnetic amplifier controlled power supply regulators. 3,404,329, 10–1–68, Cl. 321—19.

Sever, József : *See*—
Fekete, Sándor, Horváth, Sever, and Szalo. 3,403,995.

Sevres Corp. : *See*—
Freeman, Ernest C. and R. W. 3,403,913.

Shackleton, John D., Jr., and C. R. Kronoff, to Crompton & Knowles Corp. Narrow fabric loom. 3,403,706, 10–1–68, Cl. 139—124.

Shames, Harold and S. J. Adjustable spray shower heads. 3,403,860, 10–1–68, Cl. 239—460.

Shames, Sidney J. : *See*—
Shames, Harold and S. J. 3,403,860.

Shane, James H., R. J. Russell, and R. A. Bochman, to Union Carbide Corp. Flexible graphite sheet material of expanded particles compressed together. 3,404,061, 10–1–68, Cl. 161—125.

Shanefield, Daniel J., and E. W. Currier, to International Telephone and Telegraph Corp. Method of shaping a crystal by acid cutting. 3,404,049, 10–1–68, Cl. 156—6.

Shank, Joseph L., and W. H. Cunningham, to Swift & Co. Precipitation of proteins from whey using sodium alginate. 3,404,142, 10–1–68, Cl. 260—112.

Sharkey, Joseph M. : *See*—
Lambert, Douglas R. M., and Sharkey. 3,404,009.

Sheckells, Amuel E., to International Steel Co. Stub shaft connection for a revolving door assembly. 3,403,571, 10–1–68, Cl. 74—421.

Sheffer, Marcus B., 10% to T. H. Somerville and 5% each to R. P. Horsch and M. Sheffer. Safety fastener. 3,403,428, 10–1–68, Cl. 24—161.

Sheldon, Donald E. : *See*—
Kurti, Alexander, and Sheldon. 3,403,858.

Sheldon, Phillip, and T. J. Bacsanyi, to Model Products Corp. Drag strip for slot racers. 3,403,908, 10–1–68, Cl. 273—86.

Shell Oil Co. : *See*—
Asenbauer, Donald J. 3,403,814.
Haycock, Ernest W., and Rhodes. 3,404,076.
Johnson, Henry W., Jr. 3,404,260.

Shemaev, Alexandr M. : *See*—
Butaev, Filipp I., Klimov, Pertsev, Stepanov, Shemaev, and Shkolin. 3,404,301.

Sherman Car Wash Equipment Co. : *See*—
Hurwitz, Paul D. 3,403,416.

Sherman, Warren S. : *See*—
Hill, Vernon L., and Sherman. 3,403,857.

Shiba, Hiroshi : *See*—
Kurosawa, Toshio, Shiba, Sabaki, and Yanagawa. 3,404,321.

Shiiki, Akira, to Honeywell Inc. Regulator. 3,403,692, 10–1–68, Cl. 137—81.5.

Shimoda, Keitaro : *See*—
Nakagawa, Kazumi, Shimoda, and Miyashita. 3,404,204.

Shinohara, Takeo, and K. Nomura, to Nippon Electric Co. Ltd. Repertory dial impulse system using a magnetic memory. 3,404,240, 10–1–68, Cl. 179—90.

Shkolin, Ilya D. : *See*—
Butaev, Filipp I., Klimov, Pertsev, Stepanov, Shemaev, and Shkolin. 3,404,301.

Short, William L. : *See*—
Bollen, Walter M., and Short. 3,404,072.

Shostak, Arnold : *See*—
Vallese, Lucio M., and Shostak. 3,404,403.

Siemens Aktiengesellschaft : *See*—
Braumann, Gundokar, Klor, and Rotter. 3,404,358.
Kim, Jong-Dok. 3,403,904.
Krieger, Friedrich, and Pascher. 3,404,243.
Rekewitz, Rudolf. 3,403,572.
Winsel, August. 3,404,038.

Siemonsen, Frederik A. : *See*—
Moller, Jens L., and Siemonsen. 3,403,811.

Sigan, Jack W. : *See*—
Budde, Walter M., Jr., and Sigan. 3,404,165.

Sigl, Paul F. : *See*—
Lawson, William S., Jr., and Sigl. 3,403,831.

Sigma Engineering Service, Inc. : *See*—
Bryner, Ernest J., and Ianuzzi. 3,404,370.

Sika Mfg. Inc. : *See*—
Turro, Jerome C. 3,403,900.

Simko, Michael, to Northern Electric Co. Ltd. Apparatus for producing inlaid articles. 3,403,883, 10–1–68, Cl. 249—95.

Simmonds, Ernest S., to Telephone Mfg. Co. Ltd. Electronic telegraph relay including silicon controlled rectifiers responsive to binary input signals. 3,404,292, 10–1–68, Cl. 307—252.

Simons, Charles C. : *See*—
Carlson, Ronald J., and Simons. 3,404,202.

Simpson, Robert J. : *See*—
Hailey, Robert R., Laurer, and Simpson. 3,404,230.

Simson, Walter A., and S. Hurwitz, to Rolls Offset Printing Co., Inc. Method and apparatus for embossing and printing during a single pass thru a planographic offset press. 3,403,621, 10–1–68, Cl. 101—23.

Sinclair, Kenneth, and C. D. Watson, to The Secretary of State for Defence in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland. Hypodermic injection apparatus with a secondary capsule-collapsing means. 3,403,679, 10–1–68, Cl. 128—218.

Sinclair, Kenneth, and C. D. Watson, to The Secretary of State for Defence in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland. Hypodermic injection apparatus. 3,403,680, 10–1–68, Cl. 128—218.

Sinclair Research, Inc. : *See*—
Kovach, Stephen M. 3,404,192.

Sindzinski, Willy, and W. Stiller, to International Standard Electric Corp. Arrangement to load a conveying route. 3,403,799, 10–1–68, Cl. 214—89.

Sinfelt, John H. : *See*—
Taylor, William F., and Sinfelt. 3,404,100.

Singer Co., The : *See*—
Mishcon, Lester. 3,403,535.

Singmaster & Breyer : *See*—
Chelminski, Roman. 3,403,528.

Siris, A. J., Products Corp. : *See*—
Siris, Irwin H. 3,403,716.

Siris, Irwin H., to A. J. Siris Products Corp. Bag construction. 3,403,716, 10–1–68, Cl. 150—28.

Sisson, Kenneth J. : *See*—
Andrew, Margaret J., Bullock, and Sisson. 3,403,538.

Skau, Vald L., R. M. Mod, and F. C. Magne, to United States of America, Agriculture. N-acyl derivatives of cyclic imines. 3,404,145, 10–1–68, Cl. 260—239.

Skelton, Robert F., to Mix-Mill, Inc. Feed control hopper. 3,403,819, 10–1–68, Cl. 222—56.

Skudera, William J., Jr., and W. L. Wade, Jr., to United States of America, Army. Method of forming magnetic ferrite films. 3,404,026, 10–1–68, Cl. 117—123.

Sloan, Cephas H. : *See*—
Sublett, Bobby J., and Sloan. 3,403,689.

Smith, A. O., Harvestors Products, Inc. : *See*—
Schaefer, John W. 3,403,795.

Smith, Dudley C. : *See*—
Mitchell, Orville, Roden, Freeman, Harris, and Smith. 3,403,524.

Smith, Earl D., to Southern Pacific Land Co. Automatic car washing apparatus. 3,403,635, 10–1–68, Cl. 104—172.

Smith, George W. H. Strip fastening means. 3,403,429, 10–1–68, Cl. 24—204.

Smith, Horace L., Jr., to White Consolidated Industries, Inc. Heat treating apparatus for web and sheet material. 3,403,454, 10–1–68, Cl. 34—68.

Smith, Horace L., Jr., to White Consolidated Industries, Inc. Impingement type drying apparatus. 3,403,456, 10–1–68, Cl. 34—160.

Smith, James M., Jr. : *See*—
McEvoy, Francis J., Smith, and Allen. 3,404,157.

Smith, Richard J. : *See*—
Baker, Harold L. 3,403,641.

Smith, Richard L. : *See*—
Hoban, Thomas W., and Smith. 3,404,398.

Snyder, Richard L., to Hughes Aircraft Co. Combination random access and mass store memory. 3,404,375, 10–1–68, Cl. 340—172.5.

Snyder, Richard L., to Hughes Aircraft Co. Wire memory storage system. 3,404,384, 10–1–68, Cl. 340—174.

Snyder, Walter C., and F. C. Wright, to The Dow Chemical Co. Method for preparing latexes having improved adhesive properties. 3,404,114, 10–1–68, Cl. 260—29.6.

Societa Italiana Telecomunicazioni Siemens S.p.A. : *See*—
Dal Monte, Giorgio, and Postorino. 3,404,238.

Societe Anonyme, Compagnie Francaise de Raffinage : *See*—
Welsang, Edouard, Welli, and Engelhard. 3,404,101.

Societe Anonyme D.B.A. : *See*—
Thirion, Rene. 3,403,756.
Thirion, Rene. 3,403,944.
Thirion, Rene. 3,403,946.

Societe Anonyme Poclain : *See*—
Guinot, Gabriel L. 3,403,599.

Societe Anonyme Societe des Automobiles Simca : *See*—
Agostini, Antoine. 3,403,551.

Societe de Constructions Electriques Jupiter : *See*—
Bernier, Raymond. 3,403,930.

Societe d'Electro-Chimie, d'Electro-Metallurgie et des Acieries Electriques d'Ugine : *See*—
Weiss, Francis, Modiano, and Lakodey. 3,404,179.

Societe Fives Lille-Cail : *See*—
Mercier, André. 3,403,785.

Societe-Industrielle Bull-General Electric (Societe Anonyme) :
Brette, Yves-Jean F., and Carbonel. 3,404,390.
Cocquart, Jean H. 3,404,389.
Lhermite, Pierre J. 3,404,379.

Societe Sourian & Cie : *See*—
Obiessart, Albert. 3,404,365.

Soderquist, Frederick J., H. D. Boyce, and M. W. Putman, to The Dow Chemical Co. Method of preparing aromatic hydrocarbons from cyclopentadiene compounds. 3,404,191, 10–1–68, Cl. 260—673.

Soehner, Gerhard, and D. Steinberg, to Robert Bosch G.m.b.H. Ignition systems with ignition coils for internal combustion engines. 3,403,666, 10–1–68, Cl. 123—148.

Solartron Electronic Group Ltd., The : *See*—
Metcalf, Eric. 3,404,294.

Solomon, Ionel : *See*—
Abragam, Anatole, and Solomon. 3,404,332.

Solt, Paul E., to Fuller Co. Pneumatic conveying system. 3,403,941, 10–1–68, Cl. 302—42.

Somerville, Thomas H. : *See*—
Sheffer, Marcus B. 3,403,428.

Sordello, Frank J., to International Business Machines Corp. Magnetic track following servo system. 3,404,392, 10–1–68, Cl. 340—174.1.

Southern Pacific Land Co. : *See*—
Smith, Earl D. 3,403,035.

Spasoff, John. Actuator mechanism for movable closure. 3,403,474, 10–1–68, Cl. 49—360.

Spear, Burton W. : *See*—
Powell, Daryl E., and Spear. 3,403,805.

Spencer, Francis D. Construction of concrete liquid reservoirs such as swimming pools. 3,403,492, 10–1–68, Cl. 52—744.

Speno, Frank. Railroad Ballast Cleaning Co., Inc. : *See*—
Speno, Martin J. 3,403,462.

Speno, Martin J., to Frank Speno Railroad Ballast Cleaning Co., Inc. Continuously moving ballast removing mechanism. 3,403,462, 10–1–68, Cl. 37—104.

Sperry Rand Corp. : *See*—
Figielski, Peter. 3,404,286.

Spradling, Vernon J. Camper unit. 3,403,935, 10–1–68, Cl. 296—23.

Sprague Electric Co. : *See*—
Burke, Darnall P., and Martin. 3,404,215.
Lehovec, Kurt, and Schier. 3,404,271.
Lindmayer, Joseph, and Wrigley. 3,404,318.
Thompson, Philip B. 3,404,218.

Srinivasan, Chitoor V., to Radio Corp. of America. System for automatic correction of burst errors. 3,404,373, 10–1–68, Cl. 340—146.1.

Stamicarbon N.V. : *See*—
Garritsen, Johan W. 3,404,148.

Standbridge, Peter J. : *See*—
Ellis, Frederick E., and Standbridge. 3,403,584.

Stanfill, Daniel F., III., and J. D. Rehnberg, to Barnes Engineering Co. Differential spectral comparator. 3,404,283, 10–1–68, Cl. 250—226.

Stanley, Lester N., to GAF Corp. 2,4'-dihydroxy-3'5'-ditertiary-butyl-benzophenone and compositions stabilized therewith. 3,403,967, 10–1–68, Cl. 8—76.

Stanley, Louie L. Material iron. 3,403,463, 10–1–68, Cl. 38—77.

Stapelfeldt, Roelif : *See*—
Versaci, Antonio A., and Stapelfeldt. 3,403,555.

Star Cutter Co. : *See*—
Windsor, Meredith M., and Lincoln. 3,403,848.

Starcher, Paul S., S. W. Tinsley, and B. D. Ash, to Union Carbide Corp. Polycyclic epoxide compositions and resins produced therefrom. 3,404,102, 10–1–68, Cl. 260—2.

Stark, Sheldon L., and J. H. Babbitt, Jr., to Caterpillar Tractor Co. Vehicle dump door operating linkage. 3,403,939, 10–1–68, Cl. 298—23.

Statham Instruments, Inc. : *See*—
Curtis, Gerald R. 3,403,672.

Steinberg, Diedrich : *See*—
Soehner, Gerhard, and Steinberg. 3,403,666.

Steinborn, Bennie. Adjustable strap. 3,402,430, 10–1–68, Cl. 24—206.

Steinemann, Willy, and A. Abt. Manually operable device for rebedding a patient. 3,403,411, 10–1–68, Cl. 5—81.

Steiner, Josef : *See*—
Eidtmann, Helmut, and Steiner. 3,403,861.

Steinmetz, Andre, to Produits Chemiques Pechiney Saint-Gobain. Process for the preparation of iron-base catalytic masses and the resulting products. 3,404,099, 10–1–68, Cl. 252—459.

Steinmetz, Gunter : *See*—
Thiele, Kurt, and Steinmetz. 3,404,152.

Stem, Charles C. : *See*—
Stem, Richard K., Dolan, and Stem. 3,403,452.

Stem, Chester B., Inc. : *See*—
Stem, Richard K., Dolan, and Stem. 3,403,452.

Stem, Richard K., W. T. Dolan, and C. C. Stem, to Chester B. Stem, Inc. Steaming device and method. 3,403,452, 10–1–68, Cl. 34—13.8.

Stepanov, Nikolai P. : *See*—
Butaev, Filipp I., Klimov, Pertsev, Stepanov, Shemaev, and Shkolin. 3,404,301.

Stephanoff, Nicholas N., to Fluid Energy Processing & Equipment Co. Method for drying or treating wet solid and semi-solid materials. 3,403,451, 10–1–68, Cl. 34—10.

Stephen, R. A., and Co. Ltd. : *See*—
Bryer, Robert G. 3,404,272.

Steppan, Hartmut, to Azoplate Corp. Process for the preparation of a printing plate made from a diazonium salt mixed with an organic acid from the group consisting of phosphonic, phosphinic and arsonic acids. 3,404,003, 10–1–68, Cl. 96—33.

Sterling Drug Inc. : *See*—
Archer, Sydney. 3,404,156.
Lesher, George Y. 3,404,153.

Stern-Drive Corp. : *See*—
Warburton, John W. 3,403,655.

Stevens, J. P., & Co., Inc. : *See*—
Poole, Charles M. 3,403,702.

Stewart Boiling & Co., Inc.: *See*—
Matsuoka, James T., and Koziatek. 3,403,894.
Stewart-Warner Corp.: *See*—
Rutledge, Joseph P., and Tramontini. 3,403,854.
Stiebel, Ariel I., and S. A. Lippmann. Electrical stimulator. 3,403,684, 10–1–68, Cl. 128—407.
Stieg, Robert W., to FWD Corp. Drive system for a vehicle having multiple driven rear axles. 3,403,742, 10–1–68, Cl. 180—22.
Stiepel, Erhard E., and J. B. Wallace, to Maremont Corp. Textile sliver evening apparatus. 3,403,426, 10–1–68, Cl. 19—240.
Stiles, Alvin B., to E. I. du Pont de Nemours and Co. Platinum group metal catalysts supported on rare earth carbonates. 3,404,098, 10–1–68, Cl. 252—443.
Stiller, Wolfgang: *See*—
Sindzinski, Willy, and Stiller. 3,403,799.
Stimpson, Donald E., to Chrysler Corp. Brake switch assembly. 3,404,246, 10–1–68, Cl. 200—61.89.
Stine, Clair K., and R. H. Dugge, to ACF Industries, Inc. Outlet structure for unloading bulk materials either by gravity or pneumatically. 3,403,943, 10–1–68, Cl. 302—52.
Stinson, William J. Foldable camera support for action photos of bowlers. 3,403,611, 10–1–68, Cl. 95—11.5.
Stoffer, Lewis J., to General Electric Co. Bladed member and method for making. 3,403,844, 10–1–68, Cl. 230—134.
Stoffer, Lewis J., to General Electric Co. Axial flow compressor blades. 3,403,893, 10–1–68, Cl. 253—77.
Stone & Webster Engineering Corp.: *See*—
Woebcke, Herman N. 3,403,722.
Stout, Gilbert T., to The Bendix Corp. Disc element construction for disc brake. 3,403,758, 10–1–68, Cl. 188—218.
Strand, Sanford M., to Cutler-Hammer, Inc. Adjustable digital pulse deleters. 3,404,343, 10–1–68, Cl. 328—42.
Strandine, Eldon J.: *See*—
Koonz, Carl H., Strandine, and Eagle. 3,403,683.
Stratford, David J., to Birmetals Ltd. Magnesium alloy. 3,404,048, 10–1–68, Cl. 148—161.
Stratton, Cleo C. Slump indicator for concrete. 3,403,546, 10–1–68, Cl. 73—54.
Streets, John H., and A. R. Maxey, to Ampex Corp. Helical scan magnetic tape apparatus with self-energized air lubrication. 3,404,241, 10–1–68, Cl. 179—100.2.
Strobel, Albert F., and S. C. Catino, to GAF Corp. Bis hetero methylene malononitriles. 3,404,159, 10–1–68, Cl. 260—329.
Strobel, Albert F., and S. C. Catino, to GAF Corp. Bis hetero cyanoacrylates. 3,404,160, 10–1–68, Cl. 260—332.2.
Strobel, Albert F., and S. C. Catino, to GAF Corp. Aryl hetero cyanoacrylates. 3,404,161, 10–1–68, Cl. 260—332.2.
Struthers Scientific and International Corp.: *See*—
Muller, John G. 3,404,007.
Struve, Clemens A. Combined fluid supply apparatus and surgical drape support. 3,403,677, 10–1–68, Cl. 128—205.
Strzelec, Stanley J.: *See*—
Benzel, Howard A., and Strzelec. 3,403,410.
Sublett, Bobby J., and C. H. Sloan, to Eastman Kodak Co. Paper filter of selective removal of a cigarette smoke vapor. 3,403,689, 10–1–68, Cl. 131—265.
Suffron, Fay O., and E. M. Fairchild, to American Metal Products Corp. Power venter for gas fired appliances. 3,403,962, 10–1–68, Cl. 431—20.
Sukhareva, Natalia N.: *See*—
Kljueva, Nina G., Krzhevova, Fradkina, Sukhareva, Zilberblat, and Parizh. 3,404,070.
Sullivan, John H.: *See*—
Ceresna, Ivan, and Sullivan. 3,403,976.
Sun Electric Corp.: *See*—
Roberts, Roy H. 3,404,333.
Sundquist, Gustaf A., Jr., to Crompton & Knowles Corp. Shuttle box. 3,403,708, 10–1–68, Cl. 139—183.
Sundstrand Corp.: *See*—
Barber, Robert E. 3,403,890.
Superior Continental Corp.: *See*—
Mack, Jules A., and Tompers. 3,404,212.
Supitar, Petr, to IGLA, Narodni Podnik. Sewing needle particularly adapted for sewing with threads of synthetic fibers. 3,403,647, 10–1–68, Cl. 112—222.
Sutaruk, Alex, to Eaton Yale & Towne, Inc. Fluid coupling. 3,403,764, 10–1–68, Cl. 192—58.
Swet, Charles J., and R. G. Bartlett, Jr., to United States of America, Navy. Method of and apparatus for atmosphere replenishment and control. 3,403,612, 10–1–68, Cl. 98—1.5.
Swift & Co.: *See*—
Koonz, Carl H., Strandine, and Eagle. 3,403,683.
Shank, Joseph L., and Cunningham. 3,404,142.
Swisher, David H.: *See*—
Bearden, Charles R., Swisher, and Garms. 3,404,106.
Bearden, Charles R., Swisher, and Garms. 3,404,107.
Sylvania Electric Products Inc.: *See*—
De Marinis, Joseph V., and Neal. 3,404,225.
Palmateer, Russell E. 3,404,030.
Syntex Corp.: *See*—
Halpern, Otto. 3,404,150.
Szalo, Jenó: *See*—
Fekete, Sandor, Horvath, Sever, and Szalo. 3,403,995.
Szeremy, Norman, and P. J. Pelczynski, to General Electric Co. Automatic contrast and brightness control for television receiver utilizing a light dependent resistor. 3,404,226, 10–1–68, Cl. 178—7.5.
TRW Inc.: *See*—
Bailey, Joseph K. 3,403,951.
Clark, Hubert M., Drutchas, and Berman. 3,403,630.
Kutcher, Eugene R. 3,403,932.
Ratalczak, James J. 3,403,482.
Schmidt, Frederick H. 3,403,605.
Tabor, Charles A. Seismic wave generator. 3,403,748, 10–1–68, Cl. 181—.5.
Tajima, Eiichi, and K. Yamamoto. Method of manufacturing webs. 3,403,425, 10–1–68, Cl. 19—156.3.
Takashima, Herbert, E. N. Kresge, and D. W. Brownawell, to Esso Research and Engineering Co. Oleaginous compositions. 3,404,091, 10–1–68, Cl. 252—50.
Takashima, Herbert: *See*—
Jacobson, Norman, and Takashima. 3,404,092.
Tangeman, Lawrence N., to Dempster Industries, Inc. Flow metering and dividing device. 3,403,631, 10–1–68, Cl. 103—149.
Tapas, John C.: *See*—
Regenstein, Joseph, Jr., and Tapas. 3,404,108.
Taub, Bernard, to Allied Chemical Corp. Elastic fibers and films. 3,404,131, 10–1–68, Cl. 260—77.5.
Taylor, Laurence L., Jr. Taping machine. 3,404,060, 10–1–68, Cl. 156—526.
Taylor, Ruel E., Jr., to Scott Paper Co. Sensing skid shoe for caliper detectors. 3,403,447, 10–1–68, Cl. 33—148.
Taylor, William F., and J. H. Sinfelt, to Esso Research and Engineering Co. Methane production using a promoted catalyst. 3,404,100, 10–1–68, Cl. 252—402.
Telefunken Patentverwertungsgesellschaft m.b.H.: *See*—
Krank, Wolfgang, Schickle, and Schuttloffel. 3,404,357.
Telephone Mfg. Co. Ltd.: *See*—
Simmonds, Ernest S. 3,404,292.
Terry, Cyril W., to United States of America, Navy. Electronics cabinet with fire extinguishing apparatus. 3,403,733, 10–1–68, Cl. 169—2.
Tetreault, Maynard M.: *See*—
Batt Dacian W., and Tetreault. 3,404,234.
Texas Instruments, Inc.: *See*—
Bailey, Louis G. 3,403,439.
Bliss, Bruce J. 3,403,999.
Bonin, Edward L., Pittman, and Reed. 3,404,304.
Textile Machine Works: *See*—
Lape, William H. 3,403,792.
Textron, Inc.: *See*—
Flachbarth, Charles T., and Friedman. 3,403,798.
Th. Goldschmidt A.G.: *See*—
Rossmy, Gerd. 3,404,105.
Theakston, John H., to J. Beam Aerials Ltd. Combined dipole and linear antenna with balun. 3,404,404, 10–1–68, Cl. 343—727.
Thiele, Kurt, and G. Steinmetz, to Deutsche Gold -und Silber-Scheideanstalt vormals Roessler. Substituted pyridyl urea compounds. 3,404,152, 10–1–68, Cl. 260—295.
Thierstein, Hans: *See*—
Moser, Hans R., and Thierstein. 3,403,022.
Thiokol Chemical Corp.: *See*—
Yu, Arthur J.-S. 3,404,158.
Thirion, René, to Societe Anonyme D.B.A. Resilient supporting means for caliper-type disc brake. 3,403,756, 10–1–68, Cl. 188—73.
Thirion, René, to Societe Anonyme D.B.A. Braking pressure modifying device. 3,403,944, 10–1–68, Cl. 303—6.
Thirion, René, to Societe Anonyme D.B.A. Vehicle braking pressure limiting device. 3,403,946, 10–1–68, Cl. 303—24.
Thomas, Donald C., and J. T. Adams, to Union Carbide Corp. Chromium amine complex catalyzed oxidation of cyclic hydrocarbons to ketones. 3,404,185, 10–1–68, Cl. 260—586.
Thompson, John W.: *See*—
Scoggins, Bobby N., and Thompson. 3,404,087.
Thompson, Philip B., to Sprague Electric Co. Weldable high voltage terminal. 3,404,218, 10–1–68, Cl. 174—177.
Thomson Machinery Co., Inc., The: *See*—
Willett, Harold A. 3,403,796.
Threadgold, Ronald, D. Hartley, H. V. Bell, G. E. Lynch, J. C. Bines, and O. T. Pate, to Automatic Telephone & Electric Co. Ltd. Computers. 3,404,378, 10–1–68, Cl. 340—172.5.
Thylefors, Henric W., to Alfa Laval AB. Sludge centrifuge with intermittent discharge. 3,403,849, 10–1–68, Cl. 233—20.
Tietz, Wolfgang, to Rheinpreussen Aktiengesellschaft fur Bergbau und Chemie. Process for the manufacture of maleic acid anhydride copolymers. 3,404,135, 10–1–68, Cl. 260—78.5.
Tinsley, Samuel W.: *See*—
Starcher, Paul S., Tinsley, and Ash. 3,404,102.
Tobey, Hubert E., and G. J. McCutchen, to Continental Baking Co. Baking pan inverter. 3,403,768, 10–1–68, Cl. 198—33.
Tobey, Paul L., to Industrial Dyestuff Co. Diazo light-sensitive composition and element. 3,404,005, 10–1–68, Cl. 96—91.
Tokuma, Tadao, and K. Nishimura, to Victor Co. of Japan, Ltd. Process for manufacturing the speaker. 3,404,053, 10–1–68, Cl. 156—272.
Tolman, Thomas W. C.: *See*—
Horsewell, Henry G., and Tolman. 3,403,690.
Tomalia, Donald A., to The Dow Chemical Co. Preparation of 2-chloroalkylisothiocyanates. 3,404,172, 10–1–68, Cl. 260—454.
Tomota, Miyaji, K. Sasaoka, and A. Hashimoto, to Kabushikikaisha Yokogawa Denki Seisakusho (Yokogawa Electric Works Ltd.). DC constant-voltage device. 3,404,330, 10–1–68, Cl. 323—22.
Tompers, Kay C.: *See*—
Mack, Jules A., and Tompers. 3,404,212.
Toyo Rayon Kabushiki Kaisha: *See*—
Fukumoto, Osamu, and Atarashi. 3,404,139.
Fukumoto, Osamu, Kubo, and Kamijo. 3,404,140.
Itoh, Shinuya, Kanno, and Wakamatsu. 3,403,966.
Tragert, William E.: *See*—
Mitoff, Stephan P., Tragert, and Fullman. 3,404,040.
Tramontini, Vernon N.: *See*—
Rutledge, Joseph P., and Tramontini. 8,403,854.

Trampler, Charles R., Jr.: *See*—
Heywood, Kenneth W., and Trampler. 3,403,977.
Trane Co., The: *See*—
Cox, Robert A. 3,403,843.
Miner, Robert G. 3,403,725.
Transport Engineering, Inc.: *See*—
Richardson, Vernon C. H., and Frazier. 3,403,728.
Trask, Brenda J., and R. J. Bryson, to United States of America, Agriculture. Process for treating a cellulosic textile fabric with an insoluble telluride to render the fabric resistant to attack by micro-organisms. 3,404,028, 10–1–68, Cl. 117—138.5.
Triax Co., The: *See*—
Armington, Raymond Q. 3,403,793.
Trnka, Ralph J., to Continental Can Co., Inc. Score thickness gauge. 3,403,446, 10–1–68, Cl. 33—147.
Troike, Paul E.: *See*—
Burkhart, Larry L., Hitt, and Troike. 3,403,738.
Troutman, Paul H.: *See*—
Eggenberger, Markus A., Ipsen, and Troutman. 3,403,892.
Trowel Fast, Inc.: *See*—
Ballard, Louis M., and Nielsen. 3,403,960.
Trudel, Charles P., to "Automatic" Sprinkler Corp. Disposable urine container. 3,403,715, 10–1–68, Cl. 150—9.
Tsuji, Shigeru, and S. Anazawa, to Nippon Electric Co. Ltd. Semiconductor device. 3,403,319, 10–1–68, Cl. 317—234.
Tsutsui, Nobuhiro: *See*—
Nakagawa, Kazumi, Tsutsui, and Zoda. 3,403,422.
Turner, Denys G., to George Angus & Co. Ltd. Tubular rolling diaphragms. 3,403,603, 10–1–68, Cl. 92—99.
Turro, Jerome C., to Sika Mfg. Inc. Adjustable soldering and assembly aid. 3,403,900, 10–1–68, Cl. 269—37.
Twin Disc, Inc.: *See*—
Hilpert, Conrad R., and Black. 3,403,763.
Tyner, David A., to G. D. Searle & Co. 3-Methoxyspiro[estra-1,3,5(10)triene-16.1'-cyclopropan]-17β-ols. 3,404,149, 10–1–68, Cl. 260—239.5.
UMC Industries, Inc.: *See*—
Modjeski, Richard N. 3,403,825.
Udall, Anthony J. S., to Electric & Musical Industries Ltd. Electric analogue integrating and differentiating circuit arrangements. 3,404,262, 10–1–68, Cl. 235—183.
Uffner, Melville W., to GAF Corp. Adhesive film-forming compositions which in the dry state are insoluble in water and dry cleaning solvents. 3,404,117, 10–1–68, Cl. 260—30.2.
Ugine Kuhlmann: *See*—
Mollard, Paul. 3,403,984.
Ulinski, Bronislaus I., to Eaton Yale & Towne, Inc. Universal lift truck. 3,403,801, 10–1–68, Cl. 214—770.
Ulrich, Henri, to The Upjohn Co. Preparation of isocyanates. 3,404,170, 10–1–68, Cl. 260—453.
Ulrich, Henri, to The Upjohn Co. Preparation of alkyl isothiocyanates. 3,404,171, 10–1–68, Cl. 260—454.
Unger, Leo. Composite fiber and urethane foam pillow and bedding structures. 3,403,414, 10–1–68, Cl. 5—355.
Unilever Ltd.: *See*—
Kidney, Allan J., Hamlyn, and Owen. 3,403,453.
Union Carbide Corp.: *See*—
Anderson, John E., Jackson, and Gaird. 3,404,253.
Culbertson, James B., and Lamprey. 3,403,970.
Francois, Pierre A. 3,404,066.
Jahnes, Henry J. 3,403,827.
Klun, Godfrey H. 3,403,698.
Mortellito, Peter, and Royer. 3,403,896.
Peacock, Glenn S. 3,404,080.
Privette, Walter R., and Knap. 3,404,188.
Shane, James H., Russell, and Bochman. 3,404,061.
Starcher, Paul S., Tinsley, and Ash. 3,404,102.
Thomas, Donald C., and Adams. 3,404,185.
United Aircraft Corp.: *See*—
Jaekel, Robert F., and Wayne. 3,403,511.
Kurti, Alexander, and Sheldon. 3,403,858.
Lauck, Lawrence J. 3,403,510.
United-Carr Inc.: *See*—
Bennett, Jack C., and Seckerson. 3,403,881.
Hughes, Norman J. 3,403,718.
Seckerson, Clifford A. 3,404,366.
United Engineering and Foundry Co.: *See*—
Eisel, August F. 3,403,541.
United Nuclear Corp.: *See*—
Mittelman, Philip S., and Ross. 3,404,274.
United Shoe Machinery Corp.: *See*—
McMorrow, Philip E., and Hobbs. 3,403,423.
United States of America
Agriculture: *See*—
Black William A. P., Dewar, and Rutherford. 3,404,136.
Chance, Leon H., Drake, and Reeves. 3,404,022.
Hamalainen, Carl, St. Mard, and Cooner. 3,403,504.
Skau, Evald L., Mod, and Magne. 3,404,145.
Skau, Evald L., Mod, and Magne. 3,404,146.
Trask, Brenda J., and Brysson. 3,404,028.
Army: *See*—
Bowles, Romald E. 3,403,563.
Couturier, Robert A. 3,404,219.
Skudera, William J., Jr,, and Wade. 3,404,026.
Atomic Energy Commission: *See*—
Burgess, Carl A. 3,404,200.
Ross, Harley H. 3,404,270.
Interior: *See*—
Sauer, Vernon B. 3,403,445.
National Aeronautics and Space Administration: *See*—
Hansen, Irving G., and Peterson. 3,404,348.
United States of America—(Continued)
Navy: *See*—
Bell, Alfred J., Blevins, Everett, Garten and Hardgrave. 3,403,873.
Black, Walter L. 3,403,650.
Downey, Francis X., and Weaver. 3,404,229.
Fosler, Robert H., and Rollman. 3,403,624.
Gregory, John B., McClinton, and Whittington. 3,403,643.
Marx, Michael F., and Buscher. 3,404,345.
McGehee, Maurice S. 3,403,562.
Meyer, David A. 3,404,290.
Mitchell, Dana D. 3,404,339.
Oesterling, Robert E., Dacons, and Kaplan. 3,404,184.
Schrader, Malcolm E., and Lerner. 3,404,023.
Schwartz, Joseph I. 3,403,547.
Swet, Charles J., and Bartlett. 3,403,612.
Terry, Cyril W. 3,403,733.
Young, Walter J., Jr. 3,404,405.
United States Steel Corp.: *See*—
Beckman, William R., and Dunn. 3,403,597.
Calabro, Anthony V. 3,403,434.
Doolittle, Philip C. 3,404,284.
Goodman, Stephen R., and Hu. 3,404,047.
Unitek Corp.: *See*—
Griffiths, Derek, J. 3,404,250.
Universal Oil Products Co.: *See*—
Lampe, Willy G. 3,403,617.
University of Florida: *See*—
Harding, Charles I. 3,404,063.
Upjohn Co., The: *See*—
Ulrich, Henri. 3,404,170.
Ulrich, Henri. 3,404,171.
V-M Corp.: *See*—
Osborn, Lloyd. 3,403,914.
Vadas, Leslie, to FMC Corp. Container feed mechanism. 3,403,772, 10–1–68, Cl. 198—34.
Valentine, Donald E., and G. W. St. Clair, to Cummins Engine Co., Inc. Engine cylinder block and liner seal construction. 3,403,661, 10–1–68, Cl. 123—41.84.
Vallese, Lucio M., and L. A. De Rosa, to International Telephone and Telegraph Corp. Distributed Hall effect multiplier. 3,404,265, 10–1–68, Cl. 235—194.
Vallese, Lucio M., and A. Shostak, to International Telephone and Telegraph Corp. Laser beam antenna. 3,404,403, 10–1–68, Cl. 343—700.
Valve Corp. of America: *See*—
O'Donnell, William R. 3,403,823.
Van Benthuysen, John D.: *See*—
English, Jack A., Van Benthuysen, and Beaver. 3,403,580.
Van Dyke, Bruce E., to Container Corp. of America. Corner construction for hollow-wall carton. 3,403,838, 10–1–68, Cl. 229—34.
Van Scoy, Victor S., to E. I. du Pont de Nemours and Co. Stranded rope and process for making it. 3,403,503, 10–1–68, Cl. 57—144.
Vander Mey, John E., to Allied Chemical Corp. Process and apparatus for liquid/gas separation. 3,403,497, 10–1–68, Cl. 55—90.
Vanoni, Otto V.: *See*—
Marchisen, Joseph, Philippi, and Vanoni. 3,403,869.
Varta Aktiengesellschaft: *See*—
Winsel, August. 3,404,038.
Vautier, Roger J. J.: *See*—
Berteaud, André-Jean C., Pascard, and Vautier. 3,404,355.
Veb Schoumglaswerk Taubenbach: *See*—
Schulz, Ernst O. 3,403,990.
Veech, Everett R., to FMC Corp. Vine spreading apparatus. 3,403,863, 10–1–68, Cl. 239—672.
Veeder, James R.: *See*—
Cage, James K., and Veeder. 3,403,822.
Velsicol Chemical Corp.: *See*—
Regenstein, Joseph, Jr., and Tapas, 3,404,108.
Ventre, Pierre: *See*—
Bouthors, Pierre, and Ventre. 3,403,855.
Verheijden, Marinus G.: *See*—
Repko, Jan D., Verheijden, and Lefeber. 3,404,322.
Verlinden, Harry W., to Dominion Electrohome Industries Ltd. Amplitude modulator employing forward biased unidirectional conducting device. 3,404,354, 10–1–68, Cl. 332—31.
Verrinder, Ernest A., and B. W. Rose, to FMC Corp. Container handling apparatus. 3,403,816, 10–1–68, Cl. 221—221.
Versaci, Antonio A., and R. Stapelfeldt; said Stapelfeldt, assor., to said Versaci. Flowmeter. 3,403,555, 10–1–68, Cl. 73—194.
Vertes, Paul: *See*—
Delange, Maurice, Huet, and Vertes. 3,403,986.
Verwaltungsgesellschaft Moeller & Neumann offene Handelsgesellschaft: *See*—
Metzger, Hans S. 3,403,950.
Victor Co. of Japan, Ltd.: *See*—
Tokuma, Tadao, and Nishimura. 3,404,053.
Vita-Pakt Citrus Products Co.: *See*—
La Morte, Howard W., and McIsaac. 3,403,789.
Vogel Robert E.: *See*—
Beckwith, Sterling, and Vogel. 3,403,525.
Voisey, Edwin J.: *See*—
Davidson, John W., Brooks, Voisey, and Burton. 3,403,488.
Volpe Rocco P.: *See*—
Lindemann, Martin K., and Volpe. 3,404,112.
Lindemann, Martin K., and Volpe. 3,404,113.
Von Roll AG: *See*—
Bobat, Gerhard. 3,403,628.

Voytko, Joseph, and J. R. Goodsite, to West Virginia Pulp and Paper Co. Windshield carrier pack. 3,403,778, 10–1–68, Cl. 206—62.

Vyzkumny ustav automatisacnich prostredku : *See*—
Petrik, Milos, and Kratochvil. 3,403,548.

Wade, William L., Jr. : *See*—
Skudera, William J., Jr., and Wade. 3,404,026.

Wagenfeld, Gilbert B., to Cellucap Mfg. Co. Women's headdress and method of making same. 3,403,409, 10–1–68, Cl. 2—198.

Wagner Electric Corp. : *See*—
Fites, Cyril B. 3,403,699.

Wagner, Frank A. Variable valve timing mechanism. 3,403,663, 10–1–68, Cl. 123—90.

Wakamatsu, Kazue : *See*—
Itoh, Shinya, Kanno, Wakamatsu, and Nakagawa. 3,403,966.

Walker, Harris, to Colgate-Palmolive Co. Apparatus for checking substance level in containers within variable limits. 3,404,282, 10–1–68, Cl. 250—222.

Wallace, Joseph B. : *See*—
Stiepel, Erbard E., and Wallace. 3,403,426.

Walton Engineering Co., Ltd. : *See*—
Lipscombe, John A. 3,403,560.

Warburton, John W., to Stern-Drive Corp. Inboard-outboard stern drive. 3,403,635, 10–1–68, Cl. 115—41.

Ware, Arnold G., to Bioconsultants, Inc. Method for measuring the glucose content of blood serum. 3,404,069, 10–1–68, 195—103.5.

Warman, Bloomfield J., to Associated Electrical Industries Ltd. Modular translator. 3,404,314, 10–1–68, Cl. 317—101.

Warner, Raymond M., Jr., to Motorola, Inc. High frequency and voltage transistor with added region for punch-through protection. 3,404,295, 10–1–68, Cl. 307—88.5.

Warren, Robert A., to McDonnell Douglas Corp. Aircraft stairway assembly. 3,403,749, 10–1–68, Cl. 182—88.

Waste Combustion Corp. : *See*—
Flowers, George H., Jr. 3,403,645.

Watson, Cyril D. : *See*—
Sinclair, Kenneth, and Watson. 3,403,679.
Sinclair, Kenneth, and Watson. 3,403,680.

Watson, Richard W., to Garlock Inc. Graphite braided packing. 3,403,595, 10–1–68, Cl. 87—1.

Way, Edgar G., and P. J. Attina. Extendable and retractable step apparatus. 3,403,926, 10–1–68, Cl. 280—166.

Wayne, John K. : *See*—
Jaekel, Robert F., and Wayne. 3,403,511.

Weaver, Charles H. : *See*—
Downey, Francis X., and Weaver. 3,404,229.

Weber, George K., to American Air Filter Co., Inc. Melting furnace. 3,404,210, 10–1–68, Cl. 13—22.

Weber-Knapp Co. : *See*—
Rencene, Robert C. 3,403,432.

Weber, Neill : *See*—
Rummer, Joseph T., and Weber. 3,404,035.
Rummer, Joseph T., and Weber. 3,404,036.

Weber, William J., to Phillips Petrolem Co. Container closure. 3,403,812, 10–1–68, Cl. 220—60.

Wegematic Corp. : *See*—
Jacobson, David E., and Ek. 3,403,625.
Jacobson, David E., and Ek. 3,403,626.

Weibling, Robert L. Ski device with demountable wheels. 3,403,919, 10–1–68, Cl. 280—7.13.

Weill, Jean-Louis : *See*—
Weisang, Edouard, Weill, and Engelhard. 3,404,101.

Weinrich, Erwin, to Henkel & Cie G.m.b.H. Process for improving the thermal properties of hardened epoxide resins. 3,404,195, 10–1–68, Cl. 260—830.

Weinrich, Erwin, to Henkel & Cie G.m.b.H. Process for improving the properties of hardened elastic epoxide resins. 3,404,196, 10–1–68, Cl. 260—830.

Weisang, Edouard, J.-L. Weill, and P. Engelhard, to Societe Anonyme., Compagnie Francaise de Raffinage. Catalyst for selective hydrogenation of diolefinic and acetylenic hydrocarbons. 3,404,101, 10–1–68, Cl. 252—465.

Weiss, Francis, J. Modiano, and A. Lakodey, to Societe d'Electro-Chimie, d'Electro-Metallurgie et des Acieries Electriques d'Ugine. Process for preparing adipic acids by alkaline fusion of E-hydroxy-caproic acid and its derivatives. 3,404,179, 10–1–68, Cl. 260—537.

Weissberg, Ernest. Bathing cap. 3,403,406, 10–1–68, Cl. 2—68.

Weitzner, Dorothea M. Electrically operated music cuing system. 3,403,591, 10–1–68, Cl. 84—485.

Welch, Robert W., and D. M. Magre, to Celanese Coatings Co. Process of preparing color improved glycidyl polyethers of polyhydric phenols. 3,404,126, 10–1–68, Cl. 260—47.

Weltronic Co. : *See*—
Hubbard, Bobby G. 3,404,251.

Wendt, Donovan D., and M. J. Helmos, to Bemis Bro. Bag Co. Bags. 3,403,841, 10–1–68, Cl. 229—60.

Werner, Willy, to North American Philips Co., Inc. Magnetic steering mechanism for toy vehicles. 3,403,470, 10–1–68, Cl. 46—236.

Wesel, Peter E. : *See*—
Reese, Robert C., and Wesel. 3,403,442.

Wessling, Ritchie A., and Zimmerman, to The Dow Chemical Co. Novel polymer compositions and method. 3,404,132, 10–1–68, Cl. 260—79.5.

West Virginia Pulp and Paper Co. : *See*—
Goos, Hanno, and Maurer. 3,404,071.
Voytko, Joseph, and Goodsite. 3,403,778.

Westby, Lloyd R., and F. H. Bourgeois. Control device. 3,403,573, 10–1–68, Cl. 74—469.

Western Gear Corp. : *See*—
Wootten, William A. 3,404,025.

Western Union Telegraph Co., The : *See*—
Cannon, William D. 3,404,338.

Westinghouse Air Brake Co. : *See*—
Fox, Charles H., and McGlade. 3,403,746.
Garrett, Edward O., Jr., and Noble. 3,403,752.

Westland Aircraft Ltd. : *See*—
Hardy, Derek J. 3,403,652.

Westling, Donald E. Machine for dispensing sausage and the like. 3,403,712, 10–1–68, Cl. 146—129.

Weston Instruments, Inc. : *See*—
Barry, Austin W., and Schake. 3,403,656.

Whann, R. Welton : *See*—
MacLeod, Norman A. 3,403,673.

Wheeler, Donald J., and V. Lohrenz, to Guild Metal Joining Equipment Co. Strip clamp assembly. 3,403,833, 10–1–68, Cl. 228—13.

White Consolidated Industries, Inc. : *See*—
Smith, Horace L., Jr. 3,403,454.
Smith, Horace L., Jr. 3,403,456.

Whitney, Jack W. Fish lure. 3,403,469, 10–1–68, Cl. 43—42.06.

Whittington, Patrick A. : *See*—
Gregory, John B., McClinton, and Whittington. 3,403,543.

Wieland, Franz, J. J. Ciol, and J. W. Zansitis, to Rapidograph, Inc. Method for assembling miniature tubing. 3,404,055, 10–1–68, Cl. 156—294.

Wiener, Hans. Tensiometer. 3,403,553, 10–1–68, Cl. 73—144.

Wiese, Herbert K. : *See*—
Burton, Paul E., and Wiese. 3,404,176.

Wilds, Calvin B. Edible gels. 3,404,010, 10–1–68, Cl. 99—131.

Wilfert, Martin E. : *See*—
Alcala, Joe E., and Wilfert. 3,404,227.

Wilkinson, Leonard A., to American Optical Co. Adjustable carriage for slit lamp. 3,403,957, 10–1–68, Cl. 351—38.

Willett, Harold A., to The Thomson Machinery Co., Inc. Cane handling apparatus. 3,403,796, 10–1–68, Cl. 214—46.

Williams, Clarence E. Safety storage cabinet. 3,403,954, 10–1–68, Cl. 312—351.

Williams, Clifford C. Fail-safe pipe saddle for adapters for jet pumps. 3,403,730, 10–1–68, Cl. 166—88.

Williams, Edward L., to International Telephone and Telegraph Corp. Deflection coil driving circuit. 3,404,310, 10–1–68, Cl. 315—27.

Williams, Raymond W., to British Aircraft Corp. (Operating) Ltd. Fluid flow simulation apparatus. 3,404,263, 10–1–68, Cl. 235—184.

Williams, Thomas C., and F. Mayhew. Pirn. 3,403,872, 10–1–68, Cl. 242—118.31.

Wilson, Charles P., Jr., B. Carr, and F. G. Ciapetta, to W. R. Grace & Co. Method for preparing silica-magnesia-fluoride catalyst. 3,404,097, 10–1–68, Cl. 252—441.

Wilson, Robert J., to Eastman Kodak Co. Film drying apparatus. 3,403,455, 10–1–68, Cl. 34—159.

Wilson, Wayne. Watercraft propulsion. 3,403,654, 10–1–68, Cl. 115—1.

Windsor, Meredith M., and H. R. Lincoln, to Star Cutter Co. Centrifugal separator apparatus. 3,403,848, 10–1–68, Cl. 233—7.

Wingert, Robert R. Method for the manufacture of sandwich panels. 3,404,054, 10–1–68, Cl. 156—292.

Winkler, William K., to General Electric Co. Domestic oven with separate heat-cleaning compartment. 3,404,258, 10–1–68, Cl. 219—391.

Winograd, Harold, to Allis-Chalmers Mfg. Co. Trigger circuit utilizing unijunction transistors. 3,404,331, 10–1–68, Cl. 323—22.

Winsel, August, ½ to Siemens Aktiengesellschaft and ½ to Varta Aktiengesellschaft. Electrochemical cell, particularly fuel cell, and gas-diffusion electrodes therefor. 3,404,038, 10–1–68, Cl. 136—86.

Wirth, Walter B. Bamboo rakes. 3,403,500, 10–1–68, Cl. 56—400.17.

Woebecke, Herman N., to Stone & Webster Engineering Corp. Cooling apparatus and process. 3,403,722, 10–1–68, Cl. 165—1.

Wood, George W., to IRC, Inc. Electrical resistor which can be adjusted as to resistance valve. 3,404,361, 10–1–68, Cl. 338—143.

Woodley, Frank J., to British Aircraft Corp. (Operating) Ltd. Fluid flow simulation apparatus including a function-generation circuit 3,404,266, 10–1–68, Cl. 235—197.

Woodward, Rex V., to Power Cores, Inc. Transformer core construction. 3,404,360, 10–1–68, Cl. 336—211.

Woolley, Donald D., to General Dynamics Corp. Ceramic-to-metal bonding method. 3,404,020, 10–1–68, Cl. 117—5.5.

Wootten, William A., to Western Gear Corp. Method and apparatus for coating a sheet or web. 3,404,025, 10–1–68, Cl. 117—120.

Wortz, Harvey E. : *See*—
Krieger, Darwin, and Wortz. 3,403,516.

Wright, Fred C. : *See*—
Snyder, Walter C., and Wright. 3,404,114.

Wright, Hubert C., to North American Philips Co. Inc. Three region semiconductor having rectifying junctions of different compositions so that wavelength of emitted radiation depends on direction of current flow. 3,404,305, 10–1–68, Cl. 313—108.

Wrigley, Charles Y. : *See*—
Lindmayer, Joseph, and Wrigley. 3,404,318.

Wygant, James C., to Monsanto Co. Preparation of unsaturated dicarboxylic acid esters. 3,404,174, 10–1–68, Cl. 260—485.

Xerox Corp. : *See*—
Bickmore, John T. 3,404,001.
Young, James E. 3,404,341.

Yamamoto, Kaname : *See*—
Tajima, Eiichi, and Yamamoto. 3,403,425.

Yamamoto Machinery Works Co., Ltd. : *See*—
Inabi, Kunzi. 3,403,536.

Yanagawa, Takayuki : *See*—
Kurosawa, Toshio, Shiba, Sabaki, and Yanagawa. 3,404,321.

Yanase, Akira : *See*—
Hirota, Hozumi, and Yanase. 3,403,996.

Yevick, George J. Method of making a prestressed concrete structural member. 3,403,607, 10–1–68, Cl. 94—22.

Yoder, David V. Scaffold. 3,403,751, 10–1–68, Cl. 182—229.

Yoshigai Kikai Kinzoku Co., Ltd. : *See*—
Ozaki, Nobuo. 3,403,577.

Yoshimoto, Toshio : *See*—
Matsudaira, Nobutaka, Muto, Kubota, Yoshimoto, and Sato. 3,404,103.

Young, Arthur C. Article for injecting fish-attractant into live bait. 3,403,466, 10–1–68, Cl. 43—4.

Young, Charles H. Collapsible and extendable standard. 3,403,936, 10–1–68, Cl. 296—27.

Young, James E., to Xerox Corp. Electrometer utilizing a dual purpose field-effect transistor. 3,404,341, 10–1–68, Cl. 324—109.

Young, Walter J., Jr., to United States of America, Navy. Luneberg lens with staggered waveguide feed. 3,404,405, 10–1–68, Cl. 343—754.

Youngstown Sheet and Tube Co., The : *See*—
Cernosek, Louis C. 3,403,485.

Yu, Arthur J.-S., to Thiokol Chemical Corp. Thioglycidyl compounds. 3,404,158, 10–1–68, Cl. 260—327.

Zador, Anatol P. Impeller smoke remover. 3,403,499, 10–1–68, Cl. 55—282.

Zanow, Andrey L., to Midland-Ross Corp. Friction clutch draft gear with removable rear wall. 3,403,790, 10–1–68, Cl. 213—22.

Zansitis, Jacob W. : *See*—
Wieland, Franz, Ciol, and Zansitis. 3,404,055.

Zarrouk, Claude : *See*—
Clement, Genevieve, Rebeller, and Zarrouk. 3,403,471.

Zeiringer, Rudolf : *See*—
List, Hans, Zeiringer, and Hatschek. 3,403,561.

Zemeck, Leonard D., to General Motors Corp. Diaphragm seal. 3,403,604, 10–1–68, Cl. 92—99.

Zgebura, Frank J. : *See*—
Harris, William B., Massey, and Zgebura. 3,404,293.

Zilberblat, Georg S. : *See*—
Kljueva, Nina G., Krzhevova, Fradkina, Sukhareva, Zilberblat, and Parizh. 3,404,070.

Zimmer, Keller and Calvert, Inc. : *See*—
Newell, Arthur D. 3,403,594.

Zimmerman, John A. : *See*—
Paullus, Clarence L., and Zimmerman. 3,404,364.

Zimmerman, Ray G. : *See*—
Wessling, Ritchie A., and Zimmerman. 3,404,132.

Zoda, Keiichi : *See*—
Nakagawa, Kazumi, Tsutsui, and Zoda. 3,403,422.

Zucker, Armand S., to Famous Keystone Corp. Lights for portable devices. 3,404,267, 10–1–68, Cl. 240—6.4.

Zuplatec A.G. Gesellschaft fur Technische Planung und Industrielle Entwicklung : *See*—
Andery, Paulo A. 3,403,783.

Zymak Biochemical Corp. : *See*—
Batistoni, Lawrence M. 3,404,068.

CLASSIFICATION OF PATENTS

ISSUED OCTOBER 1, 1968

NOTE.—First number, class; second number, subclass; third number, patent number

2– 68	3,403,406	44– 23	3,403,989	73–144	3,403,553	102– 38	3,403,625	136– 83	3,404,037	177–163	3,403,740
94	3,403,407	46–236	3,403,470	194	3,403,554		3,403,626	86	3,404,038	243	3,403,741
158	3,403,408	47– 1.4	3,403,471		3,403,555	103– 6	3,403,627		3,404,039	178– 4.1	3,404,219
198	3,403,409	49– 31	3,403,472	207	3,403,556	38	3,403,628		3,404,040	5.2	3,404,220
4–110	3,403,410	193	3,403,473	313	3,403,557	41	3,403,629	146	3,404,041		3,404,221
5– 81	3,403,411	360	3,403,474	362	3,403,558	42	3,403,630	154	3,404,042	.4	3,404,222
100	3,403,412	371	3,403,475	368.3	3,403,559	149	3,403,631	137– 81.5	3,403,691	6.6	3,404,223
338	3,403,413	401	3,403,476		3,403,560	154	3,403,632		3,403,692	7.1	3,404,224
355	3,403,414	486	3,403,477	389	3,403,561	104– 68	3,403,633	112	3,403,693	.3	3,404,225
8– 4	3,403,966	51– 34	3,403,478	393	3,403,562	138	3,403,634	155	3,403,694	.5	3,404,226
76	3,403,967	105	3,403,479	505	3,403,563	172	3,403,635	240	3,403,695	.8	3,404,227
116.2	3,403,968	165	3,403,480	74– 10.33	3,403,564	105– 3	3,403,636	516.13	3,403,696		3,404,228
130.1	3,403,969	204	3,403,481	97	3,403,565	178	3,403,637	517	3,403,697	67	3,404,229
12– 1	3,403,415	227	3,403,482	210	3,403,566	199	3,403,638	614.11	3,403,698	69.5	3,404,230
13– 10	3,404,209	347	3,403,483	230.17	3,403,567	106– 1	3,404,013	627.5	3,403,699		3,404,231
22	3,404,210	52– 98	3,403,484	333	3,403,568	22	3,404,014	636.1	3,403,700	70	3,404,232
15– 21	3,403,416	121	3,403,485	388	3,403,569	52	3,404,015	802	3,403,701	88	3,404,233
	3,403,417	127	3,403,486	411.5	3,403,570	60	3,404,016	138– 37	3,403,702	179– 1	3,404,234
104.06	3,403,418	148	3,403,487	421	3,403,571	135	3,404,017	92	3,403,703		3,404,235
235.3	3,403,419	204	3,403,488	426	3,403,572	252	3,404,018	139– 34	3,403,704	5	3,404,236
244	3,403,420		3,403,489	469	3,403,573	307	3,404,019	68	3,403,705	15	3,404,237
17– 21	3,403,421	213	3,403,490	471	3,403,574	107– 4	3,403,639	124	3,403,706	81	3,404,238
18– 8	3,403,422	397	3,403,491		3,403,575	68	3,403,640	171	3,403,707	90	3,404,239
42	3,403,423	744	3,403,492		3,403,576	108–152	3,403,641	183	3,403,708		3,404,240
19–107	3,403,424	53–151	3,403,493	480	3,403,577	110– 7	3,403,642	143– 47	3,403,709	100.2	3,404,241
156.3	3,403,425	246	3,403,494	501	3,403,578	10	3,403,643	144– 30	3,403,710		3,404,242
240	3,403,426	55– 72	3,403,495		3,403,579	18	3,403,644	145– 51	3,403,711	110	3,404,243
23– 56	3,403,970	73	3,403,496	527	3,403,580		3,403,645	146–129	3,403,712	180– 22	3,403,742
105	3,403,971	90	3,403,497	530	3,403,581	112–104	3,403,646	148– 6.16	3,404,045	24	3,403,743
107	3,403,972		3,403,498	711	3,403,582	130	3,403,648	.2	3,404,043	25	3,403,744
109	3,403,973	282	3,403,499	720.5	3,403,583	222	3,403,647		3,404,044	26	3,403,745
165	3,403,974	56–400.17	3,403,500	757	3,403,584	113–121	3,403,649	.21	3,404,046	70	3,403,746
198	3,403,975	57– 77.3	3,403,501	813	3,403,585	114– 20	3,403,650	12.1	3,404,047	105	3,403,747
202	3,403,977	129	3,403,502	820	3,403,586	43.5	3,403,652	161	3,404,048	181– .5	3,403,748
209.4	3,403,976	144	3,403,503	866	3,403,587	74	3,403,651	149– 19	RE.26,468	182– 88	3,403,749
230	3,403,978	164	3,403,504	75–115	3,403,995	103	3,403,653	150– .5	3,403,713	189	3,403,750
254	3,403,979	58– 88	3,403,505	157.5	3,403,997	115– 1	3,403,654		3,403,714	229	3,403,751
267	3,403,980	59– 85	3,403,506	170	3,403,996	41	3,403,655	9	3,403,715	188– 62	3,403,752
281	3,403,981	60– 24	3,403,508	171	3,403,998	116–129	3,403,656	28	3,403,716	70	3,403,753
292	3,403,982	39.15	3,403,507	208	3,403,999		3,403,657	151– 21	RE.26,469	72	3,403,754
312	3,403,983	.28	3,403,509	214	3,404,000	117– 5.5	3,404,020	37	3,403,717		3,403,755
315	3,403,984	.74	3,403,510	84–306	3,403,588	36.1	3,404,021	41.73	3,403,718	73	3,403,756
324	3,403,985	.82	3,403,511	470	3,403,590	62.2	3,404,022	156– 6	3,404,049	77	3,403,757
353	3,403,986	52	3,403,512	478	3,403,589	69	3,404,023	53	3,404,050	218	3,403,758
356	3,403,987	53	3,403,513	485	3,403,591	113	3,404,024	82	3,404,051		3,403,759
24– 73	3,403,427	54	3,403,514	85– 49	3,403,592	120	3,404,025	91	3,404,052		3,403,760
161	3,403,428	.5	3,403,515	68	3,403,593	123	3,404,026	272	3,404,053	265	3,403,761
204	3,403,429	.6	3,403,516	74	3,403,594	124	3,404,027	292	3,404,054	192– 45	3,403,762
206	3,403,430		3,403,517	87– 1	3,403,595	138.5	3,404,028	294	3,404,055	56	3,403,763
261	3,403,431	253	3,403,518	89– 26	3,403,596	155	3,404,029	306	3,404,056	58	3,403,764
27– 17	3,403,432	61– 13	3,403,519	90– 12	3,403,597	169	3,404,030	363	3,404,059	194– 54	3,403,765
28– 74	3,403,433	53.5	3,403,520	91– 47	3,403,598	201	3,404,031	522	3,404,057	195– 61	3,404,068
29–196.6	3,403,988	72.6	3,403,521	205	3,403,599	212	3,404,032	526	3,404,060	103.5	3,404,069
200	3,403,434	62– 37	3,403,522	409	3,403,600	217	3,404,033	527	3,404,058	104	3,404,070
450	3,403,435	70	3,403,523	438	3,403,601	224	3,404,034	159– 26	3,403,719	127	3,404,071
	3,403,436		3,403,524	92– 61	3,403,602	118– 6	3,403,658	160–231	3,403,720	197–107	3,403,766
481	3,403,437	82	3,403,525	99	3,403,603	249	3,403,659	161–125	3,404,061	198– 20	3,403,767
577	3,403,438	188	3,403,526		3,403,604	503	3,403,660	169	3,404,062	33	3,403,768
578	3,403,439	266	3,403,527	187	3,403,605	123– 41.84	3,403,661	162– 16	3,404,063		3,403,769
30– 43.6	3,403,440	268	3,403,528	93– 44.1	3,403,606	78	3,403,662	179	3,404,064		3,403,770
90.1	3,403,441	277	3,403,529	94– 22	3,403,607	90	3,403,663	233	3,404,065		3,403,771
164.95	3,403,442	303	3,403,530	25	3,403,608	139	3,403,664	374	3,404,066	34	3,403,772
168	3,403,443	314	3,403,531	46	3,403,609	148	3,403,665	164– 43	3,403,721	52	3,403,773
31– 46	3,403,444	347	3,403,532	50	3,403,610		3,403,666	165– 1	3,403,722	213	3,403,774
32– 33	RE.26,470	408	3,403,533	95– 11.5	3,403,611	182	3,403,667	19	3,403,723	200– 5	3,404,244
33– 1	3,403,445	419	3,403,534	96– 1.1	3,404,001	197	3,403,668	119	3,403,724	19	3,404,245
147	3,403,446	65– 22	3,403,990	3	3,404,002	124– 29	3,403,669	122	3,403,725	61.89	3,404,246
148	3,403,447	107	3,403,991	33	3,404,003	126– 44	3,403,670	142	3,403,726	144	3,404,247
174	3,403,448	66– 40	3,403,535	50	3,404,004	128– 2	3,403,671	160	3,403,727	166	3,404,248
184.5	3,403,449	86	3,403,536	91	3,404,005	.05	3,403,672	166– .5	3,403,728	203– 1	3,404,072
34– 1	3,403,450	195	3,403,537	98– 1.5	3,403,612	.07	3,403,678	75	3,403,729	204– 15	3,404,073
10	3,403,451	68– 12	3,403,538	39	3,403,613	40	3,403,673	88	3,403,730	25	3,404,074
13.8	3,403,452	71– 1	3,403,992	40	3,403,614	61	3,403,674	211	3,403,731	54	3,404,075
21	3,403,453	65	3,403,993	101	3,403,615	75	3,403,675	242	3,403,732	101	3,404,076
68	3,403,454	118	3,403,994	119	3,403,616	87	3,403,676	169– 2	3,403,733	143	3,404,077
159	3,403,455	72– 32	RE.26,467	99– 35	3,404,006	205	3,403,677	170–135.74	3,403,734	164	3,404,078
160	3,403,456	56	3,403,539	71	3,404,007	218	3,403,679	160.51	3,403,735	181	3,404,079
242	3,403,457	185	3,403,540	116	3,404,009		3,403,680	172– 9	3,403,736		3,404,080
35– 24	3,403,458	201	3,403,541	131	3,404,010	290	3,403,681	421	3,403,737	243	3,404,081
30	3,403,459	302	3,403,542	140	3,404,011	295	3,403,682	173– 48	3,403,738		3,404,082
31	3,403,460	398	3,403,543	161	3,404,008	303.14	3,403,683	73	3,403,739	272	3,404,083
36– 67	3,403,461	73– 3	3,403,544	204	3,404,012	407	3,403,684	174– 18	3,404,211	298	3,404,084
37–104	3,403,462	23.1	3,403,545	295	3,403,617	419	3,403,685	38	3,404,212	206– 45.14	3,403,775
38– 77	3,403,463	54	3,403,546	321	3,403,618	131– 17	3,403,686	52	3,404,213	56	3,403,776
	3,403,464	71.2	3,403,547	100– 31	3,403,619	140	3,403,687		3,404,214	62	3,403,777
40– 65	3,403,465	88.5	3,403,548	214	3,403,620		3,403,688		3,404,215		3,403,778
43– 4	3,403,466	103	3,403,549	101– 23	3,403,621	265	3,403,689	84	3,404,216	65	3,403,779
15	3,403,467	136	3,403,550	126	3,403,622	267	3,403,690	103	3,404,217		3,403,780
24	3,403,468	139	3,403,551	368	3,403,623	136– 6	3,404,035	177	3,404,218	208–111	3,404,085
42.06	3,403,469	143	3,403,552	102– 8	3,403,624		3,404,036	176– 37	3,404,067	120	3,404,086

208–207	3,404,087	230–190	3,403,845	252–443	3,404,098	260–453	3,404,170	296– 27	3,403,936	328– 42	3,404,343
209– 10	3,403,781	206	3,403,846	459	3,404,099	454	3,404,171	97	3,403,937	129	3,404,344
75	3,403,782	231	3,403,847	462	3,404,100		3,404,172	297–391	3,403,938	141	3,404,345
167	3,403,783	233– 7	3,403,848	465	3,404,101	455	3,404,173	298– 23	3,403,939	329–116	3,404,346
210– 44	3,404,088	20	3,403,849	253– 1	3,403,888	485	3,404,174	299– 26	3,403,940	330– 29	3,404,347
67	3,403,784	234– 99	3,403,850	39	3,403,889	488	3,404,175	302– 42	3,403,941	103	3,404,348
178	3,403,785	235– 61.7	3,404,259	59	3,403,890	497	3,404,176	49	3,403,942	331– 94.5	3,404,349
217	3,403,786	117	3,403,851		3,403,891		3,404,177	52	3,403,943		3,404,350
211–124	3,403,787	151.35:	3,404,260		3,403,892	502.4	3,404,178	303– 6	3,403,944		3,404,351
126	3,403,788	181	3,404,261	77	3,403,893	537	3,404,179	21	3,403,945		3,404,352
150	3,403,789	183	3,404,262	259–104	3,403,894	544	3,404,180	24	3,403,946	332– 1	3,404,353
213– 22	3,403,790	184	3,404,263	260– 2	3,404,102	566	3,404,181	307–203	3,404,285	31	3,404,354
43	RE.26,472	194	3,404,264	.3	3,404,103		3,404,182	218	3,404,286	333– 17	3,404,355
214– 2.5	3,403,791		3,404,265	.5	3,404,104	567.6	3,404,183	223	3,404,287	83	3,404,356
6	3,403,792	197	3,404,266		3,404,105	581	3,404,184	232	3,404,288	95	3,404,357
16.6	3,403,793	236– 13	3,403,852		3,404,106	586	3,404,185	235	3,404,289	335– 78	3,404,358
16	3,403,794	56	3,403,853		3,404,107	593	3,404,186	237	3,404,290	336–135	3,404,359
17	3,403,795	92	3,403,854	4	3,404,108	606.5	3,404,187	239	3,404,291	211	3,404,360
46	3,403,796	237– 8	3,403,855	23.5	3,404,110	611	3,404,109	252	3,404,292	338–143	3,404,361
83.26	3,403,797	239– 78	3,403,856	.7	3,404,111	617	3,404,188		3,404,293	339– 17	3,404,362
84	3,403,798	265.15:	3,403,857	29.6	3,404,112	653.1	3,404,189	288	3,404,294	60	3,404,363
89	3,403,799	.39:	3,403,858		3,404,113	667	3,404,190	302	3,404,295	61	3,404,364
511	3,403,800	272	3,403,863		3,404,114	673	3,404,191	308– 3.5	3,403,947	90	3,404,365
770	3,403,801	284	3,403,859	.7	3,404,115	676	3,404,192	122	3,403,948	119	3,404,366
778	3,403,802	460	3,403,860		3,404,116	680	3,404,193	187.1	3,403,949	217	3,404,367
215– 9	3,403,803	533	3,403,861	30.2	3,404,117	683.15:	3,404,194	194	3,403,950	223	3,404,368
31	3,403,804	566	3,403,862	.4	3,404,118	830	3,404,195	201	3,403,951		3,404,369
219– 74	3,404,249	240– 6.4	3,404,267	37	3,404,119		3,404,196	310– 8	3,404,296	256	3,404,370
81	3,404,250	10	3,404,268	41.5	3,404,120	839	3,404,197	.1	3,404,297	340– 87	3,404,371
108	3,404,251	11.4	3,404,269	45.7	3,404,121	840	3,404,198	.9	3,404,298	146.1	3,404,372
110	3,404,252	241– 20	3,403,864		3,404,122	263– 29	3,403,895	17	3,404,299		3,404,373
121	3,404,253	194	3,403,865	.8	3,404,123	52	3,404,199	164	3,404,300	147	3,404,374
	3,404,254	242– 47.5	3,403,866	.85:	3,404,124	264– .5	3,404,200	312– 61	3,403,952	172.5	3,404,375
	3,404,255	55.12:	3,403,867	47	3,404,125		3,404,201	204	3,403,953		3,404,376
311	3,404,256	.19:	3,403,868		3,404,126	84	3,404,202	351	3,403,954		3,404,377
374	3,404,257	.53:	3,403,869		3,404,127	108	3,404,203	313– 33	3,404,301		3,404,378
391	3,404,258	86.52:	3,403,870	51.5	3,404,128	210	3,404,204	85	3,404,302		3,404,379
220– 2.1	3,403,805	118.31:	3,403,872	64	3,404,133	289	3,404,205	89	3,404,303		3,404,380
6	3,403,806	.7	3,403,871	75	3,404,129	266– 23	3,403,896	108	3,404,304	173	3,404,381
9	3,403,807	244– 3.21:	3,403,873	77.5	3,404,130	30	3,403,897		3,404,305		3,404,382
23.4	3,403,808	77	3,403,874		3,404,131	36	3,403,898	315– 3.5	3,404,306		3,404,383
44	3,403,809	111	3,403,875	78.5	3,404,134	267– 35	3,403,899	8	3,404,307	174	3,404,384
53	3,403,810	145	3,403,876		3,404,135	269– 37	3,403,900	12	3,404,308		3,404,385
54	3,403,811	248– 48	3,403,877	79.5	3,404,132	243	3,403,901	18	3,404,309		3,404,386
60	3,403,812	201	3,403,878	88.3	3,404,136	271– 1	3,403,902	27	3,404,310		3,404,387
81	3,403,813	223	3,403,879	91.1	3,404,137	20	3,403,903	172	3,404,311		3,404,388
97	3,403,814	346	3,403,880	92.8	3,404,138	27	3,403,904	317– 13	3,404,312		3,404,389
221– 34	3,403,815	361	3,403,881	93.7	3,404,139	272– 57	3,403,905	41	3,404,313		3,404,390
221	3,403,816	373	3,403,882		3,404,140		3,403,906	101	3,404,314	.1	3,404,391
222– 1	3,403,817	249– 95	3,403,883	94.3	3,404,141	273– 86	3,403,908	119	3,404,315		3,404,392
23	3,403,818	250– 43.5	3,404,270	112	3,404,142	95	3,403,907		3,404,316	276	3,404,393
56	3,403,819	49.5	3,404,271	211	3,404,143	106	3,403,909		3,404,317	324	3,404,394
61	3,403,820	83	3,404,272	.5	3,404,144		3,403,910	234	3,404,318	347	3,404,395
63	3,403,821	.1	3,404,273	239	3,404,145	126	3,403,911		3,404,319	343– 5	3,404,396
107	3,403,822	.3	3,404,274		3,404,146	163	3,403,912		3,404,320	6	3,404,397
153	3,403,823		3,404,275	.3	3,404,147	274– 1	3,403,913	235	3,404,321	7	3,404,398
176	3,403,824		3,404,276		3,404,148	10	3,403,914	253	3,404,322	.7	3,404,399
232	3,403,825	106	3,404,277	.5	3,404,149	277– 3	3,403,915	318– 18	3,404,323	17.2	3,404,400
334	3,403,826	199	3,404,278	.55:	3,404,150	92	3,403,916	27	3,404,324	100	3,404,401
362	3,403,827		3,404,279	249.8	3,404,151	110	3,403,917	208	3,404,325	108	3,404,402
486	3,403,828	202	3,404,280	295	3,404,152	152	3,403,918	320– 23	3,404,326	700	3,404,403
571	3,403,829		3,404,281	.5	3,404,153	280– 7.13:	3,403,919	321– 8	3,404,327	727	3,404,404
224– 29	3,403,830	222	3,404,282	297	3,404,154	11.35:	3,403,920	18	3,404,328	754	3,404,405
226– 62	3,403,831	226	3,404,283		3,404,155		3,403,921	19	3,404,329	350– 96	3,403,955
227– 91	3,403,832	239	3,404,284	309.6	3,404,156	41	3,403,922	323– 22	3,404,330	179	3,403,956
228– 13	3,403,833	251– 30	3,403,884	310	3,404,157	43.1	3,403,923		3,404,331	351– 38	3,403,957
229– 2.5	3,403,834	63.5	3,403,885	327	3,404,158	63	3,403,924	324– .5	3,404,332	153	3,403,958
13	3,403,835	163	3,403,886	329	3,404,159	81	3,403,925	15	3,404,333	401–148	3,403,959
27	3,403,836	209	3,403,887	332.2	3,404,160	166	3,403,926	20	3,404,334	188	3,403,960
31	3,403,837	252– 2	3,404,089		3,404,161	261	3,403,927	30	3,404,335	202	3,403,961
34	3,403,838	47.5	3,404,090	340.2	3,404,162	406	3,403,928		3,404,336	424–241	3,404,206
40	3,403,839	50	3,404,091	348.5	3,404,163	285–177	3,403,929	41	3,404,337	300	3,404,207
51	RE.26,471	51.5	3,404,092	397.2	3,404,164	315	3,403,930	57	3,404,338		3,404,208
	3,403,840	62.52:	3,404,093	404.5	3,404,165	334.2	3,403,931	70	3,404,339	431– 20	3,403,962
60	3,403,841	148	3,404,094	413	3,404,166	287– 87	3,403,932	72.5	3,404,340	254	3,403,963
230–114	3,403,842	321	3,404,095	429.7	3,404,167	292–251.5	3,403,933	109	3,404,341	256	3,403,964
120	3,403,843	429	3,404,096	448.2	3,404,168	341.16:	3,403,934	125	3,404,342	347	3,403,965
134	3,403,844	441	3,404,097		3,404,169	296– 23	3,403,935				

CLASSIFICATION OF DESIGNS

D 9– 35	212,318	D14– 3	212,324	D26– 1	212,329	D33– 3	212,334	D42– 7	212,339	D61– 1	212,344
39	212,319	14	212,325		212,330	24	212,335	D52– 6	212,340	D71– 1	212,345
100	212,320	D23– 71	212,326		212,331	D41– 1	212,336	D54– 2	212,341	D80– 9	212,346
	212,321		212,327	5	212,332	D42– 7	212,337	D56– 4	212,342	D85– 2	212,347
169	212,322	D26– 1	212,328	D29– 23	212,333		212,338		212,343	D87– 3	212,348
D13– 1	212,323										

CLASSIFICATION OF PLANTS

P. – 15	2,836	P. – 29	2,838	P. – 34	2,835	P. – 55	2,837

GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

(NOTE.–CODES ARE CHANGED AS OF JANUARY 1, 1967)

Alabama	1	Kentucky	21	Oregon	41
Alaska	2	Louisiana	22	Pennsylvania	42
American Samoa	3	Maine	23	Puerto Rico	43
Arizona	4	Maryland	24	Rhode Island	44
Arkansas	5	Massachusetts	25	South Carolina	45
California	6	Michigan	26	South Dakota	46
Canal Zone	7	Minnesota	27	Tennessee	47
Colorado	8	Mississippi	28	Texas	48
Connecticut	9	Missouri	29	Utah	49
Delaware	10	Montana	30	Vermont	50
District of Columbia	11	Nebraska	31	Virginia	51
Florida	12	Nevada	32	Virgin Islands	52
Georgia	13	New Hampshire	33	Washington	53
Guam	14	New Jersey	34	West Virginia	54
Hawaii	15	New Mexico	35	Wisconsin	55
Idaho	16	New York	36	Wyoming	56
Illinois	17	North Carolina	37	U.S. Air Force	57
Indiana	18	North Dakota	38	U.S. Army	58
Iowa	19	Ohio	39	U.S. Navy	59
Kansas	20	Oklahoma	40		

(First number in listing denotes location according to above key. Refer to patent number in body of the Official Gazette to obtain details as to inventor name, location, etc.)

PATENTS

1	3,403,955	6	3,403,928	9	3,403,407	17	3,403,494	17	3,404,291	22	3,403,796
	3,404,064		3,403,959		3,403,510		3,403,525		3,404,298		3,404,022
4	3,403,540		3,403,960		3,403,528		3,403,552		3,404,303		3,404,028
	3,403,544		3,403,962		3,403,809		3,403,555		3,404,311		3,404,085
	3,403,635		3,403,989		3,403,823		3,403,559		3,404,333		3,404,130
	3,404,295		3,404,011		3,403,834		3,403,565		3,404,334		3,404,145
6	RE.26,467		3,404,016		3,403,858		3,403,573		3,404,360		3,404,146
	3,403,406		3,404,020		3,404,170		3,403,592		3,404,371	23	3,403,447
	3,403,421		3,404,025		3,404,171		3,403,604		3,404,393	24	3,403,542
	3,403,441		3,404,041		3,404,178		3,403,616		3,404,395		3,403,543
	3,403,469		3,404,068		3,404,187		3,403,663	18	3,403,408		3,403,547
	3,403,474		3,404,069		3,404,219		3,403,668		3,403,452		3,403,563
	3,403,500		3,404,072		3,404,269		3,403,671		3,403,481		3,403,576
	3,403,506		3,404,076		3,404,283		3,403,674		3,403,507		3,403,612
	3,403,521		3,404,081		3,404,317		3,403,681		3,403,509		3,403,624
	3,403,546		3,404,082	10	RE.26,468		3,403,683		3,403,515		3,403,650
	3,403,562		3,404,084		3,403,503		3,403,695		3,403,550		3,403,873
	3,403,575		3,404,150		3,403,537		3,403,730		3,403,571		3,404,184
	3,403,593		3,404,223		3,403,853		3,403,746		3,403,580		3,404,325
	3,403,606		3,404,224		3,403,862		3,403,754		3,403,583	25	3,403,423
	3,403,609		3,404,227		3,403,929		3,403,755		3,403,598		3,403,480
	3,403,613		3,404,241		3,403,988		3,403,763		3,403,601		3,403,501
	3,403,639		3,404,242		3,404,062		3,403,767		3,403,661		3,403,623
	3,403,659		3,404,248		3,404,098		3,403,795		3,403,753		3,403,646
	3,403,672		3,404,250		3,404,134		3,403,810		3,403,758		3,403,665
	3,403,673		3,404,257		3,404,162		3,403,820		3,403,759		3,403,706
	3,403,675		3,404,260		3,404,180		3,403,825		3,403,819		3,403,707
	3,403,678		3,404,268	12	RE.26,470		3,403,832		3,403,835		3,403,708
	3,403,693		3,404,279		3,403,463		3,403,863		3,403,854		3,403,718
	3,403,703		3,404,288		3,403,511		3,403,879		3,403,857		3,403,722
	3,403,711		3,404,306		3,403,535		3,403,902		3,403,875		3,403,800
	3,403,713		3,404,307		3,403,726		3,403,916		3,404,066		3,403,852
	3,403,733		3,404,312		3,403,765		3,403,918		3,404,192		3,403,999
	3,403,749		3,404,350		3,403,808		3,403,936		3,404,228		3,404,005
	3,403,761		3,404,353		3,403,864		3,403,939		3,404,253		3,404,051
	3,403,769		3,404,375		3,403,924		3,403,940		3,404,284		3,404,061
	3,403,770		3,404,377		3,403,974		3,403,947		3,404,310		3,404,167
	3,403,771		3,404,382		3,404,063		3,403,953		3,404,363		3,404,215
	3,403,772		3,404,384		3,404,239		3,403,954	19	3,403,489		3,404,247
	3,403,794		3,404,391	13	3,403,723		3,404,012		3,403,802		3,404,271
	3,403,814		3,404,392		3,403,787		3,404,059		3,404,337		3,404,318
	3,403,816		3,404,398		3,403,906		3,404,090	20	3,403,709		3,404,340
	3,403,826		3,404,399		3,403,973		3,404,093		3,403,868		3,404,352
	3,403,867		3,404,400	17	RE.26,472		3,404,108	21	3,403,498	26	3,403,428
	3,403,880	8	3,403,520		3,403,430		3,404,128		3,403,865		3,403,483
	3,403,903		3,403,636		3,403,446		3,404,142		3,404,018		3,403,512
	3,403,907		3,403,818		3,403,449		3,404,149		3,404,126		3,403,516
	3,403,911		3,403,890		3,403,459		3,404,188		3,404,210		3,403,517
	3,403,917		3,403,898		3,403,473		3,404,217		3,404,258		3,403,568
	3,403,926		3,404,342		3,403,478		3,404,267	22	3,403,445		3,403,579

26 : 3,403,582
3,403,594
3,403,602
3,403,618
3,403,620
3,403,630
3,403,632
3,403,634
3,403,641
3,403,653
3,403,662
3,403,684
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3,403,735
3,403,743
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3,403,784
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3,403,884
3,403,899
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3,403,938
3,404,019
3,404,036
3,404,043
3,404,044
3,404,046
3,404,074
3,404,077
3,404,095
3,404,116
3,404,120
3,404,132
3,404,172
3,404,191
3,404,203
3,404,222
3,404,246
3,404,281
3,404,326
3,404,369
27 : 3,403,570
3,403,608
3,403,721
3,403,773
3,403,822
3,403,841
3,403,874
3,403,933
3,404,079
3,404,118
3,404,163
3,404,165
3,404,183
3,404,198
3,404,235
3,404,285
3,404,286
28 : 3,403,467
28 : 3,403,637
3,403,670
3,403,697
3,403,699
3,403,710
3,403,845
3,403,943
3,403,977
3,403,983
3,403,994
3,404,004

29 : 3,404,037
3,404,174
3,404,207
3,404,251
3,404,287
30 : 3,403,777
31 : 3,403,631
32 : 3,404,010
33 : 3,403,786
34 : 3,403,413
3,403,458
3,403,484
3,403,497
3,403,589
3,403,607
3,403,643
3,403,656
3,403,669
3,403,717
3,403,768
3,403,776
3,403,815
3,403,869
3,403,896
3,403,952
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3,404,054
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3,404,073
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3,404,089
3,404,092
3,404,096
3,404,100
3,404,112
3,404,113
3,404,123
3,404,127
3,404,138
3,404,147
3,404,176
3,404,177
3,404,193
3,404,231
3,404,232
3,404,249
3,404,259
3,404,265
3,404,293
3,404,308
3,404,309
3,404,324
3,404,335
3,404,336
3,404,338
3,404,347
3,404,349
3,404,351
3,404,361
3,404,362
3,404,373
3,404,380
3,404,386
3,404,387
3,404,394
3,404,403
35 : 3,403,729
3,404,323
36 : 3,403,410

36 : 3,403,412
3,403,432
3,403,442
3,403,455
3,403,462
3,403,468
3,403,499
3,403,508
3,403,556
3,403,558
3,403,590
3,403,591
3,403,595
3,403,611
3,403,617
3,403,621
3,403,657
3,403,687
3,403,688
3,403,715
3,403,716
3,403,781
3,403,789
3,403,803
3,403,812
3,403,831
3,403,859
3,403,860
3,403,891
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3,403,900
3,403,913
3,403,951
3,403,957
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3,404,001
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3,404,014
3,404,015
3,404,021
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3,404,024
3,404,032
3,404,033
3,404,035
3,404,039
3,404,040
3,404,049
3,404,052
3,404,091
3,404,121
3,404,131
3,404,144
3,404,153
3,404,156
3,404,157
3,404,159
3,404,160
3,404,161
3,404,197
3,404,211
3,404,214
3,404,221
3,404,225
3,404,226
3,404,230
3,404,236
3,404,237
3,404,255
3,404,274
3,404,282
3,404,290
3,404,302
3,404,315
3,404,316
3,404,327
3,404,339

36 : 3,404,341
3,404,345
3,404,376
3,404,381
3,404,401
3,404,405
37 : 3,403,419
3,403,438
3,403,872
3,404,129
3,404,212
38 : 3,403,714
39 : 3,403,435
3,403,437
3,403,448
3,403,460
3,403,465
3,403,466
3,403,477
3,403,482
3,403,487
3,403,513
3,403,533
3,403,534
3,403,538
3,403,578
3,403,581
3,403,585
3,403,605
3,403,614
3,403,658
3,403,696
3,403,698
3,403,738
3,403,757
3,403,778
3,403,790
3,403,793
3,403,797
3,403,805
3,403,833
3,403,838
3,403,840
3,403,842
3,403,844
3,403,889
3,403,893
3,403,894
3,403,919
3,403,922
3,403,935
3,403,965
3,403,968
3,404,008
3,404,045
3,404,056
3,404,078
3,404,097
3,404,109
3,404,137
3,404,202
3,404,205
3,404,213
3,404,234
3,404,276
3,404,278
3,404,296
3,404,328
3,404,348
40 : 3,403,588
3,403,731
3,403,978
3,404,006
3,404,094
3,404,104
3,404,124
3,404,190
3,404,194

41 : 3,403,417
3,403,644
3,403,745
3,403,909
3,404,060
42 : 3,403,409
3,403,414
3,403,416
3,403,434
3,403,436
3,403,443
3,403,451
3,403,519
3,403,527
3,403,529
3,403,541
3,403,549
3,403,597
3,403,648
3,403,685
3,403,751
3,403,752
3,403,792
3,403,801
3,403,887
3,403,895
3,403,901
3,403,905
3,403,910
3,403,927
3,403,941
3,403,971
3,403,979
3,403,982
3,403,991
3,403,998
3,404,027
3,404,030
3,404,047
3,404,055
3,404,117
3,404,125
3,404,158
3,404,173
3,404,209
3,404,216
3,404,256
3,404,264
3,404,277
3,404,299
3,404,313
3,404,364
3,404,367
3,404,368
3,404,370
3,404,388
44 : 3,403,866
45 : 3,403,424
3,403,426
3,403,495
3,403,702
3,403,780
47 : 3,403,619
3,403,689
3,404,087
3,404,270
48 : 3,403,418
3,403,431
3,403,439
3,403,485
3,403,491
3,403,522
3,403,523
3,403,524
3,403,677
3,403,694
3,403,701
3,403,728

48 : 3,403,732
3,403,737
3,403,739
3,403,740
3,403,748
3,403,774
3,403,791
3,403,846
3,403,847
3,403,931
3,403,976
3,404,106
3,404,107
3,404,111
3,404,114
3,404,186
3,404,289
3,404,304
49 : 3,403,654
3,403,676
3,403,720
3,403,821
3,403,885
50 : 3,404,218
51 : 3,403,454
3,403,456
3,403,457
3,403,645
3,403,775
3,403,779
3,403,811
3,403,813
3,403,828
3,403,836
3,403,837
3,403,839
3,403,915
3,404,058
3,404,229
3,404,346
3,404,372
53 : 3,403,420
3,403,450
3,403,532
3,403,655
3,403,877
3,404,013
3,404,031
3,404,200
3,404,244
3,404,252
3,404,396
54 : 3,403,798
3,403,827
3,403,830
3,403,970
3,404,102
3,404,185
55 : RE.26,471
3,403,464
3,403,490
3,403,526
3,403,667
3,403,682
3,403,704
3,403,712
3,403,725
3,403,736
3,403,742
3,403,843
3,403,878
3,403,906
3,403,949
3,403,993
3,404,254
3,404,331
3,404,343
57 : 3,403,504

Design Patents

6 : 212,323
212,324
212,326
212,327
212,328

6 : 212,333
212,343
212,345
212,347
9 : 212,319

9 : 212,320
212,321
212,338
17 : 212,334
18 : 212,342

25 : 212,348
34 : 212,339
212,340
36 : 212,322

36 : 212,335
212,337
212,344
39 : 212,336

39 : 212,346
40 : 212,341
42 : 212,325
212,332

Plant Patents

6 : 2,836

6 : 2,838

17 : 2,835

39 : 2,837

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

October 1, 1968 Volume 855 Number 1

TRADEMARKS

NOTICES

Termination of Daylight Saving Time

Attention is called to the Notice published in 849 O.G. 277, Apr. 9, 1968, as to the operation of the Patent Office on Daylight Saving Time. This operation will terminate on October 27, 1968.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 227,904 (THE NEW YORK TIMES), The New York Times Company, Daily newspapers, **filed** July 3, 1968, D.C., S.D.N.Y., Doc. 68–C–2728, *The New York Times Company* v. *Heritage Society of America, Ltd.*

Reg. No. 287,074. (See Reg. No. 545,127.)

Reg. No. 366,253. (See Reg. No. 545,127.)

Reg. No. 504,342 (KEYSTONE KITCHENS AND DESIGN), Keystone Cabinet Company, Kitchen cabinets; **Reg. No. 576,095** (KEYSTONE), same, **filed** Dec. 15, 1967, D.C., S.D.N.Y., Doc. 67–C–4931, *Keystone Cabinet Company* v. *Keystone Cabinet Company, Inc.* Filed consent judgment. Keystone Cabinet Company owner of Reg. Nos. 504,342 and 576,095, being good and valid, May 31, 1968.

Reg. No. 512,770 (MAYTAG), The Maytag Company, Clothes washing machines, wringers and agitators, ironing machines, and parts therefor; **Reg. No. 703,604**, same, Appliance installation, maintenance and repair services; **Reg. No. 802,649** (MAYTAG AND DESIGN), same, Laundry appliances and machines—namely, clothes washers, dryers and parts therefor, **filed** July 3, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68–1091–R, *The Maytag Co.* v. *General Telephone Co. et al.*

Reg. No. 524,144 (ASHLAND PENN), Ashland Oil & Refining Company, Motor oil; **Reg. No. 524,145** (ASHLAND OLD GOLD), same; **Reg. No. 535,578** (ASHLAND FLYING OCTANES), same, Gasoline; **Reg. No. 543,584** (ASHLAND TOPFLITS), same, Lubricating oils; **Reg. No. 558,675** (ASHLAND), same, Gasoline, kerosene, lubricating oils and greases, protective oils and greases (products used to coat metals or other materials to keep them from oxidizing or rusting and/or to help preserve them), fuel oil, floor oil (products used on the surfaces of wooden floors to keep dust down and impregnate the fibers of the wood in order to preserve it), coal spray oil, oil for facilitating the cutting of metals and other substances, penetrating oils, brick oil (products used to lubricate the forms which are used in the manufacture of bricks, thereby keeping the brick from sticking to the form), form oil, paraffin oil (products used in the blending of motor oils as well as in transformer oils, hydraulic oils, and floor oils), castor oil (product used for lubricating purposes and general uses in the industrial arts), and oils and greases for use as pressure mediums in hydraulic pressure apparatus; **Reg. No. 574,318** (ASHLAND VITAFUEL), same, Gasoline; **Reg.**

CONDITION OF TRADEMARK APPLICATIONS AS OF AUGUST 31, 1968

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	15,629
Date of oldest new application	August 1, 1967
Date of oldest amended application (filing date)	April 28, 1965

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application: New	Oldest Application: Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	1- 9-68	10-27-65
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	11-22-67	6- 6-66
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	11- 6-67	4-28-65
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	8- 1-67	1-17-66
Renewals (All Classes)	7-22-68	----------
Sec. 12(c) Publications (All Classes)	7-29-68	----------

Applications filed during the month of August 1968—2,487

Registrations Issued ---------- 445—No. 857,684 to No. 858,128
Renewals Issued ---------- 100

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

No. 642,225 (ASHLAND FLYING OCTANES), same; **Reg. No. 675,457** (ASHLAND A PLUS), same; **Reg. No. 840,704** (ASHLAND), same, Preparation for prevention of rust or corrosion in machinery and various metallic surfaces; floor oil (products used on the surfaces of wooden floors to keep dust down and impregnate the fibers of the wood in order to preserve it), gasoline, kerosene, lubricating oils and greases, fuel oil, coal spray oil, oil for facilitating the cutting of metals and other substances, penetrating oils, brick oil (products used to lubricate the forms which are used in the manufacture of bricks, thereby keeping the brick from sticking to the form), form oil, paraffin oil (products used in the blending of motor oils as well as in transformer oils, and hydraulic oils), and oils and greases for use as pressure mediums in hydraulic pressure apparatus, **filed** Apr. 22, 1968, D.C., S.D. Fla. (Miami), Doc. 68–462–C–TC, *Ashland Oil & Refining Company* v. *Ashland Oil Company and Randolph M. Thomson*. Consent judgment; plaintiff is owner of Reg. Nos. 558,675 and 840,704 which are valid. Complaint dismissed without prejudice as to defendant Thomson in his personal capacity, although bound in his corporate capacity, May 16, 1968.

Reg. No. 524,145. (See Reg. No. 524,144.)

Reg. No. 535,578. (See Reg. No. 524,144.)

Reg. No. 543,584. (See Reg. No. 524,144.)

Reg. No. 545,127 (CUTLER-HAMMER), Cutler-Hammer, Inc., Electrical control apparatus, electrical machines, and electrical supplies, consisting of: Controllers for dynamo-electric machines—to wit, starting, stopping, reversing, and speed regulating apparatus for motors, and voltage and current regulating apparatus for generators, and like control apparatus for rotary converters; current breakers; magnetic brakes for various types of machines, lifting and separating magnets and controls therefor; electrical panel boards and multibreakers, solenoids, safety switches, meter service and entrance switches; float and pressure switches; insulating bases and supports for switches and the like; controllers and driving units for valves requiring rotation of an element thereof; solenoid-operated valves; fuse panels; terminal lugs; wiring fixtures and conduit fittings comprising switches; switch boxes and covers, attachment plugs, taps, receptacles, lamp sockets, and cord connectors; elevator control apparatus, consisting of limit switches, door switches, transfer switches, and floor selector switches; speed regulating and other current control resistors; rheostats; relays; contactors; switch panels; control panels; push button switches for machine tool controllers; motor starters; speed controllers and regulators especially adapted for marine service; resistance units for electric space heaters; industrial type electric heaters; ovens and immersion type electric water heaters; surface units and oven units for electric ranges; theater and spotlight dimmers; battery chargers; starters and speed regulators for the electric motors of fire pumps, printing presses, papermaking machines, oil well drillers and pumps; crane and hoist controls; electrical controls for diesel locomotives; circuit controllers of the electronic type; electric welding controllers; and circuit controllers for electric refrigerators; **Reg. No. 287,074** ("C-H" AND DESIGN), same, Electrical apparatus, machines, and supplies, consisting of: Controllers for dynamo-electric machines—to wit, starting, stopping and speed regulating apparatus for motors, and voltage and current regulating apparatus for generators, and like control apparatus for rotary converters; current breakers, magnetic brakes for various types of machines, lifting and separating magnets and controls therefor; solenoids, safety switches, meter service and entrance switches, float, pressure and other special switches; insulating bases and supports for switches, automatic valve control units, solenoid-operated valves, fuse panels, terminal lugs; wiring fixtures and conduit fittings, consisting of switches, switch boxes and covers, attachment plugs, taps, receptacles, caps, lamp sockets, shade holders, wall plates, and cord connectors; elevator control apparatus, consisting of limit switches, door switches, transfer switches, and floor selector switches; speed regulating and other current control resistors, rheostats, relays, contactors, switch panels, push button switches for machine tool controllers; motor starters, speed controllers and regulators especially adapted for marine service; resistance units for space heaters; industrial heaters, ovens, and immersion water heaters; theatre and spotlight dimmers, battery chargers; starters and speed regulators for fire pumps, printing presses, papermaking machines, oil well drillers and pumps; and crane and hoist controls; **Reg. No. 366,253** (REPRESENTATION OF NAME PLATE), same, Electrical control apparatus, electrical machines, and electrical supplies, consisting of: Controllers for dynamo-electric machines—to wit, starting, stopping, reversing, and speed regulating apparatus for motors, and voltage and current regulating apparatus for generators, and like control apparatus for rotary converters; current breakers; magnetic brakes for various types of machines; lifting and separating magnets and controls therefor; solenoids, safety switches, meter service and entrance switches; float, pressure and other special switches; insulating bases and supports for switches and the like; automatic valve control units; solenoid-operated valves; fuse panels, terminal lugs; wiring fixtures and conduit fittings comprising switches, switch boxes and covers, attachment plugs, taps, receptacles, caps, lamp sockets and cord connectors; elevator control apparatus, consisting of limit switches, door switches, transfer switches, and floor selector switches; speed regulating and other current control resistors; rheostats; relays; contactors; switch panels; control panels; push button switches for machine tool controllers; motor starters; speed controllers and regulators especially adapted for marine service; resistance units for space heaters; industrial heaters; ovens, and immersion water heaters; theater and spotlight dimmers; battery chargers; starters and speed regulators for fire pumps, printing presses, papermaking machines, oil well drillers and pumps; crane and hoist controls; electronic control apparatus; electric welding controllers and electric refrigerator control devices, **filed** Mar. 11, 1968, D.C., S.D.N.Y., Doc. 68–C–1014, *Cutler-Hammer, Inc.* v. *B.L.B., Inc., doing business as American Relays Electronics Division*. Consent judgment, defendant enjoined and complaint dismissed, July 11, 1968.

Reg. No. 558,675. (See Reg. No. 524,144.)

Reg. No. 574,318. (See Reg. No. 524,144.)

Reg. No. 576,095. (See Reg. No. 504,342.)

Reg. No. 617,968 (TROPICANA), Fruit Industries, Inc., Fresh orange juice and fresh grapefruit juice, **filed** Mar. 28, 1968, D.C., S.D.N.Y., Doc. 68–C–1271, *Tropicana Industries, Inc.* v. *Pasquale Scarlato, doing business as Blair & Co.* Consent judgment, defendant enjoined, July 11, 1968.

Reg. No. 642,225. (See Reg. No. 524,144).

Reg. No. 675,457. (See Reg. No. 524,144.)

Reg. No. 703,694. (See Reg. No. 512,770.)

Reg. No. 802,649. (See Reg. No. 512,770.)

Reg. No. 840,704. (See Reg. No. 524,144.)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[**NOTE:** For publication of marks presented in applications for registration in one class, see section 2.]

SN 250,128. Audio Technica Co. Ltd., d.b.a. Audio Technica Corp., Shinjuku-ku, Tokyo, Japan. Filed July 13, 1966.

AUDIOTECHNICA

Owner of Japanese Reg. No. 650,589, dated Aug. 20,1964.

Class 21—Electrical Apparatus, Machines, and Supplies

For Amplifiers, Cabinets Designed To House Audio-Visual Equipment, Speakers, Microphones, Phono-Motors, and Interphones (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Tape Recorders, Phonographs, and Pick-Ups for Phonographs (Int. Cl. 9).

SN 254,602. John M. Fluke Mfg. Co., Inc., Mountlake Terrace, Wash. Filed Sept. 16, 1966.

FLUKE

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Power Supplies, Precision Resistors, Frequency Synthesizers, Frequency Comparators, VLF Receiver-Comparators, Distribution Amplifiers, and Precision Voltage Dividers (Int. Cl. 9).
First use on or about Mar. 8, 1961.

Class 26—Measuring and Scientific Appliances

For Impedance Bridges, Transfer Standards, Precision Voltmeters of Various Types, Vernier Potentiometers, Decade Potentiometers, and Null Detectors (Int. Cl. 9).
First use on or about June 23, 1961.

SN 255,850. C. M. McClung & Co., Inc., Knoxville, Tenn. Filed Oct. 6, 1966.

CHIEF

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Hammers, Hack Saws, Miter Boxes, Planes, Lawn Mowers, and Riding Mowers (Int. Cls. 7 and 8).
First use May 1955.

Class 26—Measuring and Scientific Appliances

For Squares (Int. Cl. 8).
First use 1955.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

For Garden Hose (Int. Cl. 17).
First use May 1963.

Class 50—Merchandise Not Otherwise Classified

For Step Ladders (Int. Cl. 20).
First use January 1953.

SN 256,569. Lit-Ning Products Company, Beverly Hills, Calif. Filed Oct. 17, 1966.



Owner of Reg. No. 599,974.

Class 2—Receptacles

For Storage Bins, Storage Trays, Filing Boxes, Waste Baskets, and Portable Carrying Files (Int. Cls. 16, 20, and 21).

Class 25—Locks and Safes

For Bond Boxes, Cash Boxes, Check Files, and Coin Boxes, All in the Nature of a Safe (Int. Cl. 6).

Class 32—Furniture and Upholstery

For Office Equipment—Namely, Literature, Card and Display Racks; Stationery Holders; Storage Cabinets; Copy Holders; Message Racks; Filing Cabinets and Filing Shelves (Int. Cl. 20).
First use June 1, 1966.

SN 259,093. Dressler Electronics, Inc., East Hartford, Conn. Filed Nov. 21, 1966.

THE Electronic JUNGLE

Applicant disclaims the term "Electronic," other than as used in connection with its mark in its entirety.

Class 21—Electrical Apparatus, Machines, and Supplies

For Microphones and Parts Thereof, Loud Speakers, Radio Receivers and Transmitters, and Parts Thereof, High-Fidelity Sound Reception and Amplifying Equipment, Active and Passive Electronic Circuit Components Comprising Vacuum Tubes, Transistors, Diodes, Resistors, Capacitors, Inductors, Transformers, Switches, and Male and Female Connectors, Antennae, Batteries and Battery Chargers, Telegraph Keys and Code Practice Equipment, Static Power Converters, and Electronic Kits Consisting Essentially of Component Parts for Tuners, Amplifiers, Oscillators, and Receivers (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Recording Tape, Tape Recorders and Parts Thereof, and Phonographs and Parts Thereof (Int. Cl. 9).

First use August 1962.

SN 261,724. Elpo Industries Inc., Fair Lawn, N.J. Filed Dec. 30, 1966.

COUNTRY KITCHEN

Class 2—Receptacles

For Holder for Roll of Memo Paper, Paper Towel Holder, Mail Boxes, Bread Boxes, Cookie Jar, and Canister Sets (Int. Cl. 21).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Wooden Cutting Board (Int. Cl. 21).

First use Aug. 26, 1966.

SN 264,320. Hydrometals, Inc., d.b.a. G.C. Electronics Company, Rockford, Ill. Filed Feb. 9, 1967.

audiotex

Class 21—Electrical Apparatus, Machines, and Supplies

For Replacement Parts and Maintenance Kits for Television, Radio, High Fidelity, and Stereophonic Receivers (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Replacement Parts and Maintenance Kits for Phonographs and Tape Recorders (Int. Cl. 9).

First use July 19, 1959.

SN 265,968. Autohaus International, Inc., Clearwater, Fla. Filed Mar. 6, 1967.

AUTOHAUS INTERNATIONAL INCORPORATED

Class 101—Advertising and Business

For Technical Assistance and Planning Services Rendered to Automobile Repair Stations (Int. Cl. 35).

Class 103—Construction and Repair

For Installation and Repair Services Performed on Automobiles (Int. Cl. 37).

First use at least since Feb. 20, 1967.

SN 267,878. Sunnyside Products, Inc., Chicago, Ill. Filed Mar. 30, 1967.

Class 6—Chemicals and Chemical Compositions

For Industrial Solvents Used in the Plastics, Metal, and Graphic Arts Industries; Hydraulic Fluids; and Rust Preventatives (Int. Cls. 1 and 2).

Class 15—Oils and Greases

For Lubricating Oils and Greases; Cutting Oils; and Fuel Oils for Lamps, Stoves, and Lanterns (Int. Cl. 4).

Class 16—Protective and Decorative Coatings

For Solvents for Paints, Coatings, and Finishes; Paint and Lacquer Thinners; and Shellac (Int. Cl. 2).

Class 52—Detergents and Soaps

For Paint and Varnish Removers (Int. Cl. 3).

First use December 1966.

SN 268,118. Roffler Sculptur-Kut National Franchised System, Inc., Ambridge, Pa. Filed Apr. 3, 1967.

Roffler SCULPTUR KUT

Applicant disclaims the words "Franchised" and "Kut" separate and apart from the mark as shown. Owner of Reg. No. 761,740.

Class 44—Dental, Medical, and Surgical Appliances

For Electric Hair Dryers (Int. Cl. 7).

Class 51—Cosmetics and Toilet Preparations

For Men's Hair Setting Lotion, Hair Cream, Hair Fixative, Hair Styling Gel, Hair Spray, Personal Deodorant, and After Shave Lotion (Int. Cls. 3 and 5).

First use February 1964.

SN 268,119. Roffler Sculptur-Kut National Franchised System, Inc., Ambridge, Pa. Filed Apr. 3, 1967.

ROFFLER

Owner of Reg. No. 761,740.

Class 40—Fancy Goods, Furnishings, and Notions

For Hair Pieces (Int. Cl. 26).

Class 51—Cosmetics and Toilet Preparations

For Men's Hair Setting Lotion, Hair Cream, Hair Fixative, Hair Styling Gel, Hair Spray, Personal Deodorant, and After Shave Lotion (Int. Cls. 3 and 5).

First use February 1964.

SN 271,304. T.G. & Y. Stores Co., Oklahoma City, Okla. Filed May 12, 1967.

GOLDEN T

Class 16—Protective and Decorative Coatings

For Paint, Both Interior and Exterior (Int. Cl. 2).
First use Nov. 10, 1966.

Class 22—Games, Toys, and Sporting Goods

For Toy Bicycles and Tricycles for Children (Int. Cl. 28).
First use July 25, 1966.

Class 39—Clothing

For Men's and Boys' Knit and Broadcloth Shorts, Knit T-Shirts, Boys' Dress Pants, and Handkerchiefs (Int. Cl. 25).
First use Sept. 19, 1966.

SN 272,882. E. W. Bliss Company, Davenport, Iowa. Filed June 2, 1967.

BLISS EAGLE SIGNAL

Owner of Reg. Nos. 524,435 and 753,232.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Relays and Electrical Switches and Motors, and Components and Parts Therefor (Int. Cl. 9).
First use at least as early as Apr. 9, 1965.

Class 26—Measuring and Scientific Appliances

For Electrical and Electronic Apparatus for Automatically Monitoring and/or Operating Industrial and Municipal Processing and Control Systems, Electrical and Electronic Timers and Counters, and Components and Parts Therefor (Int. Cl. 9).
First use at least as early as Mar. 8, 1965.

SN 273,059. Gerrit van Delden & Co., Gronau, Westphalia, Germany. Filed June 5, 1967.

LUSTRALAN

Owner of German Reg. No. 768,737, dated Dec. 21, 1962.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Woven, Knitted, and Netted Fabrics, and Textile Fleece Material To Be Used in Making Hosiery, Garments, and the Like and for Upholstery, Decorative, and Technical Purposes, Such as Textile Carpets and the Like (Int. Cl. 24).

Class 43—Thread and Yarn

For Yarns, Including Twisted Yarns, of Wool, Animal Hair, Other Material, and Synthetic Fibers (Int. Cl. 23).

SN 278,723. Modern Communications Corporation, Altoona, Pa. Filed Aug. 21, 1967.

PHONEPOWER

Class 101—Advertising and Business

For Telephone Answering, Addressing and Mailing, and Secretarial Services (Int. Cl. 35).

Class 104—Communication

For Radio Message Relay Service, Mobile-Telephone Service, Remote Two-Way Radio Dispatching, and Radio-Paging (Int. Cl. 38).

First use Feb. 1, 1965.
Subj. to Intf. with SN 271,262.

SN 286,053. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Dec. 4, 1967.

BRAND X

Owner of Reg. Nos. 815,514, 818,722, and others.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Handbags (Int. Cl. 18).

Class 26—Measuring and Scientific Appliances

For Sunglasses (Int. Cl. 9).

First use Nov. 3, 1967.

SN 286,611. Overseas Development Corp., New York, N.Y. Filed Dec. 11, 1967.

D M
DAYKA MOTIV

The drawing is lined for the color blue.

Class 19—Vehicles

For Front End Parts (Int. Cl. 12).

Class 21—Electrical Apparatus, Machines, and Supplies

For Ignition Parts (Int. Cl. 9).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Standard Transmission Gears, Cam Shafts and Crankshafts (Int. Cl. 12).

Class 31—Filters and Refrigerators

For Oil and Air Filters (Int. Cl. 12).

First use June 26, 1967.

SN 287,779. American Photocopy Equipment Company, Evanston, Ill. Filed Dec. 29, 1967.

mini-stat

Class 6—Chemicals and Chemical Compositions

For Toning and Intensifying Solutions for Electrophotographic Copying Machines (Int. Cl. 1).

Class 26—Measuring and Scientific Appliances

For Electrophotographic Copying Machines (Int. Cl. 9).

First use July 7, 1967.

SN 292,046. Toscany Imports Ltd., New York, N.Y. Filed Feb. 28, 1968.

ROYAL KENDALL

Class 30—Crockery, Earthenware, and Porcelain

For Ceramic Tableware (Int. Cl. 21).
First use Feb. 8, 1967.

Class 33—Glassware

For Glasses for Water and Alcoholic Beverages (Int. Cl. 21).
First use Feb. 20, 1967.

Class 50—Merchandise Not Otherwise Classified

For Ceramic Statuettes and Figurines (Int. Cl. 21).
First use Mar. 10, 1967.

SN 293,073. American Tack & Hardware Co., Inc., New York, N.Y. Filed Mar. 13, 1968.

DecoRoom

Owner of Reg. Nos. 804,138 and 821,035.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Bathroom Accessories—Namely, Robe Hooks, Toilet Paper Holders, Soap Dishes, Towel Bars, Towel Hooks, Towel Rings, Towel Chains, Tumbler Holders, and Toothbrush Holders; and Closet Accessories—Namely, Closet Hooks (Int. Cls. 6 and 21).

Class 21—Electrical Apparatus, Machines, and Supplies

For Switch Plates (Int. Cl. 9).

First use Jan. 15, 1968; October 1963 as to "Decoroom."

SN 293,772. Textron Inc., Providence, R.I. Filed Mar. 21, 1968.

SPEIDEL

Owner of Reg. No. 509,070.

Class 27—Horological Instruments

For Watches and Bracelets, Including Watch Bracelets (Int. Cl. 14).

Class 28—Jewelry and Precious-Metal Ware

For Chains, by the Foot (Int. Cl. 14).

First use Apr. 1, 1932.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 276,865. Ralston Purina Company, St. Louis, Mo. Filed July 26, 1967.

MANOR RESEARCH NORTH

The word "Research," and the representation of rodents are disclaimed apart from the mark as shown. The drawing is lined for the color blue, but no claim is made for color.

For Live Rodents (Int. Cl. 31).

First use April 1949.

SN 277,968. Adhesive Products Corporation, Bronx, N.Y. Filed S.R. Aug. 10, 1967; Am. P.R. July 18, 1968.

ADRUB RTV

The exclusive use of the letters "RTV" is disclaimed, registration as part of the trademark is confined solely to use in conjunction with the word "Adrub."

For Materials Which Consist of Two Different Liquids Sold as a Unit and Which, When Mixed Together, Are Used for Mixing-in-Place a Rubber Molding Compound (Int. Cl. 1).

First use Apr. 15, 1966.

SN 290,263. Domestic Marble & Stone Corporation, New York, N.Y. Filed Feb. 5, 1968.

HOU

For Travertine (Int. Cl. 19).

First use Nov. 21, 1967.

SN 296,860. New England Laminates Company, Inc., Stamford, Conn. Filed Apr. 29, 1968.

NELCO

For Laminated Plastics and Metal Clad Laminates for Use in the Manufacture of Electrical Circuitry, Electrical Insulation, and Decorations (Int. Cls. 6 and 17).

First use January 1962.

Class 2—Receptacles

SN 276,532. CTP Industries Inc., Brooklyn, N.Y. Filed July 21, 1967.

CTP

For Plastic Bags (Int. Cl. 16).

First use May 1, 1967.

SN 285,893. Modern Dust Bag Co., Inc., West Haverstraw, N.Y. Filed Nov. 30, 1967.

Filter POWER

The word "Filter" and the representation of a filter are disclaimed apart from the mark as shown.

For Refuse Bags of Cloth or Paper for Vacuum Cleaners, Dust Collector Systems, and Swimming Pools (Int. Cls. 16 and 22).

First use October 1962.

SN 289,643. Parker Hardcastle Limited, London, England. Filed Jan. 26, 1968.

PARKER

Owner of U.S. Reg. Nos. 372,615, 530,972, and 534,671.

For Plastic Flasks (Int. Cl. 21).

First use August 1950; in commerce August 1950.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 289,307. Keene Corporation, New York, N.Y. Filed Jan 22, 1968.

JEEN KEENE

The trademark "Jeen Keene" is a fictitious name.

For Plastic Accessory Bags and Carrying Cases (Int. Cl. 18).

First use Nov. 2, 1967.

Class 4—Abrasives and Polishing Materials

SN 274,818. Mirror Bright Polish Co., Pasadena, Calif. Filed June 26, 1967.

WOOLESS WONDER

The word "Wooless" is disclaimed apart from the mark.

For Buffing Wheel Adapted for Use With Wax or Polish on Surfaces Such as an Automobile Body (Int. Cl. 7).

First use Jan. 11, 1967.

SN 281,074. W. R. Grace & Co., New York, N.Y. Filed Sept. 25, 1967.

XPAL

For Polishing Compound for Polishing Contact Lenses (Int. Cl. 3).

First use Mar. 10, 1961.

Class 6—Chemicals and Chemical Compositions

SN 277,181. Judd Ringer Corporation, Eden Prairie, Minn. Filed July 31, 1967.

FOGGER FUEL

Applicant disclaims the word "Fogger" apart from the mark, without disclaiming any common law rights that applicant may have acquired in the word.

For Liquid Insecticide Dispensed in Fine, Vaporized Form (Int. Cl. 5).

First use March 1963.

SN 289,100. S. S. Kresge Company, Detroit, Mich. Filed Jan. 18, 1968.

SSK

For Air Freshening Preparations, Sold in Aerosol Cans, and Spray Starch (Int. Cl. 5).

First use on or before June 16, 1967.

SN 290,530. Puritan Chemical Company, Atlanta, Ga. Filed Feb. 7, 1968.

CHERRY BOMB

For Insecticides (Int. Cl. 5).

First use on or about May 15, 1967.

SN 300,416. American Home Products Corporation, New York, N.Y. Filed June 14, 1968.

GAYPET

Owner of Reg. No. 434,327.

For Compound for Killing Fleas and Ticks (Int. Cl. 5).

First use Feb. 12, 1968.

Class 8—Smokers' Articles, Not Including Tobacco Products

SN 283,147. Peterson's Ltd., Inc., New York, N.Y. Filed Oct. 23, 1967.

ROYAL GUARD

For Men's Smoking Pipes (Int. Cl. 34).

First use August 1967.

SN 301,422. HMH Publishing Co. Inc., Chicago, Ill. Filed June 26, 1968.



Owner of Reg. Nos. 643,926, 772,132, and others.

For Smoking Pipes (Int. Cl. 34).

First use on or about Jan. 10, 1968.

SN 301,423. HMH Publishing Co. Inc., Chicago, Ill. Filed June 26, 1968.

PLAYBOY

Owner of Reg. Nos. 600,018, 772,131, and others.

For Smoking Pipes (Int. Cl. 34).

First use on or about Jan. 10, 1968.

Class 10—Fertilizers

SN 261,270. Agway, Inc., Syracuse, N.Y. Filed Dec. 22, 1966.

Agway

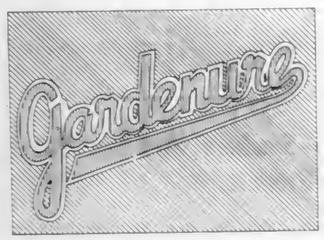
33½ N

The term "33½ N" is disclaimed apart from the mark as a whole. Owner of Reg. Nos. 798,187, 808,749, and others.

For Fertilizer (Int. Cl. 1).

First use Apr. 30, 1966.

SN 272,394. Organic Compost Corporation, Germantown, Wis. Filed May 25, 1967.



The drawing is lined for the colors red and green, but no claim is made to color. The rectangle forms no part of the mark.
For Cattle Manure Compost (Int. Cl. 1).
First use May 1, 1956.

Class 12 — Construction Materials

SN 282,492. The Tremco Manufacturing Co., Cleveland, Ohio. Filed Oct. 13, 1967.

VISION STRIP

For Glazing Material in Roll or Strip Form for Construction Purposes (Int. Cl. 19).
First use at least as early as July 21, 1965.

SN 285,914. Cyclops Corporation, Pittsburgh, Pa. Filed Nov. 30, 1967.

VEE-DRANE

For Sheet Metal Roofing and Siding for Factories, Garages, and Farm Buildings (Int. Cl. 6).
First use Oct. 18, 1967.

SN 295,021. Eltreva A.G., Aesch, Switzerland. Filed Apr. 5, 1968.

eltrovit

Owner of Swiss Reg. No. 227,605, dated Aug. 28, 1967.
For Glass Sealing and Retaining Strips (Int. Cl. 17).

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 280,951. ISP, Inc., Long Beach, Calif. Filed Sept. 22, 1967.

GADCO

For Pulsation Dampeners (Int. Cl. 6).
First use on or about Aug. 22, 1967.

SN 289,879. Contromatics Corporation, Rockville, Conn. Filed Jan. 30, 1968.

CONTROMATICS

For Valve and Valve Actuators (Int. Cl. 6).
First use Oct. 1, 1967.

SN 289,963. Beneke Corporation, Columbus, Miss. Filed Jan. 31, 1968.

VIEW-PACK

For Toilet Seats (Int. Cl. 11).
First use Sept. 1, 1965.

SN 290,118. Waldes Kohinoor, Inc., Long Island City, N.Y. Filed Feb. 1, 1968.

TWIN-SLIDE

For Slide Fasteners and Parts Thereof (Int. Cl. 26).
First use Jan. 30, 1968.

SN 290,325. Rain Bird Sprinkler Mfg. Corp., Glendora, Calif. Filed Feb. 5, 1968.

TRI-PACT

For Sprinklers (Int. Cl. 11).
First use Dec. 2, 1966.

SN 301,392. Yarway Corporation, Blue Bell, Pa. Filed June 26, 1968.

UNIT-TANDEM

For Blow-Off Valves (Int. Cl. 6).
First use March 1959.

Class 14 — Metals and Metal Castings and Forgings

SN 269,187. Hills-McCanna Company (Delaware corporation), Carpentersville, Ill., assignee of Hills-McCanna Company (Illinois corporation), Carpentersville, Ill. Filed Apr. 14, 1967.

MC CANNALLOY

Owner of Reg. Nos. 621,642, 814,276, and others.
For Metal Castings (Int. Cl. 6).
First use Apr. 1, 1965.

SN SN 274,927. American Type Founders Co., Inc., Elizabeth, N.J. Filed June 28, 1967.

AMERICANA

For Type Fonts (Int. Cl. 16).
First use on or before Feb. 17, 1967.

Class 16 — Protective and Decorative Coatings

SN 269,365. Servicemaster Industries Inc., Downers Grove, Ill., by change of name from Wade, Wenger Servicemaster Co., Downers Grove, Ill. Filed Apr. 17, 1967.

WEAR WELL

For Protective Coatings—Namely, Wood Sealer (Int. Cl. 2).
First use Jan. 1, 1936.

SN 275,002. Howard E. Weiler, Miami, Fla. Filed June 28, 1967.

BAG-WAX

The word "Wax" is disclaimed, separate and apart from the mark as shown.
For Wax Coating To Be Used on Plastic Molds (Int. Cl. 4).
First use Dec. 7, 1966.

SN 285,948. Standard T Chemical Company, Inc., Chicago, Ill. Filed Nov. 30, 1967.

DEOX

Owner of Reg. No. 721,803.
For Organic Base Coating Material for Metal To Prevent Rusting (Int. Cl. 2).
First use Jan. 16, 1939.

SN 286,626. Badger Paint and Hardware Stores, Inc., Milwaukee, Wis. Filed Dec. 11, 1967.

MASTER BLEND

Owner of Reg. Nos. 290,766, 601,540, and 643,815.
For Interior and Exterior Paint (Int. Cl. 2).
First use in or about April 1966.

SN 286,652. Eastman Kodak Company, Rochester, N.Y. Filed Dec. 11, 1967.

EASTMAN

Owner of Reg. Nos. 67,012, 575,121, and others.
For Photographic Film Lacquer (Int. Cl. 1).
First use at least as early as 1940.

Class 17 — Tobacco Products

SN 260,689. The United Kingdom Tobacco Company, Limited, d.b.a. Marcovitch & Co., London, England. Filed Dec. 13, 1966.

Black & White



The name "Marcovitch" represents a fictitious person.
Owner of British Reg. No. B879,168, dated May 7, 1965; and U.S. Reg. No. 815,650, and others.
For Cigarettes (Int. Cl. 34).

SN 270,750. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed May 5, 1967.

GALLANTES

For Cigars (Int. Cl. 34).
First use Jan. 13, 1967.

SN 279,731. Geryl Company, Ltd., New York, N.Y. Filed Sept. 6, 1967.

ACAPULCO

For Cigars (Int. Cl. 34).
First use at least as early as May 25, 1965.

SN 279,734. Geryl Company, Ltd., New York, N.Y. Filed Sept. 6, 1967.

GALAHAD

For Cigars (Int. Cl. 34).
First use at least as early as Mar. 29, 1965.

SN 294,534. Skandinavisk Tobakskompagni A/S, Rodovre, Denmark. Filed Mar. 29, 1968.

WATTSONS

For Pipe Tobacco, Cigarettes, Cigars, Cheroots, and Cigarillos (Int. Cl. 34).
First use in 1954; in commerce Apr. 7, 1965.

SN 296,939. T. E. Brooks & Co., Red Lion, Pa. Filed Apr. 30, 1968.

BROOKS GRANDE PRIMA

"Grande Prima" is disclaimed apart from the mark as shown.
For Cigars (Int. Cl. 34).
First use Apr. 8, 1968.

Class 18 — Medicines and Pharmaceutical Preparations

SN 253,556. Richard T. Rappolt, Sr., Berkeley, Calif. Filed Aug. 31, 1966.

toxtabs

For Radio-Opaque Objects, Granular in Size, Compounded of Barium Sulphate or Zirconium-Oxide-Containing Compound, in a Rubber-Like Incipient, for Incorporation in Drugs or Poisons for Ready X-Ray Identification Thereof (Int. Cl. 5).
First use Apr. 2, 1965.

SN 278,278. Bristol-Myers Company, New York, N.Y. Filed Aug. 15, 1967.

VERSAKAN

Owner of Reg. No. 817,288.
For Antibiotic (Int. Cl. 5).
First use May 25, 1967.

SN 280,385. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Sept. 15, 1967.

CYSTOSOL

For Urologic Irrigating Solution (Int. Cl. 5).
First use Sept. 13, 1966.

SN 285,754. Pan American Laboratories, Inc., New Orleans, La. Filed Nov. 28, 1967.

PANABARB

For Antispasmodic Tablet or Liquid (Int. Cl. 5).
First use Aug. 14, 1958.

SN 284,773. USV Pharmaceutical Corporation, New York, N.Y. Filed Nov. 28, 1967.

ILOSETIC

For Dental Anesthetic (Int. Cl. 5).
First use Oct. 19, 1967.

SN 287,053. The Upjohn Company, Kalamazoo, Mich. Filed Dec. 15, 1967.

UNICAP F

Owner of Reg. Nos. 384,267, 727,680, and others.
For Vitamin Preparation (Int. Cl. 5).
First use Oct. 19, 1967.

SN 287,241. The Upjohn Company, Kalamazoo, Mich. Filed Dec. 19, 1967.

MILLICIN

For Antibiotic (Int. Cl. 5).
First use Oct. 30, 1967.

SN 287,885. Bristol-Myers Company, New York, N.Y. Filed Jan. 2, 1968.

ECONOSULFA

For Antibiotic (Int. Cl. 5).
First use Nov. 10, 1967.

SN 288,088. Ciba Corporation, Summit, N.J. Filed Jan. 4, 1968.

MASTIVET

For Veterinary Preparation for Treatment of Mastitis (Int. Cl. 5).
First use May 31, 1967.

SN 288,121. Schering Corporation, Bloomfield, N.J. Filed Jan. 4, 1968.

METREVET

For Corticoid-Antihistamine Preparation for Veterinary Use (Int. Cl. 5).
First use Nov. 27, 1967.

SN 288,193. Delta Drug Corporation, Jacksonville, Fla. Filed Jan. 5, 1968.

OMNI-SEPTIC

For Pharmaceutical Preparation, in Aerosol Form, for First Aid Treatment for Minor Cuts, Scratches, and Burns (Int. Cl. 5).
First use Dec. 20, 1966.

SN 288,220. Fred H. Lowe, Sr., d.b.a. Dental Preference Items, Dallas, Tex. Filed Jan. 5, 1968.

INSTA CAINE

For Topical Anesthetic Applied to Gum in Dentistry (Int. Cl. 5).
First use May 1964.

SN 288,863. Rowell Laboratories Inc., Baudette, Minn. Filed Jan. 15, 1968.

LITHONATE

For Psycho Pharmacological Agent (Int. Cl. 5).
First use Dec. 20, 1967.

SN 299,534. Mead Johnson & Company, Evansville, Ind. Filed June 3, 1968.

EQUESTRIN

Owner of Reg. Nos. 783,919 and 791,696.
For Pharmaceutical Preparation, in Tablet Form, for the Treatment of Meonopausal Symptoms (Int. Cl. 5).
First use August 1957.

Class 19—Vehicles

SN 262,184. McCord Corporation, Detroit, Mich. Filed Jan. 9, 1967.

SAFETY FIRST

The drawing is lined for yellow, but no claim is made to color.
For Automotive Suspension and Steering Parts (Int. Cl. 12).
First use Nov. 29, 1966.

SN 268,951. John G. Fontaine, Fort Lauderdale, Fla. Filed Apr. 12, 1967.

VERLOCK

For Electrically Controlled, Variable Adjusting Seat Belt Retractor (Int. Cl. 12).
First use Sept. 25, 1964.

SN 269,317. American Hospital Supply Corporation, Evanston, Ill., assignee of Institutional Industries, Inc., Cincinnati, Ohio. Filed Apr. 17, 1967.

iii

For Vehicles for Institutional Use, Wheeled Shelf Trucks and Carts, Wheeled Linen Hampers, and Wheel Chairs (Int. Cl. 12).
First use in or before November 1962.

SN 282,458. Consolidated Products Corp., Gardena, Calif., by change of name from Gulf Marine Products Corporation, Gardena, Calif. Filed Oct. 13, 1967.

GULF

The design of a sailboat, separate and apart from the mark shown, is expressly disclaimed.
For Sailing Vessels (Int. Cl. 12).
First use June 15, 1967.

SN 284,482. Carmelo La China, College Park, Md. Filed Nov. 9, 1967.

PIT VIPER

For Automobiles Having Rebuilt Motors of Increased Horsepower (Int. Cl. 12).
First use Apr. 1, 1966.

Class 20—Linoleum and Oiled Cloth

SN 288,809. The General Tire & Rubber Company, Akron, Ohio. Filed Jan. 15, 1968.

Modern Manor

For Waffle-Type, Sponge Rubber Carpet Cushion (Int. Cl. 27).
First use Nov. 13, 1967.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 273,973. Progressive Products Incorporated, Forest Hill, Md. Filed June 15, 1967.

For Self-Contained Electrical Security Alarm System for Use on Heavy Equipment, Homes, Boats, etc. (Int. Cl. 9).
First use about Nov. 23, 1966.

SN 276,632. B & B Electronics Corp., Gardena, Calif. Filed July 24, 1967.

MAGNA-SHIELD

For Electrical Cables (Int. Cl. 9).
First use July 19, 1966.

SN 277,725. Superior Continental Corporation, Hickory, N.C., by change of name from Superior Cable Corporation, Hickory, N.C. Filed Aug. 7, 1967.

CM-4

For Four-Channel Electronic Distribution System Providing Four Circuits on an Existing Working Cable Pair (Int. Cl. 9).
First use October 1965.

SN 277,745. Westinghouse Air Brake Company, Chicago, Ill. Filed Aug. 7, 1967.

ELRAD

For Electronic Load Regulating and Anti-Stall Devices for Electric Motors (Int. Cl. 9).
First use June 16, 1967.

SN 279,583. Superior Continental Corporation, Hickory, N.C., by change of name from Superior Cable Corporation, Hickory, N.C. Filed Sept. 1, 1967.

ENVIRONEL

For All-Weather Insulation, Coating, or Jacket, Applied to Electrical Aerial Drop Wires, Communications Wire and Cable, and Insulated Electrical Cable (Int. Cl. 9).
First use Dec. 15, 1964.

SN 285,899. American Cyanamid Company, Wayne, N.J. Filed Nov. 30, 1967.



For Photoswitch Control of Supplemental Electric Lighting for Skylights (Int. Cl. 9).
First use Nov. 15, 1966.

SN 285,901. ANES Automotive Electronics, Inc., Los Angeles, Calif. Filed Nov. 30, 1967.

ANES

For Electrically Activated Automotive Alarm Kits for Protection Against Theft of Car or Contents (Int. Cl. 9).
First use September 1966.

SN 286,045. Telesis Corporation, Chicago, Ill. Filed Dec. 1, 1967.

TELESIS

For Equipment Used in Transmitting, Receiving, and Amplifying Radio and Television Signals—Namely, Amplifiers, Power Supplies, Directional Taps, Line Dividers, Power Inserters, and Program Switching Equipment (Int. Cl. 9).
First use June 1965.

SN 287,719. Cambridge Thermionic Corporation, Cambridge, Mass. Filed Dec. 28, 1967.

DIP-BIT

For Electric Coils and Filters (Int. Cl. 9).
First use June 13, 1967.

SN 300,779. Fedtro, Inc., Rockville Centre, N.Y. Filed June 19, 1968.

RAPID-FIRE

For Flashing Signal Lights for Automobiles (Int. Cl. 11).
First use Dec. 29, 1967.

Class 22 — Games, Toys, and Sporting Goods

SN 251,353. Gildrose Productions Limited and Eon Productions Limited (joint venture), London, England. Filed Aug. 1, 1966.

007

For Toys—Namely, Pistols, Rifles, Coding and Decoding Machines, Scopes, Silencers, Wallets, Attaché Cases With Concealed Weapons Such as Explosive Devices, Knives, Projectile Firing Mechanisms and Secret Locking and Opening Devices, Walkie Talkies and Dolls; Games—Namely, Board, Card and Target Games and Game Equipment; Sporting Goods—Namely, Swim Fins, Flippers, Snorkels, Diving Masks, Water Skis; and Exercising Equipment—Namely, Hand Grips, Chest Pulls, and Body Torsion Devices (Int. Cl. 28).
First use Dec. 20, 1964; in commerce Dec. 20, 1964.

SN 251,355. Gildrose Productions Limited and Eon Productions Limited (joint venture), London, England. Filed Aug. 1, 1966.

JAMES BOND
007

For Toys—Namely, Pistols, Rifles, Coding and Decoding Machines, Scopes, Silencers, Wallets, Attaché Cases With Concealed Weapons Such as Explosive Devices, Knives, Projectile Firing Mechanisms and Secret Locking and Opening Devices, Walkie Talkies and Dolls; Games—Namely, Board, Card and Target Games and Game Equipment; Sporting Goods—Namely, Swim Fins, Flippers, Snorkels, Diving Masks, Water Skis; and Exercising Equipment—Namely, Hand Grips, Chest Pulls, and Body Torsion Devices (Int. Cl. 28).
First use Dec. 20, 1964; in commerce Dec. 20, 1964.

SN 251,356. Gildrose Productions Limited and Eon Productions Limited (joint venture), London, England. Filed Aug. 1, 1966.

007

For Toys—Namely, Pistols, Rifles, Coding and Decoding Machines, Scopes, Silencers, Wallets, Attaché Cases With Concealed Weapons Such as Explosive Devices, Knives, Projectile Firing Mechanisms and Secret Locking and Opening Devices, Walkie Talkies and Dolls; Games—Namely, Board, Card and Target Games and Game Equipment; Sporting Goods—Namely, Swim Fins, Flippers, Snorkels, Diving Masks, Water Skis; and Exercising Equipment—Namely, Hand Grips, Chest Pulls, and Body Torsion Devices (Int. Cl. 28).
First use Dec. 20, 1964; in commerce Dec. 20, 1964.

SN 251,357. Gildrose Productions Limited and Eon Productions Limited (joint venture), London, England. Filed Aug. 1, 1966.

JAMES BOND

For Toys—Namely, Pistols, Rifles, Coding and Decoding Machines, Scopes, Silencers, Wallets, Attaché Cases With Concealed Weapons Such as Explosive Devices, Knives, Projectile Firing Mechanisms and Secret Locking and Opening Devices, Walkie Talkies and Dolls; Games—Namely, Board, Card and Target Games and Game Equipment; Sporting Goods—Namely, Swim Fins, Flippers, Snorkels, Diving Masks, Water Skis; and Exercising Equipment—Namely, Hand Grips, Chest Pulls, and Body Torsion Devices (Int. Cl. 28).
First use Dec. 20, 1964; in commerce Dec. 20, 1964.

SN 265,190. William Hoffman, d.b.a. Rolls-Right Co., Park Ridge, Ill. Filed Feb. 21, 1967.

ROLLS RIGHT

For Golf Clubs, Particularly Putters (Int. Cl. 28).
First use Aug. 18, 1966.

SN 268,281. Aspen Ski Boot Internationale, Inc., Denver, Colo. Filed Apr. 4, 1967.



The drawing is lined for the color gold.
For Ski Boots and Accessories (Int. Cl. 25).
First use Nov. 10, 1966.

SN 274,303. Blazon, Inc., Akron, Ohio. Filed June 20, 1967.

AZTEC

For Equine Figures Adapted To Be Ridden by Children (Int. Cl. 28).
First use Mar. 31, 1966.

SN 274,345. Rempel Mfg. Co., Inc., West Point, Miss. Filed June 20, 1967.

LIGHTNING

For Equine Figures Adapted To Be Ridden by Children (Int. Cl. 28).
First use May 3, 1966.

SN 280,886. Jack Russell Company, Inc., Key Biscayne, Fla. Filed Sept. 21, 1967.

BAT-Y-BALL

For Toy Consisting of a Plastic or Wooden Paddle and a Rubber Ball Connected by an Elastic Cord (Int. Cl. 28).
First use Mar. 6, 1967.

SN 292,983. Pete Uram Sales, Inc., Wyandotte, Mich. Filed Mar. 11, 1968.

FIRST TEE

For Golf Balls (Int. Cl. 28).
First use Feb. 16, 1968.

SN 294,574. Romolo P. Bianco, d.b.a. Ascot Tackle Co., Allen Park, Mich. Filed Apr. 1, 1968.

KO-KO

For Fishing Lures (Int. Cl. 28).
First use Jan. 2, 1968.

SN 301,311. Mattel, Inc., Hawthorne, Calif. Filed June 25, 1968.

ELASTI-MOTOR

For Elements of Construction Toy Set Comprising a Rotary Drive for Vehicles and for Stationary Equipment Having Rotatable Shafts (Int. Cl. 28).
First use May 7, 1968.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 261,840. H. K. Porter, Inc., Somerville, Mass. Filed Jan. 3, 1967.

Hydro-Method

Without waiving any common law rights, applicant disclaims the term "Hydro-Method" apart from the mark as shown. Owner of Reg. No. 431,310.
For Hydraulic Unit of Variable Adjustments in the Nature of Maintenance Repair Equipment, for Use in Straightening, Pressing Into Shape and Fitting Together of Automotive Bodies and Chassis, With an Assortment of Specific Tools for Application and Use in Connection Therewith, and Hammers, Mallets, Dollies, Dolly Blocks, Solder Paddles, Spoons, Fender Beading Tools, Pliers, File Holders, Caulking Tools, Fender Hood Adapters, Pick Tools and Fender Spreaders (Int. Cls. 7 and 8).
First use Oct. 27, 1945.

SN 267,544. Pactor Corporation, West Sacramento, Calif. Filed Mar. 24, 1967.

TRASHMASTER

For Heavy Duty Vehicles—Namely, Earth Moving and Earth Compacting Equipment (Int. Cl. 12).
First use at least as early as December 1965.

SN 268,015. The Babcock & Wilcox Company, New York, N.Y. Filed Mar. 31, 1967.

C-D

For Hydrostatic Bearing Type Slides; Hydrostatic Bearing Type Spindles; Hydrostatic Bearing Type Rotary Tables; and Special Production Machinery Embodying Hydrostatic Bearings—Namely, Dial Index Machines, Trunnion Machines and Horizontal Transfer Machines for Sequential or Repetitive Operations Such as Boring, Reaming, Spot Facing, Honing, Grinding, Counterboring and Chamfering Workpieces of the Character Embodied in Automobiles, Trucks, Tractors, Appliances, and the Like (Int. Cl. 7).
First use May 1, 1965.

SN 269,167. Brunswick Corporation, Chicago, Ill. Filed Apr. 14, 1967.

SCORE KING

Owner of Reg. Nos. 341,080, 646,421, and 744,051.
For Lane Coater—Namely, a Machine for Surfacing and Coating Bowling Lanes (Int. Cl. 7).
First use Apr. 3, 1963.

SN 269,681. New Jersey Machine Corporation, Hoboken, N.J. Filed Apr. 20, 1967.

APACHE

For Capping Machines for Applying Screw Caps to Containers (Int. Cl. 7).
First use on or about Jan. 27, 1967.

SN 269,794. Sanwa Cutlery Co., Ltd., Chiyoda-ku, Tokyo, Japan. Filed Apr. 21, 1967.

Kai

Owner of Japanese Reg. No. 642,773, dated May 5, 1964.
For Household Scissors, Pocket Knives, Machine Knives, Kitchen Knives, Forks, Spoons, Razors, Hammers, and Wrenches (Int. Cls. 7 and 8).

SN 269,975. Clark Equipment Company, Buchanan, Mich. Filed Apr. 25, 1967.

H

For Elevating Scrapers (Int. Cl. 7).
First use Apr. 16, 1962.

SN 271,665. Vichek Tool Company, Cleveland, Ohio. Filed May 16, 1967.



For Mechanics' Hand Tools—Namely, Wrenches, Pliers, Screwdrivers, and Sockets (Int. Cl. 8).
First use Apr. 15, 1949.

SN 274,652. Powers & Eaton Industries, Inc., Hawthorne, N.J. Filed June 23, 1967.

GRAEBER

For Stringing and Wiring Machines—Namely, Machines for Affixing Wire, String and the Like, to Merchandising and Identification Tags (Int. Cl. 7).
First use on or about Oct. 18, 1927.

SN 275,073. Omark Industries, Inc., Portland, Oreg. Filed June 29, 1967.

SUPER TRONIC

Owner of Reg. Nos. 699,380, 836,264, and 836,265.
For Chain Saw Bars (Int. Cl. 7).
First use May 18, 1967.

SN 275,734. Ackermann und Schmitt K.G., Stuttgart, Germany. Filed July 11, 1967.



Owner of German Reg. No. 826,829, dated Dec. 1, 1966.
For Machine Tools—Namely, Lathes; Electric Hand Tools, Attachments, and Parts Thereof; and Flexible Drive Shafts (Int. Cl. 7).
First use October 1928; in commerce October 1928.

SN 276,949. Performance Equipment Co., Ltd., Birkenhead, England. Filed July 27, 1967.

PECO

For Automotive Mufflers, Exhaust Expansion Chambers, Exhaust Tail Trims, and Attachment Clips (Int. Cl. 12).
First use 1955; in commerce 1957.

SN 277,484. Ultramatic Equipment Co., Addison, Ill. Filed Aug. 3, 1967.

Ultra*MATIC*

For Vibratory Finishing Machines for Finishing Materials Such as Ferrous and Non-Ferrous Metal Castings, Extrusions, and Stampings, Other Metal Parts, Glassware, Ceramic Ware, Plastic Ware, Leather Ware, and the Like (Int. Cl. 7).
First use Apr. 21, 1960.

SN 278,049. Verlinde S.A., Loos-lez-Lille (Nord), France. Filed Aug. 10, 1967.

TIRLIFT

Owner of French Reg. No. 713,921, dated June 30, 1966.
For Electrically Powered Hoists (Int. Cl. 7).

SN 278,408. Al Nyman & Son, Inc., New York, N.Y. Filed Aug. 16, 1967.



For Staplers and Rubber Stamps (Int. Cls. 8 and 16).
First use Nov. 18, 1966.

SN 280,601. Lanex Importing Company, Lodi, N.J. Filed Sept. 18, 1967.



For Refrigerated, Coin-Operated, Soft Ice Cream Vending Machines (Int. Cl. 9).
First use Apr. 15, 1966.

SN 280,775. Electro Engineering Products Co., Inc., Chicago, Ill. Filed Sept. 20, 1967.



For Portable Electric Power Tools—Namely, Orbital Sanders, Bench Grinders, Hand Grinders, Power Drills, Power Saws, Sabre-Jig Saws, Power Chain Saws, Sander-Polishers, Paint Guns and Drill Kits Containing Rubber Backing Pads for Sanding and Polishing, Sanding Discs, Drill Bits, Adapter Sets for Rubber Backing Pads, Grinding Wheels, Wire Wheels, Chuck Keys and Chuck Key Holders, Flexible Shafts, Polishing Bonnets, Buffing Wheels, Hole Saws, Paint Mixers, Bench Stands, Circular Saw Attachments, Drill Press Attachments, Power Screw Drivers, Saw Blades, Mitre Guides, Jig-Sabre Saw Attachments, Orbital Sander Attachments, Orbital Polisher Attachments, and Power Planar Attachments (Int. Cl. 7).
First use May 17, 1967.

SN 280,821. Jonas Harry Steinert, d.b.a. G. L. Turner Company, North Little Rock, Ark. Filed Sept. 20, 1967.

BUSH—WHACKER

For Tractor Drawn or Mounted Rotary Cutters for Cutting or Mowing Grass, Weeds or Brush on Highways, Farms, Ranches, Parks, etc. (Int. Cl. 7).
First use Feb. 27, 1961.

SN 281,549. Carpenter Manufacturing Co. Inc., Manlius, N.Y. Filed Oct. 2, 1967.



For Electrical Machines for Stripping and Twisting Wire, and Parts Thereof (Int. Cl. 7).
First use on or before Jan. 9, 1957.

SN 283,895. Hydraslip, Inc., Okanogan, Wash. Filed Nov. 1, 1967.

HYDRASLIP

For Vehicular Machine for Loading and Hauling Hay Bales (Int. Cl. 12).
First use July 1966.

SN 284,171. Dana Corporation, Toledo, Ohio. Filed Nov. 6, 1967.



For Universal Joints, Axles, Transmissions, Wheel Ends, Drive Shafts, Torque Converters, Driveline Components, Clutches, and Parts Thereof (Int. Cl. 12).
First use Feb. 28, 1967.

SN 285,129. Goulds Pumps, Inc., Seneca Falls, N.Y. Filed Nov. 17, 1967.

CENTRIFIC

For High Pressure Cleaning Pumps (Int. Cl. 7).
First use on or about Oct. 23, 1967.

SN 286,455. United Shoe Machinery Corporation, Boston, Mass. Filed Dec. 7, 1967.

SAMCO

For Cutting Presses and Parts and Attachments Therefor, for Cutting Fabrics, Leathers, Plastics, and Similar Materials (Int. Cl. 7).
First use July 31, 1964.

Class 24—Laundry Appliances and Machines

SN 271,562. Industrie A. Zanussi, Pordenone, Italy. Filed Mar. 14, 1967.

THERMOGRADUAL

Owner of Italian Reg. No. 167,071, dated Nov. 12, 1964.
For Domestic and Industrial Laundry Washing Machines (Int. Cl. 7).

Class 25—Locks and Safes

SN 290,194. Sargent & Company, New Haven, Conn. Filed Feb. 2, 1968.

INTEGRALOCK

Owner of Reg. No. 500,718.
For Locks and Latches (Int. Cl. 6).
First use May 27, 1946.

Class 26—Measuring and Scientific Appliances

SN 246,119. Williams Gold Refining Co. Inc., Buffalo, N.Y. Filed May 19, 1966.

VIVOSTAR

Owner of Reg. No. 827,232.
For Measuring Gauges, Articulators, Boley Gauges, and Vernier Calipers, the Foregoing Being Used for Measuring Length, Distance, and Thickness in Manufacturing Articles Using Precious Metals and Precious Metal Alloys (Int. Cl. 9).
First use Feb. 16, 1966.

SN 270,252. In-Flight Devices Corp., Columbus, Ohio. Filed Apr. 28, 1967.

IFD

For Computer for Automatically Actuating Aircraft Landing Gear Mechanisms (Int. Cl. 9).
First use July 1966.

SN 270,794. Macbeth Corporation, Newburgh, N.Y. Filed May 5, 1967.

SPECTROLOG

For Electronic Instruments—Namely, Densitometers and Photometers (Int. Cl. 9).
First use Mar. 15, 1967.

SN 274,937. Beede Electrical Instrument Co., Inc., Penacook, N.H. Filed June 28, 1967.

BEEDE

Owner of Reg. No. 537,737.
For Electric Meters (Int. Cl. 9).
First use at least as early as January 1946.

SN 281,699. Grafar Corporation, Detroit, Mich. Filed Oct. 3, 1967.

AUTO-GEL

For Laboratory Equipment—Namely, Agar Gel Punches, Cutters, and Molds (Int. Cl. 9).
First use Mar. 1, 1967.

SN 299,325. The Columbus Dental Manufacturing Company, Columbus, Ohio. Filed May 29, 1968.

Steele's

Owner of Reg. Nos. 98,365 and 98,366.
For Electrically Actuated, Dental Laboratory Furnaces (Int. Cl. 9).
First use June 4, 1965.

Class 27—Horological Instruments

SN 240,286. Firma Gebruder Junghans Aktiengesellschaft, Schramberg, Wurttemberg, Germany. Filed Mar. 7, 1966.



Priority claimed under Sec. 44(d) on German application filed Oct. 18, 1965; Reg. No. 836,240, dated Aug. 18, 1967.
Owner of U.S. Reg. No. 636,260.
For Clocks, Watches, and Parts Thereof (Int. Cl. 14).
First use September 1965; in commerce January 1966.

SN 292,888. Jesus Chagoyen, d.b.a. Chagoyen Jewelry, New York, N.Y. Filed Mar. 11, 1968.

ULTRAMAR

For Watches (Int. Cl. 14).
First use January 1966.

Class 28—Jewelry and Precious-Metal Ware

SN 278,245. Romega, Incorporated, Rome, Ga. Filed Aug. 14, 1967.

PIERCE ME NOT

For Ear Ornaments (Int. Cl. 14).
First use Oct. 24, 1966.

SN 292,956. Plainville Stock Company, Plainville, Mass. Filed Mar. 11, 1968.

PRE-POSAL

For Finger Rings (Int. Cl. 14).
First use on or about Feb. 5, 1968.

SN 293,577. Raleigh Mfg. Co., Providence, R.I. Filed Mar. 18, 1968.

Kid Stuff

For Costume Jewelry (Int. Cl. 14).
First use on or about Feb. 20, 1968.

Class 29 — Brooms, Brushes, and Dusters

SN 289,790. The Drackett Company, Cincinnati, Ohio. Filed Jan. 29, 1968.

FLOOR MASTER

Owner of Reg. No. 516,767.
For Brooms, Sponge Mops, and Wet Mops (Int. Cl. 21).
First use Jan. 10, 1968.

SN 293,775. Bennett Industries, Inc., Peotone, Ill. Filed Mar. 21, 1968.

SONA STREAM

For Electric Toilet Apparatus—Namely, Electric Toothbrushes (Int. Cl. 21).
First use Feb. 2, 1968.

Class 30 — Crockery, Earthenware, and Porcelain

SN 279,767. Shenango Ceramics, Inc., New Castle, Pa. Filed July 25, 1967.

AMERICAN MANOR CHINA

The words "American" and "China" are disclaimed apart from the mark as shown.
For China Dinnerware (Int. Cl. 21).
First use Apr. 5, 1967.

SN 293,694. Castleton China, Inc., New Castle, Pa. Filed Mar. 20, 1968.

CROWN WREATH

For China Dinnerware (Int. Cl. 21).
First use Jan. 15, 1967.

Class 32 — Furniture and Upholstery

SN 264,733. American Hospital Supply Corporation, Evanston, Ill. Filed Feb. 1, 1967.

SAFTI-DOME

For Plastic Slide-Type Crib Tops (Int. Cl. 20).
First use on or before Mar. 16, 1966.

SN 275,946. Kinder Manufacturing Company, Inc., Elkhart, Ind. Filed July 13, 1967.

KMC

For Upholstered Sofas, Chairs, Cushions, Mattresses, Box Springs, and Tables (Int. Cl. 20).
First use on or before Sept. 1, 1956.

SN 282,877. B. J. Ball Limited, Sydney, New South Wales, Australia. Filed Oct. 19, 1967.

BOUNCINETTE

For Nursery Furniture—Namely, Infant Cradle Seats (Int. Cl. 20).
First use at least as early as July 27, 1967; in commerce at least as early as July 27, 1967.

SN 288,770. Bevan Funnell Limited, Newhaven, Sussex, England. Filed Jan. 15, 1968.

Reprodux

For Household Furniture—Namely, Living Room, Dining Rom and Bedroom Furniture, and Mirrors (Int. Cl. 20).
First use 1956; in commerce Nov. 1, 1965.

SN 295,843. Premium Corporation of America, Inc., Minneapolis, Minn. Filed Apr. 17, 1968.

LADY MARIAN

For Play-Pen Pads (Int. Cl. 20).
First use Oct. 9, 1957.

SN 300,785. Mattel, Inc., Hawthorne, Calif. Filed June 19, 1968.

ETCETERAS

For Picture Frames (Int. Cl. 20).
First use Jan. 17, 1968.

Class 33 — Glassware

SN 290,826. Continental Can Company, Inc., New York, N.Y. Filed Feb. 12, 1968.



The representation of a glass is disclaimed apart from the mark as shown.
For Glass Tableware and Glass Vases (Int. Cl. 21).
First use May 17, 1967.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 282,574. Graham Manufacturing Co., Inc., Batavia, N.Y. Filed Oct. 16, 1967.

GRAHAMITE

For Steam Heating and Cooling Plants, and Parts Thereof, for Industrial Use (Int. Cl. 11).
First use July 16, 1964.

SN 299,620. Becton, Dickinson and Company, East Rutherford, N.J. Filed June 4, 1968.

ENVIRATECH

For Laminar Flow Equipment—Namely, Packaged and Built-Up Clean Rooms (Int. Cl. 11).
First use Nov. 20, 1967.

Class 37 — Paper and Stationery

SN 273,180. Churchill Business Forms Company, Newtown, Conn. Filed June 6, 1967.



Applicant disclaims the words "Continuous Data Processing Forms" apart from the mark, but without effect on its common law rights therein.
For Continuous Data Processing Forms (Int. Cl. 16).
First use Dec. 15, 1966.

SN 273,181. Churchill Business Forms Company, Newtown, Conn. Filed June 6, 1967.



Applicant disclaims the words "Business Forms Company" apart from the mark, but without effect on its common law rights therein.
For Continuous Data Processing Forms (Int. Cl. 16).
First use Dec. 15, 1966.

SN 284,987. The Brown-Bridge Mills, Inc., Troy, Ohio. Filed Nov. 16, 1967.



The drawing is lined to indicate the colors yellow and blue, but the mark is not restricted to use of such colors. Owner of Reg. Nos. 647,101 and 678,118.
For Gummed and Coated Paper, Sold in Reams and Rolls for Further Processing (Int. Cl. 16).
First use Mar. 28, 1966.

Class 38 — Prints and Publications

SN 267,942. Gourmania Incorporated, Warwick, Pa. Filed Mar. 30, 1967.

GOURMANIA GUIDE

For Illustrated Column Appearing in Publications of a Periodical Nature (Int. Cl. 16).
First use Nov. 17, 1966.

SN 268,814. Visual Graphics Corporation, New York, N.Y. Filed Apr. 10, 1967.

SCOTFORD UNCIAL

The word "Uncial" is disclaimed apart from the mark as shown.
For Sheets of Letters and Other Characters for Use in Photo-Printing and Photographic Reproduction (Int. Cl. 16).
First use Jan. 27, 1965.

SN 268,820. Visual Graphics Corporation, New York, N.Y. Filed Apr. 10, 1967.

DEUTSCH BLACK

The term "Black" is disclaimed apart from the mark. The German term "Deutsch" means German.
For Sheets of Letters and Other Characters for Use in Photo-Printing and Photographic Reproduction (Int. Cl. 16).
First use May 11, 1966.

SN 283,712. Oral Roberts Evangelistic Association, Inc., Tulsa, Okla. Filed Oct. 30, 1967.

DAILY BLESSING

For Daily Prayer Guide (Int. Cl. 16).
First use March 1959.

SN 284,665. Implement & Tractor Publications, Inc., Kansas City, Mo. Filed Nov. 13, 1967.

BLUE BOOK

Owner of Reg. No. 733,797.
For Publications in the Nature of Trade-In Guides Published Periodically—Namely, Inboard and Outdrive Boat Trade-In Guide; Outboard Boat Trade-In Guide; Grounds Equipment Trade-In Guide; Outboard Motor Trade-In Guide; Chain Saw Trade-In Guide; Boat Trailer Trade-In Guide; Pontoon and Houseboat Trade-In Guide; Sailboat Trade-In Guide; and Snow Mobile Trade-In Guide (Int. Cl. 16).
First use Jan. 10, 1956.

SN 285,747. McGraw-Hill, Inc., New York, N.Y. Filed Nov. 28, 1967.



For Educational Motion Picture Films (Int. Cl. 9).
First use Nov. 1, 1967.

SN 286,439. McGraw-Hill, Inc., New York, N.Y. Filed Dec. 7, 1967.

FIRST STEP BOOK

No registration rights are claimed for the word "Book" apart from the mark as shown.
For Series of Children's Books (Int. Cl. 16).
First use Nov. 27, 1967.

SN 286,523. Hallmark Cards, Incorporated, d.b.a. Ambassador Cards, Kansas City, Mo. Filed Dec. 8, 1967.

GOLDEN THOUGHTS

For Booklets (Int. Cl. 16).
First use Dec. 1, 1967.

SN 292,618. Sea & Ski Corporation, San Francisco, Calif. Filed Mar. 6, 1968.

SEA & SKI SUN

For Magazine Published From Time to Time (Int. Cl. 16).
First use May 1, 1965.

SN 296,926. Radio Corporation of America, New York, N.Y. Filed Apr. 30, 1968.

RCA

Owner of Reg. No. 417,179 and others.
For House Organs, Newsletters, Catalogues, Pamphlets, Circulars, Handbooks, Service Notes, Operating Manuals, Instruction Books, and Other Publications Issued Periodically and From Time to Time (Int. Cl. 16).
First use at least as early as Mar. 11, 1968.

SN 299,275. Enemies of Smoking, Inc., Washington, D.C. Filed May 29, 1968.

Enemies of Smoking, Inc.

For Pamphlets (Int. Cl. 16).
First use Apr. 24, 1968.

SN 301,885. Hunter Publishing Company, Chicago, Ill. Filed July 3, 1968.

JOBBER & WAREHOUSE EXECUTIVE

Owner of Reg. No. 739,044.
For Trade Magazine (Int. Cl. 16).
First use June 12, 1968.

SN 302,193. Thomas J. Lipton, Inc., Englewood Cliffs, N.J. Filed July 8, 1968.



For Intercompany Magazine Published Quarterly (Int. Cl. 16).
First use Aug. 9, 1967.

SN 302,194. Thomas J. Lipton, Inc., Englewood Cliffs, N.J. Filed July 8, 1968.



For Intercompany Newsletter Published Bi-Monthly (Int. Cl. 16).
First use Jan. 3, 1968.

Class 39 — Clothing

SN 271,855. Surf Mfg., Inc., St. Petersburg, Fla. Filed May 18, 1967.

POLY PLAY

Applicant disclaims the word "Play" apart from the mark as shown.
For Boots, Shoes, Slippers, Overshoes, and Similar Footwear (Int. Cl. 25).
First use Aug. 19, 1966.

SN 272,173. Damon Creations, Inc., New York, N.Y. Filed May 23, 1967.

GRANDE DÉCORATION

For Men's Shirts, Sweaters, Jackets, Ties, and Handkerchiefs (Int. Cl. 25).
First use July 1966.

SN 272,637. Foster Industries, Inc., New York, N.Y. Filed May 29, 1967.



The drawing is lined for green.
For Girls', Juniors' and Ladies' Dresses, Shirts, Shifts, Hats, and Belts (Int. Cl. 25).
First use May 1, 1967.

SN 272,718. Fling-Things, Inc., Lester, Pa. Filed May 31, 1967.

FLING-THINGS

For Disposable Dresses Made of Paper (Int. Cl. 25).
First use on or about Mar. 17, 1967.

SN 274,861. Dalton of America, Inc., Willoughby, Ohio. Filed July 23, 1968.



Owner of Reg. No. 578,747.
For Knitted Coordinates (Skirts, Blouses, Slacks and Shorts in Conjunction With Sweaters), Knitted Suits and Dresses, and Knitted Coats (Int. Cl. 25).
First use Oct. 10, 1957.

SN 275,043. Farah Manufacturing Company, Inc., El Paso, Tex. Filed June 29, 1967.



The drawing is lined for gold.
For Men's and Boys' Slacks, Shorts, and Jeans (Int. Cl. 25).
First use Apr. 15, 1967.

SN 275,606. Anastasia's, Sausalito, Calif. Filed July 10, 1967.

anastasias

For Women's Wear, Specifically, Dresses, Suits, Skirts, Blouses, Pants, Pant Suits, and Hostess Gowns and Pants (Int. Cl. 25).
First use Mar. 10, 1967.

SN 275,759. Intercontinent Shoe Corporation, New York, N.Y. Filed July 11, 1967.

BRITISH SQUIRES

The word "British" is disclaimed apart from the mark as shown.
For Footwear (Int. Cl. 25).
First use May 25, 1967.

SN 276,692. S.A.R.L. Editions Mai, Paris, France. Filed July 24, 1967.

ELLE

Owner of U.S. Reg. No. 758,137.
For Dresses, Cloaks, Capes, Skirts, Jackets, Suits, Two-Piece Costumes or Suits, Coats, Sweaters, Bodices, Pullovers, House-Gowns, Slips, Combination Underwear, Petticoats, Corsets, Sheath Corsets, Bust-Bodices, Brassieres, Undershirts, Underwear, Bathing Suits, Jodphurs, Knickers, Stockings, Ties, Scarves, Square Shawls, Hats, Caps, Gloves, and Slippers (Int. Cl. 25).
First use Mar. 22, 1949; in commerce Mar. 22, 1965.

SN 277,942. Toby Lane, Inc., St. Louis, Mo. Filed Aug. 9, 1967.

SIGNOR GIOVELLI

For Women's and Misses' Dresses and Skirts (Int. Cl. 25).
First use Apr. 15, 1959.

SN 278,381. Farah Manufacturing Company, Inc., El Paso, Tex. Filed Aug. 16, 1967.

DRYLON

For Diapers (Int. Cl. 25).
First use July 26, 1967.

SN 279,063. Gentex Corporation, Carbondale, Pa. Filed Aug. 25, 1967.

TURTLE

For Safety Helmets (Int. Cl. 9).
First use Oct. 17, 1966.

SN 283,414. American Uniform Company, Inc., Cleveland, Tenn. Filed Oct. 26, 1967.

Styled by American

The expression "Styled by" is disclaimed apart from the mark as shown.
For Industrial Uniforms (Int. Cl. 25).
First use Sept. 1, 1967.

SN 283,580. M. Serman & Co., Inc., New York, N.Y. Filed Oct. 27, 1967.

traveler shift by Laura Mae Life Press

"Laura Mae" is not the name of a particular designer of wearing apparel. Applicant disclaims the expressions "Traveler Shift" and "Life Press" apart from the mark as shown.
Owner of Reg. No. 560,770.
For Ladies' and Girls' Blouses, Shifts, and Dresses (Int. Cl. 25).
First use Oct. 18, 1967.

SN 283,781. Donnkenny, Inc., New York, N.Y. Filed Oct. 31, 1967.

THE XTROVERT

For Ladies', Misses', and Junior Dresses, Blouses, Pants, Skirts, Slacks, and Shorts (Int. Cl. 25).
First use June 15, 1967.

SN 282,861. Bruck's, Inc., Bronx, N.Y. Filed Nov. 1, 1967.

BRUCK'S

For Male and Female Wearing Apparel—Namely, Uniforms, Dresses, Skirts, Weskits, Boleros, Jumpers, Jackets, Blouses, Gym Suits, Aprons, Bibs, Laboratory Coats, Doctors' Coats, Caps, Beanies, Socks, Ties, Trousers, Outer Wear Coats, Rain Coats, Capes, and Nun's Habits (Int. Cl. 25).
First use on or before Sept. 20, 1967; in or before 1923 as to "Bruck's."

SN 284,174. Dominique France, Inc., New York, N.Y. Filed Nov. 6, 1967.

DOMINIQUE FRANCE

Applicant disclaims the word "France" apart from the mark as shown. Owner of Reg. Nos. 564,640 and 569,911.
For Men's Ties, Mufflers, Handkerchiefs, Shirts (Both Sport and Dress), Jackets, Slacks, Hats, Sweaters, Socks, Suspenders, Belts, Shoes, Slippers, Underwear, Pajamas, Robes, Gloves, and Raincoats (Int. Cl. 25).
First use Sept. 21, 1949.

SN 285,672. Pendleton Woolen Mills, Portland, Oreg. Filed Nov. 27, 1967.

COUNTRY SOPHISTICATES

For Women's Sportswear—Namely, Coats and Suits (Int. Cl. 25).
First use Nov. 13, 1967.

SN 285,829. Freeman Enterprises, Inc., New York, N.Y. Filed Nov. 29, 1967.

DON ROBERTS

The name "Don Roberts" is fanciful.
For Men's Knit Shirts, Sport Shirts, Swimming and Bathing Suits, and Sweaters (Int. Cl. 25).
First use Sept. 5, 1967.

SN 287,024. Liebman-Weiss, Inc., New York, N.Y. Filed Dec. 15, 1967.

Stegari

For Ladies' Coats and Suits (Int. Cl. 25).
First use June 1967.

SN 287,045. Stratford Neckwear Co., Inc., New York, N.Y. Filed Dec. 15, 1967.

WOOLYNE

For Neckties (Int. Cl. 25).
First use Nov. 14, 1967.

SN 287,759. Poirette Corsets, Inc., New York, N.Y. Filed Dec. 28, 1967.

BORN FREE BY POIRETTE

Owner of Reg. No. 406,586.
For Women's Foundation Garments (Int. Cl. 25).
First use Dec. 4, 1967.

SN 287,795. Brides Showcase International, Inc., New York, N.Y. Filed Dec. 29, 1967.

BRIDES SHOWCASE

For Bridal Gowns (Int. Cl. 25).
First use Dec. 27, 1967.

SN 288,020. L & M Knitting Mills, Inc., Philadelphia, Pa. Filed Jan. 3, 1968.

Sigallo

For Men's Sweaters (Int. Cl. 25).
First use Sept. 4, 1967.

SN 289,187. Gilbert Shoe Stores, Inc., Columbus, Ohio. Filed Jan. 19, 1968.

Pillow Pacers

For House Slippers (Int. Cl. 25).
First use Jan. 4, 1968.

SN 289,287. Ely & Walker, Inc., Wilmington, Del. Filed Jan. 22, 1968.

Nanette

Owner of Reg. No. 220,589.
For Hosiery (Int. Cl. 25).
First use Apr. 21, 1926.

SN 289,362. Arnold J. Weber, New York, N.Y. Filed Jan. 22, 1968.

G.A.P.P.

For Wearing Apparel—Namely, Men's Dress Shirts and Sport Shirts, Men's Pajamas, Men's Underwear, Men's Hosiery, Men's Suits, Jackets and Slacks; Women's Shirts and Blouses, and Women's Dresses (Int. Cl. 25).
First use Jan. 5, 1968.

SN 289,575. Curlee Clothing Company, St. Louis, Mo. Filed Jan. 25, 1968.

LUSTER-LITE

For Men's Suits (Int. Cl. 25).
First use August 1964.

SN 290,461. Barrow Manufacturing Company, Winder, Ga. Filed Feb. 7, 1968.

HILTON HEAD

For Women's and Men's Slacks (Int. Cl. 25).
First use Jan. 3, 1968.

SN 293,006. Acme Boot Company, Inc., Clarksville, Tenn. Filed Mar. 12, 1968.

ACME

Owner of Reg. Nos. 555,056, 767,619, and others.
For Leather Boots (Int. Cl. 25).
First use Feb. 15, 1968.

SN 293,008. Acme Boot Company, Inc., Clarksville, Tenn. Filed Mar. 12, 1968.

dingo

Owner of Reg. No. 781,468.
For Leather Boots (Int. Cl. 25).
First use Feb. 15, 1968.

SN 293,009. Acme Boot Company, Inc., Clarksville, Tenn. Filed Mar. 12, 1968.

hawk eye

Owner of Reg. No. 709,676.
For Leather Boots (Int. Cl. 25).
First use Feb. 15, 1968.

SN 294,198. The Joseph & Feiss Company, Cleveland, Ohio. Filed Mar. 26, 1968.

TEMPO INTERNATIONALE

Owner of Reg. No. 818,325.
For Tailored Men's Wear—Namely, Suits, Coats, Topcoats, Slacks, and Jackets (Int. Cl. 25).
First use Jan. 26, 1968.

SN 294,716. Apparel Industries of California, Inc., Los Angeles, Calif. Filed Apr. 2, 1968.

WAISTAMERS

For Men's Swimwear (Int. Cl. 25).
First use Dec. 13, 1967.

SN 296,319. Gordon-Ford Inc., Conshohocken, Pa. Filed Apr. 23, 1968.

Gordon of Philadelphia

"Philadelphia" is disclaimed apart from the mark as shown. The drawing is lined for red. Owner of Reg. No. 710,964.
For Men's and Women's Suits, Coats, Jackets, Shirts, Blouses, and Sweaters (Int. Cl. 25).
First use at least as early as Sept. 4, 1956.

SN 297,802. President Shops, Inc., Kansas City, Mo. Filed May 9, 1968.

D'Angello Dello

The name "D'Angello Dello" is fictitious.
For Men's Suits (Int. Cl. 25).
First use Sept. 21, 1966.

SN 298,086. Butterworth Industries, Inc., Marion, Ind. Filed May 14, 1968.

TOSSUMS

For Aprons, Bibs, Smocks, Gowns, Coveralls, Overalls, Shirts, Jackets, and Pants (Int. Cl. 25).
First use Apr. 15, 1968.

SN 298,631. C. K. Slaughter Inc., Daytona Beach, Fla. Filed May 20, 1968.

THIN ICE

For Men's Suits, Sport Coats, and Pants (Int. Cl. 25).
First use July 5, 1967.

SN 298,881. Tip Top Hosiery Mills, Inc., Asheboro, N.C. Filed May 22, 1968.

HER-EM

For Ladies' Hosiery (Int. Cl. 25).
First use May 3, 1968.

SN 299,153. New England Robe Corp., Natick, Mass. Filed May 27, 1968.

PLAZA SQUARE

For Dresses (Int. Cl. 25).
First use May 10, 1968.

SN 301,017. Maidenform, Inc., New York, N.Y. Filed June 21, 1968.

UNDERCURRENT

Owner of Reg. No. 766,436.
For Foundation Garments and Lingerie (Int. Cl. 25).
First use June 18, 1963.

SN 301,018. Maidenform, Inc., New York, N.Y. Filed June 21, 1968.

TAME-ME-TIGHTS

For Girdles and Hose Adapted To Be Used in Combination (Int. Cl. 25).
First use June 14, 1968.

Class 40—Fancy Goods, Furnishings, and Notions

SN 204,505. Western Filament, Inc., Glendale, Calif., assignee of Roddy Recreation Products, Inc., Gardena, Calif. Filed Oct. 21, 1964.

NEOHIDE

For Shoe Laces (Int. Cl. 26).
First use June 1941.

SN 292,096. B. B. Greenberg Co., Cranston, R.I. Filed Feb. 28, 1968.

MINI-CLIPS

For Barrettes, Bobby Pins, Hair Clips, Hat Pins, Hair Combs, and Head Bands (Int. Cl. 26).
First use on or about May 12, 1967.

SN 292,953. John Oster Manufacturing Co., Milwaukee, Wis. Filed Mar. 11, 1968.

OSTER

Owner of Reg. Nos. 515,517, 834,711, and 835,917.
For Combs (Int. Cl. 21).
First use approximately 1933.

SN 293,486. Lillian Ruth Dowell, d.b.a. Leonka Boxer, San Francisco, Calif. Filed Mar. 18, 1968.

LEONKA

For Wigs (Int. Cl. 26).
First use as early as 1956.

SN 293,523. Import-Export Corporation, Houson, Tex. Filed Mar. 18, 1968.

DON JUAN

For Men's Hairpieces (Int. Cl. 26).
First use Jan. 25, 1968.

Class 41 — Canes, Parasols, and Umbrellas

SN 283,651. Samuel Fox & Company Limited, Stocksbridge, near Sheffield, England. Filed Oct. 30, 1967.



Owner of British Reg. No. 273,484/4069S, dated June 8, 1905; and U.S. Reg. Nos. 53,900, 53,902, and 57,106.
For Umbrellas (Int. Cl. 18).

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 273,305. Polikoff Textiles, Inc., New York, N.Y. Filed June 7, 1967.

KNIT-ONE

For Textile Fabrics Made of All Natural Fibers, All Synthetic Fibers, and Combinations Thereof, To Be Used for Making Dresses, Blouses, Slacks, Men's and Boys' Shirts, Suits, Coats, and the Like (Int. Cl. 24).
First use Mar. 17, 1967.

SN 283,805. Donald E. Magee, d.b.a. Don Magee Studios, Venice, Calif. Filed Oct. 31, 1967.

Jomour

For Hand-Blocked Textile Fabrics for Making Draperies, Bedspreads, Divider Screens, Upholstery, Pillow Covers, and Other Household Furnishings (Int. Cl. 24).
First use Aug. 1, 1935.

SN 284,848. Stevcoknit Textile Co., New York, N.Y. Filed Nov. 14, 1967.

CHAVELLE

For Fabric Piece Goods for Making Into Sportswear, Dresses, Shirts, Suits, Slacks, and Outerwear Garments (Int. Cl. 24).
First use June 1, 1965.

SN 285,472. J. P. Stevens & Co., Inc., New York, N.Y. Filed Nov. 22, 1967.

SEAGUARD

For Fabrics of One or More Natural Fibers Including Wool and Cotton, or Synthetic Fibers or Cellulosic Fibers, or Blends of the Foregoing (Int. Cl. 24).
First use Sept. 29, 1967.

SN 292,523. Wellco Carpet Corp., Calhoun, Ga. Filed Mar. 5, 1968.

DECATHLON

For Carpeting (Int. Cl. 27).
First use Dec. 27, 1967.

SN 292,577. The Harodite Finishing Company, Inc., North Dighton, Mass. Filed Mar. 6, 1968.

HAROLON

Owner of Reg. Nos. 582,832 and 602,468.
For Resilient Lining and Interfacing for Garments (Int. Cl. 24).
First use Jan. 17, 1968.

SN 292,626. J. P. Stevens & Co., Inc., New York, N.Y. Filed Mar. 6, 1968.

TRAVLRIB

Owner of Reg. No. 274,613.
For Piece Goods of One or More Natural Fibers Including Wool and Cotton, or Synthetic Fibers or Cellulosic Fibers, or Blends of the Foregoing (Int. Cl. 24).
First use Feb. 23, 1968.

SN 292,627. J. P. Stevens & Co. Inc., New York, N.Y. Filed Mar. 6, 1968.

TRAVLTUCK

Owner of Reg. No. 274,613.
For Piece Goods of One or More Natural Fibers Including Wool and Cotton, or Synthetic Fibers or Cellulosic Fibers, or Blends of the Foregoing (Int. Cl. 24).
First use Feb. 23, 1968.

SN 292,628. J. P. Stevens & Co. Inc., New York, N.Y. Filed Mar. 6, 1968.

STEVTUCK

For Piece Goods of One or More Natural Fibers Including Wool and Cotton, or Synthetic Fibers or Cellulosic Fibers, or Blends of the Foregoing (Int. Cl. 24).
First use Feb. 23, 1968.

SN 292,716. Robertson Carpet Corp., New York, N.Y. Filed Mar. 7, 1968.

ROBERTSON

For Carpets and Rugs (Int. Cl. 27).
First use Oct. 17, 1967.

SN 293,021. Collins & Aikman Corporation, New York, N.Y. Filed Mar. 12, 1968.

CERTIFAB

For Tricot Lining Fabrics for Bonding to Men's and Women's Apparel Fabrics (Int. Cl. 24).
First use Sept. 6, 1963.

SN 293,112. Collins & Aikman Corporation, New York, N.Y. Filed Mar. 13, 1968.

DURADUCK

For Nylon Duck Fabric (Int. Cl. 24).
First use Feb. 20, 1968.

SN 301,009. Cone Mills Incorporated, New York, N.Y. Filed June 21, 1968.

HYCONE

For Textile Fabrics in the Piece of Cotton or Synthetic Fibers, or Any Combination Thereof (Int. Cl. 24).
First use June 17, 1968.

SN 301,010. Cone Mills Incorporated, New York, N.Y. Filed June 21, 1968.

HYFAB

For Textile Fabrics in the Piece of Cotton or Synthetic Fibers, or Any Combination Thereof (Int. Cl. 24).
First use June 17, 1968.

Class 44 — Dental, Medical, and Surgical Appliances

SN 257,142. Air Instruments, Inc., Pittsburgh, Pa. Filed Oct. 25, 1966.

HALL CRANIOTOME

The word "Craniotome" is disclaimed apart from the mark as shown.
For Surgical Instruments and Supplies—Namely, Pneumatically Operated Surgical Tools Adapted for Use in Surgery (Int. Cl. 10).
First use April 1964; Nov. 22, 1961, as to "Hall."

SN 271,712. Jay-Kay Distributors, Inc., State College, Pa. Filed May 17, 1967.

J K

The representation of the caduceus is disclaimed apart from the mark as shown.
For Invalid Walkers, Canes, Bedpans, Urinals, Incontinent Pads, Medical Thermometers, Crutches, Wheel Chairs, Hospital Beds, Bedside Tables, and Hospital Dressers (Int. Cls. 9, 10, and 12).
First use Feb. 8, 1967.

SN 272,422. Splinter Company, St. Charles, Ill. Filed May 25, 1967.

SPLINTER

For Disposable or Throw-Away Stretchers and Splints for First Aid or Medical Purposes (Int. Cl. 10).
First use Mar. 18, 1967.

SN 272,860. Scott Paper Company, Delaware County, Pa. Filed June 1, 1967.

SCOTT

Owner of Reg. Nos. 559,929, 747,765, and others.
For Sanitary Napkins and Drape Sheets Made of Paper (Int. Cl. 5).
First use on about Feb. 4, 1965.

SN 275,226. Helen E. Chatfield, Phoenix, Ariz. Filed July 3, 1967.

Q-RET

For Surgical Instrument Having a Manipulating Handle With a Disposable Razor or Band Loop Blade (Int. Cl. 10).
First use Jan. 1, 1967.

SN 275,962. T. J. Smith & Nephew, Limited, Hull, England. Filed July 13, 1967.

MELOLIN

Owner of British Reg. No. 774,591, dated Feb. 20, 1958.
For Bandages, and Plasters and Dressing, All for Medical or Surgical Purposes (Int. Cl. 5).

SN 287,126. Acme Cotton Products Co., Inc., Valley Stream, N.Y. Filed Dec. 18, 1967.

KLINI-KITS

For Sterile Disposable Minor Surgical Procedure Packs Containing One or More of the Following: Drapes With Oval Fenestrations, Outside Sterile Field Wrap, Surgical Sponges, Wet-Strength Absorbent Towels, and Cotton-Tipped Applicators (Int. Cl. 5).
First use on or about Nov. 16, 1967.

SN 287,985. Zenith Radio Corporation, Chicago, Ill. Filed Jan. 2, 1968.

VOCALIZER

For Hearing Aids (Int. Cl. 10).
First use at least as early as March 1965.

SN 291,359. The Cramer Chemical Company, Gardner, Kans. Filed Feb. 19, 1968.

CRAMEROL

Owner of Reg. Nos. 418,406, 820,997, and others.
For Plastic Backed Cellulose Compress Rolls (Int. Cl. 5).
First use Nov. 7, 1967.

SN 291,527. Rexall Drug and Chemical Company, d.b.a. The Seamless Rubber Company, Los Angeles, Calif. Filed Feb. 20, 1968.

NOTRAUMA

For Non-Adherent Surgical Dressing (Int. Cl. 5).
First use Jan. 29, 1968.

SN 294,882. Dynamic Classics, Ltd., New York, N.Y. Filed Apr. 4, 1968.

CONTOUR

For Portable Vibrating Massager in the Nature of a Belt (Int. Cl. 10).
First use Jan. 5, 1968.

SN 295,284. Eisele & Company, Inc., Clifton, N.J. Filed Apr. 10, 1968.



Owner of Reg. Nos. 782,150 and 832,605.
For Automatic Heating Pad, Syringe With Needle, and Thermometer Kit Consisting of a Clinical Thermometer, Thermometer Holder, Color Coded Dust Cover, Identification Card, and Mounting Tape (Int. Cls. 9 and 10).
First use Jan. 5, 1968, on syringes with needles.

SN 298,382. Ceramco, Inc., Long Island City, N.Y. Filed May 17, 1968.

CERAMCO

Owner of Reg. Nos. 696,494 and 740,107.
For Materials for Making Dies Utilized in the Production of Dental Inlays, Crowns and Jackets—Namely, a Powder and Liquid Used To Form a Ceramic Refractory Material, a Separator Liquid Consisting of a Suspension of Refractory Powders in a Quick Drying Liquid Plastic Base and an Add-On Material for Filling Undercuts or Voids in the Die (Int. Cl. 5).
First use on or about Apr. 5, 1968.

SN 298,701. Chesebrough-Pond's Inc., New York, N.Y. Filed May 21, 1968.

ALEAVE

Owner of Reg. No. 769,077.
For Obstetrical Pads (Int. Cl. 5).
First use Apr. 26, 1968.

SN 298,905. Phoenix Products Company, Inc., Milwaukee, Wis. Filed May 23, 1968.

PHOENIX SWAB

The descriptive word "Swab" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 531,363 and 564,267.
For Swabs and Tipped Applicators for Home and Surgical Use (Int. Cl. 5).
First use Apr. 25, 1968.

SN 298,994. Philip Morris Incorporated, d.b.a. ASR Industries, New York, N.Y. Filed May 24, 1968.

ASR

Owner of Reg. Nos. 321,603, 614,757, and others.
For Hospital Supplies—Namely, Surgical Blades and Scalpels (Int. Cl. 10).
First use Apr. 3, 1968.

SN 299,736. Marvin B. Rodney, d.b.a. DSA Medical Group Laboratories, North Hollywood, Calif. Filed June 5, 1968.

VAGGIES

For Vaginal Syringes for Injection and Removal of Fluids for Obtaining Cell Samples (Int. Cl. 10).
First use at least as early as Feb. 19, 1968.

SN 300,655. Jobst Institute Inc., Toledo, Ohio. Filed June 18, 1968.

JOBST-JET

Owner of Reg. Nos. 682,251, 767,641, and others.
For Air Splints (Int. Cl. 10).
First use at least as early as June 12, 1968.

Class 45—Soft Drinks and Carbonated Waters

SN 272,974. Winchell Donut House, Inc., South El Monte, Calif. Filed June 5, 1967.

Winchell's

For Carbonated Soft Drinks, and Non-Carbonated Soft Drinks Containing Artificial Flavoring (Int. Cl. 32).
First use Apr. 20, 1964.

Class 46—Foods and Ingredients of Foods

SN 256,349. Duffy-Mott Company, Inc., New York, N.Y. Filed Oct. 13, 1966.

JUICES WILD

The word "Juices" is disclaimed apart from the mark as shown.
For Fruit Flavored Apple Juice (Int. Cl. 32).
First use Oct. 3, 1966.

SN 265,751. Tropicana Preserve Co., Inc., Miami, Fla. Filed Mar. 1, 1967.

DUCAL

For Solidified Guava Cream; Solidified Orange Cream; Solidified Prune Cream; Solidified Mango Cream; Solidified Milk Cream, Each in Bar Form; Guava Seeded Halves; Shredded Coconut in Sugar Syrup; Papaya Chunks in Sugar Syrup; Orange Rinds in Syrup; Guava Marmalade; Solidified Cream of Sweet Potatoes; Prunes in Syrup; Mango Marmalade Sold in Cans, in Boxes, and in Candy-Type Wrappers (Int. Cls. 29 and 30).
First use Sept. 6, 1966.

SN 266,418. SCM Corporation, New York, N.Y., assignee of The Glidden Company, Cleveland, Ohio. Filed Mar. 10, 1967.



For Frozen, Ready-To-Bake French Pastry Hors d'Oeuvres (Int. Cl. 30).
First use December 1960.

SN 266,472. Wasabrod Aktiebolag, d.b.a. Wasa, Filipstad, Sweden. Filed Mar. 10, 1967.

WASA PARTY SQUARES

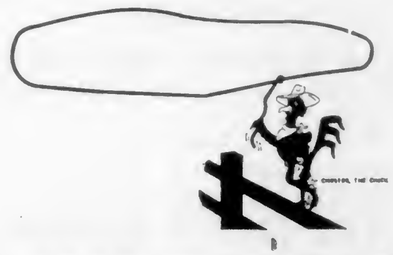
Applicant disclaims the words "Party Squares" apart from the mark as shown. Owner of U.S. Reg. No. 825,381.
For Bread, Biscuits, Cakes, Cookies, and Crackers (Int. Cl. 30).
First use Nov. 17, 1966; in commerce Nov. 17, 1966.

SN 267,374. Wasabrod Aktiebolag, d.b.a. Wasa, Filipstad, Sweden. Filed Mar. 10, 1967.

WASA PARTY Squares

Applicant disclaims the words "Party Squares" apart from the mark as shown. Owner of U.S. Reg. No. 825,381.
For Bread, Biscuits, Cakes, Cookies, and Crackers (Int. Cl. 30).
First use Nov. 17, 1966; in commerce Nov. 17, 1966.

SN 268,306. W. O. Giles, d.b.a. Giles Enterprises, Montgomery, Ala. Filed Apr. 4, 1967.



For Prepared Mixes—Namely, Breading Mix and Marinating Mix; and Prepared Frozen Bakery Products—Namely, Bread, Rolls, Pastry, Cookies, Pies, Cakes, and Pastry Shells (Int. Cl. 30).
First use Aug. 1, 1965, on breading mix.

SN 271,559. B. Lloyd Woodall, d.b.a. B. Lloyd's Pecan Products, Barnesville, Ga. Filed May 15, 1967.

B.LLOYD'S

For Candies and Nuts (Int. Cls. 29 and 30).
First use Dec. 31, 1931.

SN 272,577. Bush Boake Allen Inc., Emerson, N.J. Filed May 29, 1967.

SEELOCK

For Flavors in Concentrate Form (Int. Cl. 30).
First use 1960.

SN 272,973. Winchell Donut House, Inc., South El Monte, Calif. Filed June 5, 1967.

Winchell's

For Malted Milks, Coffee, Hot Chocolate, Tea, and Milk (Int. Cls. 29 and 30).
First use Apr. 20, 1964.

SN 273,057. Galactina & Biomalz AG, Belp, Berne, Switzerland. Filed June 5, 1967.

GALACTINA

Owner of Swiss Reg. No. 11,180, dated June 20, 1899; and U.S. Reg. No. 441,050.
For Infants' Food—Namely, Dry Breakfast Cereals, Canned Vegetables, Canned Fruit, and Fresh Milk (Int. Cl. 5).

SN 273,307. Quade's Seafood Products, Inc., Arlington, Va. Filed June 7, 1967.



"Cap'n Quade's" and the portrait on the drawing identify Charles B. Quade, whose consent is of record.
For Canned Crab Soup (Int. Cl. 29).
First use Sept. 25, 1966.

SN 274,010. Tem-Cole, Inc., McClure, Ohio, assignee of The Geo. Weasel, Jr. Pre-Pack Corporation, McClure, Ohio. Filed June 15, 1967.



The drawing is lined for red.
For Fresh Vegetables (Radishes) (Int. Cl. 31).
First use Apr. 26, 1967.

SN 274,957. Cumberland Packing Corp., Brooklyn, N.Y., assignee of Cumberland Packing Company, Brooklyn, N.Y. Filed June 28, 1967.

WAIST-AWAY

For Low Calorie Sugar Substitutes, Dietetic Dessert Puddings, and Dietetic Cookies (Int. Cl. 5).
First use May 18, 1967.

SN 277,610. Atlantic Tuna Corporation (Proprietary) Limited, Foreshore, Capetown, Republic of South Africa. Filed Aug. 7, 1967.

WANETA

For Frozen Sea Food—Namely, Frozen Fish (Int. Cl. 29).
First use at least as early as Nov. 5, 1966; in commerce at least as early as Nov. 19, 1966.

SN 281,045. Denny's Restaurants, Inc., La Mirada, Calif. Filed Sept. 25, 1967.

Denny's

Owner of Reg. Nos. 736,161 and 740,359.
For Salad Oil and Dressings, Seafood Cocktail Sauce, Tartar Sauce, Mayonnaise, Coffee, Vegetable Shortening, Griddle Fry (Consisting of a Mixture of Vegetable and Coconut Oil for Browning on a Grill), Pancake Syrups, Syrups Used for Food and Food Beverage Purposes, and Toppings of a Fruit, Chocolate, and Fudge Nature (Int. Cls. 29, 30, and 32).
First use in or about February 1962.

SN 283,351. Mar-Ko Company, Topeka, Kans. Filed Oct. 25, 1967.

NUTRETS

For Dietary Animal Food for Canidae (Int. Cl. 31).
First use Oct. 17, 1967.

SN 286,186. Sidney's Food Products, Inc., Kansas City, Mo. Filed Dec. 4, 1967.

ETC.

For All-Purpose Food Sauce (Int. Cl. 30).
First use Oct. 25, 1967.

SN 286,557. Shak-Ur-Corn, Inc., Chicago, Ill. Filed Dec. 8, 1967.



Applicant disclaims the representation of the goods apart from the mark as shown.
For Package Comprising a Disposable Popper Containing Unpopped Popcorn With Flavoring Materials (Int. Cl. 30).
First use Sept. 11, 1967.

SN 287,574. C. J. Patterson Company, Kansas City, Mo. Filed Dec. 26, 1967.

HEAVENLY LOAF

The word "Loaf" is disclaimed apart from the mark as shown.
For Bread (Int. Cl. 30).
First use Nov. 18, 1967.

SN 288,669. Ayrshire Breeders' Association, Brandon, Vt. Filed Jan. 12, 1968. COLLECTIVE MARK.



The person represented in the drawing is fictitious and is not an actual living person.
For Fresh Milk (Int. Cl. 29).
First use Aug. 24, 1967.

SN 289,052. Beverly E. Williams, La Grange Park, Ill. Filed Jan. 17, 1968.

PRO-RICH

For Flavored and Tenderized Fresh Meat (Int. Cl. 29).
First use Nov. 24, 1967.

SN 290,997. Robert L. Berner Company, Chicago, Ill. Filed Feb. 14, 1968.

HOLIDAY

For Nuts (Int. Cl. 29).
First use Oct. 28, 1938.

SN 291,272. Lucta, S.A., Barcelona, Spain. Filed Feb. 16, 1968.

CUMBIA

For Coffee Extract Used as a Flavoring for Food (Int. Cl. 30).
First use at least as early as Apr. 15, 1967; in commerce Apr. 16, 1967.

SN 291,467. Gourmet Foods, Incorporated, Altamonte Springs, Fla. Filed Feb. 20, 1968.

THE GIRDLE BUSTER

For Frozen Ice Cream Pies (Int. Cl. 30).
First use Jan. 15, 1958.

SN 292,218. McCormick & Company, Incorporated, Baltimore, Md. Filed Feb. 29, 1968.

Mc

Owner of Reg. Nos. 362,407, 818,788, and others.
For Salt for Food Purposes (Int. Cl. 30).
First use Jan. 28, 1968.

SN 295,598. Joe Maggio, Holtville, Calif. Filed Apr. 15, 1968.



No claim is made to the words "California Honey Sweet" apart from the mark as shown. The drawing is lined for orange, red, and green. Owner of Reg. No. 535,139.
For Fresh Vegetables (Int. Cl. 31).
First use on or about Mar. 1, 1968; on or about Jan. 1, 1940, as to "Maggio."

SN 295,808. The Dietene Company, Minneapolis, Minn. Filed Apr. 17, 1968.

DYNAPOWER

For High-Protein, Vitamin-Mineral Food Supplements, In Powdered Form, Adapted To Be Mixed With a Liquid To Constitute a High Food-Value Drink (Int. Cl. 5).
First use Feb. 21, 1968.

SN 296,036. National Dairy Products Corporation, New York, N.Y. Filed Apr. 19, 1968.

MELLO-VEL

For Hydrogenated Vegetable Oil (Int. Cl. 29).
First use Mar. 21, 1968.

SN 296,107. Carnation Company, Los Angeles, Calif. Filed Apr. 22, 1968.

THE SPREADABLES

For Sandwich Spread (Int. Cl. 30).
First use Apr. 3, 1968.

SN 300,879. Mother's Cake & Cookie Co., Oakland, Calif. Filed June 20, 1968.



The drawing is lined for purple and red. Owner of Reg. Nos. 577,159, 840,952, and others.
For Cookies (Int. Cl. 30).
First use Dec. 2, 1967.

SN 300,880. Mother's Cake & Cookie Co., Oakland, Calif. Filed June 20, 1968.



The drawing is lined for purple and red. Owner of Reg. Nos. 577,159, 840,952, and others.
For Cookies (Int. Cl. 30).
First use May 7, 1968.

SN 302,198. Ocean Garden Products, Inc., San Diego, Calif. Filed July 8, 1968.

FAIR SEAS

For Canned Fish (Int. Cl. 29).
First use June 6, 1968.

SN 302,199. Ocean Garden Products, Inc., San Diego, Calif. Filed July 8, 1968.

SEA GARDEN

Owner of Reg. No. 827,638 and others.
For Canned Fish (Int. Cl. 29).
First use June 6, 1968.

Class 47 — Wines

SN 279,077. Kunkelmann et Cie, Reims (Marne), France. Filed Aug. 25, 1967.



Priority claimed under Sec. 44(d) on French Reg. No. 734,896, dated June 15, 1967.
For Champagne Wines (Int. Cl. 33).

Class 48 — Malt Beverages and Liquors

SN 275,766. Lone Star Brewing Co., San Antonio, Tex. Filed July 11, 1967.

HandyKeg

The word "Keg" is disclaimed apart from the mark as shown.
For Beer (Int. Cl. 32).
First use Aug. 19, 1965.

Class 49 — Distilled Alcoholic Liquors

SN 291,633. Plains Distributing Company, d.b.a. Samuel Sykes Distilling Co., Santa Monica, Calif. Filed Feb. 21, 1968.

SAMUEL SYKES

The name "Samuel Sykes" is fanciful.
For Whiskey (Int. Cl. 33).
First use Sept. 19, 1967.

SN 291,778. Schenley Distillers, Inc., New York, N.Y. Filed Feb. 23, 1968.

HOUSE OF SCOTS

For Blended Scotch Whisky (Int. Cl. 33).
First use Dec. 21, 1967.

Class 50 — Merchandise Not Otherwise Classified

SN 264,055.* Hawkeye Steel Products, Incorporated, Waterloo, Iowa. Filed Feb. 6, 1967.

PRIDECOTE

For Porcelainized Coating, Sold as a Component of Livestock Waterers (Int. Cl. 21).
First use Sept. 13, 1962.

SN 280,662. Windecor, Inc., Santa Barbara, Calif. Filed Sept. 18, 1967.

WINDECOR

For Colored Decorative Acetate Configurations for Application to Enamel, Glass, and Metal Surfaces, Kitchen Appliances, Cabinets, and Bathroom Fixtures (Int. Cl. 20).
First use May 29, 1967.

SN 283,421. Baker-Roos, Inc., Indianapolis, Ind. Filed Oct. 26, 1967.

BAKER SCAFFOLD

The word "Scaffold" is disclaimed apart from the mark as shown. Owner of Reg. No. 766,168.
For Scaffolds (Int. Cl. 6).
First use at least as early as Nov. 12, 1947.

SN 288,417. Afco Rubber Corporation, North Canton, Ohio. Filed Jan. 9, 1968.



For Stair Treads Made of Rubber and/or Plastic (Int. Cl. 19).
First use July 3, 1964.

SN 291,530. Slip-Pruf Service Corporation, Baton Rouge, La. Filed Feb. 20, 1968.

LITTLE JEWELS

For Roadway Markers for Delineating Desired Traffic Patterns on Streets, Highways, and the Like (Int. Cl. 20).
First use July 7, 1967.

SN 291,746. John Berg Manufacturing Co., Chicago, Ill. Filed Feb. 23, 1968.

MASTER PAINTER

For Ladders (Int. Cl. 20).
First use Jan. 5, 1928.

SN 291,747. John Berg Manufacturing Co., Chicago, Ill. Filed Feb. 23, 1968.

STERLING

For Ladders (Int. Cl. 20).
First use Jan. 5, 1928.

SN 295,154. N. S. Meyer, Inc., New York, N.Y. Filed Apr. 8, 1968.

MEYER-MOUNT

For Insignia, Buttons, Ornaments, Campaign Ribbons, and Campaign Ribbon Bars, All Designed Especially for Use on Army, Marine, Naval, Air Corps, and Other Uniforms (Int. Cl. 26).
First use on or about July 15, 1967.

SN 295,677. Scaffolding (Great Britain) Limited, Mitcham, Surrey, England. Filed Apr. 15, 1968.

SGB SUREFRAME

Priority claimed under Sec. 44(d) on British Reg. No. 916,984, dated Nov. 9, 1967. Owner of U.S. Reg. No. 823,865.
For Tubular Metal Scaffolding, Parts Thereof, and Fittings Therefor (Int. Cl. 6).

SN 301,680. G.I. Plastics, Inc., Chicago, Ill. Filed July 1, 1968.

ROSE KONE

Owner of Reg. No. 789,815.
For Plant Shelters for Protecting Plants (Int. Cl. 20).
First use Oct. 20, 1962.

Class 51 — Cosmetics and Toilet Preparations

SN 267,421. Hain Pure Food Company, Inc., d.b.a. House of Hain, Los Angeles, Calif. Filed Mar. 23, 1967.

Avocado Velvet

Applicant disclaims the word "Avocado" apart from the mark as shown.
For Skin Lotion (Int. Cl. 3).
First use Feb. 7, 1967.

SN 269,685. Port Royal Fragrance Ltd., Carthage, Mo. Filed Apr. 20, 1967.

ROYAL JAMAICAN

The word "Jamaican" is disclaimed apart from the mark as shown.
For After Shave and Cologne (Int. Cl. 3).
First use Sept. 23, 1966.

SN 273,034. Chanel Industries, Inc., New York, N.Y. Filed June 5, 1967.

NO 1 CHANEL

Owner of Reg. Nos. 195,360 and 510,992.
For Perfumes (Int. Cl. 3).
First use Feb. 17, 1948.

SN 275,535. Lancome S.A., Paris, France. Filed July 7, 1967.

MAQUIMAT
de
LANCÔME

Priority claimed under Sec. 44(d) on French Reg. No. 732,399, dated Apr. 26, 1967. Owner of U.S. Reg. Nos. 540,348, and 540,349.
For Perfumeries, Face Make-Up, Cosmetics, and Face Powders (Int. Cl. 3).
First use October 1966; in commerce January 1967.

SN 281,799. Estee Lauder Incorporated, New York, N.Y. Filed Oct. 4, 1967.

APRÈS SUN

The word "Aprés" is a French word which means "after."
For Skin Lotion (Int. Cl. 3).
First use May 1, 1966.

SN 284,696. Max Factor & Co., d.b.a. Max Factor, Hollywood, Calif. Filed Nov. 13, 1967.

NAIL SATIN

Applicant disclaims the word "Nail" apart from the mark as shown.
For Cosmetics, Including Nail Colorings, Polishes, Glosses, Coatings, and Removers (Int. Cl. 3).
First use Apr. 1, 1961.

Class 52 — Detergents and Soaps

SN 275,411. Pierre Cardin, Paris, France. Filed Apr. 28, 1967.

SINGULIER

The French term "Singulier" corresponds to the English words "singular" or "unique."
For Face, Bath, or Hand Soaps (Int. Cl. 3).
First use at least as early as August 1965; in commerce at least as early as September 1965.

SN 281,683. Colgate-Palmolive Company, New York, N.Y. Filed Oct. 3, 1967.

HyperpHase

For Liquid Anti-Bacterial Skin Cleanser for Personal Use (Int. Cl. 3).
First use Aug. 28, 1967.

SN 291,425. Product Distributors Unlimited, Inc., North Miami, Fla. Filed Feb. 19, 1968.

LADY ASHLEY

For Wig Cleaner (Int. Cl. 3).
First use Jan. 10, 1968.

SN 292,296. Roberts and Porter, Inc., Chicago, Ill. Filed Mar. 1, 1968.

NU-WASH

For Solution for Cleaning Wet Ink Particles From Blankets and Rollers and Removing Grease and Grime From Body of a Printing Press (Int. Cl. 3).
First use Aug. 15, 1967.

SN 301,684. Simoniz Company, Chicago, Ill. Filed July 1, 1968.

SIMONIZ

Owner of Reg. Nos. 563,838, 832,311, and others.
For Rug Shampoo (Int. Cl. 3).
First use Feb. 22, 1968.

SERVICE MARKS

Class 100 — Miscellaneous

SN 242,046. Pick Hotels Corporation, Chicago, Ill. Filed Mar. 28, 1966.



Applicant does not intend the drawing to be lined for the color green, and color is not claimed as a feature of the mark.
For Restaurant and Catering Services (Int. Cl. 42).
First use Jan. 3, 1966.

SN 256,778. John R. Tramposch, d.b.a. The Wonderful World of Make Believe Flowers, Fairfield, Conn. Filed Oct. 19, 1966.

THE WONDERFUL WORLD OF MAKE BELIEVE FLOWERS

Applicant disclaims the word "Flowers" apart from the mark and without prejudice to applicant's common law rights therein.
For Designing, Arranging, Cleaning, Redesigning, and Renting or Leasing Artificial Flowers and Foliage (Int. Cl. 42).
First use Aug. 2, 1963.

SN 257,424. Transolve Systems, Inc., Cambridge, Mass., assignee of Transolve International, Inc., Boston, Mass. Filed Oct. 27, 1966.



For Consultant Services in the Fields of Social, Medical, Vocational, and Educational Rehabilitation (Int. Cl. 42).
First use Aug. 1, 1965.

SN 268,372. American Investment Counseling Company, Los Angeles, Calif. Filed Apr. 5, 1967.



For Counseling Individual Clients as Well as Corporations, Pension Funds, and Trusts on Their Stock Market Investments (Int. Cl. 42).
First use June 1966.

SN 275,574. International Mineral Engineers, Inc., Golden, Colo. Filed July 10, 1967.

INTERNATIONAL MINERAL ENGINEERS

For Consulting Engineering Services, Specifically in Connection With Mineral Exploration and Evaluation, Development and Mining of Ore, and Beneficiation and Refining of Ores and Concentrates (Int. Cl. 42).
First use Oct. 24, 1966.

SN 275,575. International Mineral Engineers, Inc., Golden, Colo. Filed July 10, 1967.



Exclusive rights in and to the term "Mineral Engineers" are disclaimed apart from the mark as shown.
For Consulting Engineering Services, Specifically in Connection With Mineral Exploration and Evaluation, Development and Mining of Ore, and Beneficiation and Refining of Ores and Concentrates (Int. Cl. 42).
First use Oct. 24, 1966.

SN 287,456. Ocean Technology, Inc., Burbank, Calif. Filed Dec. 22, 1967.



For Research and Development for Others—Namely, Conducting Study Programs, Operations Research, Systems Analysis and Manners of Maintaining Equipment, All in the Field of Ship-Carried Weapon Control Systems (Int. Cl. 42).
First use July 1964.

SN 290,635. McCrory Corporation, New York, N.Y. Filed Feb. 8, 1968.

MC BURGER

For Restaurant Services (Int. Cl. 42).
First use January 1968.

Class 101 — Advertising and Business

SN 252,909. Tempower, Inc., King of Prussia, Pa. Filed Aug. 22, 1966.

TEMPOWER

For Providing Temporary Office and Technical Personnel (Int. Cl. 35).
First use Aug. 30, 1965.

SN 258,777. Blue G Stamp Co., Detroit, Mich. Filed Nov. 16, 1966.

BLUE



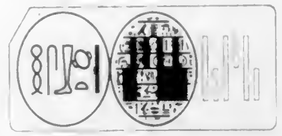
The drawing is lined for blue.
For Providing Trading Stamps for Promoting Sale of Goods and Redemption of the Stamps (Int. Cl. 35).
First use July 14, 1966.

SN 263,418. Van Horn Information Processing Systems Corporation, Washington, D.C. Filed Jan. 26, 1967.

VIP SYSTEMS

Applicant disclaims the word "Systems" apart from the mark as shown.
For Time-Sharing Services on Data Processing Systems (Int. Cl. 35).
First use May 9, 1966.

SN 271,311. Data Processing Financial & General Corporation, New York, N.Y., assignee of Lear Siegler, Inc., Santa Monica, Calif. Filed May 12, 1967.



For Programming, Processing, and Reproducing Statistical Data by Electronic Techniques (Int. Cl. 35).
First use on or about Jan. 15, 1967.

SN 274,955. Compar Corporation, Burlingame, Calif. Filed June 28, 1967.



Owner of Reg. No. 779,182.
For Manufacturers' Representative and Distributor Services in the Field of Electronic Components, Parts and Systems (Int. Cl. 35).
First use Apr. 10, 1967.

SN 275,336. White Collar Girls of America, Incorporated, Chicago, Ill. Filed July 3, 1967.



Owner of Reg. No. 822,570.
For Labor Contracting Services—Namely, the Furnishing of Personnel for Stenographic, Clerical, Bookkeeping, Typewriting, Calculating, and Other Office Services to Clients (Int. Cl. 35).
First use on or about Feb. 1, 1963.

SN 278,472. Dairy Queen, Inc., Salina, Kans. Filed Aug. 17, 1967.

TREAT-O-RAMA

For Advertising and Promoting the Sale of the Goods of Frozen Custard Outlets by Means of a Customer Participation Game (Int. Cl. 35).
First use Mar. 27, 1967.

SN 278,473. Data Corporation of America, New York, N.Y. Filed Aug. 17, 1967.



Applicant disclaims the representation of a punch card when used apart from the mark as shown.
For Computer Programming and Processing of Data for Others (Int. Cl. 35).
First use February 1961.

SN 279,035. Acme Visible Records, Inc., Crozet, Va. Filed Aug. 25, 1967.

LANCOR

For Maintaining an Automatic Index of Land Conveyance Records for Others (Int. Cl. 35).
First use June 26, 1967.

SN 284,239. Rich's, Inc., Atlanta, Ga. Filed Nov. 6, 1967.

THE IMPERIAL SHOP

For Operating a Men's Clothing Department in a Retail Department Store (Int. Cl. 35).
First use Sept. 14, 1967.

SN 284,966. Color Systems, Inc., Atlanta, Ga. Filed Nov. 16, 1967.



For Color Printing Services (Int. Cl. 35).
First use Sept. 7, 1967.

SN 286,416. Coronet Marketing, Inc., New York, N.Y. Filed Dec. 7, 1967.



For National Marketing Service Which Supplies a Single Telephone Number To Be Used on a National Basis for the Purpose of Determining Local Source of Supply (Int. Cl. 35).
First use June 1, 1967.

SN 290,688. The First National Bank of Denver, Denver, Colo. Filed Feb. 9, 1968.

RECORDACCOUNT

For Financial Record Keeping Services for Others (Int. Cl. 35).
First use October 1967.

SN 296,149. Given Machinery, Los Angeles, Calif. Filed Apr. 22, 1968.



For Retail New and Used Machine Tool Outlet Services (Int. Cl. 35).
First use at least as early as Sept. 30, 1961.

Class 102 — Insurance and Financial

SN 261,876. Prefco Corporation, New York, N.Y. Filed Jan. 3, 1967.



Applicant disclaims the wording "The Premium Finance Company" apart from the mark as shown.
For Lending Money to Insurance Policy Holders To Pay Premiums on Their Policy (Int. Cl. 36).
First use May 17, 1962.

SN 267,756. Interbank Card, Inc., Buffalo, N.Y. Filed Mar. 28, 1967.

INTERBANK CARD

Applicant disclaims the word "Card" apart from the mark as shown, without waiving any of its common law rights in the mark.
For Arranging for the Exchanging of Charging Privileges Among Banks Through Mutual Recognition of Each Other's Charge Cards (Int. Cl. 36).
First use at least as early as Mar. 13, 1967.

SN 282,169. Babson's Reports, Incorporated, Wellesley Hills, Mass. Filed Oct. 10, 1967.

BRI

For Rendering Advice in Investment Matters (Int. Cl. 36).
First use Apr. 1, 1961.

SN 287,490. Peoples State Bank of Tulsa, Oklahoma, Tulsa, Okla. Filed Dec. 26, 1967.



Without waiver of its comomn law rights, applicant disclaims the words "State Bank," apart from the mark as shown.
For General Banking Services (Int. Cl. 36).
First use Nov. 1, 1967.

Class 103 — Construction and Repair

SN 269,643. Delta Piping Company, Chicago, Ill. Filed Apr. 20, 1967.



The drawing is lined for blue.
For Installing and Repairing Heating, Piping, Refrigeration, and Air Conditioning Units (Int. Cl. 37).
First use Apr. 1, 1966.

SN 273,972. Power Clean Industries, Inc., Rockford, Ill. Filed June 15, 1967.



Applicant disclaims exclusive rights to the wording "Power Clean" apart from the mark as shown. Owner of Reg. No. 739,972.
For Power Cleaning of Furnace and Air Ducts, Chimneys and Fireplaces, Air Conditioning Equipment, Carpets and Furniture, Building Walls and Ceilings, and for Smoke Odor Control and Deodorizing (Int. Cl. 37).
First use Apr. 10, 1967.

SN 282,785. The Dow Chemical Company, Midland, Mich. Filed Oct. 18, 1967.

STRATABLAST

Owner of Reg. No. 793,884.
For Fracturing of Subterranean Formations With Explosives (Int. Cl. 37).
First use May 6, 1955.

Class 105 — Transportation and Storage

SN 261,963. The American Automobile Association (Incorporated), Washington, D.C. Filed Jan. 5, 1967.

THE MOST TRUSTED NAME IN TRAVEL

For Travel Agency Services (Int. Cl. 39).
First use January 1965.

SN 282,913. Burt Green, d.b.a. The Mountain Men, Littleton, Colo. Filed Oct. 19, 1967.



For Guided Sightseeing, Hunting, Fishing, and Skiing Trips (Int. Cl. 39).
First use May 23, 1967.

SN 283,945. Viajes Melia, S.A., Madrid, Spain. Filed Nov. 1, 1967.

Viajes Melia

The term "Viajes" may be translated as "journeys."
For Travel Agency Services (Int. Cl. 39).
First use Feb. 13, 1950; in commerce 1951.

SN 286,986. Ambassador Travel Service of Michigan, Inc., Kalamazoo, Mich. Filed Dec. 15, 1967.



For Travel Services—Namely, Arranging Tours for Tourists (Int. Cl. 39).
First use Oct. 4, 1967.

SN 288,844. Modern Intermodal Traffic Corp., Oakland, Calif. Filed Jan. 15, 1968.

mitco

For Freight Forwarding Services (Int. Cl. 39).
First use Sept. 18, 1967.

SN 298,775. Mail Delivery Service Co., Inc., San Francisco, Calif. Filed May 22, 1968.



For Expediting Mail Deliveries for Clients and Their Customers by Picking Up Clients' Mail From the Main Post Office and Delivering It to Clients' Office by Truck and by Reversing This Procedure With Regard to the Clients' Outgoing Mail (Int. Cl. 39).
First use Oct. 1, 1967.

Class 106 — Material Treatment

SN 274,485. Aluminum Company of Canada Limited, Montreal, Quebec, Canada. Filed June 22, 1967.

ANOLOK

Priority claimed under Sec. 44(d) on Canadian application filed Feb. 14, 1967; Reg. No. 156,728, dated May 3, 1968.
For Anodizing Aluminum and Aluminum Alloys and Articles Made Therefrom for Others (Int. Cl. 40).

Class 107 — Education and Entertainment

SN 271,649. Sherburne Corporation, Killington, Vt. Filed May 16, 1967.

UNI-SKI

For Furnishing Skiing Facilities, Ski Instruction, and Entertainment to Skiers (Int. Cl. 41).
First use on or about July 1, 1966.

SN 273,599. Caretex, Chicago, Ill. Filed June 12, 1967.

CARETEX

For Educational Services—Namely, Conducting Classes for Teaching Procedures, Techniques, and Methods of Cleaning, Maintaining, and Servicing Buildings; and Technical Assistance Rendered to Others in the Establishment and Operation of Schools Teaching Said Procedures, Methods, and Techniques (Int. Cl. 41).
First use on or about May 11, 1967.

SN 273,634. Gordon Research Conferences, Kingston, R.I. Filed June 12, 1967.

GORDON

For Conducting Research Conferences (Int. Cl. 41).
First use April 1948.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 298,844. National Art Materials Trade Association, Hasbrouck Heights, N.J. Filed May 22, 1968.



For Indicating Membership in an Association of Merchants Handling Art Materials.
First use Oct. 8, 1966.

TRADEMARK REGISTRATIONS ISSUED
PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

857,684. NYLE 6–10. Polymers, Inc. SN 245,949. Pub. 7–16–68. Filed 5–18–66.

857,685. CHEVRON. Standard Oil Company of California. SN 262,212. Pub. 3–19–68. Filed 1–9–67.

857,686. ACPOL. Freeman Chemical Corporation. SN 269,758. Pub. 7–16–68. Filed 4–21–67.

857,687. RUM-N-ITE. Lowe's, Inc. SN 273,655. Pub. 7–16–68. Filed 6–12–67.

857,688. ROHTEC. Waldo Rohnert Company. SN 278,943. Pub. 7–16–68. Filed 8–24–67.

857,689. SILVER FROST. Golden State Sheep Tanning Co. SN 279,064. Pub. 7–16–68. Filed 8–25–67.

857,690. CALABAN. Studner-Kavaler Co., Inc. SN 280,480. Pub. 7–16–68. Filed 9–15–67.

857,691. RONTHOR. Ronthor Reiss Corporation. SN 281,918. Pub. 7–16–68. Filed 10–5–67.

Class 2 — Receptacles

857,692. DROPAMATIC. Free Drop Top, Inc. SN 239,893. Pub. 7–16–68. Filed 3–1–66.

857,693. FROSIL. Sprinter-Pack Aktiebolag. SN 248,858. Pub. 7–16–68. Filed 11–21–67.

857,694. BI AND DESIGN. Bradley Industries, Inc. SN 276,405. Pub. 1–23–68. Filed 7–20–67.

857,695. CHIC CASE. A. H. Robins Company, Incorporated. SN 278,420. Pub. 7–16–68. Filed 8–16–67.

857,696. SPEEDI-PAK. Bemis Company, Inc. SN 279,358. Pub. 7–16–68. Filed 8–30–67.

857,697. BLAZER AND DESIGN. S and H Marketing, Inc. SN 282,928. Pub. 7–16–68. Filed 10–19–67.

857,698. THE PACKAGING PEOPLE. Alton Box Board Company. SN 282,970. Pub. 7–16–68. Filed 10–20–67.

857,699. ASEPTIVE. Acme Backing Corporation. SN 236,749. Pub. 7–16–68. Filed 12–12–67.

857,700. REDDY ROLY. The Reddy Company, Inc. SN 236,842. Pub. 7–16–68. Filed 12–13–67.

857,701. TULIP TANK. Pittsburgh-Des Moines Steel Company. SN 289,332. Pub. 7–16–68. Filed 1–22–68.

857,702. COPICAP. Unette Corporation. SN 289,434. Pub. 7–16–68. Filed 1–23–68.

857,703. CONTINENTAL BY WILBERT. Wilbert, Inc. SN 289,739. Pub. 7–16–68. Filed 1–26–68.

857,704. TOOL-MATE. Akro-Mils, Inc. SN 290,565. Pub. 7–16–68. Filed 2–8–68.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

857,705. GRANADA. Classy Leather Goods Corporation. SN 264,804. Pub. 7–16–68. Filed 2–16–67.

857,706. BREAK TIME. Sirco Products Co., Inc. SN 270,292. Pub. 7–16–68. Filed 4–28–67.

857,707. PET NAP. Seroun Kesh. SN 280,426. Pub. 7–16–68. Filed 9–15–67.

Class 4 — Abrasives and Polishing Materials

857,708. MY WIFE'S FURNITURE POLISH. My Wife's Products, Inc. SN 272,132. Pub. 7–16–68. Filed 5–9–67.

857,709. BLAST-O-LITE. General Steel Industries, Inc., d.b.a. Flex-O-Lite Division. SN 274,061. Pub. 7–16–68. Filed 6–16–67.

857,710. BUZZKOOL. L. R. Oliver & Co., Inc. SN 274,233. Pub. 7–16–68. Filed 6–19–67.

857,711. V-TOP AND DESIGN. Fred F. Goldman, d.b.a. Nu-Life Chemical Products Company. SN 284,652. Pub. 7–16–68. Filed 11–13–67.

857,712. SOLARINE PLUS. Laco Corp. SN 286,474. Pub. 7–16–68. Filed 12–8–67.

Class 5 — Adhesives

857,713. LITHOCHROME. L. M. Scofield Company. MULTIPLE CLASS (Classes 5, 6, and 12). SN 255,234. Pub. 7–16–68. Filed 9–27–66.

857,714. NUPLA-BOND. New Plastic Corporation, d.b.a. Nupla Manufacturing Co. SN 283,144. Pub. 7–16–68. Filed 10–23–67.

857,715. QMS–500. Quality Park Envelope Company. SN 283,276. Pub. 7–16–68. Filed 10–24–67.

857,716. CARPETAK. Arno Adhesive Tapes, Inc. SN 283,757. Pub. 7–16–68. Filed 10–31–67.

857,717. GAF AND DESIGN. GAF Corporation, by change of name from General Aniline & Film Corporation. SN 287,543. Pub. 7–16–68. Filed 12–26–67.

Class 6 — Chemicals and Chemical Compositions

857,713. (See Class 5 for this trademark.)

857,718. WITTEPSOL. Chemische Werke Witten G.m.b.H. SN 128,654. Pub. 11–6–62. Filed 9–26–61.

857,719. WITEPSOL. Chemische Werke Witten G.m.b.H. SN 132,112. Pub. 11–6–62. Filed 9–26–61.

857,720. ONEX. Hydroponic Chemical Company, Inc. SN 158,825. Pub. 12–7–65. Filed 12–10–62.

857,721. CHEMETRON. Chemetron Corporation. SN 255,777. Pub. 6–27–67. Filed 10–5–66.

857,722. AMCON. Universal Oil Products Company. SN 267,568. Pub. 11–14–67. Filed 3–24–67.

857,723. PENNZOIL AND DESIGN. Pennzoil United, Inc., by merger and change of name from Pennzoil Company. SN 270,948. Pub. 7–2–68. Filed 5–8–67.

857,724. LUXMASSE. Luxmasse G.m.b.H. SN 271,267. Pub. 7–16–68. Filed 5–11–67.

857,725. GUARDALL X–185. Bio-Lab, Inc. SN 276,303. Pub. 7–16–68. Filed 7–19–67.

857,726. COTIN. Cosan Chemical Corporation. SN 276,921. Pub. 7–16–68. Filed 7–27–67.

857,727. LUX-MATERIAL. Luxmasse G.m.b.H. SN 272,386. Pub. 7–16–68. Filed 5–25–67.

857,728. MARY KING. Watkins Products, Inc. MULTIPLE CLASS (Classes 6, 51, and 52). SN 273,548. Pub. 7–16–68. Filed 6–12–67.

857,729. ACTIBON. Hooker Chemical Corporation. SN 274,067. Pub. 7–16–68. Filed 6–16–67.

857,730. SPURGE-X. Gordon Lindsey, d.b.a. National Chelating Company. SN 275,673. Pub. 7–16–68. Filed 7–10–67.

857,731. AVOID. Ramo Realty Corp. SN 279,746. Pub. 7–16–68. Filed 9–6–67.

857,732. WPCC AND DESIGN. Wilson Pharmaceutical & Chemical Corporation. SN 279,764. Pub. 7–16–68. Filed 9–6–67.

857,733. COMBOXAL. Societe Francaise des Produits pour Catalyse-"Pro-Catalyse." SN 282,217. Pub. 7–16–68. Filed 10–10–67.

857,734. FRUCOTE. Eli Lilly and Company. SN 283,116. Pub. 7–16–68. Filed 10–23–67.

857,735. TERR-O-GAS. Great Lakes Chemical Corporation. SN 283,123. Pub. 7–16–68. Filed 10–23–67.

857,736. MACRO-LEX. Farbenfabriken Bayer Aktiengesellschaft. SN 283,242. Pub. 7–16–68. Filed 10–24–67.

857,737. DYNAPER. Dynamit Nobel Aktiengesellschaft. SN 283,324. Pub. 7–16–68. Filed 10–25–67.

857,738. DYNATRI. Dynamit Nobel Aktiengesellschaft. SN 283,326. Pub. 7–16–68. Filed 10–25–67.

857,739. DEUTERAR. Mallinckrodt Chemical Works. SN 283,449. Pub. 7–16–68. Filed 10–26–67.

857,740. LAZO. Monsanto Company. SN 283,536. Pub. 7–16–68. Filed 10–27–67.

857,741. MISCELLANEOUS DESIGN. Borg-Warner Corporation (Delaware corporation), assignee of Borg-Warner Corporation (Illinois corporation). SN 283,616. Pub. 7–16–68. Filed 10–30–67.

857,742. CITRACE. The Dow Chemical Company. SN 283,640. Pub. 7–16–68. Filed 10–30–67.

857,743. CITRAIR. The Dow Chemical Company. SN 283,641. Pub. 7–16–68. Filed 10–30–67.

857,744. CITREX. The Dow Chemical Company. SN 283,642. Pub. 7–16–68. Filed 10–30–67.

857,745. PRIMOXON. Geigy Chemical Corporation. SN 283,652. Pub. 7–16–68. Filed 10–30–67.

857,746. PLYSTRAN. Seydel-Woolley & Company. SN 284,111. Pub. 7–16–68. Filed 11–3–67.

857,747. AEROCAT. American Cyanamid Company. SN 284,284. Pub. 7–16–68. Filed 11–7–67.

857,748. PARAMUL. American Cyanamid Company. SN 284,285. Pub. 7–16–68. Filed 11–7–67.

857,749. DROPLET (DESIGN). Morton International, Inc. SN 295,797. Pub. 7–16–68. Filed 4–17–68.

857,750. AQUA-BRITE. Arden-Mayfair, Inc., d.b.a. Valley Chlorine Solutions Co. SN 296,483. Pub. 7–16–68. Filed 4–25–68.

857,751. PEA-BEU. Ulay Export Corporation. SN 296,491. Pub. 7–16–68. Filed 4–25–68.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

857,752. KIDDY PACK. Clipper Pyrotechnic Corp. SN 286,325. Pub. 7–16–68. Filed 12–6–67.

857,753. RED DEVIL. Clipper Pyrotechnic Corporation. SN 286,366. Pub. 7–16–68. Filed 12–6–67.

Class 10 — Fertilizers

857,754. NU-GRO. Glenn J. Elliott, d.b.a. Clarel Laboratory. SN 236,888. Pub. 12–20–66. Filed 1–20–66.

Class 11 — Inks and Inking Materials

857,755. C·R·T AND DESIGN. Eaton Allen Corp. SN 268,390. Pub. 7–16–68. Filed 4–5–67.

857,756. 33. Central Compounding Company. SN 282,542. Pub. 7–16–68. Filed 10–16–67.

857,757. SUN-HEET. Sun Chemical Corporation. SN 285,269. Pub. 7–16–68. Filed 11–20–67.

Class 12 — Construction Materials

857,713. (See Class 5 for this trademark.)

857,758. SOUND PILLOWS. Birma Products Corporation. SN 258,887. Pub. 7–16–68. Filed 11–17–66.

857,759. GRANDO AND DESIGN. Hurdis Building Trust. SN 261,080. Pub. 7–16–68. Filed 12–19–66.

857,760. FULLER'S. H. B. Fuller Company. SN 273,390. Pub. 7–16–68. Filed 6–8–67.

857,761. RHEEM DUDLEY. Rheem Manufacturing Company. MULTIPLE CLASS (Classes 12 and 19). SN 274,894. Pub. 7–16–68. Filed 6–27–67.

857,762. FIX-CRETE. W. Clifford McNicholl, d.b.a. Fix-Crete Products. SN 275,286. Pub. 7–16–68. Filed 7–3–67.

857,763. PERMA-PATCH. Hooker Chemical Corporation. SN 279,830. Pub. 7–16–68. Filed 9–7–67.

857,764. EXO-RAM. Metals Milling Corporation. SN 280,240. Pub. 7–16–68. Filed 9–13–67.

857,765. COPROX. The Thomas Manufacturing Company. SN 283,290. Pub. 7–16–68. Filed 10–24–67.

857,766. PLIGUN. Pilbrico Company. SN 285,146. Pub. 7–16–68. Filed 11–17–67.

857,767. CERAPAPER. Johns-Manville Corporation. SN 285,841. Pub. 7–16–68. Filed 11–29–67.

857,768. GREENLITE. A. P. Green Refractories Co. (Delaware corporation), assignee, by mesne assignment, of A. P. Green Refractories Co. (Missouri corporation). SN 285,921. Pub. 7–16–68. Filed 11–30–67.

857,769. CLEARLITE. Vistron Corporation. SN 287,605. Pub. 7–16–68. Filed 12–26–67.

857,770. COSCRETE. Costain Concrete Co. Limited. SN 288,007. Pub. 7–16–68. Filed 1–3–68.

857,771. LUMBERMATE. Lumbermate Company. SN 295,347. Pub. 7–16–68. Filed 4–10–68.

857,772. UNI-TWIN. The Weather-Proof Company. SN 295,393. Pub. 7–16–68. Filed 4–10–68.

857,773. SHASTA-KAST. International Pipe & Ceramics Corporation. SN 295,435. Pub. 7–16–68. Filed 4–11–68.

857,774. LINCOLN. International Pipe & Ceramics Corporation. SN 295,436. Pub. 7–16–68. Filed 4–11–68.

857,775. GREENSTRIPE. International Pipe & Ceramics Corporation. SN 295,438. Pub. 7–16–68. Filed 4–11–68.

857,776. SOUNDLUME. The Soundlock Corporation. SN 296,206. Pub. 7–16–68. Filed 4–22–68.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

857,777. TAYLOR FORGE. Taylor Forge Inc. SN 275,318. Pub. 7–16–68. Filed 7–3–67.

857,778. GT PLUS. Standard Screw Company. SN 276,258. Pub. 7–16–68. Filed 7–18–67.

857,779. CORNARO AND DESIGN. Stern-Williams Co., Inc. SN 280,981. Pub. 7–16–68. Filed 9–22–67.

857,780. PLASTI-ANCHOR. Illinois Tool Works Inc. SN 281,795. Pub. 7–16–68. Filed 10–4–67.

857,781. KWIKEY. Cabinet Hardware Inc. SN 282,053. Pub. 7–16–68. Filed 10–9–67.

857,782. TIP'N DIP. EZ Paintr Corporation. SN 282,180. Pub. 7–16–68. Filed 10–10–67.

857,783. MAGIC RAIN ETC. AND DESIGN. Magic Rain, Inc. SN 282,288. Pub. 7–16–68. Filed 10–11–67.

857,784. THERMAFLAIR. Automation Industries, Inc. SN 282,345. Pub. 7–16–68. Filed 10–12–67.

857,785. EXPANDA. Midwest Corporation. SN 282,596. Pub. 7-16-68. Filed 10-16-67.

857,786. BOSTITCH. Textron Inc. MULTIPLE CLASS (Classes 13 and 23). SN 284,063. Pub. 7-16-68. Filed 11-3-67.

857,787. SPRING SHOWERS. Eckerd Drugs of Florida, Inc. MULTIPLE CLASS (Classes 13 and 35). SN 285,481. Pub. 7-16-68. Filed 11-24-67.

857,788. FLAME AND ARROW DESIGN. Norris Industries, Inc. SN 287,039. Pub. 7-16-68. Filed 12-15-67.

857,789. "AUTO-SENTRY." "Automatic" Sprinkler Corporation of America. SN 291,661. Pub. 7-16-68. Filed 2-23-68.

Class 14 — Metals and Metal Castings and Forgings

857,790. TRU TYPE. Hamsley, Inc. SN 264,824. Pub. 7-16-68. Filed 2-16-67.

857,791. CLIPLOC. True Temper Corporation. SN 273,428. Pub. 7-16-68. Filed 6-8-67.

857,792. KOEBEL. Koebel Diamond Tool Co. MULTIPLE CLASS (Classes 14 and 23). SN 281,655. Pub. 7-16-68. Filed 10-3-67.

Class 16 — Protective and Decorative Coatings

857,793. PERMA SHIELD AND DESIGN. Nord-Viscount Corporation. SN 264,754. Pub. 9-19-67. Filed 2-15-67.

857,794. DESOFLUR. De Soto, Inc. SN 278,262. Pub. 7-16-68. Filed 8-11-67.

857,795. PA PUR-ALL AND DESIGN. Pur-All Paint Products Company, Inc. SN 279,328. Pub. 7-16-68. Filed 8-29-67.

857,796. STRIPPIT AND DESIGN. Service Tectonics, Inc. SN 282,215. Pub. 7-16-68. Filed 10-10-67.

Class 17 — Tobacco Products

857,797. CARNIVAL. Philip Morris Incorporated. SN 295,708. Pub. 7-16-68. Filed 4-16-68.

Class 18 — Medicines and Pharmaceutical Preparations

857,798. TAXOL. Nouvel Omnium de Specialites & Produits Chimiques, Societe Anonyme. SN 246,483. Pub. 6-6-67. Filed 5-24-66.

857,799. LITTLE FOLKS. Maurice Broden, d.b.a. Little Folks Medicine Co. SN 259,639. Pub. 7-16-68. Filed 11-29-66.

857,800. VASO-VITE. Mar-Sal, Inc. SN 272,078. Pub. 7-16-68. Filed 5-22-67.

857,801. P.V. MEDRYSONE. Allergan Pharmaceuticals. SN 273,455. Pub. 7-16-68. Filed 6-9-67.

857,802. EYE-LIFE. Optometics, Inc. SN 274,121. Pub. 7-16-68. Filed 6-16-67.

857,803. STEDYTABS. Eastern Research Laboratories, Inc. SN 274,283. Pub. 7-16-68. Filed 6-16-67.

857,804. TRIGUENT. Commerce Drug Co., Inc. SN 275,639. Pub. 7-16-68. Filed 7-10-67.

857,805. BRONBID. Meyer Laboratories Inc. SN 276,242. Pub. 7-16-68. Filed 7-18-67.

857,806. BRONCHOLIN. Meyer Laboratories Inc. SN 276,243. Pub. 7-16-68. Filed 7-18-67.

857,807. ORA-JEL. Commerce Drug Co., Inc. SN 276,644. Pub. 7-16-68. Filed 7-24-67.

857,808. HANDI-UDDER. Agway, Inc. SN 278,456. Pub. 7-16-68. Filed 8-17-67.

857,809. SEDASERP. Dooner Laboratories Inc. SN 278,788. Pub. 7-16-68. Filed 8-22-67.

857,810. IVES AND DESIGN. Ives Laboratories Inc. SN 279,197. Pub. 7-16-68. Filed 8-28-67.

857,811. CONSOTUSS. Richardson-Merrell Inc. SN 280,636. Pub. 7-16-68. Filed 9-18-67.

857,812. DRALSERP. Lemmon Pharmacal Company. SN 281,378. Pub. 7-16-68. Filed 9-28-67.

857,813. MANGE-MAGIC. E. & E. Enterprises, Inc. SN 281,512. Pub. 7-16-68. Filed 9-8-67.

857,814. GOOD BOY. Armitage Brothers Limited. SN 283,316. Pub. 7-16-68. Filed 10-25-67.

857,815. PYOPEN. Beecham Group Limited, d.b.a. Beecham Research Laboratories. SN 285,305. Pub. 7-16-68. Filed 11-21-67.

857,816. NORMOPHASIC. Organon Inc. SN 293,342. Pub. 7-16-68. Filed 3-15-68.

857,817. SYNALAR-HP. Syntex Laboratories, Inc. SN 295,085. Pub. 7-16-68. Filed 4-8-68.

857,818. LINCOCINA. The Upjohn Company. SN 295,086. Pub. 7-16-68. Filed 4-8-68.

Class 19 — Vehicles

857,761. (See Class 12 for this trademark.)

857,819. BRIDGESTONE 175 HURRICANE SCRAMBLER AND DESIGN. Bridgestone Tire Company Limited. SN 266,140. Pub. 7-16-68. Filed 3-7-67.

857,820. HOUSE OF HARMONY AND DESIGN. House of Harmony, Inc. SN 273,197. Pub. 7-16-68. Filed 6-6-67.

857,821. BRIDGESTONE 350 GTR. Bridgestone Tire Company Limited. SN 281,680. Pub. 7-16-68. Filed 10-3-67.

857,822. 720. The Boeing Company. SN 295,872. Pub. 7-16-68. Filed 4-18-68.

857,823. 727. The Boeing Company. SN 295,873. Pub. 7-16-68. Filed 4-18-68.

857,824. 737. The Boeing Company. SN 295,874. Pub. 7-16-68. Filed 4-18-68.

Class 20 — Linoleum and Oiled Cloth

857,825. LUXOR. GAF Corporation, by merger and change of name from The Ruberoid Co. SN 263,403. Pub. 7-2-68. Filed 1-26-67.

857,826. QUIET-COR. GAF Corporation, by merger and change of name from The Ruberoid Co. SN 271,288. Pub. 7-2-68. Filed 5-11-67.

Class 21 — Electrical Apparatus, Machines, and Supplies

857,827. LOUDMOUTH. Carroll Edwin Satchfield. SN 249,255. Pub. 7-16-68. Filed 6-29-66.

857,828. TYRAK. Allmanna Svenska Elektriska Aktiebolaget. SN 272,338. Pub. 7-16-68. Filed 5-25-67.

857,829. G & W. G & W Electric Specialty Company. SN 281,697. Pub. 7-16-68. Filed 10-3-67.

857,830. STRATOCLAD. Spaulding Fibre Company, Inc. SN 284,325. Pub. 7-16-68. Filed 11-7-67.

857,831. GAF AND DESIGN. GAF Corporation, by change of name from General Aniline & Film Corporation. SN 287,541. Pub. 7-16-68. Filed 12-26-67.

Class 22 — Games, Toys, and Sporting Goods

857,832. GEZE FIT AND DESIGN. Vereinigte Baubeschlagfabriken Gretsch & Co. GmbH. SN 254,342. Pub. 7-16-68. Filed 9-12-66.

857,833. POCKET MOVIES. GAF Corporation, by assignment and change of name from Sawyer's Inc. SN 256,140. Pub. 7-9-68. Filed 10-10-66.

857,834. CANNED MOVIES. Colorforms. SN 266,508. Pub. 7-16-68. Filed 3-13-67.

857,835. FEEL 'N SQUEAL. Mary L. Rader. SN 269,099. Pub. 7-16-68. Filed 4-13-67.

857,836. MUSTAD AND DESIGN. O. Mustad & Son. MULTIPLE CLASS (Classes 22 and 34). SN 272,327. Pub. 7-16-68. Filed 5-25-67.

857,837. MEM. Anatol W. Holt. SN 279,599. Pub. 7-16-68. Filed 9-5-67.

857,838. CRAZY ANTS. Samuel Span and Walter Thum (partnership). SN 280,880. Pub. 7-16-68. Filed 9-21-67.

857,839. CONTEMPO. Milton Bradley Company. SN 281,028. Pub. 7-16-68. Filed 9-25-67.

857,840. LOVELAND. Samsonite Corporation. SN 281,634. Pub. 7-16-68. Filed 10-2-67.

857,841. DUBL-FUN. Samsonite Corporation. SN 281,635. Pub. 7-16-68. Filed 10-2-67.

857,842. LITTLE SISTER LOOK'N SAY. Mattel, Inc. SN 281,941. Pub. 7-16-68. Filed 10-6-67.

857,843. FUNHOUSE MIRROR. Funtastic, Inc. SN 282,455. Pub. 7-16-68. Filed 10-13-67.

857,844. SUM FUN! AND DESIGN. Miriam Cohen, d.b.a. Educational Fun Games. SN 283,100. Pub. 7-16-68. Filed 10-23-67.

857,845. BULLS AND BEARS. Bulls and Bears, Inc. SN 285,905. Pub. 7-16-68. Filed 11-30-67.

857,846. MISTER GOLF. Bagley Mfg. Co., Inc., d.b.a. Bagley Manufacturing Company. SN 286,495. Pub. 7-16-68. Filed 12-8-67.

857,847. SAWYER'S. GAF Corporation, by change of name from General Aniline & Film Corporation. SN 288,609. Pub. 7-2-68. Filed 1-11-68.

857,848. CUDDLY DUDLEY. Chicago Tribune Company. SN 289,235. Pub. 7-16-68. Filed 1-22-68.

857,849. RASCAL RABBIT. Mattel, Inc. SN 289,447. Pub. 7-16-68. Filed 1-24-68.

857,850. BRASSOON. Mattel, Inc. SN 289,448. Pub. 7-16-68. Filed 1-24-68.

857,851. LANCELOT LION. Mattel, Inc. SN 289,449. Pub. 7-16-68. Filed 1-24-68.

857,852. RAINBOW. Gentex Corporation. SN 289,498. Pub. 7-16-68. Filed 1-24-68.

857,853. COZIKINS. J. Swedlin, Inc., d.b.a. Gund Manufacturing Company. SN 290,030. Pub. 7-16-68. Filed 1-31-68.

857,854. PSYCHEDOLL. Duncan Y. Ball, d.b.a. Psychedoll. SN 293,105. Pub. 7-16-68. Filed 3-13-68.

857,855. THRUMMING. Normark Corporation. SN 293,203. Pub. 7-16-68. Filed 3-14-68.

857,856. BEATNIK BANDIT. Mattel, Inc. SN 295,485. Pub. 7-16-68. Filed 4-12-68.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

857,786. (See Class 13 for this trademark.)

857,792. (See Class 14 for this trademark.)

857,857. NSK. Nippon Seiko Kabushiki Kaisha. SN 259,364. Pub. 7-16-68. Filed 9-13-66.

857,858. SLIM LINE. McCulloch Corporation. SN 266,442. Pub. 7-16-68. Filed 3-10-67.

857,859. SANIVAC. Wayne Manufacturing Co. SN 267,207. Pub. 7-16-68. Filed 3-20-67.

857,860. MISCELLANEOUS DESIGN. Pacific Coast Engineering Company. SN 268,220. Pub. 7-16-68. Filed 4-3-67.

857,861. HANDI-GUY. Renner International. SN 273,112. Pub. 7-16-68. Filed 6-5-67.

857,862. CUBE DRIVE. Balas Collet Company. SN 275,611. Pub. 7-16-68. Filed 7-10-67.

857,863. PEM-SERTER. Penn Engineering & Manufacturing Corp. SN 276,168. Pub. 7-16-68. Filed 7-17-67.

857,864. SHEAR ALL. Roller Shear Corporation. SN 276,954. Pub. 7-16-68. Filed 7-27-67.

857,865. KABELSCHLEPP. Kabelschlepp G.m.b.H. SN 277,919. Pub. 7-16-68. Filed 8-9-67.

857,866. WOODMERE. Oneida Ltd. SN 279,090. Pub. 7-16-68. Filed 8-25-67.

857,867. DURINJECT. Triulzi S.p.A. SN 281,240. Pub. 7-16-68. Filed 9-26-67.

857,868. SUNBEAM. Sunbeam Corporation. SN 281,404. Pub. 7-16-68. Filed 9-28-67.

857,869. BROS AND DESIGN. Bros Incorporated. SN 281,764. Pub. 7-16-68. Filed 10-4-67.

857,870. BEADED CROWN (DESIGN). Harrington & Richardson, Inc. SN 282,799. Pub. 7-16-68. Filed 10-18-67.

857,871. PLAIN CROWN (DESIGN). Harrington & Richardson, Inc. SN 282,859. Pub. 7-16-68. Filed 10-18-67.

857,872. STARTRITE. Startrite Engineering (Sales) Limited. SN 283,823. Pub. 7-16-68. Filed 10-31-67.

857,873. OB AND DESIGN. Ostby & Barton Co. SN 294,893. Pub. 7-16-68. Filed 4-4-68.

Class 24 — Laundry Appliances and Machines

857,874. IRON ALL. W & D Electronics Corp. SN 288,730. Pub. 7-16-68. Filed 1-12-68.

Class 25 — Locks and Safes

857,875. OSCO. Osco Corporation. SN 289,524. Pub. 7-16-68. Filed 1-24-68.

Class 26 — Measuring and Scientific Appliances

857,876. PHOTOSCOPE. Gemological Institute of America, Inc. SN 256,083. Pub. 7-16-68. Filed 10-10-66.

857,877. SANKYO DUALUX 8. Kabushiki Kaisha Sankyo Seiki Seisakusho, by change of name from Sankyo Seiki Mfg. Co., Ltd. SN 262,003. Pub. 7-16-68. Filed 1-5-67.

857,878. POLYLAB. Measurement Control Devices, Inc. SN 263,097. Pub. 7-16-68. Filed 1-23-67.

857,879. AIMPOINT. Goodyear Aerospace Corporation. SN 267,940. Pub. 7-16-68. Filed 3-30-67.

857,880. VERSASTORE. Varian Data Machines, assignee of Decision Control, Inc. SN 269,404. Pub. 7-16-68. Filed 4-18-67.

857,881. UVL. Varian Data Machines, assignee of Decision Control, Inc. SN 270,119. Pub. 7-16-68. Filed 4-27-67.

857,882. UNI-LINE. Robertshaw Controls Company. SN 274,241. Pub. 2-20-68. Filed 6-19-67.

857,883. MISCELLANEOUS DESIGN. KEMCO, Inc. SN 276,670. Pub. 7-16-68. Filed 7-24-67.

857,884. LEADER. Leader Electronics Corporation. SN 279,080. Pub. 7-16-68. Filed 8-25-67.

857,885. GELSCAN. Gelman Instrument Company. SN 279,186. Pub. 7-16-68. Filed 8-28-67.

857,886. RTU. Becton, Dickinson and Company. SN 281,170. Pub. 7-16-68. Filed 9-26-67.

857,887. OF (DESIGN). Otto Filitz & Co., Factory of Optical Articles. SN 282,564. Pub. 7–16–68. Filed 10–16–67.

857,888. VARI-PRICE. The Vendo Company. SN 283,742. Pub. 7–16–68. Filed 10–30–67.

857,889. SAWYER'S. GAF Corporation, by change of name from General Aniline & Film Corporation. SN 288,610. Pub. 7–2–68. Filed 1–11–68.

857,890. CANON. Canon U.S.A., Inc. SN 295,875. Pub. 7–16–68. Filed 4–18–68.

857,891. MATCHMAKER. Electronic Controls, Ltd. SN 296,613. Pub. 7–16–68. Filed 4–26–68.

Class 28 — Jewelry and Precious-Metal Ware

857,892. JAPANESE CHARACTERS AND DESIGN. Kimie Takemoto. SN 280,351. Pub. 7–16–68. Filed 9–14–67.

857,893. MONOGRAM COMPOSED OF THE LETTERS ML. Marshall Littman, d.b.a. Marshall Littman Mfg. Jeweler. SN 283,134. Pub. 7–16–68. Filed 10–23–67.

857,894. SHIMMY. Pelton & Leru, Inc. SN 284,234. Pub. 7–16–68. Filed 11–6–67.

857,895. BALLAD. Oneida Ltd. SN 284,829. Pub. 7–16–68. Filed 11–14–67.

857,896. GRANDEUR. Oneida Ltd. SN 284,830. Pub. 7–16–68. Filed 11–14–67.

857,897. RIDGEWOOD. Oneida Ltd. SN 284,831. Pub. 7–16–68. Filed 11–14–67.

857,898. SEA CREST. Oneida Ltd. SN 284,832. Pub. 7–16–68. Filed 11–14–67.

857,899. INTERMATES AND DESIGN. J. & H. Flyer, Inc. SN 296,382. Pub. 7–16–68. Filed 4–24–68.

Class 29 — Brooms, Brushes, and Dusters

857,900. ONCE-OVER. New England Mop Company, d.b.a. Wool Products Development Co. SN 266,566. Pub. 7–16–68. Filed 3–13–67.

857,901. LECTRA SWEEP AND DESIGN. Sunshine Industries. SN 268,438. Pub. 7–16–68. Filed 4–5–67.

857,902. HARTZ MOUNTAIN. Hartz Mountain Products Corp. SN 287,650. Pub. 7–16–68. Filed 12–27–67.

857,903. ATTRAX. DBA Products Co., Inc. SN 289,490. Pub. 7–16–68. Filed 1–24–68.

Class 31 — Filters and Refrigerators

857,904. AUTOLITE AND DESIGN. Ford Motor Company. SN 257,841. Pub. 7–16–68. Filed 11–3–66.

857,905. UWC AND DESIGN. Universal Water Corporation. SN 272,877. Pub. 7–16–68. Filed 6–1–67.

857,906. LEKTRA-GARD. Ardco, Inc. SN 280,923. Pub. 7–16–68. Filed 9–22–67.

857,907. CONTINENTAL AIR FILTERS AND DESIGN. Continental Air Filters, Inc. SN 283,750. Pub. 7–16–68. Filed 10–31–67.

Class 32 — Furniture and Upholstery

857,908. RONTHOR. Ronthor Reiss Corporation. SN 281,919. Pub. 7–16–68. Filed 10–5–67.

857,909. CARELESS COUCH. Norman J. Gran, d.b.a. Gran Design Company. SN 282,797. Pub. 7–16–68. Filed 10–18–67.

Class 34 — Heating, Lighting, and Ventilating Apparatus

857,836. (See Class 22 for this trademark.)

857,910. MISCELLANEOUS DESIGN. AER Corporation. SN 229,477. Pub. 10–18–66. Filed 10–7–65.

857,911. ELECTR-O-MATIC. Duo-Matic of Canada Ltd. SN 241,245. Pub. 2–20–68. Filed 3–17–66.

857,912. PANOMATIC. The Tappan Company. SN 272,429. Pub. 7–16–68. Filed 5–25–67.

857,913. GAZCO. Gazco Inc. SN 275,135. Pub. 7–16–68. Filed 6–30–67.

857,914. PANORAMIC. The Tappan Company. SN 284,405. Pub. 7–16–68. Filed 11–8–67.

857,915. CNI AND DESIGN. Ceramic Nozzles, Inc. SN 284,611. Pub. 7–16–68. Filed 11–13–67.

857,916. DIXASIL. The Joseph Dixon Crucible Company. SN 296,378. Pub. 7–16–68. Filed 4–24–68.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

857,787. (See Class 13 for this trademark.)

857,917. DUAL AND PD DESIGN. The Goodyear Tire & Rubber Company. SN 266,321. Pub. 7–16–68. Filed 3–9–67.

857,918. SAFETY-WAY. The Firestone Tire & Rubber Company. SN 270,239. Pub. 7–16–68. Filed 4–28–67.

Class 36 — Musical Instruments and Supplies

857,919. MISCELLANEOUS DESIGN. Maurice Lipsky Music Co., Inc. SN 261,380. Pub. 7–16–68. Filed 12–23–66.

857,920. MOBILE FIDELITY. Brad S. Miller, d.b.a. Mobile Fidelity Records. SN 263,281. Pub. 7–16–68. Filed 1–25–67.

857,921. CAR-TEACH. Car-Teach, Inc. SN 272,694. Pub. 7–16–68. Filed 5–31–67.

857,922. AELICA. Petrucci and Atwell, Inc. SN 277,704. Pub. 7–16–68. Filed 8–7–67.

857,923. SILVERADO. Henry M. Quinn, d.b.a. Quinn Custom Recording. SN 283,708. Pub. 7–16–68. Filed 10–30–67.

857,924. PROGRAMTAPE. Playtape, Inc. SN 287,375. Pub. 7–16–68. Filed 12–21–67.

857,925. IPSE DIXIT. Robert L. Halvorson, d.b.a. Halvorson Associates. SN 287,649. Pub. 7–16–68. Filed 12–27–67.

857,926. ABC RECORDS AND DESIGN. ABC Records, Inc. SN 287,790. Pub. 7–16–68. Filed 12–29–67.

857,927. HARMONY. Columbia Broadcasting System, Inc. SN 287,802. Pub. 7–16–68. Filed 12–29–67.

857,928. SAWYER'S. GAF Corporation, by change of name from General Aniline & Film Corporation. SN 288,611. Pub. 7–16–68. Filed 1–11–68.

Class 37 — Paper and Stationery

857,929. CHOICE-WRAP. The Goodyear Tire & Rubber Company. SN 266,325. Pub. 7–16–68. Filed 3–9–67.

857,930. ASTROFILM. Graphic Controls Corporation. SN 267,035. Pub. 7–16–68. Filed 3–17–67.

857,931. DRI-LITE. Polyfoam, Inc. SN 273,413. Pub. 7–16–68. Filed 6–8–67.

857,932. DRI-LITE AND DESIGN. Polyfoam, Inc. SN 273,526. Pub. 7–16–68. Filed 6–9–67.

857,933. SAF-T-SCRIPT AND DESIGN. Saf-T-Script, Inc. SN 273,990. Pub. 7–16–68. Filed 6–15–67.

857,934. COPIDATA. Computer Papers Incorporated, d.b.a. Computer Papers Inc. SN 277,025. Pub. 7–16–68. Filed 7–28–67.

857,935. BISHRINK. Filmco, Inc. SN 277,354. Pub. 7–16–68. Filed 8–2–67.

857,936. SPOZATISSUE. Foremost-McKesson, Inc., d.b.a. Gentec Hospital Suply Company. SN 286,517. Pub. 7–16–68. Filed 12–8–67.

857,937. PALISADES. Milton Paper Company, Inc. SN 286,703. Pub. 7–16–68. Filed 12–11–67.

857,938. MARRI-PATH. John H. Winke, d.b.a. J. H. Winke and Co. SN 290,792. Pub. 7–16–68. Filed 2–9–68.

857,939. MISCELLANEOUS DESIGN. Fox River Paper Corporation. SN 292,050. Pub. 7–16–68. Filed 2–28–68.

Class 38 — Prints and Publications

857,940. PACE AND DESIGN. Arthur Andersen & Co. SN 262,914. Pub. 7–16–68. Filed 1–20–67.

857,941. MPC AND DESIGN. Hutton Publishing Company, Inc. SN 268,878. Pub. 7–16–68. Filed 4–11–67.

857,942. THE GEIGY BTRA. Geigy Chemical Corporation. SN 277,041. Pub. 4–23–68. Filed 7–28–67.

857,943. HYDROCARBON PROCESSING. Gulf Publishing Company. SN 277,361. Pub. 7–16–68. Filed 8–2–67.

857,944. STOPLIGHT. Melandrea, Inc. SN 277,844. Pub. 7–16–68. Filed 8–8–67.

857,945. LENTOGRAPH. Victor Anderson 3-D Studios Inc. SN 278,657. Pub. 7–16–68. Filed 8–21–67.

857,946. PLAN ETC. AND DESIGN. Programmed Learning Aids National, Inc. SN 283,157. Pub. 7–16–68. Filed 10–23–67.

857,947. ASTRO FACTS AND DESIGN. Computer Research, Inc. SN 284,451. Pub. 7–16–68. Filed 11–9–67.

857,948. BELLINGRATH GARDENS. The Bellingrath-Morse Foundation. SN 290,216. Pub. 7–16–68. Filed 2–5–68.

857,949. THE SCANNER. Southern Association of Cytotechnologists. SN 295,260. Pub. 7–16–68. Filed 4–9–68.

Class 39 — Clothing

857,950. LOLLABOUTS. Lollabouts Co. SN 209,359. Pub. 5–31–66. Filed 1–5–65.

857,951. KNIT STUDIOS. U.S.A. Venice Knitting Mills, Inc. SN 232,252. Pub. 7–16–68. Filed 11–5–65.

857,952. CAMARO. H & L Block Company, Inc., d.b.a. W.P.L. 10280. SN 254,603. Pub. 7–18–67. Filed 9–16–66.

857,953. BAKER ST. Baker Clothes, Inc., assignee of Kayser-Roth Corporation. SN 262,870. Pub. 9–26–67. Filed 1–19–67.

857,954. EDWARD OF LANCASHIRE. Better Made Headwear Co., Inc. SN 267,119. Pub. 7–16–68. Filed 3–20–67.

857,955. PRE-FLEX BY CROSBY SQUARE AND DESIGN. Shoe Corporation of America. SN 271,846. Pub. 7–16–68. Filed 5–18–67.

857,956. PEDIKINS. Richard Paul, Inc., assignee of Charles H. Bacon Company, Inc. SN 272,238. Pub. 11–7–67. Filed 5–24–67.

857,957. HONEST TO GOODNESS. Sarong, Inc. SN 272,518. Pub. 7–16–68. Filed 5–26–67.

857,958. KISS ME UNLIMITED. Philip Rothenberg & Co., Inc. SN 274,340. Pub. 7–16–68. Filed 6–20–67.

857,959. EMILY LAWRENCE. Larry Levine, Inc. SN 278,705. Pub. 7–16–68. Filed 8–21–67.

857,960. MISS CORELLI. Wohl Shoe Company. SN 279,240. Pub. 7–16–68. Filed 8–28–67.

857,961. GUITARE. Creations Pierre Ferrat International Paris. SN 279,378. Pub. 7–16–68. Filed 8–30–67.

857,962. FINERO. Diana Stores Corporation. SN 279,934. Pub. 7–16–68. Filed 9–8–67.

857,963. PROGRAMER. Curlee Clothing Company. SN 280,022. Pub. 7–16–68. Filed 9–11–67.

857,964. RINALDO FELSOTINI. Kimel Shoe Company. SN 280,600. Pub. 7–16–68. Filed 9–18–67.

857,965. PEERAGE. Glen Oaks Sales Company, Inc. SN 281,467. Pub. 7–16–68. Filed 9–29–67.

857,966. EXCHEQUER BY DRIWAY AND DESIGN. Driway Raincoats Limited. SN 282,445. Pub. 7–16–68. Filed 10–13–67.

857,967. LINTON. Linton Tweeds Limited. SN 284,380. Pub. 7–16–68. Filed 11–8–67.

857,968. FLEXRIDGE. The United States Shoe Corporation. SN 284,850. Pub. 7–16–68. Filed 11–14–67.

857,969. MISS KAYNEE. The Kaynee Company. SN 285,025. Pub. 7–16–68. Filed 11–16–67.

857,970. PETERBOROUGH ROW. Federated Department Stores, Inc. SN 285,221. Pub. 7–16–68. Filed 11–20–67.

857,971. JOHN MALLOY. Edison Brothers Stores, Inc. SN 285,406. Pub. 7–16–68. Filed 11–22–67.

857,972. MARCO PONTINO. Sondra Manufacturing Co., Inc. SN 285,467. Pub. 7–16–68. Filed 11–22–67.

857,973. TRICOSPORT. Tricosport, Inc. SN 291,237. Pub. 7–16–68. Filed 2–16–68.

857,974. DON MACDONALD. Chips 'n Twigs, Inc. SN 291,546. Pub. 7–16–68. Filed 2–21–68.

857,975. SAFE-N-SOFT. World Toy House, Inc., d.b.a. Nursery Land. SN 292,234. Pub. 7–16–68. Filed 2–29–68.

857,976. TAFFY'S. Taffy's Inc. SN 294,148. Pub. 7–16–68. Filed 3–26–68.

857,977. DOVERCLIFFE LTD. Electronic Crystals Corporation. SN 296,067. Pub. 7–16–68. Filed 4–22–68.

857,978. KIKINI. Kiki Undies Corporation. SN 296,075. Pub. 7–16–68. Filed 4–22–68.

Class 40 — Fancy Goods, Furnishings, and Notions

857,979. THERMO CREST AND DESIGN. Thermopatch Corporation. SN 286,853. Pub. 7–16–68. Filed 12–13–67.

857,980. COUNTESS. Walter Sporn Co., Inc. SN 289,040. Pub. 7–16–68. Filed 1–17–68.

857,981. INSTAMATIC. Cournoyer Industries, Inc. SN 289,488. Pub. 7–16–68. Filed 1–24–68.

857,982. EVERLASTIC. David and David, Inc. SN 289,786. Pub. 7–16–68. Filed 1–29–68.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

857,983. H HANSON THE SYMBOL OF QUALITY AND DESIGN. Hanson Textile Company. SN 229,430. Pub. 7–16–68. Filed 10–6–65.

857,984. GLENALURE. Glen Raven Mills, Inc., by change of name from Glen Raven Cotton Mills, Inc. MULTIPLE CLASS (Classes 42 and 43). SN 269,478. Pub. 7–16–68. Filed 4–19–67.

857,985. PRINTSVILLE USA. Textile Company of America. SN 270,973. Pub. 7–16–68. Filed 5–8–67.

857,986. FIRST IN AMERICAN FABRICS. Dan River Mills, Incorporated. SN 271,231. Pub. 7–16–68. Filed 5–11–67.

857,987. CAROSET. Caro-Knit, Inc. SN 275,625. Pub. 7–16–68. Filed 7–10–67.

857,988. CREPE RADIANCE. Indian Head Inc. SN 281,704. Pub. 7–16–68. Filed 10–3–67.

857,989. SHEERR SHRUNK. Crown Textile Mfg. Corp. SN 281,773. Pub. 7–16–68. Filed 10–4–67.

857,990. ALADINO. Dan River Mills, Incorporated. SN 286,909. Pub. 7–16–68. Filed 12–14–67.

857,991. EXPLORER. E. T. Barwick Mills, Inc. SN 295,595. Pub. 7–16–68. Filed 4–15–68.

857,992. CONE FLEX. Cone Mills Incorporated. SN 295,596. Pub. 7–16–68. Filed 4–15–68.

Class 43 — Thread and Yarn

857,984. (See Class 42 for this trademark.)

857,993. TURKISH TAFFY. Glen Raven Mills, Inc. SN 276,582. Pub. 7–16–68. Filed 7–21–67.

857,994. TURKISH DELIGHT. Glen Raven Mills, Inc. SN 276,583. Pub. 7–16–68. Filed 7–21–67.

857,995. SEW-PAC. Synthetic Thread Company, Inc. SN 281,729. Pub. 7–16–68. Filed 10–3–67.

857,996. NICOFIL. Nicolet Industries, Inc. SN 287,752. Pub. 7–16–68. Filed 12–28–67.

857,997. NICOLON. Nicolet Industries, Inc. SN 287,753. Pub. 7–16–68. Filed 12–28–67.

Class 44 — Dental, Medical, and Surgical Appliances

857,998. MID STREAM CATCH KIT AND DESIGN. C. R. Bard, Inc. SN 277,424. Pub. 7–16–68. Filed 8–3–67.

857,999. LOOP-ON. Homer O. Whitman, d.b.a. Loop-On Products Company. SN 280,831. Pub. 7–16–68. Filed 9–20–67.

858,000. MINI-KIT. Johnson & Johnson. SN 285,795. Pub. 4–16–68. Filed 11–29–67.

858,001. UTILEX. Ritter Pfaulder Corporation. SN 286,955. Pub. 7–16–68. Filed 12–14–67.

858,002. MOBILITY. American Home Products Corporation. SN 294,551. Pub. 7–16–68. Filed 4–1–68.

858,003. FLITE. American Home Products Corporation. SN 296,064. Pub. 7–16–68. Filed 4–22–68.

858,004. VATAN. American Home Products Corporation. SN 296,065. Pub. 7–16–68. Filed 4–22–68.

Class 45 — Soft Drinks and Carbonated Waters

858,005. MR. FRESH AND DESIGN. G. P. Gundlach & Company. MULTIPLE CLASS (Classes 45 and 46). SN 279,479. Pub. 7–16–68. Filed 8–31–67.

Class 46 — Foods and Ingredients of Foods

858,005. (See Class 45 for this trademark.)

858,006. GRACE FOR TABLES AROUND THE WORLD AND DESIGN. Grace, Kennedy & Co. (Canada), Ltd. SN 183,602. Pub. 6–29–65. Filed 12–26–63.

858,007. GOLDEN TREAT. Fairway Foods, Inc. SN 209,072. Pub. 7–16–68. Filed 12–30–64.

858,008. CRAZY KOKO. Pet Incorporated, by change of name from Pet Milk Company. SN 225,348. Pub. 9–27–66. Filed 8–9–65.

858,009. TENDER FRESH AND DESIGN. Nash-Finch Company. SN 230,677. Pub. 6–6–67. Filed 10–20–65.

858,010. PORTS OF CALL AND DESIGN. C. E. Grosjean Rice Milling Co., by merger and assignment from The Chun King Corporation. SN 236,804. Pub. 7–16–68. Filed 1–19–66.

858,011. DIXIE PIG. Dixie Pig Barbecue, Inc. SN 244,810. Pub. 7–16–68. Filed 5–3–66.

858,012. DIXIE PIG AND DESIGN. Dixie Pig Barbecue, Inc. SN 244,811. Pub. 7–16–68. Filed 5–3–66.

858,013. HOLLAND GLORY. Cacao- en Chocoladefabrieken Bensdorp N.V., d.b.a. Bensdorp. SN 246,158. Pub. 7–16–68. Filed 5–20–66.

858,014. COOKIE TREATS AND DESIGN. National Biscuit Company. SN 252,119. Pub. 3–5–68. Filed 8–10–66.

858,015. SNOW BRIGHT. Kadison Laboratories, Inc. SN 259,738. Pub. 9–5–67. Filed 11–30–66.

858,016. JESSE STANLEY'S KETTLE FRIED CHICKEN AND DESIGN. Kettle Fried Chicken, Inc. SN 260,165. Pub. 7–16–68. Filed 12–6–66.

858,017. TUBICUBES AND DESIGN. Metaframe Corporation. SN 268,975. Pub. 7–16–68. Filed 4–12–67.

858,018. R. Hills Bros. Coffee, Inc. SN 270,248. Pub. 7–16–68. Filed 4–28–67.

858,019. MISCELLANEOUS DESIGN. Premiata Fabbrica Conserve Alimentari "Alba" S.n.c. Luigi Dalla Turca. SN 271,286. Pub. 7–16–68. Filed 5–11–67.

858,020. RACCOON MOUNTAIN. Louis Farmer. SN 272,375. Pub. 2–13–68. Filed 5–25–67.

858,021. COFFEE GRAM. E. H. Brown Advertising Agency, Inc. SN 273,475. Pub. 7–16–68. Filed 6–9–67.

858,022. MISCELLANEOUS DESIGN. European Food Specialties Corp. SN 274,727. Pub. 7–16–68. Filed 6–26–67.

858,023. THE BULLY BURGER. Burger Barn Corporation. SN 275,360. Pub. 7–16–68. Filed 7–5–67.

858,024. FARM CREST BUTTERMAID. Ward Foods, Inc. SN 280,497. Pub. 7–16–68. Filed 9–15–67.

858,025. MR. BOIL IN BAG. Mount Rose Ravioli and Macaroni Co., Inc. SN 282,292. Pub. 7–16–68. Filed 10–11–67.

858,026. WILKINS COFFEE AND DESIGN. John H. Wilkins Company, Inc., d.b.a. Wilkins Coffee Company. SN 282,738. Pub. 7–16–68. Filed 10–17–67.

858,027. "FROM CONTENTED COWS." Carnation Company. SN 283,094. Pub. 7–16–68. Filed 10–23–67.

858,028. FLAVOR MAKER. A. H. Robins Company, Incorporated. SN 284,396. Pub. 7–16–68. Filed 11–8–67.

858,029. FOODPOWER. Central Soya Company, Inc. SN 284,800. Pub. 7–16–68. Filed 11–14–67.

858,030. SEA BEACH. Biloxi Canning & Packing Co., Inc. SN 285,106. Pub. 7–16–68. Filed 11–17–67.

858,031. DANNY BOY. Biloxi Canning & Packing Co., Inc., d.b.a. Biloxi Canning & Packing Co. SN 285,107. Pub. 7–16–68. Filed 11–17–67.

858,032. CHOCOLOSE. Corn Products Company. SN 285,117. Pub. 7–16–68. Filed 11–17–67.

858,033. MAZOLA. Corn Products Company. SN 285,118. Pub. 7–16–68. Filed 11–17–67.

858,034. MISCELLANEOUS DESIGN. Heublein, Inc. SN 285,662. Pub. 7–16–68. Filed 11–27–67.

858,035. AMERICAN HOARA AND DESIGN. Uncle Ben's, Inc. SN 287,192. Pub. 7–16–68. Filed 12–18–67.

858,036. HYDE PARK AND DESIGN. Malone & Hyde, Inc. SN 289,596. Pub. 7–16–68. Filed 1–25–68.

858,037. COLONIAL VILLAGE. The Kroger Co. SN 290,177. Pub. 7–16–68. Filed 2–2–68.

858,038. CRANAPPLE. Ocean Spray Cranberries, Inc. SN 290,187. Pub. 7–16–68. Filed 2–2–68.

858,039. THREE BEARS. Abraham Friedman, d.b.a. The Three Bears. SN 290,272. Pub. 7–16–68. Filed 2–5–68.

858,040. BUDGET PAK AND DESIGN. Consolidated Foods Corporation, d.b.a. The Lawson Milk Company. SN 290,583. Pub. 7–16–68. Filed 2–8–68.

858,041. PATTI-PRO. The Griffith Laboratories, Inc. SN 290,849. Pub. 7–16–68. Filed 2–12–68.

858,042. INVINCIBLE. DCA Food Industries Inc. SN 290,930. Pub. 7–16–68. Filed 2–13–68.

858,043. HALF-CAL. Wilsey-Bennett Co. SN 291,299. Pub. 7–16–68. Filed 2–16–68.

858,044. WHEX. M. P. Eggers, d.b.a. Briar Hills Dairies. SN 293,026. Pub. 7–16–68. Filed 3–12–68.

858,045. 4 ALARM. S and W Fine Foods, Inc. SN 295,082. Pub. 7–16–68. Filed 4–8–68.

858,046. 21 FLAGS AND DESIGN. S and W Fine Foods, Inc. SN 296,080. Pub. 7–16–68. Filed 4–22–68.

858,047. SCOOTER PUFFS. The Quaker Oats Company. SN 296,238. Pub. 7–16–68. Filed 4–23–68.

Class 47 — Wines

858,048. BOLLA. Casa Vinicola Fratelli Bolla S.a.S. SN 173,560. Pub. 10–6–64. Filed 7–23–63.

858,049. CHIANTI DEL MAGNIFICO. Societa per Azioni Chianti Ruffino Esportazione Vinicola Toscana, d.b.a. S.p.A. Chianti Ruffino. SN 261,761. Pub. 7–16–68. Filed 12–30–66.

Class 48 — Malt Beverages and Liquors

858,050. LUPANIA AND DESIGN. Bush Boake Allen Limited, assignee of Stafford Allen & Sons, Limited. SN 235,750. Pub. 7–16–68. Filed 1–3–66.

858,051. SCANDIA. Jos. Schlitz Brewing Company. SN 295,406. Pub. 7–16–68. Filed 4–11–68.

858,052. CRESCENT. Jos. Schlitz Brewing Company. SN 296,749. Pub. 7–16–68. Filed 4–29–68.

Class 49 — Distilled Alcoholic Liquors

858,053. CONTRO IL LOGORIO DELLA VITA MODERNA. G. B. Pezziol S.p.A. SN 256,132. Pub. 7–16–68. Filed 10–10–66.

858,054. WHISPER. Heublein, Inc. SN 278,298. Pub. 7–16–68. Filed 8–15–67.

Class 50 — Merchandise Not Otherwise Classified

858,055. SEAL-VAC. Monsanto Company. SN 265,724. Pub. 7–16–68. Filed 3–1–67.

858,056. DIGICAP. The Granet Corp. SN 272,379. Pub. 7–16–68. Filed 5–25–67.

858,057. CEM-CARE. John W. Willis. SN 273,544. Pub. 7–16–68. Filed 6–9–67.

858,058. SAND O RAMA AND DESIGN. Lane Products Co. SN 281,798. Pub. 7–16–68. Filed 10–4–67.

858,059. INCREDIBLE EDIBLES. Mattel, Inc. SN 286,476. Pub. 7–16–68. Filed 12–8–67.

858,060. GOODY GOOPERS. Mattel, Inc. SN 292,853. Pub. 7–16–68. Filed 3–11–68.

858,061. MASTER CLANCY CLAUS. General Plastics Corporation. SN 293,986. Pub. 7–16–68. Filed 3–25–68.

Class 51 — Cosmetics and Toilet Preparations

857,728. (See Class 6 for this trademark.)

858,062. TAAJ. Basil Proll, Jr., d.b.a. Taaj Company. SN 260,277. Pub. 4–2–68. Filed 12–7–66.

858,063. E.L.F. Arthur I. Goldstein, d.b.a. Denture Elf Company. SN 274,735. Pub. 7–16–68. Filed 6–26–67.

858,064 ROCK-A-LONG. Amway Corporation. SN 275,502. Pub. 7–16–68. Filed 7–7–67.

858,065. HOT STUFF. Bristol-Myers Company. SN 277,624. Pub. 7–16–68. Filed 8–7–67.

858,066. SUPER STUFF. Bristol-Myers Company. SN 277,625. Pub. 7–16–68. Filed 8–7–67.

858,067. EPAULET. Avon Products, Inc. SN 278,370. Pub. 7–16–68. Filed 8–16–67.

858,068. DESERT ISLE. Bristol-Myers Company. SN 282,049. Pub. 7–16–68. Filed 10–9–67.

858,069. ZCC INC AND DESIGN. Zodiac Calendar Cosmetics, Inc. SN 282,858. Pub. 7–16–68. Filed 10–18–67.

858,070. BOING. Clairol Incorporated. SN 282,885. Pub. 7–16–68. Filed 10–19–67.

858,071. GREAT EXPECTATIONS. Alberto-Culver Company. SN 294,125. Pub. 7–16–68. Filed 3–26–68.

Class 52 — Detergents and Soaps

857,728. (See Class 6 for this trademark.)

858,072. ZAMBRA. Antonio Puig S.A. SN 269,450. Pub. 7–16–68. Filed 4–18–67.

858,073. AN-O-DINE. Anderson Chemical Company. SN 276,626. Pub. 7–16–68. Filed 7–24–67.

858,074. ALL TOGETHER. Bishop Industries Inc. SN 279,978. Pub. 7–16–68. Filed 9–11–67.

858,075. CHEM-ROD. Madison Chemical Corporation. SN 283,681. Pub. 7–16–68. Filed 10–30–67.

Service Marks

Class 100 — Miscellaneous

858,076. F (DESIGN). Foodland, Inc. SN 251,410. Pub. 9–12–67. Filed 8–1–66.

858,077. T (DESIGN). General Oil Sales Corporation. SN 261,066. Pub. 7–16–68. Filed 12–19–66.

858,078. INFOSITE. Stoner Systems, Inc. SN 273,124. Pub. 7–16–68. Filed 6–5–67.

858,079. MISCELLANEOUS DESIGN. The Film-Makers, Inc. SN 277,158. Pub. 7–16–68. Filed 7–31–67.

858,080. TINY TIM. Special Promotions, Inc. SN 279,009. Pub. 7–16–68. Filed 8–24–67.

858,081. PAYROLL. United States Leasing Corporation, by change of name and assignment from United States Leasing Corporation. SN 279,694. Pub. 7–16–68. Filed 9–5–67.

858,082. CUC. Computer Usage Company, Inc. SN 286,601. Pub. 7–16–68. Filed 12–11–67.

858,083. DEPOT HOUSE. Bocaard, Inc. SN 287,999. Pub. 7–16–68. Filed 1–3–68.

858,084. AAMED. Aamed, Inc. SN 294,433. Pub. 7–16–68. Filed 3–29–68.

858,085. MAYFLOWER. DCA Food Industries, Inc. SN 294,818. Pub. 7–16–68. Filed 4–3–68.

Class 101 — Advertising and Business

858,086. MILK JUG. Ray Moss Farms, Inc. SN 213,693. Pub. 12–27–66. Filed 3–9–65.

858,087. ACT AND DESIGN. Advanced Computer Techniques Corporation. SN 242,094. Pub. 12–13–66. Filed 3–29–66.

858,088. F AND DESIGN. Foodland, Inc. SN 243,313. Pub. 9–12–67. Filed 4–13–66.

858,089. MINI-MART. Copetco Sales Corporation. SN 270,048. Pub. 7–16–68. Filed 4–26–67.

858,090. PF AND DESIGN. Pharmaceutical Factors, Inc. SN 270,705. Pub. 7-16-68. Filed 5-4-67.

858,091. AGRI-SERVICE. Philips Roxane, Inc. SN 276,039. Pub. 7-16-68. Filed 7-14-67.

858,092. ITS AND DESIGN. E. Bruce Fountain, d.b.a. Income Tax Services Co. SN 283,650. Pub. 7-16-68. Filed 10-30-67.

858,093. COMPU-ROUTE. Interdata Systems, Inc. SN 290,800. Pub. 7-16-68. Filed 2-12-68.

858,094. MARCAR. Mary Carter Paint Co. SN 291,469. Pub. 7-16-68. Filed 2-20-68.

858,095. TOYTOWN. Toy Town, Inc. SN 296,056. Pub. 7-16-68. Filed 4-19-68.

Class 102 — Insurance and Financial

858,096. PEP. Forrest Life Insurance Company. SN 278,683. Pub. 7-16-68. Filed 8-21-67.

858,097. FUND-O-MATIC. The One William Street Fund, Inc. SN 283,493. Pub. 7-16-68. Filed 10-27-67.

858,098. PLAZABILITY. Plaza Bank of Commerce. SN 295,842. Pub. 7-16-68. Filed 4-17-68.

Class 103 — Construction and Repair

858,099. DOUBLE SS. Wallace W. Crawford. SN 284,894. Pub. 7-16-68. Filed 11-15-67.

Class 105 — Transportation and Storage

858,100. SUPER-VAN. The Pennsylvania Railroad Company, assignee of The New York Central Railroad Company. SN 271,957. Pub. 7-16-68. Filed 5-19-67.

858,101. ACC AND DESIGN. American Courier Corporation. SN 272,251. Pub. 7-16-68. Filed 5-24-67.

858,102. ACL AND DESIGN. The Atlantic Container Line, Ltd. SN 276,295. Pub. 7-16-68. Filed 7-10-67.

858,103. PACKAGE (DESIGN). Cartan Travel Bureau, Inc. SN 286,091. Pub. 7-16-68. Filed 12-4-67.

Class 107 — Education and Entertainment

858,104. LUMBERTOWN U.S.A. W. J. Madden Company. SN 210,322. Pub. 7-16-68. Filed 1-21-65.

858,105. MISCELLANEOUS DESIGN. Kilgore Junior College District. SN 273,078. Pub. 7-16-68. Filed 6-5-67.

858,106. THE SUPERFINE DANDELION. James D. Musil, Jr. SN 285,039. Pub. 7-16-68. Filed 11-16-67.

858,107. ACA AMERICAN CHEERLEADERS ASSOCIATION AND DESIGN. William L. Horan, d.b.a. American Cheerleaders Association. SN 287,065. Pub. 7-16-68. Filed 12-18-67.

858,108. MISCELLANEOUS DESIGN. The Philadelphia Hockey Club, Inc. SN 287,374. Pub. 7-16-68. Filed 12-21-67.

Collective Membership Marks

Class 200

858,109. GROUND WATER RESOURCES INSTITUTE AND DESIGN. Ground Water Resources Institute. SN 259,421. Pub. 7-16-68. Filed 11-25-66.

858,110. CERTIFIED EMPLOYMENT CONSULTANT, C.E.C. The National Employment Association. SN 278,897. Pub. 7-16-68. Filed 8-23-67.

SUPPLEMENTAL REGISTER

Theso registrations are not subject to opposition.

Class 6 — Chemicals and Chemical Compositions

858,111. Physio-Control Corporation, Seattle, Wash. SN 271,721. Filed P.R. 5-17-67; Am. S.R. 7-15-68.

DERMA JEL

For Skin Contact Jelly for Use With the Electrodes of Electrocardiographs and Similar Medical Apparatus (Int. Cl. 1).
First use Oct. 14, 1966.

Class 18 — Medicines and Pharmaceutical Preparations

858,112. American Dietaids Company, Inc., Yonkers, N.Y. SN 275,023. Filed P.R. 6-29-67; Am. S.R. 7-1-68.

CAMU PLUS

For Tablets Containing Vitamin C (Int. Cl. 5).
First use May 10, 1967.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

858,113. IRL Daffin Associates, Incorporated, Lancaster, Pa. SN 266,334. Filed P.R. 3-9-67; Am. S.R. 6-11-68.

DIAL-A-MIX

For Machine for Mixing Concrete (Int. Cl. 7).
First use Feb. 20, 1967.

858,114. Ted L. Ferrier, Jr., Dallas, Tex. SN 269,877. Filed P.R. 4-24-67; Am. S.R. 6-25-68.

RAZOR-GARD

For Removable Protective Covers for Safety Razors Having Blades Therein (Int. Cl. 8).
First use on or about July 12, 1964.

Class 38 — Prints and Publications

858,115. Eugene Dietzgen Co., Chicago, Ill. SN 253,640. Filed P.R. 9-1-66; Am. S.R. 5-17-68.

KANSAS BLUE PRINT CO. INC.

The lining on the mark indicates features of the mark but does not indicate color lining.
For Maps—Namely, City Maps, County Maps Showing Land and Mineral Interest Ownership, and Plats (Int. Cl. 16).
First use Jan. 3, 1956; in or about 1928 in a different form.

858,116. The New Yorker Magazine, Inc., New York, N.Y. SN 292,220. Filed 2-29-68.

THE ART WORLD

For Column in a Weekly Publication (Int. Cl. 16).
First use Feb. 25, 1967.

858,117. The New Yorker Magazine, Inc., New York, N.Y. SN 292,221. Filed 2-29-68.

THE AIR

For Column in a Weekly Publication (Int. Cl. 16).
First use Nov. 2, 1957.

Class 43 — Thread and Yarn

858,118. Emile Bernat & Sons Co., Uxbridge, Mass. SN 266,854. Filed P.R. 3-16-67; Am. S.R. 7-26-68.

COTT'N SILK

Applicant disclaims the word "Silk" apart from the mark as shown.
For Hand Knitting Yarns (Int. Cl. 23).
First use at least as early as Feb. 28, 1967.

Class 47 — Wines

858,119. Contopoulos Brothers, Ltd., New York, N.Y. SN 276,537. Filed P.R. 7-21-67; Am. S.R. 7-1-68.

CYPRUS CREAM

For Wine (Int. Cl. 33).
First use Jan. 11, 1967.

Class 51 — Cosmetics and Toilet Preparations

858,120. L.B. Laboratories, Inc., Glendale, Calif. SN 266,338. Filed P.R. 3-9-67; Am. S.R. 7-5-68.

MAN GROOM

For Hair Dressing and Conditioner (Int. Cl. 3).
First use Feb. 22, 1967.

858,121. Revlon, Inc., New York, N.Y. SN 268,081. Filed P.R. 3-31-67; Am. S.R. 6-27-68.

REGENCY LILAC

For Lipstick and Nail Enamel (Int. Cl. 3).
First use Dec. 30, 1966.

858,122. Estee Lauder, Incorporated, New York, N.Y. SN 278,497. Filed P.R. 8-17-67; Am. S.R. 7-22-68.

CORAL TANGERINE

For Lipsticks (Int. Cl. 3).
First use July 1, 1967.

858,123. Estee Lauder, Incorporated, New York, N.Y. SN 278,498. Filed P.R. 8-17-67; Am. S.R. 7-22-68.

PINK MAUVE

For Lipsticks (Int. Cl. 3).
First use July 1, 1967.

858,124. Estee Lauder, Incorporated, New York, N.Y. SN 278,499. Filed P.R. 8-17-67; Am. S.R. 7-22-68.

PINK SUN

For Lipsticks (Int. Cl. 3).
First use July 1, 1967.

858,125. Estee Lauder, Incorporated, New York, N.Y. SN 278,500. Filed P.R. 8-17-67; Am. S.R. 7-22-68.

PINK ROSE

For Lipsticks (Int. Cl. 3).
First use July 1, 1967.

858,126. Estee Lauder, Incorporated, New York, N.Y. SN 278,501. Filed P.R. 8-17-67; Am. S.R. 7-22-68.

CORAL PEACH

For Lipsticks (Int. Cl. 3).
First use July 1, 1967.

Class 52 — Detergents and Soaps

858,127. Clayton Manufacturing Company, El Monte, Calif. SN 288,280. Filed 1-8-68.

KLEENSAFE

For Steam Cleaning Compound (Int. Cl. 3).
First use Sept. 2, 1964.

Service Mark

Class 101 — Advertising and Business

858,128. Eugenia D. Hatcher, Washington, D.C. SN 238,635. Filed P.R. 2-11-66; Am. S.R. 7-5-68.

HOMEMAKER TESTING

Applicant disclaims any right in the word "Testing" apart from the mark as shown.
For Furnishing Information and Advice Concerning Opinions and Practices of Domestic Consumers Relating to Consumer Products (Int. Cl. 35).
First use on or about Feb. 27, 1959.

TRADEMARK REGISTRATIONS RENEWED

70,001. "VILSING MILK" ETC. AND DESIGN. Cl. 46 (Int. 29). 7-21-08.
70,413. EVERY DAY. Cl. 46 (Int. Cl. 29). 8-25-08.
70,478. "NORTHWESTERN" ETC. AND DESIGN. Cl. 12 (Int. Cl. 19). 9-15-08.
71,467. "EUREKA" ETC. AND REPRESENTATION OF EAGLE AND FIRE HOSE. Cl. 35 (Int. Cl. 17). 11-24-08.
240,053. CHOCOLATE INDIANS. Cl. 46 (Int. Cl. 30). 3-20-28.
240,430. BUON GUSTO. Cl. 46 (Int. Cls. 29 and 30). 3-27-28.
242,449. SUPRE-MACY. Cl. 29 (Int. Cl. 21). 5-22-28.
243,220. NORTHWOODS. Cl. 46 (Int. Cl. 30). 6-12-28.
243,902. LERAX. Cl. 18 (Int. Cl. 5). 7-3-28.
243,913. RINSORA. Cl. 18 (Int. Cl. 5). 7-3-28.
244,766. "ARTCRAFT" AND DESIGN. Cl. 46 (Int. Cl. 30). 7-24-28.
244,945. "DODGE" AND DIAMOND-SHAPED DESIGN. Cl. 23 (Int. Cl. 7). 7-31-28.
245,140. PLYTEX. Cl. 39 (Int. Cl. 25). 8-7-28.
245,659. CENTALESE. Cl. 43 (Int. Cl. 23). 8-21-28.
245,660. DEMINOL. Cl. 43 (Int. Cl. 23). 8-21-28.
245,661. TRIAWOL. Cl. 43 (Int. Cl. 23). 8-21-28.
245,662. DECINOL. Cl. 43 (Int. Cl. 23). 8-21-28.
245,663. DECIWOL. Cl. 43 (Int. Cl. 23). 8-21-28.
246,384. GOLD STRAND. Cl. 13 (Int. Cl. 6). 9-4-28.
247,075. "PINE TREE LINENS" AND REPRESENTATION OF A PINE TREE. Cl. 42 (Int. Cl. 24). 9-18-28.
247,311. CROWN. Cl. 37 (Int. Cl. 16). 9-25-28.
247,926. "MONTAGUE FLIPLINE" AND REPRESENTATION OF A FISH. Cl. 22 (Int. Cl. 28). 10-9-28.
247,928. "MONTAGUE FISHKILL" AND REPRESENTATION OF A FISH. Cl. 22 (Int. Cl. 28). 10-9-28.
248,465. "MONTAGUE" AND REPRESENTATION OF A FISH. Cl. 22 (Int. Cl. 28). 10-23-28.
249,298. TAKA. Cl. 18 (Int. Cl. 1). 11-13-28.
249,398. ANNETTE'S PERFECT CLEANSER. Cl. 52 (Int. Cl. 3). 11-13-28.
249,673. ROBANESE. Cl. 42 (Int. Cl. 24). 11-20-28.
249,750. LARKWOOD. Cl. 39 (Int. Cl. 25). 11-20-28.
249,840. "RED SPOT" AND CIRCULAR DESIGN. Cl. 12 (Int. Cls. 2 and 3). 11-20-28.
249,873. "RUSHMORE BRAND" AND DESIGN. Cl. 46 (Int. Cl. 29). 11-20-28.
250,033. AUNT LUCY. Cl. 46 (Int. 29). 11-27-28.
250,732. REPRESENTATION OF AN ARCH AND CROWN. Cl. 39 (Int. Cl. 25). 12-18-28.
251,678. B & P. Cl. 16 (Int. Cl. 2). 1-8-29.
437,434. ONLIWON. Cl. 2 (Int. Cl. 21). 3-23-48.
438,887. GAMEMASTER. Cl. 39 (Int. Cl. 25). 4-20-48.
439,117. MAGNATONE. Cl. 46 (Int. Cl. 31). 6-1-48.
439,206. STEINER'S PICKLING MASTER AND DESIGN. Cl. 46 (Int. Cl. 30). 6-8-48.
439,235. O (DESIGN). Cl. 8 (Int. Cl. 34). 6-8-48.
439,429. QUAKER CITY AND DESIGN. Cl. 23 (Int. Cl. 8). 6-29-48.
439,707. ESBILAC. Cl. 46 (Int. Cl. 31). 7-13-48.
439,725. PREMIER-NURE. Cl. 10 (Int. Cl. 1). 7-13-48.
439,926. PLASTISHIELD. Cl. 44 (Int. Cl. 10). 7-27-48.
439,970. ACRYLOID. Cl. 16 (Int. Cl. 2). 8-3-48.
439,991. DP (DESIGN). Cl. 27 (Int. Cl. 14). 8-3-48.
440,089. EXCALIBUR AND DESIGN. Cl. 49 (Int. Cl. 33). 8-10-48.
440,591. CARDIS. Cl. 16 (Int. Cl. 1). 9-14-48.
440,832. HARDWARE FAIR. Cl. 12 (Int. Cl. 19). 10-5-48.
440,916. STYLE CHIEF. Cl. 39 (Int. Cl. 25). 10-12-48.
441,283. EMBLOCK. Cl. 1 (Int. Cl. 4). 11-9-48.
441,449. SOHIO X-TANE. Cl. 15 (Int. Cl. 4). 11-30-48.
441,857. SWENSON. Cl. 23 (Int. Cls. 7 and 11). 1-18-49.
501,263. MAYFLOWER. Cl. 105 (Int. Cl. 39). 7-27-48.
501,264. AERO MAYFLOWER AND DESIGN. Cl. 105 (Int. Cl. 39). 7-27-48.
501,322. MISCELLANEOUS DESIGN. Cl. 14 (Int. Cl. 6). 8-3-48.
501,795. JUNO. Cl. 17 (Int. Cl. 34). 8-24-48.
502,033. SANTA FE CHIEF. Cl. 17 (Int. Cl. 34). 9-7-48.
502,487. WESTERN. Cl. 26 (Int. Cl. 9). 9-28-48.
502,488. WOLVERINE. Cl. 26 (Int. Cl. 9). 9-28-48.
502,490. NUBIAN. Cl. 26 (Int. Cl. 9). 9-28-48.
502,491. PIONEER. Cl. 26 (Int. Cl. 9). 9-28-48.
502,553. TAKE-OFF. Cl. 51 (Int. Cl. 3). 9-28-48.
502,590. AGRALITE. Cl. 1 (Int. Cl. 1). 9-28-48.
502,594. BAVARIAN MINT. Cl. 46 (Int. Cl. 30). 9-28-48.
502,645. VAMP. Cl. 22 (Int. Cl. 28). 10-5-48.
502,646. SPOOK. Cl. 22 (Int. Cl. 28). 10-5-48.
502,655. PERK-UP. Cl. 51 (Int. Cl. 3). 10-5-48.
502,680. NEW PLEX. Cl. 39 (Int. Cl. 25). 10-5-48.
502,713. BARTYL. Cl. 6 (Int. Cl. 1). 10-5-48.
502,715. DELTYL. Cl. 6 (Int. Cl. 1). 10-5-48.
502,716. MOSKENE. Cl. 6 (Int. Cl. 1). 10-5-48.
502,717. MUSK TIBETENE. Cl. 6 (Int. Cl. 1). 10-5-48.
502,718. BROMOSOLV. Cl. 6 (Int. Cl. 2). 10-5-48.
502,719. AURANTIOL. Cl. 6 (Int. Cl. 1). 10-5-48.
502,720. PARADOR. Cl. 6 (Int. Cl. 1). 10-5-48.
502,721. ODRENE. Cl. 6 (Int. Cl. 1). 10-5-48.
502,722. NEANTINE. Cl. 6 (Int. Cl. 1). 10-5-48.
502,723. HYDROLAL. Cl. 6 (Int. Cl. 3). 10-5-48.
502,724. BUXINE. Cl. 6 (Int. Cls. 1 and 3). 10-5-48.
502,725. FOLIONE. Cl. 6 (Int. Cl. 3). 10-5-48.
502,726. TEX-O-DOR. Cl. 6 (Int. Cl. 1). 10-5-48.
502,727. SAVAROME. Cl. 6 (Int. Cl. 1). 10-5-48.
502,728. SASSENE. Cl. 6 (Int. Cl. 1). 10-5-48.
502,729. NACENE. Cl. 6 (Int. Cl. 1). 10-5-48.
502,731. KEROZONE. Cl. 6 (Int. Cl. 1). 10-5-48.
502,732. KEROSCENT. Cl. 6 (Int. Cl. 1). 10-5-48.
502,733. KERODOR. Cl. 6 (Int. Cl. 5). 10-5-48.
502,734. FLORENE. Cl. 6 (Int. Cl. 1). 10-5-48.
502,735. MUSC ZIBATA. Cl. 6 (Int. Cl. 1). 10-5-48.
502,736. ISOMAL. Cl. 6 (Int. Cl. 1). 10-5-48.
503,714. SANTA FE TRAIL. Cl. 17 (Int. Cl. 34). 11-9-48.
503,923. FINCASTLE. Cl. 42 (Int. Cl. 24). 11-16-48.
503,958. THOMAS. Cl. 19 (Int. Cl. 12). 11-16-48.
504,091. TAVILEN. Cl. 18 (Int. Cl. 5). 11-23-48.
504,203. PICTURE (DESIGN). Cl. 6 (Int. Cls. 1 and 3). 11-23-48.
504,250. ALL BREEDS. Cl. 46 (Int. Cl. 31). 11-23-48.
504,297. KLIKIT. Cl. 40 (Int. Cl. 26). 11-30-48.
504,517. WHITE RIVER. Cl. 46 (Int. Cl. 31). 11-30-48.
504,558. ASOFLAMIN. Cl. 18 (Int. Cl. 5). 12-7-48.
504,559. ZIBORAL. Cl. 18 (Int. Cl. 10). 12-7-48.
504,679. HIDERSINE. Cl. 36 (Int. Cl. 15). 12-7-48.

TRADEMARK REGISTRATIONS CANCELED

Section 8

The following registrations issued Aug. 14, 1962

735,829. KYFON. Cl. 1.
735,831. AUTO-VAC. Cl. 2.
735,837. SUNGLOW. Cl. 3.
735,839. CINDUSHELLS. Cl. 3.
735,844. MRS. EARLY BIRD. Cl. 6.
735,848. BUTOMERATE. Cl. 6.
735,850. ULTRA GUARD. Cl. 6.
735,857. FRED PALMER'S POSITIVE SHOOTING. Cl. 9.
735,859. LUXOR. Cl. 11.
735,868. PYRO-LASTIC. Cl. 12.
735,869. MINERAL WELD. Cl. 12.
735,871. WEIRMAR. Cl. 12.
735,872. DURA-FLOAT. Cl. 12.
735,874. BEAUTYGUARD. Cl. 12.
735,876. MARK II COLORPORT. Cl. 12.
735,892. MM IN DIAMOND DESIGN. Cl. 13.
735,896. O.N.Z. Cl. 13.
735,899. MIDWEST. Cl. 13.
735,904. FORTIWELD. Cl. 14.
735,905. INSMETAL. Cl. 14.
735,906. SEVEN STAR. Cl. 15.
735,907. SORCO AND DESIGN. Cl. 15.
735,908. WINELYTES. Cl. 15.

735,909. CBL. Cl. 15.
735,915. DENODECK. Cl. 16.
735,920. XTRA-LERT. Cl. 18.
735,924. PRO-ACTIDIL. Cl. 18.
735,929. NOVADONNA. Cl. 18.
735,937. TIZAMIC. Cl. 21.
735,945. ESPRESSOR. Cl. 21.
735,949. UNIPLANE. Cl. 21.
735,951. TACO ELECTRA. Cl. 21.
735,953. SPEEDY. Cl. 22.
735,954. FLUIE. Cl. 22.
735,958. TOTE TILT. Cl. 23.
735,963. ALPACCA BERNDORF AUSTRIA AND DESIGN. Cl. 23.
735,964. NICRO STAINLESS BERNDORF AUSTRIA AND DESIGN. Cl. 23.
735,969. ASTRO-CERAMIC. Cl. 23.
735,973. BARRACUDA AND DESIGN. Cl. 23.
735,974. MR. VERSATILE. Cl. 23.
735,977. INDESIT. Cl. 24.
735,979. MULTI-CHANGER. Cl. 26.
735,985. KERA-FORM. Cl. 26.
735,990. III. Cl. 26.
735,991. ORBITEER I. Cl. 26.
735,995. SLUMP-O-MATIX AND DESIGN. Cl. 26.
735,997. TELE-PLAYBACK. Cl. 46.
736,000. KST. Cl. 27.
736,001. DESIGN REPRESENTING A HEART. Cl. 27.
736,007. LADY CATHERINE. Cl. 28.
736,024. WONDER WARM. Cl. 34.
736,025. ROTO RECORDS. Cl. 36.
736,029. TECHNICORDER AND DESIGN. Cl. 36.
736,043. WORDS IN THE NEWS AND NEWS IN THE WORDS. Cl. 38.
736,045. THE DISC JOCKEYS JOURNAL. Cl. 38.
736,047. RUB-A-PATTERN. Cl. 38.
736,049. BRAVO. Cl. 38.
736,052. DESIGN CONSISTING OF SEVERAL POST-MARKS. Cl. 38.
736,055. THE HELISTOP. Cl. 38.
736,059. THE KIPLINGER BOOK LETTER AND K DESIGN. Cl. 38.
736,060. ACROSTICKLERS AND DESIGN. Cl. 38.
736,065. DIAL-A-DOLL. Cl. 38.
736,071. JOCKEY THOROBRED. Cl. 39.
736,072. RONDO JESTERS. Cl. 39.
736,074. BUD BERMA -N- INVINCIBLE. Cl. 39.
736,075. TUFFIES STA-UPS AND DESIGN. Cl. 39.
736,076. MR. SKI. Cl. 39.
736,079. TDS. Cl. 39.
736,085. SLENDIKINS. Cl. 39.
736,088. JACQUA TEX. Cl. 39.
736,089. MAGNE-BELT. Cl. 39.
736,096. NFS. Cl. 39.
736,098. RONDO. Cl. 39.
736,099. SUPERWON. Cl. 39.
736,102. ST. TROPAZ. Cl. 39.
736,104. ROUND TREE AND DESIGN. Cl. 39.
736,106. LADY MARIAN. Cl. 40.
736,107. BELFLOU. Cl. 40.
736,110. ROLL-O-MATIC. Cl. 40.
736,111. IVELA. Cl. 42.
736,112. E-Z TRIM. Cl. 42.
736,116. DANISH BULKY PAK. Cl. 43.
736,119. EPOX-E-DON ETC. AND DESIGN. Cl. 44.
736,120. 4PZ. Cl. 44.
736,121. B-W, INGERSOLL PRODUCTS, BORG-WARNER AND DESIGN. Cl. 44.
736,126. CHA-CHA AND DESIGN. Cl. 46.
736,136. OLAND'S. Cl. 48.
736,137. LEOPARD DOUBLE LL AND DESIGN. Cl. 48.
736,139. ABSORB-O-MAT. Cl. 50.
736,140. WONDERPANEL. Cl. 50.
736,144. DE LY LY. Cl. 51.
736,147. HORMO FRUIT. Cl. 51.
736,153. MURRAY'S. Cl. 52.
736,167. "U" FINISH. Cl. 103.
736,172. PERMOBOND. Cl. 106.
736,175. AUTO-CLOSE. Cl. 13.
736,176. NIPPON GWAN AND DESIGN. Cl. 18.
736,179. TISSUES FLUFF-OUT ONE BY ONE. Cl. 37.
736,186. SHORT HORN BRANDS' AND DESIGN. Cl. 46.
736,187. YEARLING BRANDS' AND DESIGN. Cl. 46.
736,188. BEECH-NUT FRUIT STRIPE AND LABEL DESIGN. Cl. 46.
736,191. ELECTRIC PINK. Cl. 51.
736,192. COMET. Cl. 51.
736,193. RED HOT RED. Cl. 51.
736,194. SHAVE COMFORT. Cl. 51.
736,196. NITE N' DAY AND DESIGN. Cl. 103.

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 7 — Cordage

437,285. Mar. 9, 1948. All American Aviation, Inc., Wilmington, Del. Pub. by All American Engineering Company, Wilmington, Del.

UNOLYN

For Rope and Strands Made of Treated Nylon (Int. Cl. 22).

Class 12 — Construction Materials

290,330. Jan. 5, 1932. The Red River Lumber Company, Minneapolis, Minn. Pub. by Paul Bunyan Lumber Company, Anderson, Calif.



For Door Frames, Window Frames, Doors, Sash, and Molding.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

243,479. June 26, 1928. Grinnell Company, Inc., Providence, R.I. Pub. by Grinnell Corporation, Providence, R.I.



For Pipe Fittings, Valves, and Cocks Composed Wholly or in Part of Metal, etc. (Int. Cls. 6 and 11).

243,955. July 3, 1928. Grinnell Company, Inc., Providence, R.I. Pub. by Grinnell Corporation, Providence, R.I.



For Pipe Fittings, Valves, and Cocks Composed Wholly or in Part of Metal, etc. (Int. Cls. 6 and 11).

Class 15 — Oils and Greases

439,879. July 27, 1948. Sun Chemical Corporation, New York, N.Y. Pub. by The Western Petrochemical Corporation, Chanute, Kans.

CARDIS

For Oxidized Petroleum Wax (Int. Cl. 4).

Class 18 — Medicines and Pharmaceutical Preparations

249,777. Nov. 20, 1928. Pan-American Drug Company, Inc., Jacksonville, Fla. Pub. by Pan-Tone Drug Company, Jacksonville, Fla.



For General Tonic and Mild Laxative (Int. Cl. 5).

Class 22 — Games, Toys, and Sporting Goods

250,007. Nov. 27, 1928. The Enterprise Manufacturing Company, Akron, Ohio. Pub. by Pflueger Corporation, Akron, Ohio.

"DIAMOLITE"

For Fishing-Reel Parts (Int. Cl. 28).

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

240,969. Apr. 10, 1928. Treet Safety Razor Corporation, Newark, N.J. Pub. by Philip Morris Incorporated, d.b.a. American Safety Razor Company, New York, N.Y.

TREET

For Safety Razors and Safety-Razor Blades (Int. Cl. 8).

Class 27 — Horological Instruments

336,639. July 14, 1936. Circle Watch Corporation, New York, N.Y. Pub. by registrant.

CIRCLE

For Watches.

Class 34 — Heating, Lighting, and Ventilating Apparatus

438,894. May 18, 1948. Det Norske Aktieselskab for Elektrokemisk Industri, Oslo, Norway, and New York, N.Y. Pub. by Elektrokemisk A/S, Oslo, Norway.

Elkem

For Metallurgical Furnaces and Parts of Such Furnaces (Int. Cl. 11).

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

32,058. Oct. 18, 1898. Eureka Fire Hose Company, New York, N.Y. Pub. by Uniroyal, Inc., New York, N.Y.

MONITOR

For Rubber-Lined Cotton Hose (Int. Cl. 17).

Class 37 — Paper and Stationery

245,256. Aug. 7, 1928. American Sales Book Company, Limited, Toronto, Ontario, Canada, and Niagara Falls, N.Y. Pub. by Moore Business Forms, Inc., Niagara Falls, N.Y.

FLATPAKIT

For Paper Sheets, Strips, Rolls, Pads, and the Like, Suitable for Manifolding Use Including Printed Forms, for All Kinds of Business Transactions, etc. (Int. Cl. 16).

Class 38 — Prints and Publications

241,510. May 1, 1928. Oscar G. Davies, Palm Beach, Fla. Pub. by Perry Publications, Inc., Palm Beach, Fla.

Palm Beach Life

For Weekly Periodical (Int. Cl. 16).

Class 39 — Clothing

246,713. Sept. 11, 1928. The Heath Spring & Notion Company Limited, Redditch, England. Pub. by registrant.



For Arm Bands of Coiled Wire Made of Base Metal and Coated With Imitation Precious Metal (Int. Cl. 23).

Class 40 — Fancy Goods, Furnishings, and Notions

437,286. Mar. 9, 1948. All American Aviation, Inc., Wilmington, Del. Pub. by All American Engineering Company, Wilmington, Del.

UNOLYN

For Narrow Webbing Made of Nylon (Int. Cl. 26).

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

247,095. Sept. 18, 1928. Pepperell Manufacturing Company, Boston, Mass. Pub. by West Point-Pepperell, Inc., West Point, Ga.

BABY PEPPERELL

For Crib Blankets (Int. Cl. 24).

247,141. Sept. 18, 1928. Pepperell Manufacturing Company, Boston, Mass. Pub. by West Point-Pepperell, Inc., West Point, Ga.

Lady PEPPERELL

For Blankets and Bed and Crib Coverings Made of Cotton or Wool or a Mixture of Cotton and Wool (Int. Cl. 24).

434,570. Nov. 25, 1947. All American Aviation, Inc., Wilmington, Del. Pub. by All American Engineering Company, Wilmington, Del.

UNOLYN

For Wide Webbing Made of Treated Nylon (Int. Cl. 24).

441,299. Nov. 16, 1948. Riverside & Dan River Cotton Mills, Inc., now by change of name to Dan River Mills, Incorporated, Danville, Va. Pub. by Dan River Mills, Incorporated, Danville, Va.

Prince Oxford

For Cotton Piece Goods, etc. (Int. Cl. 24).

Class 46 — Foods and Ingredients of Foods

24,007. Jan. 9, 1894. Crystaline Salt Company, Boston, Mass. Pub. by Morton International, Inc., Chicago, Ill.

SNOWFLAKE

For Salt.

247,998. Oct. 9, 1928. The Zehner Packing Company, Bellevue, Ohio. Pub. by registrant.

DRESDEN HAM

For Ham.

INDEX OF REGISTRANTS

OCTOBER 1, 1968

(Registered ; Renewed ; Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates ; 12c Publications.)

ABC Records, Inc., New York, N.Y. 857,926, pub. 7–16–68. Cl. 36.
AER Corp., Ramsey, N.J. 857,910, pub. 10–18–66. Cl. 34.
A.P.W. Products Co., Inc., Albany, to Concel, Inc., New York, N.Y. 437,434, ren. 10–1–68. Cl. 2.
A/S De-No-Fa og Lilleborg Fabriker, Oslo, Norway. 735,915, canc. Cl. 16.
Aamed, Inc., Forest Park, Ill. 858,084, pub. 7–16–68. Cl. 100.
Acheson Industries, Inc. : *See*—
Cabot Corp.
Acme Backing Corp., New York, N.Y. 857,699, pub. 7–16–68. Cl. 2.
Adams, Henry H., and Allen Blow Cook, d.b.a. Henry Allen, Annapolis, Md. 736,060, canc. Cl. 38.
Advanced Computer Techniques Corp., New York, N.Y. 858,087, pub. 12–13–66. Cl. 101.
Advertex Co. : *See*—
Young, James P.
Aero Mayflower Transit Co., to Aero Mayflower Transit Co., Inc., Indianapolis, Ind. 501,263–4, ren. 10–1–68. Cl. 105.
Aero Mayflower Transit Co., Inc. : *See*—
Aero Mayflower Transit Co.
Agicide Laboratories, Inc., to Agrashell, Inc., Los Angeles, Calif. 502,590, ren. 10–1–68. Cl. 1.
Agrashell, Inc. : *See*—
Agicide Laboratories, Inc.
Agway, Inc., DeWitt, N.Y. 857,808, pub. 7–16–68. Cl. 18.
Akro-Mils, Inc., Akron, Ohio. 857,704, pub. 7–16–68. Cl. 2.
Alberto-Culver Co., Melrose Park, Ill. 858,071, pub. 7–16–68. Cl. 51.
All American Aviation, Inc., by All American Engineering Co., Wilmington, Del. 434,570, 12(c) pub. 10–1–68. Cl. 42.
All American Aviation, Inc., by All American Engineering Co., Wilmington, Del. 437,285–6, 12(c) pub. 10–1–68. Cl. 7.
All American Engineering Co. : *See*—
All American Aviation, Inc.
Allen, Eaton, Corp., Brooklyn, N.Y. 857,755, pub. 7–16–68. Cl. 11.
Allen, Stafford, & Sons, Ltd. : *See*—
Bush Boake Allen Ltd.
Allergan Pharmaceuticals, Santa Ana, Calif. 857,801, pub. 7–16–68. Cl. 18.
Alligator Co., The, St. Louis, Mo. 736,099, canc. Cl. 39.
Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden. 857,828, pub. 7–16–68. Cl. 21.
Alton Box Board Co., Wilmington, Del. 857,698, pub. 7–16–68. Cl. 2.
American Biltrite Rubber Co., Inc. : *See*—
Essex Rubber Co., Inc.
American Bosch Arma Corp., Garden City, N.Y. 735,997, canc. Cl. 26.
American Cheerleaders Association : *See*—
Horan, William L.
American Courier Corp., Bayside, N.Y. 858,101, pub. 7–16–68. Cl. 105.
American Cyanamid Co., Wayne, N.J. 857,747–8, pub. 7–16–68. Cl. 6.
American Dietaids Co., Inc., Yonkers, N.Y. 858,112. Cl. 18.
American Flotation Corp., Napa, Calif. 735,872, canc. Cl. 12.
American Home Products Corp., New York, N.Y. 858,002–4, pub. 7–16–68. Cl. 44.
American Safety Razor Co. : *See*—
Treet Safety Razor Corp.
American Sales Book Co., Ltd., Toronto, Canada, by Moore Business Forms, Inc., Niagara Falls, N.Y. 245,256, 12(c) pub. 10–1–68. Cl. 37.
American Tool & Steel Co. : *See*—
Marshall Clothing Mfg. Co.
American Wire Fabrics Corp., New York, N.Y., to New York Wire Co., York, Pa. 246,384, ren. 10–1–68. Cl. 13.
Amway Corp., Ada, Mich. 858,064, pub. 7–16–68. Cl. 51.
Andersen, Arthur, & Co., Chicago, Ill. 857,940, pub. 7–16–68. Cl. 38.
Anderson Chemical Co., Litchfield, Minn. 858,073, pub. 7–16–68. Cl. 52.
Anderson, Victor, 3-D Studios Inc., Mamaroneck, N.Y. 857,945, pub. 7–16–68. Cl. 38.
Annette's Perfect Cleanser Co. : *See*—
Jennings, Annette R.
Antonio Puig S.A., Barcelona, Spain. 858,072, pub. 7–16–68. Cl. 52.
Ardco, Inc., Chicago, Ill. 857,906, pub. 7–16–68. Cl. 31.
Arden-Mayfair, Inc., d.b.a. Valley Chlorine Solutions Co., Los Angeles, Calif. 857,750, pub. 7–16–68. Cl. 6.
Armitage Brothers Ltd., Nottingham, England. 857,814, pub. 7–16–68. Cl. 18.
Arno Adhesive Tapes, Inc., Michigan City, Ind. 857,716, pub. 7–16–68. Cl. 5.
Atlantic Container Line, Ltd., The, New York, N.Y. 858,102, pub. 7–16–68. Cl. 105.
Aunt Lucy Hams, Inc. : *See*—
Stauffer, S. Walter.
"Automatic" Sprinkler Corp. of America, Cleveland, Ohio. 857,789, pub. 7–16–68. Cl. 13.
Automation Industries, Inc., El Segundo, Calif. 857,784, pub. 7–16–68. Cl. 13.
Avon Products, Inc., New York, N.Y. 858,067, pub. 7–16–68. Cl. 51.
Bacon, Charles H., Co., Inc. : *See*—
Paul, Richard, Inc.
Bagley Mfg. Co. : *See*—
Bagley Mfg. Co., Inc.
Bagley Mfg. Co., Inc., d.b.a. Bagley Mfg. Co., Winter Haven, Fla. 857,846, pub. 7–16–68. Cl. 22
Baker Clothes, Inc, Philadelphia, Pa., from Kayser-Roth Corp., New York, N.Y. 857,953, pub. 9–26–67. Cl. 39.
Balas Collet Co., Cleveland, Ohio. 857,862, pub. 7–16–68. Cl. 23.
Ball, Duncan Y., d.b.a. Psychedoll, Cambridge, Mass. 857,854, pub. 7–16–68. Cl. 22.
Balloid Basler Celluloidwarenfabrik A.G. Therwil, Therwil, Switzerland. 736,107, canc. Cl. 40.
Baltimore Salvage Co. : *See*—
Blum, Edward L.
Baltimore Salvage Co., Inc. : *See*—
Blum, Edward L.
Bard, C. R., Inc., Murray Hill, N.J. 857,998, pub. 7–16–68. Cl. 44.
Barker, Fred V., Rhodell, W. Va. 735,954, canc. Cl. 22.
Barracuda Tools, Inc., Fort Pierce, Fla. 735,973, canc. Cl. 23.
Barth, Ruvin, Los Angeles, Calif. 736,043, canc. Cl. 38.
Barwick, E. T., Mills, Inc., Chamblee, Ga. 857,991, pub. 7–16–68. Cl. 42.
Bauer's : *See*—
House of Bauer, The.
Becton, Dickinson & Co., East Rutherford, N.J. 857,886, pub. 7–16–68. Cl. 26.
Beecham Group Ltd., d.b.a. Beecham Research Laboratories, Brentford, Middlesex, England. 857,815, pub. 7–16–68. Cl. 18.
Beecham Research Laboratories : *See*—
Beecham Group Ltd.
Beech-Nut : *See*—
Beech-Nut Life Savers, Inc.
Beech-Nut Life Savers, Inc., d.b.a. Beech-Nut, Canajoharie, N.Y. 736,188, canc. Cl. 46.
Bellingrath-Morse Foundation, The, Mobile, Ala. 857,948, pub. 7–16–68. Cl. 38.
Bemis Co., Inc., Minneapolis, Minn. 857,696, pub. 7–16–68. Cl. 2.
Benecke, J. H., Hannover-Vinnhorst, Germany. 736,111, canc. Cl. 42.
Bensdorp : *See*—
Cacao- en Chocoladefabrieken Bensdorp N.V.
Berman, Bud, Sportswear, Inc., New York, N.Y. 736,074, canc. Cl. 39.
Bernat, Emile, & Sons Co., Jamaica Plain, Mass. 736,116, canc. Cl. 43.
Bernat, Emile, & Sons Co., Uxbridge, Mass. 858,118. Cl. 43.
Better Made Headwear Co., Inc., New York, N.Y. 857,954, pub. 7–16–68. Cl. 39.
Biloxi Canning & Packing Co. : *See*—
Biloxi Canning & Packing Co., Inc.
Biloxi Canning & Packing Co., Inc., Biloxi, Miss. 858,030, pub. 7–16–68. Cl. 46.
Biloxi Caning & Packing Co., Inc., d.b.a. Biloxi Canning & Packing Co., Biloxi, Miss. 858,031, pub. 7–16–68. Cl. 46.
Bio-Lab, Inc., Decatur, Ga. 857,725, pub. 7–16–68. Cl. 6.
Birma Products Corp., Sayreville, N.J. 857,758, pub. 7–16–68. Cl. 12.
Bishop Industries Inc., Union, N.J. 858,074, pub. 7–16–68. Cl. 52.
Black Hills Packing Co. : *See*—
Rapid City Packing Co.
Block, H & L, Co., Inc., d.b.a. W.P.L. 10280, Tacoma, Wash. 857,952, pub. 7–18–67. Cl. 39.
Blum, Edward L., d.b.a. Baltimore Salvage Co., to Baltimore Salvage Co., Inc., Baltimore, Md. 440,832, ren. 10–1–68. Cl. 12.
Bocaard, Inc., Minneapolis, Minn. 858,083, pub. 7–16–68. Cl. 100.
Boeing Co., The, Seattle, Wash. 857,822–4, pub. 7–16–68. Cl. 19.
Borden Co., The, New York, N.Y. 439,707, ren. 10–1–68. Cl. 46.
Borg-Warner Corp., Chicago, Ill. 736,121, canc. Cl. 44.
Borg-Warner Corp., from Borg-Warner Corp., Chicago, Ill. 857,741, pub. 7–16–68. Cl. 6.
Bradley Industries, Inc., Franklin Park, Ill. 857,694, pub. 1–23–68. Cl. 2.
Bradley, Milton, Co., Springfield, Mass. 857,839, pub. 7–16–68. Cl. 22.
Bravo Publishing Co., Inc., New York, N.Y. 736,049, canc. Cl. 38.
Briar Hills Dairies : *See*—
Eggers, M. P.
Bridgestone Tire Co. Ltd., Tokyo, Japan. 857,819, pub. 7–16–68. Cl. 19.
Bridgestone Tire Co. Ltd., Tokyo, Japan. 857,821, pub. 7–16–68. Cl. 19.

Bristol-Myers Co., New York, N.Y. 858,065–6, pub. 7–16–68. Cl. 51.
Bristol-Myers Co., New York, N.Y. 858,068, pub. 7–16–68. Cl. 51.
Broden, Maurice, d.b.a. Little Folks Medicine Co., Ossining, N.Y. 857,799, pub. 7–16–68. Cl. 18.
Brookside Farms Laboratory, to Magnatonic Products, Inc., New Knoxville, Ohio. 439,117, ren. 10–1–68. Cl. 46.
Bros, Inc., Minneapolis, Minn. 857,869, pub. 7–16–68. Cl. 23.
Brown, E. H., Advertising Agency, Inc., Chicago, Ill. 858,021, pub. 7–16–68. Cl. 46.
Bull & Bears, Inc., Atlanta, Ga. 857,845, pub. 7–16–68. Cl. 22.
Bunyan, Paul, Lumber Co.: *See*—
Red River Lumber Co., The.
Burbrooke Mfg. Co., Inc., New York, N.Y. 736,088, canc. Cl. 39.
Burger Barn Corp., Kings Mountain, N.C. 858,023, pub. 7–16–68. Cl. 46.
Bush Boake Allen Ltd., from Stafford Allen & Sons, Ltd., London, England. 858,050, pub. 7–16–68. Cl. 48.
Cabinet Hardware Inc., Jamestown, N.Y. 857,781, pub. 7–16–68. Cl. 13.
Cabot Corp., Boston, Mass., from Acheson Industries, Inc., Port Huron, Mich. 735,859, canc. Cl. 11.
Cacao- en Chocoladefabrieken Bensdorp N.V., d.b.a. Bensdorp, Bussum, Netherlands. 858,013, pub. 7–16–68. Cl. 46.
Canon U.S.A., Inc., New York, N.Y. 857,890, pub. 7–16–68. Cl. 26.
Carnation Co., Los Angeles, Calif. 858,027, pub. 7–16–68. Cl. 46.
Caro-Knit, Inc., Jefferson, S.C. 857,987, pub. 7–16–68. Cl. 42.
Carton Travel Bureau, Inc., Chicago, Ill. 858,103, pub. 7–16–68. Cl. 105.
Car-Teach, Inc., Dallas, Tex. 857,921, pub. 7–16–68. Cl. 36.
Carter, Mary, Paint Co., Tampa, Fla. 858,094, pub. 7–16–68. Cl. 101.
Carter's Ink Co., The, Cambridge, Mass. 736,047, canc. Cl. 38.
Carwood Mfg. Co., Winder, Ga., to Chadbourn Gotham, Inc., Charlotte, N.C. 440,916, ren. 10–1–68. Cl. 39.
Casa Vinicola Fratelli Bolla S.A.S., Verona, Italy. 858,048, pub. 10–6–64. Cl. 47.
Celanese Corp.: *See*—
Celanese Corp. of America.
Celanese Corp. of America, to Celanese Corp., New York, N.Y. 245,659–63, ren. 10–1–68. Cl. 43.
Celanese Corp. of America, to Celanese Corp., New York, N.Y. 249,673, ren. 10–1–68. Cl. 42.
Central Compounding Co., Chicago, Ill. 857,756, pub. 7–16–68. Cl. 11.
Central Soya Co., Inc., Fort Wayne, Ind. 858,029, pub. 7–16–68. Cl. 46.
Ceramic Nozzles, Inc., Hicksville, N.Y. 857,915, pub. 7–16–68. Cl. 34.
Chadbourn Gotham, Inc.: *See*—
Sachsenmaier, Frances.
Carwood Mfg. Co.
Chemetron Corp., Chicago, Ill. 857,721, pub. 6–27–67. Cl. 6.
Chemische Werke Witten G.m.b.H., Witten, Ruhr, Germany. 857,718–19, pub. 11–6–62. Cl. 6.
Chemway Corp.: *See*—
Jennings, Annette R.
Chicago Tribune Co., Chicago, Ill. 857,848, pub. 7–16–68. Cl. 22.
Chips 'N Twigs, Inc., Philadelphia, Pa. 857,974, pub. 7–16–68. Cl. 39.
Chun King Corp., The: *See*—
Grosjean, C. E., Rice Milling Co.
Cincinnati Industries, Inc., Lockland, Cincinnati, Ohio. 735,839, canc. Cl. 3.
Circle Watch Corp., New York, N.Y. 336,639, 12(c) pub. 10–1–68. Cl. 27.
Clairol Inc., New York, N.Y. 858,070, pub. 7–16–68. Cl. 51.
Clapp, Edwin, & Son, Inc., East Weymouth, Mass. 250,732, ren. 10–1–68. Cl. 39.
Clarel Laboratory: *See*—
Elliott, Glenn J.
Classy Leather Goods Corp., New York, N.Y. 857,705, pub. 7–16–68. Cl. 3.
Clayton Mfg. Co., El Monte, Calif. 858,127. Cl. 52.
Clesco National, Inc.: *See*—
Sayve Corp. of America, Inc.
Clipper Pyrotechnic Corp., Lynwood, Calif. 857,752–3, pub. 7–16–68. Cl. 9.
Coats & Clark Inc., New York, N.Y. 735,896, canc. Cl. 13.
Cochran, Jacqueline, d.b.a. Jacqueline Cochran & Jacqueline Cochran Cosmetics, assor. to Jacqueline Cochran, Inc., Newark, N.J., to Jacqueline Cochran, Inc., New York, N.Y. 502,553, ren. 10–1–68. Cl. 51.
Cochran, Jacqueline, d.b.a. Jacqueline Cochran Cosmetics, assor. to Jacqueline Cochran, Inc., Newark, N.J., to Jacqueline Cochran, Inc., New York, N.Y. 502,655, ren. 10–1–68. Cl. 51.
Cochran, Jacqueline, Cosmetics: *See*—
Cochran, Jacqueline.
Cochran, Jacqueline, Inc.: *See*—
Cochran, Jacqueline.
Cohen, Miriam, d.b.a. Educational Fun Games, Winnetka, Ill. 857,844, pub. 7–16–68. Cl. 22.
Colorforms, Norwood, N.J. 857,834, pub. 7–16–68. Cl. 22.
Columbia Broadcasting System, Inc., New York, N.Y. 857,927, pub. 7–16–68. Cl. 36.
Commerce Drug Co., Inc., Farmingdale, N.Y. 857,804, pub. 7–16–68. Cl. 18.
Commerce Drug Co., Inc., Farmingdale, N.Y. 857,807, pub. 7–16–68. Cl. 18.
Conceal, Inc.: *See*—
A.P.W. Products Co., Inc.
Consumer Mail Panels, Inc., Chicago, Ill. 736,052, canc. Cl. 38.
Continental Cigar Corp.: *See*—
Sensenbrenner, A., Sons.
Cooper Industries, Inc.: *See*—
Lufkin Rule Co., The.
Cooper's, Inc., Kenosha, Wis. 736,071, canc. Cl. 39.
Copetco Sales Corp., Tulsa, Okla. 858,089, pub. 7–16–68. Cl. 101.
Computer Papers Inc., d.b.a. Computer Papers Inc., Des Moines, Iowa. 857,934, pub. 7–16–68. Cl. 37.
Computer Research, Inc., Mesa, Ariz. 857,947, pub. 7–16–68. Cl. 38.
Computer Usage Co., Inc., Mount Kisco, N.Y. 858,082, pub. 7–16–68. Cl. 100.
Cone Mills Inc., New York, N.Y. 857,992, pub. 7–16–68. Cl. 42.
Consolidated Foods Corp., d.b.a. The Lawson Milk Co., Chicago, Ill. 858,040, pub. 7–16–68. Cl. 46.
Continental Air Filters, Inc., Louisville, Ky. 857,907, pub. 7–16–68. Cl. 31.
Contopoulos Brothers, Ltd., New York, N.Y. 858,119. Cl. 47.
Corn Products Co., New York, N.Y. 858,032–3, pub. 7–16–68. Cl. 46.
Cosan Chemical Corp., Clifton, N.J. 857,726, pub. 7–16–68. Cl. 6.
Costain Concrete Co. Ltd., London, England. 857,770, pub. 7–16–68. Cl. 12.
Cournoyer Industries, Inc., Miami, Fla. 857,981, pub. 7–16–68. Cl. 40.
Crane Co., Chicago, Ill. 735,899, canc. Cl. 13.
Cravalume, Inc., Mount Holly, S.C. 735,874, canc. Cl. 12.
Crawford, Wallace W., Palos Park, Ill. 858,099, pub. 7–16–68. Cl. 103.
Creations Pierre Ferrat International Paris, Paris, France. 857,961, pub. 7–16–68. Cl. 39.
Crown Textile Mfg. Corp., Melrose Park, Pa. 857,989, pub. 7–16–68. Cl. 42.
Crown Willamette Paper Co., to Crown Zellerbach Corp., San Francisco, Calif. 247,311, ren. 10–1–68. Cl. 37.
Crown Zellerbach Corp.: *See*—
Crown Willamette Paper Co.
Crystaline Salt Co., Boston, Mass., by Morton International, Inc., Chicago, Ill. 24,007, 12(c) pub. 10–1–68. Cl. 46.
Curlee Clothing Co., St. Louis, Mo. 857,963, pub. 7–16–68. Cl. 39.
DBA Products Co., Inc., Lake Bluff, Ill. 857,903, pub. 7–16–68. Cl. 29.
DCA Food Industries Inc., New York, N.Y. 858,042, pub. 7–16–68. Cl. 46.
DCA Food Industries, Inc., New York, N.Y. 858,085, pub. 7–16–68. Cl. 100.
Daffin, Irl, Associates, Inc., Lancaster, Pa. 858,113. Cl. 23.
Dan River Mills, Inc.: *See*—
Riverside & Dan River Cotton Mills, Inc.
Dan River Mills, Inc., Danville, Va. 857,986, pub. 7–16–68. Cl. 42.
Dan River Mills, Inc., Danville, Va. 857,990, pub. 7–16–68. Cl. 42.
David & David, Inc., Long Island City, N.Y. 857,982, pub. 7–16–68. Cl. 40.
Davies, Oscar G., by Perry Publications, Inc., Palm Beach, Fla. 241,510, 12(c) pub. 10–1–68. Cl. 38.
De Ly Ly Inc., Lexington, Ky. 736,144, canc. Cl. 51.
Decision Control, Inc.: *See*—
Varian Data Machines.
Denture Elf Co.: *See*—
Goldstein, Arthur I.
Des Moines Concrete Products Co., West Des Moines, Iowa. 735,868, canc. Cl. 12.
De Soto, Inc., Des Plaines, Ill. 857,794, pub. 7–16–68. Cl. 16.
Det Norske Aktieselskab for Elektrokemisk Industri, by Elektrokemisk A/S, Oslo, Norway. 438,894, 12(c) pub. 10–1–68. Cl. 34.
Diana Stores Corp., North Bergen, N.J. 857,962, pub. 7–16–68. Cl. 39.
Dietzgen, Eugene, Co., Chicago, Ill. 858,115. Cl. 38.
Dipuppo, Michael C., d.b.a. Emil Laboratories, Philadelphia, Pa. 736,106, canc. Cl. 40.
Disston, Henry, & Sons, Inc., Philadelphia, to H. K. Porter Co., Inc., Pittsburgh, Pa. 439,429, ren. 10–1–68. Cl. 23.
Dixie Pig Barbecue, Inc., Alexandria, Va. 858,011–12, pub. 7–16–68. Cl. 46.
Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 857,916, pub. 7–16–68. Cl. 34.
Dodge Mfg. Corp., Mishawaka, Ind., to The Reliance Electric and Engineering Co., Euclid, Ohio. 244,945, ren. 10–1–68. Cl. 23.
Dooner Laboratories Inc., Haverhill, Mass. 857,809, pub. 7–16–68. Cl. 18.
Dow Chemical Co., The, Midland, Mich. 857,742–4, pub. 7–16–68. Cl. 6.
Driway Raincoats Ltd., York, England. 857,966, pub. 7–16–68. Cl. 39.
Dulcich Bros., to O. Dulcich, Earlimart, Calif. 504,517, ren. 10–1–68. Cl. 46.
Dulcich, Oliva: *See*—
Dulcich Bros.
Duo-Matic of Canada Ltd., Waterford, Ontario, Canada. 857,911, pub. 2–20–68. Cl. 34.
Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany. 857,737–8, pub. 7–16–68. Cl. 6.
E. & E. Enterprises, Inc., Lawrenceville, Ga. 857,813, pub. 7–16–68. Cl. 18.
EZ Paintr Corp., Milwaukee, Wis. 857,782, pub. 7–16–68. Cl. 13.
Eastern Research Laboratories, Inc., Baltimore, Md. 857,803, pub. 7–16–68. Cl. 18.

Eckerd Drugs of Florida, Inc., Clearwater, Fla. 857,787, pub. 7–16–68. Multiple Class (Classes 13 and 35).
Edison Bros. Stores, Inc., St. Louis, Mo. 857,971, pub. 7–16–68. Cl. 39.
E-Donolite Corp., Beverly Hills, Calif. 736,119, canc. Cl. 44.
Educational Fun Games: *See*—
Cohen, Miriam.
Edwards, William D., d.b.a. Unusual Specialties, St. Louis, Mo. 736,140, canc. Cl. 50.
Eggers, M. P., d.b.a. Briar Hills Dairies, Chehalis, Wash. 858,044, pub. 7–16–68. Cl. 46.
Electronic Controls, Ltd., Mauldin, S.C. 857,891, pub. 7–16–68. Cl. 26.
Electronic Crystals Corp., New York, N.Y. 857,977, pub. 7–16–68. Cl. 39.
Elektrokemisk A/S: *See*—
Det Norske Aktieselskab for Electrokemisk Industri.
Elgin National Watch Co., Elgin, Ill. 439,991, ren. 10–1–68. Cl. 27.
Elliott, Glenn J., d.b.a. Clarel Laboratory, McHenry, Ill. 857,754, pub. 12–20–66. Cl. 10.
Emil Laboratories: *See*—
Dipuppo, Michael C.
Emmart Food Products Co.: *See*—
Republic Food Products Co.
Enterprise Mfg. Co., The, by Pfueger Corp., Akron, Ohio. 250,007, 12(c) pub. 10–1–68. Cl. 22.
Essex Rubber Co., Inc., Trenton, N.J., to American Biltrite Rubber Co., Inc., Chelsea, Mass. 245,140, ren. 10–1–68. Cl. 39.
Eureka Fire Hose Co., by Uniroyal, Inc., New York, N.Y. 32,058, 12(c) pub. 10–1–68. Cl. 35.
Eureka Fire Hose Mfg. Co., Jersey City, N.J., to Uniroyal, Inc., New York, N.Y. 71,467, ren. 10–1–68. Cl. 35.
European Food Specialties Corp., Los Angeles, Calif. 858,022, pub. 7–16–68. Cl. 46.
Evansville Paint & Varnish Co.: *See*—
Red Spot Paint & Varnish Co.
Fairway Foods, Inc., St. Paul, Minn. 858,007, pub. 7–16–68. Cl. 46.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany. 857,736, pub. 7–16–68. Cl. 6.
Farmer, Louis, Section, Ala. 858,020, pub. 2–13–68. Cl. 46.
Federated Department Stores, Inc., New York, N.Y. 857,970, pub. 7–16–68. Cl. 39.
Ferrier, Ted L., Jr., Dallas, Tex. 858,114. Cl. 23.
Flitz, Otto, & Co., Factory of Optical Articles, Friedrichstr., Germany. 857,887, pub. 7–16–68. Cl. 26.
Filmco, Inc., Aurora, Ohio. 857,935, pub. 7–16–68. Cl. 37.
Film-Makers, Inc., The, Chicago, Ill. 858,079, pub. 7–16–68. Cl. 100.
Firestone Tire & Rubber Co., The, Akron, Ohio. 857,918, pub. 7–16–68. Cl. 35.
Fix-Crete Products: *See*—
McNicholl, W. Clifford.
Flexnit Co., Inc., Elizabeth, N.J. 736,102, canc. Cl. 39.
Flex-O-Lite Division: *See*—
General Steel Industries, Inc.
Flyer, J. & H., Inc., New York, N.Y. 857,899, pub. 7–16–68. Cl. 28.
Foodland, Inc., Cleveland, Ohio. 858,076, pub. 9–12–67. Cl. 100.
Foodland, Inc., Cleveland, Ohio. 858,088, pub. 9–12–67. Cl. 101.
Ford Motor Co., Dearborn, Mich. 857,904, pub. 7–16–68. Cl. 31.
Foremost-McKesson, Inc.: *See*—
McKesson & Robbins, Inc.
Foremost-McKesson, Inc., d.b.a. Gentec Hospital Supply Co., New York, N.Y. 857,936, pub. 7–16–68. Cl. 37.
Forrest Life Insurance Co., Nashville, Tenn. 858,096, pub. 7–16–68. Cl. 102.
Fountain, E. Bruce, d.b.a. Income Tax Services Co., Alameda, Calif. 858,092, pub. 7–16–68. Cl. 101.
4PZ Corp., West Covina, Calif. 736,120, canc. Cl. 44.
Fox River Paper Corp., Appleton, Wis. 857,939, pub. 7–16–68. Cl. 37.
Frank, S. M., & Co., Inc.: *See*—
Reiss-Palmier Corp., The.
Franklyn, Robert A., d.b.a. Athena Marquesa, Los Angeles, Calif. 736,147, canc. Cl. 51.
Free Drop Top, Inc., North Hollywood, Calif. 857,692, pub. 7–16–68. Cl. 2.
Freeman Chemical Corp., Port Washington, Wis. 857,686, pub. 7–16–68. Cl. 1.
Friedman, Abraham, d.b.a. The Three Bears, Farmington, Conn. 858,030, pub. 7–16–68. Cl. 46.
Fuller, H. B., Co., St. Paul, Minn. 857,760, pub. 7–16–68. Cl. 12.
Funtastic, Inc., Alexandria, Va. 857,843, pub. 7–16–68. Cl. 22.
GAF Corp., from General Aniline & Film Corp., New York, N.Y. 857,717, pub. 7–16–68. Cl. 5.
GAF Corp., from The Ruberoid Co., New York, N.Y. 857,825–6, pub. 7–2–68. Cl. 20.
GAF Corp., from General Aniline & Film Corp., New York, N.Y. 857,831, pub. 7–16–68. Cl. 21.
GAF Corp., New York, N.Y., from Sawyer's Inc., Portland, Oreg. 857,833, pub. 7–9–68. Cl. 22.
GAF Corp., from General Aniline & Film Corp., New York, N.Y. 857,847, pub. 7–2–68. Cl. 22.
GAF Corp., from General Aniline & Film Corp., New York, N.Y. 857,889, pub. 7–2–68. Cl. 26.
GAF Corp., from General Aniline & Film Corp., New York, NY. 857,928, pub. 7–16–68. Cl. 36.
G & W Electric Specialty Co., Blue Island, Ill. 857,829, pub. 7–16–68. Cl. 21.
Gazco Inc., Big Rapids, Mich. 857,913, pub. 7–16–68. Cl. 34.
Gelg & Gelg: *See*—
Steiner, Nick S.
Gelgy Chemical Corp., Ardsley, N.Y. 857,745, pub. 7–16–68. Cl. 6.
Gelgy Chemical Corp., Ardsley, N.Y. 857,942, pub. 4–23–68. Cl. 38.
Gelman Instrument Co., Ann Arbor, Mich. 857,885, pub. 7–16–68. Cl. 26.
Gemological Institute of America, Inc., Los Angeles, Calif. 857,876, pub. 7–16–68. Cl. 26.
General Aniline & Film Corp.: *See*—
GAF Corp.
General Oil Sales Corp., Washington, D.C. 858,077, pub. 7–16–68. Cl. 100.
General Plastics Corp., Marion, Ind. 858,061, pub. 7–16–68. Cl. 50.
General Steel Industries, Inc., d.b.a. Flex-O-Lite Division, St. Louis, Mo. 857,709, pub. 7–16–68. Cl. 4.
General Time Corp., New York, N.Y. 736,001, canc. Cl. 27.
Gentec Hospital Supply Co.: *See*—
Foremost-McKesson, Inc.
Gentex Corp., New York, N.Y. 857,852, pub. 7–16–68. Cl. 22.
Givaudan Corp.: *See*—
Givaudan-Delawanna, Inc.
Givaudan-Delawanna, Inc., New York, N.Y., to Givaudan Corp., Clifton, N.J. 502,713, ren. 10–1–68. Cl. 6.
Givaudan-Delawanna, Inc., New York, N.Y., to Givaudan Corp., Clifton, N.J. 502,715–29, ren. 10–1–68. Cl. 6.
Givaudan-Delawanna, Inc., New York, N.Y., to Givaudan Corp., Clifton, N.J. 502,731–36, ren. 10–1–68. Cl. 6.
Givaudan-Delawanna, Inc., New York, N.Y., to Givaudan Corp., Clifton, N.J. 504,203, ren. 10–1–68. Cl. 6.
Glen Oaks Sales Co., Inc., New York, N.Y. 857,965, pub. 7–16–68. Cl. 39.
Glen Raven Cotton Mills, Inc.: *See*—
Glen Raven Mills, Inc.
Glen Raven Mills, Inc., from Glen Raven Cotton Mills, Inc., Glen Raven, N.C. 857,984, pub. 7–16–68. Multiple Class (Classes 42 and 43).
Glen Raven Mills, Inc., Glen Raven, N.C. 857,993–4, pub. 7–16–68. Cl. 43.
Globe-Union Inc., Milwaukee, Wis. 735,937, canc. Cl. 21.
Golden State Sheep Tanning Co., Brooklyn, N.Y. 857,689, pub. 7–16–68. Cl. 1.
Goldman, Fred F., d.b.a. Nu-Life Chemical Products Co., Philadelphia, Pa. 857,711, pub. 7–16–68. Cl. 4.
Goldstein, Arthur I., d.b.a. Denture Elf Co., Philadelphia, Pa. 858,063, pub. 7–16–68. Cl. 51.
Goodyear Aerospace Corp., Akron, Ohio. 857,879, pub. 7–16–68. Cl. 26.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 857,917, pub. 7–16–68. Cl. 35.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 857,929, pub. 7–16–68. Cl. 37.
Grace, Kennedy & Co. (Canada) Ltd., Montreal, Quebec, Canada. 858,006, pub. 6–29–65. Cl. 46.
Gran Design Co.: *See*—
Gran, Norman J.
Gran, Norman J., d.b.a. Gran Design Co., Chicago, Ill. 857,909, pub. 7–16–68. Cl. 32.
Granet Corp., The, Framingham, Mass. 858,056, pub. 7–16–68. Cl. 50.
Graphic Controls Corp., Buffalo, N.Y. 857,930, pub. 7–16–68. Cl. 37.
Great Lakes Chemical Corp., West Lafayette, Ind. 857,735, pub. 7–16–68. Cl. 6.
Green, A. P., Refractories Co., from A. P. Green Refractories Co., Mexico, Mo. 857,708, pub. 7–16–68. Cl. 12.
Griffith Laboratories, Inc., The, Chicago, Ill. 858,041, pub. 7–16–68. Cl. 46.
Grinnell Co., Inc., by Grinnell Corp., Providence, R.I. 243,479, 12(c) pub. 10–1–68. Cl. 13.
Grinnell Co., Inc., by Grinnell Corp., Providence, R.I. 243,955, 12(c) pub. 10–1–68. Cl. 13.
Grinnell Corp.: *See*—
Grinnell Co., Inc.
Grosjean, C. E., Rice Milling Co., San Francisco, Calif., from The Chun King Corp., Duluth, Minn. 858,010, pub. 7–16–68. Cl. 46.
Ground Water Resources Institute, Chicago, Ill. 858,109, pub. 7–16–68. Cl. 200.
Gulf Publishing Co., Houston, Tex. 857,943, pub. 7–16–68. Cl. 38.
Gund Mfg. Co.: *See*—
Swedlin, J., Inc.
Gundlach, G. P., & Co., Fairfax, Cincinnati, Ohio. 858,005, pub. 7–16–68. Multiple Class (Classes 45 and 46).
Halvorson Associates: *See*—
Halvorson, Robert L.
Halvorson, Robert L., d.b.a. Halvorson Associates, Chevy Chase, Md. 857,925, pub. 7–16–68. Cl. 36.
Hamsley, Inc., Brooklyn, N.Y. 857,790, pub. 7–16–68. Cl. 14.
Hanson Textile Co., Hatfield, Pa. 857,983, pub. 7–16–68. Cl. 42.
Harrington & Richardson, Inc., Worcester, Mass. 857,870–1, pub. 7–16–68. Cl. 23.
Hartz Mountain Products Corp., New York, N.Y. 857,902, pub. 7–16–68. Cl. 29.
Hatcher, Eugenia D., Washington, D.C. 858,128. Cl. 101.
Heath Spring & Notion Co. Ltd., The, Redditch, England. 246,713, 12(c) pub. 10–1–68. Cl. 39.
Heddon's, James, Sons, Dowagiac, Mich., to Victor Comptometer Corp., Chicago, Ill. 502,645–6, ren. 10–1–68. Cl. 22.
Allen, Henry: *See*—
Adams, Henry H., and Allen Blow Cook.
Hereford Heaven Brands, Inc., d.b.a. Shorthorn Brands, Oklahoma City, Okla. 736,186–7, canc. Cl. 46.

Herrmann, A. S., Inc., to Herrmann & Jacobs Corp., New York, N.Y. 247,075, ren. 10–1–68. Cl. 42.
Herrmann & Jacobs Corp.: *See*—
Herrmann, A. S., Inc.
Heublein, Inc., Hartford, Conn. 858,034, pub. 7–16–68. Cl. 46.
Heublein, Inc., Hartford, Conn. 858,054, pub. 7–16–68. Cl. 49.
Hickok Mfg. Co. Inc., Rochester, N.Y. 736,089, canc. Cl. 39.
Hidersine Co. Ltd., The, Shirley, Croydon, England. 504,679, ren. 10–1–68. Cl. 36.
Hills Bros. Coffee, Inc., San Francisco, Calif. 858,018, pub. 7–16–68. Cl. 46.
Holt, Anatol W., Philadelphia, Pa. 857,837, pub. 7–16–68. Cl. 22.
Hooker Chemical Corp.: *See*—
Tropical Paint & Oil Co., The.
Hooker Chemical Corp., Niagara Falls, N.Y. 857,729, pub. 7–16–68. Cl. 6.
Hooker Chemical Corp., Niagara Falls, N.Y. 857,763, pub. 7–16–68. Cl. 12.
Hoover Ball & Bearing Co., Saline, Mich., from Tote Engineering, Inc., Seattle, Wash. 735,958, canc. Cl. 23.
Horan, William L., d.b.a. American Cheerleaders Association, Leesburg, Fla. 858,107, pub. 7–16–68. Cl. 107.
House of Bauer, The, d.b.a. Bauer's, Lincoln, Nebr., to C. J. Patterson Co., Kansas City, Mo. 502,594, ren. 10–1–68. Cl. 46.
House of Harmony, Inc., Reedsburg, Wis. 857,820, pub. 7–16–68. Cl. 19.
Hughes Tool Co., d.b.a. Hughes Tool Co., Aircraft Div., Culver City, Calif. 736,055, canc. Cl. 38.
Hurdis Building Trust, Vaduz, Liechtenstein. 857,759, pub. 7–16–68. Cl. 12.
Hutton Publishing Co., Inc., Manhasset, N.Y. 857,941, pub. 7–16–68. Cl. 38.
Hyde, Mark, d.b.a. Universal Candles, Meols, Cheshire, England. 735,908, canc. Cl. 15.
Hydroponic Chemical Co., Inc., Copley, Ohio. 857,720, pub. 12–7–65. Cl. 6.
Illinois Tool Works Inc., Chicago, Ill. 857,780, pub. 7–16–68. Cl. 13.
Imperial Industries, Inc., Stillwater, Okla. 735,990, canc. Cl. 26.
Income Tax Services Co.: *See*—
Fountain, E. Bruce.
Indes Industria Elettrodomestici S.p.A., Orbassano, Turin, Italy. 735,977, canc. Cl. 24.
Indian Head Inc., New York, N.Y. 857,988, pub. 7–16–68. Cl. 42.
Ingenieursbureau Lemet Chromium H. Van Der Horst N.V., Hilversum, Netherlands. 735,906, canc. Cl. 15.
Interdata Systems, Inc., New York, N.Y. 858,093, pub. 7–16–68. Cl. 101.
International Milling Co., d.b.a. Mystic Mills, Minneapolis, Minn., and Leeds, Iowa, to International Milling Co. Inc., Minneapolis, Minn. 244,766, ren. 10–1–68. Cl. 46.
International Milling Co. Inc.: *See*—
International Milling Co.
International Pipe & Ceramics Corp., Los Angeles, Calif. 857,773–5, pub. 7–16–68. Cl. 12.
International Takamine Ferment Co., New York, N.Y., to Parke, Davis & Co., Detroit, Mich. 249,298, ren. 10–1–68. Cl. 18.
Ives Laboratories Inc., New York, N.Y. 857,810, pub. 7–16–68. Cl. 18.
Jennings, Annette R., d.b.a. Annette's Perfect Cleanser Co., Boston, Mass., to Chemway Corp., Wayne, N.J. 249,398, ren. 10–1–68. Cl. 52.
Johns-Manville Corp., New York, N.Y. 857,767, pub. 7–16–68. Cl. 12.
Johnson & Johnson, New Brunswick, N.J. 858,000, pub. 4–16–68. Cl. 44.
Julian, Charles H., Ltd.: *See*—
Julian & Trower Ltd.
Julian & Trower Ltd., to Charles H. Julian Ltd., London, England. 440,089, ren. 10–1–68. Cl. 49.
KEMCO, Inc., Denver, Colo. 857,883, pub. 7–16–68. Cl. 26.
Kabelschlepp G.m.b.H., Siegen, Westphalia, Germany. 857,865, pub. 7–16–68. Cl. 23.
Kabushiki Kaisha Sankyo Seiki, from Sankyo Seiki Mfg. Co., Ltd., Nagano-ken, Japan. 857,877, pub. 7–16–68. Cl. 26.
Kadison Laboratories, Inc., Chicago, Ill. 858,015, pub. 9–5–67. Cl. 46.
Kartane, Inc., Marshall, Mich. 735,909, canc. Cl. 15.
Kaynee Co., The, Greenville, S.C. 857,969, pub. 7–16–68. Cl. 39.
Kayser-Roth Corp.: *See*—
Baker Clothes, Inc.
Wimelbacher & Rice Inc.
Kennatrack Corp., Elkhart, Ind. 736,175, canc. Cl. 13.
Kesh, Seroun, Detroit, Mich. 857,707, pub. 7–16–68. Cl. 3.
Kettle Fried Chicken, Inc., Lexington, Ky. 858,016, pub. 7–16–68. Cl. 46.
Kiki Undies Corp., New York, N.Y. 857,978, pub. 7–16–68. Cl. 39.
Kilgore Junior College District, Kilgore, Tex. 858,105, pub. 7–16–68. Cl. 107.
Kimel Shoe Co., Los Angeles, Calif. 857,964, pub. 7–16–68. Cl. 39.
King-Seeley Thermos Co., Ann Arbor, Mich. 736,000, canc. Cl. 27.
Kiplinger Washington Editors, Inc., The, Washington, D.C. 736,059, canc. Cl. 38.
Knapp Mills Inc., Long Island City, N.Y. 735,905, canc. Cl. 14.
Knox Instruments, Inc., Seattle, Wash. 735,991, canc. Cl. 26.
Koebel Diamond Tool Co., Detroit, Mich. 857,792, pub. 7–16–68. Multiple Class (Classes 14 and 23).
Kroger Co., The, Cincinnati, Ohio. 858,037, pub. 7–16–68. Cl. 46.
L.B. Laboratories, Inc., Glendale, Calif. 858,120. Cl. 51.
Laco Corp., Baltimore, Md. 857,712, pub. 7–16–68. Cl. 4.
Landers, Frary & Clark, New York, N.Y. 735,831, canc. Cl. 2.
Lane, Ltd., New York, N.Y., to Reemtsma Cigarettenfabriken G.m.b.H., Hamburg, Germany. 501,795, ren. 10–1–68. Cl. 17
Lane Products Co, Lanesboro, Minn. 858,058, pub. 7–16–68. Cl. 50.
Lauder, Estee, Inc., New York, N.Y. 858,122–6. Cl. 51.
Lawson Milk Co., The: *See*—
Consolidated Foods Corp.
Leader Electronics Corp., Yokohama-shi, Japan. 857,884, pub. 7–16–68. Cl. 26.
Lee Rubber & Tire Corp., Conshohocken, Pa. 735,850, canc. Cl. 6.
Lemmon Pharmacal Co., Sellersville, Pa. 857,812, pub. 7–16–68. Cl. 18.
Leopard Brewery Ltd., Hastings, New Zealand. 736,137, canc. Cl. 48.
Levine, Larry, Inc., New York, N.Y. 857,959, pub. 7–16–68. Cl. 39.
Lilly, Eli, & Co., Indianapolis, Ind. 857,734, pub. 7–16–68. Cl. 6.
Lindsey, Gordon, d.b.a. National Chelating Co., West Covina, Calif. 857,730, pub. 7–16–68. Cl. 6.
Linton Tweeds Ltd., Cumberland, England. 857,967, pub. 7–16–68. Cl. 39.
Lipsky, Maurice, Music Co., Inc., New York, N.Y. 857,919, pub. 7–16–68. Cl. 36.
Little Folks Medicine Co.: *See*—
Broden, Maurice.
Littman, Marshall, d.b.a. Marshall Littman Mfg. Jeweler, Philadelphia, Pa. 857,893, pub. 7–16–68. Cl. 28.
Littman, Marshall, Mfg. Jeweler: *See*—
Littman, Marshall.
Lollabouts Co., New York, N.Y. 857,950, pub. 5–31–66. Cl. 39.
Loop-On Products Co.: *See*—
Whitman, Homer O.
Louisville Textiles, Inc., to Louisville Textile Weavers, Inc., Louisville, Ky. 503,923, ren. 10–1–68. Cl. 42.
Louisville Textile Weavers, Inc.: *See*—
Louisville Textiles, Inc.
Lowe's, Inc., Cassopolis, Mich. 857,687, pub. 7–16–68. Cl. 1.
Lufkin: *See*—
Lufkin Rule Co., The.
Lufkin Rule Co., The, Saginaw, Mich., to Cooper Industries, Inc., d.b.a. Lufkin, Houston, Tex. 502,487–8, ren. 10–1–68. Cl. 26.
Lufkin Rule Co., The, Saginaw, Mich., to Cooper Industries, Inc., d.b.a. Lufkin, Houston, Tex. 502,490–1, ren. 10–1–68. Cl. 26.
Lumbermate Co., Webster Groves, Mo. 857,771, pub. 7–16–68. Cl. 12.
Luxmasse G.m.b.H., Ludwigshafen (Rhine), Germany. 857,724, pub. 7–16–68. Cl. 6.
Luxmasse G.m.b.H., Ludwigshafen (Rhine), Germany. 857,727, pub. 7–16–68. Cl. 6.
MacMillan Ring-Free Oil Co., Inc., Los Angeles, Calif. 735,869, canc. Cl. 12.
Macy, R. H., & Co., Inc., New York, N.Y. 242,449, ren. 10–1–68. Cl. 29.
Madden, W. J., Co., Brainerd, Minn. 858,104, pub. 7–16–68. Cl. 107.
Madison Chemical Corp., Maywood, Ill. 858,075, pub. 7–16–68. Cl. 52.
Magic Rain, Inc., Omaha, Nebr. 857,783, pub. 7–16–68. Cl. 13.
Magnatonic Products, Inc.: *See*—
Brookside Farms Laboratory.
Malecki, Michael, d.b.a. Michael Malecki Co., Brooklyn, N.Y. 736,194, canc. Cl. 51.
Malecki, Michael, Co.: *See*—
Malecki, Michael.
Mallinckrodt Chemical Works, St. Louis, Mo. 857,739, pub. 7–16–68. Cl. 6.
Malone & Hyde, Inc., Memphis, Tenn. 858,036, pub. 7–16–68. Cl. 46.
Marcal Paper Mills, Inc., from Marcalus Mfg. Co., Inc., East Paterson, N.J. 736,179, canc. Cl. 37.
Marcalus Mfg. Co., Inc.: *See*—
Marcal Paper Mills, Inc.
Marquesa, Athena: *See*—
Franklyn, Robert A.
Mar-Sal, Inc., Philadelphia, Pa. 857,800, pub. 7–16–68. Cl. 18.
Marshall Clothing Mfg. Co., Butler, Ind., to American Tool & Steel Co., Detroit, Mich. 438,387, ren. 10–1–68. Cl. 39.
Matson, Steve, Products, Inc., New York, N.Y. 736,079, canc. Cl. 39.
Mattel, Inc., Hawthorne, Calif. 857,842, pub. 7–16–68. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 857,849–51, pub. 7–16–68. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 857,856, pub. 7–16–68. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 858,059–60, pub. 7–16–68. Cl. 50.
McCulloch Corp., Los Angeles, Calif. 857,858, pub. 7–16–68. Cl. 23.
McKay Products Corp., The, New York, N.Y. 736,085, canc. Cl. 39.
McKesson & Robbins, Inc., Bridgeport, Conn., to Foremost-McKesson, Inc., New York, N.Y. 243,902, ren. 10–1–68. Cl. 18.
McKesson & Robbins, Inc., Bridgeport, Conn., to Foremost-McKesson, Inc., New York, N.Y. 243,918, ren. 10–1–68. Cl. 18.
McMurray, Marshall, Co., Los Angeles, Calif. 735,892, canc. Cl. 13.

McNicholl, W. Clifford, d.b.a. Fix-Crete Products, Indianapolis, Ind. 857,702, pub. 7–16–68. Cl. 12.
Measurement Control Devices, Inc., Philadelphia, Pa. 857,878, pub. 7–16–68. Cl. 20.
Melandrea, Inc., New York, N.Y. 857,944, pub. 7–16–68. Cl. 38.
Merlino, A., & Sons, to Angelo Merlino & Sons, Inc., Seattle, Wash. 240,430, ren. 10–1–68. Cl. 46.
Merlino, Angelo, & Sons, Inc.: *See*—
Merlino, A., & Sons.
Metaframe Corp., Maywood, N.J. 858,017, pub. 7–16–68. Cl. 46.
Metals Milling Corp., Dolton, Ill. 857,764, pub. 7–16–68. Cl. 12.
Meyer, H. W., Inc., Chicago, Ill. 730,110, canc. Cl. 40.
Meyer Laboratories Inc., Detroit, Mich. 857,805–6, pub. 7–16–68. Cl. 18.
Midwest Corp., Athens, Tex. 857,785, pub. 7–16–68. Cl. 13.
Miller, Brad S., d.b.a. Mobile Fidelity Records, Burbank, Calif. 857,920, pub. 7–16–68. Cl. 36.
Miller & Levine Inc., Boston, Mass. 736,104, canc. Cl. 39.
Milton Paper Co., Inc., New York, N.Y. 857,937, pub. 7–16–68. Cl. 37.
Mr. T Inc., New York, N.Y. 736,076, canc. Cl. 39.
Mobile Fidelity Records: *See*—
Miller, Brad S.
Modern Products, Inc., Milwaukee, Wis. 735,945, canc. Cl. 21.
Monsanto Co., St. Louis, Mo. 857,740, pub. 7–16–68. Cl. 6.
Monsanto Co., St. Louis, Mo. 858,055, pub. 7–16–68. Cl. 50.
Montague Rod and Reel Co., Montague City, Mass., to True Temper Corp., Cleveland, Ohio. 247,926, ren. 10–1–68. Cl. 22.
Montague Rod and Reel Co., Montague City, Mass., to True Temper Corp., Cleveland, Ohio. 247,928, ren. 10–1–68. Cl. 22.
Montague Rod and Reel Co., Montague City, Mass., to True Temper Corp., Cleveland, Ohio. 248,465, ren. 10–1–68. Cl. 22.
Moore Business Forms, Inc.: *See*—
American Sales Book Co., Ltd.
Morris, Philip, Inc.: *See*—
Treet Safety Razor Corp.
Morris, Philip, Inc., New York, N.Y. 857,797, pub. 7–16–68. Cl. 17.
Morton International, Inc.: *See*—
Crystaline Salt Co.
Morton International, Inc., Chicago, Ill. 857,749, pub. 7–16–68. Cl. 6.
Moss, Ray, Farms, Inc., Chattanooga, Tenn. 858,086, pub. 12–27–66. Cl. 101.
Mount Rose Raviolo & Macaroni Co., Inc., Brooklyn, N.Y. 858,025, pub. 7–16–68. Cl. 46.
Murray's Superior Products Co., Detroit, Mich., from Murray's Superior Products Co., Inc., Chicago, Ill. 736,153, canc. Cl. 52.
Murray's Superior Products Co., Inc.: *See*—
Murray's Superior Products Co.
Musil, James D., Jr., Scottsdale, Ariz. 858,106, pub. 7–16–68. Cl. 107.
Mustad, O., & Son, Oslo, Norway. 857,836, pub. 7–16–68. Multiple Class (Classes 22 and 34).
My Wife's Products, Inc., Weston, Conn. 857,708, pub. 7–16–68. Cl. 4.
Mystic Mills: *See*—
International Milling Co.
Nash-Finch Co., Minneapolis, Minn. 858,009, pub. 6–6–67. Cl. 46.
National Biscuit Co., New York, N.Y. 858,014, pub. 3–5–68. Cl. 46.
National Chelating Co.: *See*—
Lindsey, Gordon.
National Employment Association, The, Washington, D.C. 858,110, pub. 7–16–68. Cl. 200.
National Family Stores of New Jersey, Union, N.J. 736,096, canc. Cl. 39.
Nestle and Anglo Swiss Condensed Milk Co., Cham and Vevey, Switzerland, and London, England, to The Nestle Co., Inc., White Plains, N.Y. 70,001, ren. 10–1–68. Cl. 46.
Nestle Co., Inc., The: *See*—
Nestle and Anglo Swiss Condensed Milk Co.
Wildi, John, Evaporated Milk Co., The.
Nethercutt Laboratories, from Nethercutt Laboratories, Los Angeles, Calif. 736,191–3, canc. Cl. 51.
New England Mop Co., d.b.a. Wool Products Development Co., Pawtucket, R.I. 857,900, pub. 7–16–68. Cl. 29.
New Plastic Corp., d.b.a. Nupla Mfg. Co., Los Angeles, Calif. 857,714, pub. 7–16–68. Cl. 5.
New York Central Railroad Co., The: *See*—
Pennsylvania Railroad Co., The.
New York Wire Co.: *See*—
American Wire Fabrics.
New Yorker Magazine, Inc., The, New York, N.Y. 858,116–7. Cl. 38.
Nicolet Industries, Inc., Florham Park, N.J. 857,996–7, pub. 7–16–68. Cl. 43.
Nippon Seiko Kabushiki Kaisha, Tokyo, Japan. 857,857, pub. 7–16–68. Cl. 23.
Nord-Viscount Corp., Brooklyn, N.Y. 857,793, pub. 9–19–67. Cl. 16.
Normark Corp., Minneapolis, Minn. 857,855, pub. 7–16–68. Cl. 22.
Norris Industries, Inc., Los Angeles, Calif. 857,788, pub. 7–16–68. Cl. 13.
Northwestern States Portland Cement Co., to Northwestern States Portland Cement Co., Mason City, Iowa. 70,578, ren. 10–1–68. Cl. 12.
Nouvel Omnium de Specialites & Produits Chimiques, Societe Anonyme, Paris, France. 857,798, pub. 6–6–67. Cl. 18.
Nu-Life Chemical Products Co.: *See*—
Goldman, Fred F.
Nupla Mfg. Co.: *See*—
New Plastic Corp.
Nursery Land: *See*—
World Toy House, Inc.
Ocean Spray Cranberries, Inc., Hanson, Mass. 858,038, pub. 7–16–68. Cl. 46.
Oklahoma Clothing Manufacturers, Oklahoma City, Okla. 736,075, canc. Cl. 39.
Oland & Son Ltd., Halifax, Nova Scotia, Canada. 736,136, canc. Cl. 48.
Olin Industries, Inc., East Alton, Ill., to Olin Mathieson Chemical Corp., New York, N.Y. 501,322, ren. 10–1–68. Cl. 14.
Olin Mathieson Chemical Corp.: *See*—
Olin Industries, Inc.
Oliver, L. R., & Co., Inc., Algonac, Mich. 857,710, pub. 7–16–68. Cl. 4.
One William Street Fund, Inc., The, New York, N.Y. 858,097, pub. 7–16–68. Cl. 102.
Oneida Ltd., Oneida, N.Y. 736,007, canc. Cl. 28.
Oneida Ltd., Oneida, N.Y. 857,866, pub. 7–16–68. Cl. 23.
Oneida Ltd., Oneida, N.Y. 857,895–8, pub. 7–16–68. Cl. 28.
Optometics, Inc., Los Angeles, Calif. 857,802, pub. 7–16–68. Cl. 18.
Organon Inc., West Orange, N.J. 857,816, pub. 7–16–68. Cl. 18.
Osco Corp., San Fernando, Calif. 857,875, pub. 7–16–68. Cl. 25.
Ostby & Barton Co., Providence, R.I. 857,873, pub. 7–16–68. Cl. 23.
Pacific Coast Engineering Co., Alameda, Calif. 857,860, pub. 7–16–68. Cl. 23.
Palmer, Fred N., d.b.a. Fred Palmer's-Positive Shooting, Houston, Tex. 735,857, canc. Cl. 9.
Palmer's, Fred, Positive Shooting: *See*—
Palmer, Fred N.
Pan-American Drug Co., Inc., by Pan-Tone Drug Co., Jacksonville, Fla. 249,777, 12(c) pub. 10–1–68. Cl. 18.
Pan-Tone Drug Co.: *See*—
Pan-American Drug Co., Inc.
Parke, Davis & Co.: *See*—
International Takamine Ferment Co.
Patterson, C. J., Co.: *See*—
House of Bauer, The.
Paul, Richard, Inc., Riverside, Calif., from Charles H. Bacon Co., Inc., Lenoir City, Tenn. 857,956, pub. 11–7–67. Cl. 39.
Pelton & Leru, Inc., New York, N.Y. 857,894, pub. 7–16–68. Cl. 28.
Penn Engineering & Mfg. Corp., Doylestown, Pa. 857,863, pub. 7–16–68. Cl. 23.
Pennsalt Chemicals Corp., Philadelphia, Pa. 735,829, canc. Cl. 1.
Pennsylvania Railroad Co., The, Philadelphia, Pa., from The New York Central Railroad Co., New York, N.Y. 858,100, pub. 7–16–68. Cl. 105.
Pennzoil Co.: *See*—
Pennzoil United, Inc.
Pennzoil United, Inc., from Pennzoil Co., Oil City, Pa. 857,723, pub. 7–2–68. Cl. 6.
Pepperell Mfg. Co., Boston, Mass., by West Point-Pepperell, Inc., West Point, Ga. 247,095, 12(c) pub. 10–1–68. Cl. 42.
Pepperell Mfg. Co., Boston, Mass., by West Point-Pepperell, Inc., West Point, Ga. 247,141, 12(c) pub. 10–1–68. Cl. 42.
Perry Publications, Inc.: *See*—
Davies, Oscar G.
Pet Inc.: *See*—
Shattuck, Frank G., Co.
Pet Inc., from Pet Milk Co., St. Louis, Mo. 858,008, pub. 9–27–66. Cl. 46.
Petrucci & Atwell, Inc., Boston, Mass. 857,922, pub. 7–16–68. Cl. 36.
Pezziol, G. B., S.p.A., Milan, Italy. 858,053, pub. 7–16–68. Cl. 49.
Pflueger Corp.: *See*—
Enterprise Mfg. Co., The.
Pharmaceutical Factors, Inc., New York, N.Y. 858,090, pub. 7–16–68. Cl. 101.
Phar-Med, Inc., East Detroit, Mich. 735,920, canc. Cl. 18.
Philadelphia Hockey Club, Inc., The, Philadelphia, Pa. 858,108, pub. 7–16–68. Cl. 107.
Physio-Control Corp., Seattle, Wash. 858,111. Cl. 6.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa. 857,701, pub. 7–16–68. Cl. 2.
Plastishield Co.: *See*—
Plastishield, Inc.
Plastishield, Inc., Minneapolis, to Plastishield Co., St. Paul, Minn. 439,920, ren. 10–1–68. Cl. 44.
Playtape, Inc., New York, N.Y. 857,924, pub. 7–16–68. Cl. 36.
Plaza Bank of Commerce, Kansas City, Mo. 858,098, pub. 7–16–68. Cl. 102.
Plibrico Co., Chicago, Ill. 857,766, pub. 7–16–68. Cl. 12.
Polyfoam, Inc., Lester Prairie, Minn. 857,931–2, pub. 7–16–68. Cl. 37.
Polymers, Inc., Middlebury, Vt. 857,684, pub. 7–16–68. Cl. 1.
Porter, H. K., Co., Inc.: *See*—
Disston, Henry, & Sons, Inc.
Premiata Fabbrica Conserve Alimentary "Alba" S.N.C. Luigi Dalla Turca, Spilimbergo, Udine, Italy. 858,019, pub. 7–16–68. Cl. 46.
Premier Peat Moss Corp., New York, N.Y. 439,725, ren. 10–1–68. Cl. 10.
Price Battery Corp., Hamburg, Pa. 736,139, canc. Cl. 50.
Programmed Learning Aids National, Inc., Pine Bluff, Ark. 857,946, pub. 7–16–68. Cl. 38.

Proll, Basil, Jr., d.b.a. Taaj Co., San Francisco, Calif. 858,062, pub. 4–2–68. Cl. 51.
Pryor, Jack, Pocahontas, Ark. 735,974, canc. Cl. 23.
Psychedoll: *See*—
Ball, Duncan Y.
Pur-All Paint Products Co., Inc., Carlstadt, N.J. 857,795, pub. 7–16–68. Cl. 16.
Pure Oil Co., The, Palatine, Ill. 735,848, canc. Cl. 6.
Quaker Oats Co., The, Chicago, Ill. 858,047, pub. 7–16–68. Cl. 46.
Quality Park Envelope Co., St. Paul, Minn. 857,715, pub. 7–16–68. Cl. 5.
Quinn Custom Recording: *See*—
Quinn, Henry M.
Quinn, Henry M., d.b.a. Quinn Custom Recording, Napa, Calif. 857,923, pub. 7–16–68. Cl. 36.
Rader, Mary L., La Jolla, Calif. 857,835, pub. 7–16–68. Cl. 22.
Ramo Realty Corp., Plandome, N.Y. 857,731, pub. 7–16–68. Cl. 6.
Rapid City Packing Co., to Black Hills Packing Co., Rapid City, S. Dak. 249,873, ren. 10–1–68. Cl. 46.
Rau Fastener Co., Providence, R.I. 504,297, ren. 10–1–68. Cl. 40.
Rayco Mfg. Co., Paramus, N.J. 735,969, canc. Cl. 23.
Realart Silk Hosiery Mills: *See*—
Sachsenmaier, Frances.
Red River Lumber Co., The, Minneapolis, Minn., by Paul Bunyan Lumber Co., Anderson, Calif. 290,330, 12(c) pub. 10–1–68. Cl. 12.
Red Spot Paint & Varnish Co., d.b.a. Evansville Paint & Varnish Co., to Red Spot Paint & Varnish Co., Inc., Evansville, Ind. 249,840, ren. 10–1–68. Cl. 12.
Red Spot Paint & Varnish Co., Inc.: *See*—
Red Spot Paint & Varnish Co.
Reddy Co., Inc., The, Montpelier, Vt. 857,700, pub. 7–16–68. Cl. 2.
Reemtsma Cigarettenfabriken G.m.b.H.: *See*—
Lane, Ltd.
Reiss-Palmier Corp., The, West New York, N.J., to S. M. Frank & Co., Inc., New York, N.Y. 439,235, ren. 10–1–68. Cl. 8.
Reliance Electric & Engineering Co., The: *See*—
Dodge Mfg. Corp.
Renner International, Miami, Fla. 857,861, pub. 7–16–68. Cl. 23.
Republic Food Products Co., d.b.a. Emmart Food Products Co., Chicago, Ill. 504,250, ren. 10–1–68. Cl. 46.
Resinous Products & Chemical Co., The, to Rohm & Haas Co., Philadelphia, Pa. 439,970, ren. 10–1–68. Cl. 16.
Revlon, Inc., New York, N.Y. 858,121. Cl. 51.
Reynolds Aluminum Supply Co., Atlanta, Ga. 735,876, canc. Cl. 12.
Rheem Mfg. Co., New York, N.Y. 857,761, pub. 7–16–68. Multiple Class (Classes 12 and 19).
Richardson-Merrell Inc., Cincinnati, Ohio. 857,811, pub. 7–16–68. Cl. 18.
Ritter Pfaudler Corp., Rochester, N.Y. 858,001, pub. 7–16–68. Cl. 44.
Riverside & Dan River Cotton Mills, Inc., now by change of name to Dan River Mills, Inc., by Dan River Mills, Inc., Danville, Va. 441,299, 12(c) pub. 10–1–68. Cl. 42.
Robert Hosiery Mills, Inc., Collegeville, Pa. 736,072, canc. Cl. 39.
Robert Hosiery Mills, Inc., Collegeville, Pa. 736,098, canc. Cl. 39.
Robertshaw Controls Co., Richmond, Va. 857,882, pub. 2–20–68. Cl. 26.
Robins, A. H., Co., Inc., Richmond, Va. 857,695, pub. 7–16–68. Cl. 2.
Robins, A. H., Co., Inc., Richmond, Va. 858,028, pub. 7–16–68. Cl. 46.
Robinson Foods, Inc.: *See*—
Roddenbery Bros.
Roddenbery Bros., to Robinson Foods, Inc., Cairo, Ga. 243,220, ren. 10–1–68. Cl. 46.
Rohm & Haas Co.: *See*—
Resinous Products & Chemical Co., The.
Rohnert, Waldo, Co., Hollister, Calif. 857,688, pub. 7–16–68. Cl. 1.
Roller Derby Skate Corp., Litchfield, Ill. 735,953, canc. Cl. 22.
Roller Shear Corp., Bedford, Ohio. 857,864, pub. 7–16–68. Cl. 23.
Ronthor Reiss Corp., New York, N.Y. 857,691, pub. 7–16–68. Cl. 1.
Ronthor Reiss Corp., New York, N.Y. 857,908, pub. 7–16–68. Cl. 32.
Rothenberg, Philip, & Co., Inc., New York, N.Y. 857,958, pub. 7–16–68. Cl. 39.
Roxane, Philips, Inc., New York, N.Y. 858,091, pub. 7–16–68. Cl. 101.
Ruberoid Co., The: *See*—
GAF Corp.
S & H Marketing, Inc., Canyon, Tex. 857,697, pub. 7–16–68. Cl. 2.
S.p.A. Chianti Ruffino: *See*—
Societa per Azioni Chianti Ruffino Esportazione Vinicola Toscana.
S & W Fine Foods, Inc., San Francisco, Calif. 858,045–6, pub. 7–16–68. Cl. 46.
Sachsenmaier, Frances, d.b.a. Realart Silk Hosiery Mills, Philadelphia, Pa., to Chadbourn Gotham, Inc., Charlotte, N.C. 249,750, ren. 10–1–68. Cl. 39.
Sat-T-Script, Inc., New York, N.Y. 857,933, pub. 7–16–68. Cl. 37.
Samsonite Corp., Denver, Colo. 857,840–1, pub. 7–16–68. Cl. 22.
Sankyo Seiki Mfg. Co., Ltd.: *See*—
Kabushiki Kaisha Sankyo Seiki.
Sarong, Inc., Dover, Del. 857,957, pub. 7–16–68. Cl. 39.
Satchfield, Carrol E., Memphis, Tenn. 857,827, pub. 7–16–68. Cl. 21.
Sawyer's Inc.: *See*—
GAF Corp.
Sayve Corp. of America, Inc., from Clesco National, Inc., Cincinnati, Ohio. 736,196, canc. Cl. 103.
Schlitz, Jos., Brewing Co., Milwaukee, Wis. 858,051–2, pub. 7–16–68. Cl. 48.
Schrafft's Stores, The: *See*—
Shattuck, Frank G., Co.
Scofield, L. M., Co., Los Angeles, Calif. 857,713, pub. 7–16–68. Multiple Class (Classes 5, 6, and 12).
Sensenbrenner, A., Sons, Los Angeles, Calif., to Continental Cigar Corp., New York, N.Y. 502,033, ren. 10–1–68. Cl. 17.
Sensenbrenner, A., Sons, Los Angeles, Calif., to Continental Cigar Corp., New York, N.Y. 503,714, ren. 10–1–68. Cl. 17.
Service Tectonics, Inc., Detroit, Mich. 857,796, pub. 7–16–68. Cl. 16.
Seydel-Woolley & Co., Atlanta, Ga. 857,746, pub. 7–16–68. Cl. 6.
Seyfert Potato Chip Co., Columbus, Ohio. 736,126, canc. Cl. 46.
Shattuck, Frank G., Co., d.b.a. The Schrafft's Stores, New York, N.Y., to Pet Inc., St. Louis, Mo. 240,053, ren. 10–1–68. Cl. 46.
Sherman Laboratories, Detroit, Mich. 735,929, canc. Cl. 18.
Shoe Corp. of America, Columbus, Ohio. 857,955, pub. 7–16–68. Cl. 39.
Shorthorn Brands: *See*—
Hereford Heaven Brands, Inc.
Sirco Products Co., Inc., Mount Vernon, N.Y. 857,706, pub. 7–16–68. Cl. 3.
Slump-O-Matix Systems, Inc., Lenox, Mass. 735,995, canc. Cl. 26.
Socal Oil & Refining Co., Huntington Beach, Calif. 735,907, canc. Cl. 15.
Societa per Azioni Chianti Ruffino Esportazione Vinicola Toscana, d.b.a. S.p.A. Chianti Ruffino, Brescia, Italy. 858,049, pub. 7–16–68. Cl. 47.
Societe Francaise des Produits Pour Catalyse "Pro-Catalyse," Paris, France. 857,733, pub. 7–16–68. Cl. 6.
Sondra Mfg. Co., Inc., New York, N.Y. 857,972, pub. 7–16–68. Cl. 39.
Soundlock Corp., The, Hazlehurst, Ga. 857,776, pub. 7–16–68. Cl. 12.
Southern Assn. of Cytotechnologists, Nashville, Tenn. 857,949, pub. 7–16–68. Cl. 38.
Southern Farms Co.: *See*—
Stauffer, S. Walter.
Span, Samuel, and Walter Thum, Paterson, N.J. 857,838, pub. 7–16–68. Cl. 22.
Spaulding Fibre Co., Inc., Tonawanda, N.Y. 857,830, pub. 7–16–68. Cl. 21.
Special Promotions, Inc., Jackson, Miss. 858,080, pub. 7–16–68. Cl. 100.
Sporn, Walter, Co., Inc., Chicago, Ill. 857,980, pub. 7–16–68. Cl. 40.
Sprinter-Pack Aktiebolag, Laholmsvagen, Halmstad, Sweden. 857,693, pub. 7–16–68. Cl. 2.
Stalfort, John C., & Sons, Inc., Baltimore, Md. 735,844, canc. Cl. 6.
Standard Change-Makers, Inc., Indianapolis, Ind. 735,979, canc. Cl. 26.
Standard Oil Co., The, Cleveland, Ohio. 441,449, ren. 10–1–68. Cl. 15.
Standard Oil Co. of Calif., San Francisco, Calif. 857,685, pub. 3–19–68. Cl. 1.
Standard Screw Co., Bellwood, Ill. 857,778, pub. 7–16–68. Cl. 13.
Startrite Engineering (Sales) Ltd., London, England. 857,872, pub. 7–16–68. Cl. 23.
Stauffer, S. Walter, d.b.a. Southern Farms Co., to Aunt Lucy Hams, Inc., Walkersville, Md. 250,033, ren. 10–1–68. Cl. 46.
Steiner, Nick S., The Firestone Bank, executor of the Estate of Nick S. Steiner, deceased, assor., by mesne assignments, to Elmer A. Gelg and Anna R. Gelg, to Gelg & Gelg, Uniontown, Ohio. 439,206, ren. 10–1–68. Cl. 46.
Stern-Williams Co., Inc., Shawnee Mission, Kans. 857,779, pub. 7–16–68. Cl. 13.
Stimson Lens Laboratories: *See*—
Stimson, Noel O.
Stimson, Noel O., d.b.a. Stimson Lens Laboratories, Los Angeles, Calif. 735,985, canc. Cl. 26.
Stoner Systems, Inc., Des Moines, Iowa. 858,078, pub. 7–16–68. Cl. 100.
Studner-Kavaler Co., Inc., New York, N.Y. 857,690, pub. 7–16–68. Cl. 1.
Sun Chemical Corp., New York, N.Y., by The Western Petrochemical Corp., Chanute, Kans. 439,879, 12(c) pub. 10–1–68. Cl. 15.
Sun Chemical Corp., New York, N.Y., to The Western Petrochemical Corp., Chanute, Kans. 440,591, ren. 10–1–68. Cl. 16.
Sun Chemical Corp., New York, N.Y. 857,757, pub. 7–16–68. Cl. 11.
Sunbeam Corp., Chicago, Ill. 857,868, pub. 7–16–68. Cl. 23.
Sunshine Industries, Cleveland, Ohio. 857,901, pub. 7–16–68. Cl. 29.
Swedlin, J., Inc., d.b.a. Gund Mfg. Co., Brooklyn, N.Y. 857,853, pub. 7–16–68. Cl. 22.
Syntex Laboratories, Inc., Palo Alto, Calif. 857,817, pub. 7–16–68. Cl. 18.
Synthetic Thread Co., Inc., Bethlehem, Pa. 857,995, pub. 7–16–68. Cl. 43.
Taaj Co.: *See*—
Proll, Basil, Jr.

Table Rock Laboratories, Inc., Greenville, S.C. 504,091, ren. 10–1–68. Cl. 18.
Table Rock Laboratories, Inc., Greenville, S.C. 504,558–9, ren. 10–1–68. Cl. 18.
Taffy's Inc., Norridge, Ill. 857,976, pub. 7–16–68. Cl. 39.
Takaki, Lily Y., Honolulu, Hawaii. 736,176, canc. Cl. 18.
Takemoto, Rimie, Nichio-shi, Aichi-ken, Japan. 857,892, pub. 7–16–68. Cl. 28.
Tappan Co., The, Mansfield, Ohio. 857,912, pub. 7–16–68. Cl. 34.
Tappan Co., The, Mansfield, Ohio. 857,914, pub. 7–16–68. Cl. 34.
Taylor Forge Inc., Bellwood, Ill. 857,777, pub. 7–16–68. Cl. 13.
Technical Appliance Corp., from Technical Appliance Corp., Sherburne, N.Y. 735,951, canc. Cl. 21.
Temco, Inc., Nashville, Tenn. 736,024, canc. Cl. 34.
Textile Co. of America, Los Angeles, Calif. 857,985, pub. 7–16–68. Cl. 42.
Textron Inc., Providence, R.I. 857,786, pub. 7–16–68. Multiple Class (Classes 13 and 23).
Theodor Mfg. Corp., Los Angeles, Calif. 735,837, canc. Cl. 3.
Thermopatch Corp., Bronx, N.Y. 857,979, pub. 7–16–68. Cl. 40.
Thomas Mfg. Co., The, Torrington, Conn. 857,765, pub. 7–16–68. Cl. 12.
Thomas Truck & Caster Co., Keokuk, Iowa. 503,958, ren. 10–1–68. Cl. 19.
Three Bears, The: *See*—
Friedman, Abraham.
Tote Engineering, Inc.: *See*—
Hoover Ball & Bearing Co.
Toy Town, Inc., Jacksonville, Fla. 858,095, pub. 7–16–68. Cl. 101.
Trans-National Electronics Corp., Montclair, N.J. 736,029, canc. Cl. 36.
Treet Safety Razor Corp., Newark, N.J., by Philip Morris Inc., d.b.a. American Safety Razor Co., New York, N.Y. 240,969, 12(c) pub. 10–1–68. Cl. 23.
Tricosport, Inc., Montreal, Quebec, Canada. 857,973, pub. 7–16–68. Cl. 39.
Triulzi S.p.A., Novate, Milan, Italy. 857,867, pub. 7–16–68. Cl. 23.
Tropical Paint & Oil Co., The, Cleveland, Ohio, to Hooker Chemical Corp., Niagara Falls, N.Y. 251,578, ren. 10–1–68. Cl. 16.
True Temper Corp.: *See*—
Montague Rod and Reel Co.
True Temper Corp., Cleveland, Ohio. 857,791, pub. 7–16–68. Cl. 14.
U-Finish Homes, Inc., Memphis, Tenn. 736,167, canc. Cl. 103.
Ulay Export Corp., Miami, Fla. 857,751, pub. 7–16–68. Cl. 6.
Uncle Ben's, Inc., Houston, Tex. 858,035, pub. 7–16–68. Cl. 46.
Unette Corp., Livingston, N.J. 857,702, pub. 7–16–68. Cl. 2.
United Steel Companies Ltd., The, Sheffield, England. 735,904, canc. Cl. 14.
United-Carr Fastener Corp., Cambridge, Mass. 735,949, canc. Cl. 21.
Uniroyal, Inc.: *See*—
Eureka Fire Hose Co.
Uniroyal, Inc.: *See*—
Eureka Fire Hose Mfg. Co.
U.S. Leasing Corp., from U.S. Leasing Corp, San Francisco, Calif. 858,081, pub. 7–16–68. Cl. 100.
U.S. Rubber Co., New York, N.Y. 736,172, canc. Cl. 106.
United States Shoe Corp., The, Cincinnati, Ohio. 857,968, pub. 7–16–68. Cl. 39.
Universal Candles: *See*—
Hyde, Mark.
Universal Oil Products Co., Des Plaines, Ill. 857,722, pub. 11–14–67. Cl. 6.
Universal Water Corp., Del Mar, Calif. 857,905, pub. 7–16–68. Cl. 31.
Upjohn Co., The, Kalamazoo, Mich. 857,818, pub. 7–16–68. Cl. 18.
Unusual Specialties: *See*—
Edwards, William D.
Valley Chlorine Solutions Co.: *See*—
Arden-Mayfair, Inc.
Varian Data Machines, from Decision Control, Inc., Newport Beach, Calif. 857,880–1, pub. 7–16–68. Cl. 26.
Venoo Co., The, Kansas City, Mo. 857,888, pub. 7–16–68. Cl. 26.
Venice Knitting Mills, Inc., New York, N.Y. 857,951, pub. 7–16–68. Cl. 39.
Vereinigte Baubeschlagfabriken Gretsch & Co. G.m.b.H., Stuttgart, Germany. 857,832, pub. 7–16–68. Cl. 22.
Vereinigte Metallwerke Ranshofen-Berndorf Aktiengesellschaft, Braunau Am Inn, Austria. 735,963–4, canc. Cl. 23.
Victor Comptometer Corp.: *See*—
Heddon's, James, Sons.
Vistron Corp., Cleveland, Ohio. 857,769, pub. 7–16–68. Cl. 12.
W & D Electronics Corp., Van Nuys, Calif. 857,874, pub. 7–16–68. Cl. 24.
W.P.L. 10280: *See*—
H & L Block Co., Inc.
Ward Foods, Inc., New York, N.Y. 858,024, pub. 7–16–68. Cl. 46.
Watkins Products, Inc., Winona, Minn. 857,728, pub. 7–16–68. Multiple Class (Classes 6, 51, and 52).
Wayne Mfg. Co., Pomona, Calif. 857,859, pub. 7–16–68. Cl. 23.
Weather-Proof Co., The, Litchfield, Ill. 857,772, pub. 7–16–68. Cl. 12.
Weil, Myron B., Ltd., New York, N.Y. 441,283, ren. 10–1–68. Cl. 1.
Weir, Arthur R., Cleveland, Ohio. 735,871, canc. Cl. 12.
Wellcome Foundation, Ltd., The, London, England. 735,924, canc. Cl. 18.
West Point-Pepperell, Inc.: *See*—
Pepperell Mfg. Co.
Western Petrochemical Corp., The: *See*—
Sun Chemical Corp.
White-Brown Enterprises, Beaumont, Tex. 736,045, canc. Cl. 38.
Whiting Corp., Harvey, Ill. 441,857, ren. 10–1–68. Cl. 23.
Whitman, Homer O., d.b.a. Loop-On Products Co., Boston, Mass. 857,999, pub. 7–16–68. Cl. 44.
Wilbert, Inc., Forest Park, Ill. 857,703, pub. 7–16–68. Cl. 2.
Wildl, John, Evaporated Milk Co., The, Highland, Ill., to The Nestle Co., Inc., White Plains, N.Y. 70,413, ren. 10–1–68. Cl. 46.
Wilkins Coffee Co.: *See*—
Wilkins, John H., Co., Inc.
Wilkins, John H., Co., Inc., d.b.a. Wilkins Coffee Co., Landover, Md. 858,026, pub. 7–16–68. Cl. 46.
Williams, Lee A., Lincoln, Nebr. 736,025, canc. Cl. 36.
Willis, John W., Phoenix, Ariz. 858,057, pub. 7–16–68. Cl. 50.
Wilsey-Bennett Co., San Francisco, Calif. 858,043, pub. 7–16–68. Cl. 46.
Wilson Pharmaceutical & Chemical Corp., Chicago, Ill. 857,732, pub. 7–16–68. Cl. 6.
Wimelbacher & Rice Inc., to Kayser-Roth Corp., New York, N.Y. 502,680, ren. 10–1–68. Cl. 39.
Winke, J. H., & Co.: *See*—
Winke, John H.
Winke, John H., d.b.a. J. H. Winke & Co., Joliet, Ill. 857,938, pub. 7–16–68. Cl. 37.
Wohl Shoe Co., St. Louis, Mo. 857,960, pub. 7–16–68. Cl. 39.
Wool Products Development Co.: *See*—
New England Mop Co.
World Toy House, Inc., d.b.a. Nursery Land, St. Paul, Minn. 857,975, pub. 7–16–68. Cl. 39.
Wright, William E., & Sons Co., West Warren, Mass. 736,112, canc. Cl. 42.
Young, James P., d.b.a. Advertex Co., Grays Lake, Ill. 736,065, canc. Cl. 38.
Zehner Packing Co., The, Bellevue, Ohio. 247,998, 12(c) pub. 10–1–68. Cl. 46.
Zodiac Calendar Cosmetics, Inc., Miami, Fla. 858,069, pub. 7–16–68. Cl. 51.

U.S. GOVERNMENT PRINTING OFFICE: 0—1968

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
October 8, 1968 Volume 855 Number 2

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of July 1968

Examiner affirmed	158
Examiner affirmed in part	23
Examiner reversed	37
Total	218

Termination of Daylight Saving Time

Attention is called to the Notice published in 849 O.G. 277, Apr. 9, 1968, as to the operation of the Patent Office on Daylight Saving Time. This operation will terminate on October 27, 1968.

Disclaimer and Dedication

3,390,681.—*Leonard D. Kurtz,* Woodmere, N.Y. POLYESTER SUTURE HAVING IMPROVED KNOTTING CHARACTERISTICS. Patent dated July 2, 1968. Disclaimer and dedication filed Apr. 22, 1968, by the assignee, *Sutures Inc.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the patent subsequent to May 13, 1984.

Erratum

The dedication shown below failed to appear in the OFFICIAL GAZETTE of January 15, 1963.

3,073,799.—*Russell A. Skiff,* Whittier, Calif. RESIN COMPOSITIONS AND THEIR PREPARATION. Patent dated Jan. 15, 1963. Dedication filed Mar. 23, 1962, by the assignee, *General Electric Company.*

Hereby dedicates to the Public the entire term of said patent.

Disclaimers

3,055,969.—*Clarence Randall Schaller, Jr.,* Philadelphia, Pa. DOOR CONSTRUCTION FOR SHIELDED ROOM. Patent dated Sept. 25, 1962. Disclaimer filed July 26, 1968, by the assignee, *Ace Engineering and Machine Company, Inc.*

Hereby enters this disclaimer to claims 2, 3 and 5 of said patent.

3,175,752.—*George C. Stabenow,* Hinsdale, Ill. PACKAGE TEARING MEANS. Patent dated Mar. 30, 1965. Disclaimer filed May 24, 1968, by the assignee, *Union Carbide Corporation.*

Hereby enters this disclaimer to all of the claims of said patent.

3,198,106.—*Robert B. Skromme,* Elmhurst, Ill. AGRICULTURAL IMPLEMENT. Patent dated Aug. 3, 1965. Disclaimer filed Apr. 23, 1968, by the assignee, *J. I. Case Company.*

Hereby enters this disclaimer to claims 1, 5, 6, 7 and 15 of said patent.

3,309,157.—*Wilhelm Schlueter,* Dortmund, Germany. ONE-ROW RADIAL AND THRUST BALL BEARING. Patent dated Mar. 14, 1967. Disclaimer filed May 27, 1968, by the assignee, *Eisenwerk Rothe Erde G.m.b.H.*

Hereby enters this disclaimer to claim 3 of said patent.

3,347,406.—*Edwin B. Katzenmeyer,* Akron, Ohio. FUEL TANK. Patent dated Oct. 17, 1967. Disclaimer filed June 12, 1968, by the assignee, *The B. F. Goodrich Company.*

Hereby enters this disclaimer to claim 1 of said patent.

3,396,243.—*Raymond R. McDaniel,* Akron, Ohio. RECORDING AND REPRODUCTION OF INTELLIGENCE SIGNALS. Patent dated Aug. 6, 1968. Disclaimer filed Apr. 25, 1968, by the inventor.

Hereby disclaims the terminal portion of the term of the patent subsequent to June 1, 1982.

Service by Publication

Bruce E. Bachman

In accordance with Rule 47 of the Rules of Practice of the United States Patent Office in Patent Cases, notice is hereby given of the filing on July 15, 1965, of an application for patent entitled "Signalling Apparatus," on behalf of Bruce E. Bachman, whose last known address is 6406 Everall Avenue, Baltimore, Maryland. The application was made in compliance with Rule 47(a) and 35 U.S.C. 116 by Gary B. Jordan without execution by the said Bruce E. Bachman. Notice of the filing directed to the above noted address has been returned undelivered.

Any action to be taken by the said Bruce E. Bachman in connection with the said application must be taken within thirty days of the publication of this notice.

EDWIN L. REYNOLDS,
First Assistant Commissioner of Patents.

Erratum

All references to Patent No. 3,369,205 to Donald J. Hamrick, for Magnetic Actuator for Switches, Valves and the Like, appearing in the OFFICIAL GAZETTE of Feb. 13, 1968, should be deleted as the application was abandoned and the patent was not issued.

New Applications Received During July 1968

Patents	7961
Designs	427
Plant Patents	14
Reissues	50
Total	8452

Issue—October 8, 1968

Patents	1000	No. 3,404,406 to No.	3,405,405, incl.
Designs	61	No. 212,349 to No.	212,409, incl.
Reissues	5	No. 26,473 to No.	26,477, incl.
Total	1066		

Foreign Priority of Continuing Applications

If the Examiner is aware of the fact that the parent of a continuing application has fully complied with the requirements of 35 U.S.C. 119 and is therefore entitled to the benefit of the filing date of an earlier filed foreign application, he should direct it to the applicant's attention in an Office action, as in the following exemplary language:

"Applicant is reminded that in order to be entitled to priority based on papers filed in parent application Serial No. ---------- under 35 U.S.C. 119, a claim for such priority must be made in this application. In making such claim, applicant may simply call attention to the fact that a certified copy of the foreign application is in the parent application (M.P.E.P. 201.14(b))."

RICHARD A. WAHL,
Assistant Commissioner.

Aug. 30, 1968.

ORGANIZATIONAL TELEPHONE LISTING

The current Patent Office organizational listing of all telephone extensions is given below.

For informational purposes, Code 161 identifies all offices located at Crystal Plaza; Code 189 identifies all offices located in Washington. To reach Crystal Plaza by direct dialing, dial (Area Code 703) 557 plus the 4-digit extension number; if the extension number is unknown, Crystal Plaza information is 557-3158. To reach offices still located in Washington, dial (Area Code 202) 967 plus the 4-digit extension number; if the extension number is unknown, the Commerce switchboard number is STerling 3-9200.

C. A. KALK,
Director of Administration

Sept. 9, 1968

PATENT OFFICE

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Planning and Programming, Office of		
Research, Development & Analysis, Office of		
First Assistant Commissioner Edwin L Reynolds rm11D27 CP-3----	161	3055
Secretary Dorothy M Boyden rm11D27 CP-3----------	161	3055
Board of Appeals		
Board of Patent Interferences		
Solicitor, Office of		
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Trademark Trial & Appeal Board		
Assistant Commissioner Richard A Wahl rm11A13 CP-3----------	161	3811
Secretary Hazel E Jeffries rm11A13 CP-3----------	161	3811
Examining & Documentation Control, Office of		
Patent Examining & Documentation Operations		
Patent Services, Office of		
Special Assistant William Feldman rm11A13 CP-3----------	161	3054
Secretary Nancy A Gillen rm11A13 CP-3----------	161	3054
Manual of Patent Examining Procedure		
Assistant Commissioner Gerald D O'Brien rm11C23 CP-3---------	161	3061
Secretary June M O'Conner rm11C23 CP-3----------	161	3061
Information Services, Office of		
International Patent & Trademark Affairs, Office of		
Legislative Planning, Office of		

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Incoming Mail Ruby H Stinnett rm1B01 CP-2----------	161	3232
Receptionist & Information Linda Helfman Lobby CP-3----	161	3080
Office Services Branch Robert E Gardiner rm10D07 CP-2------	161	3563
Assistant Christine Major rm10D07 CP-2----------	161	3563
Procurement Section James Brady rm10D07 CP-2---------	161	3563
Supply and Receiving Unit J Stamps rm1A05 CP-2--------	161	3235
Telephone Installations rm10D07 CP-2----------	161	3563
Travel Services rm10D07 CP-2----------	161	3563
Warehouse J Smith Eads St Arl Va----------	161	3183

	Code	Tel.
Abandoned Files Unit J Jefferson Eads St Arl Va	161	3181
Cross Reference Index P J Lucas Eads St Arl Va	161	3180
Trademark Record Room Eads St Arl Va	161	3182
Printing and Records Management Branch Howard Hood rm10A11 CP-2	161	3571
I Penn rm10A11 CP-2	161	3571
N Woods rm10A11 CP-2	161	3571
Budget and Finance Division W F Vier rm10D15 CP-2	161	3557
Secretary Madge W Greenlee rm10D15 CP-2	161	3557
Budget Branch John L Walter rm10D15 CP-2	161	3558
Finance Branch Fred E Bear rm10D21 CP-2	161	3555
Assistant H H Franklin rm10D21 CP-2	161	3555
Accounting and Cost analysis Section J S Rossen rm5C32 CP-2	161	3751
Deposit Fund Account Unit Izola Williams rm1B02 CP-2	161	3227
Employee Account Section Lucille Metts rm5D27 CP-2	161	3753
Receipts Control Section Ruby Kesterson rm1B01 CP-2	161	3230
Personnel Division		
Personnel Officer W E Ingram rm9C06 CP-2	161	3631
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General Inquiry rm9C05 CP-2	161	3634
Classification and Wage Branch Hugh Major (Acting) rm9C06 CP-2	161	3631
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Employment Branch R O Rothermel rm9C05 CP-2	161	3634
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Promotion Plan Anne E Kavanagh rm9C05 CP-2	161	3634
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Operations Branch Barbara S Schultz rm9C05 CP-2	161	3637
Personnel Records Information rm9C05 CP-2	161	3637

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Payroll and Personnel Unit India Johnson rm5C06 CP-2	161	3654
Planning Section F E Raum rm5C06 CP-2	161	3649
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	Code	Tel.
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Florence A Hoffman rm6C30 CP-2	161	3776
J Kent Hughes rm6D15 CP-2	161	3776
A Kiron rm6C30 CP-2	161	3776
W M Lyons rm6D30 CP-2	161	3776
W J Maykrantz rm6C30 CP-2	161	3776
Walter Parker rm6C30 CP-2	161	3776
Carole Phillips rm6C30 CP-2	161	3776
Henry Rosicky rm6D30 CP-2	161	3776
Harold W Sager rm6C30 CP-2	161	3776
Research and Development Division		
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Research Specialists		
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J Stitleman rm6C06 CP-2	161	3767
W W Wright rm6D07 CP-2	161	3759
Research and Development Library rm6C14 CP-2	161	3772

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J L Brewrink rm 11C17 CP-2	161	3344
P T Dracopoulos rm11C04 CP-2	161	3384
P J Frederico rm11D03 CP-2	161	3378
G A Gorecki rm11D27 CP-2	161	3342
J E Keely rm11C04 CP-2	161	3383
L F Kreek rm11A09 CP-2	161	3382
H J Lidoff rm11D11 CP-2	161	3349
H Magil rm 11D11 CP-2	161	3375
P E Mangan rm11D19 CP-2	161	3346
G C Roeming rm11C08 CP-2	161	3386
I G Stone rm11D27 CP-2	161	3345
F M Strader rm11C04 CP-2	161	3385
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Assistant Alice Umhau rm11C28 CP-2	161	3393
Docket Section Leo A White (Acting) rm11C28 CP-2	161	3393
Docket Clerk Groups 110–120 Dennis Roberts rm11C28 CP-2	161	3392
Docket Clerk Groups 140–160 & 170 Bernice Shelton rm11C28 CP-2	161	3391
Docket Clerk Groups 210–220–230–250–290 Loyetta Wheelbarger rm11C28 CP-2	161	3388
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Decision Section Frieda Ezrine rm11C28 CP-2	161	3788

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L L Williams rm10B32 CP-2	161	3625

	Code	Tel.
Interlocutory		
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Docket Section P Small (Acting) rm3C20 CP-2	161	3332
Renewal Section E E Payne rm3C08 CP-2	161	3329
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Title Section E J De Mesme rm4C19 CP-2	161	3258
Drafting Branch D M Mills rm9C12 CP-2	161	3641
Assistant F S Snead rm9C12 CP-2	161	3641
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Assistant J H Neal rm3C27 CP-2	161	3283
Allowed Files Section J W Barksdale rm3C13 CP-2	161	3286
Editorial Section L M Miles rm3C23 CP-2	161	3294
Patent Preparation Section M Gibson rm3C27 CP-2	161	3285
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Notice of Allowance Unit J Mulheron rm3C19 CP-2	161	3293
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Assistant R W Sisk rmB-099A	189	5750
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Letter Unit J Ellis rmB-091	189	2480
Mail Unit B Sanchez rmSB-099A	189	2656
Inventory Control Section L Wheeler rmSB-618	189	2483
Input Control Unit W Wooten rmB-099	189	5410
Master Copy Unit G Ellard rmSB-618	189	3307
Overflow and Reorder Unit M Smith rmSB-618	189	5069
Special Services Section J Lawson rmB-095	189	2811
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Patent Reference Branch E Johnson rm1A03 CP-4	161	2276
Search Room rm1A02 CP-3	161	2276
Records Section T J Wujcik rm1899	189	2492
General Reference Branch D W Gooch rm2C14 CP-3	161	2970
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Reference Desk Lois Lanham rm2FL CP-34	161	2957
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Translation Section W Himel rm2C18 CP-3	161	2953
Foreign Patent Records B Thomas rm1631	189	4493

CHEMICAL EXAMINING AND DOCUMENTATION GROUPS

	Chemical Documentation Group	Code	Tel.
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	Clerical A J Cook rm8B03 CP-2	161	3791
110	General Chemistry & Petroleum Chemistry rm10C17 CP-3	161	3606
	Director M Sterman rm10C17 CP-3	161	3610
	Secretary Anne Willey rm10C17 CP-3	161	3610
	Clerk E R Thompson rm10C17 CP-3	161	3606
111	Metallurgy & Metal Treating or Working H Bizot (Acting) rm10C17 CP-3	161	3578
112	Organo-Metal Compounds & Ceramic & Related Compositions T Levow rm10C17 CP-3	161	3586
113	Inorganic Chemistry & Catalyst Compositions O R Vertiz rm10C17 CP-3	161	3597
114	Electrochemistry J Mack rm10C17 CP-3	161	3602
115	Batteries W A Douglas rm10C17 CP-3	161	3594
116	Hydrocarbons & Mineral Oil Technology D E Gantz rm10C17 CP-3	161	3582
117	Lubricating Compositions, Fuels & Igniting Devices D E Wyman rm10C17 CP-3	161	3591
120	General Organic Chemistry rm9C17 CP-3	161	3035
	Director I Marcus rm10E14 CP-3	161	3575
	Secretary Ann Scallan rm10E14 CP-3	161	3575
	Clerk E Young rm9C17 CP-3	161	3035
121	Special Heterocyclic & Amides H Jiles rm9C17 CP-3	161	2517
122	Heterocyclic & Ureas A Mazel rm9C17 CP-3	161	2621
123	Miscellaneous Organic C B Parker rm9C17 CP-3	161	2571
124	Steroids, Vaccines, Herbicides L Gotts rm9C17 CP-3	161	2575
125	Medicines, Poisons, Cosmetics A T Meyers rm9C17 CP-3	161	2577
126	Organic Oxy & Oxo Compounds & Halo Hydrocarbons L Zitver rm9C17 CP-3	161	3031
127	Carboxylic Compounds Lorraine Weinberger rm9C17 CP-3	161	3033
140	High Polymer Chemistry, Plastics & Molding rm7C17 CP-3	161	3801
	Manager L J Bercovitz rm7C17 CP-3	161	3800
	Clerk D Levy rm7C17 CP-3	161	3801
141	Natural Resins, Urethanes, Carbohydrates D Czaja rm7C17 CP-3	161	3807
142	Mixed High Polymers, Aqueous Systems, Radiation M Tillman rm7C17 CP-3	161	3745
143	Condensation Type, Proteins W H Short rm7C17 CP-3	161	2104
144	Addition Type J L Schofer rm7C17 CP-3	161	3804
145	Synthetic Resin & Rubber Compositions M Liebman rm7C17 CP-3	161	2421
146	Coating Compositions and Special Molding J Frome rm7C17 CP-3	161	2466
147	General Molding R F White rm7C17 CP-3	161	2478
160	Coating & Laminating, Bleaching, Dyeing & Photography rm6C17 CP-3	161	3694
	Manager J R Liberman rm6C17 CP-3	161	3725
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161	Coating: Mechanical Methods, Inorganic Base or Coating A L Leavitt rm6C17 CP-3	161	3697
162	Coating: Organic Base or Coating Particulate Base or Coating W D Martin rm6C17 CP-3	161	3691
163	Adhesive Bonding & Miscellaneous Chemical Manufacturing E M Bergert rm6C17 CP-3	161	3731
164	Stock Material & Miscellaneous Articles R F Burnett rm6C17 CP-3	161	3735
165	Special Utility Compositions L D Rosdol rm6C17 CP-3	161	3741
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170	Specialized Chemical Industries & Chemical Engineering rm5D18 CP-3	161	3677
	Manager W B Knight rm5D18 CP-3	161	3680
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171	Reactors & Miscellaneous Industrial Process M O Wolk rm5D18 CP-3	161	3681
172	Foods & Fermentation A Louis Monacell rm5D18 CP-3	161	3611
173	Specialized Chemical Arts D H Sylvester rm5D18 CP-3	161	3685
175	Phase Change N Yudkoff rm5D18 CP-3	161	3622
176	Phase Separation Involving Liquids, Sorption or Diffusion R Friedman rm5D18 CP-3	161	3618
177	Residual Phase Separation, Phase Contact H B Thornton rm5D18 CP-3	161	3615
	Patent Administrative Assistant Jeannette Robinson rm10E14 CP-3	161	3575

ELECTRICAL EXAMINING AND DOCUMENTATION GROUPS

	Electrical Documentation Group		
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	Clerk G E Reed rm9C17 CP-4	161	2887
211	Motor Systems Distribution O L Rader rm9C17 CP-4	161	2556
212	Regulation Conversion J F Couch rm9C17 CP-4	161	2558
213	Heating & Related Art R M Wood rm9C17 CP-4	161	2391
214	Structures Generation Systems M O Hirshfield rm9C17 CP-4	161	2605
215	Conductors & Inductors L H Myers rm9C17 CP-4	161	2321
216	Automatic Switches B A Gilheany rm9C17 CP-4	161	2891
217	Manual Switches R K Schaefer rm9C17 CP-4	161	2072
220	Security rm10C17 CP-4	161	2478
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221	Mechanical B A Borchelt rm10C17 CP-4	161	2894
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223	Chemical C D Quarforth rm10C17 CP-4	161	2037
	Licensing & Review E M Drazdowsky rm10C24 CP-4	161	2167
230	Electronics Information Processing rm11C17 CP-4	161	2878
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234	Miscellaneous Signalling J W Caldwell rm11C17 CP-4	161	2863
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250	Electronic Component Systems & Devices rm8C17 CP-4	161	2671
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280	Physics rm7C17 CP-4	161	2901
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282	Registers, Acoustics & Scales R Wilkinson rm7C17 CP-4	161	2911
283	Geometrical Instruments & Sound Recording L Forman rm7C17 CP-4	161	2906
284	Measuring & Testing (Part) R C Queisser rm7C17 CP-4	161	2915
285	Measuring & Testing (Part) L Prince rm7C17 CP-4	161	2918
290	Designs rm10C14 CP-4	161	2476
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	Clerical & Services Section P J Jenkins rm10C14 CP-4	161	2476
291	Industrial Arts W R Burke rm10C14 CP-4	161	2172
292	Household, Personal & Fine Arts E H Hunter rm10C14 CP-4	161	2265
	Patent Administrative Assistant C D Henry rm11D37 CP-4	161	2012

MECHANICAL EXAMINING AND DOCUMENTATION GROUPS

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	Secretary B J McDermott rm6E14 CP-4	161	2921
	Clerk M B Foley rm6C17 CP-4	161	3211
311	Dispensing & Vending R B Reeves rm6C17 CP-4	161	3311
312	Spraying; Article Assorting; Sheet & Web Feeding M H Wood rm6C17 CP-4	161	3307
313	Conveyors & Conveying Systems E C Blunk rm6C17 CP-4	161	3304
314	Material Handling & Implements G M Forlenza rm6C17 CP-4	161	3301
315	Aeronautics, Ships & Marine Devices M Buchler rm6C17 CP-4	161	3221
316	Land Vehicles & Appurtenances B Hersh rm6C17 CP-4	161	3204
317	Railways & Equipment A L LaPoint rm6C17 CP-4	161	3207
318	Rigid Receptacles & Special Packages T E Condon rm6C17 CP-4	161	3214
319	Flexible Receptacles; Baggage; Bottles J R LeClair rm6C17 CP-4	161	3217
320	Material Shaping; Article Manufacturing; Tools rm5C17 CP-4	161	3371
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321	Metal Deforming C W Lanham rm5C17 CP-4	161	3314
322	Plastics Working Founding J S Overholser rm5C17 CP-4	161	3317
323	Manufacturing Processes, Assembly J F Campbell rm5C17 CP-4	161	3321
324	Special Article Making rm5C17 CP-4	161	3351
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332	Plant Husbandry A G Stone rm4C17 CP-4	161	3131
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334	Amusement & Jewelry R C Pinkham rm4C17 CP-4	161	3137
335	Personal Treatment R A Gaudet rm4C17 CP-4	161	3141
336	Information Dissemination E R Capozio rm4C17 CP-4	161	3144
337	Printing R E Pulfrey rm4C17 CP-4	161	3501
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342	Combustion Engines & Clutches M N Newman rm3C17 CP-4	161	3461
343	Pumps, Turbines & Gearing D J Stocking rm3C17 CP-4	161	3464
344	Heat Generation & Exchange, Drying & Vaporizing F L Matterson Jr rm3C17 CP-4	161	3467
345	Refrigeration, Ventilation, & Temperature & Humidity Regulation R A O'Leary rm3C17 CP-4	161	3471
346	Machine, Elements & Tool Driving F C Mattern Jr rm3C17 CP-4	161	3474
350	Fixed Construction, Supports & Hardware rm4C17 CP-3	161	3001
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	Clerk Ruth Hudson rm4C17 CP-3	161	3001
351	Supports and Racks R O Frazier rm4C17 CP-3	161	3014
352	Fasteners & Joints C W Tomlin rm4C17 CP-3	161	3004
353	Miscellaneous Hardware, Locks, Closure Fasteners, Electrical Connectors M A Champion rm4C17 CP-3	161	3007
354	Earth Engineering, Drilling & Mining C E O'Connel rm4C17 CP-3	161	3011
355	Tents, Safes, Scaffolds & Closures D J Williamowsky rm4C17 CP-3	161	3021
356	Building Structures F L Abbott rm4C17 CP-3	161	3201
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361	Fluid Handling W F O'Dea rm3C17 CP-3	161	3401
362	Fluid Control & Separation M C Nelson rm3C17 CP-3	161	3404
363	Fluid Conducting, Filling & Personal Use L D Geiger rm3C17 CP-3	161	3407
364	Textiles & Their Manufacture M Stein rm3C17 CP-3	161	3411
365	Apparel & Apparel Apparatus J Franklin rm3C17 CP-3	161	3414
366	Winding, Reeling, Spinning & Braiding F J Cohen rm3C17 CP-3	161	3417
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	J H Merchant rm11C17 CP-3	161	3957
	J J Sheehan rm11C17 CP-3	161	3957
	Trademark Affairs		
	David Allen rm11C17 CP-3	161	3957

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	Secretary Sally Rider 10D02 CP-3	161	3065

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF SEPTEMBER 23, 1968

PATENT EXAMINING OPERATIONS AND GROUPS * Denotes date of oldest application for each Operation.	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	5-09-66	1-23-64
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	5-04-66	*5-24-63
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	7-11-66	2-05-64
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Director Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	*12-20-65	6-03-63
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	4-29-66	3-19-64
ELECTRICAL EXAMINING OPERATION		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—W. S. COLE, Director Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	7-08-66	3-05-64
SECURITY, GROUP 220—S. BOYD, Director Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	5-18-67	3-26-65
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Director Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*8-25-65	*10-10-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	11-22-65	2-25-63
PHYSICS, GROUP 280—R. L. EVANS, Director Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	8-01-66	4-21-65
DESIGNS, GROUP 290—S. BOYD, Director Industrial Arts; Household, Personal and Fine Arts.	1-11-68	4-12-67
MECHANICAL EXAMINING OPERATION		
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	3-14-67	9-21-65
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Director Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	11-09-66	1-06-65
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	10-10-66	6-04-64
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Director Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	9-01-67	10-21-66
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Director Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	5-01-67	1-18-65
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—F. H. BRONAUGH, Director Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	*5-31-66	*5-29-63

Total number of pending applications (excluding Designs) 189,725
Total number of Design applications pending 2,545

Expiration of patents: The patents within the range of numbers indicated below expire during October 1968, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 614, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their term curtailed by disclaimer under the provisions of 35 U.S.C. 253.

Patents ..... Numbers 2,569,436 to 2,573,673, inclusive
Plant Patents ..... Numbers 1,042 to 1,047, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE FRIEDRICH KARL KNOHL AND NELS NELSSON

No. 7832. Decided November 16, 1967

[55 CCPA —; 386 F.2d 476; 155 USPQ 586]

1. PATENTABILITY—DOUBLE PATENTING—SAME INVENTION—SCREW FASTENER.

"Appellants' argument is premised principally on their view that the application claims and patent claims 5–8 particularly relied upon by the Patent Office [in a 'double patenting' rejection] are directed to distinctly different combinations of elements. Clearly that is not the case, for each is directed to a screw fastener including what appears to be the same tapered, work-penetrating tip, the same elongated threaded shank (necessarily, it would seem, having axially spaced roots), and the same head portion having a configuration designed to prevent mutilation of the paper covering as the screw is driven into the wallboard supporting structure. Appellants have presented no argument to persuade us that, in the present circumstances, a difference between the sets of claims in the scope of the language employed to describe the various portions of the screw necessarily results in different inventions being defined by those claims. Nor is there anything in the patent disclosure, issued on a later filed application, to suggest that any portion of the screw structure disclosed and claimed therein is in any manner different from, or an improvement on, the corresponding structure disclosed and claimed in the present application."

2. SAME—SAME—TERMINAL DISCLAIMER—ONE PATENTABLE INVENTION.

"We are satisfied that the Board committed no reversible error in sustaining the Examiner's finding of but one patentable invention delimited by the patent and application claims. Under the circumstances, the terminal disclaimer filed by appellants does not obviate the double patenting rejection. *In re Bridgeford*, 53 CCPA 1182, 357 F.2d 679, 149 USPQ 55; *In re Griswold*, 53 CCPA 1565, 365 F.2d 834, 150 USPQ 804."

APPEAL from the Patent Office. Serial No. 296,280.

AFFIRMED.

Olson, Trexler, Wolters & Bushnell, Charles L. Sturtevant (*Richard Bushnell*, of counsel) for appellants.

Joseph Schimmel (*Fred W. Sherling*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, RICH, SMITH, and ALMOND, *Associate Judges*, and WILLIAM H. KIRKPATRICK [1]

WORLEY, *Chief Judge*, delivered the opinion of the court.

This appeal is from the decision of the Board of Appeals affirming the Examiner's rejection of claims 1–3 in appellants' application [2] for "Plasterboard Fastening Screw."

The sole ground of rejection is "double patenting" in view of the claims of appellants' Patent 3,056,234.[3] To place the case in perspective with respect to the numerous other double patenting rejections appealed to this court of late, it is apparent from the letters of the Examiner and decision of the Board that they regard appellants to be claiming the same invention in their application claims as is defined by their patent claims. Appellants, on the other hand, are of the opinion that the description and claims of their patent contain references to specific details of a "particular species" of appellants' "generic

[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.
[2] Serial No. 296,280, filed July 19, 1963, as a continuation of application Serial No. 763,228, filed September 25, 1958.
[3] Issued October 2, 1962, on application Serial No. 829,838, filed July 27, 1959, as a continuation-in-part of application Serial No. 763,228, supra. That patent, of course, does not have the status of statutory "prior art" under 35 U.S.C. 102 and 103 insofar as appellants are concerned.

invention"[4] disclosed and claimed in the present application; that there is a "clear line" of demarcation between the "distinctly different" combinations of elements recited in the appealed claims and patent claims; and that, in view of a terminal disclaimer seasonably filed under 35 U.S.C. 253 by them and assented to by their assignee, the Board erred in failing to apply the decisions of this court in *In re Robeson*, 51 CCPA 1271, 331 F.2d 610, 141 USPQ 485; *In re Kaye*, 51 CCPA 1465, 332 F.2d 816, 141 USPQ 829; and *In re Heinle*, 52 CCPA 1164, 342 F.2d 1001, 145 USPQ 131.

With that background, we turn to a discussion of the application and patent, and the rejections and arguments made.

The subject matter disclosed in both the application and patent is a screw for fastening wallboard to a metal frame or stud member. In the patent, appellants state that the use of prior art screw fasteners to fasten plasterboard to stud members resulted in tearing or bulging of the paper covering of the gypsum core wallboard where it was contacted by the periphery of the screw head. In general, the screw disclosed in each of the specifications includes a tip provided with means, such as a slot, for drilling and threading an aperture in the wallboard and frame member; a shank provided with helical threads and roots spaced sufficiently far apart axially to prevent crumbling or reaming as the screw passes through the gypsum, the crest diameters of the threads progressively decreasing at the tip or leading edge of the shank; and a head portion designed in a manner to "spin" or "deform" the paper surface of the plasterboard inwardly without tearing or bulging and to enable the head to be embedded within the wallboard for later covering with an appearance-improving spackling composition.

The subject matter is perhaps best understood with reference to the respective claims, to which we have added numerals keyed to the drawings representative of those appearing in the application and patent.

Application claim 1 reads (Breakdown lettering ours):

1. A screw fastener [10] of the type described especially suitable for securing to a support [14], plasterboard panels [18] and the like having a covering layer such as paper [12], said fastener comprising

(A) an elongated shank [24] having

(B) a tapering entering end portion providing a work penetrating tip, cutting edge means [34] on said tapering entering end portion and extending generally axially and laterally outwardly from adjacent said tip for drilling an aperture in said panel and support during application of the screw fastener,

(C) and a head portion [36] of substantial outer diameter formed integral with the opposite end of said elongated shank,

(A_1) helical thread convolutions [26] having axially spaced apart roots integral with and extending along said shank, said portion of thread convolution extending along said tapering end portion and progressively decreasing in diameter toward said tip,

(C_1) said head portion having a clamping section including a circumferential work engaging surface [38] flaring at a relatively small angle with respect to the longitudinal axis of the screw radially outwardly from the shank portion adjacent thereto and flaring outwardly at increased angularity [40] with respect to said fastener axis adjacent to the outer periphery of the head portion,

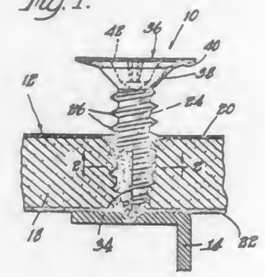
(C_2) said outer periphery presenting a circumferential circular substantially cylindrical uninterrupted surface of substantial but limited axial extent and having axially spaced annular margins of substantially similar diameters,

[4] As we noted in *In re Christensen*, 51 CCPA 1236, 330 F.2d 652, 141 USPQ 295, characterization of the claims as "generic" and "specific" does not necessarily resolve the issue of whether the inventions defined by the claim language are the same.

(C_3) said head portion being provided with a recess [42] extending axially into said head portion and encompassed by the outer periphery thereof for accommodating a suitable turning tool,

(C_4) the deposition and extent of said flaring circumferential clamping surface and said outer peripheral head surface of limited axial extent being such as to counteract the tendency of the outer margin of said head portion to shear the outer surface structure of a complementary workpiece, as for example, the paper covering of plasterboard panelling when said head portion embeds itself in the workpiece as an incident to rotation of the fastener.

Fig. 1.



Claim 6 of the patent reads:

6. A rotary type fastener [13] for use in securing to a supporting member [12] a panel having a deformable inner body [14] as for example gypsum material and an exposed overlying layer of sheet material [15] such as paper, said fastener comprising

(A) an elongated threaded [23] shank [17] having

(B) a pointed leading end [21] for penetrating a panel and supporting member, said point being coaxial with the fastener rotary axis,

(C) and a head [18] formed at the trailing end of said shank;

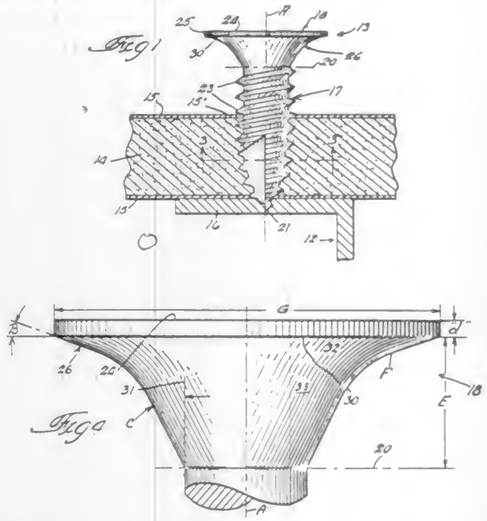
(C_3) said head including a terminal section [25] concentric with the fastener rotary axis and having an uninterrupted generally cylindrical surface configuration ["d," FIG. 4] of an axial extent from about .005" to about .02",

(C_2) said terminal section also having an exposed end surface [24] positioned within the confines of a transverse plane which includes the margin determined by the intersection of said end surface with said generally cylindrical surface, said head being provided with a rotary-driving-tool accommodating recess intersecting only said exposed end surface and extending therefrom axially of said fastener and terminating within said leading section,

(C_1) said head also including an uninterrupted leading section having an axial extent ["E," FIG. 4] from said terminal section of from about .06" to about .14" and interconnecting with said terminal section at an angle ["B," FIG. 4] from about 5° to about 25° with respect to a plane taken perpendicular to the fastener rotary axis and interconnecting with said shank trailing end at an angle ["C," FIG. 4] from about 23° to about 50° with respect to a plane taken parallel to the fastener rotary axis, said leading section having an advancing first portion [33], the surface configuration of which flares gradually outwardly from said shank trailing end and having a maximum diameter greater than the crest diameter of the threads on said shank end, and a trailing second portion [32], the surface configuration of which flares outwardly from the maximum diameter of said first portion at a greater rate than said first portion and terminates at the generally cylindrical surface of said head terminal section, said flaring surfaces of the leading section being concentric with the fastener rotary axis and presenting a smooth spinning and clamping circumferential area extending from said terminal section to said shank trailing end; said shank, the penetrating point thereof, and said head being concentric with the rotary axis of said fastener

(C_4) whereby the flaring surfaces of said leading section of the head are adapted to exert a spinning and clamping force against the exposed surface of the panel upon said fastener being progressively rotatably driven

into panel embedded relation in a direction normal to the exposed panel surface without injury thereto.



In rejecting the appealed claims in view of the patent claims, the Examiner stated:

• • • Considering patent claim 6 as an exemplary claim and comparing it with application claim 1 it is believed to be clear that the claims in fact define the same screw in terms of varying scope. For example, the point defined in claim 1 of this application • • • [at (B)] and the threads defined • • • [at (A_1)] find their counterpart • • • [at (B) and (A) in] the patent [claim]. The flaring head set forth • • • [at (C_1) in] claim 1 corresponds to the head configuration defined • • • [at (C_1) in] the patent [claim]. The cylindrical portion appearing • • • [at (C_2) in] claim 1 is set forth in the patent [claim at (C_2)]. The tool recess claimed here • • • [at (C_3) in] claim 1 is defined in a similar manner • • • [at (C_3) in] the patent [claim]. And finally the function of this head configuration as described • • • [at (C_4) in] claim 1 is described in a similar manner • • • [at (C_4) in] the patent [claim].

In view of his conclusion that the patent and application claims are drawn to the same invention, the Examiner refused to give appellants' terminal disclaimer any effect. The Board agreed, adding:

• • • While we agree with the appellants that it is possible for a novel screw or any other device to contain a plurality of separate and • • • distinct inventions which may properly be presented in separate applications even in the event the disclosures in the separate applications are identical, this we do not find to be the case here • • •. The only invention present has been exhausted by the claims in the patent. • • •

[1] Appellants' argument is premised principally on their view that the application claims and patent claims 5–8 particularly relied upon by the Patent Office are directed to distinctly different combinations of elements. Clearly that is not the case, for each is directed to a screw fastener including what appears to be the same tapered, work-penetrating tip, the same elongated threaded shank (necessarily, it would seem, having axially spaced roots), and the same head portion having a configuration designed to prevent mutilation of the paper covering as the screw is driven into the wallboard supporting structure. Appellants have presented no argument to persuade us that, in the present circumstances, a difference between the sets of claims in the scope of the language employed to describe the various portions

of the screw necessarily results in different inventions being defined by those claims. Nor is there anything in the patent disclosure, issued on a later filed application, to suggest that any portion of the screw structure disclosed and claimed therein is in any manner different from, or an improvement on, the corresponding structure disclosed and claimed in the present application.

[2] We are satisfied that the Board committed no reversible error in sustaining the Examiner's finding of but one patentable invention delimited by the patent and application claims. Under the circumstances, the terminal disclaimer filed by appellants does not obviate the double patenting rejection. *In re Bridgeford*, 53 CCPA 1182, 357 F.2d 679, 149 USPQ 55; *In re Griswold*, 53 CCPA 1565, 365 F.2d 834, 150 USPQ 804.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE ANTHONY SABATINO AND DANIEL ORLANDO

No. 7850. Decided January 11, 1968

[55 CCPA—; 387 F.2d 981; 156 USPQ 212]

1. PATENTABILITY—EVIDENCE—SECONDARY CONSIDERATIONS—UNSUCCESSFUL ATTEMPTS AT PROBLEM BEFORE REFERENCE AVAILABLE TO ART.

"The environmental circumstances in which appellants made their invention, as reflected in the patents cited by them, and the commercial success of the batteries produced by one of the processes within the scope of the claims, as set forth in the affidavits, do, in proper circumstances, have some relevance to the determination of obviousness or unobviousness of the claimed subject matter. *Graham v. John Deere Co.*, 383 U.S. 1 at 15, 16. Analogous to the situation the court found in *Graham*, 383 U.S. at 34, however, the evidentiary value of the many apparently unsuccessful attempts to provide a readily manufactured, leak-proof seal in the partition aperture of the battery appears to be well-tempered by the fact that those attempts occurred *before* Rigsby, the most pertinent reference, became available to those in the art. See *In re Caveney*, 55 CCPA —, — F.2d —, 155 USPQ 681."

2. SAME—SAME—COMMERCIAL SUCCESS—EFFECT OF COMMERCIAL SUCCESS ON BROADER CLAIMS.

Turning to the evidence of commercial success, the difficulty we find with appellants' contentions is that the invention as practiced commercially admittedly is somewhat narrower than the scope of the appealed claims. It seems to us that the Board has given tacit recognition to the commercial success of appellants' invention in allowing claims specifically directed to that process and not suggested by the prior art, while correctly holding that the present claims are sufficiently broad to encompass that which would be obvious to one of ordinary skill in the art at the time appellants made their invention.

3. SAME—PARTICULAR SUBJECT MATTER—"STORAGE BATTERY CONSTRUCTION AND METHOD OF MAKING SAME."

The refusal of certain claims in an application entitled "Storage Battery Construction and Method of Making Same," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 132,660.

AFFIRMED.

Gerrit D. Foster, *Paul R. Puerner* for appellants.

Joseph Schimmel (*S. Wm. Cochran*, *Thomas F. Lomont*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, RICH, SMITH, ALMOND, *Associate Judges*, and WILLIAM H. KIRKPATRICK [1]

WORLEY, *Chief Judge*, delivered the opinion of the court.

[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

This appeal is from the decision of the Board of Appeals affirming the Examiner's rejection of claims 27–29, 33–35, 38, 41, 42, 44–48 and 54 in appellants' application [2] for "Storage Battery Construction and Method of Making Same" as obvious in view of certain prior art under 35 U.S.C. 103. Claims 42 and 48 have been withdrawn from appeal.

The invention relates in general to a method of making an *internal* electrical connection between a group of plates of positive polarity in one cell of a storage battery and a group of plates of negative polarity in an adjacent cell. The record shows that the conventional arrangement for interconnecting the elements of a storage battery has long been the "post link" construction wherein lead alloy conductors, positioned *externally* of the battery casing, are connected to the plate elements by means of conductor posts extending upwardly through openings in the battery cover. It has been recognized for years, however, that certain substantial advantages—relating generally to manufacturing cost, appearance, durability and lower internal resistance—could be obtained by the use of an *internal*, "through partition" type cell connector which passes through the wall separating the adjacent cells of the battery. According to the specification, prior connections of the "internal" type have been made by (1) inserting a conductor element in an aperture in a cell partition, (2) "sealing" the conductor in the aperture, and (3) then electrically connecting it to the battery elements in the respective cells.

The specification describes appellants' method for making an "internal" cell connection through an aperture in a partition wall of a battery casing:

> Battery elements are positioned in each of the battery compartments which include a strap having a connector lug thereon precast to the elements. Each lug has a sealing face thereon provided with an area adapted for interconnection through said aperture. The elements are positioned in the compartments so that the area on one connector lug is in contact, *directly or indirectly (by an intermediate member)*, with the area on the connector lug in the adjacent compartment through the aperture. These areas are joined by a *pressurized resistance weld* and the aperture is completely and tightly filled with the lug material to form a seal preventing leakage of electrolyte between cells. [Emphasis supplied.]

The subject matter is perhaps best understood by reference to claim 27, to which we have added reference numerals keyed to FIGS. 3, 17 and 18, illustrative of the direct and indirect contact between connector lugs contemplated by appellants as well as the finished connection, respectively:

> 27. The method of making a storage battery comprising the steps of:
>
> providing an open top storage battery case having a partition [14; 74] of insulating material therein which divides the case into at least two separate compartments, said partition having an opening [36; 72] therethrough;
>
> providing battery elements, said elements each having a connector strap [22] electrically connected thereto, there being lead projection material [projections 30 and 32 on connector lugs 28; pin 70 between connector lugs 78] for electrically connecting said straps;
>
> positioning said battery elements in each of said compartments with said projection material extending through the partition opening between said straps;
>
> passing an electric welding current [from transformer at top of FIG. 3] through said projection material to soften such material into a deformable mass; and
>
> squeezing said straps together [by such means as clamping jaws 42] during the application of the electric welding current to weld the straps together and to force the softened metal of the projection material into sealing engagement with the wall of the partition opening.

[2] Serial No. 132,660, filed August 21, 1961.

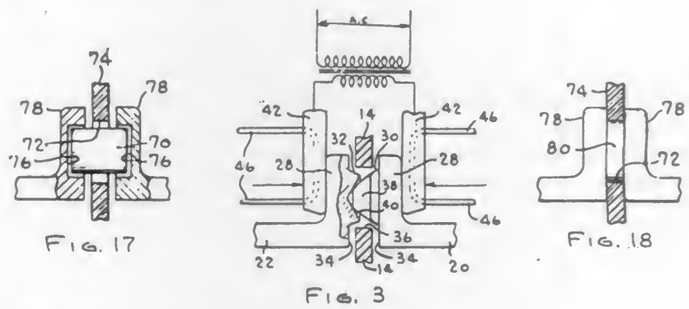


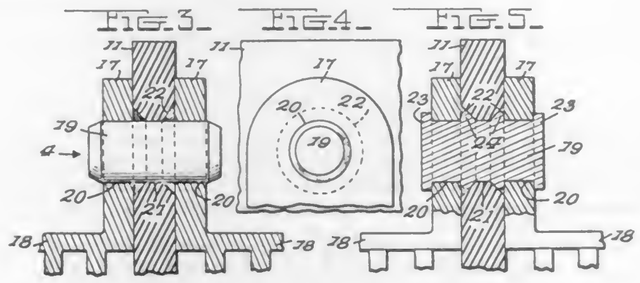
FIG. 17 FIG. 3 FIG. 18

The references are:

Thomson, 555,131, Feb. 25, 1896.
Mounts, 2,327,924, Aug. 24, 1943 [3]
Rigsby, 2,906,804, Sept. 29, 1959.

The claims were rejected as "unpatentable over Thomson and Rigsby considered together." Rigsby discloses a method of making a "through-partition" intercell connection in storage batteries, and also discusses the state of the art prior to his invention:

> Prior constructions of this general form have embodied inter-cell connectors extending through openings in the battery casing partitions and welded or "burned" to plate straps in the cells, and bushings or other yieldable sealing means to prevent leakage through said openings. The present invention, however, has been designed to provide an improved and simplified construction which requires no welding or "burning" and no yieldable sealing means.
>
> In the present invention, plate connecting straps [18] at opposite sides of each partition [11] are provided with terminal lugs [17] contacting with said partition, the lugs and partition have registering openings [20, 21] forming a bore therethrough, and a soft metal pin [19] extends through this bore and has heads at its ends tightly engaging the lugs, said pin being expanded into tight contact with the bore wall to not only establish a good electrical connection but to prevent leakage between said pin and said bore wall.



Rigsby states that "longitudinal compression" of the pin expands it into "extremely tight contact" with the walls of the lug bore and causes some of the pin metal to flow into the wall aperture enlargements 22 or similar enlargements which may be present only in the lug bore to form tightly seated circumferential sealing ribs 24. Rigsby forms his pin from battery lead alloy which he discloses is "well adapted to expand and flow as desired when longitudinally compressed."

[3] Under the view we take of this case, it is unnecessary to consider the rejection of certain of the claims as unpatentable over Mounts.

Recognizing that Rigsby's disclosed method does not employ heating or a welding current while applying pressure to the connecting pin to form the intercell connection, the Examiner turned to Thomson, who discloses a method for securing or riveting two pieces of plate metal by placing a pin in aligned apertures in the plates and simultaneously supplying heat from an electrical current and pressure to the ends of the pin to cause softening and deformation thereof. Said the Examiner:

> It would be obvious to one skilled in the art that Thomson's method of making a connection could easily be used to make the inter-cell connection of Rigsby's battery. * * * Connecting inter-cell connectors to plate straps in the cells of a battery to form an integrally connected unit by welding or burning is well known in the prior art as shown in * * * Rigsby.

The Board agreed, adding:

> We consider the language of * * * [the appealed] claims to be broad enough to include the use of a pin of soft metal protruding through the aperture in the partition wall as shown in Rigsby to provide the electrically conductive and liquid tight joint for the intercell type of battery. The use of heat to soften the pin and facilitate the joint formation would be obvious to any one skilled in the art in view of Thomson and the prior art acknowledged by Rigsby.[*]

Appellants do not disagree with the Board's interpretation of the breadth of the claims. They contend, however, that numerous prior art patents cited by them to the Examiner establish that the claimed method solved a longstanding problem in the industry which many skilled engineers had unsuccessfully attempted to solve. They attach "great significance" to the affidavit of one Schaefer, former chief battery engineer of appellants' assignee, Globe-Union Inc., who averred that, to his knowledge, the battery industry had not produced any commercially successful intercell connected battery of the "through partition" type, including the battery constructions and/or methods of manufacture described in those patents,[5] primarily because of "manufacturing problems" or "the lack of an adequate seal at the partition aperture." In their view:

> * * * *none* of the prior patents of record * * * which relate in any way to the battery manufacturing art shows or suggests the critical feature of applicants' invention, i.e., *the simultaneous application of heat and pressure to the lead material inside the aperture which has proven effective to produce a fluid-tight connection having superior characteristics of low electrical resistance by a few easily performed steps.* * * *
>
> * * * * * * *
>
> The present invention did *not* promptly follow on the heels of a problem as it arose in the industry as is usually the case. Quite to the contrary, the several substantial advantages to be attained by a through-partition intercell connector were universally known in the battery art for over 40 years. The record is replete with examples of the numerous attempts by most of the major battery manufacturers to solve the problem. Of great significance is the fact that none of the prior attempts proved commercially feasible until applicants came forth with their invention.

Appellants further rely on the affidavits of Leighton, vice-president—marketing of Globe; Elkin, chief electrical engineer, American Motors Corp.; and Zifchak, manager, battery department, Atlas Supply Co. Leighton attested to the sales growth of Globe's "H.V." line of "through-partition" batteries and the cost reduction realized over conventional "post link" constructed batteries. Elkin and Zifchak characterized the commercial impact of Globe's "H.V." battery construction as one of the most significant breakthroughs in battery construction they have encountered.

[1] The environmental circumstances in which appellants made their invention, as reflected in the patents cited by them, and the commercial success of the batteries produced by one of the processes within the scope of the claims, as set forth in the affidavits, do, in proper circumstances, have some relevance to the determination of obviousness or unobviousness of the claimed subject matter. *Graham* v. *John Deere Co.*, 383 U.S. 1 at 15, 16. Analogous to the situation the Court found in *Graham*, 383 U.S. at 34, however, the evidentiary value of the many apparently unsuccessful attempts to provide a readily manufactured, leak-proof seal in the partition aperture of the battery appears to be well-tempered by the fact that those attempts occurred *before* Rigsby, the most pertinent reference, became available to those in the art. See *In re Caveney*, 55 CCPA —, — F.2d —, 155 USPQ 681.

Appellants' attempt to depreciate Rigsby's use of a connector pin to make his intercell connection as the "same basic approach" used by earlier workers in the field ignores the fact that Rigsby, unlike those earlier workers, introduced the concept of applying pressure to the ends of the pin to facilitate formation of a tight seal with the aperture wall—a concept appellants appear to have essentially adopted as part of their process shortly after acquiring actual knowledge of the Rigsby invention. While there is some evidence in the record to suggest that employees of appellants' assignee had difficulty in carrying out the Rigsby process because some of the partition walls cracked during or after compression of the pin, there is no evidence of unsuccessful attempts to deal with that problem. In any event, we agree with the Patent Office position that it would be obvious to one of ordinary skill in the art to alleviate that problem by applying heat to increase the flowability of the pin and lessen the pressure required to effect an adequate seal, particularly in view of Thomson. We have considered, in that regard, appellants' arguments that the Thomson patent represents nonanalogous art. However, in view of the various heating or welding techniques which have been previously employed to attach connecting pins to the connecting lugs or battery elements in a "through partition" type battery, as noted by Rigsby and the other patents cited by appellants, we think there is sufficient suggestion to those in the art to turn to the welding art, represented here by Thomson, to determine what other techniques were available.

[2] Turning to the evidence of commercial success, the difficulty we find with appellants' contentions is that the invention as practiced commercially admittedly is somewhat narrower than the scope of the appealed claims.[6] It seems to us that the Board has given tacit recog-

[*] The Board did not sustain the rejection of certain other claims, directed to appellants' preferred method in which connector strap lugs having *integral* projections to facilitate *direct* contact of the lugs are employed to make the intercell connection.

[5] The patents cited in the record by appellants disclose various techniques to seal a pin connector employed in making a through-partition connection, including (1) a pin having a flange embedded and vulcanized in the partition wall (Willard, 1,426,924, issued 1922); (2) use of nuts and a bolt to connect the battery plate straps through an aperture in the partition wall, with a rubber washer between the nut and wall to prevent leakage (Kyle, 2,002,267, issued 1935); (3) a pin inserted within a rubber bushing in the wall aperture and welded to the connector lugs attached to the plate (Hopkins, 2,180,959, issued 1939); (4) a connecting rod which is inserted through the partition aperture, deformed or compressed by a tool to form shoulders abutting against the partition wall and *subsequently* "fused" to connector lugs by "resistance heating" or "lead burning" (Doyle, 2,942,059, issued 1960). The latter patent, in describing the advantage of its disclosed construction over the prior art, states:

> It will be noted that the present method of assembly is different from any prior art methods wherein connector elements pass through the cell partitions. In all of the prior art devices, these connector elements are associated with the partition by means of resilient rubber bushings, nuts and gaskets and other devices, etc., *which have never provided a satisfactory fluid tight seal.* * * * The present method of assembly assures permanently sealed cell connectors wherein the upsetting operation creates permanent deformation of the connectors which assure a fluid tight joint under any and all conditions of use. * * * [Emphasis supplied.]

[6] Appellants state in their reply brief that the commercial batteries referred to in the affidavits relating to commercial success were made in accordance with the preferred method of the invention in which an integral projection on the connector lug face is employed to effect direct contact.

nition to the commercial success of appellants' invention in allowing claims specifically directed to that process and not suggested by the prior art, while correctly holding that the present claims are sufficiently broad to encompass that which would be obvious to one of ordinary skill in the art at the time appellants made their invention.

We think the Examiner and Board properly found other limitations appearing in certain of the claims to be obvious to one of ordinary skill in the art. [3] With due regard for appellants' arguments, we find no reversible error in the decision below and it is affirmed.

AFFIRMED.

SMITH, *J.*, concurs in the result.

U.S. Court of Customs and Patent Appeals

GEORGE B. SPERO *v.* HOWARD J. RINGOLD AND GEORGE ROSENKRANZ

No. 7681. Decided May 25, 1967

[54 CCPA 1407; 377 F.2d 652; 153 USPQ 726]

1. INTERFERENCE — CONCEPTION — IDENTICAL DISCLOSURES IN APPLICATION AND WORKING DRAFT THEREFORE.

"* * * we are of the view that the Board erred in concluding, as a matter of law, that identical disclosures may be sufficient to establish constructive reduction to practice of the subject matter of a count in interference when present in a filed application yet insufficient to establish conception when present in a working draft of that application."

2. APPLICATION—DISCLOSURE—SUFFICIENCY OF DISCLOSURE.

"As we recently stated in *Petisi* v. *Rennhard*, 53 CCPA 1452, 363 F.2d 903, 150 USPQ 669, the question of adequacy of disclosure in a parent application for the subject matter in a count in an interference is to be determined by: 'What has been taught by the parent specification to those "skilled in the art to which it pertains," 35 U.S.C. 112, and, as *to them*, a compound may well be disclosed without positive identification.'"

3. SAME—SAME—SAME.

"Spero's parent application does not state the steric configuration of the 6-methyl substituent of the starting material in Example 12. It also fails to specifically name the orientation of the 6-methyl substituent in the product of Example 13. However. we agree with the Board that the 6-methyl progesterone, employed as the starting material in Example 12, is generic to both 6α-methyl and 6β-methyl progesterones. We are thus faced with the question of whether Examples 12 and 13 can be construed as sufficient support for the use of either 6α-methyl progesterone or 6β-methyl progesterone in the procedure outlined in those examples. We are of the opinion that the testimony on behalf of Spero has established that Examples 12 and 13 are sufficient to teach one skilled in this art the use of *either* 6α-methyl or 6β-methyl progesterones as the starting material."

4. SAME—SAME—SAME.

"The inclusion of broad language in the disclosure may afford a proper basis for limited claims. This, however, is a question which must be determined on the basis of the particular circumstances of each case. Cf. *In re Shokal*, 44 CCPA 854, 242 F.2d 771, 113 USPQ 283."

5. SAME—SAME—SAME—CLAIMED COMPOUND INHERENT IN DISCLOSURE.

"Turning now to the testimony of Lincoln, we believe appellant's contention with respect thereto [urging sufficiency of disclosure] has substantial merit. Lincoln testified that he performed or had carried out under Spero's direction two sets of experiments, both following the procedure of Examples 12 and 13 [in the application]. Lincoln used 6α-methyl progesterone as the starting material in one experiment and 6β-methyl progesterone in the other. The testimony shows that 6α-methyl-17α-hydroxy-progesterone is always present in the end product regardless of the starting material employed. In view of this testimony we agree with the Board's conclusion that the procedures set forth in Examples 12 and 13 would inherently produce the 6α-methyl compound of the count. *In re Magerlein*, 52 CCPA 1637, 346 F.2d 609, 145 USPQ 683. See also *In re Nathan*, 51 CCPA 1059, 328 F.2d 1005, 140 USPQ 601."

6. SAME—SAME—SAME—SAME—*In re Magerlein* CONSTRUED.

"The appellees contend * * * that *Magerlein* and *Nathan* are not applicable to the present situation because Spero's parent application lacks identifying characteristics for the product produced by the processes described in Examples 12 and 13. We find this contention to be based on an erroneous understanding of the facts in the *Magerlein* case. In that case, there was an application disclosing certain 16-hydroxy steroids and a process for preparing them. The application as filed did not disclose the steric configuration of the 16-hydroxy substituent. Thereafter, an amendment was filed in an attempt to amend the specification and claims to indicate that the 16-hydroxy substituent had the alpha orientation. The Examiner rejected the claims as containing new matter and one of the applicants submitted an affidavit under Rule 132 comparing the product of the process disclosed in the application with a compound having known 16α configuration and referred to as the Bernstein et al. compound. The Board in the *Magerlein* case apparently thought it unnecessary to consider the merits of the affidavit since 'it was based on the work of another subsequent to the filing date of the application.' This court considered the Board's position in *Magerlein* not to be sound in view of * * * *Nathan* * * *"

7. SAME—SAME—SAME—SAME—SAME.

"The appellees also contend that Spero's parent application is insufficient to support the count since there is nothing in that application to show the specific 6α-methyl compounds of the count. It is the appellees' contention that the testimony to establish inherency of the count cannot be considered as a contemporary evaluation of the written description of that application inasmuch as the experiments carried out to show inherency were not performed until six years after filing of the application. We find this contention to be without merit since, in our opinion, the facts herein are clearly similar to those in *Magerlein*. Appellees further contend that the *Magerlein* case is not applicable to the present facts * * *. We do not agree with the above contention since in the present case, as in *Magerlein*, the chemical name of the product claimed was stated in the application as filed, the only deficiency being a specific statement as to the steric configuration of a substituent. This was exactly the situation in Magerlein. In addition, we note that in *Magerlein* the identifying physical characteristics were also submitted after the application was filed."

8. INTERFERENCE—CONCEPTION—IDENTICAL DISCLOSURES IN APPLICATION AND UNFILED DRAFT THEREFOR.

"We fail to see why the act of filing an application to entitle an applicant to a date of constructive reduction to practice imparts anything more to the disclosure contained therein than a procedural advantage. It cannot and does not *change the import of the disclosure*. On the instant before filing, the disclosure teaches no more and no less than it does on the instant after filing. Thus, if the application as filed discloses the invention in issue, as the Board has here assumed that it does, it seems inconsistent to deny the *same effect* to the *same disclosures* in a prior but unfiled draft of the same application."

9. SAME—SAME—EVIDENCE—WORKING DRAFT OF PATENT APPLICATION.

"As evidence of conception, the working draft of the Spero parent application seems to us to be probative of Spero's conception of the invention in issue and, as such, may corroborate the other evidence on behalf of Spero. As such evidence, it must be adjudged on the objective standard as to what it teaches a person or ordinary skill in the art."

10. SAME—SAME—SAME.

"Since the conception of an invention is a mental act, known only to its originator, it follows that it must be proven by evidence showing what the inventor has disclosed to others and what that disclosure means to one of ordinary skill in the art. In this light, the standard for proving conception is not essentially different from that required for proving reduction to practice or adequacy of support in a disclosure for a claim. In all these cases, the proof of disclosure by the inventor must be interpreted in light of what it means to a person of ordinary skill in the art."

11. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—REMAND—INTERFERENCE—35 U.S.C. 102(g).

"We find that appellant's parent application as filed establishes both a conception and a constructive reduction of the invention as of its filing date. The Board's decision in this case did not require it to pass on several issues which, in view of our disposition of this appeal, must be considered, 35 U.S.C. 102(g). Among these issues are the sufficiency of Exhibit 4 to support conception, the date of such conception and Spero's diligence. Accordingly, we *remand* the case to the Board for further proceeding not inconsistent with this opinion."

12. SAME—RECORD—ASSESSEMENT OF COSTS.

"While the record in this case was being prepared by the Patent Office for filing herein, the appellees filed a praecipe in the Office requesting that additional material be included in the record. Appellant then filed a motion in this court for an order to assess the cost of printing such additional material, which motion was deferred until final disposition of the appeal. We find that the additional material was unnecessary to the decision in this case and we therefore assess the costs of printing it against the appellees."

APPEAL from the Patent Office. Interference No. 89,425.

REVERSED and REMANDED.

Eugene O. Retter for appellant.

Evelyn K. Merker, Leon Simon for appellees.

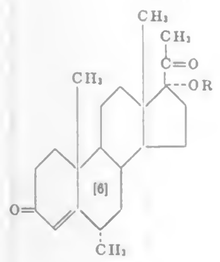
Before WORLEY, *Chief Judge*, and RICH, SMITH, and ALMOND, *Associate Judges*

SMITH, *J.*, delivered the opinion of the court.

This appeal is from a decision of the Board of Patent Interferences awarding priority of invention to appellees Ringold et al., the senior party, hereinafter "Ringold." [1] The sole count in issue was suggested by the Examiner to the parties for the purposes of the interference.

The subject matter in issue is best illustrated by the count which reads:

1.



wherein R is selected from the group consisting of hydrogen and lower acyl.

It will be seen that the count reads on 6α-methyl-17α-hydroxy progesterone and its lower fatty acid esters and it will be helpful to note at this time that the methyl substituent at the 6-position of the progesterone nucleus is in the so-called alpha steric orientation.

Ringold took no testimony but relied on 35 U.S.C. 119 to secure the benefit of their prior Mexican filing date of September 8, 1956. Appellant Spero claimed the filing date of his parent application Serial No. 623,774, to establish a constructive reduction to practice as of November 23, 1956. In addition, Spero took testimony and submitted various documentary records to prove conception of the invention as of August 23, 1956. The Board held that Spero was entitled to the date of his parent application but that the testimony did not establish an earlier date of conception. Since the Mexican priority

[1] In interference No. 89,425 between Spero application Serial No. 685,391, filed September 23, 1957, and Ringold application Serial No. 679,762, filed August 22, 1957.

date of Ringold is earlier than the filing date of the Spero parent application, the Board awarded priority to Ringold.

Spero here argues that the Board correctly accorded him a date of constructive reduction to practice based on his parent case. Additionally, Spero contends that Exhibit 4, which was a working draft of his parent application which had been prepared by his patent agent prior to the actual filing of that application, constitutes a recorded conception of the invention in the count. Spero points out that his Exhibit 4 is identical in all pertinent respects with his parent application as actually filed. Spero also contends that the testimony establishes diligence in the period of about three months which elapsed between the alleged date of conception and the actual filing of the parent application.

Ringold's position is that Spero failed to establish a date of conception of the invention defined by the count. Ringold points out that the testimony of Spero's witness, one Dr. Berneis, an organic physical chemist who was Spero's patent agent, establishes that Spero had no conception of the 6α-methyl steroid specified in the count at the time when Exhibit 4 was prepared. Ringold's position also is that Spero's parent application is insufficient to support the count and thus cannot be relied upon to establish a date of conception or a date of constructive reduction to practice.

Thus an initial issue for determination is whether Spero's parent application adequately discloses the 6α-methyl compounds recited in the count. Spero's parent application is concerned with 6-methylprogesterone and a process for production thereof. The 6-methylprogesterone is disclosed as being available in both the 6α- and 6β-steric configuration. Example 5 of Spero's parent application describes a process for producing 6β-methylprogesterone. Example 5A shows a method for producing 6α-methylprogesterone, and Example 5B shows how the 6β-compound can be converted into the 6α-compound. The application also states that the 6-methylprogesterone has utility, *inter alia*, as an intermediate in the production of 6-methyl-17α-hydroxy-4-pregnene-3,20-dione (i.e., 6-methyl-17α-hydroxy-progesterone). Except for the lack of specific designation of a steric configuration for the 6-methyl substituent in the last mentioned compound, the count is directly readable on it. Example 12 of Spero's parent application shows the making of 6-methyl-17α,21-dihydroxy-4-pregnene-3,20-dione from 6-methylprogesterone, without indicating the steric configuration of the starting material. Example 13, following immediately thereafter, shows the production of 6-methyl-17α-hydroxy-4-pregnene-3,20-dione from the product of Example 12.

It is Spero's failure to designate the steric configuration of the 6-methyl substituent on the progesterone nucleus in Examples 12 and 13 which causes the controversy in the present case.

Further complicating the picture is the testimony of witnesses called by Spero. On the one hand, Dr. Berneis testified on cross-examination that he did not designate the configuration of some of the compounds in the application because the people at the Upjohn Company (assignee of Spero) did not know the steric configuration of those compounds at the time when Spero's first application was prepared and filed. On the other hand, a Dr. Jensen, who was a professor at the Ben May Laboratory for Cancer Research of the University of Chicago and a consultant for the Upjohn Company, testified that a skilled organic chemist would predict that the 6-methyl substituent on the prod-

uct of Example 13 would assume the thermodynamically more stable orientation of the 6α- form, during the course of synthesis, regardless of whether the 6α-methyl- or the 6β-methylprogesterone starting material was used in Example 12. In support of his testimony, Dr. Jensen cited publications bearing dates earlier than Spero's first filing date or his alleged conception date.

Thus, we have the anomalous situation presented that while the inventor may not have known the configuration of the compound produced by his process, an expert in the art testified that the compound necessarily has the predictable configuration which meets the count.

In awarding a constructive reduction to practice to Spero on the basis of his parent application, the Board found the disclosures in the application adequately supported the 6α-methyl limitation of the count in view of "what the application as a whole *communicates* to one skilled in the art." *In re Nelson*, 47 CCPA 1031, 1048, 280 F.2d 172, 126 USPQ 242, 253. The Board's view was that "one skilled in the art, here the steroid chemist, would be taught by the disclosure that Example 12 may be practiced with either one of the precursors of Examples 5, 5A and 5B." The Board also concluded that "the steroid chemist on reading the application would readily preceive—that is, it is obvious—that 6-methyl is generic to the 6α- and 6β-methyl." In addition, the Board stated:

> Since the count demands the 6α-methyl limitation the 6β-methyl progesterone precursor is automatically eliminated in practicing the process of Example 12. This leaves only the 6α-methyl progesterone precursor to be used in the process of Example 12. In short, we believe it would be obvious to the steroid chemist from the teachings of the disclosure to employ the 6α-methyl progesterone precursor in carrying out the process of Example 12, from which, by following Example 13, a compound is produced which satisfies the count.

The Board also found that testimony taken by Spero shows that use of the 6α-methyl progesterone precursor in Example 12 inherently produces a 6α-methyl compound within the count. Therefore, the Board found that the count is inherently disclosed in Serial No. 623,774, *In re Nathan*, 51 CCPA 1059, 328 F.2d 1005, 140 USPQ 601. However, the Board refused to accept Spero's Exhibit 4 as proof of an earlier date of conception. While the Board apparently assumed Exhibit 4 to be identical with Spero's parent application, it nevertheless concluded that the exhibit failed to establish a date of conception because it "does not disclose the inventon." The Board refused to accept the testimony that the disclosure in the parent application inherently disclosed the invention as claimed in the count as proof of conception. Exhibit 4, according to the Board, amounted to a defective "nunc pro tunc conception." *Heard* v. *Burton*, 51 CCPA 1502, 333 F.2d 239, 142 USPQ 97.

[1] For reasons to be hereinafter stated, we are of the view that the Board erred in concluding, as a matter of law, that identical disclosures may be sufficient to establish constructive reduction to practice of the subject matter of a count in interference when present in a filed application yet insufficient to establish conception when present in a working draft of that application.

We are in agreement with the Board as to the test it applied to the disclosures of the parent application. We agree that they adequately support the 6α-methyl limitation of the count. **[2]** As we recently stated in *Petisi* v. *Rennhard*, 53 CCPA 1452, 363 F.2d 903, 150 USPQ 669, the question of adequacy of disclosure in a parent application

for the subject matter in a count in an interference is to be determined by:

> What has been taught by the parent specification to those "skilled in the art to which it pertains," 35 U.S.C. 112, and, as *to them*, a compound may well be disclosed without positive identification.

[3] Spero's parent application does not state the steric configuration of the 6-methyl substituent of the starting material in Example 12. It also fails to specifically name the orientation of the 6-methyl substituent in the product of Example 13. However, we agree with the Board that the 6-methyl progesterone, employed as the starting material in Example 12, is generic to both 6α-methyl and 6β-methyl progesterones. We are thus faced with the question of whether Examples 12 and 13 can be construed as sufficient support for the use of either 6α-methyl progesterone or 6β-methyl progesterone in the procedure outlined in those examples. We are of the opinion that the testimony on behalf of Spero has established that Examples 12 and 13 are sufficient to teach one skilled in this art the use of *either* 6α-methyl or 6β-methyl progesterones as the starting material.

[4] The inclusion of broad language in the disclosure may afford a proper basis for limited claims. This, however, is a question which must be determined on the basis of the particular circumstances of each case. Cf. *In re Shokal*, 44 CCPA 854, 242 F.2d 771, 113 USPQ 283.

Accordingly, we will now consider the facts of record. Examples 5 and 5A of Spero's parent application show the methods of preparing 6β-methyl progesterone and 6α-methyl progesterone, respectively. In later examples in that application, the steric configuration of the 6-methyl substituent of the 6-methyl progesterone is not specifically stated. According to the testimony of Dr. Berneis, the starting material for Example 12 is stated to be 6-methyl progesterone to indicate that either 6α-methyl or 6β-methyl progesterone may be used. It was his understanding that the term "6-methyl progesterone" would suggest immediately that the starting material should be selected from those previously disclosed in Examples 5 and 5A. In view of the clarity of the disclosure in these examples with respect to the preparation of the 6α-methyl and 6β-methyl progesterones, we agree with the Board that "one skilled in the art, here the steroid chemist, would be taught by the disclosure that Example 12 may be practiced with either one of the precursors of Examples 5, 5A and 5B."

There is no dispute that the disclosed product of Example 13 of Spero's parent application is a species of the material designated in the count except for the lack of a recital as to the steric designation for the 6-methyl substituent. Spero attempted to overcome this deficiency by: (1) the testimony of one Lincoln, a research chemist in Upjohn's employ, who stated that when Examples 12 and 13 are practiced with either 6α-methyl progesterone or 6β-methyl progesterone starting materials, the product obtained always contains 6α-methyl-17α-hydroxy-progesterone; and (2) the testimony of Professor Jensen who stated that the procedure of Examples 12 and 13 would necessarily produce the 6α-methyl product whether 6α- or 6β- starting material was used. The stated reason for this being that the α- orientation is thermodynamically more stable than the β- orientation so that during the course of synthesis the 6-methyl substituent would assume the more stable position.

We are not inclined to accord controlling weight to Professor Jensen's testimony in view of Dr. Berneis' conclusion that appellant was

not sure "which exact compound he would get" from the method of synthesis disclosed in some of the examples. Thus it appears that appellant himself, presumably a man of ordinary skill in the art, did not know at the time of the preparation of Exhibit 4 the exact configuration of his product. Dr. Jensen's testimony to the effect that one skilled in the art could predict the steric configuration of the product of appellant's Example 13 does not overcome the effect of the concession made by Dr. Berneis. Cf. *Abington Textile Machinery Works* v. *Carding Specialists Ltd.*, 249 F. Supp. 823, 829, 148 USPQ 33, 37 (D.D.C. 1965).

[5] Turning now to the testimony of Lincoln, we believe appellant's contention with respect thereto has substantial merit. Lincoln testified that he performed or had carried out under Spero's direction two sets of experiments, both following the procedure of Examples 12 and 13.[2] Lincoln used 6α-methyl progesterone as the starting material in one experiment and 6β-methyl progesterone in the other. The testimony shows that 6α-methyl-17α-hydroxy-progesterone is always present in the end product regardless of the starting material employed. In view of this testimony we agree with the Board's conclusion that the procedures set forth in Examples 12 and 13 would inherently produce the 6α-methyl compound of the count. *In re Magerlein*, 52 CCPA 1637, 346 F.2d 609, 145 USPQ 683. See also *In re Nathan*, 51 CCPA 1059, 328 F.2d 1005, 140 USPQ 601.

[6] The appellees contend, however, that *Magerlein* and *Nathan* are not applicable to the present situation because Spero's parent application lacks identifying characteristics for the product produced by the processes described in Examples 12 and 13. We find this contention to be based on an erroneous understanding of the facts in the *Magerlein* case. In that case, there was an application disclosing certain 16-hydroxy steroids and a process for preparing them. The application as filed did not disclose the steric configuration of the 16-hydroxy substituent. Thereafter, an amendment was filed in an attempt to amend the specification and claims to indicate that the 16-hydroxy substituent had the alpha orientation. The Examiner rejected the claims as containing new matter and one of the applicants submitted an affidavit under Rule 132 comparing the product of the process disclosed in the application with a compound having known 16α configuration and referred to as the Bernstein et al. compound. The Board in the *Magerlein* case apparently thought it unnecessary to consider the merits of the affidavit since "it was based on the work of another subsequent to the filing date of the application." This court considered the Board's position in *Magerlein* not to be sound in view of the statement in *Nathan*, 51 CCPA at 1062, 328 F.2d at 1008, 140 USPQ at 603:

> It seems to us that the issue here is whether appellants' identification of their 2-halo steroids in their original disclosure is adequate to identify the claimed subject matter and whether there is sufficient evidence in the record to show the alpha orientation to be an inherent characteristic of the subject matter so identified. If the answers are in the affirmative then appellants' amendment specifying the alpha orientation for the 2-halo substituent is not new matter but rather is merely a statement of an inherent property of the steroids as disclosed in appellants' original disclosure.

[2] Lincoln's experiments followed generally the procedure of Examples 12 and 13 but with some deviations therefrom. Both Lincoln and Jensen testified that these deviations are immaterial for the purposes herein. The Board apparently agreed with Lincoln and Jensen since it concluded that the testimony taken by Spero shows that use of the 6α-methyl progesterone precursor in Examples 12 and 13 inherently produces a 6α-methyl compound of the count.

[7] The appellees also contend that Spero's parent application is insufficient to support the count since there is nothing in that application to show the specific 6α-methyl compounds of the count. It is the appellees' contention that the testimony to establish inherency of the count cannot be considered as a contemporary evaluation of the written description of that application inasmuch as the experiments carried out to show inherency were not performed until six years after filing of the application. We find this contention to be without merit since, in our opinion, the facts herein are clearly similar to those in *Magerlein*. Appellees further contend that the *Magerlein* case is not applicable to the present facts, stating in their brief:

> But, unlike the cases of *In re Nathan et al.* and *In re Magerlein et al.*, the Schneider and Spero application lacked any identifying physical characteristics for Examples 12 and 13 so that the compounds could be identified apart from the method of making it. As stated by the United States Supreme Court in *Cochrane et al.* v. *Badische Anilin and Soda Fabrik*, 111 U.S. 293, 1884 C.D. 230:
>
> "Every patent for a product or composition of matter must identify it so that it can be recognized aside from the description of the process for making it, or else nothing can be held to infringe the patent which is not made by that process."

We do not agree with the above contention since in the present case, as in *Magerlein*, the chemical name of the product claimed was stated in the application as filed, the only deficiency being a specific statement as to the steric configuration of a substituent. This was exactly the situation in *Magerlein*. In addition, we note that in *Magerlein* the identifying physical characteristics were also submitted after the application was filed.

The passage appellees have quoted from the Supreme Court's opinion in the *Cochrane* case is quoted out of context and is not applicable to the present situation. The *Cochrane* case involved a patent claiming "[A]rtificial alizarine, produced from anthracine or its derivatives by either of the methods herein described, or by any other method which will produce a like result." 111 U.S. at 296. That patent apparently contained no identifying physical characteristics of the claimed product. The alleged infringing article was made by a process different from that disclosed in the patent. Furthermore, it appears that alizarine, as then understood, had the chemical formula $C_{14}H_8O_4$, which is not the same as the formula of the alleged infringing article. These facts underlie the statement of the Supreme Court, 111 U.S. at 310, that:

> If the words of the claim "by any other method which will produce a like result" mean any other method which will produce the only product mentioned in the description, namely, alizarine, as then understood, having the formula $C_{14}H_8O_4$, the defendants' article is not that product, for it contains other dyeing ingredients which the alizarine of the patent does not contain. If the words of the claim are to be construed to cover all artificial alizarine, whatever its ingredients, produced from anthracine or its derivatives by methods invented since Graebe and Liebermann invented the bromine process, we then have a patent for a product or composition of matter, which gives no information as to how it is to be identified. Every patent for a product or composition of matter must identify it so that it can be recognized aside from the description of the process for making it, or else nothing can be held to infringe the patent which is not made by that process.

Clearly, the facts in the present case are similar to those found in *Magerlein* but are entirely different from those involved in the *Cochrane* case.

In view of the above, we find no error in the Board's conclusion that Spero's parent application adequately supports a constructive reduction to practice of the subject matter of the count.

As indicated above, the filing date for Spero's parent application is later than appellees' Mexican priority date by a period of about 2½ months. To prevail it is necessary for appellant to prove a date of conception prior to appellees' Mexican priority date. Exhibit 4, the working draft of Spero's parent application, is the key evidence relied on by appellant. In addition to the exhibit itself, appellant has submitted testimony to show the date on which the pertinent portions of Exhibit 4 were written. Furthermore, to prevail appellant must establish reasonable diligence from a time prior to appellees' priority date until the filing date of appellant's application. 35 U.S.C. 102(g).

The Board in its third decision in this case, in holding that Exhibit 4 is insufficient as proof of a date of conception of the invention stated:

> Whether or not Exhibit 4 is "identical" with the first filed Spero application, Serial No. 623,774 (Exhibit 6)—Ringold et al. assert the two are not identical—is immaterial in the views of the case we have taken.
>
> Spero is confusing two different principles of patent interference law, namely (1) conception and (2) inherency in an application to establish the application as a constructive reduction to practice. He is seeking to apply the law governing the establishing of inherency in an application *by suitable evidence* to obtain the benefit of a constructive reduction to practice, to an exhibit (Exhibit 4) which does not disclose the invention and so would fail as a conception. In the instant case, the evidence to establish inherency in the first filed Spero application was filed in March 1963, about 6½ years after the filing of that application in this Office. This evidence—testimony and documentary exhibits—was presented in accordance with the practice set forth in the authorities cited on page 11 of our initial opinion.
>
> This testimony cannot be used to prove conception via Exhibit 4 because it is in direct conflict with the controlling law in this issue; see the treatment of conception on pages 2 to 4 of our supplemental opinion. See also the case *Heard* v. *Burton et al.* (CCPA), 142 USPQ 97, where the subject of conception is treated at length.
>
> As stated in the *Heard* case, supra, a nunc pro tunc reduction to practice is defective. By the same token the law would not recognize a nunc pro tunc conception, if such a concept existed in our patent law. Spero has cited no authority for his position. We know of none.

The Board's opinion with respect to the issue of conception appears to us to be inconsistent with its decision on the issue of constructive reduction to practice. Briefly, what the Board seems to be holding is that *identical disclosures* may be sufficient to establish a constructive reduction to practice when present in a filed application but are inadequate to establish a date of conception of the same invention when present in an unfiled draft of the same application.

[8] We fail to see why the act of filing an application to entitle an applicant to a date of constructive reduction to practice imparts anything more to the disclosure contained therein than a procedural advantage. It cannot and does not *change the import of the disclosure.* On the instant before filing, the disclosure teaches no more and no less than it does on the instant after filing. Thus, if the application as filed discloses the invention in issue, as the Board has here assumed that it does, it seems inconsistent to deny the *same effect* to the *same disclosures* in a prior but unfiled draft of the same application.

[9] As evidence of conception, the working draft of the Spero parent application seems to us to be probative of Spero's conception of the invention in issue and, as such, may corroborate the other evidence on behalf of Spero. As such evidence, it must be adjudged on the objective standard as to what it teaches a person of ordinary skill in the art. Thus we have stated in *Townsend* v. *Smith*, 17 CCPA 647, 36 F.2d 292, 4 USPQ 269:

> A complete conception as defined in an issue of priority of invention is a matter of fact and must be clearly established by proof. The conception of the invention consists in the complete performance of the mental part of the inventive act. All that remains to be accomplished in order to perfect the act or instrument belongs to the department of construction, not invention. It is therefore the formation in the mind of the inventor of a definite and permanent idea of the complete and operative invention as it is thereafter to be applied in practice that constitutes an available conception within the meaning of the patent law. *A priority of conception is established when the invention is made sufficiently plain to enable those skilled in the art to understand it.* [Emphasis added.]

[10] Since the conception of an invention is a mental act, known only to its originator, it follows that it must be proven by evidence showing what the inventor has disclosed to others and what that disclosure means to one of ordinary skill in the art. In this light, the standard for proving conception is not essentially different from that required for proving reduction to practice or adequacy of support in a disclosure for a claim. In all these cases, the proof of disclosure by the inventor must be interpreted in light of what it means to a person of ordinary skill in the art.

[11] We find that appellant's parent application as filed establishes both a conception and a constructive reduction of the invention as of its filing date. The Board's decision in this case did not require it to pass on several issues which, in view of our disposition of this appeal, must be considered, 35 U.S.C. 102(g). Among these issues are the sufficiency of Exhibit 4 to support conception, the date of such conception and Spero's diligence. Accordingly, we *remand* the case to the Board for further proceeding not inconsistent with this opinion.

[12] While the record in this case was being prepared by the Patent Office for filing herein, the appellees filed a praecipe in the Office requesting that additional material be included in the record. Appellant then filed a motion in this court for an order to assess the cost of printing such additional material, which motion was deferred until final disposition of the appeal. We find that the additional material was unnecessary to the decision in this case and we therefore assess the costs of printing it against the appellees.

REVERSED AND REMANDED.

WORLEY, *Chief Judge*, did not participate.

U.S. Court of Customs and Patent Appeals

AMERICAN MANUFACTURING COMPANY OF TEXAS *v.* THE HEALD MACHINE COMPANY

No. 7807. Decided November 9, 1967

[55 CCPA —; 385 F.2d 456; 155 USPQ 515]

1. TRADEMARK—CONFUSING SIMILARITY—"BORE-MATIC" FOR BORING MACHINES AND "BOREMASTER" FOR CROSS SLIDES FOR LATHES.

In affirming the decision of the Trademark Trial and Appeal Board sustaining an opposition based on a 1932 renewed registration of the mark "BORE-MATIC" for boring machines, to the registration of the mark "BOREMASTER" for cross slide assembles for lathes with asserted continuous use since 1963, *Held*, that "Even though we are dealing here with expensive goods which are purchased by discriminating and sophisticated purchasers, the marks and the goods on which they are used are sufficiently close as to raise the question

of likelihood of confusion"; and that "While we agree with the Trademark Trial and Appeal Board that there may be some elements of doubt as to whether confusion would be likely in this particular situation, such doubts must be resolved in favor of the first user."

APPEAL from the Patent Office. Opposition No. 43,814.

AFFIRMED.

Herbert J. Brown (*Munson H. Lane*, of counsel) for appellant.

Norman S. Blodgett for appellee.

Before WORLEY, *Chief Judge*, RICH, SMITH, and ALMOND, *Associate Judges*, and WILLIAM H. KIRKPATRICK [1]

ALMOND, *J.*, delivered the opinion of the court.

American Manufacturing Company of Texas appeals from the decision of the Trademark Trial and Appeal Board [2] sustaining the opposition of The Heald Machine Company to an application for registration of the mark "BORMASTER" for cross slide assemblies for metal working lathes. Appellant asserts continuous use since May 13, 1963. Registration is sought in Class 23 which relates to cutlery, machinery and tools, and parts thereof.

Appellee is the registrant of "BORE-MATIC" for machines for the precision finishing of holes or bores in parts of metal, fiber and like materials (Reg. No. 292,921, issued March 29, 1932; renewed), also in Class 23.

Both parties rely on affidavits accompanied by exhibits.

The record discloses that appellee is a large manufacturer of machine tools. Long prior to appellant's date of first use, appellee has used BORE-MATIC on many types of boring machines, one of which possesses characteristics the same as those of a lathe. In addition to the above products, appellee manufactures hydraulic cross slides and manual cross slides which serve as attachments for its BORE-MATIC machines. During the period since 1931, appellee has expended $2,000,000 in advertising its BORE-MATIC machines with sales amounting to $62,000,000.

Appellant's proof, in material substance, is to the effect that it uses the registered mark SPEEDMASTER for spindle assemblies for machine tools [3] and BORMASTER for cross slide assemblies for metal working lathes. The spindle and cross slide assemblies are accessories for use on lathes which are sold under the mark AMCOT. The AMCOT lathes sell for approximately $50,000, and the BORMASTER cross slide assemblies sell for approximately $5,500.

Priority of registration and use clearly reside with appellee. It is abundantly clear that the involved products are closely related and normally move through the same channels of trade to the same class of purchasers.

Appellant contends that, inasmuch as the only feature which the marks possess in common is the prefix "Bor" or "Bore," which is in the public domain and possesses little trademark significance and, further, that the goods of the parties are expensive and sold only to a prudent and discriminating class of purchasers, confusion is not likely to occur in the market place.

In sustaining the opposition, the Board reasoned as follows:

> While the prefix "BOR" or "BORE" may be public juris as applied to boring machines, we must still consider the marks of the parties in their entireties and, when so considered, we conclude that applicant's "BORMASTER" so resembles

[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.
[2] 147 USPQ 533.
[3] Reg. No. 769,491, issued May 12, 1964.

> "BORE-MATIC" that, as applied to applicant's goods, there would be a likelihood of confusion or mistake. In so doing, we have given due consideration to applicant's argument that these products are sold to discriminating purchasers but do not believe that where, as here, the products of the parties are substantially the same, such factor is of controlling significance. See *In re Dobeckmun Company*, 128 USPQ 424 (CCPA, 1961). While there may be some elements of doubt as to whether confusion would be likely because of the highly suggestive nature of the marks of the parties, we follow the established practice of resolving any such doubts in favor of the first user. [Citations omitted.]

We have considered the cases cited and relied on by appellant and the arguments advanced. We are persuaded, however, that the rationale employed by the court in the *Dobeckmun* case, 48 CCPA 810, 286 F.2d 187, 128 USPQ 424, is pertinent here and was correctly applied by the Board.

Here, as in *Dobeckmun*, we have closely related goods. The court stated:

> The owner of the prior registered mark has the right to use his mark on such closely related goods.
>
> Similarity of the products of appellant and of registrant is of greater legal significance in applying section 2(d) than are the possible semantic differences * * *. Section 2(d) requires us to determine not whether the goods are identical but only whether applicant's mark so resembles the prior mark as to be likely when applied to its goods to cause confusion, or mistake, or to deceive purchasers.

[1] Even though we are dealing here with expensive goods which are purchased by discriminating and sophisticated purchasers, the marks and the goods on which they are used are sufficiently close as to raise the question of likelihood of confusion. While we agree with the Trademark Trial and Appeal Board that there may be some elements of doubt as to whether confusion would likely in this particular situation, such doubts must be resolved in favor of the first user.

Perceiving no reversible error in the decision of the Board, we affirm.

AFFIRMED.

RICH, *J.*, dissenting.

In substance, all the majority opinion says by way of explaining why it affirms is that it agrees with the reasoning of the Board.[4] I cannot find in the Board's opinion any rationalization of *why* it thought confusion would be likely. The opinion merely recites some of the stipulated facts [5] and then states the conclusion that confusion is likely. No doubt the Board based its conclusion on the obvious similarities of the marks *as a whole* and its holding that the goods are "substantially the same." It then cited *In re Dobeckmun Co.*, 48 CCPA 810, 286 F.2d 187, 128 USPQ 424, which I consider no precedent for the result reached, even if we consider the goods to be *identical* in the sense of all being machine tools. Within that category, the goods are actually quite different. The true state of mind of the Board seems to have been that it was in *doubt* about likelihood of confusion, out of which state it delivered itself by applying the old rule to resolve doubt in favor of the first user.

I believe that confusion is not likely and have no doubt to be resolved. The reasons for my conviction follow.

[4] The Board opinion is published at 147 USPQ 533.
[5] It was stipulated by the parties that the testimony could be introduced in the form of affidavits. Each side then submitted the affidavit of a vice president reciting facts about his own company's business. There are no conflicts between the two affidavits. This is tantamount to stipulating facts.

First, insufficient weight has been given to the facts as to the actual goods sold under the respective marks, to whom they are sold, the purposes for which they are bought, and the prices involved.

Appellant's cross-slide assemblies cost $5,500 or so—as much as a luxury automobile—and are designed expressly for use with appellant's $50,000 lathes. The record shows that they will not fit any other machine tool. Therefore, what is involved in the purchase of one of these BORMASTER cross-slide assemblies is ownership of a $50,000 tool and purchase of a $5,500 attachment for it. Such a purchase is not a casual transaction and unquestionably involves engineering specification of exactly what is wanted and of a specific known source, from which alone it can be had, and knowledgeable corporate purchasing-agent handling of the whole transaction. Appellee's affidavit states as to purchasers:

> In every case, the sales are made to manufacturers who makes use of machine tools and use them for manufacturing a finished product. These customers would be the same customers who would purchase lathe cross-slide assemblies and similar machine products.

These are thus capital goods involving large capital outlays, not consumer goods.

Opposer's position, accepted below and by the majority, is that because it sells BORE-MATIC boring machines, the aforesaid purchasers are going to be confused as to the source of the $5,500 BORMASTER cross-slide attachments and think they come from the opposer. I cannot see the slightest possibility of such confusion for the following reasons:

1. The extreme care that goes into the purchase of a $5,500 attachment for a $50,000 machine with an attendant *certainty* of the source from which it is purchased.

2. The obvious differences in the marks: (*a*) the wholly different mental impressions generated by "MASTER" *vs.* "MATIC," both used ad nauseaum in trademarks; (*b*) the different spellings of "BORE" and "BOR"; (*c*) the hyphenation *vs.* the non-hyphenation; and the very significant fact that the word "bore," however spelled, is descriptive of the goods of both parties, indicating that they are machines or accessories for accomplishing boring operations in a factory, for which reason that portion of the marks would not be taken by anyone as an indication of origin.

3. The fact, not mentioned by the majority, that opposer-appellee appears to emphasize "MATIC" in its business by using at least a small family of marks including, in addition to BORE-MATIC, CENTRI-MATIC, GAGE-MATIC, and SIZE-MATIC. Why, then, should anyone take a "MASTER" mark as indicating origin in appellee? Because "BOR" is in the mark? Certainly not! I note again that this is a hyphenated family and that appellant's mark is non-hyphenated.

4. If the $2,000,000 of advertising and $62,000,000 of sales by appellee have any significance in this case it is, in my opinion, that the purchasers, actual and potential, of appellee's machines must by now be quite familiar with the BORE-MATIC trademark so that they would be even less likely to think BORMASTER has any connection with appellee than if the sales and promotion had been smaller.

The *Dobeckmun* case is no real support for the Board's decision—or the majority's—when its facts are considered. The marks there involved were DURAFILM, sought to be registered for packaging films, and the cited prior registration of DUROFOIL for foil laminated to paper or to transparent film for wrapping purposes. We felt that purchasers of the films and foils—who were industrial packagers—might well think DURAFILM and DUROFOIL were products "of a single producer," trademarks on "companion products" of film and foil. I see no such possibility on the facts of the present case. The "rationale" we applied in *Dobeckmun* cannot be applied here.

The test we have to apply here is a statutory test as prescribed in section 2(d) of the Lanham Act (15 U.S.C. 1052(d)). It is not enough that there are resemblances between the marks and similarities between, or even identity of, goods and priority in the opposer. The test of the statute is that applicant's mark

> * * * *so* resembles a mark registered in the Patent Office or a mark * * * previously used in the United States by another and not abandoned, *as* to be likely, *when applied to the goods of the applicant*, to cause confusion, or to cause mistake, or to deceive: * * *. [My emphasis.]

We are thereby required to consider realistically *all* of the circumstances pertaining to the use of the applicant's mark on the applicant's goods vis á vis the opposer's marks and uses. I do not believe the Board did so. In fact, its opinion indicates that it put aside one of the principal circumstances; the Board said:

> In so doing [concluding confusion was likely], we have given due consideration to applicant's argument that these products are sold to discriminating purchasers *but do not believe that where, as here, the products of the parties are substantially the same, such factor is of controlling significance.* [My emphasis.]

It cited the *Dobeckmun* case for that proposition but that case does not support such a broad statement; all we did there was to decide that on *all* the circumstances there before us confusion was likely. The circumstances here are quite different. Even if the goods are identical, it remains necessary to consider all the other circumstances and they may be of controlling significance.

The majority opinion adds nothing new. It gives blanket approval to what the Board said and the Board's application of the *Dobeckmun* case. I think both were in error. Like the Board, the majority appears to have ended up in doubt.

Since I conclude on all the circumstances of record surrounding the sale of the respective goods under the marks involved that there is no room for doubt, I would reverse.

SMITH, *J.*, dissenting.

While I agree with Judge Rich that this case should be reversed, I arrive at this conclusion for somewhat different reasons than are stated in his dissenting opinion. I agree with him that *In re The Dobeckmun Co.*, 48 CCPA 810, 286 F.2d 187, 128 USPQ 424 (1960), is not properly applicable here, "when its facts are considered." In *Dobeckmun*, this court pointed out that even a discriminating purchaser might well assume that the marks there in issue were trademarks on *companion products* of a *single* producer. Id. at 813, 286 F.2d at 188, 128 USPQ at 426. On the facts before us here, I believe, as Judge Rich has indicated, that the "discriminating purchaser" argument has merit. I do not think, however, that the "rationale" of *Dobeckmun*, and the approach there taken in the analysis of trademark problems of the present type should be ignored even though other factors may well dictate the ultimate decision.

As a result of dissecting the competing marks to find their similarities and their differences, as I agree must be done, the only similarities of the marks reside in a common nondistinctive prefix. The prefix "BOR" or "BORE," it seems to me, is somewhat descriptive of the respective apparatuses to which the marks are applied. In the absence of evidence to the contrary, these common portions of the marks under review must be considered to indicate the nature of the goods rather than the source of the goods. Section 2(d) of The Trademark Act of 1946 proscribes registration of a mark when, as applied to applicant's goods, it is likely to cause confusion, mistake or to deceive. It is the likelihood of confusion, mistake or deception of puchasers as to the source of the goods on which applicant's mark is used that forms the basis for the fundamental inquiry here.

The differences in the marks are found primarily in the respective suffixes, "MASTER" as used by the applicant and "-MATIC" as used by the opposer.

As I compare the entire marks here in issue, keeping in mind the similarities and differences noted by dissection of the marks, it is my opinion that they differ so in sound, meaning and appearance that I believe there would be no likelihood of confusion, mistake or deception of discriminating purchasers as to the source of the goods arising by reason of the concurrent use of the marks on the goods of the respective parties.

It is only when all of the facts of record, properly weighed and carefully considered, do not prove conclusive of one result or another that we should resolve the doubt in favor of the first user. As a *mechanism of policy*, this practice should be resorted to only when the record provides a reasonable basis for the existence of such a doubt. I do not believe that this is a case which requires application of this policy since the conclusion seems to be quite clear.

I would, therefore, reverse the decision below.

U.S. Court of Customs and Patent Appeals

PAUL E. BAKER, STANLEY B. JONES, AND DELMAR O. SEEVERS
v.
ROBERT S. CODRINGTON AND NICK A. SCHUSTER

No. 7819. Decided February 1, 1968

[55 CCPA —; 390 F.2d 755; 156 USPQ 398]

1. INTERFERENCE—RIGHT TO MAKE—DETECTION OF OIL BY NUCLEAR MAGNETIC RESONANCE.

On the issue of appellant's right to make a count to a "method for detecting the presence of oil in a well formation comprising introducing into the formation paramagnetic ions operative to reduce selectively the nuclear paramagnetic resonance precession relaxation time of protons in water with respect to those in oil," where the Board of Patent Interferences "pointed especially to the absence [in appellant's disclosure] of any suggestion to introduce the impurity in the form of ions operative to reduce selectively, etc." and appellants urged that "ions," "paramagnetic impurities" and "paramagnetic materials" are "synonymous in the well drilling art," *Held* that "Because we are unpersuaded by appellants' arguments, the decision of the Board is affirmed."

APPEAL from the Patent Office. Interference No. 93,105.

AFFIRMED.

George W. Wasson, Edward J. Keeling for appellants.

Francis J. Hone (*Brumbaugh, Free, Graves & Donohue*, of counsel) for appellees.

Before WORLEY, *Chief Judge*, RICH, SMITH, ALMOND, *Associate Judges*, and WILLIAM H. KIRKPATRICK [1]

RICH, *J.*, delivered the opinion of the court.

This appeal is from a decision of the Board of Patent Interferences,[2] adhered to on reconsideration, awarding priority to Codrington et al., junior party in Interference No. 93,105, involving Codrington et al. (hereinafter Codrington) application Serial No. 675,061, filed July 30, 1957, entitled "Detection of Oil by Nuclear Magnetic Resonance" and Baker et al. (hereinafter Baker) application Serial No. 762,291, filed September 22, 1958, entitled "Analytical Device." The single count of the interference is:

1. A method for detecting the presence of oil in a well formation comprising introducing into the formation paramagnetic ions operative to reduce selectively the nuclear magnetic resonance precession relaxation time of protons in water with respect to those in oil, inducing nuclear magnetic resonance precession in protons present in the formation, and measuring the nuclear magnetic resonance precession relaxation times of the protons present in the formation.

In the detection of oil by nuclear magnetic resonance, electrical signals, indicative of the precession of the magnetic moments of protons, are picked up inside a well bore. These signals are induced by changing the alignment of the protons by subjecting the hydrogen atoms to a magnetic field. Relaxation time may be thought of, for our purposes, as the time within which the protons align themselves with the magnetic field. The precessional signals are analyzed to determine relaxation times and, indirectly, the source of the signal, since relaxation times are ordinarily distinctive for various nuclei.

These measurements, however, are often incapable of distinguishing between the protons of oil and those of water because the relaxation times of the two are so similar under conditions which obtain in the wells. It was known to the prior art that paramagnetic materials effect a reduction in the relaxation time of the protons. The invention of the count requires introduction of these materials *in ionic form* by which the relaxation time of the protons in water is reduced *selectively* with respect to those in oil. A measurable difference between the compounds is thereby established and identification of oil and water in the wells is facilitated.

Appellees, the junior party, have alleged no date earlier than appellants' effective filing date. Under an order to show cause why judgment should not be entered against them, appellees moved to dissolve the interference on the ground that the count was not supported by appellants' disclosure. In particular, appellees argued that the essential limitation in the count, viz., the introduction of paramagnetic ions into the formation, was unsupported.

In denying the motion to dissolve, the Examiner said:

* * * since the disclosure fails to particularly state that the elements are present in *uncharged* particle form it must be fairly assumed in the light of the prior disclosure relating to *charged particles* that the impurities may be present in charged particle form or *ions*.

The Board did not agree. It conceded that appellants' disclosure came quite close to the subject matter of the count. It found, however,

[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.
[2] Consisting of Williams, Levin, and Willner, Examiners of Interferences; opinion by Willner.

"no suggestion or instruction * * * for introducing a paramagnetic impurity for the purpose of differentiating oil and water in the formation when their relaxation times therein are otherwise too close." The Board pointed especially to the absence of any suggestion to introduce the impurity "in the form of 'ions operative to reduce selectively, etc.' "

There is no need here for a description of appellants' specification. They acknowledge its apparent inadequacy but they argue that the Board erred:

> By an apparent failure to consider all of the file in the Codrington et al. case, the Board was led to conclude that because the Baker et al. application did not include the word "ions" that Baker et al. intended to disclose something other than ions. In spite of the fact that the Board was presented with evidence indicating that *ions*, *paramagnetic impurities*, and *paramagnetic materials* were quite synonymous, and in spite of the fact that the references cited by the Patent Office during prosecution of the Codrington et al. applicaton definitely indicate *that the words are both synonymous and regularly interchanged*, the Board ruled that the Baker et al. application did not support the count.

Appellees argue that the appellants' specification is inadequate in that it neither discloses the introduction of paramagnetic ions nor selective reduction of relaxation time of the protons in the formation. They also argue that appellants' assignee has conceded lack of support for the count.

We need only deal with the first of appellees' contentions. We agree with appellees that appellants' specification does not provide for the introduction of paramagnetic ions.

Appellants urge that "ions," "paramagnetic impurities," and "paramagnetic materials" are synonymous in the well-drilling art. In support of this contention appellants point to an article [3] by Bloch, Hansen, and Packard. Appellants argue:

> In their observations * * * [Bloch, Hansen and Packard] suspected that the origin of a discrepancy in the measurement of relaxation times to be caused by slight impurities * * * and particularly, in their case, by oxygen dissolved in water. In their article they make eight references to the materials that they feel have caused this observed effect upon relaxation times. It is important to note that while the authors are always referring to the same type of materials, in six of these references they refer to the materials as "impurities," that in only one case do they refer to these impurities as "ions," and in one other case they refer to the impurities as "paramagnetic salt." These authors use these terms interchangeably.

A cursory examination of the article shows the contrary to be true. The first part of the article discusses paramagnetic impurities in a general way and mentions specifically only oxygen, a non-ionic paramagnetic impurity: "We suspected the origin of this discrepancy to be caused by slight impurities and particularly to [sic, by?] oxygen dissolved in water." The paramagnetic salt and ion mentioned in the article are ferric nitrate and the ferric ion respectively, both ionic impurities. The latter were the only impurities actually *introduced* by the authors into water. The others were merely found in the fluids. Interestingly, the ionic impurities are never referred to as impurities at all, although they doubtless could have been.

Appellants also cite a second article [4] which refers to the first as follows:

> The addition of paramagnetic ions to water, as was first shown by Bloch, Hansen, and Packard, can influence markedly the proton relaxation time.

[3] 70 Phys. Rev. 474 (1946).
[4] Bloembergen, Purcell and Pound, 73 Phys. Rev. 679–712 (1948).

Appellants argue:

> And yet when reference is had to the Bloch, Hansen and Packard article it will be found that the authors of that article referred to the materials that influenced the proton relaxation time as *impurities*.

And the authors undeniably did refer to such materials as impurities. They did show the addition of paramagnetic ions to water. But they did not use "impurities" and "ions" as synonyms.

Appellants also argue that, because ions are well known in drilling fluids, their "impurities" somehow must be ionic. The fallacy is obvious.

Appellants finally urge:

> It is well known and recognized in the petroleum and well logging arts that the filter created along the face of the well bore by the deposition of a cake from the drilling mud in the well is a very fine (small hole) filter. Any material that passes into the formation must go through this filter and the passage of any material through the filter is accomplished only with deliberate and substantial difficulty. The pores of the mud cake filter along a well bore are subcolloidal and almost molecular in size so that the passage of any material through this filter requires that the material be of extremely small size.

We see no reason why non-ionic dissolved impurities, e.g., molecular oxygen, could not pass this test. Appellants say further:

> Those skilled in the well drilling arts and particularly those skilled in petroleum production would have no question in their mind of the form of the material that would pass through a mud cake into the formation. See Composition and Properties of Oil Well Drilling Fluids, W. F. Rogers, Gulf Publishing Co., 1953 (cited in the Codrington and Schuster application). The material is known to them to be part of the filtrate and they would know that the material in solution in the filtrate would be in solution in ionic form.

For the same reason, we do not think this is a valid inference.

[1] Because we are unpersuaded by appellants' arguments, the decision of the Board is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE HOWARD B. CUMMINGS

No. 7857. Decided March 14, 1968

[55 CCPA—; 390 F.2d 1018; 157 USPQ 47]

1. PATENTABILITY—ANTICIPATION—PROCESS.

   "The first portion of that process [in the reference patent], i.e., that part which forms the lining portion of the final article, clearly meets the terms of the process defined in claim 8. It is true that the procedure followed after the excess lining slip is drained off, including the replacement of the outer mold with an absorbent mold, results in a different operation for completing the formation of the composite article. However, that does not negate the anticipatory significance of the process for forming the lining element. Contrary to the position of appellant, that element exists as an article even though there is no suggestion that it be removed from the internal core. Also, as observed by the Examiner, claim 8 defines the process as 'comprising' the specified steps and thus does not preclude additional operations employed in the prior art process for providing the body portion of the final composite article."

2. CLAIM—CONSTRUCTION OF CLAIMS—CLAIMS GIVEN BROADEST REASONABLE INTERPRETATION.

   "* * * it is well established that claims of a pending application are given the broadest interpretation they will reasonably support. *In re Tibbals*, 50 CCPA 1260, 316 F.2d 955, 137 USPQ 565 (1963)."

3. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—OBVIOUSNESS FROM SECONDARY REFERENCE ALONE.

   "The Solicitor emphasizes the pertinency of the disclosure of Casselman [a

secondary reference patent] to the problem appellant solves and states that claim 9 'poses nothing which would not have been obvious to one of ordinary skill in the art on Casselman alone.' We do not think that the particular circumstances here permit us to assess that contention. Thus, the action of the Examiner and the decision of the Board leave us uninformed whether they regarded Casselman as either disclosing a process in which the mold cavity is filled with slip until the mold cavity is filled with a solidified mass or as rendering such procedure obvious. Moreover, appellant, accordingly, has had no occasion to advance his views on those points which would be essential to determination of the question of obviousness in view of Casselman alone."

4. PATENTABILITY—PARTICULAR SUBJECT MATTER—"CERAMIC CASTING MOLDS AND TECHNIQUES."

The refusal of two claims in an application entitled "Ceramic Casting Molds and Techniques," as unpatentable over the prior art, is affirmed as to one claim and reversed as to the other. "The decision is *affirmed* as to claim 8 and *reversed* as to claim 9."

APPEAL from the Patent Office. Serial No. 209,915.

MODIFIED.

Ely & Golrick, *Albert L. Ely*, *Jr.*, for appellant.

Joseph Schimmel (*Jere W. Sears*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and Judges RICH, SMITH, ALMOND, and KIRKPATRICK [1]

SMITH, *J.*, delivered the opinion of the court.

This appeal requires us to review the decision of the Board of Appeals [2] affirming the Examiner's rejection on prior art of claims 8 and 9 of appellant's application. [3] The application is entitled "Ceramic Casting Molds and Techniques." There are other claims in the application but they are not in issue here as the Board reversed the Examiner's rejection of claim 10 and certain other claims have been withdrawn from consideration as relating to a non-elected invention.

Appellant's invention relates to a method of making green ceramic ware by slip casting.[4] The invention is best described in connection with FIG. 1 of the application drawing:

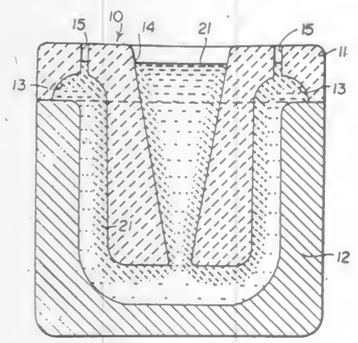


FIG. 1

[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

[2] Consisting of Dracopoulos and Brewrink, Examiners-in-Chief and Angel, Acting Examiner-in-Chief. The author of the opinion is not identified in the printed record.

[3] Serial No. 209,915, filed July 16, 1962.

[4] Kirk-Othmer, Encyclopedia of Chemical Technology, second edition, vol. 4 (1964), page 782, describes such casting as follows:

Slip Casting.—In slip casting, a slip (suspension of clay or other solid particles in water) is poured into a porous plaster of Paris mold. The interior surfaces of the mold conform to the exterior surface of the ware to be formed. As water is absorbed into the plaster from the slip, the solid particles are deposited on the mold interior surface. This process may be continued until the walls of the ware meet the center as in solid casting, or the remaining slip may be drained from the mold when the walls are the desired thickness as in drain casting. * * *

In the figure, a mold 10 comprises a male inner mold half 11 and a female mold half 12, cooperating to provide an annular, cup-shaped cavity for producing an article such as a crucible. The inner mold half 11 is made of a porous material capable of absorbing the water from slip 21 poured into the mold cavity through a gate 14 to leave a deliquified deposit upon the walls of the mold. The female mold half 12 is formed with a water-impervious casting surface.

In the casting operation, the suspending liquid is removed from the slip only through the porous inner mold half 11 with the result that a solidified slip is first formed adjacent the surface of that mold half and the thickness of the resulting layer gradually increases toward the water-impervious surface of the outer mold half 12 until solidified slip fills the entire mold cavity. Appellant states that this process results in the slip solidifying into a substantially homogenous mass. He contrasts that result with the product produced by prior art processes where both halves of the mold are porous and the water from the slip is absorbed by, and solid slip is built up on, both opposing surfaces defining the mold cavity. When the cavity becomes filled in the latter process, a cleavage line may occur where the two built-up solid portions of the slip meet at the center of the cavity, resulting in a faulty product.

The appealed claims are:

8. A method of slip casting comprising pouring a slip into a substantially closed, annular mold cavity formed essentially of two casting surfaces, removing water from the slip through one casting surface, and simultaneously preventing water from permeating through the other casting surface so that the slip is caused to solidify substantially uni-directionally.

9. A method of slip casting comprising providing porous bodies which cooperate to form a substantially closed mold cavity, rendering approximately one-half of the surfaces of said cavity impermeable and keeping said cavity filled with a slip until the cavity is filled with a relatively solidified cast mass of particle, said slip being cast by uni-directional solidification proceeding toward said impermeable surfaces.

The prior art relied on in the rejection is:

Lawrence et al., 1,337,663, April 20, 1920.
Casselman, 1,692,887, November 27, 1928.
Austin et al., 2,534,653, December 19, 1950.

Lawrence relates to molding water closet bowls by pouring slip into a plaster mold, "which plaster absorbs a large part of the water from the liquid which has the effect of causing the clay to become dense adjacent to the plaster." According to the specification: "As this dense thickness of clay gradually becomes thick on account of the absorption of the mold the closet bowl is gradually formed."

Although the Lawrence mold is composed of absorbent material, a portion of the core at the location for the opening from the main chamber of the bowl to the drain trap passage is covered with non-absorbent material in order that the usual absorption of water to form a thickness of clay does not occur on the covered surface.

Casselman discloses a method of making clay articles in the form of blocks. He refers to a previously known casting process utilizing a sectional mold made of plaster of Paris and provided with a gate into which clay slip is poured. That process, he points out, is subject to "a possibility of voids occurring in the blocks due to the fact that water leaves the cast block in all directions." The patentee proposes avoiding that difficulty by making a mold with a porous bottom, impervious

sides and a top cover, with the result that absorption of water from the slip takes place only through the porous bottom surface.

Austin is relied upon only for a portion of the specification which acknowledges a prior process of slip casting a composite article. That process is described later in this opinion.

The Examiner rejected claim 8 as "lacking novelty under 35 U.S.C. 102(a) over either Casselman or Austin." He rejected claim 9 as unpatentable over Lawrence alone or in view of either Casselman or Austin "under 35 U.S.C. 103."

As to claim 8, the Board reversed the rejection based on Casselman but affirmed the rejection predicated upon Austin. Thus, the sole issue before us as to claim 8 is whether that claim is anticipated by Austin. On the basis of the record and arguments, we agree that it is so anticipated.

The subject matter relied on in the rejection on Austin is a previously known method of producing a composite refractory nozzle, described in the reference as follows:

> * * * a multiple-mold slip-casting process in which the lining composition is prepared as a suitable slip, poured into a nonabsorbent mold, and allowed to stand until the desired lining thickness is built up around an absorbent internal core. The excess lining slip is then drained out of the nonabsorbent mold; an absorbent mold conforming to the exterior surface of the final composite body is substituted therefor; a slip comprising the body composition is poured into the porous mold and allowed to set until solid. * * *

[1] The first portion of that process, i.e., that part which forms the lining portion of the final article, clearly meets the terms of the process defined in claim 8. It is true that the procedure followed after the excess lining slip is drained off, including the replacement of the outer mold with an absorbent mold, results in a different operation for completing the formation of the composite article. However, that does not negate the anticipatory significance of the process for forming the lining element. Contrary to the position of appellant, that element exists as an article even though there is no suggestion that it be removed from the internal core. Also, as observed by the Examiner, claim 8 defines the process as "comprising" the specified steps and thus does not preclude additional operations employed in the prior art process for providing the body portion of the final composite article.

Appellant contends that claim 8, in referring in its preamble to a "slip casting" process, "implicitly" calls for "solidification of clay to fill all the space between opposed mold surfaces," a condition which plainly is not met by the first portion of the prior art process relied upon in the rejection. However, that portion of the process does involve the casting of slip and on its face appears to fall clearly within the term "slip casting." **[2]** In this connection, it is well established that claims of a pending application are given the broadest interpretation they will reasonably support. *In re Tibbals*, 50 CCPA 1260, 316 F.2d 955, 137 USPQ 565 (1963).

After thorough consideration, it can only be concluded that the record here does not establish that the term "slip casting" is necessarily limited to "solid casting" or "solid slip casting" where the mold cavity is filled with solid slip material to the exclusion of a process where the casting of slip to form an article is terminated when the desired

thickness is attained, even though the cavity is not completely filled with solid material. It is thus a moot question whether the reference to "slip casting" in the preamble, even if the expression had the exclusive significance appellant implies, would be sufficient to distinguish over the prior art process disclosing the precise steps recited.

Appellant makes the contention, supported by an affidavit, that a composite article formed by the complete prior art process described in Austin would be subject to the cleavage problem which is alleged to be avoided by the process disclosed in the present application. However, the output of the *first part* of the Austin prior art process, which is what is relied upon in the rejection, obviously would no more be subject to the problem of cleavage than the output of appellant's disclosed method.

With respect to claim 9, the Examiner's rejection as obvious over Lawrence alone or in view of Casselman or Austin was sustained by the Board. We do not agree with the Examiner and Board on the issue of obviousness thus raised.

Claim 9 is more restricted than claim 8 in calling for approximately one-half of the surfaces of the cavity in the mold to be impermeable and in requiring that the cavity be kept filled with slip "until * * * [it] is filled with a relatively solidified cast mass of particle." In Lawrence, only a relatively small proportion of the mold surface is impermeable and that is described as for the specific purpose or providing an opening in the molded body. The reference contains no disclosure that the impermeable surface limits the path of the escaping water to substantially a single direction.

Also, it is not disclosed that the casting process of Lawrence involves keeping the mold cavity filled with slip until the cavity becomes filled with a solidified cast mass. It appears rather that, in the Lawrence process, as observed by the Solicitor in his brief, "[i]ntroduction of slip is continued only to the point of forming the closet bowl walls to the desired thickness, without obstructing or caking up the water trap passage."

From the shape of the Lawrence mold and the shape of the water closet bowl to be produced thereby, it seems apparent that continuing the casting process until the mold cavity is filled would result in obstructing or, in fact, eliminating the water trap passage. Thus, so continuing the process cannot be considered obvious to one of ordinary skill in the art, whether Lawrence is considered alone or in view of either secondary reference.

It likewise does not appear that it would be obvious to such a person to render approximately one-half of the cavity surfaces of Lawrence's mold impermeable. In the first place, Lawrence suggests no reason for increasing the relative size of the small impermeable area there provided. It is true that Casselman discloses making a relatively large proportion of the cavity surface impermeable for the purpose of avoiding faulty products by preventing water in the slip from passing through the cavity surface in all directions and might suggest applying that principle to molds for other articles where it is obvious how it might be so applied. However, the particular configuration of the mold and the article to be cast in the Lawrence patent leaves it unclear on the present record how such an adaptation could be applied to the mold disclosed by Lawrence.

The Board did observe, in what it apparently regarded as merely a comment on the breadth of claim 9, that the "shape of the cavity and the position of the impermeable one-half portion [of the mold cavity surfaces] is not particularly defined."[5] We do not think that fact lends support to the present rejection on obviousness. It plainly does not establish a reason why one skilled in the art would find it obvious to make one-half of Lawrence's cavity surface impermeable.

[3] The Solicitor emphasizes the pertinency of the disclosure of Casselman to the problem appellant solves and states that claim 9 "poses nothing which would not have been obvious to one of ordinary skill in the art on Casselman alone." We do not think that the particular circumstances here permit us to assess that contention. Thus, the action of the Examiner and the decision of the Board leave us uninformed whether they regarded Casselman as either disclosing a process in which the mold cavity is filled with slip until the mold cavity is filled with a solidified mass or as rendering such procedure obvious. Moreover, appellant, accordingly, has had no occasion to advance his views on those points which would be essential to determination of the question of obviousness in view of Casselman alone.

[4] The decision is *affirmed* as to claim 8 and *reversed* as to claim 9.
MODIFIED.

ALMOND, *J.*, concurring in part and dissenting in part, with whom KIRKPATRICK, *J.*, joins.

I agree with the affirmance of claim 8. However, I am unable to join the majority in its reversal of the Board's decision on claim 9.

Both Casselman and Austin teach slip casting in a mold having a single porous face through which water migrates, and other impervious mold faces which may represent one-half, more or less, of the total mold surface. Austin casts by uni-directional solidification proceeding toward the impermeable surface. Casselman's invention is stated to be the replacement of prior art permeable surfaces with impermeable ones. Lawrence teaches formation of a permeable mold and a method of rendering a portion of the mold surface impermeable.

I see nothing unobvious in forming the impervious mold faces of Casselman and Austin by the method taught by Lawrence.

The only recitation of the claim not made obvious by this combination of references is "* * * keeping said cavity filled with a slip until the cavity is filled with a relatively solidified cast mass of particle * * *." The Examiner commented in regard to this recitation: "Keeping a mold cavity filled with slip during a molding process is a notorious common expedient as shown by Wadman[6] * * * *." The Wadman drawing shows an annular mold for slip casting having a reservoir of slip which feeds the mold as shrinkage due to water loss occurs in the mold. I agree with the Examiner that this obvious expedient is without patentable significance in the claim.

I would therefore affirm the decision of the Board as to claim 9.

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[5] Appellant raises a question whether the Board made a new rejection of claim 9 under 35 U.S.C. 112 in its original decision, although he states that the Board "backed off" on that point on reconsideration. We are satisfied from the Board's comments on reconsideration, including the statement that it had "agreed with the Examiner's application of the references including his reasons for doing so," that there is no rejection under 35 U.S.C. 112 in this case.

[6] Wadman, 2,288,661, July 7, 1942. This patent was listed as a reference in the Board's decision, but not mentioned in its discussion as being specifically relied upon.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,478,770, A. Lorenz, RECLINING ARTICLE OF FURNITURE; **2,617,470,** same; **Re. 24,840,** J. Luckhardt, deceased, by W. Luckhardt, administrator, ARTICLE OF REPOSE FOR SUPPORTING THE BODY OF A PERSON; **2,945,533,** P. S. Fletcher, IMPROVED LEG-REST AND ACTUATING MECHANISM; **3,039,815,** same, RECLINING CHAIR OF THE MULTIPLE TYPE; **3,142,510,** same, LEG-REST ACTUATING MEANS FOR MULTIPLE POSITION RECLINING CHAIR; **3,157,431,** same, RECLINING CHAIR OF THE MULTIPLE MOVEMENT TYPE, **filed** May 3, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c739, *Peter S. Fletcher* v. *Mohasco Industries, Inc. et al.* Consent judgment, counterclaim dismissed with prejudice, Feb. 29, 1968.

2,561,080, A. van de Wiel, ELECTRIC CIRCUIT ARRANGEMENT; **3,017,323,** Gordon, Stephens, Noseworthy and Teare, THERAPEUTIC COMPOSITIONS COMPRISING POLYHYDRIC ALCOHOL SOLUTIONS OF TETRACYCLINE-TYPE ANTIBIOTICS, **filed** July 3, 1967, D.C., S.D.N.Y., Doc. 67–C–2566, *Chas. Pfizer & Co., Inc.* v. *Proter Prodotti Terapeutici, S.p.A. et ano.* Stipulation dismissing action without prejudice under the provisions of F.R.C.P. Rule 41(a)(1)(ii), Apr. 24, 1968.

2,617,470. (See 2,478,770.)

2,742,462, G. Gever, NEW N-(5-NITRO-2-FURFURYLIDENE)-3-AMINO-2-OXAZOLIDONES, **filed** Jan. 23, 1968, D.C., W.D. Ark. (Fayetteville), Doc. F–68–C–2, *The Norwich Pharmacal Company* v. *Luther Martin, doing business as Lu-Mar Laboratories.* Consent judgment; defendant has infringed; plaintiff is owner of patent; defendant is enjoined, May 24, 1968. **Same, filed** Mar. 28, 1966, D.C., W.D. Wash. (Seattle), Doc. 6711, *The Norwich Pharmacal Co.* v. *J. F. McIntosh and Universal Agencies, Ltd.* Default judgment enjoining defendants from violating plaintiff's patent, Apr. 26, 1968. **Same, filed** Nov. 26, 1966, D.C., W.D. Wash. (Seattle), Doc. 6969, *The Norwich Pharmacal Company* v. *Herbert W. Beaverstone.* Default judgment enjoining defendant from violating plaintiff's patent.

2,771,759, Leath and Bobo, Jr., TEXTILE PRODUCT AND METHOD, **filed** May 16, 1968, D.C., S.D.N.Y., Doc. 68–C–2002, *Emle Industries, Inc.* v. *Patentex, Inc.*

2,824,315, G. D. McKenny, RELEASABLE COUPLING DEVICE, **filed** May 23, 1968, D.C., E.D. Va. (Alexandria), Doc. 4829–A, *C. J. Hendry Company* v. *Arrow Manufacturing, Inc. and William B. Hinn.*

2,839,202, A. E. Arnett, TOWEL AND/OR WASH CLOTH HOLDER, **filed** May 13, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68–704–HP, *Alfred E. Arnett* v. *Franklin Brass Mfg. Co.*

2,843,114, N. J. Hall, ORTHOPEDIC SLING, **filed** May 14, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68–809–AAH, *Newton J. Hall* v. *Tru-Eze Mfg. Co., Inc.*

2,885,970, R. Neuschotz, INSERT HAVING FRICTIONALLY RETAINED KEY WHICH UPSETS THREADS OF BASE MEMBER, **filed** May 20, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68–841–IH, *Tridair Industries et al.* v. *Microdot Inc. et al.*

2,890,612, A. J. Sergan, HYDRAULIC RATCHET WRENCH, **filed** Jan. 9, 1968, D.C. Mass. (Boston), Doc. C.A. 68–18–C, *The Kell-Strom Tool Co., Inc.* v. *Advance Hydraulics, Inc. and Advance Mfg. Co. Inc.* Consent judgment of dismissal, May 17, 1968.

2,913,046, Sharp and Frymire, SLIDING CLOSURE CONSTRUCTION, **filed** Dec. 18, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67–1816–F, *Northrop Architectural Systems* v. *Anaconda Aluminum Company.* **Same, filed** Dec. 18, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67–1817–EC, *Northrop Architectural Systems* v. *Fullview Industries, Inc.* **Same, filed** Dec. 18, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67–1823–R, *Northrop Architectural Systems* v. *Marshall Aluminum Products, Inc.* **Same, filed** Dec. 18, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67–1819–R, *Northrop Architectural Systems* v. *Premiere Aluminum Products, Inc.* **Same, filed** Dec. 18, 1967, D.C., C.D. Calif. (Los Angeles), Doc. 67–1818–R, *Northrop Architectural Systems* v. *Lupton Manufacturing Co.*

2,919,534, Bolinger and Klein, IMPROVED TEXTILE MATERIALS AND METHODS AND APPARATUS FOR PREPARING THE SAME, **filed** Dec. 27, 1967, D.C., W.D. Va. (Lynchburg), Doc. 67–C–50–L, *Deering Milliken Research Corporation* v. *Burlington Industries, Inc.* Dismissed by agreement of parties, May 22, 1968.

2,945,533. (See 2,478,770.)

3,017,323. (See 2,561,080.)

3,028,723, Kaplan, Kaplan and Grabow, METHOD AND APPARATUS FOR ASSEMBLING AND DISASSEMBLING THE CHAINS OF CRAWLER-TYPE TRACTORS; **3,028,724,** same, TRACK PRESS WITH PIVOTALLY MOUNTED AND ADJUSTABLE WORK SUPPORT, **filed** Apr. 22, 1968, D.C. Minn. (St. Paul), Doc. 1–68–114, *Rodgers Hydraulic Incorporated* v. *Owatonna Tool Company.*

3,028,724. (See 3,028,723.)

3,039,815. (See 2,478,770.)

3,103,618, S. I. Slater, CONTINUOUSLY VARIABLE DIMMER SWITCH; **3,222,488,** B. H. Matthews, ELECTRICAL SWITCH WITH CAMMING BRIDGING CONTACT; **3,328,676,** S. I. Slater, CONTINUOUSLY VARIABLE DIMMER SWITCH, **filed** Apr. 29, 1966, D.C., N.D. Ohio (Cleveland), Doc. C–66–315, *Lucerne Products, Inc. and Slater Electric, Inc.* v. *Cutler-Hammer, Inc.* (Substituted for Sears, Roebuck & Company by stipulation on Dec. 6, 1966.)

3,142,510. (See 2,478,770.)

3,157,431. (See 2,478,770.)

3,185,820, Williams, Jones, Frisby and Niven, INTEGRATOR AND RECORDER APPARATUS; **3,359,410,** Frisby and Spence, AUTOMATIC BASE LINE DRIFT CORRECTOR CIRCUIT, **filed** Feb. 19, 1968, D.C. Colo. (Denver), Doc. C–720, *Hewlett Packard Company* v. *Infotronics Corporation.* **Same, filed** Mar. 5, 1968, D.C., N.D. Calif. (San Francisco), Doc. 48837, *Varian Associates* v. *Infotronics Corporation.*

3,187,664, J. W. Jennings, AUTOMATIC DEEP-FAT PRESSURE COOKER, **filed** Apr. 24, 1968, D.C. Kans. (Wichita), Doc. W–3990, *Jiffy Chicken, Inc.* v. *George A. Moore and Control Manufacturing and Sales, Inc.*

3,188,468, L. E. Packard, METHOD AND APPARATUS FOR AUTOMATIC STANDARDIZATION IN LIQUID SCINTILLATION SPECTROMETRY **filed** Apr. 25, 1968, D.C.N.J. Newark), Doc. C–389–68, *Packard Instrument Company, Inc.* v. *Intertechnique, S.A. and Intertechnique Instruments, Inc.*

3,214,047, R. W. Moye, TRAILER, **filed** May 6, 1968, D.C. Nebr. (Omaha), Doc. C–03041, *Robert W. Moye* v. *Continental Investment and Construction Co., Inc.*

3,222,488. (See 3,103,618.)

3,224,201, J. L. Brunton, SHORING APPARATUS, **filed** May 6, 1968, D.C., N.D. Calif. (San Francisco), Doc. 49212, *The Brunton Corporation* v. *The Ernric Company, Inc.*

3,233,297, L. N. Havener, CHANNEL CLIP, **filed** Apr. 26, 1968, D.C., N.D. Ohio (Cleveland), Doc. C68–308, *Erico Products, Inc.* v. *Fastway Fastners, Inc.*

3,297,215, E. Soto, PLEATING APPARATUS AND METHOD, **filed** Apr. 23, 1968, D.C., S.D.N.Y., Doc. 68–C–1650, *Enrique Soto et ano.* v. *Frank Friedman & Sons, Inc.*

3,328,676. (See 3,103,618.)

3,359,410. (See 3,185,820.)

Re. 23,422, F. R. Perry, CLEANING METHOD AND MATERIAL THEREFOR, **filed** Mar. 4, 1963, D.C., M.D. Tenn. (Nashville), Doc. 3414, *Agrashell, Inc.* v. *Block Walnut Processing Corp. and Block Bros., Inc.* Stipulation entered, action dismissed without prejudice and without costs to any party, May 6, 1968.

Re. 24,840. (See 2,478,770.)

Re. 24,954, H. Church, APPARATUS FOR FILTERING SOLIDS FROM GAS-SOLIDS SUSPENSIONS, **filed** Jan. 12, 1968, D.C. Md. (Baltimore), Doc. 19106, *Slick Industrial Company* v. *R.M.R. Corporation.*

Re. 25,011, J. P. Barkdoll, TYPEWRITER HAVING POWER OPERATED INSTRUMENTALITIES, **filed** Apr. 19, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c731, *SCM Corporation* v. *Brother International Corporation.*

Re. 25,305, A. W. Haydon, ELECTRIC ROTATING MACHINERY, **filed** May 13, 1968, D.C., E.D.N.Y. (Brooklyn), Doc. 68–C–473, *Tri-Tech Inc.* v. *Photocircuits Corp.*

REISSUES

OCTOBER 8, 1968

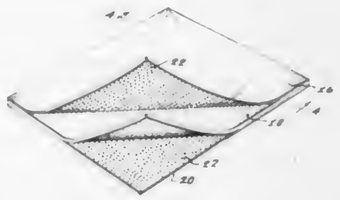
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification ; matter printed in italics indicates additions made by reissue.

26,473
LAMINATED BREATHABLE TEXTILE PRODUCT AND METHOD OF MANUFACTURING SAME

Linton C. Reynolds, Ware Shoals, S.C., and Julian W. Shirley, deceased, late of Ware Shoals, S.C., by Nancy A. Hannah, administratrix, Abbeville, S.C., assignors to Riegel Textile Corporation, a corporation of Delaware

Original No. 3,251,727, dated May 17, 1966, Ser. No. 132,241, Aug. 17, 1961. Application for reissue Nov. 25, 1966, Ser. No. 607,336

3 Claims. (Cl. 161—148)



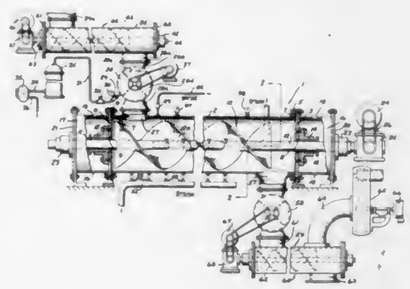
A laminated, air permeable, breathable, flexible, textile fabric and the method of manufacturing same, which is suitable for use in garments. The fabric comprises at least two layers of fabric bonded together by a discontinuous, thixotropic, thermoactive resinous layer of small, spaced, non-contacting, raised deposits disposed in a uniform pattern of dots that do not cover more than about one-fourth of the surface area of the fabric. The deposits penetrate the fabric layers and strongly bond them together at the locations of the spaced deposits without substantially changing the breathability and other characteristics of the fabric layers.

26,474
GRAIN AND BEAN COOKER

Russell Stacy Altman, deceased, late of Troy, Ohio, by George I. Altman, 1720 Pennsylvania Ave., Irwin, Pa. 15642, and Mary Jane Ward, nee Altman, Fairway Drive, Troy, Ohio 45373, co-executors

Original No. 3,229,617, dated Jan. 18, 1966, Ser. No. 101,432, Apr. 7, 1961. Application for reissue June 20, 1967, Ser. No. 661,136

11 Claims. (Cl. 99—443)



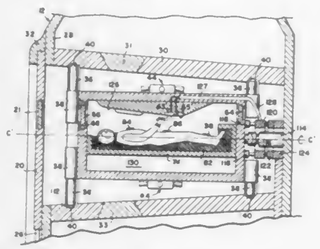
An apparatus for cooking grains and beans has a cylindrical cooker in which a conveyor moves the grain from the inlet to outlet during cooking by steam introduced into the cooker. The grain is fed to the cooker by a conveyor in a chamber having an outlet leading to a passage to the inlet of the cooker. A rotary trap in the passage moves the grain to the inlet while retaining the steam in the cooker. Air under pressure is supplied to the feeder chamber or the region of the trap to increase the pressure at the inlet to the cooker and prevent escape of the steam from the cooker into the feeder chamber.

26,475
COMPOSITE SPACE VEHICLE

Leonard A. Cohen, 224 Old Lancaster Road, Merion Station, Pa. 19066

Original No. 3,173,627, dated Mar. 16, 1965, Ser. No. 263,818, Mar. 8, 1963. Application for reissue Mar. 14, 1967, Ser. No. 626,648

8 Claims. (Cl. 244—1)



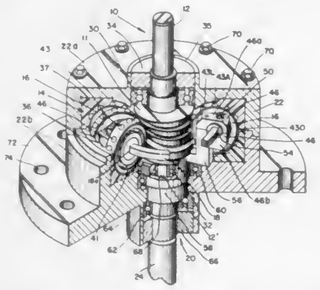
Apparatus including support means for fixedly and firmly supporting a human thereon, means for moving said apparatus so as to cause a predetermined force to be imparted by the support means upon the human, and means for imparting rotational movement to said support means and human thereon about an axis perpendicular to the direction of said force and which axis substantially coincides with the longitudinal axis of a human fixed on the support so as to impart a continuing change in the direction of the force with respect to the human.

26,476
TOROIDAL TRANSMISSION

Manfred R. Kuehnle, 6 Linmoor Terrace, Lexington, Mass. 02173

Original No. 3,242,755, dated Mar. 29, 1966, Ser. No. 431,790, Feb. 11, 1965. Application for reissue Oct. 3, 1967, Ser. No. 675,263

14 Claims. (Cl. 74—424.5)

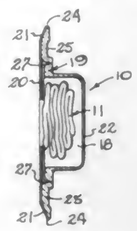


A transmission has a helix-like race. A bearing unit

axially fixed to a shaft is positioned in rolling engagement with the race. A driver rotates the bearing unit about the axis of the race so that the bearing unit rolls along the race and advances the shaft.

26,477
SHEATH PACKAGE
Walter P. Baermann, Raleigh, N.C., Armand V. Cooke, Bridgeport, Conn., and Everett A. Peterson, Mineola, N.Y., assignors to Medical Supply Company, Rockford, Ill., a corporation of Illinois
Original No. 3,301,394, dated Jan. 31, 1967, Ser. No. 496,560, Oct. 15, 1965. Application for reissue Aug. 30, 1967, Ser. No. 673,523
13 Claims. (Cl. 206—63.2)

The package comprises an outer sealed container enclosing a sterile thermometer sheath in collapsed condition, the container being provided with a removable portion for exposing and expanding the sterile sheath while leaving



the sheath attached to the remaining portion of the container which serves as a handle for using the same.

PATENTS

GRANTED OCTOBER 8, 1968

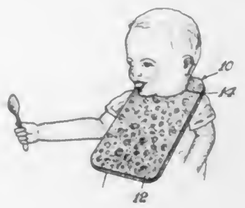
GENERAL AND MECHANICAL

3,404,406
DIVING SUIT
Karl E. Balliet, Lynchburg, Va., assignor to Rubatex Corporation, Bedford, Va., a corporation of Delaware
Filed Sept. 13, 1966, Ser. No. 579,094
20 Claims. (Cl. 2—2.1)



A thermally insulated underwater garment having a continuous flexible outer skin within which is a cellular core material possessing low thermal conductivity and which is substantially incompressible at great depths. The core material is so arranged within the skin to thereby maintain flexibility and high thermal insulation in the garment for the comfort and protection of a wearer.

3,404,407
TIE-LESS BIB
Saul Lapidus, 313 W. 74th St., New York, N.Y. 10023
Filed Oct. 20, 1965, Ser. No. 499,011
2 Claims. (Cl. 2—49)



A tie-less bib made from a sheet of elastic stretchable material such as polyurethane.

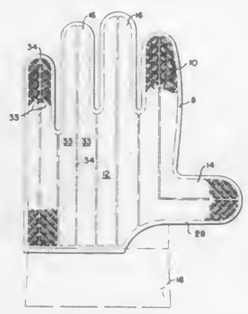
3,404,408
COMBINATION SINGLE AND DOUBLE BREASTED GARMENTS
Ralph E. Berman, Brooklyn, N.Y., assignor to Petrocelli Clothes, Inc., New York, N.Y., a corporation of New York
Filed Feb. 21, 1967, Ser. No. 617,670
5 Claims. (Cl. 2—96)

A garment of the jacket or coat variety, the lower vertices of whose lapels extend to about the waistline where they coincide in a point on the vertical front center line of the garment. Downward from said point, the right and left front panels have flaps extending therefrom to the bottom edge of the garment and beyond said center line for over and underlap and for buttons and button



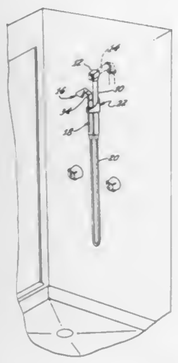
holes. These flaps are preferably stiffened to prevent their curling. From above said point, the appearance of the garment is that of the single breasted type, and below said point, the appearance is that of a double breasted garment.

3,404,409
WORK GLOVE
Neil E. Tillotson, Dixville Notch, N.H., and Sebastian A. Consoli, Lawrence, Mass., assignors to Tillotson Corporation, Needham Heights, Mass., a corporation of Massachusetts
Filed June 3, 1966, Ser. No. 555,077
3 Claims. (Cl. 2—161)



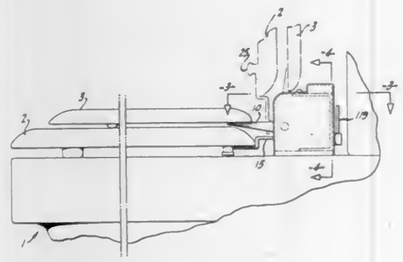
The invention comprises a work glove having a base fabric, such as cotton, to which is bonded an undercoating of a highly flexible plastisol material having a very high percentage of plasticizer. An outer wear coating or "tread" consisting of discrete knobs of a vinyl chloride composition of relatively low flexibility having a relatively small percentage of plasticizer is bonded to the undercoating.

3,404,410
SHOWER DEVICE
Kunio A. Sumida, 1114 N. Kenter Ave.,
Los Angeles, Calif. 90049
Filed Nov. 30, 1966, Ser. No. 597,906
14 Claims. (Cl. 4—145)



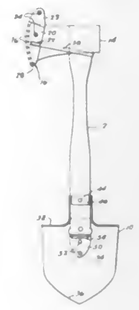
This invention relates to a shower installation which can be adapted to be used in ways not available in present shower installations. The shower installation includes a first rigid pipe support connected at a first end to a water supply and connected at a second end to one end of a flexible tube. The other end of the flexible tube is connected to a shower head assembly which is adjustable in position. A clamp is removably and slidably secured at one end to the rigid support pipe and at the other end releasably receives and retains the shower head assembly.

3,404,411
ACTUATING MEANS FOR TOILET SEATS AND LIDS
Kenneth Newkirk, 866 Green St.,
San Francisco, Calif. 94133
Continuation-in-part of application Ser. No. 343,659, Feb. 10, 1964, now Patent No. 3,316,561, dated May 2, 1967. This application Oct. 31, 1966, Ser. No. 590,565
5 Claims. (Cl. 4—251)



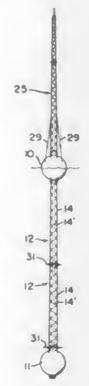
A device for returning a toilet seat and lid to a closed position including hydraulic timing means actuated upon opening of the seat or lid to a vertical position. Holding means is provided for holding the seat or lid in an open position for a predetermined interval of time after which a separate closing means swings the seat or lid toward closed position and at the same time slows movement to such closed position.

3,404,412
COMBINATION HAND AXE AND SHOVEL
Charles B. Ryan, Rte. 2, Box 371,
Creswell, Oreg. 97426
Filed Feb. 28, 1967, Ser. No. 619,388
4 Claims. (Cl. 7—14.55)



A combination tool having a common handle with a hatchet head at one end and a shovel blade secured at the other end by a concave extension on the blade and a lug receiving member on the blade which respectively receives the end of the handle and a lug on the end of the handle for securing the blade to the handle is disclosed.

3,404,413
MOBILE MARINE STRUCTURE
Daniel W. Clark, 46 Millfield St.,
Woods Hole, Mass. 02543
Filed Jan. 19, 1967, Ser. No. 610,321
10 Claims. (Cl. 9—8)

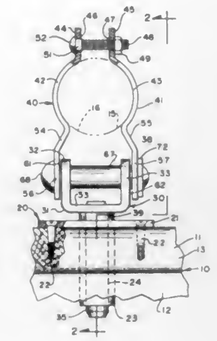


A mobile and buoyant marine structure having a skeleton frame connecting correlated tanks of which one is a reservoir and source of compressed air power.

3,404,414
OARLOCK
Chester O. Goserud, 3205 Woodbridge St.,
St. Paul, Minn. 55112
Filed Dec. 12, 1966, Ser. No. 601,053
1 Claim. (Cl. 9—26)

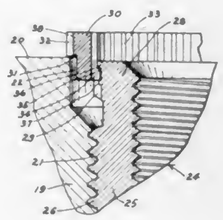
An oarlock for use with the oars of a row boat having a clamp formed with jaws adapted to engage the shaft of the oar at various localities along the same or at different angular positions with reference to the blade of the oar. Pivot means connected to the jaws guide the clamp

for swinging movement about both substantially vertical and horizontal axes. A single screw engaging the jaws



of the clamp and cooperating with the pivot means clamps the oarlock in position upon the oar.

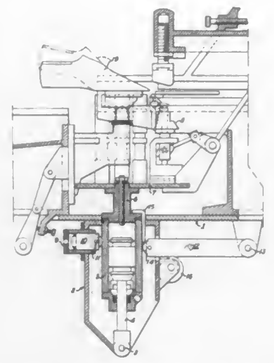
3,404,415
METHOD OF MAKING FASTENER WITH SNAP-ON CAPTIVE LOCKING RING
José Rosán, San Juan Capistrano, and Marvin P. Reece, Dana Point, Calif., assignors to Rosan Engineering Corp., Newport Beach, California, a corporation of California
Original application Sept. 16, 1964, Ser. No. 396,867, now Patent No. 3,259,163, dated July 5, 1966. Divided and this application Jan. 18, 1966, Ser. No. 521,355
8 Claims. (Cl. 10—86)



This invention relates to improvements in making fastener having serrations on the periphery of the body thereof and having an associated captive locking ring interconnected therewith, said locking ring being temporarily rigidly secured to said fastener body and being in axial slidable engagement with the serrated portion thereof. The locking ring has serrations formed about the outer and inner periphery thereof as well as means for internesting with cooperating means formed in association with serrations on the exterior of the fastener body.

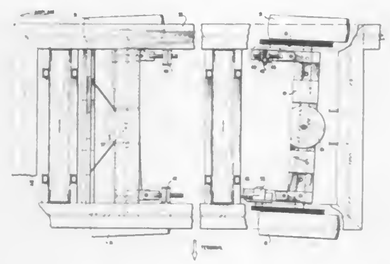
3,404,416
COMBINED TURNING AND NIPPING MACHINE FOR SHOE UPPERS
Karl Stein and Herbert Schindler, Pirmasens, Germany, assignors to Schon & Cie, Gesellschaft mit beschrankter Haftung, Pirmasens, Germany
Filed Aug. 17, 1965, Ser. No. 480,441
Claims priority, application Germany, Aug. 18, 1964, Sch 35,642
11 Claims. (Cl. 12—10.5)

A combined turning and tip nipping machine in which a pincer device engages the upper of footwear on a stationary last and a support for the pincer device is driven downwards and away from the last, then downwards alone,



and finally downwards and towards the last, whereby the upper is stretched and turned on the last.

3,404,417
CONVEYANCE LOADING APPARATUS
Joseph C. Wollard, Miami Springs, John S. Slaney, Opalocka, and Lester L. Preiss, Miami, Fla., assignors, by mesne assignments, to Wollard Aircraft Equipment, Inc., Miami, Fla., a corporation of Washington
Continuation-in-part of application Ser. No. 326,771, Nov. 29, 1963. This application Apr. 14, 1967, Ser. No. 630,895
4 Claims. (Cl. 14—71)

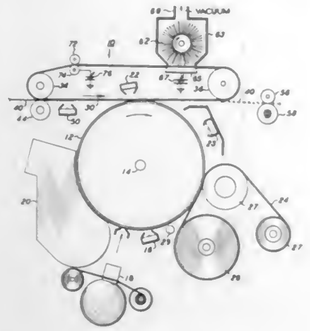


A horizontally swingable conveyance loader pivoted adjacent a terminal building with mobile undercarriage supporting the swingable portion at a point spaced from the pivot adjacent the building, the undercarriage including a plurality of wheel assemblages, each wheel assemblage having coaxially mounted wheels, the axis of each wheel assemblage being rotatable around a point between the wheels both in horizontal and vertical planes, there being means for holding a plurality of said axes radially disposed relative to the pivot adjacent the building.

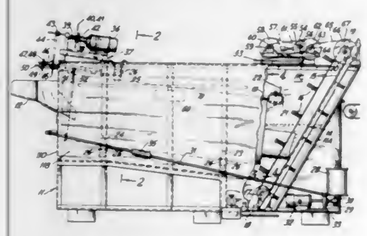
3,404,418
SHEET TRANSPORT APPARATUS
Joseph Fantuzzo, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Feb. 27, 1967, Ser. No. 618,978
4 Claims. (Cl. 15—1.5)

An automatic copying machine of the type in which a powder image is transferred to a support material electrostatically carried on a dielectric web characterized by an improved apparatus for removing powder electrostatically attracted to the web. The apparatus comprises an electrically conductive member positioned to momentarily

neutralize electrostatic fields on the web while a brush removes the powder from it. A variable source of potential is connected to the electrically conductive member to control the flow of powder onto the brush.



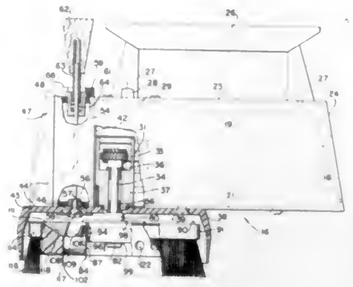
3,404,419
WASHING AND CLEANING APPARATUS
Charles J. Donovan, 9 Stocker Ave., and Robert E. Fowler, 19 Lockwood St., both of Haverhill, Mass. 01830
Filed July 22, 1966, Ser. No. 567,190
7 Claims. (Cl. 15—3.13)



An apparatus for cleaning large quantities of articles regardless of configuration which employs an inclined revolving drum having resilient scrubbing members suitably arranged therein rotatably supported within a tank containing a suitable washing solution, the tank having conveyor means adjacent the lower end of the drum for removing the cleaned articles and recirculation and filter means for the washing solution, the entire apparatus being powered by an explosion-proof motor and driven by a frictionless transmission system to eliminate the danger of fire.

3,404,420
UPHOLSTERY SHAMPOOING MACHINES
Remy J. Lachat, Wellesley, Mass., and Oswald M. Porter, Livingston, N.J., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 8, 1965, Ser. No. 494,080
4 Claims. (Cl. 15—29)

2. An upholstery shampooing machine comprising an elongated casing, an electric motor, a combined brush and foaming member, means for driving said combined brush and foaming member from said motor including a spindle, said brush and foaming member including a sponge ring and a wobble disc for engaging said sponge ring, a ball-type camming device carried by said casing and engaging said wobble disc to cause the disc to wobble as it is rotated by said spindle, a liquid containing bottle positioned at one end of said casing, an outlet valve and passageway positioned to supply liquid from said bottle to said sponge ring, a dispensing knob, and means passing through said bottle for operating said outlet valve from said dispensing knob.



3,404,421
APPARATUS FOR LAUNCHING OBJECTS WITHIN A PIPE LINE
John A. Surber, Tulsa, Okla., assignor, by mesne assignments, to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 6, 1966, Ser. No. 540,762
4 Claims. (Cl. 15—104.06)



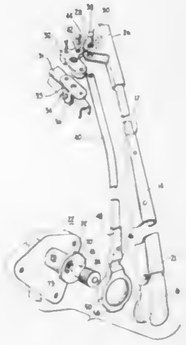
A launcher for inserting pigs into a pipe line comprising a pair of coaxial pipes, the smaller of which is essentially the same diameter as the pipe line and is adapted for connection to the pipe line. The larger pipe surrounds the smaller pipe and has a length at least as long as the smaller pipe. The smaller pipe is slotted along its upper surface and a longitudinal support along the upper surface of the smaller pipe supports a pig mover element extending through the slot. The pig mover element is pivotally supported to permit rotation out of the slot in one direction only. A hinged closure on the end of the larger pipe adjacent the open end of the smaller pipe can be operated for insertion of a pig into a smaller pipe. An actuator causes the pig mover element to move the pig down the smaller pipe into a position in front of a fluid inlet from which it is propelled by fluid.

3,404,422
COMPOSITE BRUSH
Rueben Brown Warner, Lakewood, Ohio, assignor to The Osborn Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed June 13, 1967, Ser. No. 645,751
7 Claims. (Cl. 15—180)



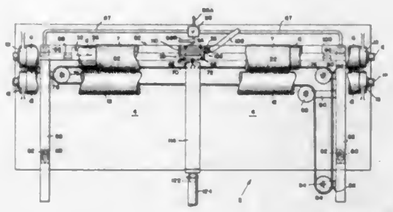
A brushing tool having bristles embedded in a molded body of elastomeric material, with such elastomeric material being molded at the working face of the tool into a large number of slightly projecting portions having recesses therebetween, the outer ends of the brush bristles being received and embedded within the projecting portions. When the brush is placed in the mold prior to performance of the elastomer molding operation, the ends of the bristles are received and engaged in a large number of normally uniformly spaced shallow recesses, thereby to form the above brushing tool when the elastomeric material is molded thereabout in such mold, and also serving to maintain such bristles uniformly distributed during the molding operation.

3,404,423
WINDSHIELD CLEANING APPARATUS
Sheldon J. Howard, Buffalo, and William C. Riester, Williamsville, N.Y., assignors to Trico Products Corporation, Buffalo, N.Y.
Filed June 24, 1965, Ser. No. 466,685
4 Claims. (Cl. 15—250.23)



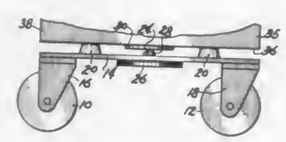
A windshield wiper blade pivotally mounted relative to a windshield wiper arm on a first axis for oscillation in a plane parallel to the windshield and pivotally mounted on a second axis for movement in a plane perpendicular to the windshield. An actuator rod mounted eccentrically with respect to the wiper arm pivot shaft at one end and on an axis parallel to the second axis at its other end, but displaced from the pivotal axis of the blade, actuates the blade on its pivotal axis relative to the arm as the wiper traverses its path.

3,404,424
SCRAPER STRUCTURE FOR A ROLL
John W. Drayton, 220 Darby Road, Paoli, Pa. 19301
Filed Dec. 23, 1965, Ser. No. 515,841
5 Claims. (Cl. 15—308)



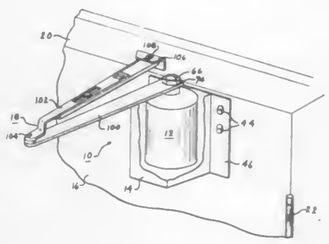
A scraper structure for a roll has a reciprocating carriage supporting a relatively short scraper blade with motor means to urge the blade toward the roll and to retract the blade. A continuous air jet is directed at the material removed from the roll to break it up. Vacuum means pick up the broken up material to convey it away from the roll. The air jet is directed towards the vacuum means. The vacuum means is closely fitted to the roll and pulls air across portions of the roll which have passed the blade as well as portions of the roll advancing to the blade. Baffle means cage the broken up material.

3,404,425
CONNECTOR
Dallas Richard Wilder, 6731 N. Ionia, Chicago, Ill. 60646
Filed June 28, 1966, Ser. No. 561,153
9 Claims. (Cl. 16—30)



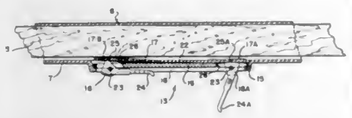
1. A connector for releasably holding two articles in a fixed, supporting relationship relative to each other, comprising a receptacle plate secured to a first wall of a first article, said receptacle plate having a threaded aperture therein, a threaded shaft rotatable in an aperture in a second wall of a second article and aligned with said threaded aperture for entering said threaded aperture, first holding means secured to said shaft on one side of said second wall, and second holding means secured to said shaft on the other side of said second wall, said first and second holding means holding said shaft within said aperture, one of said holding means having the form of a round flat disk, whereby said shaft may be rotated by manually rotating said disk.

3,404,426
DOOR CLOSURE DEVICE
James R. Johnston, Elkhart, Ind., assignor to Ridge Products, Inc., Elkhart, Ind., a corporation of Michigan
Filed Apr. 17, 1967, Ser. No. 631,545
14 Claims. (Cl. 16—51)



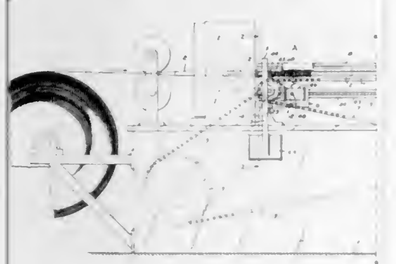
A door closure device having a cylindrically shaped housing and a cylindrically shaped rotor disposed in the housing for rotation therein and a spring in the rotor interconnecting the housing and the rotor. The rotor is connected by an axial shaft to a link for operating the closure device, and a fluid chamber is disposed around the external wall of the rotor for a viscous fluid which retards or dampens the closing movement of the door effected by the torsion action of the coil spring.

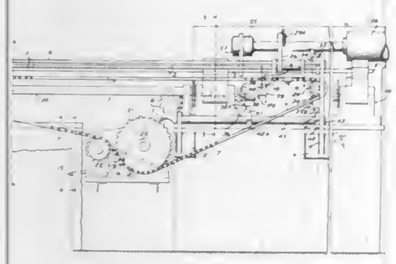
3,404,427
ADJUSTABLE EXTENSION-HANDLE
William V. Mack, West Islip, N.Y., assignor to William V. Mack Inc., Bay Shore, N.Y., a corporation of New York
Filed Nov. 18, 1966, Ser. No. 595,386
12 Claims. (Cl. 16—114)



An extension-handle for attachment to a standard handle of a conveying vehicle such as wheelbarrow, the extension-handle including a sleeve part into which the standard handle is inserted to selected axial positions therein, a gripping part extending from the sleeve part, and a locking device for releasably fixing the extension-handle in its various axial positions, the locking device including a pressure plate driven into frictional contact with the standard handle within the sleeve.

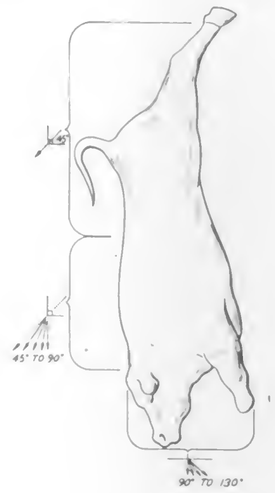
3,404,428
APPARATUS FOR COMPACTING SAUSAGE CASINGS
René Lucien Saint-Denis, 6 Rue Paul Baudry, Paris 8eme, France
Continuation-in-part of application Ser. No. 452,482, May 3, 1965. This application Apr. 10, 1967, Ser. No. 629,747
Claims priority, application France, May 5, 1964, 973,384
11 Claims. (Cl. 17—42)





An apparatus for shirring and compacting sausage casing tubes which comprises (1) a mandrel adapted to receiving the tubes; (2) shirring means positioned for shirring the tube on said mandrel to form a casing stick; (3) means for severing a predetermined length of said stick; (4) means for advancing the severed link of stick along said mandrel to a compacting station; (5) means at said compacting station for compacting said stick axially to a predetermined shorter length, the means for severing the predetermined length of the stick and the means for advancing the severed length of the stick comprising a pair of carriages disposed at opposite ends of the said mandrel; (6) means for causing each of the carriages simultaneously to be advanced toward center of the mandrel, and (7) springs means for returning each of the carriages to their original position.

3,404,429
BOVINE HIDE REMOVAL METHOD
Thomas Franklin Sparks, Woodridge, Ill., assignor to Armour and Company, Chicago, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 563,511, July 7, 1966. This application June 22, 1967, Ser. No. 648,091
7 Claims. (Cl. 17—45)

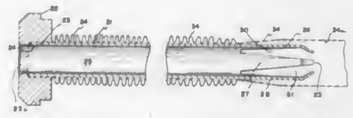


This invention relates to a method for removing the hides from the carcass of bovine cattle suspended from an overhead conveyor prior to removal of their legs and head. The method comprises the steps of slitting the hide in a substantially longitudinal direction and pulling off the hide downwardly until entirely removed from the carcass including the head. For optimum results, the hide is pulled downwardly at an angle that increases as the hide is pulled from certain portions of the carcass, and certain areas of hide are hand cleared before pulling.

3,404,430
METHOD AND APPARATUS FOR MAKING SAUSAGE PRODUCTS
Elwood W. Kielsmeier, Felix E. Kasbaum, William D. Paynter, and James E. Anderson, Madison, Wis., assignors to Oscar Mayer & Co., Inc., Chicago, Ill., a corporation of Illinois
Filed July 20, 1966, Ser. No. 566,561
16 Claims. (Cl. 17—45)

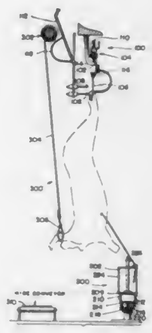
A method and apparatus for extruding ground sausage batter having coarse and fine particles (i.e., a sausage batter characterized by a viscous fluid-like consistency which is used in smokie links, summer sausage and similar sausage products) into a product confining mold or casing in a manner wherein a desirable coarse surface particle appearance is provided. In particular, the

ground sausage batter having coarse and fine surface particles is extruded through a tubular extrusion nozzle which is provided with a plurality of radially disposed spaced apart open ended slots which slots are sized to enable the passage of coarse particles of ground sausage



batter therethrough, preferably these spaced apart openings or slots will have a circumferential width of from 0.25 to 1.0 radian.

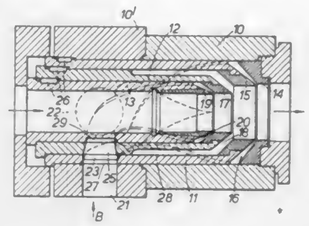
3,404,431
HIDE-PULLING METHOD
Robert L. Knauss, Omaha, Nebr., assignor to Armour and Company, Chicago, Ill., a corporation of Delaware
Original application June 3, 1964, Ser. No. 372,286, now Patent No. 3,274,639, dated Sept. 27, 1966. Divided and this application June 30, 1966, Ser. No. 568,094
3 Claims. (Cl. 17—45)



A method of removing the hide from animal carcasses suspended from the hind legs in which the hide is initially loosened from the lowermost back portions of the carcass, the carcass is secured against upward movement, and the loosened portions of the hide are pulled vertically upwardly over the carcass back to remove the remainder of the hide from the carcass.

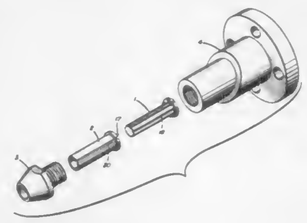
3,404,432
APPARATUS FOR MAKING ELECTRIC CABLES WITH EXTRUDED INSULATION
Francis Thomas White and Oliver Sanders Johnson, Gravesend, and Edward Thompson Lloyd, New Eltham, England, assignors to Associated Electrical Industries Limited, London, England, a British company
Filed July 15, 1963, Ser. No. 294,882
Claims priority, application Great Britain, July 18, 1962, 27,607/62
1 Claim. (Cl. 18—13)

1. An extrusion head assembly for the manufacture of electric cable comprising a conductor insulated by a layer of insulating material sandwiched between inner and outer layers of semi-conductive material, said assembly comprising four interfitting tip and die units having first and second annular extrusion orifices defined respectively between the first and second units and between the third and fourth units for extrusion of the semi-conductive layers and a third annular extrusion orifice defined between the second and third units and positioned between the other two orifices for extrusion of the insulant between said layers, each orifice being formed between a cooperating tip and die belonging respectively to the inner and outer of the two tip and die units between which it is defined, and the assembly further including first and second inlet ports through the first, outermost, unit for respectively receiving semi-conductive extrusion material and the insulating extrusion material, said inlet ports being located upstream of the position of the extrusion orifices, shaped passages defined by facing surfaces of the first and second units and communicating between said first inlet port and the extrusion orifice defined between these units, first and second through-ports in the second unit in communication respectively with the first and second inlet ports, shaped passages defined by facing surfaces of the second



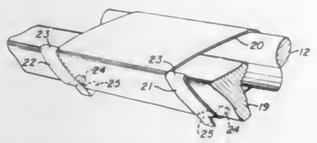
and third units and communicating between said second through-port and the extrusion orifice defined between these latter units, a throughport in the third unit in communication with said first through-port, and shaped passages defined by facing surfaces of the third and fourth units and communicating between the extrusion orifice defined between these last units and the through-port in the third unit, said passageways being shaped to distribute the extrusion materials into the annular orifices from the appertaining ports.

3,404,433
EXTRUSION COATING EQUIPMENT
Charles M. Krutchen and Kenneth E. Sheets, Ellicott City, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
Filed Sept. 27, 1966, Ser. No. 582,371
4 Claims. (Cl. 18—13)



The present invention concerns a crosshead for extrusion coating a plurality of filamentary structures which comprises an inlet for the filamentary structures, an outlet for the filamentary structures and a plastic supply located between said inlet and said outlet, the said inlet and the said outlet each comprising a generally cylindrical mandrel, an outer sleeve for said mandrel, an outer housing for said sleeve and a means for securing the mandrel and sleeve within the said housing, the said mandrel containing a plurality of longitudinal grooves on its outer periphery which extends the length of the mandrel and the said sleeve containing a slot which extends the length of the sleeve. The present invention also provides a guider tip for such an extrusion apparatus.

3,404,434
FIBER DRAFTING SYSTEM
Kenneth C. Smith, Westhoughton, England, assignor to Dayco Corporation, Dayton, Ohio, a corporation of Delaware
Filed Jan. 27, 1967, Ser. No. 612,234
2 Claims. (Cl. 19—252)



The use of spring steel clips on the nose bar to prevent lateral movement of the bottom apron in a short bottom apron system.

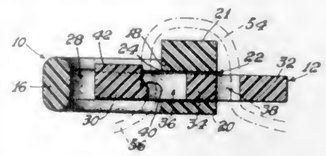
3,404,435
PAPER CLIP
Jackson S. Freundlich, South Orange, N.J., assignor to The Emeloid Co., Inc., Hillside, N.J., a corporation of New Jersey
Filed Nov. 4, 1966, Ser. No. 592,030
2 Claims. (Cl. 24—66)



1. A clip device comprising:
a one piece molded elastic synthetic resin body having a base portion and a clamp portion;
said base portion having opposed top and bottom face surfaces and an opening from face to face outlined by a frame of remainder material at least partially surrounding said opening:
said clamp portion having a pressure bar section, said bar section having a stiffness of about the same degree as said base portion;
a hinge web interconnecting said clamp portion to said base portion, said hinge web having a degree of stiffening much less than said bar and base section to provide flexibility and spring resiliency, said hinge dimensioned to be swingable through said opening; and
said pressure bar section and hinge dimensioned and proportioned in relationship to the characteristics of the compound from which it is composed such that placing of said pressure bar section against the frame surrounding said through opening will extend said hinge section through said opening and flex said hinge section out of its natural condition, whereby said flexing will cause the hinge to urge the clamp portion to rotate in the direction of said frame in a clamping action.

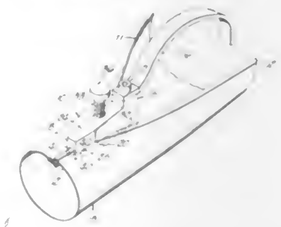
3,404,436
BUCKLE AND STRAP COMBINATION
Arthur W. McMurray, 32 Brookdale Road, Cranford, N.J. 07016
Filed May 6, 1966, Ser. No. 548,283
5 Claims. (Cl. 24—168)

A buckle has a frame with crossbars two of which are in opposed relation and spaced apart in the direction perpendicular to the plane of the frame, while another is connected to one end of a strap. A slide is slidable between said opposed crossbars of the frame and has inner and outer side crossbars providing strap-receiving spaces at opposite sides of said opposed crossbars. The strap is



threaded through said spaces and over one of said opposed crossbars, providing for gripping and releasing of the strap between said inner crossbar said one of the opposed crossbars when the frame is held stationary and the strap is pulled against said outer and inner side crossbars, respectively.

3,404,437
SEAM-OPERATING DEVICE
Walter A. Plummer, 3546 Crownridge Drive, Sherman Oaks, Calif. 91403
Filed Apr. 10, 1967, Ser. No. 629,566
5 Claims. (Cl. 24—201)



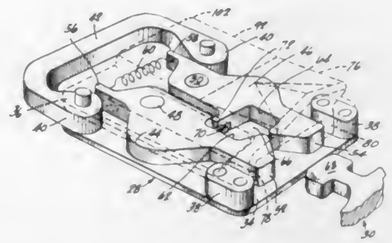
A tool for opening and closing a fastener wherein the fastener has a T-shaped edge engageable with a U-shaped edge. The tool has a pair of separate guides merging into a common guide wherein one of the separate guides is expandable enabling it to be placed on one of the edges. The fastener edges are separated when they pass through the separate guides and are joined when they pass through the common guide.

3,404,438
FASTENING ASSEMBLY FOR USE WITH A CARGO-RETAINING BELT
Sam Goldman, Riverdale, N.Y. (120 Freeman St., Brooklyn, N.Y. 11222)
Filed Nov. 20, 1967, Ser. No. 684,458
3 Claims. (Cl. 24—201)



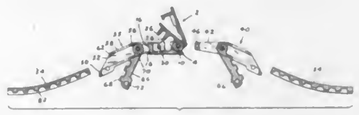
A fastening assembly for use with a cargo retaining belt consisting of a track with rectangular opening, and a bolt with length longer than the said opening. By lifting a T-shaped member to an upper position, the track and bolt can be interfitted by placing the upper inner edge of the track opening in a notch in the bolt to enable the same to swing into place unobstructed. Once in place, the T-shaped member may be placed back in its original position to lock the track and bolt together.

3,404,439
FASTENER FOR USE ON PARACHUTE HARNESSES
Harvey W. Jones, Long Beach, and Robert G. McIntyre, Manhattan Beach, Calif., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed May 5, 1966, Ser. No. 547,974
3 Claims. (Cl. 24—230)



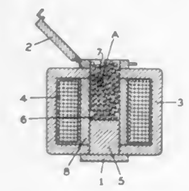
A fastener comprising a pair of pivoted, spring-biased locking lugs each of which includes a cam portion which can be operated by an actuator to move the lugs to the locked position. To move the lugs to the unlocked position a first unlocking device must be operated prior to the operation of a second unlocking device which releases the locking lugs.

3,404,440
JEWELRY ATTACHMENT
Irving Weiss, New York, N.Y., assignor to Lisnow & Weiss Company, Long Island City, N.Y., a corporation of New York
Filed May 2, 1967, Ser. No. 635,507
5 Claims. (Cl. 24—241)



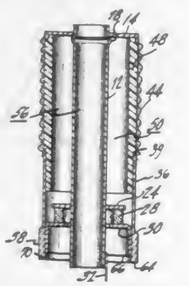
A clamp for attaching a flexible band, or strap, to a clasp which includes a housing having a bottom, side and end walls which form, therebetween, a cavity, the end wall having a horizontal opening, a flexible band extending through said opening into said cavity with one side of said band in engagement with said bottom wall, the opposite side of said band having a plurality of teeth, and a keeper pivotally connected at one of its ends intermediate said side walls, said keeper having a plurality of teeth extending upwardly into said cavity toward said bottom wall and in mating engagement with the teeth on said band, and means opposite the pivoted ends of said keeper for holding said keeper in position in said cavity and for locking the teeth on said keeper in mating engagement with the teeth on said band.

3,404,441
APPARATUS FOR THE HEAT TREATMENT OF A RUNNING YARN
Atsutoki Manabe and Norinaga Kawasaki, Mihara-shi, Japan, assignors to Teijin Limited, Kita-ku, Osaka, Japan, a corporation of Japan
Filed Mar. 31, 1966, Ser. No. 539,156
Claims priority, application Japan, Apr. 17, 1965, 40/29,997
3 Claims. (Cl. 28—62)



A continuous yarn is uniformly heated when advanced continuously through a bed of heated spherical pellets confined in a chamber. The pellets have smooth outer surfaces and are movable by the frictionable forces imposed by the moving threadline whereby the yarn is continuously exposed to new surfaces.

3,404,442
METHOD OF FABRICATING DIRECTLY HEATED CATHODE
Stanley E. Aungst, Scottsdale, Ariz., and Robert A. Lee, Lancaster, Pa., assignors to Radio Corporation of America, a corporation of Delaware
Filed Apr. 20, 1966, Ser. No. 543,961
6 Claims. (Cl. 29—25.14)

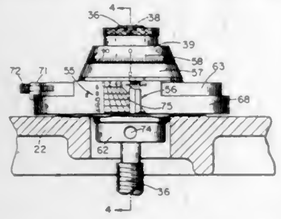


1. A method of fabricating a cathode comprising:
mounting a pair of supports in spaced apart relation on a disposable mandrel,
forming a filamentary structure covering portions of said mandrel and portions of said supports,
bonding said filamentary structure to said supports,
securing a spacer member to said supports for maintaining said supports in spaced apart relation, and
disposing of said mandrel.

3,404,443
SAG COMPENSATOR FOR GEAR MACHINE WORK SPINDLE
Vincent M. Cinanni, Rochester, N.Y., assignor to The Gleason Works, Rochester, N.Y., a corporation of New York
Filed Dec. 20, 1966, Ser. No. 603,322
7 Claims. (Cl. 29—90)

A running test or lapping machine for bevel and hypoid gears has the spindle which carries the larger gear of a pair journaled in a vertical slide that is adjusted by a

vertical screw. A graduated dial on the screw shows the magnitude of the slide adjustments, and is read against a zero-setting mark on a ring beneath the dial. To compensate for sagging of the spindle due to the weight of the gear and the means for holding it on the spindle, the ring



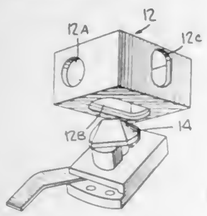
is adjustable around the dial to change the position of the zero-setting mark. The ring is provided with a pointer that is read against a two-dimensional scale which shows the approximate setting which will compensate for gears and work holders of various weights and proportions.

3,404,444

ADAPTOR RING AND METHOD OF ASSEMBLING THE RING TO THE CORNER FITTING OF A CARGO CONTAINER

Waldemar M. Isbrandtsen, 315 E. 65th St., New York, N.Y. 10021

Filed Mar. 24, 1966, Ser. No. 537,231
5 Claims. (Cl. 29—150)



1. The method of altering the configuration of a non-standard opening in a corner fitting for an otherwise standard cargo container to provide an opening having a desired standard configuration, said method comprising the steps of:

(a) forming a pair of diametrically opposed notches in the wall of said operating at positions displaced inwardly from the mouth thereof, said openings being dimensioned to receive a pair of bayonet keys,

(b) inserting into said opening a ring having an inner wall defining an opening having the desired configuration and having an outer wall conforming to the mouth of said opening, said ring being provided with a pair of bayonet keys, and

(c) twisting said ring to cause said keys to enter said notches thereby locking said ring in said opening.

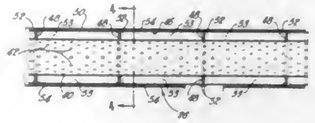
3,404,445

METHOD OF FORMING A SOUND ATTENUATING AND GAS PASSAGE TUBE CONSTRUCTION

Glenn R. Crouse, Nuncia, Mich., assignor to Oldberg Manufacturing Company, Grand Haven, Mich., a corporation of Michigan

Original application Sept. 14, 1964, Ser. No. 396,247, now Patent No. 3,276,540, dated Oct. 4, 1966. Divided and this application May 23, 1966, Ser. No. 552,059
9 Claims. (Cl. 29—157)

1. The method of forming a multiple tube assembly including the steps of distorting metal of the wall of a first tube inwardly at lengthwise spaced regions, telescoping the first tube between second and third tubes of diameters whereby the first tube is spaced from the second and third tubes, and impressing pressure lengthwise on the first tube to force the metal at the lengthwise spaced regions into engagement with the second tube and the third



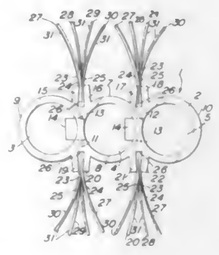
tube for securing the tubes in assembled relation with annular regions between the first and second tubes and between the first and third tubes, the distorted metal providing partitions subdividing the annular spaces into lengthwise arranged individual chambers.

3,404,446

METHOD OF SECURING FINS IN A HEAT EXCHANGER

Richard W. Kritzer, Chicago, Ill., assignor to Peerless of America, Incorporated, Chicago, Ill., a corporation of Illinois

Filed Oct. 24, 1965, Ser. No. 504,330
2 Claims. (Cl. 29—157.3)



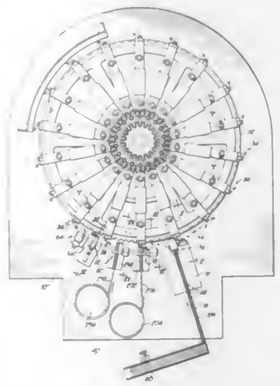
A method of making a finned heat exchanger wherein the internal cross-section thereof is deformed to move exterior ribs into clamping relation to fins disposed therebetween.

3,404,447

APPARATUS FOR MAKING SEALED SWITCHES

Harry Chanowitz, Skokie, Ill., assignor to C. P. Clare & Company, Chicago, Ill., a corporation of Delaware

Filed Mar. 18, 1965, Ser. No. 440,697
14 Claims. (Cl. 29—203)



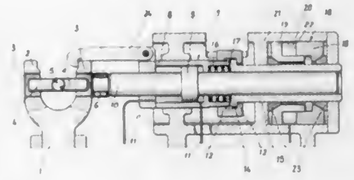
A sealed reed switch making machine in which glass tubes stacked end-to-end are dropped in sequence to be held in assembly position on successive moving switch making heads. Reeds are fed in sequence through aligning slots in two similar guide structures for the upper and lower reeds to rest at one end on a magnet that detachably and magnetically mounts the other end of the reed on the guide structure until it is picked up by upper and lower reed chucks on successive heads and inserted into the open ends of the glass tube. A guide slidably receiving the reed at one end and a resilient member bearing against the reed at the other end prevents interference between the free ends of the reeds during insertion. The resilient member deflects the reed toward the wall and away from the center of the tube to prevent engagement of the two axially inserted reeds.

3,404,448

APPARATUS FOR ASSEMBLY OF UNIVERSAL JOINTS INDEPENDENT OF THE POSITION OF THE PRESSURE APPLYING MEANS

Harald Schonfeld, Herzogenaurach, Germany, assignor to Industriewerk Schaeffler OHG, Herzogenaurach, Germany, a corporation of Germany

Filed Nov. 16, 1966, Ser. No. 594,834
Claims priority, application Germany, Dec. 10, 1965, J 29,563
5 Claims. (Cl. 29—252)



An improved apparatus for assembling universal joints formed by the connection of two shafts forked at their ends with a universal joint spider and having radially and axially loadable bearings arranged in bores in the shaft forks for accommodating the spider trunnions independent of the position of the pressure applying means.

3,404,449

HEAVY WALLED PIPE MANUFACTURE

William A. Horning, Hubbard, Ohio, assignor to Sharon Tube Company, Sharon, Pa., a corporation of Pennsylvania

Filed July 19, 1965, Ser. No. 472,799
4 Claims. (Cl. 29—474.3)



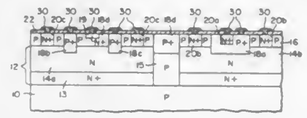
A method of making heavy walled steel pipe by hot buttweld pipe manufacturing procedure in the range of nominal ⅛" to 1" pipe sizes. The method comprises the steps of selecting lengths of pipe in nominal sizes next smaller and next larger than the nominal size of the heavy walled pipe to be produced, respectively, for inner and outer components; fluxing the components; telescoping an inner component within an outer component; heating the pair of pipe components to skelp forge-welding temperature; reducing rolling the pair on stands of a buttweld pipe mill sized to form and buttweld a nominal pipe size intermediate the nominal sizes of the inner and outer components; reducing the exterior diameter during rolling, buttweld-like welding the adjacent surfaces of the inner and outer components, reducing the inner diameter of the inner component, and forming in the heavy walled small diameter pipe produced a wall thickness greater than the combined wall thickness of the components prior to rolling.

3,404,450

METHOD OF FABRICATING AN INTEGRATED CIRCUIT STRUCTURE INCLUDING UNIPOLAR TRANSISTOR AND BIPOLAR TRANSISTOR PORTIONS

Edmund A. Karcher, Severna Park, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 26, 1966, Ser. No. 523,099
5 Claims. (Cl. 29—577)



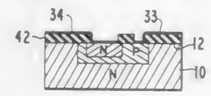
Independent operations are employed to determine the characteristics of a bipolar transistor base region and a unipolar transistor channel region in an integrated structure. The base region is formed by impurity diffusion and the channel by epitaxial growth in a particular sequence of operations. Improved unipolar characteristics are provided without degrading bipolar characteristics.

3,404,451

METHOD OF MANUFACTURING SEMICONDUCTOR DEVICES

John J. So, Mountain View, Calif., assignor to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware

Filed June 29, 1966, Ser. No. 561,608
9 Claims. (Cl. 29—577)



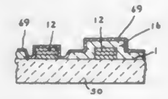
The improvement in the method of making planar semiconductor devices wherein the oxide coating is stripped from the surface of the device after the predeposition step and before the diffusion step to achieve a continuous oxide coating with a flat exterior surface.

3,404,452

METHOD OF MAKING A MEMORY DEVICE COMPONENT AND THE LIKE

David H. Navon, Lincoln, and David Bakalar, Boston, Mass. (both of 168–182 Albion St., Wakefield, Mass. 01880)

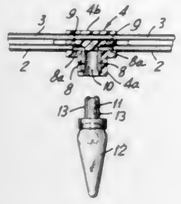
Filed Sept. 20, 1965, Ser. No. 488,611
7 Claims. (Cl. 29—604)



A method of making a thin film capacitive fixed memory array having sensing lines and address lines which form a plurality of crossover points in the device and in which the dielectric material forming the capacitor crossover points is of varying thickness. A large sheet of dielectric material having a plurality of selected locations corresponding to the crossover points of the memory device to be made is magnetically marked with ink at those points which are to have minimum capacitance.

A dielectric board with beveled holes corresponding to the crossover points is positioned over the marked sheet and a plurality of magnets shaped to fit into the beveled holes is placed on the dielectric board and the board is shaken so that the magnets fall into and are retained in those holes which are above the magnetically marked points on the sheet. The pattern formed by the dielectric board is then photographically copied and reduced in size. A base layer of a dielectric material having a set of elongated conductive members covered by a dielectric of uniform thickness and photoresist material is then exposed to light through the reduced pattern, and the developed area of the photoresist material is reduced. Thereafter a second set of elongated conductive members are formed angularly to the first mentioned conductive members and crossing the first with the two angularly arranged sets of conductive members variably spaced depending upon the amount of dielectric material which has been removed.

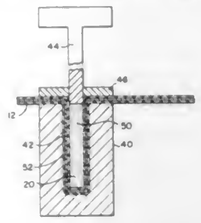
3,404,453
METHOD OF FORMING AN ELECTRIC LIGHT BULB SOCKET
Dario Moranduzzo, Via Aretina 161, Florence, Italy
Filed Mar. 8, 1966, Ser. No. 532,771
Claims priority, application Italy, June 18, 1965, 14,251/65, 14,252/65
3 Claims. (Cl. 29—628)



An electric light bulb socket construction comprises first and second connecting cables which are connected together in the form of a series circuit. A length of one of the cables is cut away and the two ends are connected to respective ones of two spaced apart flat terminal members which extend outwardly at substantially right angles from the severed cable in a direction away from the other cable. A feature of the construction is that a lamp receiving socket is formed by either molding or stamping a plastic socket around the two cables at the location of the flat terminals in a manner to embed a portion of the terminals within the socket thus formed with the terminals arranged in spaced opposed relationship. The socket thus formed is designed to receive a lamp having a base with a terminal element on each side of the base which will engage a respective terminal element of the socket.

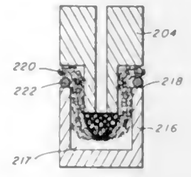
3,404,454
METHOD OF MAKING A FLAT FLEXIBLE CABLE TERMINATION
Donald A. Sayles, Pittsburgh, Pa., assignor, by mesne assignments, to Rogers Corporation, a corporation of Massachusetts
Filed Oct. 14, 1965, Ser. No. 496,048
5 Claims. (Cl. 29—629)

The method of manufacturing an electrical circuit assembly wherein a portion of a flat flexible printed circuit cable having a plurality of coplanar electrically conductive members embedded in an electrically insulating material is inserted into a mold cavity by means of a rigid plunger and a guide therefor and the plunger is removed. A thermosetting material is placed within the mold cavity and pressure is applied to the material by means of the plunger to press one surface of the cable to conform the cable to a portion of the surface of the mold cavity. The



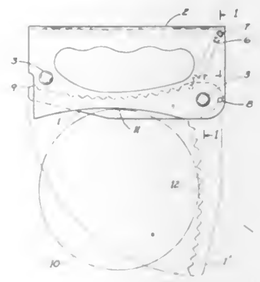
material is subsequently cured in the mold to form a rigid contact to the cable.

3,404,455
ELECTRICAL CONTACTS AND METHOD OF FABRICATION
Edward K. Fairbanks, Silver Spring, and Donald E. Reed, Kensington, Md., and John L. Toth, Falls Church, Va., assignors to Space Components, Inc., Washington, D.C., a corporation of the District of Columbia
Continuation-in-part of application Ser. No. 202,860, June 15, 1962. Division of application Ser. No. 476,336, Aug. 2, 1965, now Patent No. 3,310,650, dated Mar. 21, 1967. This application Sept. 15, 1966, Ser. No. 590,170
4 Claims (Cl. 29—630)



This specification discloses a method and apparatus for forming cup shaped electrical contacts from wire mesh. The wire mesh is initially formed into a generally cup shaped formation and then introduced into a die which compacts the entire mass to a required density. An impact shaft is then passed through a central passage in the innermost die member to compact the central portion of the cup bottom to substantially fuse this portion to a density greater than the remaining portion.

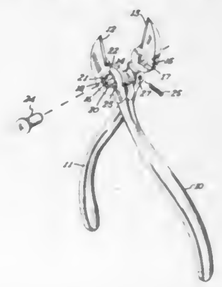
3,404,456
SWING-BLADE SAW
Robert J. Chilko, 3612 Joan Ave., Evansville, Ind. 47711
Filed Oct. 10, 1966, Ser. No. 585,583
4 Claims (Cl. 30—155)



A swing-blade saw characterized by a saw blade having cutting teeth sheathed in a non-operative position

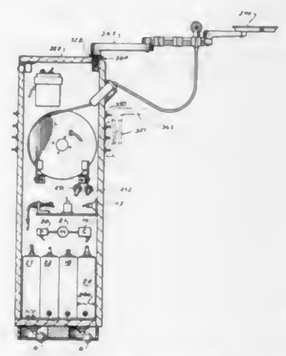
and movable to an operative position through single-handed operation, and where a spring means urges the saw blade for cutting action.

3,404,457
HAND TOOL
John E. Swanstrom, Sr., Duluth, Minn., assignor to Diamond Tool and Horseshoe Co., Duluth, Minn., a corporation of Minnesota
Filed July 26, 1966, Ser. No. 568,000
5 Claims (Cl. 30—267)



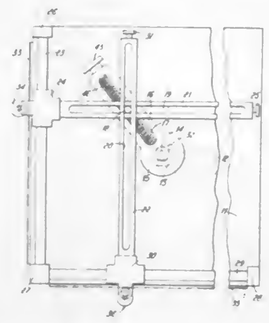
This disclosure relates to a method of fabricating hand tools and also to the structures themselves. The primary emphasis of the construction and method of assembly is to eliminate the problems associated with a steel rivet commonly used to secure the moving parts, and in its place, use a rivet composed of beryllium, cobalt, and copper. The tools are assembled by heat treating the steel handles and work engaging surfaces at a temperature of substantially 1,550 degrees Fahrenheit, after which they are quenched and tempered at a temperature of substantially 850 degrees Fahrenheit, after which the parts have a hardness of 45–48 Rockwell C. The parts are then assembled with the special rivet by staking the rivet. The tool is age hardened at a temperature of substantially 600 degrees Fahrenheit, after which the rivet has a uniform hardness of approximately 40–42 Rockwell C.

3,404,458
AUTOMATED DENTAL UNIT
Charles Weiss and David Harold Linn, New York, N.Y., assignors to S. S. White Company, Philadelphia, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 309,232, Sept. 16, 1963. This application Apr. 12, 1965, Ser. No. 447,416
8 Claims (Cl. 32—22)



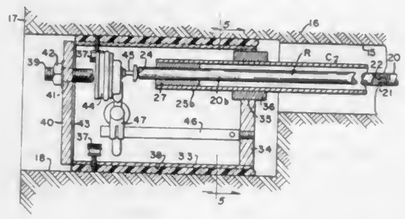
A portable dental unit including conventional handpieces and having self-contained plumbing means, power means, compressed gas means, suction means, waste collection means, such that no external connections are required in order to make the dental unit fully operative. The dental unit also is shown in combination with remote control actuating means whereby various functions of the dental unit can be actuated from a distance. The dental unit is provided with an adjustably mounted tray, cuspidor and dental light whereby the unit is readily convertible for use in practicing dentistry with conventional techniques or with the new time-motion technique.

3,404,459
CIRCULAR FUNCTION GENERATOR
Derek Harry Redman, Croydon, England, assignor to Hancock & Co. (Engineers) Limited, Croydon, England, a British company
Filed Nov. 28, 1966, Ser. No. 597,410
Claims priority, application Great Britain, Dec. 8, 1965, 52,048/65
1 Claim. (Cl. 33—23)



Apparatus for guiding a tool in a circular path in a machine, in which a sine/cosine slide mechanism controls data transmission means by which the tool is guided, the slide mechanism is operated by a crank pin mounted on a further slide within a rotating radius arm, and a potentiometer has its resistance element distributed along the radius arm and its slider movable with the further slide, whereby the speed of a motor driving the radius arm is so varied that the crank pin moves at the same speed for all positions of the further slide.

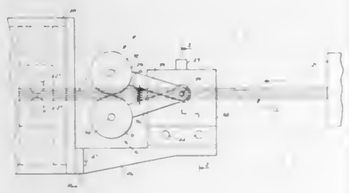
3,404,460
EARTH MOVEMENT MEASURING APPARATUS
Clifton W. Livingston and Ross W. Livingston, both of P.O. Box 504, Georgetown, Colo. 80444
Filed Sept. 24, 1965, Ser. No. 489,872
11 Claims. (Cl. 33—125)



A string of tubing holds a perforated anchor sleeve at a desired point within a borehole. A string of rods moves a piston to force a settable anchoring material through the perforations. A gauge anchored to the bore at the mouth senses the earth movement at the anchored sleeve as transmitted by the rods or tubing. Alternatively, if the gauge is

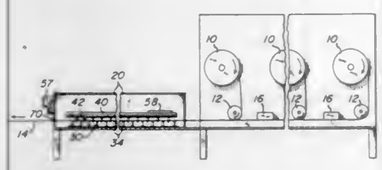
supported at the mouth of the bore by a second coaxial string of tubing extending to a second sleeve anchored at an intermediate point, the gauge will measure the relative movement of the two points.

3,404,461
DETECTING APPARATUS
Richard D. Barnett, Omaha, and Karen K. Moser, Millard, Nebr., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 24, 1966, Ser. No. 522,681
9 Claims. (Cl. 33—149)



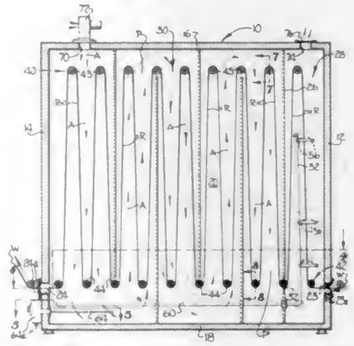
Apparatus for detecting when the spacing between juxtaposed surface portions of two web connected parallel strands is less than a preselected minimum, includes a pair of gage rollers mounted on respective pivoted arms. The arms are biased toward one another so that the rollers are received between respective surface portions of the strands on opposite sides of the web. As the strands are advanced longitudinally each roller rides up on at least one of its respective surface portions whenever the spacing between the surface portions is less than the preselected minimum, thereby causing the operation of a recording device. The arms are carried by a support member mounted on a base member for linear movement transversely with respect to the strands and the base member is adjustably rotatable for proper positioning of the rollers relative to the strands.

3,404,462
DIELECTRIC HEAT APPARATUS
Jack A. Hanson, Vandalia, and George M. Buchard, Dayton, Ohio, assignors to The Standard Register Company, Dayton, Ohio, a corporation of Ohio
Filed Aug. 9, 1966, Ser. No. 571,302
9 Claims. (Cl. 34—1)



High frequency dielectric heat apparatus for rapidly drying liquid glue which is disposed between adjacent superposed continuous sheets which form a web. The apparatus includes a plurality of electrodes, at least one of which is adjacent an edge of the web so that electrical energy flows directly into and out of the edge of the web, thus causing very rapid heating and drying of the glue which is disposed between the superposed sheets of the web. The apparatus also includes means for removing moisture from the region within which the electrodes are disposed.

3,404,463
PROCESS AND APPARATUS FOR DRYING PHOTOGRAPHIC PRINTS
Robert B. Kemp, Jr., 4026 S. Tryon St., Charlotte, N.C. 28210
Filed Aug. 8, 1967, Ser. No. 659,060
10 Claims. (Cl. 34—23)

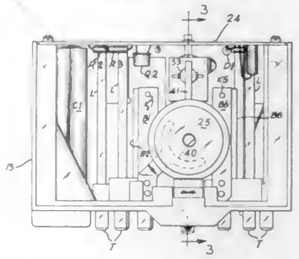


Process and apparatus for the high-speed drying of photographic paper prints without damaging their emulsion surfaces, wherein moist prints are continuously moved through a drying zone where they are sequentially contacted with moist steam and relatively dry heated air currents, and wherein the initial contact of the prints with the dry air currents is at a temperature below the steam temperature, and the prints are thereafter contacted by progressively warmer and dryer air currents to reduce the moisture content of the prints to a desired level.

3,404,464
KILN DRYING PROCESS
Dallas S. Dedrick, Longview, Wash., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
No Drawing. Filed Dec. 19, 1966, Ser. No. 602,502
13 Claims. (Cl. 34—26)

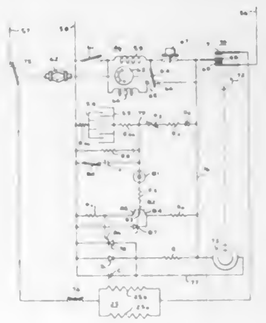
A process for drying wood wherein heat energy is supplied to a load of wood in a confined zone by means of heated air whose temperature is constantly increased with respect to time. Additionally the process preferably utilizes circulating air to dry the wood, the air circulated in one direction across the wood under conditions of laminar flow.

3,404,465
DRYER CONTROL
Claude P. Charamond, Versailles, James D. Broyles, Lexington, and John T. Hancock, Versailles, Ky., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Jan. 11, 1967, Ser. No. 608,564
17 Claims. (Cl. 34—45)



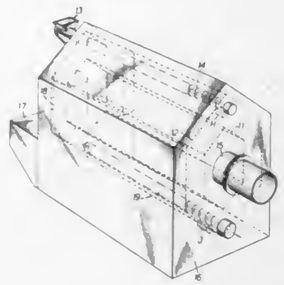
An automatic control for a clothes dryer is disclosed in which manual controls, an electronic dryness sensing circuit, and electric power switching components are combined in an integrated assembly. A switch which is manually closed to energize the dryer is held in closed position by a latch and the latch is selectively released by a solenoid which is energized by the electronic dryness sensing circuit when a preselected level of dryness is reached.

3,404,466
ELECTRONIC DRYER CONTROL
Robert A. Reid, Jeffersontown, Ky., assignor to General Electric Company, a corporation of New York
Filed June 28, 1967, Ser. No. 649,653
13 Claims. (Cl. 34—45)



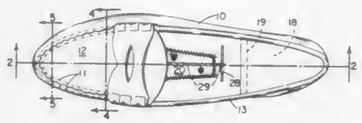
A clothes resistance measurement dryer control of the type utilizing a capacitor as a signal integrator is provided with a large resistance in parallel with the capacitor and a switch effective selectively to disconnect the capacitor from the control. With the capacitor in the control, the resistor compensates for load variations so that the fabrics will be properly dried regardless of variations in the amount of fabrics being dried. With the capacitor effectively out of the control, the resistor will cause control operation so as to give "damp-dry" fabrics regardless of the amount of fabrics being dried.

3,404,467
BATCH DRIER FOR GRAIN
Stephen Frederic Burghard, The Mill House, Wakes Colne, near Colchester, Essex, England
Filed Dec. 20, 1966, Ser. No. 603,233
Claims priority, application Great Britain, Dec. 20, 1965, 53,844/65
13 Claims. (Cl. 34—56)



A batch drier for grain is disclosed which includes an annular drying chamber into which grain is fed for drying and subsequently removed. Surrounding the chamber is an external enclosure with a duct located radially inwardly of the drying chamber through which drying and cooling air is drawn. Automatic control means regulates the loading, drying and unloading operations according to a predetermined sequence.

3,404,468
MOCCASIN SHOE
Henri Elliott Rosen, 64 Long Wharf, Boston, Mass. 02110
Filed Jan. 26, 1967, Ser. No. 612,003
20 Claims. (Cl. 36—11)



A moccasin-type footwear construction in which an elastically stretchable element is secured between the marginal edges of the upper so as to enable the upper to be stretched by the foot of the wearer to provide a comfortable fit for feet of varying widths. The marginal edges of the upper are free from direct attachment to the sole.

3,404,469
HYGIENIC AID
Melvin B. Prenovitz, 7 Atherton Road, Brookline, Mass. 02146
Filed May 10, 1966, Ser. No. 548,970
6 Claims. (Cl. 36—43)

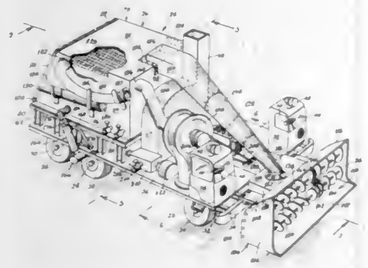


A disposable sanitary protector for use with thong sandals of the type having at least one thong projecting upwardly from the upper face of the sole within the edges of the sandal in position to be received between the wearer's toes, which protector includes at least one slit extending longitudinally inwardly from the toe end edge of the protector for a short distance to the position of the thong and a pair of slits extending transverse to the first-mentioned slit from the inner end thereof and in respectively opposite directions from the extension line of the first-mentioned slit.

3,404,470
AUTOMOTIVE TRUCKS USED BY STREET AND HIGHWAY DEPARTMENTS
James Raiti, Woodside, N.Y.
(11 Curtis Place, Lynbrook, N.Y. 11563)
Filed Oct. 20, 1965, Ser. No. 498,310
2 Claims. (Cl. 37—12)

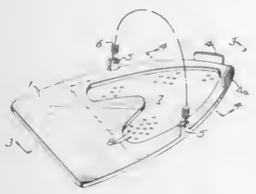
1. In an automotive truck, the combination of a chassis, a cab, a truck body supported on said chassis, said chassis being supported on wheels and said chassis and

truck body carrying mechanism for removal of snow and melting the same comprising a main frame, a platform mounted on said main frame, a heater chamber mounted on said platform at the rear thereof, a tank mounted on said heater chamber, said tank having an inlet opening at the top thereof, a hopper supported at the front of the chassis forwardly of the wheels, said hopper having an outlet opening in the top thereof, a duct having one end connected to the inlet opening in the tank and its other end operatively connected to the outlet opening in the hopper, an engine mounted on the platform and mechanism in the hopper operatively connected to the engine for collecting and forcing snow through the hopper and



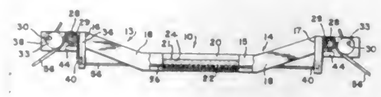
duct to the tank, said heater chamber including a plurality of longitudinally spaced strips defining partitions extending transversely across the chamber, said strips being dipped at the centers thereof to form an upwardly concave portion, vertical plates positioned in the spaces between the strips, said strips forming the bottom wall of said tank, said plates having perforated bodies and relatively enlarged aligned central openings, and an oil burner in the chamber at one end thereof, said burner having a nozzle directed at the aligned central openings in the plates, said chamber having an exhaust chamber at one end of said tank.

3,404,471
ATTACHMENT FOR STEAM IRONS
Jay M. Wilsker, Englewood Cliff, and Richard J. Sussman, Englewood, N.J., assignors to Automatic Steam Products Corp., New York, N.Y., a corporation of New York
Filed Nov. 29, 1966, Ser. No. 597,779
6 Claims. (Cl. 38—97)



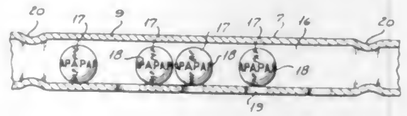
An attachment for steam ironing devices comprising a flat upper member to which a lower non-sticking pressing surface is attached and whose upper surface accommodates the heating surface of the iron with the upper edge being sufficiently unobstructed to permit the steam not passing through the pressing surface to escape transversely therefrom to avoid burning the hand of the user which is generally positioned above the edge of the interface.

3,404,472
FILM SUPPORT ASSEMBLY
John W. Leahey, Lowell, and Vernon D. Turner, Lincoln, Mass., assignors to Lowell Technological Institute Research Foundation, Lowell Mass., a foundation of Massachusetts
Filed July 21, 1966, Ser. No. 566,885
4 Claims. (Cl. 40—106.1)



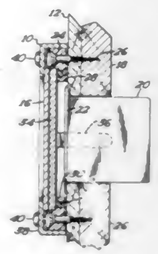
A rotatable and translatable filmstrip holding device for use in a photometer. The device includes a pair of parallel longitudinal bars forming part of a support structure. The support guides film by means of stepped rollers and adjustable gravity rollers, and the film is held in a flat position between transparent plates so that minute details on microfilm and X-ray film can be studied. There is further provided a lock means consisting of a pair of horizontally adjustable eccentrically mounted rubber rollers at both ends of the support assembly for holding the film firmly in place.

3,404,473
IDENTIFICATION MEANS
Frank K. Tucker, 628 20th Ave., Paterson, N.J. 07504
Filed May 19, 1966, Ser. No. 551,400
5 Claims. (Cl. 40—129)



Identification means for such vehicles as shopping carts wherein a tubular structural member has a lengthwise bore and is formed with spaced openings on a side of the bore, with components in the bore carrying suitable indicia that is exposed through the openings, which components are freely movable along inside the bore and are confined therein.

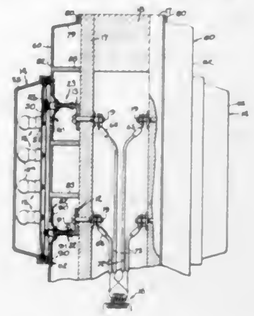
3,404,474
LIGHTED SIGN
James F. Johnson, 3560 Welcome Ave. N., Minneapolis, Minn. 55422
Filed June 21, 1965, Ser. No. 465,355
4 Claims. (Cl. 40—130)



A lighted house number sign secured to the side of a house. The sign has a rectangular base secured to the side of the house around a female electrical outlet box. The base has an inwardly directed peripheral shoulder providing a recess and carrying a seal. A luminescent flat

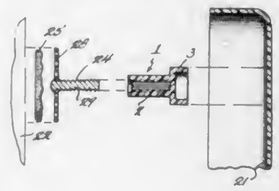
panel fits into the recess of the shoulder and engages the seal. Attached to the back of the luminescent panel are male electrical connectors which cooperate with the female electrical outlet box. Positioned over the luminescent panel are flat number blocks indicating the house number. The blocks have transparent numbers and biased edges. A rectangular frame is used to maintain the blocks in position over the luminescent panel and to hold both the blocks and the luminescent panel in assembled relation with the frame. An alternative silhouette letter is secured by an adhesive directly to the face of the luminescent panel.

3,404,475
DISPLAY SIGN WITH ILLUMINATED CHARACTERS
Terrence M. Coad, Rockford, Ill., assignor to Snaplite Displays, Inc., Rockford, Ill., a corporation of Illinois
Filed Dec. 8, 1965, Ser. No. 512,354
10 Claims. (Cl. 40—130)



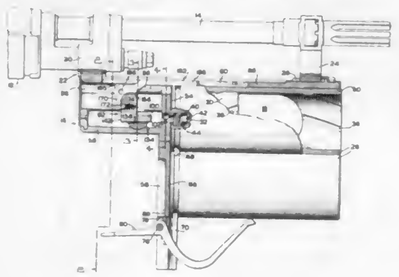
A lighted display sign includes individually illuminated and interchangeable letters detachably snapped on and energized through parallel current conducting rails mounted on a sign board. Each letter is formed by a metal frame designed in the shape of the particular letter and serving to conduct current from the rails to lamps mounted on the frame for illuminating the letter. A translucent cover is fastened removably to the frame and overlies the lamps to diffuse the light with a selected visual effect and to protect the interior of the letter. The rails on the sign board are protected from the weather by a protective cover overlying the display face of the board and sealing around the letters snapped onto the rails.

3,404,476
SIGN MOUNTING DEVICE AND METHOD
Robert J. Hoffman, Jr., Bellmawr, N.J., assignor to Delta Plastics Company, Bellmawr, N.J., a corporation of New Jersey
Filed Jan. 5, 1966, Ser. No. 518,948
7 Claims. (Cl. 40—142)



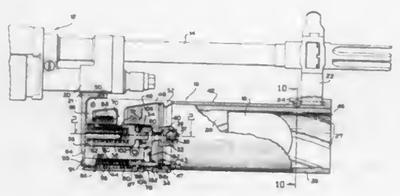
A combination for mounting a sign on a wall is disclosed. The sign has a self-tapping plastic mounting block attached to it. The block has a bore with at least one fillet in the bore, thereby making the block self-tapping. A grip pad with a machine threaded metal member is engaged in the bore, by tapping the fillet, and attached to the wall.

3,404,477
SEMIAUTOMATIC GRENADE LAUNCHER
Stanley D. Silsby, Granby, Mass., assignor to the United States of America, as represented by the Secretary of the Army
Filed May 23, 1961, Ser. No. 112,123
6 Claims. (Cl. 42—1)



3. In combination with a round of ammunition having a tube, a firearm including a breechblock, a receiver extending forwardly from said breechblock for receiving said tube by vertical insertion, a firing pin mounted in said breechblock for longitudinal reciprocation between a forward striking position for discharge of said round of ammunition and a rearward overtravel position, a trigger-sear device for releasably holding said firing pin in a cocked position between said striking and overtravel positions, retainer means actuatable for releasably holding said tube against longitudinal displacement when received by said receiver and when said round of ammunition is discharged by said firing pin, ejector means disposed for ejecting said tube forwardly from said receiver during movement of said firing pin between the overtravel and cocked positions, and cooperating means on said firing pin and said retainer means for actuation thereof to a position for engaging said tube to prevent longitudinal displacement thereof when said firing pin is in the cocked and striking positions and to provide for actuation of said retainer means to a position in disengagement from said tube prior to ejection thereof by said ejector means.

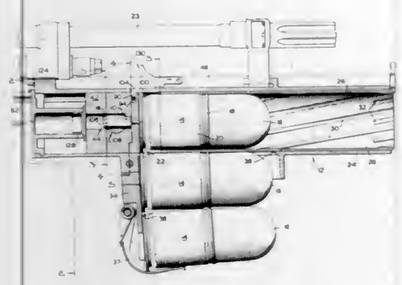
3,404,478
SEMIAUTOMATIC GRENADE LAUNCHER
Stanley D. Silsby, Granby, Mass., assignor to the United States of America, as represented by the Secretary of the Army
Filed May 23, 1961, Ser. No. 112,125
9 Claims. (Cl. 42—1)



1. In combination, a case for containing a grenade, a propellant charge for projection of said grenade from said

case and a primer for discharge of the propellant charge, a launcher attachable to the barrel of a rifle, said launcher including a catch pivotally disposed for engagement with said case for releasable retention thereof in said launcher after being loaded therein, a firing pin disposed for longitudinal reciprocation between a forward striking position and a rearward overtravel position, means for driving said firing pin to the striking position, a trigger-sear device for releasably holding said firing pin in a cock position between the striking and overtravel position, means operationally disposed between said catch and said firing pin for converting longitudinal displacement thereof to pivotal displacement of said catch to release said case as said firing pin is moved to the overtravel position, and means operationally disposed between said firing pin and the primer so as to be actuatable by said firing pin against the primer for initiation thereof and so as to transfer energy from the initiated primer to said firing pin for actuation thereof to the overtravel position.

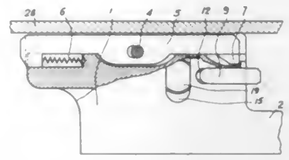
3,404,479
SEMIAUTOMATIC GRENADE LAUNCHER
Stanley D. Silsby, Granby, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Nov. 15, 1961, Ser. No. 153,259
15 Claims. (Cl. 42—1)



1. A launcher attachable to a firearm barrel for successively and semiautomatically discharging a plurality of rounds each including a grenade and a propellant inclosing case, the launcher including a firing tube disposed for reciprocation between a forward round loading position and a rearward battery position wherein the loaded one of said rounds is inclosed by said firing tube for discharge, a spring for biasing said firing tube from the loading to the battery position, rifling formed in said firing tube, a rotating band formed on each of said grenades so as to be engraved by said rifling during passage of said grenade upon discharge from the case along said firing tube to frictionally transfer energy from the discharged grenade to said firing tube for actuation thereof to the loading position, and additional short sections of rifling provided at the muzzle end of said firing tube to increase the energy frictionally transferred to said firing tube.

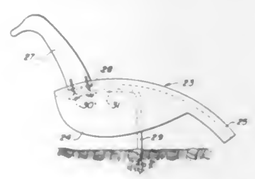
3,404,480
BREECH BOLT ASSEMBLIES FOR FIREARMS
Josef Koucky and Frantisek Koucky, Prague, Czechoslovakia, assignors to Zavody Jana Svermy, narodni podnik, Brno, Czechoslovakia, a corporation
Filed May 23, 1967, Ser. No. 640,668
Claims priority, application Czechoslovakia, May 24, 1966, 3,485/66
6 Claims. (Cl. 42—16)

A firearm provided with breech bolt assembly situated between the trigger and barrel of the firearm, the firearm being of the type which is adapted to receive a magazine. The firearm has within an outer housing thereof a breech bolt means provided at its rear portion with a head, and this head has an upper portion and a pair of opposed side portions. At its upper portion, the head is formed with a longitudinal groove receiving an elongated striker in the form of a one-piece body of sheet metal, while beneath the striker the head is formed with an opening which receives a manually operable cocking means in the region of the latter



handle a retaining flange is provided which engages an inner surface of the outer housing which accommodates the breech bolt. The cylindrical member of the cocking means extends through a slot in the outer housing and at its end which is distant from its handle is provided with a notch which receives an ejector means carried by the other of the opposed sides of the head of the breech bolt. The head of the breech bolt carries at its side which is opposed to the ejector means an extractor means which is swingably supported by the head.

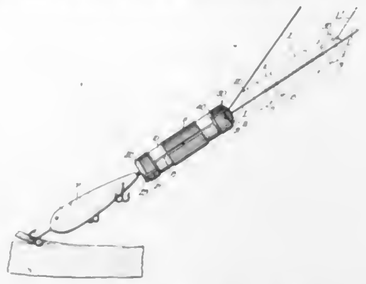
3,404,481
GOOSE AND DUCK DECOYS
Robert Lee Speers, 1604 Grant Drive, Regina, Saskatchewan, Canada
Filed Sept. 17, 1965, Ser. No. 488,141
1 Claim. (Cl. 43—3)



A bird decoy comprises a back, tail and sides cut from an automobile tire and a combined head, neck and leg member protruding through the back and stuck in the ground. The leg member has an arm portion supporting the back of the decoy.

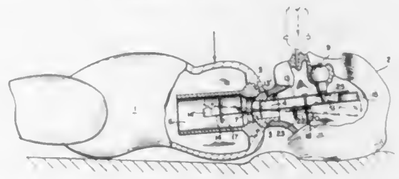
3,404,482
PLUG RETRIEVER
Arthur Maske, 155 Parks Ave., Joliet, Ill. 60432
Filed Aug. 30, 1965, Ser. No. 483,399
8 Claims. (Cl. 43—17.2)

A device for retrieving snagged fish hooks and plugs from underwater obstructions comprising a heavy elongated body having a threaded opening extending longitudinally therethrough, with a longitudinal body slot in communication with said opening throughout the length of the body, the ends of the body defining oppositely disposed abutment surfaces. A movable end cap is threadably engaged with the body adjacent each of the abutment surfaces, each end cap defining a shoulder frictionally engageable with the adjacent abutment surface, and preferably having the same external configuration as the elongated body and further including a threaded shank portion joined to the head portion and extending a substantial distance into the opening in the body. Coaxial bores of a predetermined small diameter extend through the head and shank portions of each of the end caps to define a restricted channel through the length of the retriever for receiving and confining a fishing line. A slot in each of the end caps in communication with the bore



of each cap is alignable with the body slot to permit the fishing line to be fed into the channel, and each cap slot is further disposed for disalignment with the body slot when the shoulders on the end cap frictionally engage with the abutment surfaces of the body, to close the channel and retain the fishing line. Means are also provided on one of said end caps to secure an auxiliary line to the retriever.

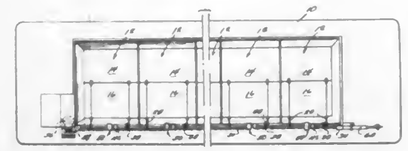
3,404,483
DOLL EYE CONTROL MECHANISM
Robert Gardel, New York, and Egon Gorsky, Brooklyn, N.Y., assignors to Lettam, Inc., New York, N.Y., a corporation of New York
Filed Jan. 21, 1965, Ser. No. 426,835
7 Claims. (Cl. 46—135)



3. In combination with a figure having a head with eyes gravity actuated to open and close freely and mechanical means operable to open and close the eyes upon actuation of said means, eye control mechanism separate from said eyes and from said mechanical means including a part movable with respect to the eyes, said part being adapted to actuate said mechanical means, a movement-delaying device connected to said movable part and operative to regulate the speed of movement of the movable part in one direction, a torso articulated to the head and means rigid with the torso adapted, in one position of the torso with relation to the head, to cooperate with eye control mechanism and prevent movement of the movable part of the eye control mechanism and, in another position of the torso with relation to the head to permit movement of said part.

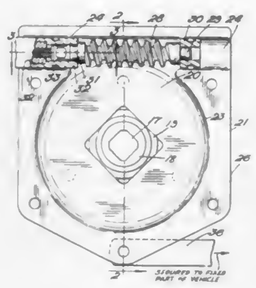
3,404,484
DUMP SCOW DOOR WINDING AND RELEASING ARRANGEMENT
Manfred H. Klee, Port Deposit, Md., assignor to Wiley Manufacturing Company, Port Deposit, Md., a corporation of Delaware
Filed Oct. 19, 1965, Ser. No. 498,020
4 Claims. (Cl. 49—95)

A system for raising and lowering dump scow doors provides for a first cable connected to a winding shaft and to the doors of an individual compartment of the dump scow for raising the doors of that compartment when the first cable is wound up onto the winding shaft. A second cable is also connected to the winding shaft and provides for a winding up of the first cable when the second cable



is unwound from a drum on the winding shaft. The second cable is unwound when it is selectively connected to a moving endless chain means which run along the deck of the dump scow so as to actuate any or all of the second cables associated with separate compartments of the dump scow.

3,404,485
MOTOR DRIVEN WINDING MECHANISM FOR MOTOR VEHICLE WINDOWS
Cyril Henderson and Dominic Paul Barnard, London, England, assignors to S. Smith & Sons (England) Limited, London, England, a British company
Filed July 19, 1965, Ser. No. 473,119
8 Claims. (Cl. 49—349)

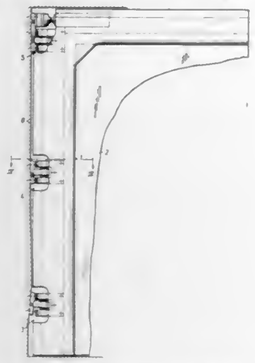


The disclosure relates to a mechanism for operating the windows of motor vehicles and is particularly adapted for installation in a simple and inexpensive manner on existing automobiles, in place of the conventional hand-driven mechanism. The apparatus includes a reversible electric motor mounted to a part of the vehicle, a separate gear reduction unit supported by and adapted to rotate the operating shaft of the vehicle window-winding mechanism, a flexible drive cable between the motor and the gear units, and a means for operatively connecting the gear unit to a fixed part of the vehicle to prevent the gear unit itself from being rotated.

3,404,486
SWINGING DOORS AND DOOR LEAVES
Erwin Kellerhals, Schaffhausen, Switzerland, assignor to Carl Sigerist & Cie, Schaffhausen, Switzerland
Filed June 27, 1966, Ser. No. 560,562
7 Claims. (Cl. 49—386)

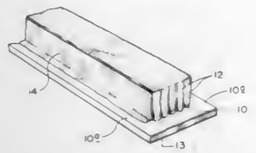
A swinging closure hinged along one side edge and having pivotal movement through an arc of substantially 180° with respect to a fixed support, in which a plurality of vertically spaced hinge assemblies include ball-and-socket hinge assemblies for accommodating for axial misalignment of the independent hinge or pivot pins, and a

spring-urged adjustable assembly operatively connected between the swinging closure and the support for retaining



the closure in a closed position or one of two open positions with respect to a door opening or the like.

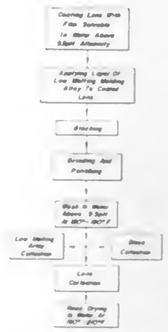
3,404,487
WEATHERSTRIPPING
Leonard W. Johnson, Amesbury, Mass., assignor to The Bailey Company, Inc., Amesbury, Mass.
Filed Aug. 1, 1966, Ser. No. 569,352
4 Claims. (Cl. 49—475)



A weatherstrip for sealing the joint between relatively moving members has a backing strip for securing to one of the members and a body of upstanding flexible and resilient fibers attached to one face of the strip and for resiliently engaging the other of the members. A flexible film adhering to the fibers at one side of the fiber body bridges the gaps between adjacent fibers to form a continuous moisture barrier along the weatherstrip at one side thereof. The film engages around a multiplicity of fibers so that the fibers form an integral matrix-like reinforcement for the film over its entire area which maintains the film in a flexible and resilient condition against adjacent fibers.

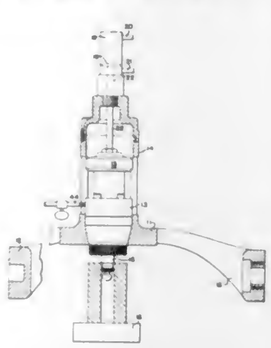
3,404,488
METHOD FOR BLOCKING AND DEBLOCKING LENSES
Douglas L. Cox, Irving, and James E. Savoie, Dallas, Tex., assignors, by mesne assignments, to Textron Inc., Rochester, N.Y., a corporation of Delaware
Filed Aug. 9, 1965, Ser. No. 478,191
5 Claims. (Cl. 51—284)

A method of blocking and deblocking a lens blank preparatory to generating a surface thereon. The surface of the lens blank opposite that to be worked upon is coated with a resinous film which is substantially insoluble in a coolant medium applied to the lens blank while a surface is being generated thereon. The lens blank is then releasably secured to a mounting block by a low melting point fusible alloy interposed between the mounting block and the resinous film. Subsequent to generation of the desired surface on the exposed side of the lens blank, the resinous film-fusible alloy block-mounted lens is washed in a solution of a surface active agent capable of solvating the resinous film, which solution is simultaneously maintained at a sufficiently high temperature to melt the fusible alloy thereby releasing the lens from the block.



The resinous film and the fusible alloy are substantially immiscible thus readily permitting separate recovery of the lens, block, resinous substance and fusible alloy.

3,404,489
PRECISION CONTROL ARRANGEMENT
Hitoshi Ishima, Cook County, Ill., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed May 5, 1966, Ser. No. 548,367
6 Claims. (Cl. 51—58)

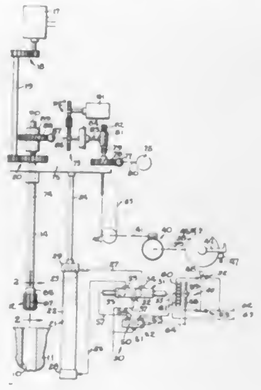


A lens polishing machine that has a polishing element on an axially movable shaft secured to a pressure controlled diaphragm piston of a frictionless forward cylinder. A double-acting piston of a rearward cylinder has its connecting rod secured to the forward cylinder to control the position of the polishing element over a major distance, while the precision controlled diaphragm piston controls small incremental positions and insures exertion of a predetermined pressure by the polishing element upon the work pieces. A ball bushing is eccentrically carried by the shaft and slidingly receives a guide pin secured to the forward cylinder.

3,404,490
HONING MACHINE WITH AUTOMATIC FORCE CONTROL
Mark R. Estabrook, Rockford, Ill., assignor to Barnes Drill Co., Rockford, Ill., a corporation of Illinois
Filed Sept. 17, 1965, Ser. No. 488,009
14 Claims. (Cl. 51—165)

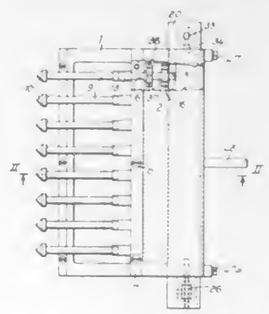
A conventional honing machine with mechanism for expanding the honing tool and varying the expanding

force in response to and in relation to the changing resistance offered by the work. An electric motor driving the expansion mechanism has a tungsten filament lamp in series with its armature, and a variable transformer controls the energization of its field and is adjusted to



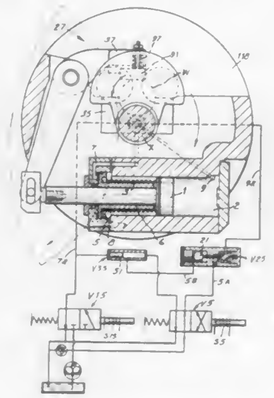
increase and decrease the field voltage by a reversible motor actuated by a meter relay unit to maintain the armature voltage within preselected limits. An alternate form has a rheostat in parallel with the lamp that is adjusted automatically in a similar manner to increase and decrease the torque of the motor.

3,404,491
STONE-CARRYING ELEMENTS OF GEM WORKING MACHINES
Jean Emain, 14 Rue Auguste-Lancon, Saint-Claude, Jura, France
Filed Dec. 28, 1965, Ser. No. 516,948
Claims priority, application France, Jan. 5, 1965, 811
5 Claims. (Cl. 51—229)



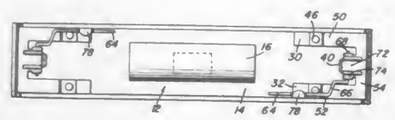
A gem working machine having a plurality of parallel stone-carrying spindles mounted on a frame, one end of each spindle carrying a stone to be worked and the other end being rotated by a driving means. Each spindle consisting of a supporting element for the stone to be worked and a driving element, each element of each spindle having at one of its ends a single flattened portion retained against the flattened portion of the other element without play by an elastic retaining element. The spindle element carrying the stone rests on a removable support, mounted on the frame between the stone to be worked and the elastic assembly element.

3,404,492
ROTATABLE WORK HOLDER FOR MACHINE TOOLS
Roger H. Fournier, Millbury, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts
Filed Dec. 20, 1966, Ser. No. 603,194
6 Claims. (Cl. 51—237)



The present invention relates to improvements in rotatable work holders for machine tools wherein a work holder supports a work piece eccentrically of the axis of rotation of the work holder and has work piece restraining means mounted upon the rotatable work holder operable during a machining operation to secure a work piece fixedly relative to the work holder about a predetermined axis spaced from the axis of rotation of the work holder and operable during an angular indexing operation to allow rotation of a work piece relative to the work holder about said predetermined axis subject to frictional restraint, the improvement comprising said work piece restraining means comprising a fluid pressure actuated clamping mechanism having a pair of relatively movable pistons of different cross sectional area with an interposed coiled piston return spring wherein the smaller piston is actuated by fluid pressure in one direction to secure the work piece fixedly relative to the work holder and is overpowered and displaced a predetermined small amount by a sleeve connected to the larger piston actuated by fluid pressure in the opposite direction to allow rotation of the work piece relative to the work holder during an angular indexing operation.

3,404,493
ABRASIVE PAPER RETAINING CLIP
Eugene E. Thomas, Indio, Calif.
(4546 Banner Drive, Apt. 4, Long Beach, Calif. 90807)
Filed Sept. 2, 1965, Ser. No. 484,578
7 Claims. (Cl. 51—386)



A sanding shoe having a lower jaw and an upper jaw at one end thereof for releasably clamping an end of an abrasive sheet therebetween. An over-center type actuator is attached to the upper jaw for lifting the upper jaw away from the lower jaw to release the abrasive sheet and to

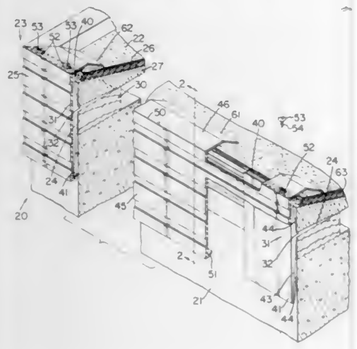
enable clamping of another abrasive sheet. The upper jaw includes a depending lip having serrations or teeth formed thereon while the lower jaw includes an upturned lip to grippingly engage the end of the abrasive sheet. The actuator for the upper jaw is releasably retained in its jaw-opening position and in its jaw-closing position with an offset end portion thereof riding against an extension on the lower jaw during its pivotal movement and also engaging the terminal end of the abrasive sheet to force it against the inner surface of the lip on the upper jaw when the actuator is in the jaw-closing position.

3,404,494
THEATRE AND STAGE CONSTRUCTION
Howard D. Wolfe, P.O. Box 4596, Richmond, Va. 23239
Continuation-in-part of application Ser. No. 413,919, Nov. 25, 1964. This application Apr. 15, 1966, Ser. No. 542,841
9 Claims. (Cl. 52—7)



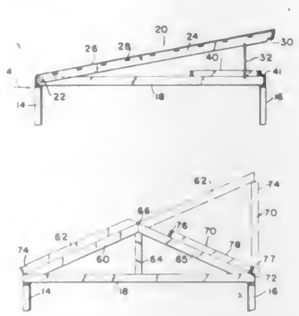
There is disclosed a theatre construction in which the spectators can be seated at step levels around a stage area, and wherein the stage area includes a base stage and a vertically movable stage, either one of which can be used to present certain scenes of a theatrical production. Means are incorporated for raising and lowering and guiding the movable stage in such manner as to confine the production to a limited area, thus maximizing the available seating capacity while still giving complete versatility in scene presentation.

3,404,495
COMBINED FLASHING AND FASCIA SYSTEM AND METHOD OF MAKING SAME
Eric Simpson, Jr., Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed July 8, 1966, Ser. No. 563,728
13 Claims. (Cl. 52—58)



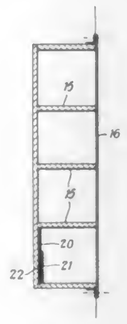
This disclosure relates to an improved flashing and fascia system and method of making same which utilizes generally L-shaped fascia members cooperating between the top of a vertical wall and the peripheral edge of a substantially flat composition roof. The system of this invention assures that differential expansion and contraction of such system and an associated roof, for example, will not damage such roof or fascia system; in addition, flat fascia members are provided for extending the vertical height of the fascia system downwardly from the top of an associated vertical wall in a simple and efficient manner.

3,404,496
HINGED ROOF STRUCTURE
Charles M. Ballard, Avis, Pa. 17721
Filed Oct. 21, 1965, Ser. No. 499,309
7 Claims. (Cl. 52—64)



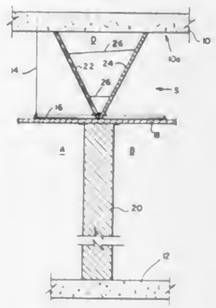
A hinged roof structure for a dwelling or portion thereof adapted to be factory built and transported to the site of its permanent location, having means for supporting the roof structure at the final desired pitch for use and at less than the final desired pitch for transport.

3,404,497
PRE-STRESSED CONCRETE PRESSURE VESSEL FOR HOUSING NUCLEAR REACTOR, AND METHOD OF MAKING SAME
Reginald Edwin Downton Burrow, Southall, England, assignor to Taylor Woodrow Construction Limited, Southall, England, a British company
Filed July 22, 1965, Ser. No. 474,116
Claims priority, application Great Britain, July 27, 1964, 29,935/64
10 Claims. (Cl. 52—224)



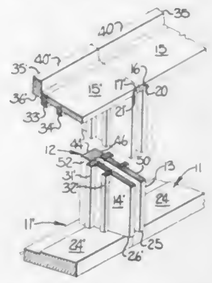
A pre-stressed concrete pressure vessel construction for housing a nuclear reactor includes a concrete vessel body having on its exterior at least one surrounding continuous channel, which may be formed in the body itself or may be applied to the body. A plurality of layers of tendons, e.g. wire or the like, are wound under tension within the channel or channels, and the tendons of each layer are anchored to the side walls of the associated channel. The innermost layer is supported on the channel bottom and each successive layer is supported on the adjacent layer underneath. A membrane may be positioned between adjacent layers. The channels may be lined, e.g. with metal.

3,404,498
ACOUSTICAL BAFFLING COVE SYSTEM
Florence S. Espinoza, 1021 S. Patton Court, Denver, Colo. 80219
Filed Mar. 27, 1967, Ser. No. 626,268
4 Claims. (Cl. 52—145)



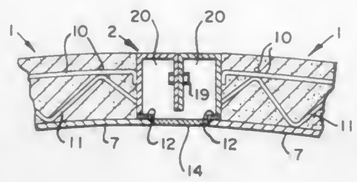
A method and apparatus for soundproofing the head space in drop ceiling construction, particularly in office buildings, barricades space above the room dividing walls with a V-shaped sound baffling cove for deflecting sounds passing through the ceiling back toward the room from which it comes, and provides a dead air space in the baffle, further dampening stray sounds. The V-shaped baffle is made of rigid sheet material and is held in position by wire lacing which wedges the sheet material at an angle between the upper surface of the drop ceiling and the lower surface of the building decking.

3,404,499
WINDOW CONSTRUCTION
Richard N. Lewis, West End, N.C., assignor to West End Table Company, Inc., Hoffman, N.C., a corporation of North Carolina
Filed Mar. 6, 1967, Ser. No. 620,753
8 Claims. (Cl. 52—213)



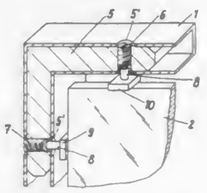
Solid pane window unit for selective use singly and in multiples, and convertible into a simulated divided pane configuration. For a multiple unit, portions are sawed from proximal ends of the sills and top brick moldings of a plurality of single units and the proximal side brick molding removed from one. The sawed ends are abutted, and the units joined by securing the remaining side brick molding to the proximal side of the other unit. For simulating divided panes, retractable means in a pane divider engage in a groove in the sash frame and hold the divider against the pane.

3,404,500
SEGMENTED METAL LINED LIQUID STORING UNDERGROUND TANK
Yoshio Akita and Toyoo Maeda, Tokyo-to, and Toshio Yada, Funabashi-shi, Japan, assignors to Ishikawajima-Harima Jukogyo Kabushiki Kaisha, Tokyo-to, Japan, a Japanese company
Filed May 26, 1966, Ser. No. 553,165
Claims priority, application Japan, June 3, 1965, 40/32,860
8 Claims. (Cl. 52—249)



A liquid storage underground tank is constructed from a plurality of prefabricated construction segments. Each segment includes an inner metal shell, reinforcing rods, shear connectors and filling material, such as concrete. To form the completed tank, the rods of adjacent segments are secured together to thereby join adjacent segments.

3,404,501
HOLDER ARRANGEMENT
Ernst von Wedel, Senne I, Germany, assignor to Heinz & Schuermann & Co., Bielefeld, Germany
Filed July 20, 1966, Ser. No. 566,695
Claims priority, application Germany, July 27, 1965, Sch 37,445
10 Claims. (Cl. 52—475)

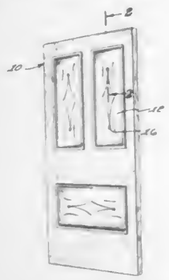


A frame is provided with an opening bounded by an inner face, and a panel is adapted to be received in this opening. At least one compensating member is arranged between the frame and the panel received in the opening and is adjustable for movement in the general plane of the opening toward and away from the adjoining portion of the aforementioned inner face to thereby select the position of the panel within the opening.

3,404,502
DECORATIVE HOLLOW DOORS
Ralph G. Miller, Santa Ana, Calif.
(2301 Alta Vista Drive, Newport Beach, Calif. 92660)
Filed Oct. 19, 1964, Ser. No. 404,790
9 Claims. (Cl. 52—615)

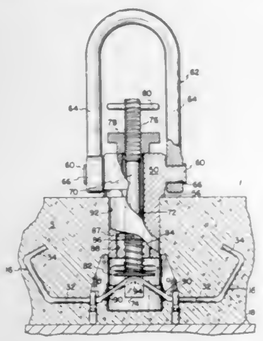
A decorative fixture adapted for disposition within an aperture in a hollow panel to provide surface ornamentation and to give the hollow panel the appearance and feel of a solid panel. The fixture comprises a pair of marginally flanged elements adapted to extend into the panel aperture, said elements being of dimensions less than half the thickness of the panel to which said elements are to be attached, whereby the innermost surfaces of the elements are in spaced apart relation when the fixture is clamped to a panel, and clamping means spaced from the flanged

elements and positioned within the area defined by the aperture for maintaining said flange portions in clamped



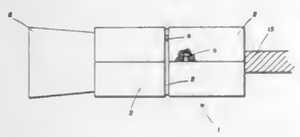
engagement with surfaces of said panel marginally of the aperture.

3,404,503
ANCHOR INSERT AND RELEASABLE PICK-UP UNIT THEREFOR
Peter D. Courtois, Des Plaines, and George J. Eriksson, Morton Grove, Ill., assignors to Superior Concrete Accessories, Inc., Franklin Park, Ill., a corporation of Delaware
Filed Aug. 1, 1966, Ser. No. 569,360
6 Claims. (Cl. 52—701)



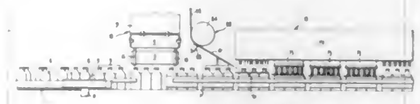
A two-part separable anchor insert and pick-up unit therefor designed for use in handling poured concrete slabs after the concrete thereof has hardened. The pick-up unit embodies a pivoted bail which withstands appreciably greater pulling or lifting force than flexible cable lifting devices heretofore employed, and locking means are provided for preventing dislodgment of the pick-up unit from the anchor insert after a given lift of the slab has been initiated.

3,404,504
CABLE ANCHOR
Raymond H. Taylor, P.O. Box 641, Bishop, Calif. 93514
Filed Aug. 19, 1966, Ser. No. 573,709
4 Claims. (Cl. 52—711)



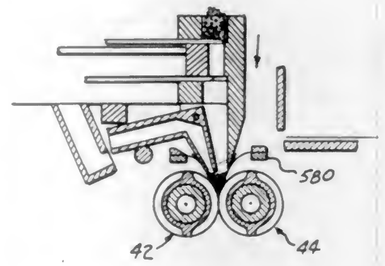
A cable anchor, for wedging engagement in a preformed bore in rock or concrete, comprised of a tapered shell formed of a number of radially separable longitudinal sections, and an elongated wedge slidably engaged in the bore of the shell and movable in a direction to cause radial separation of said shell sections and resultant clamping of the cable anchor in said preformed bore; the wedge having a longitudinal bore therethrough, the cable extending entirely through the wedge bore from its outer end, and a stop on the inner end of the cable abutting the rear end of the wedge.

3,404,505
METHOD FOR PACKAGING CONTAINERS
John Hohl, Ringgenberg, Bern, Switzerland, and Thomas L. Scribner, Toledo, Ohio, assignors to Owens-Illinois Inc., a corporation of Ohio
Filed Jan. 27, 1965, Ser. No. 428,406
8 Claims. (Cl. 53—26)



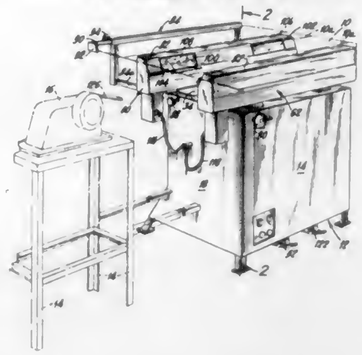
Disclosed herein is a method for assembly of bottles into packages for carrying. The method involves forming the bottles into groups of predetermined numbers, applying a band around each group and then applying a resilient apertured carrier onto each group.

3,404,506
PACKAGING MACHINE AND METHOD
Yun-Hoon Chung, Ann Arbor, Mich., assignor to International Automated Machines, Inc., Ann Arbor, Mich., a corporation of Michigan
Filed Oct. 21, 1965, Ser. No. 499,616
88 Claims. (Cl. 53—29)



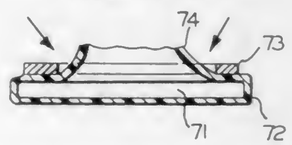
A machine for simultaneously forming and filling packets with sugar or the like; the machine being designed to feed a strip of packaging material to a package forming and filling station where the strip is folded throughout its extent in a direction transversely to the feed direction into a generally channel-shaped trough by means of a plurality of spaced folder abutments mounted on a vertically reciprocating metering head. The metering head containing a plurality of valve controlled metering chambers each located between a pair of the folder abutments with valve control means so that the product is discharged from the metering chambers into the channel-shaped trough as the head moves downwardly. As the packages are thus being filled the folder abutments direct the folded edge of the channel-shaped strip downwardly between sealing rolls adapted to form the folded strip into a plurality of sealed product-filled packets.

3,404,507
CONTAINER FORMING DEVICE
Harold J. Feigel, West Englewood, N.J., and Benjamin Green, Brooklyn, N.Y., assignors to Closure Corporation, Linden, N.J.
Filed Mar. 18, 1966, Ser. No. 535,566
11 Claims. (Cl. 53—29)



A device for facilitating the formation of container blanks into containers includes a base over which the containers are formed which carries spaced parallel longitudinal guide members which may be adjusted toward and away from each other. The guide members each include a substantially flat horizontal top wall for supporting the container blanks and oblique side walls for deflecting the side walls of the blanks upwardly from their associated bottom when the blank is moved downwardly between the oblique walls of the guide members. The guide members also carry movable elements which engage and fold the cover flaps to a closed position.

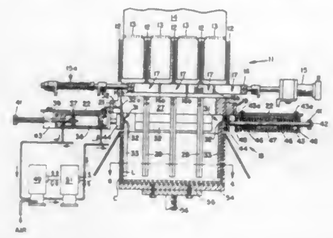
3,404,508
PACKAGING
Robert L. Dreyfus, Arlington, Mass., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
Application July 24, 1961, Ser. No. 126,202, now Patent No. 3,215,266, dated Nov. 2, 1965, which is a continuation-in-part of application Ser. No. 772,471, Nov. 7, 1958. Divided and this application Sept. 15, 1965, Ser. No. 527,999
2 Claims. (Cl. 53—34)



A method of covering an object by placing the object on a heat-shrinkable film, bringing the edges of the film over the top of said object, and heating the edges to shrink them and form a thickened edge on the film.

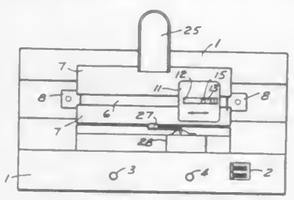
3,404,509
METHOD AND APPARATUS FOR LOADING ASSEMBLED LAYERS OF PACKAGES IN CASES
Arnold E. Schaewe, Cincinnati, Ohio, and Edward H. Gastright, Fort Thomas, Ky., assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed July 6, 1965, Ser. No. 469,630
11 Claims. (Cl. 53—35)

An apparatus and method for increasing the interior dimensions of a case for the reception of a layer of packages. The side walls of the case are simultaneously forced outwardly immediately prior to the loading operation whereby to assume a configuration at least as



large as the periphery of the layer following loading. Subsequent to loading, the outwardly directed force acting on the case side walls are removed.

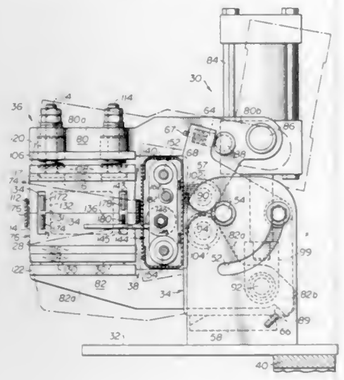
3,404,510
DEVICE FOR FEEDING FRAGILE WRAPPERS FILLED WITH DISCRETE UNITS INTO A RECEPTACLE
Cleburne Massengill, Dallas, Tex., assignor to Standarwerk Eugen Reis G.m.b.H., Bruchsal, Baden, Germany, a German firm
Filed June 2, 1966, Ser. No. 554,703
10 Claims. (Cl. 53—59)



1. A device for feeding fragile wrappers filled with discrete units into a receptacle, said device comprising a table, a slide movable in either direction on said table parallel thereto, the movement of the slide in one direction constituting the feed path of the slide, said table including a grid portion extending parallel to said feed path in substantial registry therewith, a collecting receptacle releasably attachable to said table adjacent to the end of the feed path of the slide, feed means for feeding successive wrappers into the feed path of the slide, a discharge end of said feed means being disposed to deposit the wrappers upon the grid portion of the table, drive means coupled with said slide for imparting a reciprocating movement thereto thereby pushing a wrapper deposited in the feed path into a receptacle attached to the table at the end of the feed path, counting means for counting each wrapper fed upon the table, first control means coacting with said drive means to activate the same for reciprocating movement of the slide, said control means including switch means operated to activate the control means by engagement with a filled wrapper fed upon the table, second control means coacting with said counting means to activate the same for counting wrappers, said second control means including switch means positioned on one side of said feed path to engage a filled wrapper passing said switch means, thereby operating the second control means but to let pass a fractured and thus partly collapsed wrapper without engagement therewith, closure means for closing the discharge end of said feed means, said closure means being pivotal between a closed position and an open position, ejecting means for ejecting

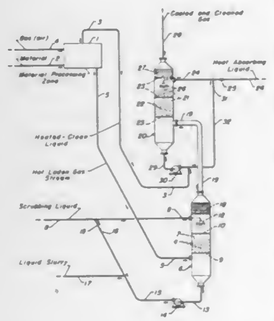
a wrapper from the discharge end of said feed means when the closure means is in its open position, and actuating means coacting with said closure means and said ejecting means for alternately operating the same.

3,404,511
APPARATUS FOR HEAT SEALING PACKAGES
Ridley Watts, Jr., Cleveland, and John F. Berry, Bedford, Ohio, assignors to The American Packaging Corporation
Filed Dec. 6, 1965, Ser. No. 511,944
11 Claims. (Cl. 53—373)



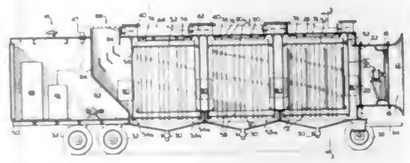
Apparatus including a track, a feeding mechanism and heat-sealing pressure platens for conveying and sealing card-type packages, in which the platens, track and feeding mechanism are angularly adjustable to select the angle at which a package will be oriented during processing.

3,404,512
CLEANING-COOLING SYSTEM FOR A HOT PARTICLE LADEN GAS STREAM
James P. Tomany, Darien, Conn., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Continuation-in-part of application Ser. No. 524,880, Feb. 3, 1966. This application Aug. 17, 1967, Ser. No. 661,471
7 Claims. (Cl. 55—89)



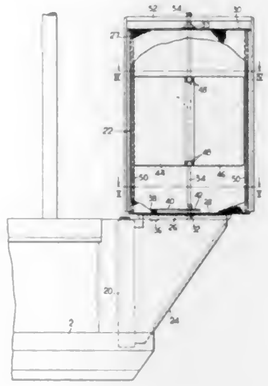
A two-stage system for effecting the cleaning and cooling of a hot particle laden gas stream. Each stage effects a counter-current fluid contact in the presence of light weight freely movable contact elements so as to assist in removal of particulates in one instance and the removal of heat in another; with the overall system being operated to conserve heat in the first stage and provide for a greater amount of heat being abstracted from the gaseous stream in the second contacting zone than is abstracted from the gaseous stream in the first zone.

3,404,513
MOBILE ELECTROSTATIC PRECIPITATOR
Lawrence M. Roberts, Wickenburg, Ariz., assignor to Research-Cottrell, Inc., Bridgewater Township, N.J., a corporation of New Jersey
Filed Feb. 1, 1965, Ser. No. 429,288
2 Claims. (Cl. 55—107)



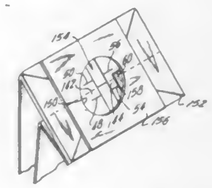
Apparatus for removing fog from roadways and runways which comprises a mobile precipitator trailer adapted to be moved along the roadway to be cleared of fog and dispelling the moisture free air generally upwardly to reduce the relative humidity of the air in the zone of the fog.

3,404,514
SCREEN CLEANING DEVICE
Rector C. Fergason, Gadsden, Ala., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Sept. 20, 1967, Ser. No. 669,160
2 Claims. (Cl. 55—295)



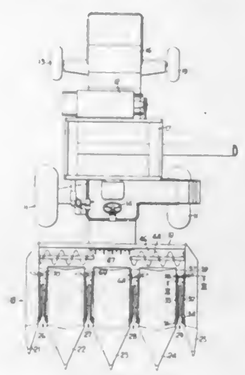
A self-cleaning radiator screen used for filtering cooling air for engines on farm machinery, such as cotton pickers, combines or the like. A stationary cylindrical screen is provided having wiper blades rotating about the vertical axis of the screen in contact with the external surface of the screen, and internal baffles rotating with the wiper blades so that the portion of the screen being scraped will always be shielded from the draft tending to retain the material against the screen, thereby facilitating removal of the material from the screen by the wiper blades.

3,404,515
VACUUM CLEANER FILTER BAG
John J. Fesco, Baldwin, N.Y., assignor to Studley Paper Company, Inc., Far Rockaway, N.Y., a corporation of New York
Filed May 19, 1967, Ser. No. 639,690
2 Claims. (Cl. 55—377)



A novel vacuum cleaner filter bag comprising a tube of filter sheet material, said tube having a front wall, a rear wall and a pair of opposing sides, said tube being closed at one end thereof with the other end thereof comprising a bottom provided with access means for obtaining access to the interior of said tube, a mounting collar provided for said bottom, means defining an opening in said collar, said access means being in partial opening relation with said opening means, said access means being adapted to provide substantially free entry of air into said interior of said tube.

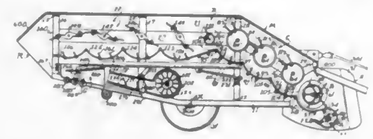
3,404,516
CORN HARVESTER
Carl E. Carlson, Hales Corners, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Oct. 15, 1965, Ser. No. 496,457
5 Claims. (Cl. 56—18)



An auxiliary feed means for a corn harvester wherein said feed means operates in assisting the conveying of material from a conveyor mounted above snapping rolls to a cross conveyor mounted to the rear of such snapping rolls.

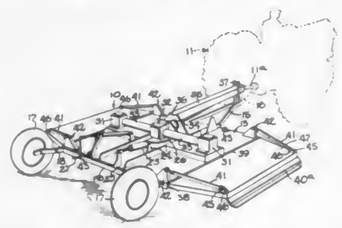
3,404,517
PEANUT COMBINE
Carroll J. Whitfield and Wendell E. Dorsett, Albany, Ga., assignors to Lilliston Implement Company, Albany, Ga., a corporation of Georgia
Continuation of application Ser. No. 329,404, Dec. 10, 1963. This application Sept. 21, 1966, Ser. No. 581,119
16 Claims. (Cl. 56—19)

13. In a peanut combine for harvesting and threshing the peanuts in a windrow of peanut-laden vines and having means for picking the peanuts from the peanut-laden vines, cleaning and stemming sections comprising a reciprocally movable tray to which picked peanuts fall to be discharged by reciprocating motion of the tray from an end of the tray, a reciprocally movable platform below the said end of the tray and having a plurality of slats forming a plurality of slots through which the air from a blower passes, a stemmer bottom reciprocally movable



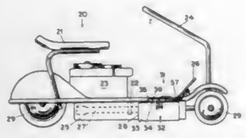
with and below the platform and having a plurality of slits through which a plurality of stemmers extend, means for imparting reciprocating motion to the platform and the stemmer bottom in response to reciprocating motion of the tray, and means for imparting reciprocating motion to the tray.

3,404,518
GANG MOWER
Henry D. Kasper, Dixon, Ill., assignor to Wood Brothers Manufacturing Company, Oregon, Ill., a corporation of Illinois
Filed Oct. 23, 1965, Ser. No. 503,584
8 Claims. (Cl. 56—25.4)



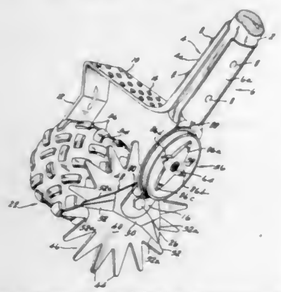
1. A rotary mower adapted to be pulled along the ground in a generally horizontal position behind a tractor having a power take-off shaft, said mower comprising a generally horizontal housing having a top wall, a pair of elongated cutting blades supported for rotation at laterally spaced points beneath said top wall and in a plane generally parallel to the top wall, drive means connecting said blades and the tractor power take-off for driving said blades by the tractor, means supporting said housing a predetermined distance above the ground for the cutting of material passing beneath the housing by the blades as the mower is pulled along the ground, said blades projecting from beneath the adjacent side edge of the housing as they rotate, a wing having a top wall hinged to each side edge of said housing for pivoting between generally vertical and horizontal positions, each said wing top wall covering the adjacent blade as it projects thereunder from beneath the housing, a rigid bar pivotally attached at one end to each wing top wall, said bar including means to adjust the length thereof, an upstanding bracket fixed to said housing top wall adjacent each wing including means for attachment to the free end of the rigid bar when the wing is pivoted to the horizontal position, and a pair of second brackets fixed to said housing top wall each at a point farther away from one wing than said upstanding bracket and including means for attachment to the free end of said rigid bar when the wing is in the vertical position whereby said wings are held rigidly in either the vertical or horizontal position by attachment of the rigid bar to the appropriate bracket and the angular position of the wing at each position can be changed by adjusting the length of the bar.

3,404,519
AUTOMATIC CLOSURE FOR SELF-PROPELLED ROTARY MOWERS
Romeo J. N. Demers, 10 Trudel Ave., Dracut, Mass. 01826
Filed Dec. 27, 1965, Ser. No. 517,195
5 Claims. (Cl. 56—25.4)



1. In a rotary blade power lawn mower having a grass discharge opening covered by a pivoted closure and having a manually movable engine control element for causing said mower to move forward, the combination of automatic mechanical means, permanently fixed to said mower and operably connecting said pivoted closure to said engine control element for opening said closure to permit emission of grass cuttings when said control is actuated to advance said mower, and for closing said closure to prevent entrance of the feet of the operator when said control is actuated to stop said mower.

3,404,520
LAWN EDGER
Meyer H. Doliton, New York, N.Y., and Sidney J. Goodman, Fort Lee, N.J., assignors to International Patent Research Corp., New York, N.Y., a corporation of New York
Filed Oct. 21, 1965, Ser. No. 500,151
25 Claims. (Cl. 56—256)



1. A lawn edger comprising a support, a first cutting element rotatably mounted on said support so as to rotate about an axis, a second cutting element comprising a pair of blades located on either side of said axis and cooperating with said first cutting element, said second cutting element being mounted on said support so as to be vertically movable relative thereto with each of said blades correspondingly moving vertically therewith, a control element mounted on the exterior of said support and movable between a plurality of operative positions, and means operatively connecting said control element and said second cutting element for positioning the latter vertically relative to said support in accordance with the operative position of said control element.

3,404,521
FRUIT HARVESTING APPARATUS
Roy B. Thorn, P.O. Box 711, Inverness, Fla. 32650, and Jack L. Gray, 2820 NE. 16th St., Pompano Beach, Fla. 33062
Filed June 16, 1966, Ser. No. 563,004
11 Claims. (Cl. 56—328)

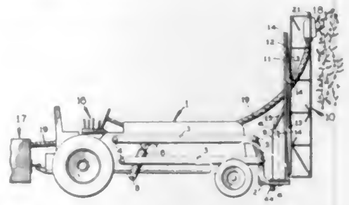
1. A picking head for a fruit picking machine for picking fruit from stems of trees comprising a hollow casing means having an open front side with its opposite ends spaced a predetermined distance including an orifice in the bottom thereof for conducting gravity propelled fruit released in said casing in a downward linear path,

an elongated fixed cam means secured in said casing along a transverse axis which intersects each of said ends in like predetermined location,

an elongated hollow drum means of uniform cross section coaxially positioned around said cam means in said casing and journalled at opposite ends thereof for rotation about said axis,

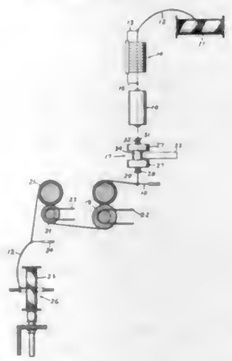
motor means coupled to said drum means for rotating same when energized,

a row of elongated picking fingers pivotally secured in spaced relation along one side of said drum means with each one thereof pivoted for oscillation in a plane normal said axis,



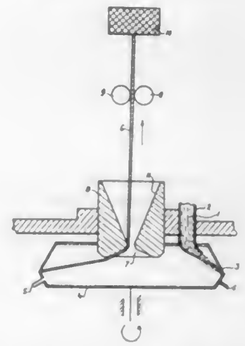
each of said fingers having the inner portion thereof extending through said drum means into follower engagement with said cam means with the outer end portion of each of said fingers projecting from said drum means for oscillatory movement from a retracted position tilted toward said drum means when within said casing to an extended position when traversing the said open front side in an upward direction when said drum means is rotated in predetermined direction whereby said row of fingers in their said extended position will engage fruit on said tree and dislodge same from their stems and be carried over said drum means for descent in the rear of said casing and into said orifice when said motor means is energized.

3,404,522
PROCESS AND APPARATUS FOR MAKING VOLUMINOUS YARN
Reiner G. Stoll, Charlotte, N.C., and Hans R. Stucki, Rohr, Switzerland, assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 376,434, Aug. 25, 1953. This application Apr. 6, 1965, Ser. No. 445,876
6 Claims. (Cl. 57—34)



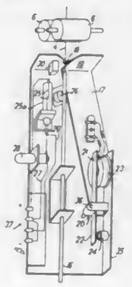
1. Apparatus for producing a voluminous yarn, comprising a yarn supply, means for plasticizing the yarn, a false twist spindle for twisting the yarn and removing twist from the yarn, means for forwarding the yarn at a given rate after twist is removed therefrom, second means for forwarding the yarn at a rate by between 10 and 50% slower than said first forwarding means, and yarn take-up means.

3,404,523
DEVICE FOR GUIDING YARN
Miloslav Kubovy, Dolni Dobrouc, Erik Jirasek, Usti nad Orlici, Karel Zavadsky, Hnatnice, and Josef Stary, Usti nad Orlici, Czechoslovakia, assignors to Vyzkumny Ustav Bavlnarsky, Usti nad Orlici, Czechoslovakia
Filed Dec. 1, 1966, Ser. No. 598,275
Claims priority, application Czechoslovakia, Dec. 1, 1965, 7,196/65
6 Claims. (Cl. 57—58.89)



A device for guiding yarn which passes from the outlet of a rotary spinning chamber to a yarn take-up. The device comprises a guide member formed with an elongated yarn-conveying passage and this passage has an intermediate portion of smallest cross section and two outward portions located on opposite sides of the intermediate portion. Each of the outward portions has a cross section which increases in the direction away from the intermediate portion.

3,404,524
APPARATUS FOR REGULATING THE OPERATION OF YARN SPINNING MACHINES
Jaroslav Rajnoha, Tynice nad Orlici, Frantisek Ferkl, Agaton Planansky, and Miloslav Cerny, Usti nad Orlici, and Zdenek Silar, Chocen, Czechoslovakia, assignors to Vyzkumny Ustav Bavlnarsky, Utsi nad Orlici, Czechoslovakia
Filed Mar. 13, 1967, Ser. No. 622,709
Claims priority, application Czechoslovakia, Mar. 19, 1966, 1,864/66
7 Claims. (Cl. 57—81)



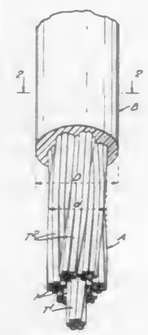
A detector which bears against the travelling yarn is provided with a magnet which can close a normally open electric switch in response to yarn breakage whereby the switch terminates the advance of yarn. The switch is installed in an envelope which shields its parts from dust or other foreign matter.

A second magnet biases the detector against the yarn and rapidly displaces the detector to switch-closing position in response to yarn breakage. An electromagnet returns the detector to initial position with a delay following yarn breakage.

3,404,525
LOW-TORQUE MULTIFILAMENT COMPACT YARN
William Arthur Tompkins, Usk, England, assignor to Imperial Chemical Industries Limited, London, England
Filed Sept. 1, 1966, Ser. No. 576,766
Claims priority, application Great Britain, Sept. 10, 1965, 38,689/65
4 Claims. (Cl. 57—140)

A compact multifilament yarn wherein the filaments are parallel and which exhibits a low torque of between .25 and 2.5 turns per inch and has no twist and no crimp. Also, a yarn having the above specified torque and also a twist of .25 turn per inch in the same direction as the torque.

3,404,526
HIGHWAY SAFETY FENCE CABLES
Robert Albert Thomas, Kortrijk, Belgium, assignor to Trefileries Leon Bekaert PVBA, Zwevegem, Belgium, a corporation of Belgium
Filed June 22, 1966, Ser. No. 559,471
Claims priority, application France, June 25, 1965, 22,253
11 Claims. (Cl. 57—149)

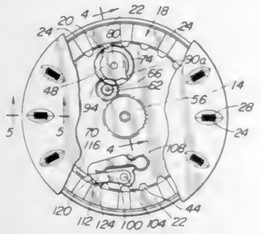


A cable for use as a reinforcing fence on highways having a core strand with a plurality of strands wrapped thereabout and a coating material surrounding the thus formed cored wire rope. The said coating material may be plastic and may extend outward beyond the periphery of the cored wire by a substantial amount.

3,404,527
DAY-NIGHT WATCH
Jean Tripet, Bienne, and John Deletraz, Geneva, Switzerland, assignors to Gruen Industries, Inc., New York, N.Y., a corporation of Ohio
Filed Oct. 5, 1966, Ser. No. 584,551
1 Claim. (Cl. 58—128)

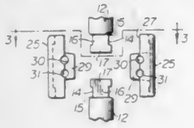
A watch dial assembly automatically effecting periodic

annular unidirectional shifting of a movable dial relative to a fixed dial to present, sequentially, through windows



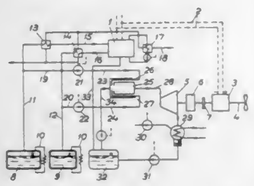
formed in the fixed dial, first and second sets of hour markers carried by the movable dial.

3,404,528
COUPLING LINK
Emrold A. Dicus, Fairview Park, Ohio, assignor to The Upson-Walton Company
Filed Oct. 18, 1966, Ser. No. 587,469
8 Claims. (Cl. 59—85)



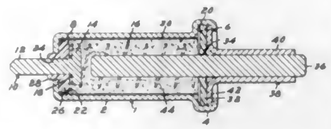
1. Coupling link structure comprising in combination:
(a) link means,
(b) said link means having at least two spaced end portions,
(c) a split coupler extending between and connecting said end portions together,
(d) said split coupler being formed by half sections each including:
(i) side portions which mate with the corresponding side portions of the other section to enclose said end portions of said link means,
(ii) a rib between said end portions,
(iii) said ribs of both sections being disposed in side-by-side adjacency,
(e) and means extending through said ribs to secure said sections together.

3,404,529
PROPULSION MACHINERY FOR SUBMARINES
Gunnar Lagerström, Vasteras, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed June 23, 1966, Ser. No. 559,886
Claims priority, application Sweden, June 23, 1965, 8,295/65
12 Claims. (Cl. 60—6)



A propulsion mechanism for submarines comprises a low-speed mechanism powered by a fuel cell using hydrogen and oxygen and a high-speed mechanism comprising a steam turbine. The steam for the turbine is produced at least in part by the chemical combination of hydrogen and oxygen drawn from the same fuel tanks which supply the fuel cell.

3,404,530
HEAT MOTOR
Wilmer H. Churchill, Wellesley, Armando J. Garcia, Medford, Douglas B. Leathem, Natick, and Malor Wright, Lincoln, Mass., assignors to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Mar. 1, 1967, Ser. No. 625,895
1 Claim. (Cl. 60—23)

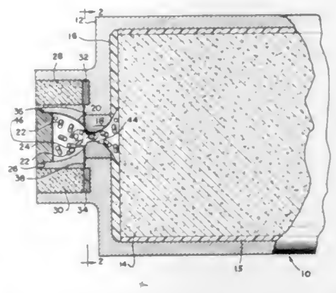


This invention is directed at an electrically actuated transducer which has a looped heating element circumscribing a movable shaft and embedded in a thermally responsive material. The thermally responsive material may include a wetting agent.

3,404,531
METHOD AND COMPOSITIONS FOR PRODUCING CONDENSABLE COMBUSTION PRODUCTS
Leonard Greiner, Palo Alto, Calif., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
No Drawing. Filed July 18, 1966, Ser. No. 565,697
10 Claims. (Cl. 60—207)

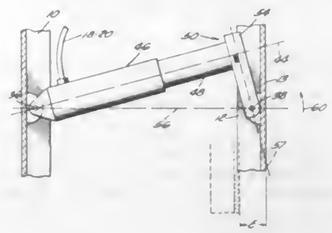
A method for generating condensable combustion products at non-stoichiometric O/F for use in an underwater power plant which comprises reacting a non-nitrogenous oxidizer with a non-nitrogenous fuel and reacting the gaseous reaction products with sulphur or a non-nitrogenous sulphur compound.

3,404,532
SELF-SEALING THROUGH-NOZZLE TRANSFER SYSTEM
Myron A. Olstein, Springfield, Va., assignor to the United States of America as represented by the Secretary of the Army
Filed Apr. 28, 1967, Ser. No. 635,963
6 Claims. (Cl. 60—256)



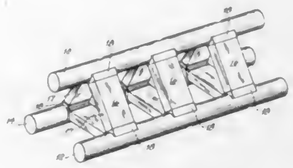
A self-sealing system for transferring a charge through a nozzle into a sealed rocket motor, where after the charge is transferred, there will be no significant gas flow through the motor ignition channels.

3,404,533
SELF-STABILIZING SHORING SYSTEM
James L. Brunton, 20924 Avis Ave., Torrance, Calif. 90503
Filed Aug. 26, 1966, Ser. No. 575,400
3 Claims. (Cl. 61—41)



A trench-shoring system is disclosed including a pair of wall-supporting rails which are coupled together by a pair of expendable hydraulic jacks. The jacks are simply pivotally coupled to one of the rails at their axis of elongation. However, at their other ends, the jack couplings have pivot points which are offset along the rail from their axes of elongation. Thus, the force-transfer paths between the rails (through the jacks) are of greater length than the direct distance between the rails, resulting in economy and stability in a collapsible parallel-rail shoring unit. The system also includes a hydraulic-fluid supply, coupled to the jacks through individual valves.

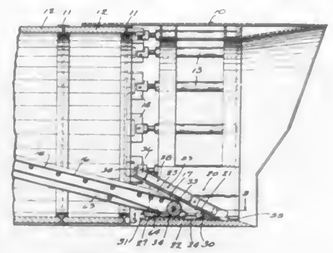
3,404,534
ENERGY-ABSORBING CAMEL
Edward G. Cunney, 335 Bane Road, Mitchell Field, Garden City, N.Y. 11530
Filed Apr. 17, 1967, Ser. No. 632,155
5 Claims. (Cl. 61—48)



This invention is an energy-absorbing camel in the form of at least three wooden poles arranged parallel to each other. The poles are spaced from each other by a plurality of energy-absorbing spacers, e.g., rubber spacers. The camel floats in a longitudinal position at the side of a pier, both of its ends being loosely moored to the pier.

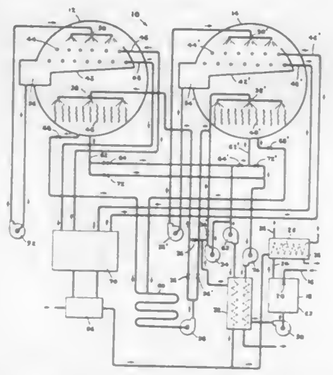
3,404,535
TUNNELING MACHINE
John R. Tabor, 3400 Spruce St., Racine, Wis. 53403
Filed Sept. 29, 1965, Ser. No. 491,200
7 Claims. (Cl. 61—85)

This disclosure relates to a tunneling machine having a shield with a loading conveyor and a spoil conveyor. The loading conveyor has an apron with a notch above the input end of the spoil conveyor. Sweep arms move across the apron to convey spoil on the apron to the notch and deposit spoil onto the spoil conveyor. The loading



conveyor is powered to advance and retract bodily with respect to the shield.

3,404,536
IN SITU FLASH FREEZING AND WASHING OF CONCENTRATED SOLUTIONS
David Aronson, Upper Montclair, N.J., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed Jan. 15, 1965, Ser. No. 425,967
32 Claims. (Cl. 62—58)

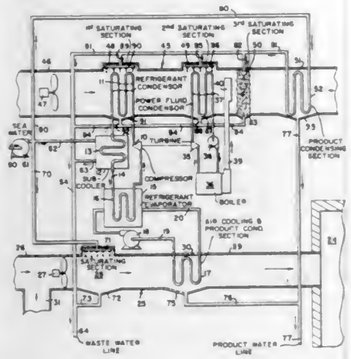


1. A method of extracting a less concentrated solution from a relatively more concentrated solution comprising the steps of flash cooling of the relatively more concentrated solution in an air evacuated low pressure chamber to form layers of solvent crystals on fixed crystal forming surface within the chamber, washing adherent solution from the crystals while in place on the surface, and melting the crystals while in place on the crystal forming surfaces to form a less concentrated solution.

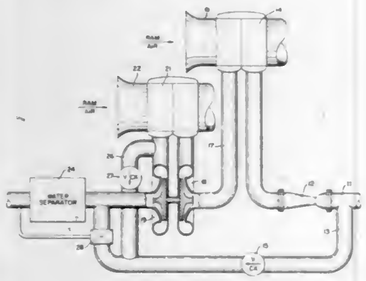
3,404,537
COMBINED REFRIGERATION AND SALINE WATER CONVERSION SYSTEM
Louis H. Leonard, Jr., De Witt, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Oct. 24, 1965, Ser. No. 504,551
7 Claims. (Cl. 62—123)

A combined air conditioning and saline water conversion system having a compressor driven by a steam turbine. A refrigerant condenser and a steam turbine condenser are shown of the evaporative type utilizing sea water for cooling. The flue gas from the boiler is discharged into an air stream passing over the refrigerant and steam turbine condensers. The air and flue gas are then saturated in an additional saturating section and passed to a product water condenser where water vapor

is condensed from the saturated and heated air into which the heat of the cycle has been discharged to evaporate water from the saline water. The air conditioning system also includes a presaturating section ahead of the refrigerant evaporator which serves to condense additional product water.



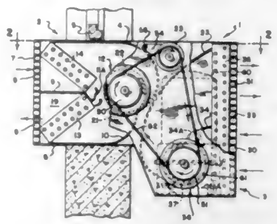
3,404,538
ENVIRONMENTAL CONTROL SYSTEM
Robert C. Kinsell, Los Angeles, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed May 15, 1967, Ser. No. 638,357
6 Claims. (Cl. 62—172)



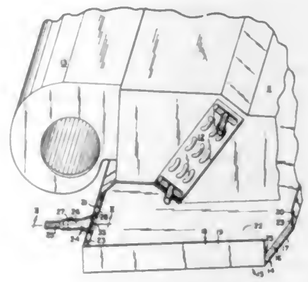
In environment control system utilizing precompressed air that is cooled, further compressed, re-cooled and expanded by a turbine-compressor bootstrap system wherein is provided a means for providing cooling and heating with only one modulating bypass valve and two check valves.

3,404,539
AIR CONDITIONING APPARATUS
Nikolaus Laing, Aldingen, near Stuttgart, Germany, assignor to Laing Vortex, Inc.
Continuation-in-part of application Ser. No. 512,386, Dec. 8, 1965, which is a continuation-in-part of application Ser. No. 477,756, Aug. 6, 1965, now Patent No. 3,279,209, which is a division of application Ser. No. 360,053, Apr. 15, 1964, now Patent No. 3,200,609, which in turn is a continuation-in-part of application Ser. No. 132,757, Aug. 21, 1961, now abandoned. This application Apr. 10, 1967, Ser. No. 629,725
8 Claims. (Cl. 62—262)

Air conditioning apparatus having a condenser portion and evaporator portion with a section of the apparatus adapted to be inserted into a room opening whereby the condenser portion will be completely exterior of the room. The condenser portion and evaporator portion enclosed by rectangular shaped casings of the same exterior dimensions adapted to be joined together in a variety of configurations.

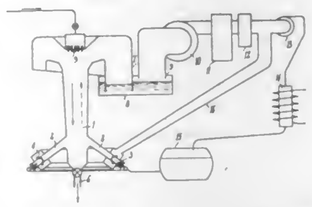


3,404,540
AIR CONDITIONING APPARATUS
David F. Bryans, Cazenovia, and Carl C. Herb, Syracuse, N.Y., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Sept. 27, 1965, Ser. No. 490,532
2 Claims. (Cl. 62—285)



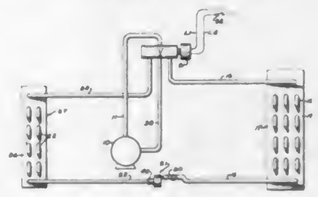
Drain assembly for use with an air conditioning unit including a container in which a bottom plate of lower thermal conductivity than the container is sealingly connected in the container for preventing moisture from contacting and chilling the bottom wall of the container and a drain fitting having a horizontally elongated port is attached to the container.

3,404,541
DEVICE FOR SPRAY-FREEZING LIQUIDS
Yves Bot-Langlet, Boulogne-Billancourt, France, assignor to Societe Anonyme Heurtey, Paris, France
Filed Apr. 3, 1967, Ser. No. 627,767
Claims priority, application France, Apr. 8, 1966, 57,054; May 16, 1966, 61,739; June 10, 1966, 64,998
2 Claims. (Cl. 62—314)



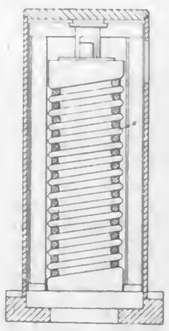
Apparatus for deep-freezing products, notably liquids such as liquid foods, characterized in that carbon dioxide in the gaseous phase is injected into the lower portion of a tower-shaped vessel at a very low temperature approximating for example —80° C. (—112° F.), and that the product to be frozen is atomized into the upper portion of said vessel, whereby the carbon dioxide gas and the product will circulate in counter-current relationship during the product deep-freezing process.

3,404,542
RESTRICTOR MEANS FOR HEAT PUMP SYSTEM
Solomon S. Fineblum, Silver Spring, Md., assignor to Ranco Incorporated, Franklin County, Ohio, a corporation of Ohio
Filed Mar. 2, 1967, Ser. No. 620,045
4 Claims. (Cl. 62—324)



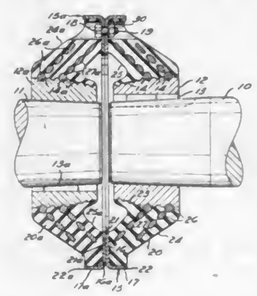
A heat pump system is shown comprising a compressor and two heat exchangers connected in a refrigerating circuit including a refrigerant flow restricting means between the exchangers which imparts relatively high restriction to the flow of refrigerant from one exchanger to the other exchanger and a relatively lower restriction to the flow of refrigerant in the opposite direction. A reversing valve is arranged to reverse the order of flow of refrigerant through the two exchangers. The flow restricting means comprises a cylindrical chamber having an opening in one end wall thereof connected to the exchanger and a nozzle member opening in the side wall of the chamber with the axis thereof extending substantially tangentially to the circular walls of the chamber. The nozzle member is connected to one exchanger. When the flow of refrigerant is from the one exchanger to the other exchanger, the nozzle imparts a swirl or vortex effect to the refrigerant in the chamber and the passage of the refrigerant into the opening is restricted. When the flow of refrigerant is from the other exchanger to the one exchanger, the refrigerant passes from the opening into the nozzle with but slight restriction or impedance.

3,404,543
FLEXIBLE BELLOWS ICE MAKER
Vernon J. Diblick, 15W064 Harvard, Elmhurst, Ill. 60126
Continuation of abandoned application Ser. No. 463,080, June 11, 1965. This application Feb. 16, 1967, Ser. No. 650,142
4 Claims. (Cl. 62—344)



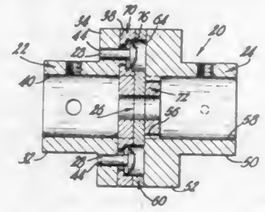
The invention is directed to a machine for making crushed or flaked ice wherein a flexible bellows is used and the lower portions of the bellows are coated with a material permitting ready removal of the ice.

3,404,544
FLEXIBLE COUPLING
Thomas L. Fawick, Shaker Heights, Ohio (% Hotel Statler-Hilton, Cleveland, Ohio 44101)
Filed Feb. 3, 1967, Ser. No. 613,779
15 Claims. (Cl. 64—11)



A flexible coupling has outer and inner coupling bodies, an annular body of rubber-like material engaged between them, and oppositely wound spiral springs embedded in the rubber-like body. The innermost turn of each spring is vulcanized to the inner coupling body at a circumferential groove on the latter and is radially expanded by its engagement there. Each spring is progressively more oblong in cross-section along its length outward from the inner coupling body.

3,404,545
OLDHAM COUPLING
Melvin F. Walker, Deer Park, N.Y., assignor to Designatronics, Inc., Mineola, N.Y.
Filed Oct. 25, 1966, Ser. No. 589,264
1 Claim. (Cl. 64—31)

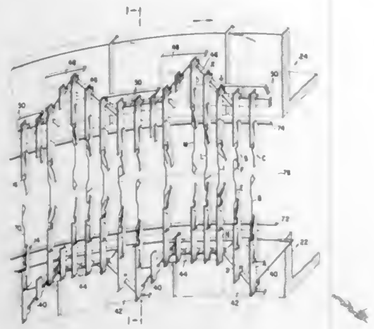


An Oldham coupling having captured fasteners. The coupling may be fabricated by welding techniques. The device is characterized by low backlash.

3,404,546
LINKS AND LINKS KNITTING MACHINE WITH PIVOTAL JACKS
Sam Mishcon, Miami Beach, Fla., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Jan. 30, 1967, Ser. No. 612,694
3 Claims. (Cl. 66—14)

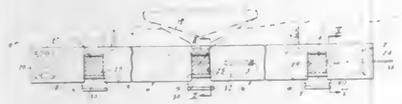
A knitting machine for making purl cloth is described as embodying superposed cylinders and double ended needles. The needles are described as being positionable from one needle cylinder to the other by means of jacks having pivotal members, such pivotal members seizing and releasing the needles periodically, for passage of the needles between the cylinders, whereby stitches are

formed. Each pivotal member of each jack is supported at an intermediate point of each pivotal member on a second jack part; the second jack part is provided with



a butt—for jack positioning purposes—and a cutout into which the free end of the pivotal member may be depressed.

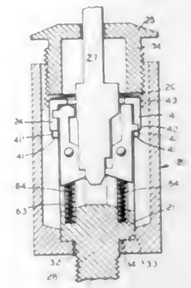
3,404,547
LOCKING DEVICE FOR DRINK DISPENSERS
Sexten E. Ahlman, 3347 Thornbury Drive, Glenview, Ill. 60025
Filed Jan. 10, 1967, Ser. No. 608,357
4 Claims. (Cl. 70—199)



Locking device for soft drink dispensers in the form of a casing secured to the cabinet of the dispenser and having slotted openings therein to receive the valve opening levers of the dispenser, when in their valve closing positions, and to accommodate the levers to be moved outwardly of the casing into valve opening positions. An intercepter bar is slidably guided in the casing and has slots registrable with the slots in the casing to accommodate operation of the dispenser levers when the bar is in its released position. This bar has intercepter walls extending along the inside of the outer wall of the casing for a portion of the length of the slots in the intercepter bar, but terminating from the ends of said slots a distance sufficient to accommodate operation of the dispenser levers when the intercepter bar is in its released position. The dispenser levers are locked from operation by depressing the intercepter bar against a spring to close the open ends of the slots of the casing, and thereby intercept the path of movement of the drink dispenser levers. A key operated mechanism locks the intercepter bar in a locking position.

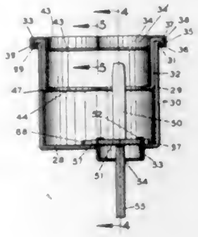
3,404,548
LOCK
Owen F. Keefer, 1428 Alice St., Oakland, Calif. 94612
Filed June 29, 1966, Ser. No. 561,479
10 Claims. (Cl. 70—363)

This invention is directed to a lock for doors, cabinets and the like, and more particularly to locks of a small size using a cylindrical key and providing a very large number of combinations. The tumblers are removable with any one of the tumblers interchangeable to change the lock combination. The tumblers have specially designed radially outward and radially inward projecting ears each one of which is cut into any one of six different cuts which may be arranged in any combination of cuts desired. The shell of the lock barrel has an internal annular groove permitting the spindle to rotate in the unlocked position only when all of the outwardly projecting ears of the several tumblers are depressed so as to rotate in the groove. The key is provided with radial fins of two different diameter portions along the shaft with those of the



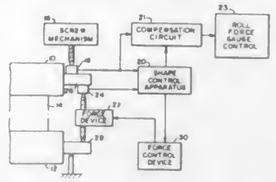
entering end portion being smaller in diameter than the portion immediately above. The radial lengths of the upper portion are cut so they will just pass a cut portion of the inwardly projecting ears of its corresponding tumbler and each of the smaller portions is cut to a linear length to engage the corresponding tumbler to move the outwardly projecting ear of its corresponding tumbler into the annular groove to the unlocked position.

3,404,549
LOCK CYLINDER
Walter Edwin Best, Indianapolis, Ind., assignor to Best Lock Corporation, Indianapolis, Ind., a corporation of Delaware
Filed Apr. 14, 1966, Ser. No. 542,507
12 Claims. (Cl. 70—370)



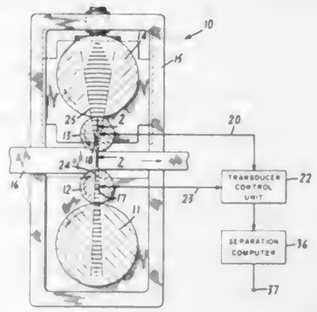
A formed sheet-metal lock-cylinder or housing for a removable lock core. Three formed cup-shaped sheet-stock piece parts having front flanges are nested together with their front flanges interlocked to form a face flange and to prevent axial and rotational displacement of the parts. The outer cup forms a body for insertion in a lock-receiving bore, the intermediate cup or tub defines a shaped opening to receive an 8-shaped core, and the third piece part is a face member which covers the face flange and forms a seat for the front flange of the core. The core is locked in place by engagement of a key actuated retainer behind the rear face or shoulder of the tub. A throw member for driving a secondary locking mechanism is rotationally mounted in the bottom wall of the outer cup.

3,404,550
WORKPIECE SHAPE AND THICKNESS CONTROL
Richard G. Plaisted, Williamsville, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 29, 1966, Ser. No. 546,220
4 Claims. (Cl. 72—8)



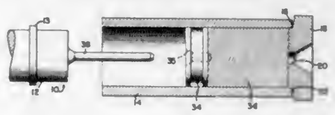
The shape and the thickness of the workpiece strip delivered from a rolling mill are determined by a controlled bending of the work rolls such that any workpiece strip shape error is corrected in conjunction with obtaining a desired workpiece strip delivery thickness from the rolling mill.

3,404,551
ULTRASONIC GAUGING AND CONTROL
John A. Spisak, New London, Conn., assignor to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed May 12, 1966, Ser. No. 549,553
3 Claims. (Cl. 72—16)



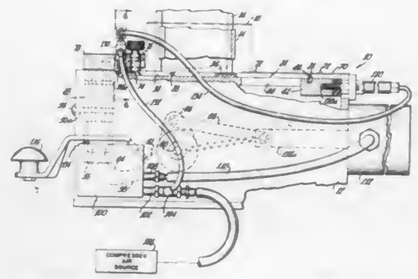
The invention provides transducers in opposing working rolls of a metal rolling mill. Ultrasonic signals are transmitted from each transducer through the rolls and strip to the other. The time of transmission from one transducer to the other and the average of the times of reflection off of the surface of each roll are calculated and the thickness of the metal strip determined by subtraction of one from the other.

3,404,552
BILLET PIERCING AND EXTRUSION
Alfred M. Murphy, and Carl M. Filak, Chester, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed May 17, 1965, Ser. No. 456,107
9 Claims. (Cl. 72—266)



An extrusion press extrudes metal tubing by a "two-stroke" cycle. In the first forward stroke a ram without a mandrel crushes and upsets the billet. The ram is withdrawn and, with a piercing mandrel affixed, pierces and extrudes the upset billet in a second forward stroke. To provide centering, the front of the mandrel base is tapered to mate with an internal cavity in the ram.

3,404,553
FLOWER-STEMMING MACHINE
Konrad Kinkel, Brooklyn, N.Y., assignor to B. & K. Tool Die & Stamping Co., Inc., Woodhaven, N.Y.
Filed Dec. 14, 1966, Ser. No. 601,662
9 Claims. (Cl. 72—385)

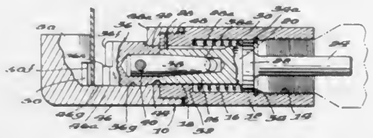


1. In an improved machine using a source of compressed gas for applying a deformable pick to the stem of a flower, the machine having a pair of ways, feed means for supplying picks to the ways, a pair of longitudinally movable push rods disposed in the ways on either side of the pick, opposed crimping jaws movable in a direction perpendicular to the line of movement of the push rods, the jaws being arranged to deform the pick about a flower stem placed on the pick and a cam to actuate the crimping jaws, the improvement comprising:

(a) first actuator means arranged to displace the push rods whereby a pick is placed between the crimping jaws;

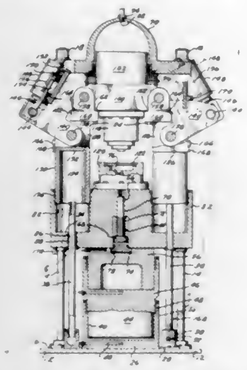
(b) second power-driven actuator means arranged to displace the cam whereby the crimping jaws are moved in timed relation to said first actuator means.

3,404,554
POWERED SHEET- AND PANEL-EDGE OFFSETTING TOOLS
Carl B. Christensen, Bridgeport, Conn., assignor to Marie W. Chandler, Panama City, Fla.
Filed Oct. 22, 1965, Ser. No. 501,430
6 Claims. (Cl. 72—386)



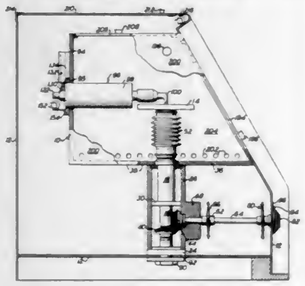
Improvements in powered impactor-type edge offsetting or edge crimping tool of the character shown and claimed in the Clark Chandler Patent No. 3,215,008, dated Nov. 2, 1965, which provide (1) a novel connection of the reciprocating hammer to the power-reciprocated plunger of the impactor-type powering means, based on the use of a connecting shank member which is separate from but pinned to the plunger, (2) an arrangement by which the plunger imparts force directly to the hammer rather than via a shank member, and (3) a disposition of the hammer and anvil faces by which the forces imparted to the anvil via the hammer are concentrated in only the small-width central width portion of said faces.

3,404,555
HIGH ENERGY RATE FORMING MACHINE
Josef K. Murek, 4454 Casitas, San Diego, Calif. 92107
Continuation-in-part of application Ser. No. 334,473, Dec. 30, 1963. This application Nov. 12, 1964, Ser. No. 410,365
19 Claims. (Cl. 72—445)



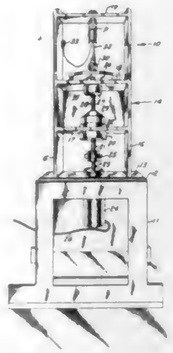
1. A high energy rate forming machine comprising a ram, means cooperating with the ram to define an expansible ram pressure chamber, means for releasably securing the ram in cocked position, said securing means including latch means engageable with the ram and means for actuating the latch means to release the ram for an output stroke energized by the ram pressure, bolster means mounted for movement toward the ram, bolster actuating pressure means comprising an expansible pressure chamber, means for releasably holding the bolster in cocked position and for rapidly releasing the bolster means in response to said actuation of the latch means simultaneously with said releasing of the ram for a bolster output stroke toward the ram energized by the bolster actuating pressure means, whereby the ram and the bolster means are impelled toward each other to impact an object therebetween, means for returning the ram to its cocked position and re-establishing the ram pressure in the ram pressure chamber, and means for returning the bolster means to its cocked position and re-establishing the actuating pressure in the bolster actuating pressure means.

3,404,556
ABRASION RESISTANCE TESTING APPARATUS
Boris M. Kameras, 10715 Clermont Ave., Garrett Park, Md. 20766
Filed June 18, 1965, Ser. No. 464,942
11 Claims. (Cl. 73—7)



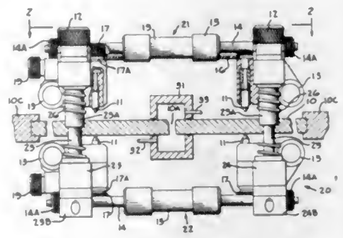
An abrasion testing device is provided for accurately measuring the resistance of a surface to abrasive wear, the device having means for mounting and controlling the position of the test sample in an isolated test chamber by externally abrasive protected control elements.

3,404,557
FRICTION TESTER FOR DETERMINING FRICTION SENSITIVITY OF SOLID PROPELLANTS
Alfred H. Hecht and William E. Hunter, Huntsville, Ala., and James D. Martin, Springfield, Va., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Dec. 29, 1966, Ser. No. 605,651
1 Claim. (Cl. 73—7)



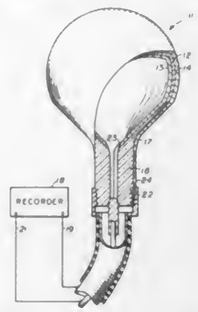
An apparatus for testing by friction the sensitivity of solid propellants which includes a stand, a frame having a plurality of shelves mounted on the stand, a pair of diametrically opposed vertical shafts mounted in the shelves, one having reciprocal movement and the other one having rotary movement, a tray mounted on one of the shafts whereby when weights are positioned on the tray the reciprocal disc will be forced against the rotary disc to frictionally test the sensitivity of a segment of solid propellant positioned between the discs.

3,404,558
STRAIN FIELD DISPLACEMENT MEASURING DEVICE
William H. R. Andrew, Philadelphia, Pa., and Joseph H. Mulherin, Cherry Hill, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed May 5, 1966, Ser. No. 548,371
4 Claims. (Cl. 73—15.6)



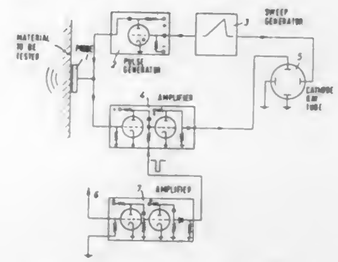
A strain field displacement measuring arrangement wherein a transducer measures strain of a slotted heavy test specimen that is subjected to large tensile loads. A sturdy frame including respective pairs of upper and lower adjusting guides, appropriately interconnected by pluralities of vertical columns with corresponding encompassing springs and horizontal guide rods, respectively carry predetermined roller bearing means and specimen clamping pins in a manner to obtain maximum flexibility for overcoming any initial specimen distortion.

3,404,559
TRANSDUCER FOR MEASURING PRESSURE PULSES
David B. Lombard, and Dean V. Power, Livermore, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Mar. 8, 1965, Ser. No. 438,137
6 Claims. (Cl. 73—35)



Transducer apparatus having a convex dielectric surface nested between and insulating two conductors across which a potential is developed by shock waves impinging on the dielectric surface.

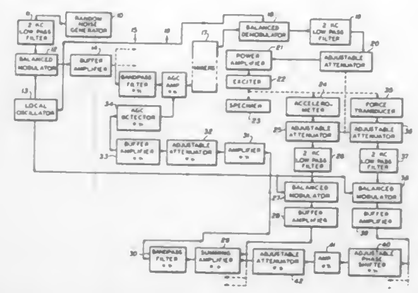
3,404,560
METHOD AND APPARATUS FOR SUPPRESSING NOISE DURING ULTRASONIC TESTING
Siegfried Richard Walter Kaule, Thurner Strasse 111, Cologne-Dellbruck, Germany
Filed Sept. 7, 1965, Ser. No. 485,410
Claims priority, application Germany, Sept. 12, 1964, K 53,988
9 Claims. (Cl. 73—67.5)



Method and apparatus for suppressing noise pulses affecting ultrasonic testing. The noise pulses, which can originate from electrical, magnetic or electromagnetic noise fields in the vicinity of the ultrasonic testing zone and be received and misinterpreted as being ultrasonic test pulses, are suppressed by picking up signals from the noise fields, amplifying the signals and utilizing the amplified signals to render ultrasonic testing insensitive for the duration of the noise pulses.

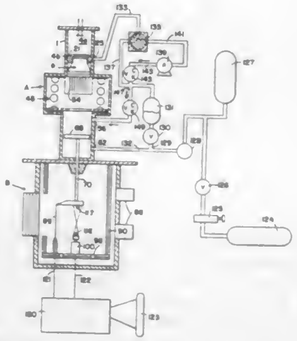
3,404,561
VIBRATION TESTING SYSTEM WITH IMPEDANCE COMPENSATION
Alfred G. Ratz, Woodbridge, Conn., assignor to Textron Electronics, Inc., Providence, R.I., a corporation of Delaware
Filed June 21, 1965, Ser. No. 465,415
5 Claims. (Cl. 73—71.6)

The output signal from a force transducer coupled to a shaker is fed through a separate adjustable phase shifter and adjustable attenuator for each of a plurality of adjacent frequency band feedback channels and added to the main feedback signals in said channels. The main feedback signals are derived from the usual accelerometer on the shaker, and the augmented signals are applied to



the automatic gain control amplifiers in the corresponding adjacent frequency band channels between the source of test signal and the shaker. Compensation for mechanical impedance characteristics is afforded in addition to spectrum equalization.

3,404,562
HIGH-STRAIN-RATE TESTER
William F. MacGlashan, Jr., Pasadena, and Harry E. Cotrill, Jr., La Canada, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Jan. 19, 1966, Ser. No. 521,752
3 Claims. (Cl. 73—97)



A device for exerting a constant strain rate on a specimen wherein pressure applied to one side of a piston forces a non-compressible fluid on the other side of the piston through capillary tubes, a variable orifice, and a quick dump valve to obtain the constant strain rate.

3,404,563
PIPE RECOVERY LOGGING
Mike Davis, and Arthur B. Winter, Houston, Tex., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed July 28, 1966, Ser. No. 568,520
6 Claims. (Cl. 73—151)

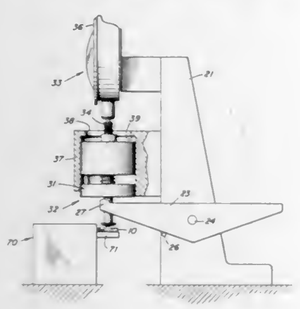
A stuck pipe recovery logging instrument which uses an acoustic section in conjunction with a density-measuring section to provide verification of the location of stuck pipe. The tool is also provided with a plurality of

explosive charges to permit disengagement of the free portion of the drill pipe on the same logging run. A drill



pipe collar locator section provides positive depth identification.

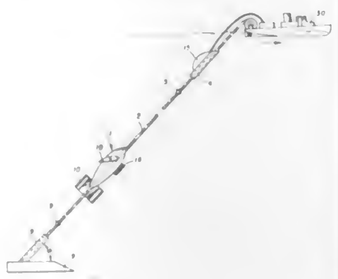
3,404,564
SPRING DEFLECTION TESTER
Willard E. Rapp, New Brunswick, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed June 1, 1966, Ser. No. 554,403
7 Claims. (Cl. 73—161)



A spring deflection tester, which automatically compensates for dimensional differences in contact springs to be tested, includes a device for lifting a weight, to reset a gage to an initial position after which a spring is moved into a test position under a probe. As the spring is inserted under the probe, the probe is moved slidably within the weight to compensate for dimensional differences in successively tested springs. Then the weight is released and coupled to the probe, which is in contact with the spring to be tested, to apply a force through the probe against the spring and record the deflection on the gage.

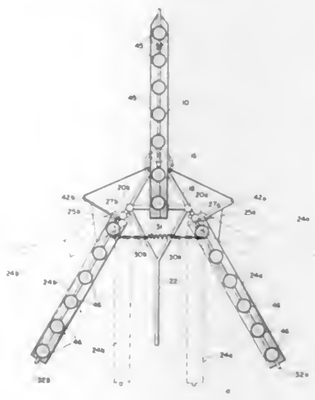
3,404,565
TOWED OCEANOGRAPHIC SENSOR SYSTEM
David T. Barry and Donald W. Branham, Dallas, Jack R. Strobel, Lewisville, and Billy J. Mullins, Carrollton, Tex., and Paul V. Hodge, Sydney, New South Wales, Australia, assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed May 7, 1965, Ser. No. 454,015
6 Claims. (Cl. 73—170)

An oceanographic surveying system having a towed cable maintained in an extended position by a depressor attached to one end. A vessel containing various types of sensors is slidably mounted on the towed cable for traversal along the cable between two spaced end regions. A movable hydrofoil is connected to the vessel and is movable between two positions in order to cause selective movement of the vessel up and down the cable. Shock absorbers and trigger devices are located at each of the



two end regions on the cable for stopping the movement of the vessel and changing the position of the hydrofoil to change the direction of travel of the vessel along the cable. Telemetering equipment contained within the vessel transmits sensed data to a receiver located near the upper end of the towed cable.

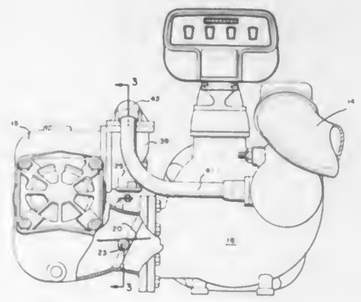
3,404,566
WIND TEE AND VELOCITY INDICATOR
Elmer R. Cordova, 5801 S. Santa Fe Drive, Littleton, Colo. 80120
Filed Sept. 8, 1966, Ser. No. 578,091
9 Claims. (Cl. 73—189)



1. A wind direction and velocity indicator comprising an elongated body arranged for pivotal mounting adjacent the upper end on a upright member; a rudder mounted on said body and arranged to plane in wind and point said elongated body windward; a pair of vanes, each mounted adjacent the downwind end of said elongated body and arranged to pivot from an extended position substantially normal to sad body at no wind conditions to a position substantially parallel with said elongated body at high wind conditions; means biasing said vanes toward each other; counter-balance means arranged to bias said vanes in normally extended position in opposition to said means biasing said vanes toward each other; adjustable fins on each said vane for planing in wind and pivoting said vanes

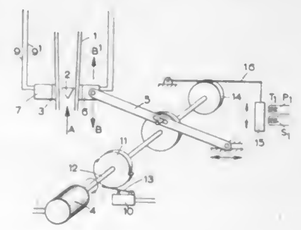
in response to wind pressure; means providing stepwise movement of said vanes and each stop of movement corresponding to a predetermined range of wind velocities; and light means mounted on said elongated member and on each said vanes for illuminating said wind direction and velocity indicator at night.

3,404,567
APPARATUS FOR ELIMINATING AIR FLOW THROUGH FLUID METERS
William F. Berck, Hayward, Calif., assignor to Rockwell Manufacturing Company, Statesboro, Ga., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 337,450, Jan. 13, 1964. This application June 13, 1967, Ser. No. 645,838
3 Claims. (Cl. 73—200)



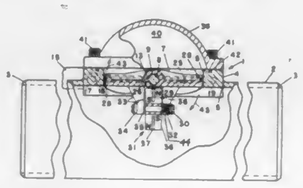
A device for preventing gases from being metered by a fluid meter in a high-speed gravity gasoline delivery system from a tank truck into an underground tank through an airtight hose, in which an air separator, whose float steers a compressed air-powered valving system, accumulates just enough air to break the siphon in the hose, discharges that amount of air into the hose in one bubble while stopping the liquid flow to break any suction vortex in the line, and then sharply re-establishes full flow.

3,404,568
SCANNING TRANSDUCING MECHANISM
Edward John Humber, Worcester, and John Arthur Ryland, Croydon, England, assignors to Radiovisor Parent Limited, London, and G. A. Platon Limited, Croydon, England
Filed Aug. 17, 1965, Ser. No. 480,389
Claims priority, application Great Britain, Aug. 26, 1964, 21,789/64
16 Claims. (Cl. 73—209)



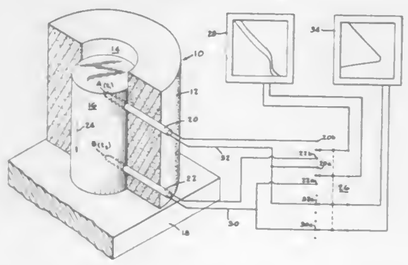
Apparatus for the production of electrical signals indicative of the magnitude of a measured variable indicated by the position of a solid member movable between certain limits. Detection means scans between said limits, which means is such as to produce a distinctive indication whenever the member is detected. An electrical signal is produced whose magnitude changes in accordance with the position of the detection means. Indicator means responsive to the electrical signal only when the distinctive indication is produced, providing an indication of the position of the solid member with respect to the aforementioned limits.

3,404,569
FLOWMETER MOUNTING ARRANGEMENT
Einar T. Young, Newtown Square, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed June 3, 1966, Ser. No. 555,114
9 Claims. (Cl. 73—231)



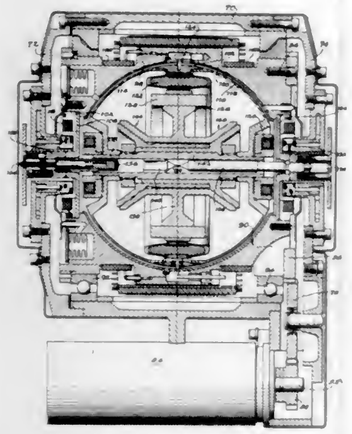
An imperforate support is pivotally mounted within an opening in a pipe and is sealed around its edges to the wall defining this opening. The support can be rotated about its pivot by means of a handle located outside the pipe. A flowmeter, for measuring flow in the pipe, is journaled in bearings mounted on one of the two opposite faces of the support.

3,404,570
THERMOELECTRIC METHOD AND APPARATUS FOR RAPID DETERMINATION OF SILICON IN CAST IRON
Julien L. Vidts, 7 Christlaan Soenenslaan, St. Denijs-Westrem, Belgium
Filed May 25, 1966, Ser. No. 552,916
Claims priority, application Belgium, June 4, 1965, 665,030
14 Claims. (Cl. 73—341)



Method and apparatus for determining the concentration of a constituent (such as silicon) in a sample of an electrically conductive material (such as cast iron) by measuring in a poured sample of the material cooling in a manner such that a temperature gradient exists across the sample, the temperature and a thermoelectromotive force produced with the sample at each of two points in the sample spaced apart in the direction of the temperature gradient. The magnitude of the difference between the electromotive forces at a predetermined temperature difference between the points is representative of the concentration of the constituent.

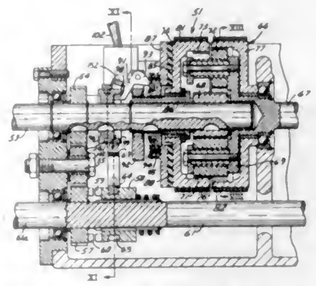
3,404,571
INERTIAL GUIDANCE SYSTEM
Helmut W. E. Schlitt, Williamsville, N.Y., assignor to Bell Aerospace Corporation
Filed Dec. 20, 1963, Ser. No. 332,091
9 Claims. (Cl. 74—5.34)



1. In an inertial navigation system,
a control gyro having a rotor,
a platform slaved to said control gyro,
torquer means coupled to said control gyro for opposing the effect of drift torque which may be acting upon said control gyro to impart precession to said platform,
means for periodically varying the angular momentum of the rotor of said control gyro,
a reference gyro mounted on said platform, said reference gyro having a rotor and having torquer means and pick-off means coupled thereto,
means for driving the rotor of said reference gyro at constant angular velocity,
amplifier means connected between said pick-off means and said torquer means of the reference gyro to slave said reference gyro in the average to the orientation of said control gyro,
processing circuit means connected between said pick-off means and the torquer means of said control gyro to compensate drift torque which may be acting on said control gyro,
and feedback means connected between the output of said processing circuit means and the torquer means of said reference gyro and operating on such torquer means in a sense opposite to that of said amplifier means.

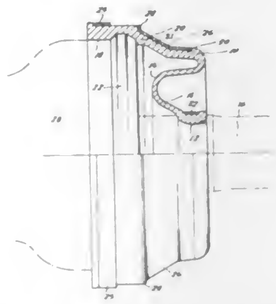
3,404,572
POWER TAKE-OFF FOR TRACTOR
Max Hungerford, La Grange, Mich., assignor to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Original application June 5, 1964, Ser. No. 379,066, now Patent No. 3,307,431, dated Mar. 7, 1967. Divided and this application Dec. 14, 1966, Ser. No. 601,598
1 Claim. (Cl. 74—15.84)

A power take-off for a tractor wherein the elongated rigid transmission and differential housing mounts a take-off shaft which extends forwardly and rearwardly through the housing and is driven through gearing from the drive shaft positioned adjacent the inner front wall of the housing and including an idler gear mounted on a fixed stub shaft screwed into the housing body and wherein the power take-off is provided with a freely mounted drive



gear in mesh with the idler gear and locked to the power take-off by a manually actuated sliding clutch mechanism.

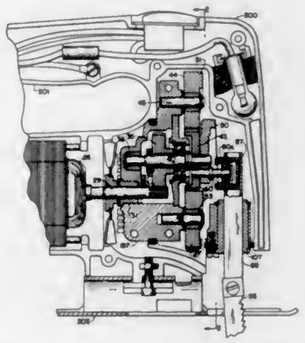
3,404,573
SEAL
William Cull, Hest Bank, near Lancaster, and Godfrey Roy Holmes, Castle Bromwich, England, assignors to Hardy Spicer Limited, London, England, a company of Great Britain and Northern Ireland
Filed Aug. 22, 1966, Ser. No. 574,043
Claims priority, application Great Britain, Aug. 24, 1965, 36,355/65
10 Claims. (Cl. 74—18)



A diaphragm seal for a universal joint is formed of resilient material such as rubber and has a diaphragm part secured to the shaft and an integral extension portion secured to the bell of the joint, the extension portion being reinforced by an outer rigid member preferably of frusto-conical form with the wider end towards the bell. The outer reinforcing member and the underlying part of the extension portion is angularly displaceable with respect to the bell. The outer rigid reinforcing member, inter alia, overcomes the effect of centrifugal force on the seal and holds the resilient material away from the interengaging parts of the universal joint.

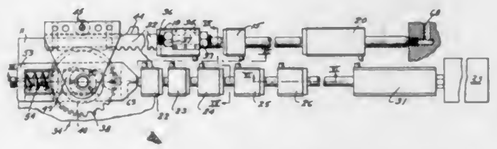
3,404,574
VIBRATION DAMPING MECHANISM
Charles R. Stelljes, Fayetteville, N.Y., assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 13, 1966, Ser. No. 557,289
2 Claims. (Cl. 74—50)

A vibration damping mechanism for a circular to reciprocating-rectilinear movement converting mechanism of a portable power tool including a reciprocating tool carrying rod and a drive pinion mounted for rotation in a plane parallel to and to one side of the line of travel of the reciprocating tool carrying rod on the end of a drive shaft journalled for rotation on an axis normal to the line of travel of the reciprocating tool carrying rod. The vibration damping mechanism, a three stage counterweight mechanism with the axes of rotation of the several stages disposed in vertically spaced relation in a common plane containing the line of travel of the reciprocating tool carrying rod, is arranged to operate between



the drive pinion and the tool carrying rod with the counterweights moving in substantial coplanar directional unison oppositely with respect to the reciprocating mass of the tool carrying rod and tool and providing a mass or weight sufficient to dynamically counterbalance the reciprocating mass without creating torsional forces of the type present in two stage damping systems or three stage nonplanar weighted damping systems of the prior art.

3,404,575
POSITIONING MECHANISM
Arthur K. Schott, Clarence, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed Oct. 23, 1965, Ser. No. 503,937
14 Claims. (Cl. 74—110)



A set of digitally actuatable fluid actuators are connected together in mechanical series to drive a rack. The rack drives a gear which rotates a cam. The cam has a rise or radius change which is 1/100 of the pitch diameter of the gear, and such cam therefore shifts a second similar set of fluid actuators by a distance equal to 1/100 of the travel of the rack.

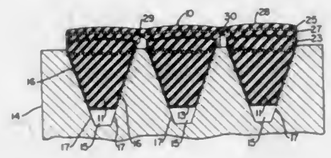
3,404,576
BELT AND GEAR DRIVE
Mario Cicognani and Augusto Previati, Milan, Italy, assignors to Pirelli S.p.A., Centro Pirelli, Milan, Italy
Filed Oct. 28, 1966, Ser. No. 590,406
Claims priority, application Italy, Nov. 12, 1965, 25,191/65
8 Claims. (Cl. 74—229)

A power drive comprising at least two gears having teeth on their peripheries adapted to drivably engage corresponding teeth formed on a belt of elastically deformable material. At least one lateral face of each tooth of each of said gears has a profile formed by a first portion shaped as an involute curve and extending adjacent the outer face of the tooth, and a second portion shaped as



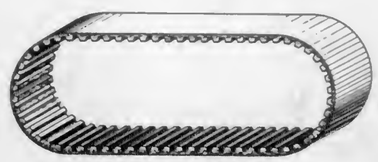
an arc of a circle, the length of said second portion being at least as great as the length of said first portion.

3,404,577
POWER TRANSMISSION BELT
Edward Joseph Zahn, Denver, Colo., assignor to The Gates Rubber Company, Denver, Colo., a corporation of Colorado
Filed July 18, 1966, Ser. No. 565,775
15 Claims. (Cl. 74—229)



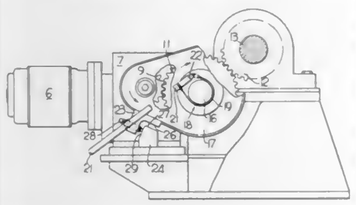
A power transmission belt characterized by a tie-band material connecting a plurality of trapezoidal section belts into a unitary structure in order to allow a multiple power transmission belt drive such that the belts coact to perform as a unitary belt structure for the transmission of power but allowing sufficient degrees of freedom to each individual belt to accommodate its own wedging action in individual grooves with which the belts coact.

3,404,578
TRANSMISSION BELT OF THERMOPLASTIC POLYURETHANE AND METHOD OF MAKING SAME
Fritz Koch, Dannenberg, and Heinz Adolf Ludewig, Hannover, Germany, assignors to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany
Filed May 2, 1966, Ser. No. 546,904
Claims priority, application Germany, May 29, 1965, C 35,992
4 Claims. (Cl. 74—231)



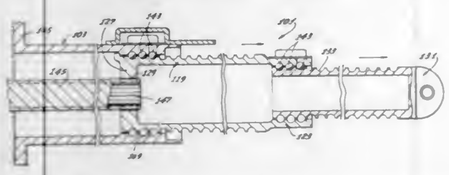
The present invention relates to a transmission belt, especially a flat belt with teeth which consists at least partially of polyurethane elastomers and is characterized primarily in that said elastomers have individual fibers in an at-random position substantially uniformly dispersed therein and firmly bound thereto.

3,404,579
TURNING GEAR
Thomas R. Feller, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Apr. 12, 1967, Ser. No. 630,426
4 Claims. (Cl. 74—354)



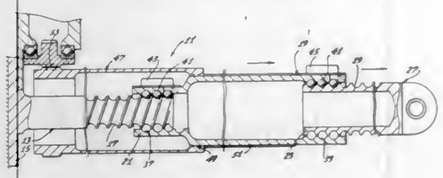
A braking device in combination with a turning gear for slowly rotating large machinery which permits an operator to slowly and precisely move the turning gear into engagement with a driven gear on the shaft of the rotating machinery.

3,404,580
BALL SCREW ACTUATOR
Peter Valenti, Whittier, Calif., assignor to Sargent Industries, Inc., a corporation of Delaware
Filed Apr. 18, 1967, Ser. No. 631,624
9 Claims. (Cl. 74—424.8)



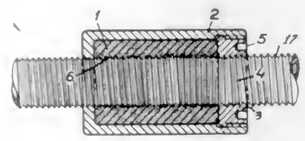
This disclosure describes a ball screw actuator which includes a nonrotary nut, a rotatable and translatable member, a translatable member, and a rotary input member drivingly connected to the rotatable and translatable member. The members of the ball screw actuator define races for sets of balls to permit low friction movement between adjacent members. Rotation of the rotary input member moves the members between an extended and a retracted position.

3,404,581
BALL SCREW ACTUATOR
Peter Kraus, Palos Verdes Peninsula, Calif., assignor to Sargent Industries, Inc., a corporation of Delaware
Filed Apr. 18, 1967, Ser. No. 631,625
7 Claims. (Cl. 74—424.8)



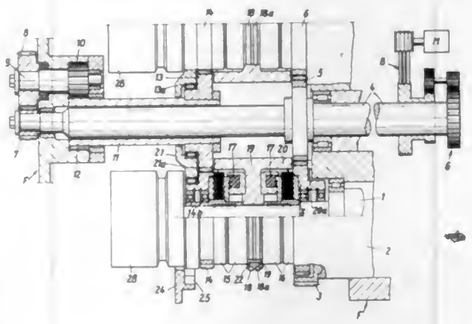
This disclosure describes a ball screw actuator which includes an inner nonrotary screw connectible to a support, a tubular intermediate member having innner and outer nut portions thereon with the inner nut portion being mounted on the inner nonrotary screw to permit rotation and translation of the tubular intermediate member relative thereto, an outer nonrotary screw mounted within the outer nut portion of the tubular intermediate member, and a rotary input member drivingly engageable with the intermediate member to rotate the intermediate member. Rotation of the intermediate member moves the intermediate member and the outer nonrotary screw between an extended position and a retracted position.

3,404,582
THREADED CONTROL MEANS
Bengt Martin Södergård and Sten Henrik Danieli, Vasteras, Sweden, assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed June 2, 1965, Ser. No. 460,782
Claims priority, application Sweden, June 12, 1964
7,166/64
14 Claims. (Cl. 74—424.8)



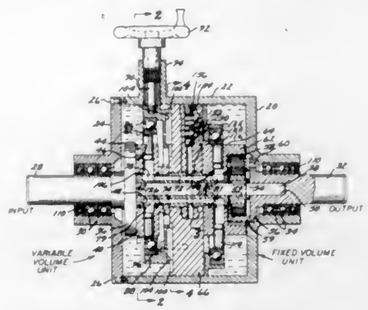
In a screw and nut control gearing designed for high temperature and corrosive atmosphere duty and having a stainless steel main screw member, a self-lubricating nut including a threaded graphite guide bushing engageable with the main screw member. The threaded graphite guide bushing is pre-stresed by stainless steel pre-stress means to such an extent that the difference in linear thermal expansivity as well as in elasticity between the threaded graphite bushing and the stainless steel main screw member is substantially compensated.

3,404,583
DRIVING ARRANGEMENTS FOR MULTIPLE-SPINDLE MACHINE TOOLS
Hans Jacoby, Bielefeld, Germany, assignor to Werkzeugmaschinenfabrik Gildemeister & Comp. Akt.-Ges., Bielefeld, Germany
Filed Mar. 15, 1966, Ser. No. 534,450
Claims priority, application Germany, Apr. 1, 1965
W 38,879
8 Claims. (Cl. 74—665)



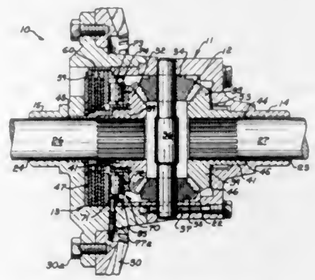
A driving arrangement for the work spindles of a multiple-spindle machine tool wherein each spindle carries two pinions and two clutches each adapted to couple one of the pinions to the respective spindle. One pinion of each spindle meshes with a first driver gear which is driven by a motor and is mounted on a main shaft which supports the spindle carrier. The other pinion of each spindle meshes with a driven gear which forms part of a gear train including a removable change gear.

3,404,584
TRANSMISSION
Herbert L. Trautmann, 873A W. 15th St., Newport Beach, Calif. 92660
Filed Apr. 4, 1966, Ser. No. 539,777
11 Claims. (Cl. 74—687)



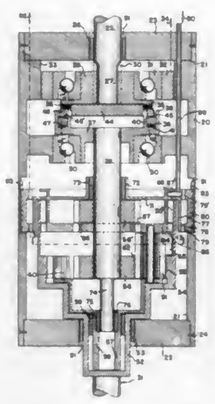
This invention pertains to a fluid transmission which is substantially continuously variable over a wide range of gear ratios. It is characterized by having a mechanically driven variable volume fluid motor or flow unit for producing a flow of fluid which is adjustably variable in volume and direction. Such flow is conducted to a fixed volume fluid motor or flow unit for actuation according to the volume and direction of fluid flow from the variable volume unit. A ring gear is driven directly by the fixed volume unit, and a sun gear is driven in accordance with the variable volume unit. One or more planetary gears are arranged between the ring gear and sun gear so that an output speed is obtained from the rotation of the planetary gear about the axis of the sun gear according to the algebraically combined speeds and directions of the sun and ring gears.

3,404,585
DRIVE MECHANISM
Daniel W. Roper, Rochester, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed June 13, 1966, Ser. No. 557,153
19 Claims. (Cl. 74—711)



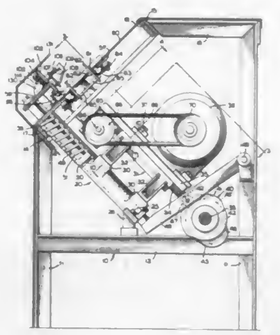
Disclosed herein is a drive mechanism including driving and driven members. The driving and driven members are drivingly interconnected by a friction clutch assembly and a clutch actuating assembly in response to a predetermined rate of relative rotation between the driving and driven members.

3,404,586
OUTBOARD MOTOR TRANSMISSION
William G. Fanstone, 713—2510 Portage Ave., St. James 12, Manitoba, Canada
Filed Apr. 28, 1966, Ser. No. 545,943
10 Claims. (Cl. 74—750)



The device consists of a transmission for outboard motors adapted either to be situated within the conventional outboard motor between the upper portion of the exhaust housing below the water pump and above the anti-cavitation plate or can be installed within the propeller housing. It includes planetary gear trains for reducing propeller forward speed, for reducing propeller reverse speed, and for reducing drive and propeller shaft speed above the water line, and includes a shock absorber system for protecting the complete transmission system from shock loads due to impact with foreign objects or from stresses due to overloading.

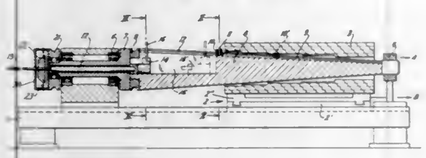
3,404,587
HOLE FORMING MECHANISM FOR BOOKBINDING MACHINE
John O. Whitcomb, Mechanicsburg, Pa., assignor to Hickok Manufacturing Company, Harrisburg, Pa., a corporation of Pennsylvania
Filed Mar. 14, 1966, Ser. No. 534,084
5 Claims. (Cl. 77—22)



The apparatus drills holes in such articles as stenographers' notebooks for the threading of a spiral binder therethrough. Two aligned series of drills are provided with the openings of each series spaced apart a distance twice the distance of the openings in the book. An undrilled book is fed to the first series or station and

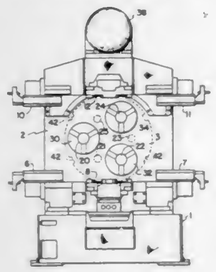
openings are drilled therein whereupon such book is advanced to the second station or series for the drilling of the remaining openings in the book while a new book is fed to the first station or series.

3,404,588
BORING APPARATUS FOR CONICAL BORES
Anton Anger, Linz, Austria, assignor to PME Holding A.G., Zurich, Switzerland
Filed Apr. 22, 1966, Ser. No. 544,485
Claims priority, application Switzerland, Feb. 3, 1966 1,552/66
14 Claims. (Cl. 77—57)



A boring apparatus for conical bores in which a conical boring bar rotatable about its axis is provided with a shallow longitudinally extending groove in the region of its outer conical surface in which a holder of a boring tool is guided and moved in longitudinal direction of the bar while the latter is rotated about its axis so that the boring tool may move during its movement in longitudinal direction of the bar and rotation of the latter toward the axis of the bar to thereby machine a conical bore in a workpiece surrounding the bar.

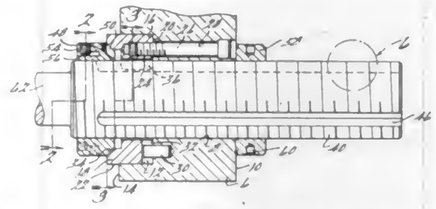
3,404,589
INDEXIBLE MULTIPLE SPINDLE LATHE
Roger W. Brown and Robert R. Rhodehamel, Windsor Vt., assignors to Pneumo Dynamics Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Oct. 31, 1966, Ser. No. 590,831
6 Claims. (Cl. 82—3)



Providing for increased spindle capacity in indexible multiple spindle lathes to combine the advantages of single and multiple spindle lathes.

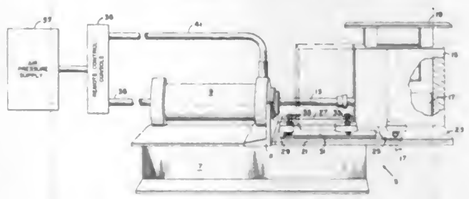
3,404,590
AXIALLY ADJUSTABLE TOOL SUPPORT
Allen N. Sweeny, Grosse Pointe Farms, Mich., assignor to De Vlieg Machine Company, Royal Oak, Mich., a corporation of Michigan
Filed Sept. 1, 1966, Ser. No. 576,664
7 Claims. (Cl. 82—36)

1. An adjustable cutting tool mounting assembly including a supporting member, a combined torque and seat member fastened to said supporting member, said combined torque and seat member having a conical seating surface, a central opening and a plurality of integral keys extending radially inwardly into said opening, a threaded shank extending through said opening, an annular adjusting collar threaded on said shank and having a conical surface engageable with said seating surface, said shank having a plurality of axially extending key-



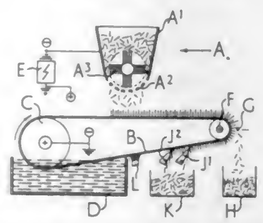
ways conformably engageable with said keys to prevent rotation of said shank relative to said supporting member and a locking member for drawing said collar against said seating surface.

3,404,591
SOLID PROPELLANT CUTTING DEVICE
Andrew B. Nix, Guntersville, Ala., assignor to the United States of America as represented by the Secretary of the Army
Filed Sept. 28, 1966, Ser. No. 583,121
3 Claims. (Cl. 83—4)



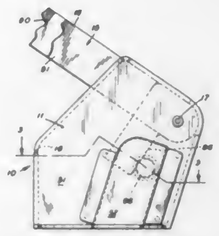
A solid propellant cutting device that may be operated from a remote position, for cutting uniform samples of propellant. The size of cut can be precisely adjusted before the cut is made. A reciprocating air cylinder is remotely controlled to operate a propellant holder. The holder moves a bulk propellant, disposed within the holder, against a cutting blade. The holder is guided by ways and an adjustable plate beneath the ways which determines the depth of cut.

3,404,592
METHOD OF REDUCING THE LENGTH OF OVERSIZE FIBERS
Frederick H. Lane, Water Orton, Birmingham, England, assignor to The Dunlop Company Limited, London, England, a British company
Filed Nov. 21, 1966, Ser. No. 595,704
Claims priority, application Great Britain, Nov. 27, 1965, 50,496/65
6 Claims. (Cl. 83—16)



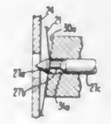
1. A method of treating a textile flock to reduce the length of oversize fibres, which comprises causing the fibres of the flock to adhere by their ends to a surface so that they project substantially at right angles from said surface and are substantially parallel to each other, trimming the pile thus obtained on said surface to reduce the length of the oversize fibres and then separating the trimmed pile from said surface.

3,404,593
HYPODERMIC SYRINGE DESTROYER
Joseph J. Arcarese, North Hollywood, George Coanda, Burbank, and James S. de Berry, La Canada, Calif., assignors, by mesne assignments, to American Hospital Supply Corporation, a corporation of Illinois
Filed July 1, 1966, Ser. No. 562,319
7 Claims. (Cl. 83—167)



For destroying a hypodermic syringe after a single use, a rectangular cabinet with an openable front panel and a removable box having an open top within the cabinet. Over an opening in the cabinet top is a housing having a pair of aligned holes through walls of the housing. A shearing cutter pivoted inside the housing slices through a syringe fitting through the holes in the housing walls with severed portions of the syringe dropping down into the box.

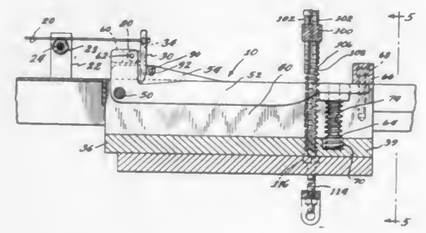
3,404,594
VISIBLE PERFORATING APPARATUS WITH RECIPROCATING STRIPPING
William L. Dollenmayer, Lexington, Ky., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 30, 1964, Ser. No. 407,840
4 Claims. (Cl. 83—587)



The invention relates to perforating apparatus in a dictating machine environment in which all of the primary working elements of the apparatus are positioned adjacent an index slip being perforated on a side opposite to that being observed so that entire index slip is visible.

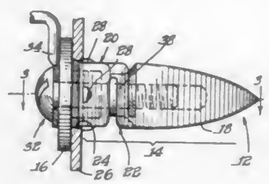
The dictating machine is controlled by a microphone handset having an index control button. Movement of the button to the alternative Letter (LTR) or Secretary (SEC) positions operates mechanisms to punch corresponding perforations in an index slip 21. The perforations are effected by a punch element that is mounted in a stripper for reciprocation from a home position toward the front of the machine and then back to the home position. A conical portion of the punch element tears the index slip during the outward movement from home position and severs a chad in the slip as it returns to the home position.

3,404,595
CHORD TUNING MECHANISM FOR A STRING MUSICAL INSTRUMENT
J. D. Harlin, Indianapolis, Ind., assignor to Harlin Bros., Indianapolis, Ind., a partnership
Filed Jan. 17, 1966, Ser. No. 521,114
5 Claims. (Cl. 84—312)



A chord tuning mechanism for a string instrument wherein each string of the instrument has associated therewith a pair of depressible levers. Depression of one of the levers causes a reduction in tension in the string, while depression of both levers causes an increase in tension in the string. An interlock between the two levers allows the one lever to be depressed to the exclusion of the other, but depression of the other lever causes both levers to be depressed.

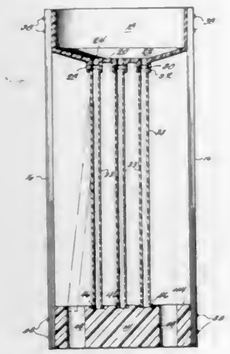
3,404,596
WATERPROOF FASTENING DEVICE
Francis E. Ryder, Des Plaines, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Aug. 24, 1966, Ser. No. 574,661
8 Claims. (Cl. 85—70)



This invention relates generally to fastening devices and more particularly to fastening devices of the type having a shank adapted to be inserted within a complementary aperture in a workpiece and a head at one extremity of the shank adapted to be clamped against one side of the workpiece, the final tightening or clamping of the fastening device within the workpiece being accomplished by employing a conventional headed screw member, the shank of which is turned within a complementary aperture extending axially of the fastener shank. One embodiment of the present invention disclosed herein consists of a headed shank member in which the shank includes three discrete sections. The first section provides a wall of substantial thickness surrounding a bore for threadedly accommodating a screw member, a second shank section adjacent the head of the fastener of noncircular external shape which is adapted to be received

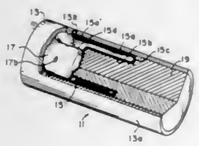
within a complementary aperture in a workpiece, and a third tubular shank section of reduced diameter extending between the outer peripheral portions of the first and second shank sections is a plurality of resilient fingers which will twist and thereby establish a firm grip of the fastener periphery when the shank is rotated against the surface of a workpiece oppositely disposed from the shank head.

3,404,597
APPARATUS FOR FILLING CARTRIDGE TUBES
John Alexander Holmes, 532 N. James St., Peekskill, N.Y. 10566
Filed July 28, 1967, Ser. No. 656,875
4 Claims. (Cl. 86—45)



A cartridge feed tube loader provided with a hopper and a base which are joined together in spaced relation. Cartridge feed tubes are placed intermediate the hopper and the base in axial alignment with apertures in the bottom of the hopper. By agitating the loader, empty cartridge casings in the hopper pass through the apertures into the cartridge feed tubes with the heavy closed end of the cartridge casings entering the apertures first.

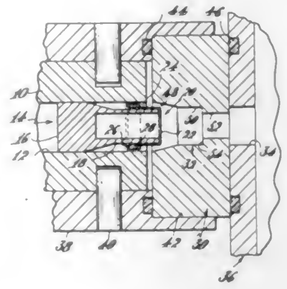
3,404,598
CUP-SEALED ACTUATOR WITH OBTURATING GROOVE ANCHORING AND SEALING ARRANGEMENT
Mitchell G. Angelos, Cockeysville, Md., assignor to AAI Corporation, Cockeysville, Md., a corporation of Maryland
Filed Dec. 30, 1966, Ser. No. 606,070
2 Claims. (Cl. 89—1)



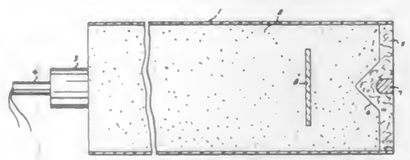
An actuator is disclosed, including a case having an unrollable cup-seal which is anchored and sealed in a bore in the case by an anchor connection formed by an annular bore recess into which the cup-seal is pressed by propellant gases from radial orifices in propellant chamber, which gases also serve to unroll the cup-seal during actuation.

3,404,599
APPARATUS AND METHOD FOR PRODUCING A HIGH VELOCITY BEAM OF GAS MOLECULES AND THE LIKE
Martin Annis, Newtonville, Mass., assignor to American Science and Engineering, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Aug. 31, 1966, Ser. No. 576,465
24 Claims. (Cl. 89—1)

A container generally in the shape of a cartridge carries the gas molecules to be accelerated and has a frangible cap over the forward end. An explosive charge propels the cartridge through a rifle barrel toward the entrance of an analyzing chamber. The end of the rifle barrel is connected to the entrance of the analyzing chamber by a section that stops the cartridge, breaks the frangible cap and thereby allows the molecules to escape from the cartridge into the analyzing chamber with velocity corresponding substantially to the highest velocity achieved by the cartridge.



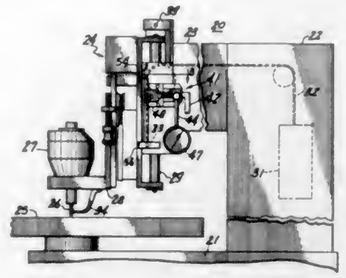
3,404,600
EXPLOSIVE PROJECTOR FOR PROJECTILES
Andrew G. Bilek, Valparaiso, Fla., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Sept. 20, 1966, Ser. No. 581,141
2 Claims. (Cl. 89—8)



An explosive projector for propelling projectiles and in which the casing containing the high explosive is closed at the forward end by a wax plate having embedded therein one or more projectiles. The plate is provided with a re-entrant cone extending into the high explosive. Thus, the high explosive has a shaped charge where it abuts the cone. There is also a disc of laminated Fiberglas transverse of the casing and embedded in the high explosive, the disc being positioned closer to the paraffin closure end of the casing than the other end to change the shape of the shock wave at the position of the disc. Greater focusing effect of the explosive at the shaped charge surface of the high explosive and against the projectile is thereby obtained. The wax, upon vaporization, serves to prevent damage to the projectile by providing a gaseous envelope

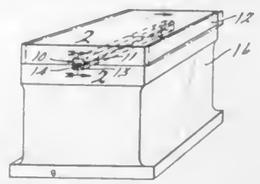
about the same and also increases the velocity of the projectile through jet action of the vapor stream.

3,404,601
PRESSURE REGULATOR FOR CONTROLLING THE DOWNWARD FORCE ON THE HEAD OF A ROUTER OR THE LIKE
Rudolph F. Onsrud, Glenview, Ill., assignor to Onsrud Machine Works, Inc., a corporation of Illinois
Filed Jan. 3, 1966, Ser. No. 518,441
7 Claims. (Cl. 90—14)



An air pressure valve or regulator for power assist mechanisms, as for example routers, whereby in one direction of operation a higher pressure is available and in another direction of operation a lesser pressure is available.

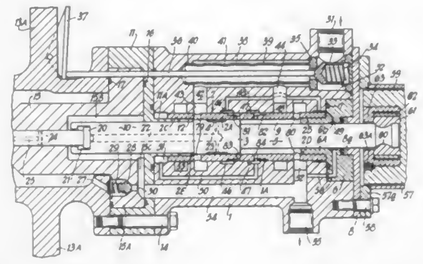
3,404,602
ADJUSTABLE OFFSET KEY
George W. Burns, 1240 Blairmoor Court, Grosse Pointe Woods, Mich. 48236
Filed May 18, 1966, Ser. No. 551,130
10 Claims. (Cl. 90—58)



This disclosure relates to an offsettable key having two elements disposed in slots in two relatively moveable members which are shiftable laterally to locate one member relative to the other along their pathes of relative longitudinal movement.

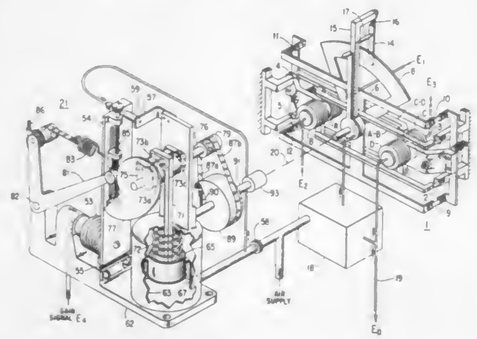
3,404,603
HYDRAULICALLY OPERATED TOOLS
Edward Addison and John Peter Jackson, Weymouth, Dorset, England, assignors to Vickers Limited, London, England, a British company
Filed Apr. 22, 1966, Ser. No. 544,598
Claims priority, application Great Britain, Apr. 23, 1965, 17,350/65
5 Claims. (Cl. 91—5)

A hydraulically operated reciprocating tool whose fluid supply is external. A double acting piston imparts repeated blows on a tool head and each forward stroke is assisted by a hydraulic spring fitted on the tool, while the fluid forced from the exhaust side of the piston during this stroke is ducted through the tool to reduce back pressure effects on the piston rod. The return stroke is slower since the hydraulic spring is then being energized by the returning piston. The valve means for directing the fluid



supply preferably consists of a ported cylinder, also reciprocable, in which the piston slides.

3,404,604
PNEUMATIC SERVOMOTOR HAVING FORCE BEAM INPUT AND SPRING TYPE FEEDBACK
Roy W. Gardiner, Richmond Heights, Michael Panich, Willoughby, and Norman J. Yager, Euclid, Ohio, assignors to Bailey Meter Company, a corporation of Delaware
Filed Sept. 28, 1967, Ser. No. 671,293
1 Claim. (Cl. 91—47)

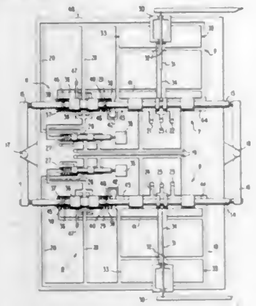


A pneumatic servo-motor producing angular displacement of an output shaft in functional relation to changes in a pneumatic signal.

3,404,605
SYSTEM FOR CONTROLLING HYDRAULIC SERVOMOTORS
Klaus Pfaff, Meersburg, Germany, assignor to Dornier-Werke G.m.b.H., Friedrichshafen (Bodensee), Germany, a corporation of Germany
Filed Aug. 26, 1965, Ser. No. 482,700
Claims priority, application Germany Sept. 18, 1964, D 45,449
5 Claims. (Cl. 91—453)

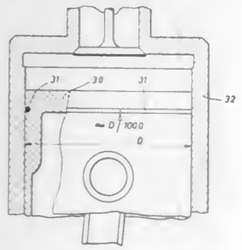
This invention relates to a system for controlling mechanically coupled hydraulic servomotors, each of which is equipped with a separate control valve and wherein the control valve pistons are mechanically coupled and can be displaced both by an electrohydraulic control member and by a mechanical linkage. Coordinated to each hydraulic control circuit of the electrohydraulic control member is a switching device which, in case of failure of the electrical energy circuit or in case

the electrical control signal exceeds a predetermined value, operates to render the hydraulic control circuit



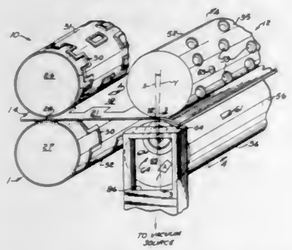
inactive or inoperative. A blocking of the control valve pistons thereby is effectively prevented.

3,404,606
PISTON RING FOR INTERNAL COMBUSTION ENGINES
Hermann Papst, St. Georgen, Black Forest, Germany
Continuation-in-part of application Ser. No. 181,556, Mar. 22, 1962. This application Dec. 29, 1965, Ser. No. 517,379
Claims priority, application Germany, Mar. 29, 1961, P 26,853; Jan. 5, 1962, P 28,536
8 Claims. (Cl. 92—169)



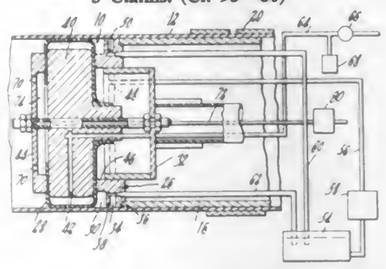
A piston ring, for use between a piston and a cylinder, being composed entirely of at least one material selected from the group consisting of the metals molybdenum, tantalum and tungsten and alloys thereof containing at least 60% by weight of the respective metal.

3,404,607
MATERIAL HANDLING APPARATUS
Paul A. Feick, Chagrin Falls, Richard W. Helmig, Shaker Heights, and Albert J. Sarka, Fairview Park, Ohio, assignors to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Jan. 9, 1967, Ser. No. 607,934
21 Claims. (Cl. 93—36)



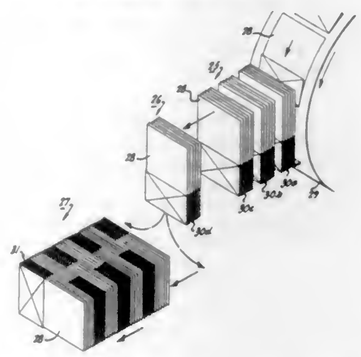
A carton blank cylinder and a waste receiving cylinder define a nip therebetween at which carton blanks and waste material portions are separated. The carton blank cylinder includes suckers which engage the carton blanks, and the waste receiving cylinder is hollow and has openings therein through which the waste portions are moved by projections on the carton blank cylinder. A rotating rubber cylinder, moving belts, or a driven brush is located in the waste receiving cylinder to support the waste portions as they are moved by the projections.

3,404,608
TUBE COATING APPARATUS
Herman C. Allen, Medfield, Mass., assignor to Bird & Son inc., East Walpole, Mass., a corporation of Massachusetts
Filed July 2, 1965, Ser. No. 469,293
3 Claims. (Cl. 93—80)



Tube forming apparatus for wrapping strip-sheet material about an arbor continuously to form a tube of said material and comprising doctor means including an inflatable doctor element spaced beyond the free end of the arbor forming a reservoir between the free end the doctor means, coating material supply means, and a coating supply conduit extending through the arbor from said coating material supply means to the reservoir, the doctor means wiping the interior surface of the tube as the tube passes therebeyond providing a uniform coating on the interior surface of the formed tube and the apparatus including means for varying the internal pressure of the doctor element to control the thickness of the uniform coating.

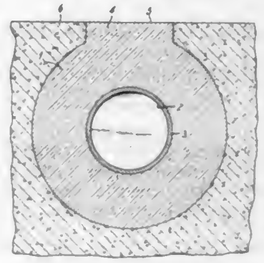
3,404,609
GROUP COLLATOR APPARATUS AND METHOD
Ellsworth A. Hartbauer, Concord, and Lawrence E. Weinert, Antioch, Calif., assignors to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada
Filed Oct. 11, 1965, Ser. No. 494,742
20 Claims. (Cl. 93—93)



Method of and apparatus for collating paper grocery the bags thereof collated into an end-for-end orientation,

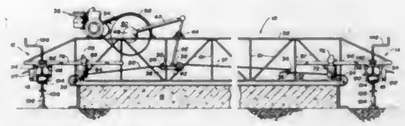
and of moving each angularly displaced group from the collating or turning station preparatory to bundling the groups. The apparatus includes group forming mechanism by means of which such continuous succession of bags discharged along a predetermined path are divided into groups, conveyor mechanism for moving each such group into the collating or turning station, first and second collating devices for respectively gripping and displacing alternate groups in opposite angular directions at the collating station, and transfer mechanism for advancing each angularly displaced group of bags from the collating station.

3,404,610
MARKINGS FOR ROADWAYS, PAVEMENTS AND OTHER SURFACES
Rudolf Hischmann, Ennigerloh, Germany, assignor to Pacemin A.G., Zug, Switzerland, a Swiss corporation
Filed Jan. 18, 1966, Ser. No. 521,338
Claims priority, application Germany, Jan. 22, 1965, P 3,592
13 Claims. (Cl. 94—1.5)



A roadway or other surface marking comprising a hollow transparent body defining an internal surface and having a smooth external surface, the external surface being substantially flush and in the plane of a roadway surface to be marked, and a fluorescent layer is applied to the internal surface of the hollow transparent body.

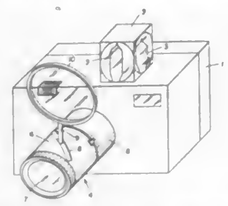
3,404,611
RECIPROCATING FLEXIBLE BELT FOR FINISHING A CONCRETE SURFACE
Herbert W. Wilson, Abilene, Tex., assignor to Bailey, Inc., Abilene, Tex.
Filed May 31, 1967, Ser. No. 642,383
10 Claims. (Cl. 94—45)



An elongated flexible belt is reciprocated across a concrete surface while being traversed over the concrete surface by a movable support in a direction substantially perpendicular to the direction of reciprocation.

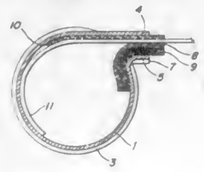
3,404,612
LIGHT REGULATION MEANS FOR USE WITH MULTILAMP FLASH UNITS
Donald M. Harvey, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed July 12, 1965, Ser. No. 471,011
6 Claims. (Cl. 95—11)

A camera for use with a multilamp flash attachment including a device for selectively regulating the amount of light emitted by the flash attachment in accordance with the picture-taking requirements. The device may consist of a light modifying element such as a reflector and/or an auxiliary lens disposed in operative relationship with the flash attachment to vary the intensity of the light



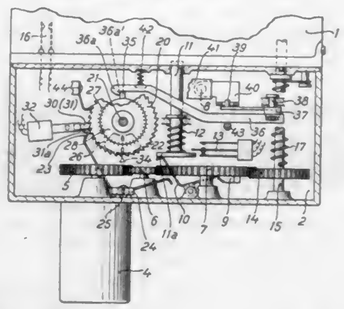
emitted by the flash attachment. The light modifying device may be selectively moved relative to the flash attachment to provide the desired light intensity. In the alternative, the flashlamp attachment socket may be moved to provide direct or bounce illumination.

3,404,613
PHOTOGRAPHIC FILM CONTAINER
Dean J. MacGregor and John W. Weber, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Oct. 22, 1965, Ser. No. 501,304
5 Claims. (Cl. 95—31)



An improved film cassette employing a substantially pileless material-foam laminate as a film support and light sealing member in the exit slot of the cassette.

3,404,614
DRIVE DEVICE FOR CAMERAS
Paul Naumann, Alkmaar, North Holland, assignor to Ernst Leitz G.m.b.H., Wetzlar, Germany
Filed May 25, 1966, Ser. No. 552,866
Claims priority, application Germany, May 28, 1965, L 50,814
8 Claims. (Cl. 95—31)



1. A drive device for a camera for releasing the shutter and advancing the film transport, comprising, in combination:

an electric motor for connection with a camera to cock and release its shutter and advance its film transport;

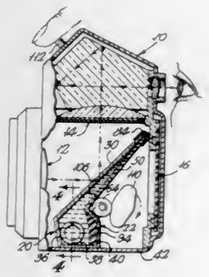
an electric circuit for energizing said motor and including a shut-off switch for deenergizing said motor when a preselected number of pictures have been taken;

a trigger for energizing said circuit while the trigger is actuated;

a picture counting assembly for opening said shut-off switch after a preselected number of pictures have been taken; and

means connected between said release and said counting assembly for closing the shut-off switch and thereby energizing the motor, after such switch has been opened by said counting unit, by releasing said trigger and actuating it again.

3,404,615
MIRROR AND SHUTTER MECHANISM FOR SINGLE LENS REFLEX PHOTOGRAPHIC CAMERA
George W. Proffitt, Jr., 1310 N. Oak St., Apt. 406, Arlington, Va. 22209
Filed Jan. 10, 1966, Ser. No. 519,562
1 Claim. (Cl. 95—42)



The mirror and shutter mechanism includes a pair of transparent portions and a body of light reflective flowable material such as mercury, positioned between the transparent portions. One of the portions is fixed and the other is movable towards and away from the first portion. A flow control device is provided for controlling the flow of the fluid between the portions. When the mercury is disposed between the transparent portions, the structure operates as a mirror in order to reflect the image onto the view finder. When it is desired to take a picture, the movable transparent portion is moved towards the fixed portion to release the mercury from the space between the portions. When the mercury is so displaced, the light rays may pass directly through the two portions and be directed onto the film.

3,404,616
DRIVE MECHANISM WITH INTERMITTENTLY POWERED BAND
Henry J. Koeber, Jr., Deerfield, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed July 21, 1966, Ser. No. 566,922
10 Claims. (Cl. 95—45)

1. A power transmission adapted to convert a continuously motion into intermittent torque and comprising a reversibly rotatable body;

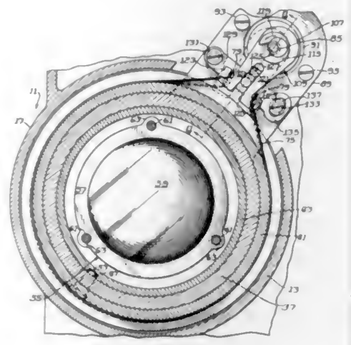
a friction band disposed about and partially encircling said body for intermittent frictional driving engagement therewith;

an eccentric mounted for reciprocation by a reversible continuously rotational member;

a link arranged about said eccentric for reciprocation;

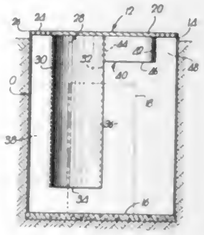
said friction band having a pair of opposite end portions connected to said link;

whereby upon rotation of the eccentric the band is alternately tensioned and relaxed upon said



rotational body thereupon to intermittently impinge reversibly rotational torque corresponding to the direction of eccentric rotation.

3,404,617
SELF-VENTILATING UNDERGROUND TRANSFORMER VAULT
Clarence H. Le Vee, Centralia, Mo., assignor to A. B. Chance Company, Centralia, Mo., a corporation of Missouri
Filed Oct. 3, 1966, Ser. No. 583,902
8 Claims. (Cl. 98—32)

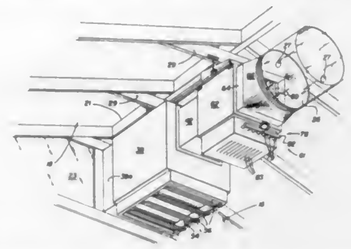


A transformer vault has an air inlet and an air outlet at its top, and contains a pair of depending baffles associated with the inlet and the outlet for introducing incoming air at the bottom of the vault and exhausting the warm air from the outlet after passage of the air through the transformer chamber in thermal contact with both the sides and the top portion of the transformer. The baffle which directs the incoming air terminates relatively close to the bottom of the vault, while the other baffle is substantially shorter in vertical length to establish maximum thermal contact of the flowing air with the transformer body.

3,404,618
COMBINATION HEATING, VENTILATING AND RECIRCULATING SYSTEM FOR GREENHOUSES
Paul Joseph Jacobs, Sherman Oaks, Calif., assignor to Jacobs Bros. Textile Co., Inc., Sepulveda, Calif., a corporation of California
Continuation of application Ser. No. 603,897, Dec. 22, 1966. This application Dec. 26, 1967, Ser. No. 693,680
13 Claims. (Cl. 98—33)

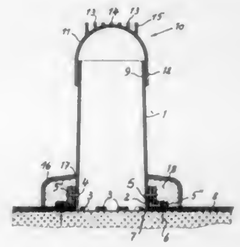
A greenhouse ventilating apparatus having a blower for

recirculating air within the building and for inducing the flow of outside air into the building. A heater is posi-



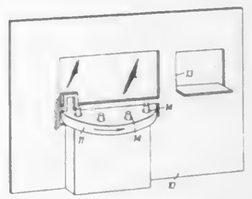
tioned adjacent the blower for raising the temperature of the air in the greenhouse.

3,404,619
ROOF VENTILATOR WITH NOZZLED DOMED END
Wilhelm Friedrich Topp, Chemnitzer Strasse 5, Empelde, Hannover, Germany
Filed May 18, 1966, Ser. No. 551,160
5 Claims. (Cl. 98—42)



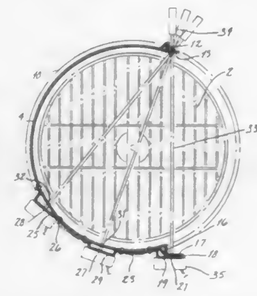
A ventilating device including an end cap terminating in a domed end portion and provided with a plurality of outstanding nozzles, each of which is provided with an axial opening therethrough. The diameters of the individual openings being insufficient to allow the ingress of foreign bodies or materials into the interior of the end cap but cumulatively providing ventilation from the interior thereof.

3,404,620
PREPARATION OF FOOD PRODUCTS
Peter Harold Smith, Maidenhead, England, assignor to Microtherm Limited
Filed Aug. 22, 1966, Ser. No. 574,052
9 Claims. (Cl. 99—357)



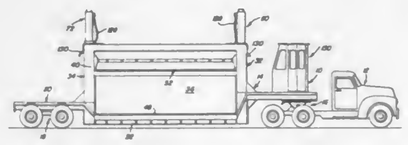
This disclosure relates to a machine for rapidly heating and vending food products. A plurality of microwave ovens are disposed at spaced locations around the periphery of a rotatable platform. Food products are loaded into ovens at one station, a source of microwave energy is connected to the ovens at a second station to heat the food products, and the food products are removed at a third station. A door closes the access opening of each oven at the second station.

3,404,621
OUTDOOR GRILL WITH ADJUSTABLE SPIT
Charles Leach, St. Louis, Mo., assignor to Glaser Products Corporation, St. Louis, Mo., a corporation of Delaware
Filed Dec. 12, 1966, Ser. No. 601,102
14 Claims. (Cl. 99—421)



A barbecue grill having a hood with a parti-annular side wall, a first spit support bracket mounted on one end portion of said side wall, a plurality of second spit support brackets provided on the opposite portion of said side wall and being arranged in a spaced apart circumferential manner whereby with the handle end of the spit being received in said first spit support bracket, the opposite end portion may be selectedly received within any one of the second spit support brackets.

3,404,622
MOBILE VEHICLE PRESS
Robert L. Flanagan, Dallas, Tex., assignor, by mesne assignments, to Aspec, Inc., Dallas, Tex., a corporation of Texas
Filed Jan. 11, 1967, Ser. No. 608,621
5 Claims. (Cl. 100—100)

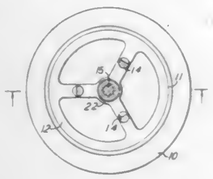


A mobile vehicle crushing press including a horizontal base adapted to support a vehicle to be crushed and a vertically movable pressure head which may be forced toward the base for crushing a vehicle between the base and the pressure head.

3,404,623
SCREEN PRINTING APPARATUS
Kenneth Watkin, Chadderton, Oldham, England, assignor to Ferranti, Limited, Hollinwood, England, a company of Great Britain and Northern Ireland
Filed Apr. 11, 1967, Ser. No. 630,015
Claims priority, application Great Britain, Apr. 12, 1966, 15,837/66
9 Claims. (Cl. 101—35)

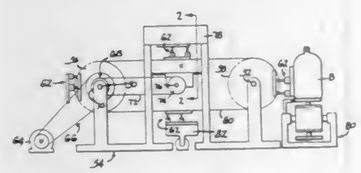
Screen printing apparatus which may be used for printing on either external or internal cylindrical sur-

faces. The screen is stretched between supports which have the same shape as the surface, and a similarly-



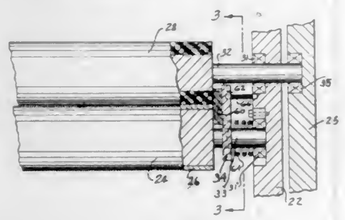
shaped squeegee is movable over the surface of the screen.

3,404,624
OFFSET PLATE DECORATING METHODS AND APPARATUS
James R. Proffitt, Jr., Sylvania, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed June 1, 1964, Ser. No. 371,318
36 Claims. (Cl. 101—40)



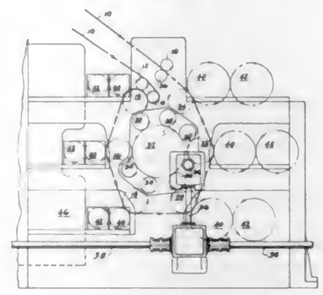
Offset plate decorating methods and apparatus particularly directed to the manipulating and handling of offset plate elements in production line electrostatic printing operations. Offset plate assemblies are mounted upon an endless conveyor to be carried into successive registry with an image application station at which a powder image is placed on the plate and a printing station at which the powder image is electrostatically transferred from the plate to an article surface.

3,404,625
DAMPENING MECHANISM FOR ROTARY PLANOGRAPHIC PRINTING PRESSES
Raymond E. White, Wayzata, Minn., assignor to Bemis Company, Inc., a corporation of Missouri
Filed July 26, 1965, Ser. No. 474,587
3 Claims. (Cl. 101—148)



The invention provides a new and improved dampening and inking mechanism for rotary planographic printing presses in which a pair of rollers in contact with each other have resilient dams at the ends of the rollers to form a dampening fluid trough, one of the rollers running in contact with a form inking roller to supply moisture to the form roller. The dampening mechanism is mounted on pivoted arms and the form-engaging roller and the pivoted arms are mounted on pivoted members which are movable into and out of contact with a blanket cylinder, and the form-engaging roller always runs in contact with an ink supply roller.

3,404,626
ROTARY PRINTING PRESS
Raymond E. White, Wayzata, and Bradford R. Stetson, Minneapolis, Minn., assignors to Bemis Company, Inc., a corporation of Missouri
Filed May 12, 1965, Ser. No. 455,116
4 Claims. (Cl. 101—177)

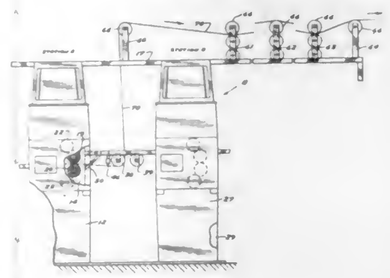


The invention provides a rotary multicolor offset web printing press in which the printing and offset cylinders may be readily and easily replaced by others of widely different diameter, all to be driven from a common central gear.

Individual inking mechanisms are mounted in carriages movable toward and from the printing cylinders, the inking mechanisms being relatively movable with respect to supporting side frames so that the inking mechanisms may be spaced from the printing cylinders to allow a workman to operate on the inking mechanisms or cylinders.

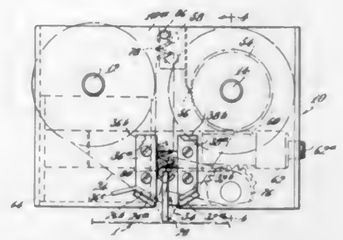
The plate cylinders and offset cylinders have shafts which are shorter than the distance between their supporting members whereby the cylinders and their shafts may be removed from the press by movement normal to the shafts.

3,404,627
WEB SEVERING DEVICE FOR OFFSET PRINTING PRESS
John W. Halley, 2042 Evergreen Terrace, Arlington Heights, Ill. 60004
Filed Jan. 19, 1967, Ser. No. 610,388
2 Claims. (Cl. 101—228)



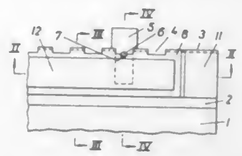
A stationary cutting device for severing the broken end portion of a web in connection with a web offset printing press to actuate a press stopping mechanism sooner than otherwise.

3,404,628
AUTOMATIC MARKING DEVICE
Richard G. Lee, Weston, Mass., assignor to Alves Photo Service, Inc., Braintree, Mass., a corporation of Massachusetts
Filed July 11, 1966, Ser. No. 564,308
6 Claims. (Cl. 101—291)



A pair of rotatably mounted spools supporting a coil of ribbon for movement from one to the other along a predetermined path, a reciprocable striker movable into engagement with the ribbon as it travels from one spool to the other to forcibly press the ribbon against an object to be marked, and a solenoid embodying a core rod movable in one direction simultaneously to rotate the spool upon which the coil is to be taken up and retract the striker, and in the other direction to advance the striker to effect marking.

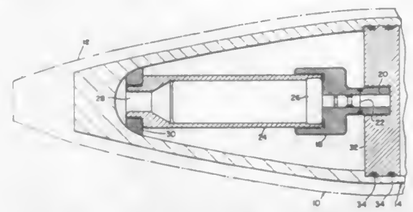
3,404,629
PRINTING PLATE WITH INDENTED GUIDE RAIL AND TEXT BEARING STRIP
Marshall Thollefsen, Nittedal, Norway
Filed July 8, 1965, Ser. No. 470,389
Claims priority, application Norway, July 10, 1964, 153,981
6 Claims. (Cl. 101—369)



A printing plate is provided with a guide rail by folding back one of its edges and a portion of the rail is, in various ways, depressed relative to the remainder of the rail to accommodate a text bearing strip.

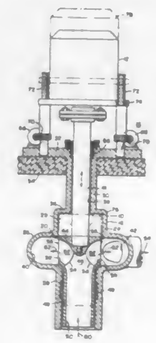
3,404,630
LIQUID OR GAS DISSEMINATING PROJECTILE
Andrew J. Grandy, 2707 Grant Ave., North Hills, Pa. 19038
Filed Nov. 27, 1967, Ser. No. 685,765
7 Claims. (Cl. 102—66)

A projectile for disseminating a liquid or gaseous agent including a gas generator which upon impact causes a piston to travel towards the base of the projectile thereby forcing a fluid or gaseous material contained in said projectile out through a high pressure hose which is attached to the projectile base. Upon impact, anchors on the projectile base expand and grasp the earth as the projectile continues therein causing separation of the projectile base from the projectile, and a high pressure hose which is attached to said projectile and to said projectile base, to unravel. The liquid or gaseous agent contained in the said projectile, will, by the action of the piston, be forced



through the high pressure hose and out an atomizing nozzle.

3,404,631
CENTRIFUGAL PUMP
Donald R. Nixon, Monroeville, Pitcairn, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 9, 1966, Ser. No. 556,338
8 Claims. (Cl. 103—97)

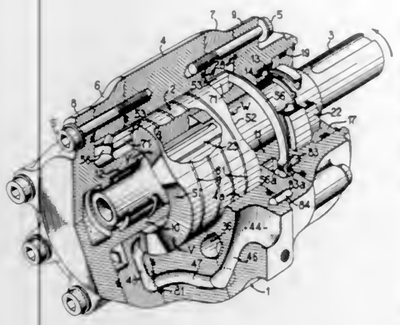


A centrifugal pump having a centrifugal impeller within a housing, the housing having a closed upper portion and a lower end portion and an intermediate fluid outlet portion. The impeller has an imperforate lower end portion extending into the lower end portion of the housing and forming a suction inlet. The impeller also has a discharge outlet portion. The impeller is movable between positions of alignment and non-alignment of the fluid outlet and the discharge outlet. The lower impeller portion is movable into alignment with the fluid outlet forming a fluid flow barrier with the fluid outlet when the discharge outlet is out of alignment with the fluid outlet, the discharge being in alignment with the inner surface of the upper housing portion forming a fluid flow barrier with the suction inlet when the discharge outlet is in the position of non-alignment with the fluid outlet. There are means for moving the impeller axially between said positions.

3,404,632
ROTARY VOLUMETRIC PUMP
Bernard Reminiac, Dammarie-les-Lys, and Marcel Tournel, Chartrettes, France, assignors to Renou Dardel, Dammarie-les-Lys, Seine-et-Marne, France, a French body corporate
Filed Feb. 2, 1966, Ser. No. 524,418
Claims priority, application France, Feb. 4, 1965, 4,361
7 Claims. (Cl. 103—123)

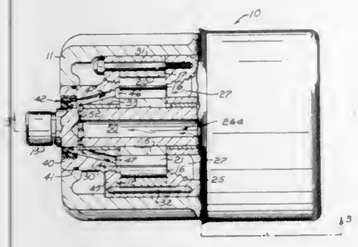
Rotary displacement pump which can also be employed as a hydraulic motor, said pump comprising a body, a

single rotor having at both ends annular cams which define with the body a plurality of pump chambers through



which sweep closing members which are axially slidably mounted in the body and urged against the cam.

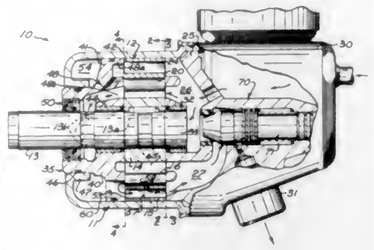
3,404,633
PUMP
Lavern R. Connelly, Marshall, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Sept. 16, 1966, Ser. No. 579,906
3 Claims. (Cl. 103—136)



A fluid pump comprising a housing, a rotary pumping means rotatably supported in the housing for effecting a pumping of fluid. A shaft means extends axially into the housing and is operable to effect rotation of the pumping means. A conduit means is provided for directing fluid leakage to an inlet of the pumping means. The conduit means includes a passage extending axially of the drive shaft and a plurality of passages extending radially of the drive shaft.

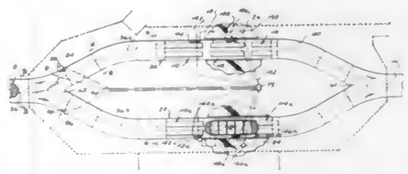
3,404,634
PUMP
La Vern R. Connelly, Marshall, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Sept. 16, 1966, Ser. No. 579,976
11 Claims. (Cl. 103—136)

An improved pump includes a resiliently deflectable sheet metal flange portion which is exposed to fluid at discharge pressure and cooperates with an end plate to provide a seal pressure therewith which increases with increases in pump discharge pressure to minimize leakage from the pump at high pressures. A pressure chamber is provided opposite from a discharge chamber to minimize distortion or deflection of the parts of the pump. A passage is formed in the pump to provide unimpeded



fluid communication between a pumping chamber and a remote discharge chamber to minimize restrictions to the flow of fluid between a pumping means and a discharge chamber.

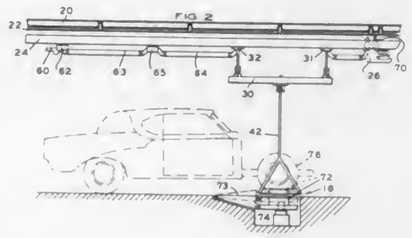
3,404,635
BOAT AMUSEMENT RIDE
Karl W. Bacon, Mountain View, and Edgar A. Morgan, Palo Alto, Calif., assignors to Walt Disney Productions, Burbank, Calif., a corporation of California
Filed Apr. 16, 1965, Ser. No. 448,783
12 Claims. (Cl. 104—70)



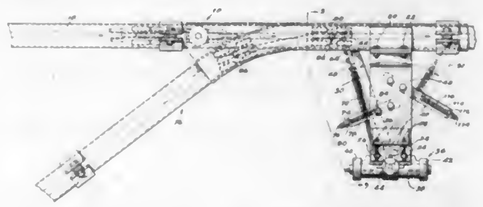
A passenger-carrying boat amusement ride having a continuous waterway with a section that is bifurcated to define first and second branches, each of the branches being provided with a passenger loading station. A plurality of boats are moved along such waterway and are selectively switched into either the first or the second branch so that boats may be alternately loaded from either the first or the second loading station thereby permitting a maximum number of passengers to be loaded and unloaded in a minimum time. The apparatus of the present invention also includes at both loading stations an upwardly inclined lift conveyor which raises the boats onto a discharge conveyor, with the latter supporting the boats in a non-buoyant condition that eliminates any tipping of the boats during passenger loading and unloading thereby expediting such operation. After the boats are loaded they return to the waterway by means of a downwardly inclined ramp.

3,404,636
APPARATUS AND METHOD FOR FINAL ASSEMBLY OF AUTOMOTIVE VEHICLES
Sheldon M. Kavieff, Farmington, Mich., assignor to Jervis B. Webb Company, Detroit, Mich., a corporation of Michigan
Filed Dec. 10, 1964, Ser. No. 417,419
14 Claims. (Cl. 104—96)

1. Apparatus for the final assembly of wheeled vehicles including the combination of a surface on which the vehicles can roll; an overhead conveyor arranged in an endless path at least a portion of which extends above said surface from the beginning to the end of the final assembly process; work stations of the final assembly process arranged along said portion of the overhead conveyor; the conveyor including pairs of leading and trailing trolleys, a trolley supporting track, a plurality of carriers and means for moving the carriers; each carrier comprising a load bar and pivot means connecting the load bar to each of a pair of leading and trailing trolleys for pivotal movement on a vertical axis and on an horizontal axis transverse to the load bar, and load supporting structure secured to the load bar for movement on a vertical pivot during movement of the carrier, said load supporting structure including a depending portion having means at the lower end thereof for engaging and supporting a portion of a vehicle at a level adjacent and above said supporting surface whereby such vehicle will be towed across said supporting surface on the wheels of its unsupported portion by movement of the conveyor carrier; and loading and unloading means mounted adjacent the path of carrier travel over said supporting surface for placing said portion of a vehicle respectively in engagement with and disengagement from said engaging and supportin means of the load supporting structure of a carrier.

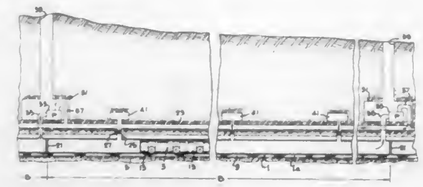


3,404,637
TROLLEY CHOKE
Loren W. Lerch, 124 Wakefield Ave., Buffalo, N.Y. 14214
Filed Nov. 26, 1965, Ser. No. 509,789
3 Claims. (Cl. 104—96)



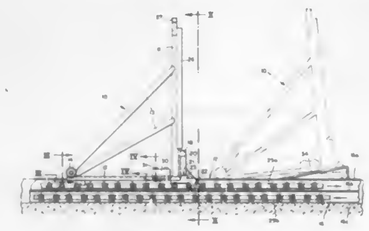
A device for retarding and stopping movement of a free travelling load trolley in which an arm is mounted for arcuate movement in the path of the trolley between first and second points. The arm is normally urged to its first point position by a spring and the spring plus a hydraulic damping unit resist movement of the arm from the first to the second point positions. Yieldable abutments are provided, one of which locates the arm normally at its first point position and the other of which engages the arm in close adjacency to and as the arm approaches its second point position.

3,404,638
HIGH-SPEED GROUND TRANSPORTATION SYSTEMS
Lawrence K. Edwards, Palo Alto, Calif., assignor to Lockheed Aircraft Corporation, Sunnyvale, Calif.
Filed July 21, 1965, Ser. No. 473,726
30 Claims. (Cl. 104—156)



A high-speed ground transportation system in which a vehicle, typically consisting of a train of detachably coupled cars, is propelled as a free piston through a duct by differential air pressure on the ends of the vehicle, the differential pressure being obtained by evacuation of air from the duct ahead of the vehicle and delivery of air to the duct rearward of the vehicle. The duct is floatingly mounted in an underground tunnel by either floating the duct in a body of water contained within the tunnel or by resiliently supporting the duct by spring means interconnecting the duct and tunnel. The connections between cars of the vehicle are nonarticulated rigid connections, and the vehicle is a wheeled vehicle, traveling on rails in the duct, with provisions for raising one or more of the wheels out of engagement with the rails upon the occurrence of a wheel malfunction."

3,404,639
PUSHER ATTACHMENT FOR CHAIN CONVEYOR
Adolph L. Lindquist, 237 Plymouth Ave., Oreland, Pa. 19075
Filed June 6, 1966, Ser. No. 555,446
7 Claims. (Cl. 104—172)

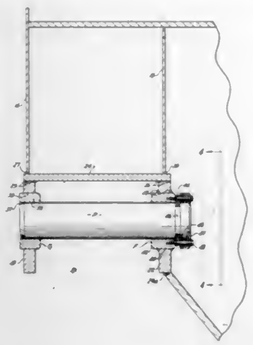


A car pusher bar is disclosed having at its forward end a hook which enters into the slot between the rails of the housing of the conveyor chain and engages the conveyor chain. A permanent magnet is provided at the forward end of the pusher bar to prevent the pusher bar from tilting over.

3,404,640
TRAVELING CRANE TRUCK OF SADDLE AND PIN CONSTRUCTION
Edwin Langer, Alliance, Ohio, assignor to The Morgan Engineering Co., Alliance, Ohio, a corporation of Ohio
Filed Mar. 24, 1966, Ser. No. 537,217
8 Claims. (Cl. 105—163)

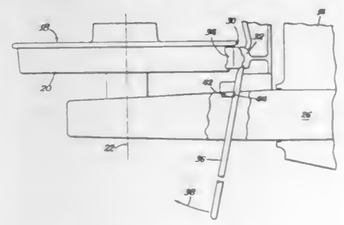
A saddle and truck-pin construction for mounting wheel trucks or equalizers at the ends of the girders of traveling

cranes which ride on spaced parallel rails. The outboard leg of the truck-pin saddle is relieved of axial loads by



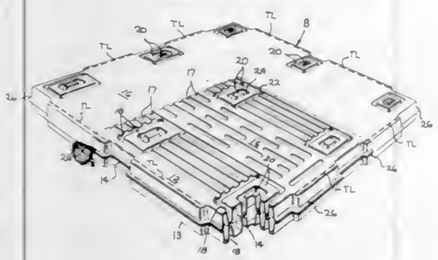
a construction which transmits all axial loads to the rails through the inboard leg of the saddle.

3,404,641
RAILWAY TRUCK SIDE FRAME HAVING A FULCRUM IN A WINDOW
William F. Boekhoff, St. Louis, Mo., assignor to Amsted Industries Incorporated, Chicago, Ill., a corporation of New Jersey
Filed July 25, 1966, Ser. No. 567,522
3 Claims. (Cl. 105—205)



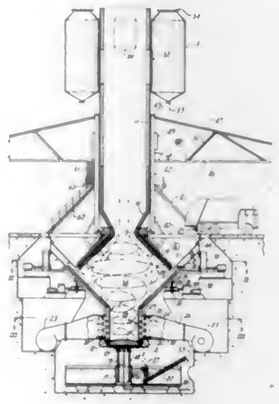
A fulcrum projection is cast onto the tension member of a railway truck side frame within a side window of the frame. The projection is a pivotal point for a track bar used in prying stuck brake rigging away from the periphery of the wheels.

3,404,642
PALLET
Samuel L. Belcher and Charles E. Ryman, Jr., Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio
Filed July 27, 1967, Ser. No. 656,459
7 Claims. (Cl. 108—51)



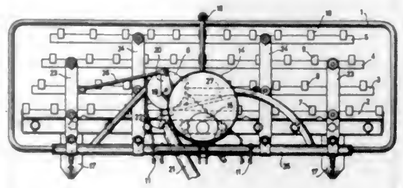
A pallet is formed from a pair of thermoplastic sheets joined at a central plane to form a unitary structure. Each sheet has a planar portion for receiving and supporting articles placed thereon and a plurality of pockets indented from the planar portion. Pockets of the respective sheets are joined at the central plane to form a column supporting the planar portions of the sheets in spaced relationship.

3,404,643
INCINERATORS
Borge Richard Ankerson, 2420 Private Drive, Lake Angelus, Pontiac, Mich. 48055
Filed Dec. 15, 1966, Ser. No. 602,019
5 Claims. (Cl. 110—10)



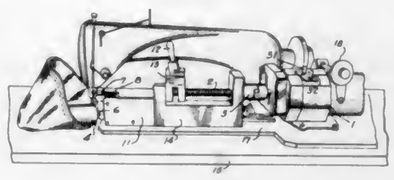
An incinerator for garbage is provided with a rotatable hearth with a central well portion, means for rotating said hearth, air inlet means into the hearth, means for delivering air under pressure to the air inlet means, roof means over the hearth, hopper means between said roof means and hearth receiving refuse and continuously discharging refuse to the hearth, means for selectively delivering a gaseous combustion agent to the hearth and means in the well for discharging liquid products of combustion.

3,404,644
SPREADING AND HARROWING IMPLEMENT INCLUDING MEANS FOR UNIFORMLY SPREADING GRANULAR OR PULVERULENT MATERIAL ON THE SOIL
Herbert Vissers, Spoorstraat 4, Nieuw-Vennep, Netherlands
Continuation-in-part of application Ser. No. 524,937, Feb. 3, 1966. This application Aug. 14, 1967, Ser. No. 660,324
Claims priority, application Netherlands, Feb. 5, 1965, 6501462
3 Claims. (Cl. 111—11)



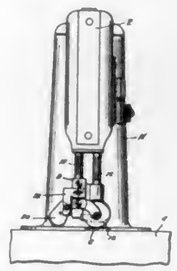
The combination of a material dispenser with a harrow comprising tine carrying beams reciprocating in a direction transverse to the travel direction of the harrow, and common driving means for reciprocating the dispenser as well as the beams.

3,404,645
BRIM STITCHER
Earl W. Gerwig, Westerville, Ohio, assignor to the United States of America as represented by the Director, Defense Supply Agency
Filed Oct. 22, 1965, Ser. No. 502,755
7 Claims. (Cl. 112—2)



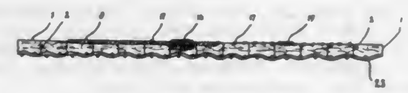
A unitary guide attachment for spiral stitching of a frustoconical hat brim on a conventional sewing machine includes a guide for shifting the edge of a hat brim with respect to the sewing needle as the brim is progressively urged in a direction transversely of the stitching direction under the influence of an inclined roller, both the guide and the roller being carried by an arm progressively driven by a worm drive coupled to an electric motor through an adjustable speed reducer.

3,404,646
METHOD AND APPARATUS FOR FEEDING TEXTILE MATERIALS IN A SEWING MACHINE
John A. Des Ormeaux, Bradford, and Joseph R. Paradis, Wayland, Mass., assignors to Frederic P. Worthen, Lowell, Mass.
Filed Aug. 24, 1965, Ser. No. 482,113
6 Claims. (Cl. 112—212)



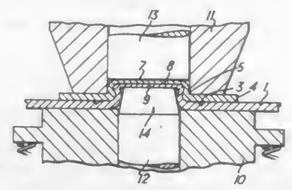
Successive workpieces passed under a yieldably supported presser foot in a sewing machine receive stitches from a vertically oscillating needle bar equipped with a needle holder and needles. The workpieces are periodically advanced to maintain them in spaced apart relationship during and after stitching by means of two feed mechanisms. The feed mechanisms include a conventional feed bar in the base of the sewing machine which engages and lifts the presser foot during a stitching operation. A second feed member of the invention is pivotally arranged above the path of travel of the workpiece on the presser foot extremeity for swinging movement about a horizontal axis when the feed bar moves up and down. When stitching takes place and the resiliently supported presser foot is raised by the feed bar mechanism, the pivoting feed member is gravity operated and swings back from a forwardly angled position into a more nearly vertical position and slidably engages a workpiece passing away from the presser foot means. Thereafter with the presser foot moving downwardly in response to change in position of the conventional feed bar, the pivoting feed member is displaced forwardly into its original angled position and in so doing advances the stitched workpiece through a short additional travel space to always maintain this workpiece in spaced relation to the next advancing workpiece.

3,404,647
DECORATIVE FABRIC
František Pohl, Václav Skála, and Jiří Haluza, Brno, Czechoslovakia, assignors to Vyzkumny Ustav Pletarsky, Brno, Czechoslovakia
Filed Dec. 7, 1965, Ser. No. 512,178
Claims priority, application Czechoslovakia, Dec. 8, 1964, 6,870/64
8 Claims. (Cl. 112—405)



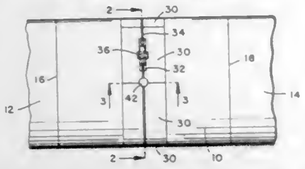
A decorative textile fabric which comprises a sheet of fibrous fleece and a fibrous, flat, pattern-forming material contrasting with the appearance of the sheet of fibrous fleece superimposed on one face of the sheet of fibrous fleece and partially covering the latter. Rows of thread stitches are substantially uniformly distributed over the entire surface of, and passing through, the sheet of fibrous fleece and the superimposed fibrous, flat, pattern-forming material and so located that the rows of thread stitches will simultaneously attach the fibrous, flat, pattern-forming material to the sheet of fibrous fleece and improve the coherence of the sheet of fibrous fleece.

3,404,648
METHOD OF SECURING DEFORMABLE SHEET METAL ELEMENTS
Thomas Albert Rosbottom, Hayes, England, assignor to The Metal Box Company Limited, London, England, a British company
Original application May 10, 1965, Ser. No. 454,293. Divided and this application July 25, 1967, Ser. No. 669,328
Claims priority, application Great Britain, May 20, 1964, 20,876/64
2 Claims. (Cl. 113—121)



A method of securing ductile materials to one another wherein one of the sheets is superimposed on the other and the two sheets are clamped together, and a portion thereof is deformed substantially into a frustrum of a cone while the sloping sides of the frustrum across a space between rigid walls are impacted at the closed end of the frustrum to extrude metal therefrom into the sloping sides to thereby deform and interlock the sides. One of the sheets mays comprise a pull tab.

3,404,649
BALLAST CONFIGURATION AND RELEASE CONCEPT
Stephan W. Valihora, West Covina, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 16, 1967, Ser. No. 617,769
1 Claim. (Cl. 114—20)



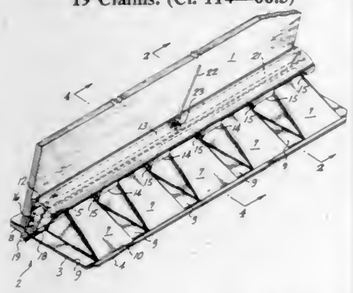
Torpedo exercise hull section is constructed with an outwardly open annual recess which is filled with a plurality of ballast segments which may be released by severing an encircling cable.

3,404,650
SYSTEM AND APPARATUS FOR TRANSLATING AND DISCHARGING A LOAD
Robert H. Miller and Arthur J. Zuehlke, Manitowoc, Wis., assignors to Manitowoc Shipbuilding Inc., Manitowoc, Wis., a corporation of Wisconsin
Filed Apr. 14, 1965, Ser. No. 447,992
29 Claims. (Cl. 114—29)



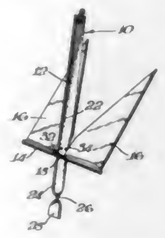
This invention relates to a vessel for moving and discharging a load comprised of a plurality of buoyant load-carrying portions pivoted together in such a manner that, when empty, the load-carrying portions inherently assume a closed bottomed receptacle. When the vessel is loaded, the load-carrying portions tend to separate to discharge the material between the load-carrying portions. Means are provided for holding the load-carrying portions in the closed position to allow the vessel to move from one location to another without discharging the material. Means are also provided for ensuring a tight fit between the load-carrying portions in order to prevent leakage of the carried material therebetween.

3,404,651
BOAT-TRIMMING VANE MECHANISM
Warren P. Jensen, Seattle, and George E. Besancon, Edmonds, Wash., assignors, by mesne assignments, to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware
Filed May 5, 1967, Ser. No. 636,455
19 Claims. (Cl. 114—66.5)



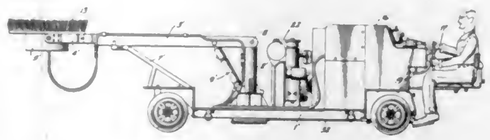
A vane structure, formed of an upright front wall and a lower wall braced by foam plastic-filled gussets integral with and extending between such walls, is attached by a hinge at the junction of the front wall and bottom wall to the lower portion of a mounting plate attachable to a boat transom. A flange projecting rearwardly from the upper portion of the mounting plate is engageable with the upper portion of the vane's front wall to limit downward swinging of the vane about the hinge. A hose section engaged between the mounting plate and the vane's front wall can be expanded by fluid under pressure to press against the vane's front wall for swinging the vane about its hinge. Flow of fluid to the hose section is controlled by manual push-button valves grouped in a valve block.

3,404,652
FOUL-PROOF ANCHOR
Thomas A. Gardy, 95 Ritter Lane, Newark, Del. 19711
Filed Apr. 21, 1967, Ser. No. 632,620
9 Claims. (Cl. 114—208)



The foul-proof anchor includes a pivot rod secured between the ends of an elongated shank with a pair of flukes mounted on the pivot rod on opposite sides of the shank. One portion of the shank, from the pivot rod to its end, is considered a force arm and the remaining portion, a lever arm. Limit pins, which are constructed as shear pins, are secured to the shank for controlling the angular movement of the flukes. The lever arm is so proportioned with respect to the length of the flukes as to act as a brake for preventing the flukes from reacting against the shear pins until a substantially vertical force is applied to the force arm.

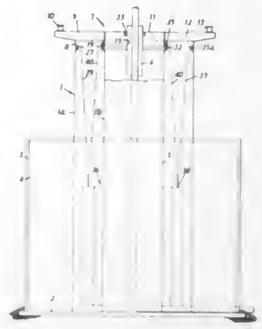
3,404,653
TROLLEY FOR BRUSHING AND RUBBING-DOWN SHIPS' HULLS IN DRY DOCK
Charles Sierra, 24 Square Belsince, and Pierre Pince, 60 Blvd. Testaniere, both of Marseille, France
Filed May 9, 1966, Ser. No. 586,311
Claims priority, application France, May 10, 1965, 16,424
9 Claims. (Cl. 114—222)



Trolley has wheeled chassis carrying pivot rotatable about vertical axis. Arm articulated to pivot carries rotatable cleaning tool, e.g., a brush, and jack between arm and pivot adjusts arm about horizontal axis. Hand wheel rotates pivot about vertical axis, via transmission means, to sweep cleaning tool through an arc. Another hand wheel connected by further transmission means to wheels of trolley.

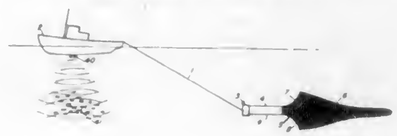
A ring is fixed to and surrounds the cleaning tool, the ring being carried by a plate having orifices.

3,404,654
STRUCTURE CAPABLE OF BEING USED AS A MONO-MOORING
Walter Kohring, Garwood Cottage, Church Road, Rawreth, near Wickford, England
Filed Oct. 31, 1967, Ser. No. 679,421
26 Claims. (Cl. 114—230)



The invention provides a mooring structure capable of being used as a mono-mooring and having two relatively rotatable parts which in operation are engaged by an object moored thereto. Weights are attached to the rotatable parts so that relative rotation of the parts lifts the weights to provide a restoring force. The object may be a ship, nudging pontoon or fender for example, movement of which tends to cause relative rotation of the parts so that the object is subjected to the restoring force.

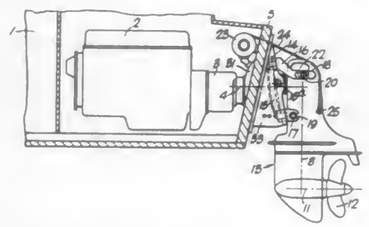
3,404,655
DEPTH CONTROLLER
Timothy Fohl, 36 Esterbrook Road, Acton, Mass. 01720
Filed June 8, 1967, Ser. No. 645,574
10 Claims. (Cl. 114—235)



A device for controlling and maintaining the depth of submerged, towed objects which consists of a rotatable cylinder maintained in a horizontal position and powered by an internal, controllable-speed motor.

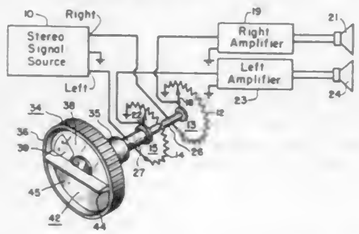
3,404,656
INBOARD-OUTBOARD MARINE DRIVES
Allan Hawker Chamberlain, 64 Irving Road, Toorak, Victoria, Australia
Filed Aug. 22, 1966, Ser. No. 574,084
Claims priority, application Australia, Aug. 23, 1965, 63,068/65
6 Claims. (Cl. 115—41)

The present invention relates to an inboard-outboard drive unit comprising a mounting member for attachment to the stern of a water-borne craft, in which a gimbal member is supported by the mounting member for angular movement about a horizontal transverse axis, in which the drive unit is provided with a drive housing having an upper coupling connecting the drive housing to the gimbal member for angular movement about a substantially vertical axis and about a horizontal axis disposed above the horizontal axis of said gimbal member and a lower coupling is provided connecting the drive housing to the gimbal member for angular movement about a vertical axis of the upper coupling and in which said lower



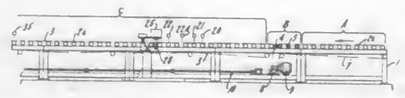
coupling is releasable to permit inversion of the drive housing about the horizontal housing of the upper coupling.

3,404,657
CONCENTRIC KNOB DISPLAY ARRANGEMENT
Edward C. Zmuda, Elmwood Park, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed July 29, 1965, Ser. No. 475,792
8 Claims. (Cl. 116—124.4)



An indication of the relative angular positions of a pair of concentric and independently rotatable inner and outer control shafts is obtained by affixing, to one end of the outer shaft, an outer knob a portion of which is disc shaped and has an arcuate display area of limited angular extent. Overlying the disc portion and affixed to one end of the inner shaft is an inner knob which includes an opaque portion and an arcuate light-transmitting portion of angular extent equal to that of the arcuate display area. The opaque portion, at different relative angular positions of the two knobs, covers different amounts of the display area. The uncovered part of the area is visible through the light-transmitting portion and its size indicates the relative difference between the individual positions of the two control shafts.

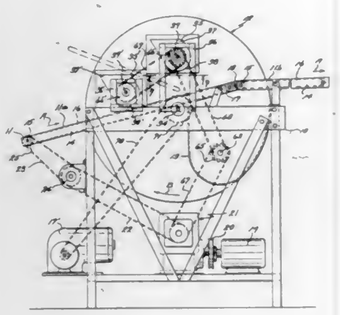
3,404,658
CURTAIN COATING APPARATUS
Jack W. French, Lake Forest, Ill., Howard H. Heffley, Toledo, Ohio, and Richard M. Lewanski, Chicago, and Richard E. Modry, Oak Park, Ill., assignors to Sommer & Maca Glass Machinery Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 18, 1966, Ser. No. 587,586
1 Claim. (Cl. 118—6)



An apparatus for coating glass panels including a conveyor having portions or groups of rollers movable at

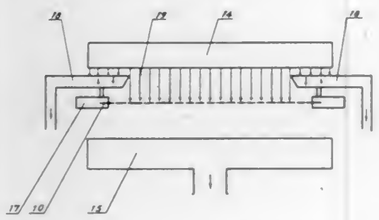
variable speeds to enable glass panels to be received at a slow speed, conveyed through a curtain coater at a high speed, and discharged at a low conveying speed.

3,404,659
MACHINE FOR COATING ARTICLES WITH FINELY DIVIDED PARTICLES, WITH CONVEYORS
Donald E. Croston, Sandusky, Ohio, assignor to Sam Stein Associates, Inc., Sandusky, Ohio, a corporation of Ohio
Continuation of application Ser. No. 461,619, June 7, 1965. This application July 31, 1967, Ser. No. 657,428
4 Claims. (Cl. 118—24)



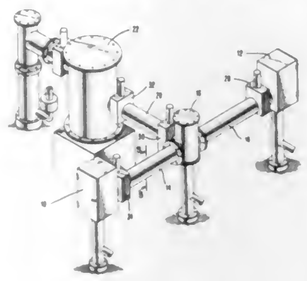
Finely powdered particulate material for coating food articles is carried from a low lying supply hopper upwardly on a rotating paddle conveyor and deposited in two particle distributors. These are open troughs each with a slotted discharge opening in the bottom and with a helical wire mixer which wipes over the discharge opening. One distributor drops particulate material on a conveyor belt, after which the food article is placed on top of that material on the belt, after which the second distributor drops particulate material on the upper side of the food article. Excess particulate material is returned to the supply hopper.

3,404,660
APPARATUS FOR COATING MOVABLE LENGTHS OF MATERIALS
Klaus Sievers, Hamburg-Billstedt, Germany, assignor to Artos, Dr.-Ing. Meier-Windhorst K.G., Hamburg, Germany, a corporation of Germany
Filed Sept. 7, 1965, Ser. No. 485,250
1 Claim. (Cl. 118—34)



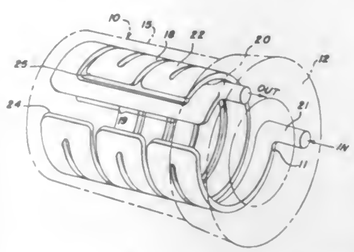
Apparatus for coating moving lengths of material carried by a stretch frame through a coating zone and a drying zone. Tubs are placed on each side of the coating head between the material and a coating head which feeds a curtain of coating material transversely onto the material. The tubs are connected to the stretch frame such that when the frames are adjusted to accommodate different widths of material, the width of the coating curtain reaching the material will correspondingly be changed.

3,404,661
EVAPORATION SYSTEM
Joseph S. Mathias, Riverton, N.J., and Alfred A. Adomines, Wayne, Richard H. Storck, Telford, and John McNamara, Roslyn, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 26, 1965, Ser. No. 482,785
2 Claims. (Cl. 118—49)



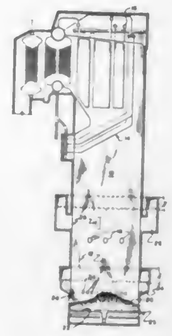
This invention relates to an off-line system, for the deposition of materials on a substrate by means of evaporation, sputtering, etc. Substrates which are introduced into an input chamber are directed along a line to an output chamber. The various evaporation chambers are oriented orthogonally off the line. One or more of the chambers can be out of operation without disturbing the operation of the remaining evaporation units, which can assume the functions of the inoperative chamber.

3,404,662
METHOD OF PASSING COOLING MEDIUM THROUGH A TUYERE
William E. Slagley, Crown Point, Ind., assignor to Inland Steel Company, Chicago, Ill., a corporation of Delaware
Original application June 25, 1965, Ser. No. 467,031, now Patent No. 3,351,335, dated Nov. 7, 1967. Divided and this application Aug. 30, 1967, Ser. No. 664,400
2 Claims. (Cl. 122—6.6)



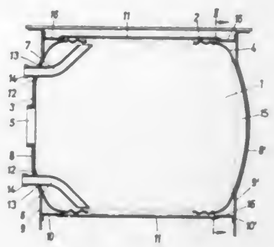
A tuyere having a cooling medium passage therein which includes a first convolute-shaped section, an inlet section connected to the convolute-shaped section, a third section which has one end terminating with the outlet end of the convolute section while the remaining end of the third section terminates as an end of an outlet section. Cooling medium is circulated through the cooling passage at a uniform velocity in the range of about 5 feet to about 11 feet whereby the cooling medium moves progressively from head end to the nose end and subsequently back to the head end without overlapping itself.

3,404,663
PREVENTION OF FURNACE CORROSION
Everett C. Lewis, Avon, Robert G. Tallent, East Granby, and Arthur L. Plumley, Wapping, Conn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Dec. 29, 1965, Ser. No. 517,260
6 Claims. (Cl. 122—7)



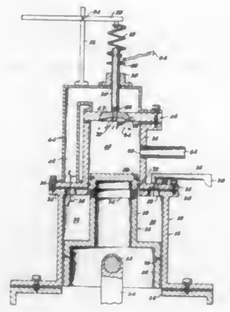
A chemical recovery furnace for burning and smelting black liquor from a paper pulping process having the water wall tubes coated with a corrosion resistant metal in the areas of relatively light corrosion between the secondary air ports and a level just above the primary air ports and a refractory material in the areas of heavy corrosion below the metal coating down to the smelt bed.

3,404,664
HOT WATER BOILER
Hans Viessmann, Im Hain, Battenberg (Eder), Germany
Continuation-in-part of application Ser. No. 580,639, Sept. 20, 1966. This application Oct. 17, 1967, Ser. No. 683,065
Claims priority, application Germany, Sept. 30, 1965, V 29,430
17 Claims. (Cl. 122—32)



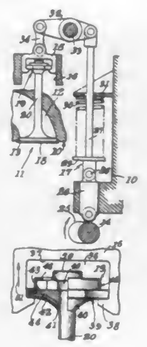
The water tank of a boiler is supported in the boiler shell by a supporting structure which includes longitudinal supporting bars disposed about and in contact with the periphery of the axially extending water tank wall portion, with at least one of the supporting bar ends being rigidly secured to an annular supporting element which, in turn, is rigidly secured to an adjacent end wall of the boiler shell while the other bar ends are rigidly secured to the other boiler shell end wall if only one annular supporting element is provided. The supporting structure also includes reinforcing members conformingly shaped and in contact with the water tank end walls.

3,404,665
POWER UNIT
Eugene R. Barnett, 6268 Windsor Drive 46219, and Willard L. Barnett, 3367 W. Michigan St. 46222, both of Indianapolis, Ind.
Filed July 19, 1966, Ser. No. 566,357
9 Claims. (Cl. 123—65)



A stepped-piston engine. Its inwardly-opening valve for the combustion chamber is urged open by supply pressure of fuel-air and urged closed by combustion chamber pressure and by biasing means, the latter being adjustable to effect valve-closure as desired, thus regulating preignition combustion chamber pressure. Check and relief valves regulate fuel-air pressure supplied to the valve, in spite of supply pressure variations such as caused by the nature of the fuel-air supply achieved by the supply cylinder of the engine. The valve carries its own ignition means, in a concavity of the valve surface.

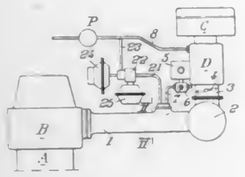
3,404,666
MEANS FOR CONTROLLING THE MOVEMENT OF POPPET VALVES
Niel C. Thuesen, 6021 Compton Ave., Los Angeles, Calif. 90001
Filed Dec. 18, 1967, Ser. No. 691,366
7 Claims. (Cl. 123—90)



Compensator means interposed between a poppet valve and the cam-controlled mechanism that reciprocates the same, said means including flexible means which, due to acceleration of the action of said mechanism, flex so the poppet moves with increased velocity over that of the tappet that carries it in the direction away from its seat toward open position, said poppet thereby moving greater

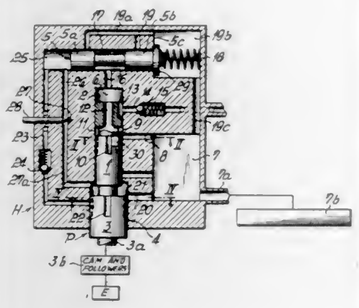
distance than the tappet and being held open for a longer period of time due to the additional movement of the poppet relative to the tappet.

3,404,667
FUEL INJECTION DEVICES FOR INTERNAL COMBUSTION ENGINES
Andre Louis Mennesson, Neuilly-sur-Seine, France, assignor to Societe Industrielle de Brevets et d'Etudes S.I.B.E., Neuilly-sur-Seine, France, a society of France
Filed June 13, 1966, Ser. No. 557,288
Claims priority, application France, June 15, 1965, 20,762
8 Claims. (Cl. 123—119)



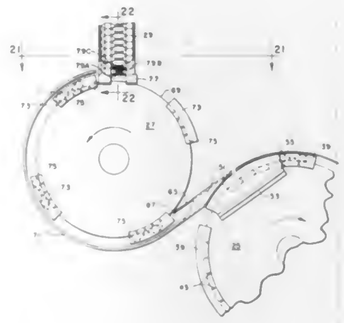
The fuel feed system comprises main fuel injecting means, including a main injection orifice, and auxiliary fuel injecting means, including an auxiliary orifice, for injecting supplementary fuel during pick up of the engine. Both orifices open into a conduit provided in a block secured to, and projecting inside, the induction pipe or the engine. The auxiliary orifice is located downstream of the main orifice, and is arranged so that the fuel stream issuing from the main orifice contributes in atomizing the fuel delivered through said auxiliary orifice.

3,404,668
FUEL INJECTION PUMP
Franz Eheim, and Gerald Hoefer, Stuttgart, Germany, assignors to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed Mar. 28, 1966, Ser. No. 537,759
Claims priority, application France, Apr. 1, 1965, 11,638
7 Claims. (Cl. 123—139)



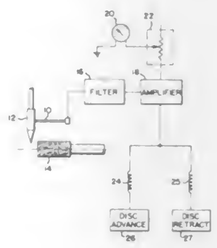
In a fuel injection pump for supplying fuel to an internal combustion engine having a first number of cylinders, a piston turnably and reciprocatably arranged in a working chamber of the pump, drive means for rotating the piston about its axis and for reciprocating the same during each revolution along second number of working and suction strokes greater than the above mentioned first number and including a first number of effective working strokes during which fuel is fed from the working chamber to the cylinders of the engine and a number of ineffecting working strokes during which fuel is fed from the working chamber to a source of fuel connected to the working chamber.

3,404,669
MISSILES AND DISCHARGE APPARATUS THEREFOR
Fay E. Null, Shalimar, Fla., assignor to the United States of America as represented by the Secretary of the Army
Filed Jan. 4, 1966, Ser. No. 533,101
15 Claims. (Cl. 124—6)



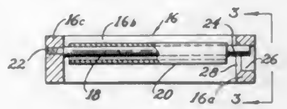
A centrifugal launcher is provided for discharging missiles at supersonic speed velocities. The apparatus includes a delivery disc which is rotating at a slower speed than a discharge disc thereby to minimize damage to the missiles incident to their pickup for discharge.

3,404,670
METHOD OF SHARPENING THE GRINDING DISC IN A GRINDING MACHINE
Gerszon Gluchowicz, 21 Radmansgatan, Stockholm, Sweden
Filed June 14, 1965, Ser. No. 463,939
Claims priority, application Sweden, July 8, 1964, 8,347/64
3 Claims. (Cl. 125—11)



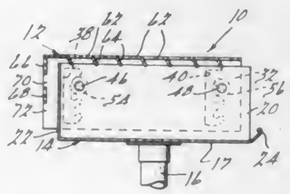
During the dressing of a rotatable grinding disc, a feeler, which is connected to the diamond tool holder, senses the vibrations of the holder, and transforms them into electrical signals, the potential of which is proportional to the depth to which the tool penetrates the surface of the disc. These signals are used to effect a corresponding adjustment in the cutting depth of the tool, when necessary

3,404,671
BARBECUE AND DISPOSABLE MEMBERS FOR THE GRATES THEREOF
Seymour Wasserman, 617 Prescott Place, North Woodmere, N.Y. 11598
Filed July 7, 1966, Ser. No. 563,479
8 Claims. (Cl. 126—25)



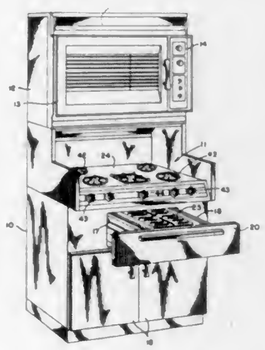
A barbecue grill having disposable slipon grate covers.

3,404,672
COOKING STOVE
Charles V. Arntz, Clarkston, John T. Marshall, Orchard Lake, and Robert A. Wagner, Drayton Plaines, Mich., assignors to Hancock Iron Works, Inc., Pontiac, Mich., a corporation of Michigan
Filed May 29, 1967, Ser. No. 641,859
4 Claims. (Cl. 126—25)



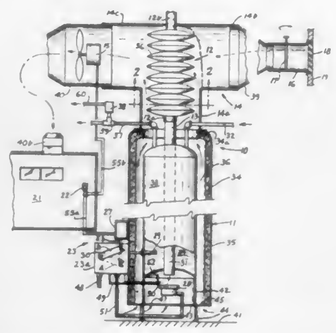
A cooking stove having a grill top with depending sides adapted to adjustably overlap the stationary sides of the stove base in spaced relation to reduce heat transfer to the external sides. The grill top having parallel bars with turned down flanges to deflect rising gases toward the rear of the stove.

3,404,673
STOVE WITH WAIST-HIGH BROILER
William R. Tappan, Perrysville, and Daniel G. Meckley III, Mansfield, Ohio, assignors to The Tappan Company, Mansfield, Ohio, a corporation of Ohio
Filed May 4, 1967, Ser. No. 636,038
1 Claim. (Cl. 126—39)



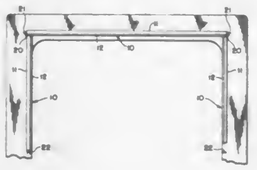
A gas cooking stove having a base cabinet section in the upper portion of which, at approximate waist height, there is a broiler compartment, with a cooking top assembly supported on the base section and including a plurality of burners one of which functions both as a surface burner and as a broiler burner for such compartment. The other burners of the cook top are conventional surface burners, and the stove is completed by an upper oven section spaced from the cook top and approximately at eye level.

3,404,674
HEAT EXCHANGE APPARATUS FOR THE EMPLOYMENT OF FLUE GAS HEAT
Kris G. Albert, 3411 Timmons Lane, Houston, Tex. 77027
Filed July 25, 1967, Ser. No. 655,802
10 Claims. (Cl. 126—101)



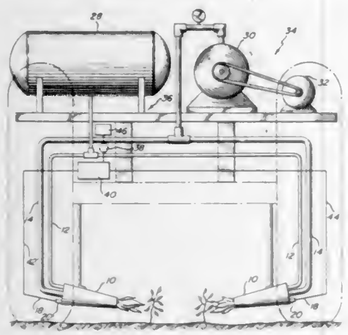
The invention comprises heat exchanger apparatus and controls for using flue gas heat to heat selected air and directing it to a space to be heated within a predetermined temperature range. The controls include a solenoid actuated by a space temperature controlling thermostat, at its lower temperature limit, so that the solenoid operates an aquastat including a thermostat in the medium that a burner normally heats, to raise the operative temperature range at which the flue gas emanating burner ordinarily turns on and off. When the air directed over the heat exchanger raises the space temperature to its predetermined upper limit, the aquastat acts to return the burner controls to turn the burner on and off, as under ordinary conditions.

3,404,675
LIFT-OFF OVEN DOOR SEAL
Richard E. Payne, Mansfield, Ohio, assignor to The Tappan Company, Mansfield, Ohio, a corporation of Ohio
Filed Sept. 21, 1967, Ser. No. 669,451
2 Claims. (Cl. 126—190)



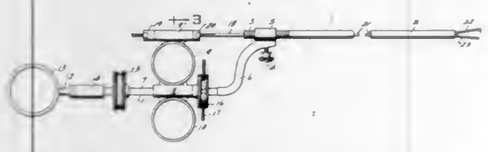
Oven construction in which the door is sealed to the oven body by an elastic sleeve having relatively short retainers inserted in and locked against withdrawal from the ends of the sleeve. The seal is mounted on one of the confronting surfaces by engagement of the end retainers in openings provided in the surface at a separation which is slightly greater than the normal length of the seal, so that the latter is stretched in the installation held against the surface under tension.

3,404,676
APPARATUS FOR FLAME CULTIVATION
Donald C. Walker, Munster, and Russell A. Hunt, Jr., Griffith, Ind., assignors to Standard Oil Company (Indiana), Chicago, Ill., a corporation of Indiana
Filed July 1, 1966, Ser. No. 562,313
4 Claims. (Cl. 126—271.2)



A flame cultivation apparatus including a flame cultivation assembly having a rack arrangement mounted on a tractor or other vehicle for movement over a field, the assembly having a compressor with drive means, an oil tank, electrical apparatus, all connected to a combustion zone by wires and conduits, the combustion zone having a nozzle for aspirating oil and an electrode for igniting the oil.

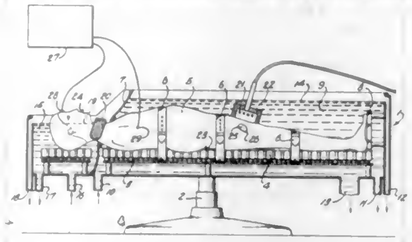
3,404,677
BIOPSY AND TISSUE REMOVING DEVICE
Henry A. Springer, 869 Ludlow Ave., Cincinnati, Ohio 45220
Filed July 8, 1965, Ser. No. 470,521
2 Claims. (Cl. 128—2)



The present biopsy and tissue removing device is for removing tissue from a patient and employs a rod having a pair of normally divergent jaws of a resilient material which rod is slidable in a tube and includes finger gripping means for moving the jaws into the tube, which tube moves the jaws together for gripping, cutting and storing the tissue until the jaws are moved from the tube permitting the user to remove the severed tissue therefrom.

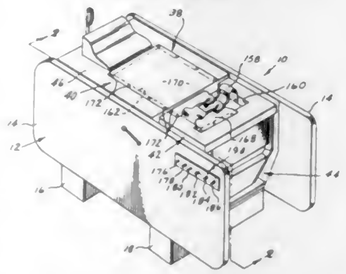
3,404,678
DEVICE FOR PERFORMING AN EXTREME HYPERTHERMIA TREATMENT
Manfred von Ardenne, Zeppelinstrasse 7, Dresden-Weisser Hirsch, Germany
Filed Aug. 13, 1965, Ser. No. 479,468
14 Claims. (Cl. 128—2)

A hyperthermia device for increasing total body temperature to at least 44° C. and by locally heating a region of the body to about from 45° C. to 49° C. The device comprises a two-chamber tub, a partition between the two chambers abutting circumferentially the patient's throat region, hyperthermal water supply means disposed in the body chamber, cooling water supply means at the head chamber, displaceable short wave radiator for local heating, miniature temperature gauges for measuring temperature in the tissue, electrocardiotachograph, and automatic



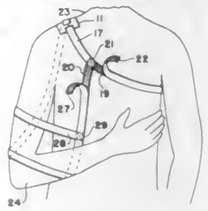
control means for instantly releasing the patient from the hyperthermal water.

3,404,679
MEDICAL THERAPY TABLE
Michael Bevilacqua, 1022 Coronet St., Glendora, Calif. 91740
Filed July 6, 1965, Ser. No. 469,559
14 Claims. (Cl. 128—71)



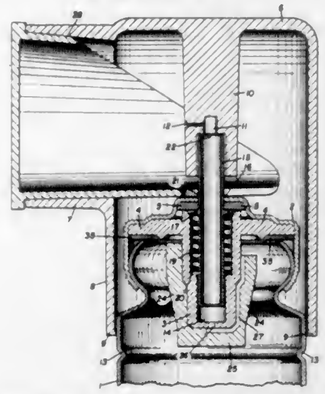
A therapy table for use in traction and for medical treatment and examination, wherein articulated sections are relatively adjustable between upright, sitting and horizontal positions of a patient, and wherein means are provided for driving a pelvic support section and a back support section in relative movement to apply traction.

3,404,680
SHOULDER SLING
Alexander P. Guttman, 315 Laidlaw Blvd., and Max Avren, 150 Westgate, both of Winnipeg, Manitoba, Canada
Filed Oct. 22, 1965, Ser. No. 501,795
4 Claims. (Cl. 128—94)



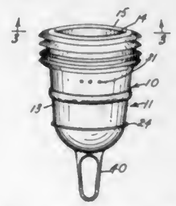
1. A shoulder sling for surgical use comprising in combination an arm supporting sling, a collar bone engaging pad on said arm supporting sling intermediate the ends thereof, said ends being adjustably securable together, and an upper body engaging loop secured by one end to said arm supporting sling intermediate the ends of said arm supporting sling, the other end of said upper body engaging loop being detachably securable to one end of said arm supporting sling and a diagonally situated bracing web extending between adjacent one end of said upper body engaging loop and said arm supporting sling.

3,404,681
AEROSOL DISPENSER
Frank Fowler, Wilmslow, England, assignor to Benger Laboratories Limited, Holmes Chapel, Cheshire, England
Filed Feb. 21, 1963, Ser. No. 260,111
Claims priority, application Great Britain, Mar. 2, 1962, 8,178/62; May 12, 1962, 18,327/62; July 13, 1962, 26,935/62
5 Claims. (Cl. 128—173)



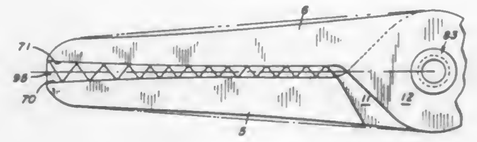
1. A pressurized aerosol dispenser for administering a medicament by inhalation, which comprises an aerosol container having an aerosol release valve having valve operating means thereon, and a delivery tube having two orifices therein, said aerosol container having a recess in the side thereof and said delivery tube having an inwardly directed flange defining one orifice of the delivery tube which flange is slidably engaged with the outside of the aerosol container, there being a space within said delivery tube between said delivery tube and the outside of said container and extending from said one orifice to the other orifice, the engagement between the flange on the delivery tube defining the one orifice and the outside of the aerosol container being substantially airtight in all relative positions of the tube and the container except that position where the flange on the tube is in alignment with the recess in the container, at which position a gap at the orifice is created which connects with the space which is provided between the inner wall of the tube and the outside of the container, said delivery tube having engaging means engaging said valve operating means and operating said valve when said delivery tube is at the said position creating said gap.

3,404,682
VAGINAL CUP AND MEANS FOR INSERTING SAME
Barbara M. Waldron, Mountain Lakes, N.J., assignor to Tassette, Inc., a corporation of Delaware
Filed Nov. 17, 1965, Ser. No. 508,297
4 Claims. (Cl. 128—285)



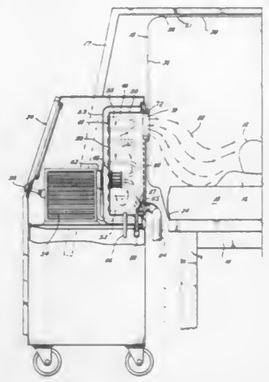
A vaginal cup for the collection of menstrual fluids, including improved double ring sealing means at an inner end thereof.

3,404,683
DISPOSABLE PLASTIC HEMOSTAT
Arthur Eizenberg, Tarzana, Calif., assignor, by mesne assignments, to American Hospital Supply Corporation, a corporation of Illinois
Filed Feb. 23, 1966, Ser. No. 529,443
11 Claims. (Cl. 128—322)



1. A disposable hemostat comprising: a pair of pivotally connected members of thermoplastic material, each member having a beam connected to a fingerloop at one end and to a jaw at an opposite end, each jaw having a face with a series of teeth thereon adapted to engage the teeth of the opposite jaw, at least one of said jaws having a forward section adjacent a forward tip end thereof with teeth of a greater height than teeth rearward of said forward section, which rearward teeth engage each other subsequent to engagement of teeth of the forward section upon flexure of said jaws caused by urging the fingerloops toward each other.

3,404,684
OXYGEN THERAPY ENCLOSURE WITH COOLING CHAMBER
Earl J. Brewer, Jr., and Don B. Singer, both of 6621 Fannin, Houston, Tex. 77025, and Albert E. McKee, 8335 S. Halsted St., Chicago, Ill. 60620
Filed Apr. 23, 1964, Ser. No. 362,099
3 Claims. (Cl. 128—191)



1. The improvement in an oxygen therapy enclosure which includes a canopy adapted to be disposed about the head of a patient comprising,
- a cooling chamber having an opening which is connected to said canopy, said opening being adapted to be positioned above and adjacent the patient,
- a refrigeration system including evaporator plates forming a portion of said chamber,
- a blower fan in said chamber in which the blower outlet is directed against the evaporator plates,

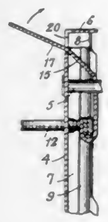
an oxygen inlet leading into said chamber and into the blower inlet whereby the oxygen is directed against the evaporator plates and cooled,

said opening positioned out of the directed path of the blower fan output whereby the turbulent circulating oxygen is contained in said cooling chamber and the flow from the chamber is limited to cooled oxygen caused by and equal to the flow of oxygen from the oxygen inlet.

3,404,685
RING BINDER

Murray Vernon, New York, N.Y., assignor to S. E. & M. Vernon, Inc., New York, N.Y., a corporation of New York

Continuation of application Ser. No. 510,616, Nov. 30, 1965. This application Jan. 30, 1967, Ser. No. 612,736
1 Claim. (Cl. 129—24)

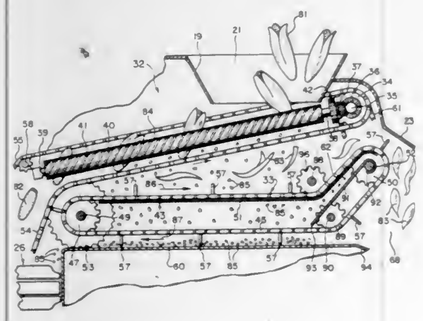


A looseleaf binder of the ring type wherein a plurality of rings, split at their midpoints, move in a snap action between closed and open position. The ring segments on one side are attached to an elongated rod, and the ring segments on the other side are attached to a second rod spaced from and parallel to the first rod, the inner ends of the segments being engaged for relative hinging movement. The rods are housed by a casing of resilient or spring-like material which provides a spring bias to hold the segments in their respective open and closed positions. A simplified and improved lever, in engagement with the inner ends of at least one pair of segments, moves the set of rings between said open and closed positions.

3,404,686
CORN SAVER MECHANISM FOR CORNHUSKERS

Kenneth D. Johnson, East Moline, and Elvin L. Carlson, Moline, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Nov. 24, 1965, Ser. No. 509,508
3 Claims. (Cl. 130—5)



An apparatus for separating kernels of corn from an aggregate containing kernels and husk, collecting the kernels and disposing of the husk. The apparatus includes an upwardly inclined conveyor portion having an upper and a lower course. The upper inclined course promotes tumbling and thus better separation and the lower inclined course provides an opportunity for the husk to escape from the conveyor.

3,404,687
CIGARETTE PAPER

James C. Rickards, Brevard, and William F. Owens, Jr., Pisgah Forest, N.C., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

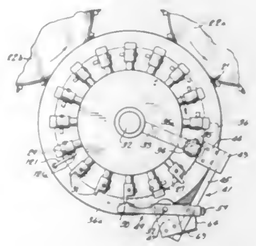
No Drawing. Filed Dec. 23, 1966, Ser. No. 604,178
1 Claim. (Cl. 131—15)

This invention provides improved cigarette paper of high porosity to serve as wrapper for a cigarette tobacco column, which effects a significantly greater reduction of the vapor phase constituents of cigarette smoke than of the particulate constituents. Very high porosity is imparted to the paper by the provision of perforations having length and width dimensions between about 0.001 to 0.015 inch, the size and number being such as to impart to the paper an absolute Greiner porosity index value in the unprecedented low range of about 1 to 3. The perforations are symmetrically arranged with respect to the length and width of the paper, and preferably are arranged in the form of two or three longitudinal rows. The use of the improved cigarette paper of this invention results in cigarettes which yield smoke of reduced content both of vapor phase and particulate constituents, with selective reduction of the vapor phase constituents.

3,404,688
APPARATUS FOR DISASSEMBLING FILTER AND CIGARETTE ASSEMBLIES

Jesse R. Pinkham, Colin S. McArthur, and Herbert L. Speas, Jr., Winston-Salem, N.C., assignors to R. J. Reynolds Tobacco Company, Winston-Salem, N.C., a corporation of New Jersey

Filed June 4, 1965, Ser. No. 461,291
12 Claims. (Cl. 131—20)

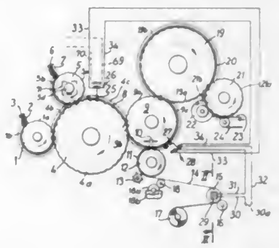


Apparatus for cutting apart defective filter cigarettes so that filter portion and tobacco portion may be routed through respective salvage processes. Cigarettes are tested for integrity of paper cover as they move along periphery of rotating drum. Cigarettes failing test are ejected from drum and are directed to cutting apparatus. Ejection may take place before or after cutting. Cutting blades may be operated by any one of: (1) cams on drum set by test mechanism; (2) solenoid controlled by switch actuated by test mechanism; (3) separate drum which removes failed cigarettes from test drum and drives them through cutters; or (4) spring compressed by cam on test drum in advance of cutting station, latched, and tripped by solenoid controlled by switch actuated by test mechanism. Cutters may be fixed blades or rotating discs.

3,404,689
APPARATUS FOR APPLYING UNITING BAND MATERIAL TO GROUPS OF ROD-SHAPED ARTICLES

Bernhard Schubert, Hamburg-Lohbrugge, Germany, assignor to Hauni-Werke Korber & Co., K.G., Hamburg-Bergedorf, Germany

Filed Dec. 15, 1965, Ser. No. 514,019
Claims priority, application Great Britain, Dec. 17, 1964, 51,466/64
14 Claims. (Cl. 131—21)



Apparatus for joining tobacco rods with filter rod sections comprises a conveyor which advances groups of tobacco rods and filter rod sections past a transfer station where the groups are provided with patches of adhesive-coated uniting band material fed by a rotary advancing device. The controls which regulate the feed of band material include a drive unit, a braking unit, a clutch which can connect the advancing device with the drive unit or with the braking unit, a detector which scans the conveyor for the presence or absence of groups, and an actuating device which connects the advancing device with the braking unit when the detector detects the absence of groups on the conveyor.

3,404,690
TOBACCO PRODUCT AND PROCESS FOR MAKING SAME

Raymond J. Moshy, Westport, Conn., and Felix J. Germino, Palos Park, Ill., assignors to American Machine & Foundry Company, a corporation of New Jersey

No Drawing. Application Aug. 20, 1965, Ser. No. 493,950, now Patent No. 3,364,935, which is a division of application Ser. No. 130,829, Aug. 11, 1961. Divided and this application Oct. 11, 1967, Ser. No. 674,582
6 Claims. (Cl. 131—140)

1. The process of manufacturing a smoking product comprising the steps of mixing a foaming agent and a foam stabilized, foaming said mixture, combining tobacco particles into said foam to form a slurry of tobacco and foam, at least one element of said combined slurry being adhesive agent, forming said slurry into a predetermined shape, and drying said shaped slurry to a preselected moisture content in which tobacco particles are spaced from each other by a gaseous media to form a stable foamed mass.

3,404,691
TOBACCO PRODUCT AND PROCESS FOR MAKING SAME

Raymond J. Moshy, Westport, Conn., and Felix J. Germino, Palos Park, Ill., assignors to American Machine & Foundry Company, a corporation of New Jersey

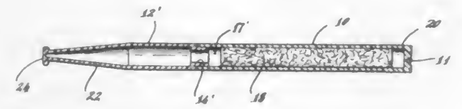
No Drawing. Application Aug. 20, 1965, Ser. No. 493,950, now Patent No. 3,364,935, which is a division of application Ser. No. 130,829, Aug. 11, 1961. Divided and this application Oct. 11, 1967, Ser. No. 674,463
6 Claims. (Cl. 131—140)

1. The process of manufacturing a smoking product comprising the steps of mixing a foaming agent, a foam stabilizer and tobacco particles, at least one element of said mixture being adhesive, creating a tobacco foam slurry from said mixture, forming said slurry into a predetermined shape and drying said shaped slurry to be a preselected moisture content in which said tobacco particles are spaced from each other by a gaseous media to form a stable foamed mass.

3,404,692
CIGARETTE SUBSTITUTE INHALER

Antal Lampert, 19 Webster St., Bridgeport, Conn. 06607

Filed Nov. 22, 1966, Ser. No. 596,127
2 Claims. (Cl. 131—170)

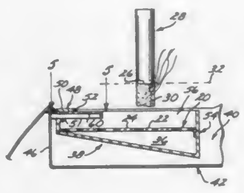


This disclosure relates to an improved cigarette substitute. The method for making the product includes cooking tobacco in water to leach out the aromatic oils and absorbing the obtained liquid into a wad of absorbent material. After the absorbent material has dried it is formed into plugs suitable for insertion into a sealed airtight casing resembling a cigarette in appearance.

3,404,693
CIGARETTE EXTINGUISHING ASH RECEPTACLE

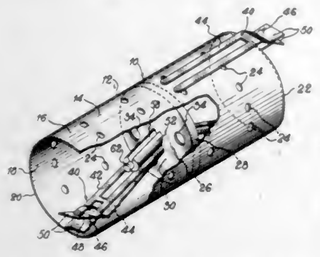
Burton B. Chapman, Los Angeles, Calif. (1612 W. Shorb St., Alhambra, Calif. 91803)

Filed Oct. 19, 1965, Ser. No. 497,684
4 Claims. (Cl. 131—235)



The specification discloses a cigarette extinguishing ash receptacle which, in one form, may be mounted on a conventional motor vehicle ash tray and which includes a cut-off panel having a plurality of through-apertures, each having an effective diameter no larger, and usually slightly smaller, than the diameter of the unburned body portion of a cigarette so as to be capable of receiving the ignited burning tip end thereof up to the location of a junction plane between the burned and unburned portions of a cigarette so that lateral reciprocation will shear off only the burned portion of the cigarette and drop same into an underlying ash receptacle and will leave virtually all unburned tobacco remaining on the fresh unburned tip end of the cigarette. In one preferred form, the cut-off panel is adapted for controllably removable engagement with respect to a conventional projecting snuffer tab of a conventional motor vehicle ash tray, thus providing a very effective means for mounting the entire device on a pre-existing motor vehicle ash tray.

3,404,694
HAIR-CURLING DEVICES
Thomas W. Hammel, % Mrs. Cottrell, 1277 S. Barclay Place, North Brunswick, N.J. 08902
Filed July 13, 1965, Ser. No. 471,658
7 Claims. (Cl. 132—40)



1. A hair curling device for forming and retaining a tress of hair, said device comprising:

a hollow tubular body including a wall having an exterior surface and an interior surface and extending axially between opposite first and second ends;

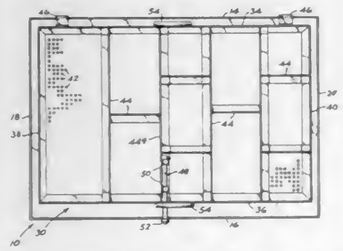
at least one hair retaining clip having a pair of clamping arms projecting generally axially inwardly in a direction from said first end toward said second end such that said wall may be received between said arms when the clip is engaged over the first end for clamping a tress of hair against said exterior surface, said clip being capable of reception within the interior of said body when not in such clamping engagement;

a bulkhead within the interior of said body extending transverse to the axial extent of said wall and providing a seating surface displaced axially from said first end a distance substantially equal to the axial extent of said clip;

abutment means upon one of the arms adjacent the inwardmost limit thereof and providing a base at said limit for engaging said seating surface when said clip is not in said clamping engagement; and

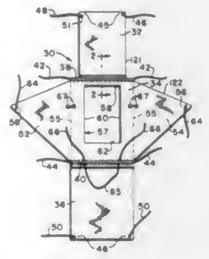
an elastic member cooperatively related with the bulkhead and the clip for biasing said abutment means into engagement with said seating surface such that the clip is retained within the interior of the body when not in said clamping engagement with said wall with both said arms extending generally axially therein and said clip being in position for ready grasping and movement axially against the biasing force of said elastic member into said clamping engagement.

3,404,695
APPARATUS FOR WASHING AUTOMOTIVE AND MACHINE PARTS AND ASSEMBLIES
Herbert W. Paul, Eden, Idaho 83325
Filed May 16, 1966, Ser. No. 550,351
1 Claim. (Cl. 134—135)



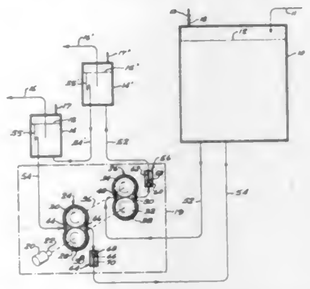
A compartmented, foraminous tray has a pair of fixed brackets extending laterally from one side and an elongated bolt on the opposite side adjustable between a retracted position allowing the tray to be immersed in an open-topped receptacle containing cleaning solvent and an extended position wherein the tray is supported by the brackets and bolt on the upper edge of the receptacle and above the solvent.

3,404,696
BEACH TENT
Jose Luiz de Souza Filho, % R. Alcantara Machada, 36–5/1204 (Cx. Postal 4165)—ZC 05, Rio de Janeiro, Brazil
Filed Jan. 25, 1967, Ser. No. 611,700
10 Claims. (Cl. 135—5)



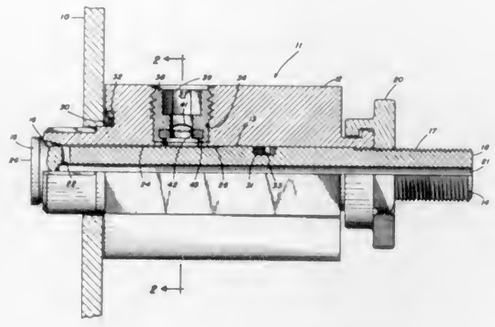
The disclosure describes a collapsible beach tent which serves as a sunshade for one or more persons on a sand beach. The tent includes a plurality of panels made of flexible opaque material. The tent can be set up in a variety of ways. It is stabilized by pegs anchored in the sand. One panel has a rectangular opening which can be closed by another panel. The tent is supported on a Y-shaped post having pivotable arms which can be turned down in collapsing the post.

3,404,697
CONSTANT LIQUID LEVEL CONTROL APPARATUS AND METHOD
Bruce R. Walsh, Pittsburgh, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Feb. 14, 1966, Ser. No. 527,362
21 Claims (Cl. 137—13)



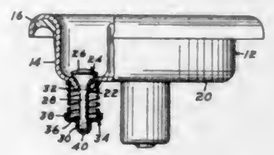
14. A method for maintaining a constant level in a vessel supplied with liquid from an overhead reservoir comprising injecting liquid from said overhead reservoir to said constant level vessel by positive displacement pumping through a normally closed liquid-tight valve which is resiliently urged open by the injection pumping liquid pressure, and concomitantly drawing off liquid tending to rise above the control level in said constant level vessel and injecting said liquid back to said overhead reservoir by positive displacement pumping through another normally closed liquid-tight valve which is resiliently urged open by the injection pumping fluid pressure.

3,404,698
FLUID CHARGING VALVE
Dorch Rouse, Alexandria, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed May 26, 1965, Ser. No. 459,137
1 Claim. (Cl. 137—68)



A fluid charging valve for a receiver having a blow-out disc which is exposed to the filling pressure and limits the filling pressure by rupture. Closing of the charging valve seals the blow-out disc from the internal pressure of the receiver so that a system of which the receiver is part may operate at a higher pressure than the filling pressure.

3,404,699
SAFETY VALVE WITH FUSIBLE PIN
Irving Jay Arons, West Peabody, Mass., assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Feb. 25, 1966, Ser. No. 529,832
2 Claims. (Cl. 137—73)



This is a safety valve assembly for a pressurized container which includes a pin having a head portion on one end and a knob portion at the other end. The pin is formed of a fusible material and is spring-loaded with a portion of the spring butted against a cup-shaped retainer portion which is crimped around the knob portion.

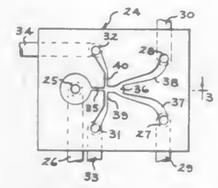
3,404,700
LIQUID LEVEL CONTROL MEANS
Willis Anson Boothe, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 5, 1964, Ser. No. 401,341
5 Claims. (Cl. 137—81.5)

1. Means to control the liquid level in a container comprising:

(a) a fluid amplifier having a main inlet, a control inlet and an outlet,

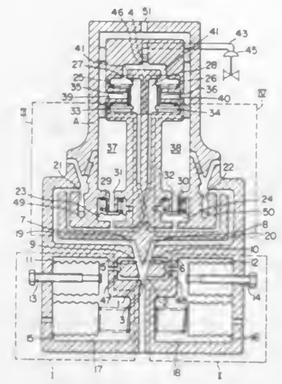
(b) said main inlet communicating with a source of liquid under pressure,

(c) said outlet communicating with the container in fluid dispensing relation thereto,



(d) said control inlet communicating with the container at substantially the level at which the liquid is to be controlled.

3,404,701
PROCESS REGULATING SYSTEM
Akira Shiiki, Tokyo, Japan, assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed June 30, 1965, Ser. No. 468,273
Claims priority, application Japan, July 6, 1964, 39/38,532
4 Claims. (Cl. 137—81.5)

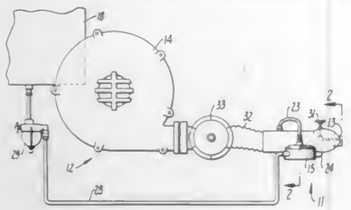


A process regulating system for controlling a process having a pair of bellows for sensing a process variable. A fluid amplifier connects to the bellows and undergoes a change of oscillating frequency whenever a change occurs in the process variable. A pair of fluid amplifiers serve as digital-analogue converters for converting the frequency shift to a pressure which is applied to a valve or other suitable device for returning the process to its set point.

3,404,702
LIQUID FUEL SUPPLY SYSTEM
Carlyle O. Telford, Hayward, Calif., assignor to Malsbary Manufacturing Company, Oakland, Calif., a corporation of California
Filed Sept. 18, 1967, Ser. No. 668,348
9 Claims. (Cl. 137—100)

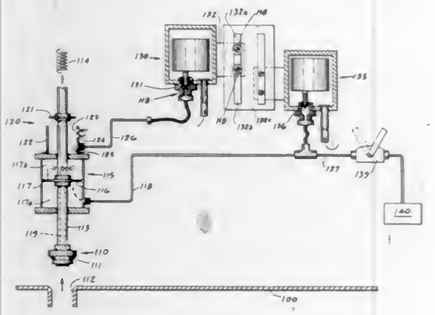
A fail-safe heating system for blower-type fuel burners operating on liquid fuel, which cuts off fuel flow upon failure of air flow and also regulates the amount of fuel flow in accordance with the amount of air supplied to the

burner. Fuel passes through a valve whose member is attached to a diaphragm exposed on one side to the pressure of the air supplied to the burner and on the other side to the pressure of the fuel, with the pressure of the fuel



acting to drive the diaphragm in a direction which moves the valve member toward its seat, and the air pressure operating to drive the diaphragm and valve member in the opposite direction.

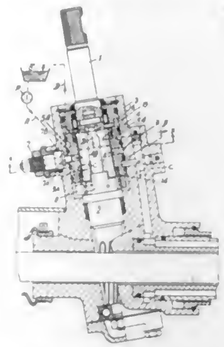
3,404,703
BOTTOM LOADING CONTROL SYSTEM WITH TRANSIENT CLOSING AND LIQUID LEVEL CONTROLS
Robert D. Marx, Valley Stream, N.Y.
(952 Meeker Ave., Brooklyn, N.Y. 11222)
Continuation-in-part of application Ser. No. 117,675, June 16, 1961. This application July 2, 1964, Ser. No. 379,959
22 Claims. (Cl. 137—390)



1. A system for the bottom loading of a fluid product in a truck tank and the like comprising a normally closed bottom valve in said tank having a port for the admission of said product into said tank, a double-acting fluid controlled actuator, longitudinally inextensible means coupling said actuator to said valve in fixed space relation for controlling valve operation, fluid pressure means controllable independently of product input pressure coupled to a first input of said actuator for opening said valve and fluid pressure transmitting means responsive to product pressure in said port and coupled to a second input of said actuator to facilitate valve closure movement against opposing product input pressure.

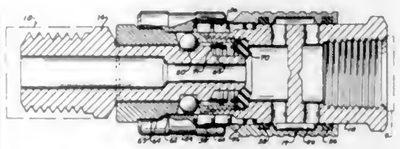
3,404,704
POWER-STEERING VALVE
Frederick J. Adams, Houghton Regis, England, assignor to Cam Gear (Luton) Limited, a company of Great Britain
Filed June 18, 1965, Ser. No. 465,097
Claims priority, application Great Britain, Sept. 18, 1964, 38,164/64
9 Claims. (Cl. 137—625.22)

The invention—an improvement in the field of rotary valves for use in power-assisted vehicle steering gear—resides in means for adjusting the neutral position, by axial movement, of relatively rotatable and mutually rotatable valve elements by access which is external to the fixed body in which the elements are mutually rotatable;



the valve being of the known type in which the relative rotation is dependent on the torsional strain imposed by the driver in a torsionally elastic member.

3,404,705
COUPLING AND VALVE MECHANISM
Kent B. Zopf, Bay Village, James Frederick Norton, Cleveland, and Howard J. Hansen, Bay Village, Ohio, assignors to The Hansen Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 10, 1965, Ser. No. 486,352
14 Claims. (Cl. 137—625.25)

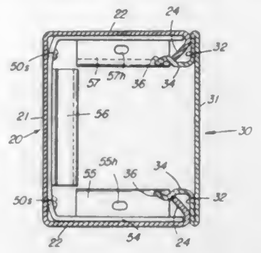


Disclosed herein is a coupling and valve mechanism including a body having inlet and outlet chambers. A valve sleeve is slidably mounted on the body for controlling the flow of fluid between the chambers. A coupling means is provided for coupling a conduit to the body. The coupling means includes a lock sleeve for actuating detents engaging the conduit. An assembly is provided for blocking movement of the lock sleeve from a release position until the conduit is inserted into the coupling. A venting chamber is provided for receiving fluid which urges the valve sleeve to a closed position and the lock sleeve to a locking position.

3,404,706
RACEWAY SYSTEM FOR ELECTRICAL WIRING
Francis P. D'Esopo, West Hartford, Conn., assignor to The Wiremold Company, West Hartford, Conn., a corporation of Connecticut
Filed Nov. 9, 1964, Ser. No. 409,651
21 Claims. (Cl. 138—163)

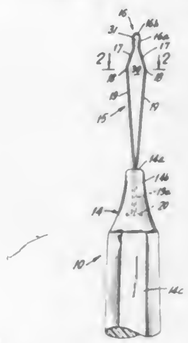
1. A raceway for a surface wiring system comprising a channel-shaped base member having side walls and a transverse connecting wall, the longitudinal edge portions of said side walls each being inturned and reversely bent to form an acute angle with its side wall, and a cover member adapted to be pressed upon and secured to said base member, said cover member having a flat plate portion overlying said base, the longitudinal sides of said cover member being reversely bent inwardly to lie flush against the under surface of said plate portion forming

double-thickness edges, said edges lying upon the acute-angled longitudinal edges of the base member, and the edges of said reversely bent sides of the cover member then being bent away from said plate portion to form longitudinally extending lips in position to receive and re-



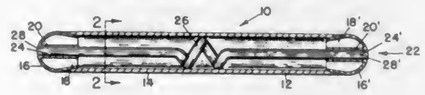
tain the acute-angled longitudinal edge portions of the base member when said base and cover members are joined, whereby the rough longitudinal edges of said cover and base members lie within the raceway after said cover and base members are assembled.

3,404,707
THREAD PULLING NEEDLE DEVICES
George J. Feld, Brooklyn, N.Y., assignor of one-half to Henry Heckmann, Rego Park, N.Y.
Filed June 29, 1966, Ser. No. 561,443
5 Claims. (Cl. 139—1)



A thread pulling needle adapted to be passed through a textile fabric and having a closed loop provided with a wide opening in communication with an elongated restricted width tip passage. The tip passage is of a dimension smaller than the thickness of a thread so that a loose thread can be inserted into the enlarged opening and moved into the tip to be gripped therein and pulled back into the fabric.

3,404,708
PROJECTILE FOR GUIDING AND TENSIONING FILLING YARN
Karl Willi Wueger, Spencer, Mass., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Sept. 13, 1967, Ser. No. 667,456
9 Claims. (Cl. 139—125)



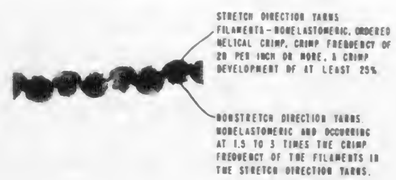
A projectile for guiding and tensioning a filling yarn in pneumatic looms using a stationary filling supply. This projectile has a spiral yarn passageway located within its hollow body to permit a yarn to be freely blown therethrough and to apply a tension to a filling yarn drawn therethrough.

3,404,709
LOOM PROTECTOR MECHANISM
Joseph M. Budzyna, East Douglas, and Rocco H. Mucciarone, Franklin, Mass., assignors, by mesne assignments, to John Donald Marshall and Horace L. Bomar, trustees under an agreement and indenture of trust
Filed Jan. 9, 1967, Ser. No. 608,143
6 Claims. (Cl. 139—346)



This invention pertains to an improved protector mechanism for fly-shuttle looms which utilize clutch-brake type power transmitters and slidable frogs. Upon indication for loom stoppage as a result of an improperly boxed shuttle the mechanism provides a means for releasing the power transmitter to braking position prior to engagement of the dagger fingers with the slidable frogs.

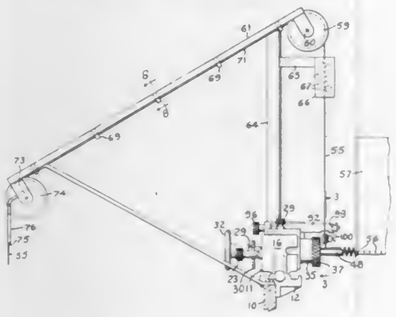
3,404,710
PLAIN-WEAVE UNIDIRECTIONAL STRETCH FABRIC
Norwin C. Pierce, Greenville, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed July 14, 1966, Ser. No. 565,072
8 Claims. (Cl. 139—421)



A tightly-woven, plain-weave, flat textile fabric having a stretch in one direction of 20% to 100% which retracts to substantially the original dimension upon release of tension, the stretch-direction yarns being composed of non-elastomeric thermoplastic filaments having an ordered helical crimp, a Crimp-Frequency of at least 20 crimps per inch and a Crimp Development of at least 25%, the yarns in the other fabric direction occurring at a yarn frequency of 1.5 to 3 times the filament crimp frequency in the stretch-direction yarns and being non-elastomeric textile yarns selected from the group consisting of continuous-filament thermoplastic yarn

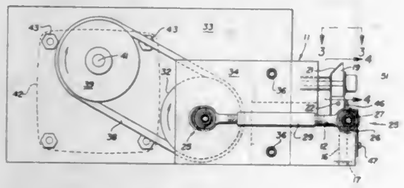
and spun yarn of at most 20/1 cotton count linear density. Also disclosed is a process for producing the above stretch fabric.

3,404,711
COIL FORMING MECHANISM
John O. Whitcomb, Enola, Pa., assignor to Hickok Manufacturing Company, Harrisburg, Pa., a corporation of Pennsylvania
Filed Jan. 17, 1966, Ser. No. 521,027
6 Claims. (Cl. 140—92.3)



A rotary mandrel forms wire coils for binding books such as stenographers' notebooks. Just ahead of the mandrel, a stress removing wheel is employed and around which the wire is wound in the same direction as on the mandrel to remove previously introduced stresses from the wire and then introduce into the wire stresses which correspond to the curvature imparted to the wire by the mandrel, thus providing wire coils of perfectly uniform pitch to prevent the coils from binding while being spun through the openings in the notebook.

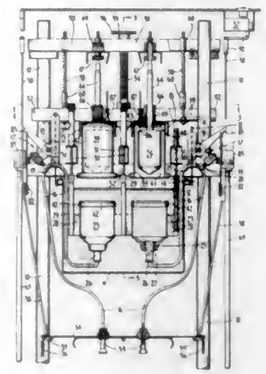
3,404,712
LEAD STRAIGHTENING DEVICE
Claus P. J. Suverkropp, Sunnyvale, Calif., assignor to Signetics Corporation, Sunnyvale, Calif., a corporation of California
Filed Oct. 23, 1965, Ser. No. 503,410
9 Claims. (Cl. 140—147)



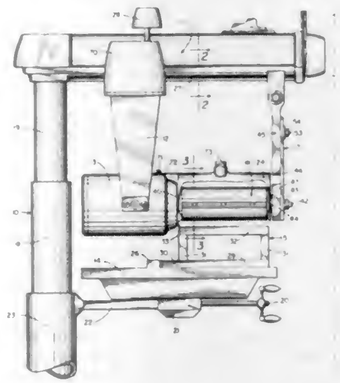
Lead straightening devices having straightening elements carried by a pair of pivot blocks pivoted at first and second spaced pivot points.

3,404,713
CONTAINER FILLING APPARATUS
David Elford, The Patch, Victoria, Australia, assignor to F.M.C. (Australia) Limited, South Melbourne, Victoria, Australia
Filed June 24, 1965, Ser. No. 466,722
18 Claims. (Cl. 141—67)

Containers are filled with liquid precisely and rapidly by raising measuring pots from a bowl of liquid into sealing engagement with air bells mounted above the pots. Air introduced to the bells ejects liquid trapped in the pots, through tubes leading from the pots into the containers, via filler nozzles on the tubes. The air flows continuously into the bells.



3,404,714
PLANER ATTACHMENT FOR RADIAL ARM SAW
David E. Runkle, E. 3308 Indiana, Spokane, Wash. 99207, and Elmer E. Runkle, Heron, Mont. 59844
Filed Aug. 1, 1966, Ser. No. 569,187
4 Claims. (Cl. 144—117)

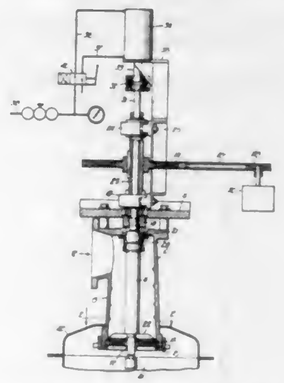


1. A planer attachment for radial arm saws of commerce of the type having a vertical, adjustable support carrying in its upper extension a horizontal saw arm with rail like grooves and at a spaced distance therebelow a parallel horizontal work table with work stop thereon and a motor slidably carried on said saw arm, depending therefrom with shaft positioned for rotation about a horizontal axis at a spaced distance above said work table, comprising, in combination:

a cylindrical planer head adjustably carrying a plurality of elongate planer blades adapted upon rotary motion of said head to plane a surface therebelow, said head secured to the shaft of said motor to rotate herewith and having a laterally exending stud shaft at the end most distal from said motor, said planer head being slidable with said motor; and

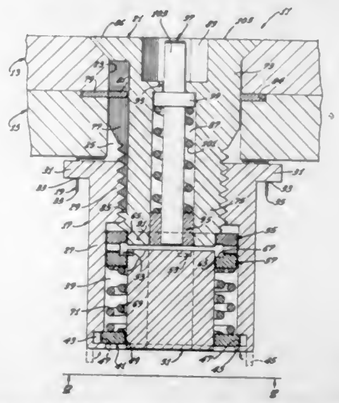
a lateral support arm adjustable communicating with said horizontal saw arm and depending therefrom, including means of adjustably fastening said support arm to said horizontal saw arm and of adjustably positioning a planer head supporting bearing adjustably carried by the lower part thereof in the vertical plane to receive said stud shaft.

3,404,715
COMMINUTOR HAVING FLUID BIASED BLADES
Elwood W. Kielsmeier and Frederic H. Middleton, Madison, Wis., assignors to Oscar Mayer & Co., Inc., Chicago, Ill., a corporation of Illinois
Filed May 9, 1966, Ser. No. 548,685
6 Claims. (Cl. 146—192)



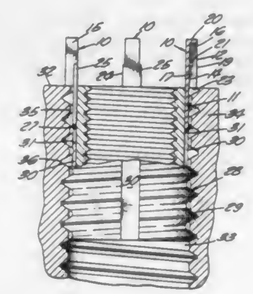
A comminuting machine for grinding various products, such as meats, and the like, which is characterized by a vertically disposed housing inclosing cutting blades mounted on the end of a vertical shaft which is rotated so as to engage the cutting edge of the blades with the inner surface of a perforated cutting plate in the bottom of the housing, with a means for applying an axial thrust to the blade carrying shaft by a fluid operated piston and a thrust rod extending through a hollow drive shaft and with a control in the fluid line to the piston which is operable to vary the axial thrust applied.

3,404,716
SELF-LOCKING FASTENER
Frank J. Cosenza, Palos Verdes Peninsula, Calif., assignor, by mesne assignments, to Tridair Industries, Redondo Beach, Calif.
Filed Apr. 7, 1967, Ser. No. 629,299
5 Claims. (Cl. 151—8)



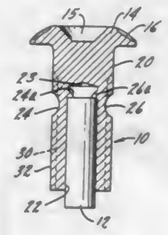
A fastener which includes a stud having an externally threaded portion and a nut having an internally threaded portion. The stud and nut can be rotated relative to each other to threadedly interconnect the stud and nut. Releasable means are provided for preventing counterrotation of the stud relative to the nut when the stud and nut are interconnected. The releasable means are completely releasable at the will of the operator to allow coutnerrotation of the stud to allow unscrewing of the stud from the nut.

3,404,717
LOCKING PIN WITH CAP
Jose Rosan, Rancho San Juan, San Juan Capistrano, Calif. 92675, and Marvin P. Reece, 33262 Bremerton St., Dana Point, Calif. 92629
Filed Aug. 9, 1966, Ser. No. 571,320
9 Claims. (Cl. 151—23)



Threaded fasteners provided with locking pins which are longitudinally displaceable so as to lock the installed fastener against subsequent rotational and vertical displacement thereof, said locking pins having an improved cutting means comprised of a pair of transversely spaced longitudinally extending cutting elements having the cutting edges thereof normal to the locking pin axis and chip entrapment means comprised of an overlying cap.

3,404,718
STUDS FOR TIRES
Clarence J. Smith, Rockford, Ill., assignor to The Shaler Company, Waupun, Wis., a corporation of Delaware
Filed Apr. 12, 1966, Ser. No. 542,075
5 Claims. (Cl. 152—210)

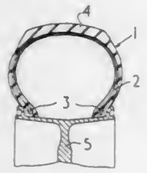


A tire stud including a body section and a hard, wear-resistant pin; the body section has an elongated shank, an enlarged head joined to one end of the shank and a socket in the shank. The pin is generally cylindrical and is sized for clearance with the socket. Means are provided which project inwardly within the socket to frictionally engage and hold the pin within the socket at a preselected distance from the enlarged head, and the pin is thereafter permanently secured to the shank by swaging the shank into frictional engagement therewith.

3,404,719
BALLAST FOR PNEUMATIC VEHICLE TIRES
William F. Priest, Wadsworth, Ohio, and Sander Simon, New York, N.Y., assignors to Sovereign Resources, Inc., New York, N.Y., a corporation of Colorado
No Drawing. Filed Nov. 14, 1966, Ser. No. 593,626
3 Claims. (Cl. 152—330)

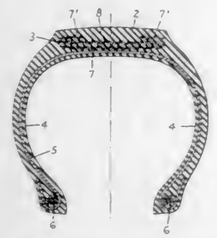
1. In a ballasted vehicle tire having an annular sealed chamber inflated with a gas under pressure and a powder ballast filling a major portion of said chamber, the improvement comprising: said ballast consisting substantially of particulate magnetic iron oxide having a specific gravity of from 4.1 to 4.9, said oxide having a fineness of at least 325 mesh.

3,404,720
CURED ELASTOMERIC ARTICLES
Henry Raymond Fletcher, Birmingham, England, assignor to Dunlop Rubber Company Limited, London, England, a corporation of Great Britain
Filed Aug. 4, 1965, Ser. No. 477,208
Claims priority, application Great Britain, Aug. 14, 1964, 33,142/64
9 Claims. (Cl. 152—354)



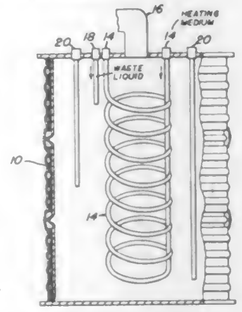
1. An inflatable cured elastomeric article comprising a cured elastomer and an internal reinforcement of filamentary fabric in bonded engagement with said elastomer, said filamentary fabric comprising at least one filament extending through its length within said elastomer and held in a longitudinally compressed condition by the elastomer in the deflated condition of the article, said elastomer being resiliently extensible to longitudinally decompress the said filament upon inflation of the article and resiliently contractable to recompress longitudinally the said filament upon deflation of the article.

3,404,721
PNEUMATIC TIRES
Jean-Marie Massoubre, Clermont-Ferrand, France, assignor to Compagnie Generale des Etablissements Michelin, raison sociale Michelin & Cie, Clermont-Ferrand, Puy-de-Dome, France
Filed Dec. 15, 1965, Ser. No. 514,005
Claims priority, application France, Dec. 22, 1964, 1,815
6 Claims. (Cl. 152—361)



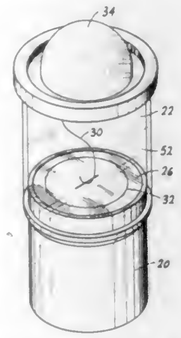
A pneumatic tire having a crown reinforcement composed of plies of cables, at least one ply being substantially co-extensive with the tread and other ply or plies having edge portions folded around the first-mentioned ply adjacent to the edges of the tread, the cables of the folded ply having a modulus of elasticity less than 5000 kg./mm.² and preferably about 280 to 1500 kg./mm.², and the first mentioned ply containing cables made of material having a modulus of elasticity of over 2500 kg./mm.², and preferably between about 5,000 and 20,000 kg./mm.², the plies of the reinforcement stiffening the edges of the tread and reducing any tendency for ply or tread separation and increasing the roadability of the tire at reasonable inflation pressures and reducing the rolling resistance of the tire.

3,404,722
DISPOSABLE RADIOACTIVE LIQUID WASTE CONCENTRATOR
Ernest W. Bloore, Edgewood, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed July 19, 1966, Ser. No. 566,399
4 Claims. (Cl. 159—23)



1. Apparatus for concentrating low level radioactive wastes comprising:
(a) a single use evaporator vessel having a removable head
(b) said head having mounted thereon an influent inlet for radioactive waste, a vapor outlet, a steam-heated immersion heater and liquid-level sensors
(c) an external cylindrical heating means encompassing said evaporator vessel
(d) said last mentioned heating means having an inlet and outlet for the heating fluid.

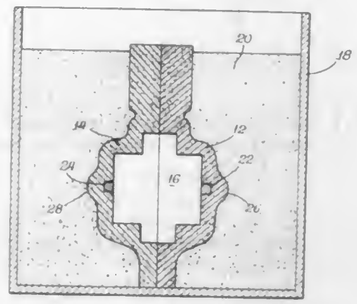
3,404,723
METHOD FOR PRODUCING DENTAL MOLDS OR MOLDING MATERIAL
Eugene W. Lewis, Fuller Warden, Jack H. Mills, and Bernard F. McNickle, all of 3233 E. 31st St., Tulsa, Okla. 74105
Filed Feb. 25, 1966, Ser. No. 530,196
4 Claims. (Cl. 164—34)



This disclosure relates to a method of producing dental molds wherein a powder is compacted into one part of a

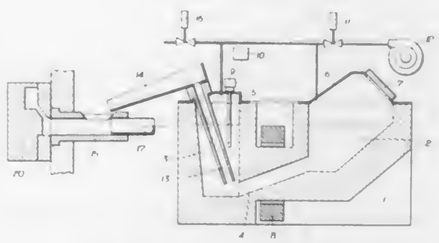
container to eliminate entrained air and a liquid is placed in a separate part of the container with a rupturable membrane separating the parts. The membrane is later ruptured and the container with liquid-powder mixture is agitated to produce a homogeneous mixture from which the mold is then formed and molten metal is cast into the mold.

3,404,724
METHOD OF CASTING IN A SHELL MOLDING
James T. Baker, Munster, Ind., assignor to Amsted Industries Incorporated, Chicago, Ill., a corporation of New Jersey
Filed Feb. 1, 1966, Ser. No. 524,130
1 Claim. (Cl. 164—138)



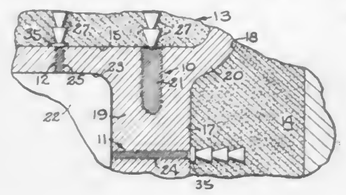
In order to prevent separation of the external surface of a casting which is just beginning to harden and the casting surface of the shell mold in which the casting has been poured the shell mold is provided with longitudinal ribs on the external surfaces of the mold and extending parallel to the parting line, and the mold is completely surrounded by water wet sand prior to pouring of the molten metal into the mold.

3,404,725
PRESSURE CASTING APPARATUS WITH CONTROL MEANS FOR BATCH VOLUME
Walter Kapun, Vienna, Austria, assignor to Wiener Schwachstromwerke Gesellschaft m.b.H., Vienna, Austria
Filed Jan. 26, 1966, Ser. No. 523,057
Claims priority, application Austria, Jan. 28, 1965, A 757/65
20 Claims. (Cl. 164—156)



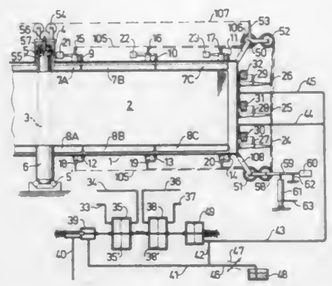
A casting plant is disclosed as including a furnace adapted to contain molten metal and a pressure casting machine including a transfer plunger operating in a shot chamber combined with a receiving chamber and adapted to receive molten metal from the furnace, The position of the plunger at the end of its working stroke varies with the batch volume of the molten metal, and measuring means are provided for fixing the batch volume destined to be transferred to the receiving chamber. An arrangement including a discharge control valve controls transfer of molten metal from the furnace to the receiving chamber, and compensating means are associated with the measuring means to vary the volume of the succeeding batch to compensate for any deviation of the volume of a preceding batch from a preselected value.

3,404,726
RAM-UP CHILL AND CHAPLET STUDS
Walter P. Wittke, Rockford, Ill., assignor to Nasco, Inc., Rockford, Ill., a corporation of Illinois
Filed Dec. 30, 1965, Ser. No. 517,673
7 Claims. (Cl. 164—357)



1. In a mold having walls composed of packed granular material defining a cavity for receiving molten material to be cast, the combination with said mold of a stud having a stem projecting into said cavity from one of said walls, and a head joined to one end of said stem and disposed in the packed material forming said one wall, said head having at least one section of triangular longitudinal cross-section tapering toward and joined to said one end with said granular material packed around the head in holding engagement with all exposed surfaces of said section.

3,404,727
ROTARY REGENERATIVE HEAT EXCHANGERS
Karl Heinz Mock, Neckargemund, Germany, assignor to Svenska Rotor Maskiner Aktiebolag, Nacka, Sweden, a corporation of Sweden
Filed Oct. 26, 1966, Ser. No. 589,672
8 Claims. (Cl. 165—9)



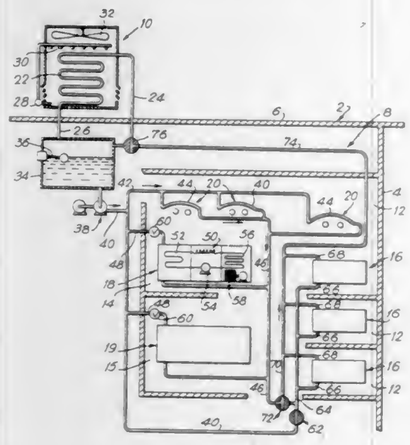
Apparatus for use with rotary regenerative air preheaters which provides for a counter-balance suspension system for the sector plates disposed between the adjacent rotating and non-rotating end surfaces of the regenerative mass and the inlet and outlet ducts at each end thereof and which includes a pulley system interconnecting the upper and lower axially aligned plates of the preheater so that movement of the upper plate in response to thermal

deformation of the regenerative mass results in a corresponding movement of the respective lower plate. Also, the suspension system includes a pressure responsive sensing device which senses variation in pressure in the inlet and outlet ducts of the apparatus between the heat emitting media and the heat absorbing media for counteracting the effect of this pressure differential on the sector plates to prevent movement thereof in response to such sudden pressure changes.

3,404,728
AIR CONDITIONING SYSTEM

Herbert L. Laube, Camillus, N.Y., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed Apr. 8, 1966, Ser. No. 541,314
7 Claims. (Cl. 165—22)



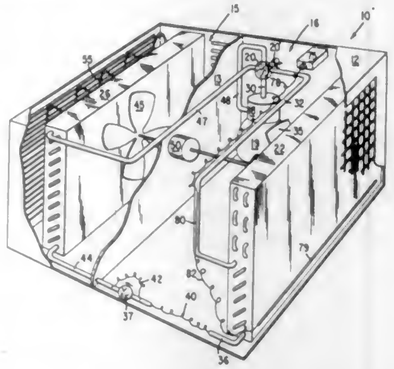
An air conditioning system for a building having several zones at least one of which requires only cooling and several of which require either heating or cooling. A self-contained refrigeration system is provided in each of the zones and a heat exchange fluid such as water is circulated to carry heat from the condensers of the units in the zone or zones requiring only cooling and to deliver heat to or carry heat away from the units in the other zones. A tank is provided to which the circulated water is returned through either the cooling tower or directly from the return line. Hence, the steam or water which passes through the units in the zone or zones requiring only cooling may be passed directly to the water tank without passing through the cooling tower and the heat picked up by it is then delivered to the other units.

3,404,729
HEAT PUMP CAPACITY CONTROL

Patrick R. De Armott, North Syracuse, and William A. Moakley, Jr., Baldwinsville, N.Y., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

Filed June 21, 1966, Ser. No. 559,311
3 Claims. (Cl. 165—29)

Reverse cycle refrigeration system having control means to insure maximum utilization of refrigeration system as a heat source with a corresponding minimum use of an auxiliary heat source, the control means including a first part responsive to temperature of refrigerant leaving the evaporator to initiate defrost of the outdoor coil while actuating the auxiliary heat source, a second part responsive to the presence of the ice on the control to continue defrosting until the evaporator is free of ice while maintaining the auxiliary heat source in operation, and a third

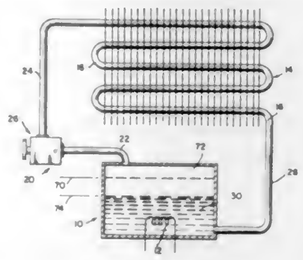


part responsive to ambient to terminate system heating cycle operation while actuating the auxiliary heat source.

3,404,730
TEMPERATURE CONTROL ARRANGEMENT

Albert G. Kurisu, Anaheim, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Dec. 2, 1966, Ser. No. 598,850
1 Claim. (Cl. 165—32)



A closed system comprising a heat dissipating chamber and a heat dissipating condenser using ambient air as a heat sink. A first conduit having flow control valve means therein interconnects the chamber and condenser and a second open communication conduit interconnects the chamber and condenser. A heat load is disposed in the chamber and submerged in a liquid therein, the vaporization of the liquid cooling the load. The valve means opens and closes in response to vapor pressure in the chamber while the difference between the vapor pressure in the chamber and condenser controls the effective heat dissipation area of the condenser to thereby create a heat balance in the system and maintain the load at a relatively constant temperature.

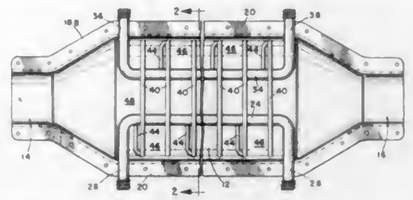
3,404,731
COMBINED EXHAUST SILENCER AND HEAT EXCHANGER

Paul A. Cushman, 6791 Alamo Way, San Diego, Calif. 92115

Filed July 12, 1966, Ser. No. 564,593
4 Claims. (Cl. 165—51)

This is a combined exhaust muffler and heat exchanger, for use with an internal combustion engine, ordinarily on a boat or other vehicle, to suppress noise while providing for a hot water supply for the boat or other vehicle. The baffles are flat, transverse, tightly wound, spiral coils

of pipe in spaced relation defining baffle chambers therebetween and the spirals feed into manifolds both disposed

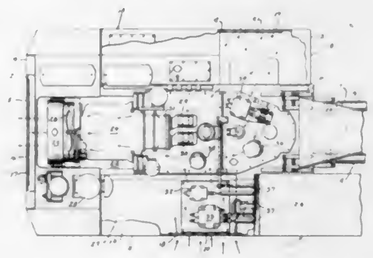


longitudinally in an open channel running axially of the casing.

3,404,732
EXCAVATOR COOLING SYSTEM

George W. Mork, South Milwaukee, Wis., assignor to Bucyrus-Erie Company, South Milwaukee, Wis., a corporation of Delaware

Filed Jan. 20, 1967, Ser. No. 610,677
4 Claims. (Cl. 165—51)

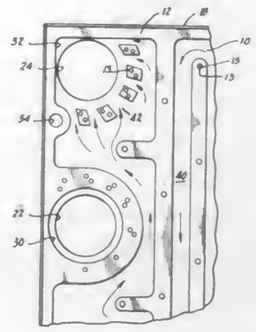


An hydraulic excavator powered by a liquid cooled diesel is described. The diesel and the principal hydraulic components are sealed in a housing except for two air inlet ports on opposite sides near the front and an outlet port in the back. The diesel is mounted in the back with the hydraulic components in front of it, so that air drawn by the fan of the diesel cools the hydraulic components.

3,404,733
PLATE-TYPE HEAT EXCHANGER

John E. Pottharst, Jr., 861 Carondelet St., New Orleans, La. 70130

Continuation-in-part of application Ser. No. 612,220, Jan. 27, 1967. This application June 21, 1967, Ser. No. 655,980
10 Claims. (Cl. 165—166)



A heat exchanger including a plurality of identical, generally rectangular, flat flow plates. Each plate has a lip extending around its perimeter and a gasket secured to the lipped side of each plate. To secure the gaskets, the plate may have a plurality of spaced integral gasket keys and the gaskets have mating apertures. The gaskets have flow apertures which mate with the flow apertures in the plate and barriers surrounding each flow aperture. Slits are provided in a mating pair of barriers to permit flow from one end to the other. The gasket is provided with fingers which form a tortuous path from one end of the plate to the other end.

3,404,734
METHOD OF PLUGGING FORMATIONS BY IN SITU CHEMICAL MEANS

Philip J. Raifsnider, Denver, Colo., and Joseph S. Levine, Houston, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 17, 1967, Ser. No. 631,191
6 Claims. (Cl. 166—32)

A method of plugging an earth formation comprising injecting into said formation a hydrocarbon solution containing a polymerized unsaturated fatty acid followed by an aqueous alkaline solution capable of interacting with the polymerized unsaturated acid to form a gel-like precipitate plugging material.

3,404,735
SAND CONTROL METHOD

Bill M. Young and Kenneth D. Totty, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware

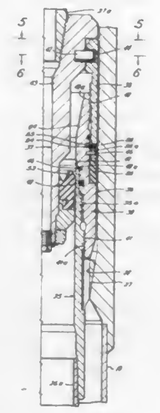
No Drawing. Filed Nov. 1, 1966, Ser. No. 591,077
10 Claims. (Cl. 166—33)

A dispersion sand consolidation method wherein a consolidating fluid comprising a hydrocarbon carrier, a resin or resin-forming mixture dispersed therein and a quantity of particulated solids dispersed therein, is introduced into an earth formation and caused to harden thus consolidating the solids into a hard permeable mass.

3,404,736
APPARATUS FOR USE IN SUSPENDING CASING FROM A WELLHEAD

Bobby H. Nelson and Leonard E. Williams, Houston, Tex., assignors to Cameron Iron Works, Inc., Houston, Tex.

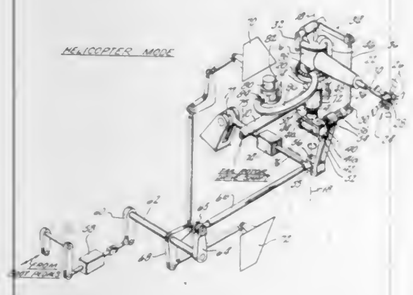
Continuation-in-part of application Ser. No. 365,661, May 7, 1964. This application Feb. 17, 1967, Ser. No. 628,198
24 Claims. (Cl. 166—85)



Wellhead apparatus comprising a casing head and a hanger landable on a seat in the bore of the head.

Passages through the hanger connect annular spaces above and below the seat, and a seal assembly lowered into the upper space closes the passages. The assembly includes a first tubular body threadedly connectible to the hanger, a second tubular body threaded to the first body, an inner ring for sealing against the hanger, and an outer ring intermediate shoulders on the bodies for sealing against the bore upon shearing of a pin and relative vertical movement between the bodies. A running tool has pins releasably disposable within and selectively engageable with opposite ends of a circumferential groove in the second body to transmit torque in opposite directions.

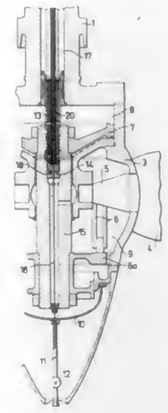
3,404,737
CONTROL MECHANISM FOR SWIVEL TAIL OF AN AIRCRAFT
John A. Keder, Jr., Milford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed July 8, 1966, Ser. No. 563,821
12 Claims. (Cl. 170—135.22)



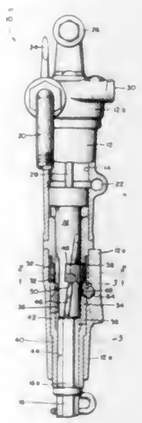
A convertiplane has a single main rotor and a variable pitch tail rotor which can be swivelled 90° between a lateral thrust position and a forward thrust position. The pitch of the tail rotor is varied by two pilot actuated controls, one a yaw control for helicopter flight and the other a throttle control for airplane flight, in which the transition between helicopter and airplane flight is accomplished in a smooth and continuous manner throughout the 90° swivelling movement of the tail rotor, one control being phased out as the other is phased in over the entire 90° range of swivelling movement of the tail rotor.

3,404,738
DEVICE FOR INDICATING THE PRESENCE OF WATER IN AND FOR REMOVAL OF WATER FROM RUNNER HUBS OF HYDRAULIC TURBINES OR PUMPS
Arne Herman Lindquist, Trollhattan, Sweden, assignor to Nydqvist & Holm Aktiebolag, Trollhattan, Sweden,
Continuation of application Ser. No. 515,571, Dec. 22, 1965. This application July 26, 1967, Ser. No. 656,299
Claims priority, application Sweden, Dec. 23, 1964, 15,653/64
6 Claims. (Cl. 170—160.23)

There is disclosed a device for removing water from an oil-filled runner hub of a hydraulic turbine or pump secured to one end of the main shaft of the turbine or pump. One end of a lengthwise displaceable drain pipe extends with clearance through an axial bore of the shaft into a discharge pipe disposed in alignment with the shaft bore and communicating with the oil filling the runner hub. The other end of the pipe protrudes from an upper part of the turbine or pump for connecting a suction pipe thereto to pump out oil and water accumulations in the runner hub and the discharge pipe. As accumulations of oil and water within the discharge pipe are not subjected to violent disturbances the oil and water will rapidly separate so that water can be pumped out without having to remove most of the oil also.



3,404,739
DRILLING APPARATUS HAVING DRILL STEEL ROTATION CONTROL
Martin Worman, Phillipsburg, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 11, 1966, Ser. No. 533,598
7 Claims. (Cl. 173—96)

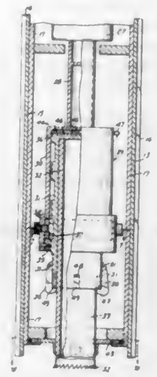


A drilling apparatus including a percussively and rotatably driven drill steel. The drilling apparatus is provided with means for interrupting the driven rotation of the drill steel and means for holding the drill steel to prevent free rotation thereof, such means both being actuated by a single control means.

3,404,740
APPARATUS FOR INSTALLING PILING
Clemens B. Hoppe, Box 590, Palm Beach, Fla. 33480
Filed Feb. 1, 1966, Ser. No. 524,029
8 Claims. (Cl. 173—111)

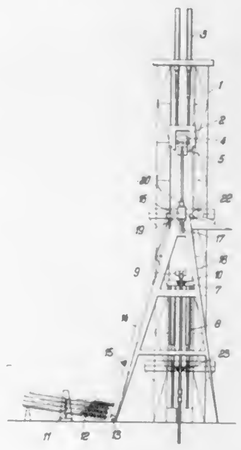
Apparatus for installing tubular piles or cylindrical casings where hard layers of soil are encountered in installing piling and sand drain work. Rotator mechanism

is combined with a pile hammer whereby the drilling tool is advanced into the hard layer by the combination of



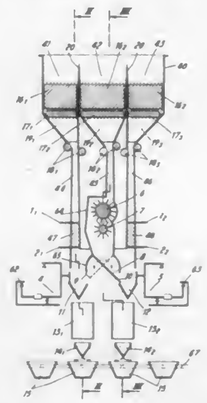
the downward force of the pile hammer ram and the simultaneous rotation of the drilling tool.

3,404,741
AUTOMATED SYSTEM AND DRILLING RIG FOR CONTINUOUSLY AND AUTOMATICALLY PULLING AND RUNNING A DRILL-PIPE STRING
Aldea Gheorghe, Nicolau Ioan, Dogaru Leon, and Dumitru Ion, Campina, Rumania, assignors to Ministerul Industriei Petrolului si Chimiei, Bucharest, Rumania
Filed Dec. 20, 1963, Ser. No. 332,310
Claims priority, application Rumania, Dec 28, 1962, 45,942
5 Claims. (Cl. 175—85)



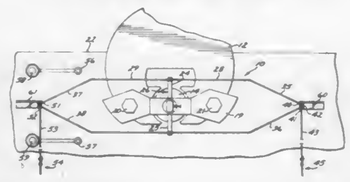
1. System for continuously and automatically performing round trip operations on oil and gas wells while drilling or in production, the drilling string consisting of pipes assembled by means of two lifts whose movements are synchronized, said system involving for the transfer of each pipe to be added to the drill-string successively, raising of the pipe in horizontal position from the storage-rack to a mid-way station up the derrick, 90° swinging of the pipe to vertical position in the central area of the derrick, whereby one end of the said pipe is directly gripped by the upper lift during its upward movement so as to raise said pipe end to the upper section of the derrick, while the other end of said pipe is being horizontally translated, whereafter said pipe is lowered along the derrick axis at a speed such as to catch up with the drill-string which is continuously descending and thereafter synchronization of said pipe speed with the constant descending speed of the drill-string, rotation of said pipe for its making up at the level of the lower lift, while both said pipe and drill-string are continuously descending, when coming out of the hole the movements are reversed.

3,404,742
APPARATUS FOR PREPARING EQUAL PONDERAL DOSES OF TOBACCO OR LIKE MATERIAL
Francis Bonneric, Fleury-les-Aubrais, France, assignor to Service d'Exploitation Industrielle des Tabacs et des Allumettes, Paris, Seine, France, a French public establishment
Continuation of abandoned application Ser. No. 420,938, Dec. 24, 1964. This application June 6, 1967, Ser. No. 649,066
Claims priority, application France, Dec. 23, 1963, 958,497
15 Claims. (Cl. 177—59)



An apparatus for preparing equal and successive doses of fluent material by means of volumetric pre-doses completed by make-up doses having a unit for alternately preparing a pre-dose of a predetermined volume, a unit for receiving the pre-dose, a unit for alternately supplying make-up material of a predetermined volume to the receiving unit, a unit for weighing the receiving unit, a releasing unit for the receiving unit controlled by the weighing unit for distributing a prepared dose (pre-dose plus make-up dose) into a transfer container.

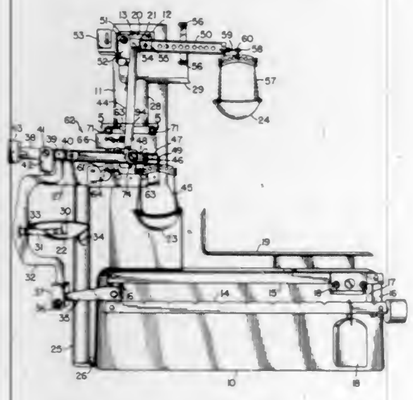
3,404,743
BALANCE DEVICE
Harold R. Schultz, 4001 Sherwood, Orange, Calif. 92667
Filed July 29, 1966, Ser. No. 568,852
9 Claims. (Cl. 177—190)



A balance including a beam pivotal about a fulcrum, the beam having double-over portions at its outer ends

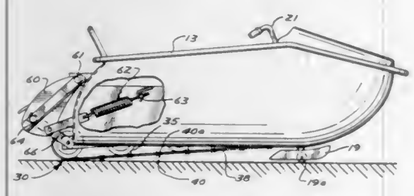
which receive flexible members providing the suspension means, the flexible members being secured by soldering, and the beam including guide portions for the flexible members adjacent their attachments.

3,404,744
DISENABLING MECHANISM FOR LEVER IN RATIO BALANCE
Lawrence S. Williams, deceased, late of Toledo, Ohio, by Austin M. Frease, executor, Toledo, Ohio, assignor to The Reliance Electric and Engineering Company, Inc., Toledo, Ohio, a corporation of Ohio
Filed Aug. 12, 1966, Ser. No. 572,155
13 Claims. (Cl. 177—200)



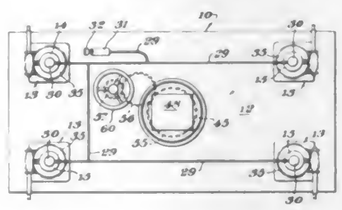
A counting scale having a commodity receiver, three ratio pans, and lever means connecting each of the pans in a fixed ratio to the commodity receiver, each ratio being different from the other two. Knob-operated carriage means is used to selectively connect and disconnect the higher ratio pan and part of the lever means to and from the rest of the lever means to convert the scale to a triple ratio counting scale from a double ratio counting scale or vice versa.

3,404,745
SNOW VEHICLE WITH SIDE ENCLOSED PASSENGER COMPARTMENT
Lawrence R. Smieja, Box 275, Rte. 3, Deephaven, Minn. 55391
Filed Aug. 10, 1966, Ser. No. 571,572
6 Claims. (Cl. 180—5)



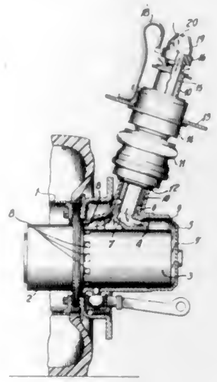
This invention relates generally to a vehicle for traveling on snow or ice and includes a body, a continuous track section mounted within the body, a pair of steering skis on the front end of the body forward of said track section wherein the track section and body provide an arrangement whereby the track section is shiftable upwardly and downwardly from the body section to maintain driving contact with the terrain. The body section nomally provides a pair of sides spaced transversely from the track section and having an inwardly depending portion extending therefrom which inward depending portion is directed towards the track section to provide a substantially horizontal flat body section adjacent the track element. This substantially flat section will, upon movement of the track section into the body area, serve as a supporting area for the unit whereby a large support area is provided. The track section is movable upwardly and downwardly into the body through spring loaded mechanisms and the spring tension promoting this movement is adjustable in accordance with the weight being carried by the unit.

3,404,746
MOTOR-DRIVEN WHEELED VEHICLES
Reginald A. Slay, Flat 35, Grandcourt, Eastbourne, Sussex, England
Filed July 8, 1966, Ser. No. 563,743
7 Claims. (Cl. 180—23)



A motor-driven vehicle which can change direction at right angles including at least one castor wheel mounted on the front and rear thereof respectively and at least one driving wheel intermediate the front and rear wheels. The driving wheel is pivotaly mounted on a vertical axis and is connected to motor means which pivots therewith and imparts directional drive to the vehicle.

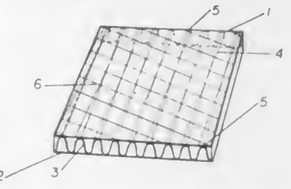
3,404,747
ELECTRICAL STEERING WHEEL WITH INDEPENDENT SUSPENSION
Roger Fagel, Marcinelle, Belgium, assignor to Ateliers de Constructions Electriques de Charlerol (ACEC) Societe Anonyme, Charlerol, Belgium
Filed Dec. 5, 1966, Ser. No. 599,066
Claims priority, application Belgium, Dec. 7, 1965, 673,359
2 Claims. (Cl. 180—43)



A steering wheel with leakproof suspension wherein the driving motor is mounted on the rim of the wheel and is coaxial therewith. A yoke surrounds the driving motor

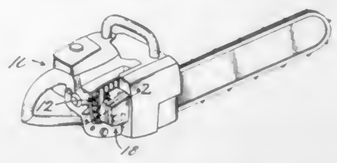
and forms therewith a pair of leakproof chambers in respective communication with the air suction and delivery openings of the motor. A pair of concentric tubes are each connected at one end to one of the chambers and open, at the other end into the vehicle body. A pneumatic sleeve surrounds the concentric tubes and is connected at one end to the vehicle body and at the other end to the outer tube at its connection to the yoke.

3,404,748
INSULATION LAMINATE WITH REINFORCING FIBERS AND CORRUGATED LAYER
Johan Bjorksten, Fitchburg, Wis., assignor to Griffolyn Company, Incorporated, Houston, Tex., a corporation of Delaware
Continuation-in-part of abandoned application Ser. No. 426,560, Jan. 19, 1965. This application Dec. 6, 1967, Ser. No. 688,389
11 Claims. (Cl. 181—33)



No existing film composite is at the same time strong enough and light enough to make possible its use in air supported buildings having unsupported spans 20 to 100 ft. wide, and to have attractive insulating qualities at the same time. This invention contemplates such a material, in which a light, foldable, plastic film or film aggregate is reinforced by fibers in one direction, and by corrugations in another direction.

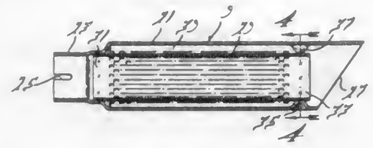
3,404,749
CHAIN SAW MUFFLER
Ronald M. Miller and Richard A. Rudnicki, Toledo, Ohio, assignors to American-Lincoln Corporation, Toledo, Ohio, a corporation of Ohio
Filed Mar. 27, 1967, Ser. No. 625,990
5 Claims. (Cl. 181—40)



The invention relates to a muffler for chain saws, which muffler is of small size, produces low back-pressure, and has an effective muffling ability. The muffler includes several exhaust outlets in the form of exhaust tubes in the casing, which tubes are directed downwardly. A baffle also is employed in the muffler between the inlet and the exhaust tubes.

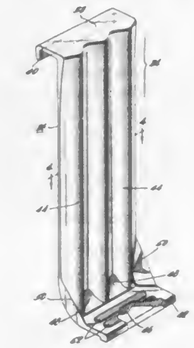
3,404,750
COMBINATION TAILPIPE SPOUT AND SILENCER
Walter H. Powers, Jackson, Mich., and Gene M. Neff, Racine, Wis., assignors to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed July 14, 1966, Ser. No. 565,216
2 Claims. (Cl. 181—48)

A combination tailpipe spout and silencer is provided by a louvered gas flow tube which fits inside of a chrome-plated cylindrical housing that is formed at one end for clamping to a tailpipe and has portions engaging



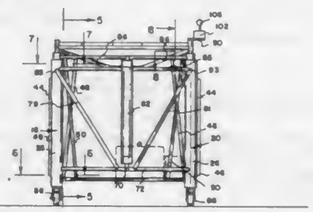
the tube to form a high frequency sound attenuation chamber surrounding the louvered portion of the tube.

3,404,751
AERIAL BUCKET STEP
Bernard F. Nosworthy, 556 Colgate Ave., Johnstown, Pa. 15909
Filed Dec. 5, 1966, Ser. No. 599,143
5 Claims. (Cl. 182—46)



A demountable step for an aerial bucket comprising a longitudinally extending panel having a flanged lid portion at the upper end thereof and a transversely extending step portion at the lower end thereof, said step being adapted for application to an aerial bucket with the flanged lip portion engaging the bucket top edge to facilitate entrance to or egress from the bucket.

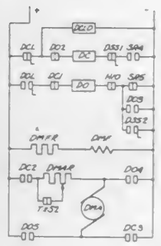
3,404,752
SCAFFOLD
Stanley N. Deines, Denver, Colo. (R.R. 1, Oberlin, Kans. 67749)
Continuation-in-part of application Ser. No. 429,733, Feb. 2, 1965. This application June 23, 1966, Ser. No. 560,926
10 Claims. (Cl. 182—148)



A scaffold which is operable by hydraulic cylinders and which is extendable upwardly into an elevated position, such that the platform thereof may be independently

elevated at opposite ends in order to permit the platform to be disposed on an incline.

3,404,753
CONTROLS FOR ELEVATOR DOORS
John E. Magee, Greenburgh, N.Y.
(191 Forest Blvd., Ardsley, N.Y. 10502)
Filed June 22, 1967, Ser. No. 648,144
8 Claims. (Cl. 187—52)



Automatic elevator car door control apparatus for closing door after short dwell period either relatively fast if landing stop is made only for car call or relatively slowly if there is, or is registered before the door closes, a landing call registered at the landing at which the stop is made. Also, optionally, fast closing if door is reopened by passenger in doorway or if passenger passes through doorway, assured lighting of car lights if hatchway door open and flashing of car lights if door closing delayed.

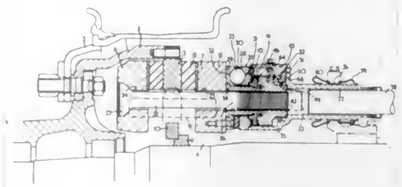
3,404,754
RAILWAY WHEEL TREAD BRAKE
John W. Kaim, Chicago, Ill., assignor to Amsted Industries Incorporated, Chicago, Ill., a corporation of New Jersey
Filed Oct. 25, 1966, Ser. No. 589,314
11 Claims. (Cl. 188—47)



A brake linkage arrangement for three wheels aligned along one side of a railway truck includes a power cylinder connected to a cylinder lever which actuates the brake lever of one of the end wheels. The cylinder lever is also connected to a floating lever which actuates the brake levers on the other two wheels. Provision is made for incorporation of a hand brake lever and a slack adjuster in the arrangement.

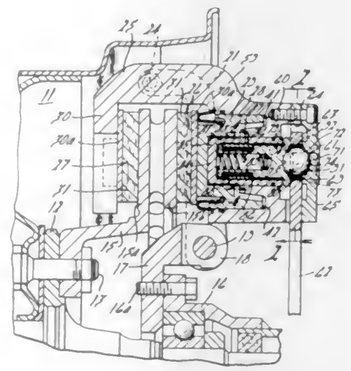
3,404,755
ADJUSTABLE ACTUATING MEANS FOR DISC BRAKES
William Ernest Keatley and Roger White Silvera, Coventry, England, assignors to Dunlop Rubber Company Limited, London, England, a corporation of Great Britain
Filed Sept. 10, 1965, Ser. No. 486,322
Claims priority, application Great Britain, Sept. 23, 1964, 38,730/64
5 Claims. (Cl. 188—73)

The invention relates to a disc brake structure. Friction pads are mounted on guide means to engage a disc on opposite sides thereof. Actuating means for the pads includes relatively rotatable cam-ball means mounted on a rod member adjacent one of said pads, said rod member engaging the other pad to transmit braking forces there-



to. An adjusting means associated with said rod repositions the actuator upon wear of the pads.

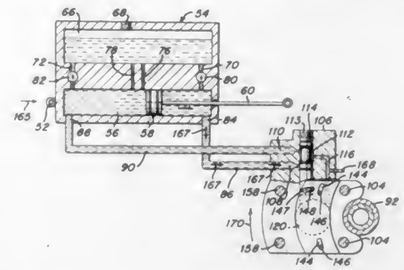
3,404,756
DISK BRAKE
Harvey C. Swift, Birmingham, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Mar. 1, 1967, Ser. No. 619,691
6 Claims. (Cl. 188—106)



A disk brake having a fluid motor for operating the brake as well as a hand lever that cooperates with the fluid motor for also actuating the brake. The hand lever is pivoted on an axis offset with respect to the axis of the piston. The lever is apertured at the piston axis and contains a ball member, which, when the lever is actuated, applies a mechanical braking force to the fluid motor piston.

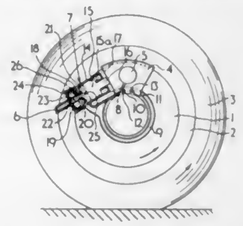
3,404,757
AUTOMATICALLY OPERABLE BRAKE APPARATUS FOR TRAILER VEHICLE
John M. Beach, Dayton, Harry H. Cecil, Brookville, Edgar C. Oglesbee and Arthur R. White, Dayton, and George S. Ziegler, Miamisburg, Ohio, assignors to J. M. Beach Manufacturing, Inc., Dayton, Ohio, a corporation of Ohio
Continuation of abandoned application Ser. No. 416,996, Dec. 9, 1964. This application Apr. 7, 1967, Ser. No. 636,231
20 Claims. (Cl. 188—112)

The invention relates still more particularly to automatically operable trailer brake apparatus in which only a hitch connection is required betwen the trailer vehicle



and a tow vehicle for proper operation of the brake mechanism of the trailer vehicle.

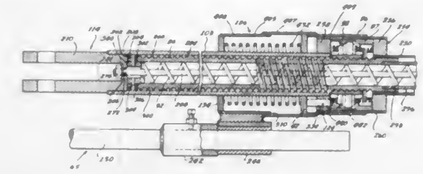
3,404,758
VEHICLE ANTI-SKID BRAKING SYSTEM
Frank R. Mortimer, Styvechale, England, assignor to The Dunlop Company Limited, London, England, a corporation of Great Britain
Continuation of application Ser. No. 454,782, May 11, 1965. This application Sept. 1, 1967, Ser. No. 674,956
Claims priority, application Great Britain, May 13, 1964, 19,832/64; Jan. 11, 1965, 1,097/65
14 Claims. (Cl. 188—181)



The present invention comprises a fluid pressure operated brake having a friction member which is movable within angularly spaced limitations, as a torque reaction from the force exerted by the friction member on the rotor during braking. The limited angular movement is opposed by a thrust device which is fluid pressure operated and has an operative fluid pressure connection with a brake actuator which applies said friction member. A valve is provided to control the supply of fluid to the brakes and interrupts the supply of fluid when the thrust of the thrust device exceeds the torque reaction force, this being the condition which occurs during a wheel slip. When the wheel slip terminates, and the wheel spins up then the torque reaction can increase and then oppose the thrust of the thrust device when the valve is again operated to restore the supply of fluid to the brake actuator.

3,404,759
TWO WAY AUTOMATIC SLACK ADJUSTER
Eldred H. Natschke, Kankakee, and Frederick W. St. Pierre, Downers Grove, Ill., assignors to Universal Railway Devices Co., a corporation of Delaware
Filed Jan. 19, 1967, Ser. No. 610,347
8 Claims. (Cl. 188—202)

This invention relates to two way automatic slack adjusters, sometimes called brake adjusters, and it is an improvement over that disclosed in Rauglas Patent 3,177,985, granted Apr. 13, 1965. In accordance with the improvements of this application, the brake adjuster is arranged to provide twenty-four inches of travel, and thus is especially adapted for top rod applications, by incorporating the main spring of the unit within the adjuster screw member in such a way that the unit retains the simplicity and operational advantages of the Rauglas

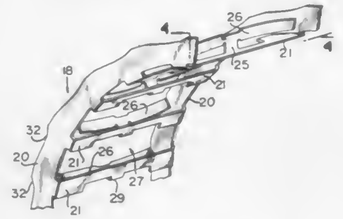


adjuster while keeping the adjuster fully extended length down to minimum proportions. In addition, the arrangement of the controlling spin nut end clutch and cooperating clutch surfaces has been improved.

ERRATUM

For Class 192—18 see:
Patent No. 3,404,767

3,404,760
SHEET METAL ROLLER CAGE FOR CLUTCH
Carl F. Benson, Torrington, and John H. Cowles, Forestville, Conn., assignors to The Torrington Company, Torrington, Conn., a corporation of Maine
Filed Oct. 24, 1965, Ser. No. 504,962
11 Claims. (Cl. 192—45)

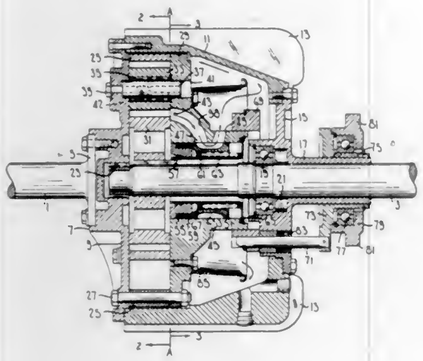


This disclosure has to do with a retainer for an overrunning roller clutch. The retainer is of a one-piece sheet metal construction and the principal feature thereof is that the springs thereof are formed from the material normally removed in the forming of the roller receiving windows, each spring being arcuate in outline axially of the retainer and being integrally connected to an associated bar by means of a radially extending tab.

3,404,761
PLANETARY HYDRAULIC COUPLING
Ralph L. Jaeschke and John H. Wolcott, Kenosha, Wis., assignors to Eaton Yale & Towne, Inc., Cleveland, Ohio, a corporation of Ohio
Filed July 20, 1966, Ser. No. 566,626
3 Claims. (Cl. 192—61)

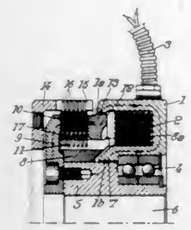
A drive shaft rotates a casing forming an internally tapered liquid container. Attached internally within the large end of the casing is a retainer for a planetary gear-train. A driven shaft extends into the small end of the casing and into the retainer where it carries a sun gear of the planetary train. Planet gears mesh with the sun gear to form planetary gear pumps. Radial inlet ports in the gear retainer having permanently unobstructed entries convey liquid inwardly to the gear pumps. Fluid flows from the pumps through retainer delivery ports and then through an axially disposed movable control valve. The valve directs flow to radially disposed outlet ports in the

retainer. The valve is operative under flow pressure variably to control the flow and therefore to control the speed ratio between the shafts. The pressure is controlled by an axially movable ring for variably throttling the outlet ports. The inlet edges of the delievery ports are beveled to aid suppression of noise by effecting gradual pressure release from the pumps. Noise is further suppressed by



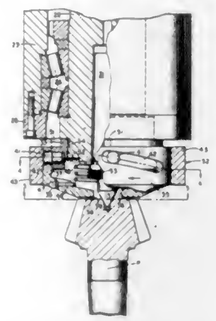
having the number of sun-gear teeth such that when divided by the number of planet gears a whole number does not result. An interiorly unobstructed, cup-shaped flaring baffle is attached at its closed end to and rotates concentrically with the retainer for driving the fluid under centrifugal force to the small end of the casing for return under centrifugal force to the radial inlet ports of the gear retainer.

3,404,762
ELECTROMAGNETIC APPARATUS SUCH AS CLUTCHES AND BRAKES INCLUDING FRICTION DISCS
Jean Leblanc, Lyon, France, assignor to Societe Industrielle Generale de Mecanique Appliquee (S.I.G.M.A.), Paris, France
Filed Sept. 9, 1966, Ser. No. 578,238
Claims priority, application France, Sept. 10, 1965, 31,090
3 Claims. (Cl. 192—84)



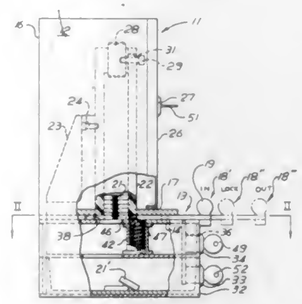
The apparatus is intended to transmit torque from a first part to a second part, at least one of these two parts being rotatable. The apparatus includes the following annular members, mounted coaxially and successively: an electromagnet having an annular extension of its yoke; an armature disposed within this extension; two sets of discs, the discs of one set alternating with the discs of the other set; and an abutment. These members form, together with said first part, a closed magnetic circuit. The discs are slidable axially with respect to the first and second parts; the discs of one set are connected in rotation to the first part, and the discs of the other set are connected in rotation to the second part.

3,404,763
INERTIA-APPLIED WORKPIECE DRIVER
William G. Reed, Fairport, N.Y., assignor to The Gleason Works, Rochester, N.Y., a corporation of New York
Filed Mar. 1, 1967, Ser. No. 619,744
11 Claims. (Cl. 192—103)



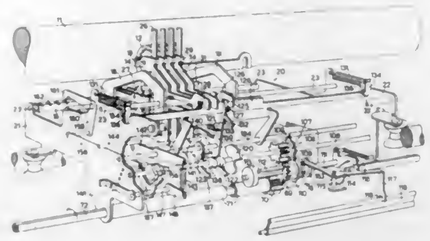
A rolling quench machine for generally cylindircal parts has axially spaced work-engaging centers, one of which is carried by a work drive spindle and the other by the machine frame, the spindle being journaled in a housing that is movable, axially of the spindle, to open or close the centers. A ring-shaped work driver carried by the spindle is guided by a pin-and-slot connection for helical motion relative to the spindle, the helical inclination of the slots being in the sense that upon the start of spindle rotation the inertia of the driver tends to effect movement of it, axially of the spindle, to grip a workpiece that is between the centers. A torsion spring acting between the spindle and the driver also acts through the pin-and-slot connection to press the driver against the work as the centers are closed.

3,404,764
EXCHANGING DISPENSER FOR ARTICLES WHEREIN A REPLACEMENT ARTICLE DISPENSES A SIMILAR ARTICLE
Charles E. Lipp, Peoria and Charles R. Wilson and Glenn F. Betzelberger, Pekin, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Sept. 8, 1966, Ser. No. 577,890
3 Claims. (Cl. 194—4)



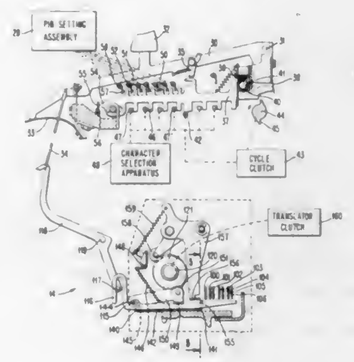
A dispenser for small articles such as tool inserts requires the return of a used similar item before a replacement article can be obtained. The stored articles are released from the dispenser by operating a carrier plate, which has an opening for receiving the returned article, and in the absence of a returned article a detent enters the opening to block the necessary carrier motion.

3,404,765
PRINTING DEVICE WITH SELECTING MECHANISM EMPLOYING A GROUP OF ECCENTRICS
Teresio Gassino and Ilario Bovio, Ivrea, Italy, assignors to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy
Filed Feb. 17, 1967, Ser. No. 616,993
Claims priority, application Italy, June 25, 1966, 34,047/66
17 Claims. (Cl. 197—55)



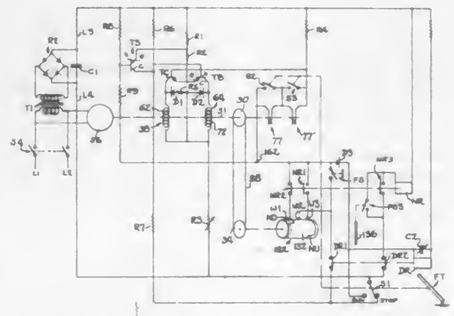
A printing device comprises at least a typecarrier provided with a plurality of different types adapted to be selectively positioned by a motion aggregating mechanism formed of a group of eccentrics, each one associated with a code unit and adapted to selectively assume one of two diametrically opposite positions, at least an outer eccentric being rotatably mounted on an inner eccentric of said group. The eccentrics are associated with a group of coaxial similar driven pinions selectively driven by a group of coaxial similar driving pinions, connecting means being provided for enabling each one of said eccentrics to be bodily rotated by the associated driven pinion.

3,404,766
VARIABLE SPACEBAR MECHANISM FOR AUTOMATICALLY OPERATED PROPORTIONAL ESCAPEMENT PRINTER
William H. Castle, Winchester, and John E. Jones and Robert A. Rahenkamp, Lexington, Ky., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Sept. 19, 1966, Ser. No. 580,275
7 Claims. (Cl. 197—84)



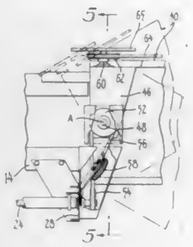
A remotely or automatically operated proportional escapement typewriter provides multiple increments of spacing with a minimum of mechanism. An electrical-to-mechanical translator has a no-print seeker which actuates the no-print mechanism of the proportional escapement typewriter concurrently with the selection of any one of a group of character seekers which in turn actuate any one of a corresponding group of character selection and escapement devices. The print element moves relative to the printing platen by a distance corresponding to the selected character, but the no print mechanism inhibits printing.

3,404,767
SPEED AND POSITIONING CONTROL APPARATUS FOR POWER DRIVEN MACHINES
James G. E. Farnum, Madison, Wis., assignor to Warner Electric Brake & Clutch Company, South Beloit, Ill., a corporation of Delaware
Filed Apr. 26, 1965, Ser. No. 450,888
11 Claims. (Cl. 192—18)



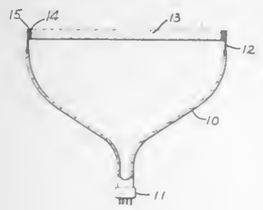
A system for driving a shaft (such as the input shaft for a sewing machine) from a constant speed power shaft (such as that of a continuously running motor) wherein an electromagnetic clutch is interposed between the two shafts and an electromagnetic brake is associated with the driven shaft. The clutch and brake are complementally energized to make the driven shaft selectively run or stop, but under running conditions the average speed of the driven shaft is held at a desired value by centrifugally operated switch contacts which open or close when the speed rises above or falls below a predetermined value and which act to turn the clutch off or on in cycles. When the system is placed in the stop condition, the brake is nevertheless deenergized and the clutch is energized until the member moves to a predetermined position as determined by a position sensing switch. Such energization of the clutch is also controlled by centrifugally-operated switch contacts which open or close when the speed of the driven shaft rises above or falls below a predetermined value so that the clutch is cycled on and off to keep the speed at a low average value until the position sensing switch opens to energize the brake and stop the shaft in a predetermined position without overrun. This system is disclosed in connection with the control of a sewing machine, but it has wide utility. The two predetermined values mentioned above may be different or may be the same, and either two separate centrifugal switches or one single centrifugal switch may serve for control of the running speed and the positioning speed. In any case, the clutch coil is either turned fully off or on by the action of the centrifugal switch, so that it receives its full excitation during the on periods and the torque applied to the driven shaft during positioning may be the maximum torque transmittable by the clutch.

3,404,768
DRIVE ARRANGEMENT FOR BALE THROWERS
Lee Eugene Elfes, Bloomfield Hills, and Everett Winfield Todd, Dearborn, Mich., assignors to Massey-Ferguson Inc., Detroit, Mich.
Filed Oct. 5, 1966, Ser. No. 584,504
1 Claim. (Cl. 198—128)



A bale thrower which is mounted on the rear of a hay baler for swinging motion about a vertical axis is driven from the baler by a longitudinal shaft on the baler which drives, through a belt and pulley drive, a transfer shaft coaxial with the vertical swing axis. The transfer shaft drives the bale thrower through a bevel gear box mounted on the bale thrower. The drive remains effective in all positions of the bale thrower.

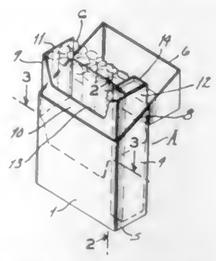
3,404,769
CATHODE-RAY TUBE ENVELOPES
Frederic Lendall Bishop, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Dec. 5, 1966, Ser. No. 599,256
8 Claims. (Cl. 220—2.3)



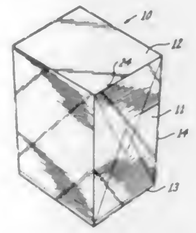
This application relates to an article of manufacture such as a cathode-ray tube envelope formed from a plurality of prefabricated parts, the face plate member beign comprised of fused silica or glass-ceramic having a low coefficient of thermal expansion, the body member being comprised of a conventional electrical glass with an annular metal sealing ring at its larger end with several intermediate sealants between said sealing ring and the face plate periphery.

3,404,770
COMBINATION CIGARETTE PACKAGE AND ASH RECEPTACLE
William W. Peery, 400 W. Colfax, Denver, Colo. 80204
Filed Dec. 29, 1967, Ser. No. 694,471
9 Claims. (Cl. 206—41)

An ash receptacle for reception within conventional cigarette packages being formable from a blank of preferably fireproof material and being of rectangular cross section; said receptacle being dimensioned so as to accommodate unsmoked cigarettes with the original packaging arrangement.



3,404,771
PACKAGE CONSTRUCTION AND METHOD FOR MAKING THE SAME OR THE LIKE
Charles Mann, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed May 28, 1965, Ser. No. 459,654
21 Claims. (Cl. 206—45.33)

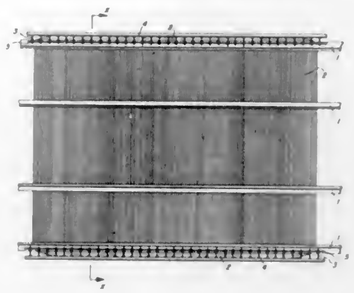


This disclosure relates to a method for packaging a stack of labels each comprising a sheet having a metallic foil side and a paper side, the method comprising the steps of disposing the stack of labels in a heat shrinkable film-like material that completely surrounds the stack and, thereafter, sealing closed the heat shrinkable material and heat shrinking the same to compact the stack of labels together, the packing of the stack of labels taking place in a controlled atmosphere having a preselected relative humidity of approximately 50% and an atmospheric pressure so that the labels will not tend to curl when the package construction is initially opened and thereby will not cause adverse effects in conventional label applying apparatus or the like.

3,404,772
WIDE PACKAGE AND METHOD OF MANUFACTURING SAME
Ernst Erb, Basel, Switzerland, assignor to Erba Maschinenbau A.G., Basel, Switzerland, a Swiss corporation
Filed Nov. 28, 1966, Ser. No. 597,408
Claims priority, application Switzerland, Dec. 1, 1965, 16,578/65; Mar. 7, 1966, 3,239/66; June 27, 1966, 9,355/66
6 Claims. (Cl. 206—64)

A process for developing and a thread package having built up continuously staggered cross wound layers with narrow pitch lacing securing the layers. A multiplicity of laces are arranged on the periphery of the package by a longitudinally stable system of sub-division. The process for developing consists of arranging a cross winding path and continuously shifting the resultant layer formation

to one side so that a conicity in the direction of shift develops and then continuing this point in cross wound fashion. Then the wide package layer is sub-divided over



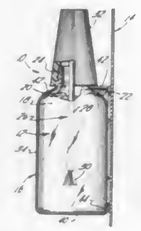
its entire width and also several times over its peripheral extent with divider elements which are attached to a longitudinally stable element over the full width of the package.

3,404,773
CARRIER FOR CONTAINER MEANS AND PACKAGE UTILIZING SUCH A CARRIER
Thomas E. Kirby, Jr., Chesterfield County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed May 18, 1966, Ser. No. 551,062
12 Claims. (Cl. 206—65)

This disclosure relates to a substantially rectangular carrier for a plurality of containers each having an annular projection extending outwardly from its upper end portion, and a package utilizing such a carrier, wherein such carrier has handle means and four substantially elliptical openings provided therein adjacent its corners with each opening being adapted to receive the upper end portion of an associated container therethrough and upon grasping and lifting the handle means said carrier cooperates with lower surface means of the annular projections in said containers to enable the containers to be easily carried by said carrier in suspended relation.

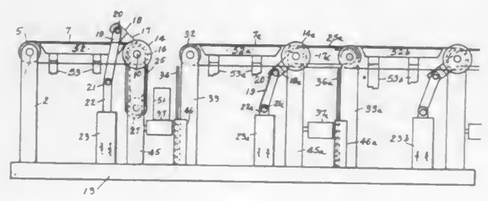
3,404,774
DISPLAY PACKAGE FOR COSMETICS
Sol Levine, New York, N.Y., assignor to Del Laboratories, Inc., Farmingdale, N.Y., a corporation of New York
Filed July 10, 1967, Ser. No. 652,113
8 Claims. (Cl. 206—78)

A display package for a cosmetic product such as lipstick or nail lacquer which product is composed of two parts, one being a handled cosmetic applicator such as a brush or lipstick rod, and the second being a part with an open-ended cavity such as a cap or a bottle, to receive the applicator and ensheathe the same with the handle outside the second part. The two parts are detachably interengageable when the applicator is ensheathed in the second part. The second part has a shoulder near its open end, but otherwise is of substantially uniform configuration. The cosmetic product is secured to a flat panel by a pocket which is shaped to receive the second



part, the pocket having an open top through which the handle of the first part extends. The open top of the pocket has an inwardly directed flange which engages the shoulder of the second part so as to captively hold the second part against the panel while permitting removal of the first part through manipulation of the handle.

3,404,775
SYSTEM FOR TRANSPORTING AND GROUPING OBJECTS
Stephen A. McClellan, Happy Valley, Earlysville, Va. 22936
Filed Feb. 6, 1967, Ser. No. 614,239
7 Claims. (Cl. 209—111.6)

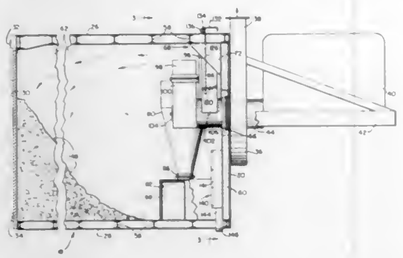


This invention constitutes primarily a sorting machine which transports bricks or other objects in one general direction on a series of cooperating beltlike conveyors some of which can be actuated by electrical, pneumatic, or other signals to drop selected bricks upon chosen cross-wise-moving belts to classify them according to color, finish, or other characteristics. The actuators are operatively connected to a master control which determines the timing of the actuators.

3,404,776
APPARATUS FOR COLLECTING LOOSE MATERIALS IN A PORTABLE COLLECTOR
Roland E. Shaddock, Streator, Ill., assignor to The Myers-Sherman Company, Streator, Ill., a corporation of Illinois
Filed Aug. 10, 1966, Ser. No. 571,496
6 Claims. (Cl. 209—135)

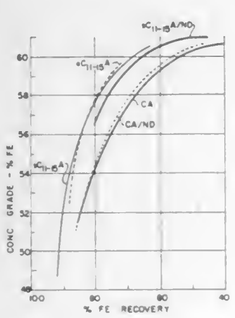
A vehicular collector for loose materials including a collecting box having a vacuum expansion chamber therein and a door for emptying the chamber. A materials inlet to the chamber and air outlet means from the chamber are disposed in the same wall of the collection box. A cyclone separator is disposed in the chamber and has an air inlet means in communication with the chamber and an air outlet means connected to the air chamber outlet means. A compressor is connected to the air chamber outlet

means for establishing suction flow of an air stream initially containing loose material in a flow path from the materials inlet, through the chamber and the separator, to the chamber air outlet means for depositing the loose



material in the chamber and separating entrained material in the separator. Additional means is interposed between the separator and the chamber air outlet means for selectively bypassing the flow of air around the separator and directly out the chamber air outlet means.

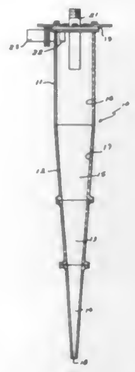
3,404,777
FROTH FLOTATION WITH SECONDARY-ALKYL PRIMARY AMINES
Charles L. Ray, Wheaton, Robert E. Baarson, La Grange, and Edward W. Long, Mokena, Ill., assignors to Armour and Company, Chicago, Ill., a corporation of Delaware
Filed May 7, 1965, Ser. No. 454,155
5 Claims. (Cl. 209—166)



Secondary-alkyl primary amines of a specific configuration and chain length, alone or in admixture with heterocyclic nitrogen compounds derived from gilsonite, are used as froth flotation collectors.

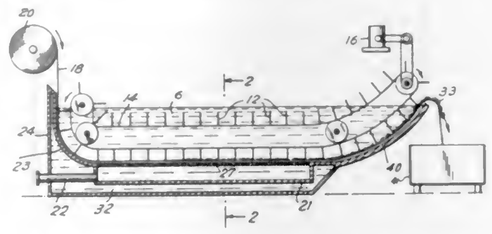
3,404,778
HYDROCYCLONE
Maurice D. Woodruff, Springfield, Ohio, and Timothy T. Cowhey, Brantford, Ontario, Canada, assignors to The Bauer Bros. Co., Springfield, Ohio, a corporation of Ohio
Filed Nov. 18, 1964, Ser. No. 412,117
6 Claims. (Cl. 209—211)

The method and apparatus for separating accepts from the rejects in a liquid pulp suspension characterized by the development in a proportioned cyclone of a cylindrical spiralling flow pattern and a stabilizing of the spiralling flow while maintaining the cylindrical pattern and thereafter gradually reducing the diameter of the spiralling flow to form an elongated liquid cone of small angle producing counterflowing vortices wherein that including the accepts is caused to discharge in the cylindrical sec-



tion of stabilized flow while the rejects are discharged through the severely restricted apex of the cone.

3,404,779
FILTER AND SLUDGE CONVEYOR
Leland C. Weathers, Livonia, Mich., assignor to Ajem Laboratories, Inc., Livonia, Mich.
Continuation of application Ser. No. 341,549, Jan. 31, 1964. This application July 26, 1966, Ser. No. 573,734
4 Claims. (Cl. 210—97)

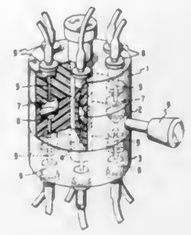


A filter apparatus having a sheet of filter medium drawn from a supply and along a pervious concave support, substantially cylindrical with its axis parallel to the direction of movement. A suction chamber below said support sucks liquid from filter cake held on the medium as both are drawn along the support. Hold-down bars with edges contoured to fit the concavity of the support, whereby to engage the medium and move it along the support while lying substantially smoothly thereon, and off at the end.

3,404,780
AUTOMATIC FILTER
Olof Gunnar Hugo Jungner, Hovas, Sweden, assignor to Centrala Automationslaboratoriet AB—CALAB, Stockholm, Sweden, a company
Filed July 29, 1965, Ser. No. 475,693
Claims priority, application Sweden, May 25, 1965, 6,880
2 Claims. (Cl. 210—142)

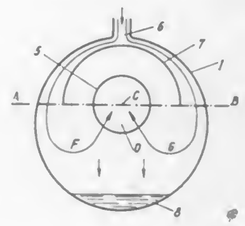
An automatic medical fluid filter comprising three cylindrical blocks disposed adjacent to each other on a common central axis and having a number of equally spaced apart parallel channels extending therethrough parallel to said axis and disposed in a circle concentric to said axis and connectible to medical test fluids, reagents, solvent fluids, vacuum and washing fluid. A regeneratable sintered glass filter is disposed in each channel of the intermediate block and said intermediate block is rotatable

around said axis to sequentially connect each filter to each of the channels extending through the outer blocks.



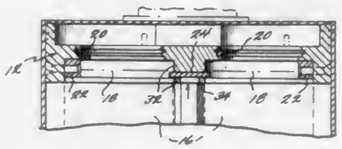
The number of filters is a multiple of the working operations to be carried out by each filter.

3,404,781
DEVICES FOR THE FILTRATION OF ALL LIQUIDS
Robert Eugene Saint Andre, 34 Ave. du General Leclerc, Limoges Haute-Vienne, France
Filed Aug. 31, 1965, Ser. No. 484,052
Claims priority, application France, Nov. 18, 1964, 995,308
1 Claim. (Cl. 210—248)



1. A device for the filtration of a liquid to be filtered, said device comprising at least one horizontally disposed filtration unit having a curved wall and receiving the liquid to be filtered from which waste products are discharged, a settling tank on which said filtration unit is mounted, discharge valve means between said filtration unit and said settling tank, said settling tank receiving through said discharge valve means the waste products discharged from the filtration unit which settle at the bottom of the tank, said settling tank including a valve at the bottom thereof for withdrawing waste products from the tank, said settling tank further including a dome mounted above said tank and communicating therewith, said dome having an overflow pipe in communication with the top of said dome, said filtration unit including a top portion provided with an inlet for the admission into the unit of liquid to be filtered, at least one filter element of circular cross section mounted horizontally within said filtration unit and disposed with its center axis above the center horizontal axis of said unit, and a semi-circular deflector mounted within said unit with its center axis coaxial with the center of said filter element, said deflector disposed in a spaced apart relationship between the upper portion of said element and the curved wall of said unit and substantially covering that portion of the filter element above its horizontal axis, the eccentricity of the axis of said deflector with respect to said unit providing an ever increasing spacing between said deflector and said unit from said inlet to the bottom of said deflector, whereby the velocity of the liquid passing through said inlet into said unit is reduced and the direction of the liquid before striking the filter is changed, thereby preventing said liquid from flowing directly downwardly onto said filter element.

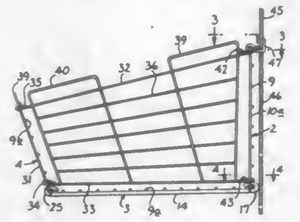
3,404,782
FLARE RACK ASSEMBLY
Nicolas M. Ray, 61 E. 86th St., New York, N.Y. 10028
Filed Jan. 16, 1967, Ser. No. 609,424
5 Claims. (Cl. 211—49)



A flare rack assembly for holding and releasing a plurality of flare canisters is provided with a non-riveted, integrally formed head portion which locks flares within the assembly for ultimate release by known electrical releasing means. The improved structure withstands vibrations and eliminates the danger of premature release or explosion of flares.

The foregoing abstract is not intended to describe the scope of this invention and is only intended to permit a cursory review of the gist of the invention.

3,404,783
WIRE BASKET
Shepard H. Whitman and Roger A. Fautsch, Chicago, Ill., assignors to Dynamic Displays, Inc., Chicago, Ill., a corporation of Illinois
Filed Dec. 6, 1966, Ser. No. 599,434
1 Claim. (Cl. 211—88)

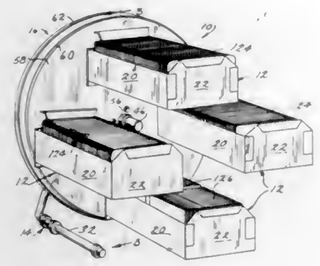


A collapsible wire basket has pivotally connected walls and cooperating elements on the margins of the walls for releasably retaining the basket in set-up position. The walls include portions that shield sharp edges of wire. At the upper wire rod margin of one wall are swivelly mounted hooks. The hooks have angularly related portions for insertion into selected holes of a wall board or other fixture to mount tre basket thereon while keeping the basket level.

3,404,784
FILING DEVICE
Richard P. Scholfield, Armonk, N.Y., assignor to Wheeldex, Inc., Peekskill, N.Y., a corporation of New York
Filed July 5, 1966, Ser. No. 562,824
4 Claims. (Cl. 211—164)

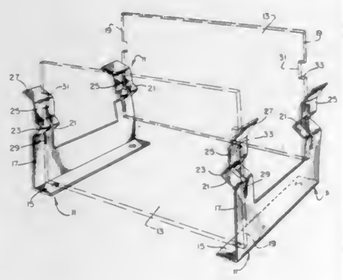
The invention relates to a filing device whereby a plurality of generally rectangular filing trays are adapted to hold a number of filing cards or the like so that the cards may be viewed either from one side of the tray or from

the end. In one embodiment, the trays are supported from a disk in cantilever fashion and rotate transiently about an endless path in generally horizontally extending parallel



relation so as to provide sufficient physical and visual access both to the viewing sides and viewing ends of the trays.

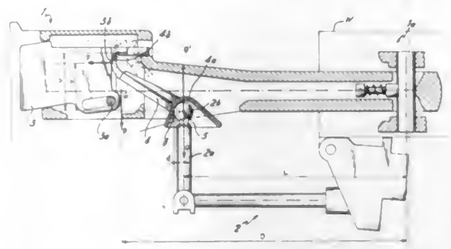
3,404,785
PANEL BOARD RETAINING CLIP
Robert J. Emary, Oberlin, Ohio, assignor to Gilford Instrument Laboratories, Inc., Oberlin, Ohio, a corporation of Ohio
Filed May 27, 1966, Ser. No. 553,365
10 Claims. (Cl. 211—183)



A unitary and resilient clip for latching into and thereby holding in an upstanding orientation a panel member having a notched formation in its lateral edge. The clip has arm and leg portions lying in parallel, yet offset, planes which are interconnected by an inwardly directed segment. A medial slot traverses the interconnecting segment and portions of the arm and leg, bifurcating especially the segment and an adjacent portion of the arm—the latter defining the latching portion of the clip which seats into the notch in the panel.

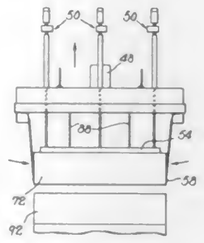
3,404,786
LOCKING SYSTEMS FOR AUTOMATIC COUPLERS
Guy Valleteau de Moulliac, Argenteuil, France, assignor to Societe Generale Isothermos, Argenteuil, Val-d'Oise, France, a company of France
Filed Aug. 8, 1966, Ser. No. 570,961
Claims priority, application France, Aug. 12, 1965, 28,150
10 Claims. (Cl. 213—100)

A locking system carried by the coupler head includes a lock movable between locking and release positions, a suspension system for the head, and an intermediate part mounted on the head and pivotable about a horizontal axis, the intermediate part rests on the suspension system at a point spaced from the horizontal pivot so that the



weight of the head causes the intermediate part to pivot and urge the lock toward its locking position.

3,404,787
SUCTION LIFT FOR ARTICLE DISTRIBUTION AND STORAGE SYSTEM
Theodore Hayford, Glen Rock, N.J., assignor, by mesne assignments, to American Chain and Cable Company, Bridgeport, Conn.
Filed Dec. 27, 1966, Ser. No. 604,825
10 Claims. (Cl. 214—1)



1. In an article distribution and storage system, a suction lift for transferring at least one tier formed of a plurality of units from a first position to a second position comprising:

a hollow, movable head having a rigid top and a depending flexible curtain adapted to encircle the units forming the tier and to engage the sides of the units forming the periphery of the tier in substantially air-tight manner;

an open grate pervious to the passage of air mounted within the hollow, movable head below the rigid top and vertically movable with respect to the rigid top;

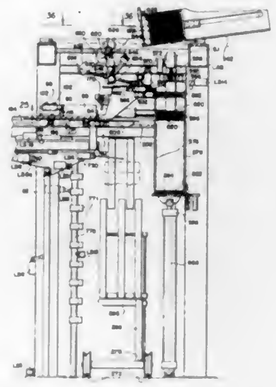
means for selecting the position of the open grate with respect to the hollow, movable head and to a stack of tiers of units located at the first position such that the open grate rests on the tops of the units forming the uppermost tier of the stack and the depending flexible curtain surrounds the periphery of the units forming the lowermost tier to be lifted by the lift;

means to create a predetermined suction within the hollow, movable head such that the depending flexible curtain engages the units of the lowermost tier to be lifted by the lift in said substantially air-tight manner;

means for moving the hollow, movable head, the tier of units engaged in said substantially air-tight manner and the tiers of units above said engaged tier of units from the first position to the second position; and

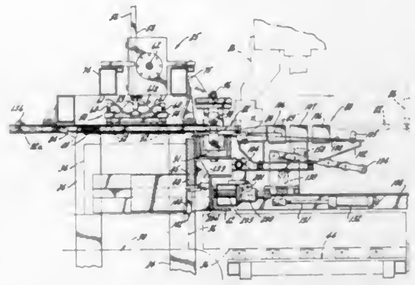
means to release the suction to thereby deposit the engaged tier of units and the tiers of units above said engaged tier of units in the second position.

3,404,788
BRICK STACKING MACHINE
Paul M. Thomas, Phoenix, Robert H. Neill, Mesa, Lawrence W. Wright, Scottsdale, Eugene E. Crile, Phoenix, and Russell W. Burge, Glendale, Ariz., assignors to Builders Equipment Company, Glendale, Ariz., a corporation of Arizona
Filed Oct. 3, 1966, Ser. No. 583,591
19 Claims. (Cl. 214—6)



19. In a brick stacking machine, the combination of: a conveyor; first means for receiving a row of bricks from said conveyor; an elevator disposed in spaced relationship to said first means; power means for moving said row of bricks over said elevator second means for transferring the said row of bricks onto said elevator; means for preventing the movement of some of said bricks in said row to thereby form openings therein, as they are moved from said first means to said elevator; and third means for placing a supporting member above said openings to support a superimposed row of bricks thereabove.

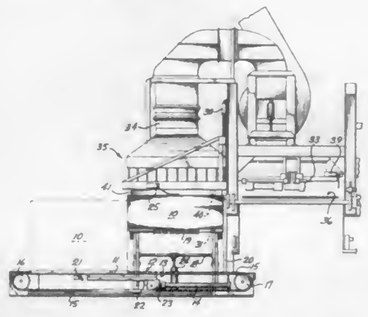
3,404,789
DESTACKING APPARATUS
Vasil Georgeff, La Grange, Theodore F. Novak, La Grange Park, and Richard D. Froula, Brookfield, Ill., assignors to Danly Machine Specialties, Inc., Chicago, Ill., a corporation of Illinois
Filed July 14, 1966, Ser. No. 565,306
19 Claims. (Cl. 214—8.5)



Apparatus for removing metal sheets from a stack with vertically reciprocating vacuum pick-ups, magnetically receiving and supporting the sheet raised from the stack and automatically transferring the individual supported workpiece to a power press line or the like wherein the destacking and transfer operations occur synchronized with the press and press transfer equipment for high speed, continuous operation.

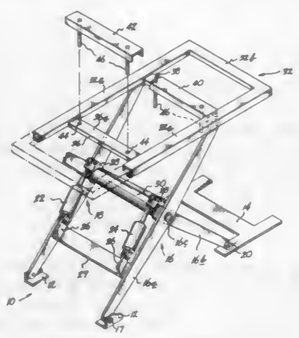
Destacking apparatus of the foregoing type wherein multiple palletized stacks of sheets are moved through the destacker with continuous control for separating sheets from the stacks being fed into the apparatus.

3,404,790
SUPPLY STATION
Byron B. Brookhyser, Milton, Wash., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Filed Nov. 2, 1966, Ser. No. 591,612
5 Claims. (Cl. 214—8.5)



This application relates to a device for unstacking individual sheets from a stack of sheets. Means are provided to move a stack of sheets to the unstacking position where the topmost individual sheet is removed from the stack by a suction gripper which moves the sheet in a transverse direction and deposits it at a point remote from the unstacking position. As individual sheets are removed from the top of the stack, elevating means move the stack upwardly to maintain the top sheet of the stack in a constant position. The suction gripper has a means which detects the stack moving means through the last sheet and immediately causes the stack moving means to be moved into position to receive another sheet.

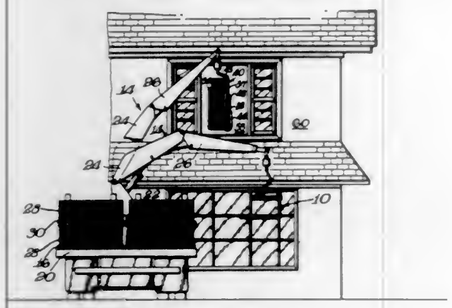
3,404,791
LOAD-SUPPORTING APPARATUS
Charles Le Roy Larson, Grants Pass, Oreg., assignor to Jeddeloh Bros. Sweed Mills, Inc., Gold Hill, Oreg., a corporation of Oregon
Filed Oct. 18, 1965, Ser. No. 497,115
5 Claims. (Cl. 214—38)



Load-supporting apparatus including an elevatable platform and a movable support mounted on the platform

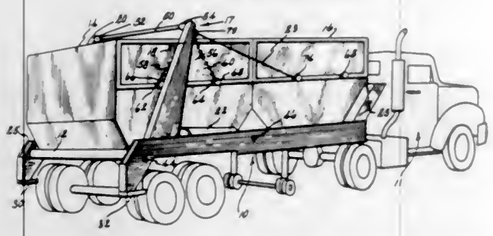
which has its downward movement arrested upon lowering of the platform to a predetermined position relative to the ground.

3,404,792
MATERIAL HANDLING DEVICE
Bengt O. Frieberg, Wilmington, Del., assignor to Hiab Hydraulics Corporation, Wilmington, Del., a corporation of Delaware
Filed Oct. 8, 1965, Ser. No. 494,119
13 Claims. (Cl. 214—80)



A material handling device, which transports articles from one location to another, is mounted on the end of the outer member of a boom. During the stored condition of the device, such as during transportation, the outer member of the boom is disposed on, for example, a vehical cab in a substantially horizontal position and the material handling device rests upon the outer member with a locking device on the outer member engaging the material handling device.

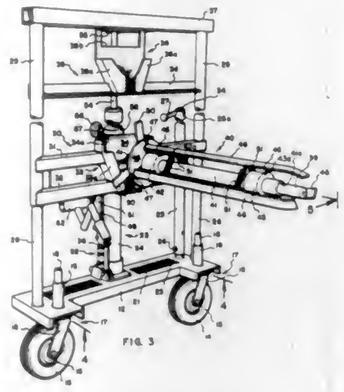
3,404,793
LOAD CARRIER
Albert A. Pinkert, 8541 S. Cregier, Chicago, Ill. 60617
Filed June 7, 1966, Ser. No. 555,829
3 Claims. (Cl. 214—152)



The loading and unloading of a pair of cargo carrying containers from adjacent the forward and rearward ends respectively of an elongated truck bed having a pair of arms pivotally mounted thereon. The arms are employed both to transfer containers between the rearward end of the bed and a remote location and to move containers between the front and rear of the bed.

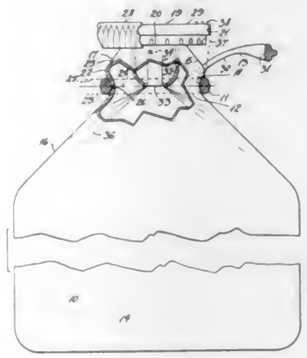
3,404,794
ROLLED CARPET HANDLING TRUCK
Robert F. Wilson, 197 Park, P.O. Box 362, Idaho Falls, Idaho 83401
Filed June 26, 1967, Ser. No. 648,770
8 Claims. (Cl. 214—653)

A truck for handling rolled carpet and the like including a pump for elevating the carpet and upper and lower crossheads adapted to have an expander arm selectively affixed thereto. The expander arm is adapted to fit tightly within the tube on which the carpet is rolled. A pair of the trucks are used together, one at each end of the rolled carpet, and with their adapter arms affixed to the lower crossheads the carpet roll can be raised to a predetermined


FIG. 3

height by operating their pumps. While using independent means to support the roll at the predetermined height, the adapter arms can be removed by lowering the crossheads and can be re-affixed to the upper crosshead, so that the carpet roll will be raised to a greater height when the pumps are again operated.

3,404,795
ALL-PLASTIC MILK BOTTLES
Paul G. Kemp, 1881 Huron St., London, Ontario, Canada
Continuation-in-part of abandoned application Ser. No. 499,376, Oct. 21, 1965. This application Dec. 19, 1966, Ser. No. 619,879
10 Claims. (Cl. 215—100)

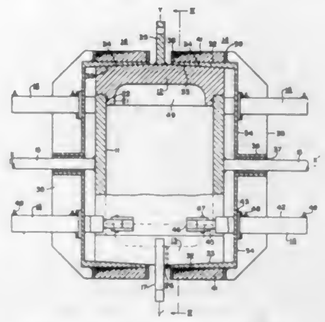


A plastic bottle including a frusto-conical neck with an outwardly extending finish having an opening surmounting the neck. The neck including a generally outwardly curved rondure which merges into a reduced dimensioned throat which throat merges downwardly and outwardly with respect to the body of the bottle. A handle including a band is disposed in encompassing and conforming relationship around the throat.

ERRATUM

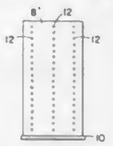
For Class 220—2.3 see:
Patent No. 3,404,769

3,404,796
HIGH PRESSURE FULLY OPENABLE TANK
David T. Dobbins, Los Altos Hills, and Frederic F. Stafford, Los Altos, Calif., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 16, 1967, Ser. No. 616,608
10 Claims. (Cl. 220—3)



A large high pressure fully openable tank is fabricated primarily from comparatively low cost steel plate. Hydraulically actuated holding frames retain removable top and bottom end members on a cylindrical body member. The holding frames are reinforced with bandings of a suitable material.

3,404,797
FRAGMENTATION OF UNDERGROUND METALLIC SILOS SUBJECTED TO INTERNAL BLAST
Jens C. Dolling, Morris Plains, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Jan. 24, 1967, Ser. No. 611,482
10 Claims. (Cl. 220—18)

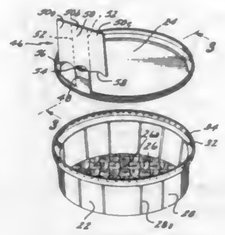


1. A silo for use underground in storing explosives, said silo comprising a cylindrical metal container having longitudinal rows of sudden changes of thickness with each row extending in a direction parallel to the axis of said container, said rows being generally equally spaced apart about the circumference of said cylindrical metal container whereby when sufficient force is applied internally of said cylindrical container, said cylindrical container will rupture along predetermined lines to form strips.

3,404,798
FOOD PACKAGE AND METHOD OF MAKING SAME
Louis A. Hurwitz, 2621 Harbor Blvd., Costa Mesa, Calif. 92626
Filed Nov. 16, 1964, Ser. No. 411,353
8 Claims. (Cl. 220—44)

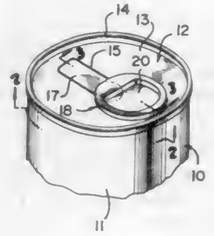
This invention is of an aluminum package for foodstuffs, wherein the interior of the package can be evacuated or provided with a predetermined atmosphere if desired.

The novel package is formed in two sections, there being mating surfaces which comprise a generally coplanar shoulder and a continuous upstanding flange at right angles to such shoulder. In addition, there is pro-



vided an evacuating tube at such mating surfaces, and sealing means is provided along a portion of the juxtaposed flanges to enable the seal to be disrupted without destroying the additional support afforded by the shoulder and flange.

3,404,799
CONTAINER
John J. McNamara, Chicago, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Apr. 16, 1965, Ser. No. 448,596
8 Claims. (Cl. 220—54)

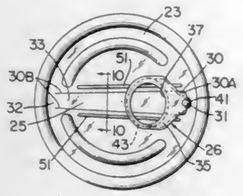


This disclosure has to do with an easy opening can end wherein the opening of the can is facilitated by shearing the metal of the can entirely through along a starting end portion of a tear strip defined therein primarily by score lines. The sheared through opening in the end is sealed by an extension of a rivet utilized for attaching a pull tab to the tear strip and the pull tab overlies the sheared area to cooperate with the rivet extension.

3,404,800
OPENING MEANS FOR A CONTAINER
Horst F. W. Arfert, Richmond, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Sept. 15, 1966, Ser. No. 579,716
14 Claims. (Cl. 220—54)

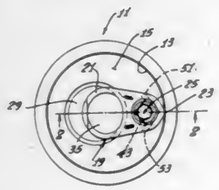
This disclosure relates to opening means for container means such as a cylindrical beverage can, for example, wherein such opening means enables severing of an elongated strip from a top wall of such cylindrical beverage can and such strip is held attached to the top wall. The opening means includes a pull ring having a finger receiving aperture in its central portion and a tab extending outwardly of such central portion and such tab is

attached to one end portion of the elongated strip. The tab has reenforcing means including curved flange means



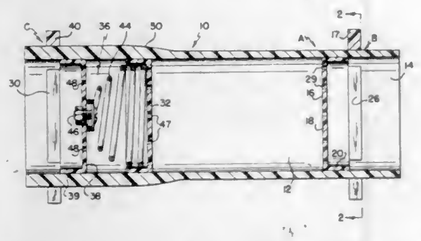
in its outer periphery enabling application of comparatively large opening forces.

3,404,801
EASY-OPENING CONTAINER WALL WITH SCORELINE VENT
Francis M. Silver, Dayton, Ohio, assignor, by mesne assignments, to Ermal C. Fraze, Dayton, Ohio
Filed Apr. 21, 1967, Ser. No. 632,630
13 Claims. (Cl. 220—54)



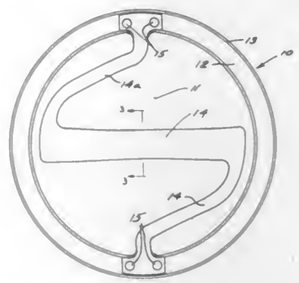
This disclosure describes an easy-opening container wall having a wall segment at least partially removable therefrom. A tab is secured to the container wall for initiating severance of the wall segment from the container wall. A rupturable scoreline is formed in the container wall adjacent the tab and rupturable in response to movement of the tab to initiate severance of the wall segment from the container wall.

3,404,802
CONTAINER FOR MATERIAL BEING FROZEN
Louis A. Bettcher, Amherst, Ohio, assignor to Lab-O-Matic Corp., Vermilion, Ohio, a corporation of Ohio
Filed July 13, 1966, Ser. No. 564,974
9 Claims. (Cl. 220—85)



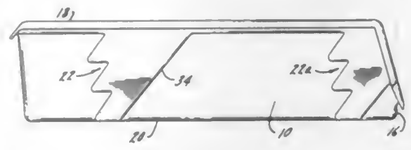
A tubular container for expansible material, such as comestible material to be frozen. The container includes an end closure that facilitates expansion of the material during freezing to minimize distortion of the tubular container during use.

3,404,803
PLASTIC RETRACTABLE HANDLE
Phillip N. Hilliard, Bethel, Ohio, assignor to Buckeye Molding Company, New Vienna, Ohio, a corporation of Ohio
Filed June 21, 1967, Ser. No. 647,795
3 Claims. (Cl. 220—94)



A plastic closure for sealing and carrying a container and its contents. The closure includes a resilient plastic carrying handle that moves to a carrying position when grasped and automatically retracts to a position substantially flush with the closure surface when released.

3,404,804
STACKABLE AND NESTABLE CONTAINER
Milton A. Frater and Allen H. Frater, Watertown, Wis., assignors to G. B. Lewis Company, Watertown, Wis., a corporation of Wisconsin
Continuation-in-part of application Ser. No. 489,801, Sept. 13, 1965. This application Aug. 15, 1966, Ser. No. 573,760.
13 Claims. (Cl. 220—97)

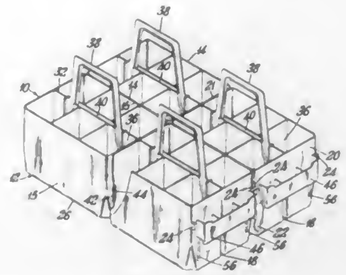


A stacking and nesting receptacle capable of being stacked and nested in vertical in-line positions in which one receptacle is moved along a straight line path from a full stacked elevation to a full nest position, and vice-verse, relative to another like receptacle.

3,404,805
BOTTLE CARRYING CARTON AND CASE
Robert J. Stockman, Bernardsville, N.J., Wesley F. Junker, Copiague, N.Y., Earl E. Hoyt, Northdale, N.J., and Albert H. Torongo, Jr., Yardley, Pa., assignors to Union Carbide Corporation, a corporation of New York
Filed Nov. 5, 1965, Ser. No. 506,529
21 Claims. (Cl. 220—102)

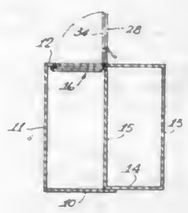
A multiple bottle plastic carrying carton comprising a generally rectangular carton having integral bottom, side and endwalls; a longitudinally extending central dividing wall; partition walls cooperating with the central dividing wall to segregate the carton into a plurality of cells adapted to contain bottles; an upright handle attached to the central dividing wall; the dividing wall having an aperture

contained therein adapted to receive the handle of another like carton in stacking relationship. The lower portions of the carton are divided into two integral units by a longitudinally extending recessed groove and the recessed groove is adapted to straddle a portion of a baling loop to connect the carton to other like cartons. Furthermore, lock receiving means is disposed along the outer edges of



at least one endwall and adapted to cooperate in interlocking relationship with locking means on the baling loop to securely bind the carton to other like cartons.

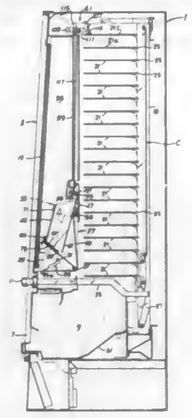
3,404,806
END LOADING BEVERAGE CARTON WITH HANDLE STRUCTURE
James A. Richardson, Richmond, Vancouver, British Columbia, Canada, assignor to Belkin Paper Box Limited, Richmond, Vancouver, British Columbia, Canada
Continuation of application Ser. No. 527,932, Feb. 16, 1966. This application July 13, 1967, Ser. No. 653,270
6 Claims. (Cl. 220—115)



A carton for bottled beverages is formed from a unitary blank having a series of panels arranged to form top and bottom walls, a pair of side walls, a longitudinal partition panel, and a two-layer handle device panel. A handle tab is partially severed from the top wall panel and one layer of the handle device panel, and the two handle taps are adhesively secured to each other.

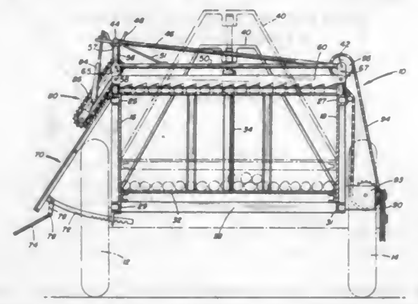
3,404,807
ARTICLE VENDOR WITH DISPLAY
James T. Schuller and William H. Short, St. Ann, and Robert D. Stayton and Arthur G. Blacklock, St. Louis, Mo., assignors to VMC Industries, Inc., St. Louis, Mo., a corporation of Delaware
Filed Nov. 23, 1966, Ser. No. 596,650
10 Claims. (Cl. 221—8)

A vendor, particularly for pastries or other food products, comprising a cabinet with a plurality of dispenser columns therein, each of the so-called drop-shelf type. For each column, there is a display of the product stocked in that column, this display being operable by the release of the uppermost shelf of the column after all the articles



in the column have been dispensed, for vending the displayed product.

3,404,808
SUGARCANE PLANTER
Richard J. Boudreaux, Jr., 204 Louisiana Drive, Thibodaux, La. 70301
Filed Jan. 24, 1966, Ser. No. 522,699
11 Claims. (Cl. 221—185)

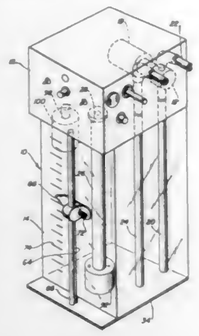


Sugarcane stalks planting apparatus including a mobile vehicle having a vertically movable platform normally disposed in the bottom portion of a storage bin for receiving the stalks, and stalks displacing means extending horizontally over the bin and above the platform to engage and displace the stalks from the platform in a generally horizontal lateral direction relative to the bin. Stalks dispensing means are also carried by the vehicle to receive the stalks from the displacing means and dispense the stalks outwardly from the bin.

3,404,809
LIQUID DISPENSING APPARATUS
Robert E. Harris, 4 Saw Mill Lane, Avon, Conn. 06001, and Howard E. Johnson, Pepper Ridge Road, Portland, Conn. 06480
Filed Aug. 3, 1966, Ser. No. 570,048
6 Claims. (Cl. 222—17)

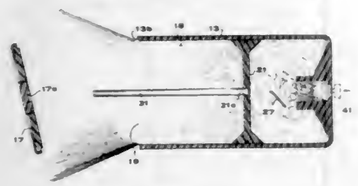
This invention comprises a liquid dispensing apparatus having a compartment for holding liquid, evacuation means associated with the compartment and actuating means to effect operation of the evacuation means to dispense a measured quantity of liquid from the compartment. The actuating means includes a pair of rigid,

vertically arranged conductors mounted within a vertically oriented tube within the compartment to space the conductors from the liquid therein and a first switch slidably supported upon and guided by the conductors for vertical adjustment thereon, operatively associated with the



evacuation means to regulate the quantity of liquid to be dispensed from the compartment. Switch actuating magnets carried by a float surround the tube and actuate the switch responsive to the level of liquid within the compartment.

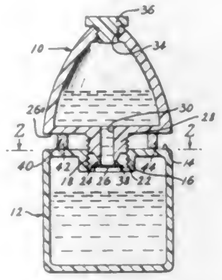
3,404,810
POWDER DISPENSER
Raymond L. Beers, Baltimore, Md., assignor to AAI Corporation, Cockeysville, Md., a corporation of Maryland
Filed Dec. 30, 1966, Ser. No. 606,072
3 Claims. (Cl. 222—82)



A dispenser is disclosed in the form of a canister having a piston propelled by propellant gases to eject a powder charge through a discharge opening formed by removal of a wide-mouth initial cover through application of force directly to the cover by force transmitted from the piston to a central push rod which is in pushing contact with the cover. The forcibly removable cover has a threaded central closure through which a charge of material may be inserted into the canister, and this threaded central closure has a loose fitting lateral guide recess formed therein for laterally restrictedly restraining the push rod prior to and during expulsion of the cover, while enabling the cover to be expelled free of the main cannister body for pull expulsion of the charge of material therefrom.

3,404,811
CONTAINER FOR MAINTAINING IN SEPARATE CONDITION LIQUIDS WHICH ARE TO BE MIXED TOGETHER AND WHICH MAY BE MANIPULATED TO COMMINGLE SUCH LIQUIDS
Jose Cernei, 2148 W. Holcombe Blvd., Houston, Tex. 77025
Filed Dec. 2, 1966, Ser. No. 598,742
1 Claim. (Cl. 222—83)

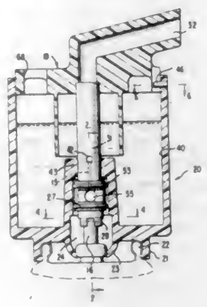
A container for keeping separate two liquid components which are to be intermixed for dispensing immediately prior to use. The container is formed as two receptacles having a screw threaded connection providing an outlet opening for one receptacle and an inlet opening for the other receptacle through which fluid from said other receptacle flows into the one receptacle when the outlet and inlet are open. The outlet and inlet are initially closed by a frangible closure and the receptacles are partly screwed together, there being means operable by a further screwing together of the receptacles for breaking the frangible



closure when it is desired to intermix the two components. Means is also provided for holding the receptacles, when loaded and connected together, against such further screwing together to prevent accidental breaking of the frangible closure and premature intermixing of the components.

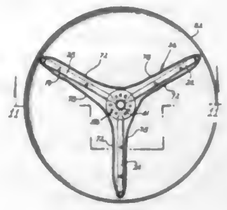
In a modified form of the invention one of the receptacles has a discharge outlet for the intermixed product and the frangible closure has means connected thereto and extending to a position to be pulled through the discharge outlet to break the frangible closure.

3,404,812
MIXING HEAD WITH FULL OPENING CONTROL
Leonard L. Marraffino, 1824 NW. 36th Court, Oakland Park, Fort Lauderdale, Fla. 33309, and Ralph J. Miolla, Jr., Fort Lauderdale, Fla.; said Miolla assignor to said Marraffino
Filed Apr. 25, 1967, Ser. No. 633,585
8 Claims. (Cl. 222—193)



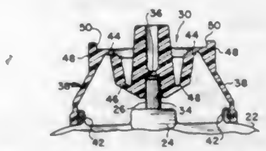
This invention relates to a device which insures full power, pressure and flow from an aerosol container to a jet means, which in turn increases the speed of flow of the fluid for various purposes, such as, the production of a mixture thereof with another fluid. Low power, pressure and flow caused by partial opening only of the discharge valve is prevented from reaching the jet means by a valving system which allows fluid to flow to a control chamber but prevents flow to the jet means until the discharge valve has been removed a predetermined distance to its open position.

3,404,813
TANK WITH METALLIC BLADDER
Herbert I. Waxman, Northridge, Calif., assignor to The Marquardt Corporation, Van Nuys, Calif., a corporation of California
Filed Aug. 29, 1966, Ser. No. 575,676
2 Claims. (Cl. 222—386.5)



The tank has a bladder made of a thin, metallic, corrosive resistant material which surrounds three equally spaced ribs located along perimetrical lines of the tank and around a central standpipe. The central standpipe runs the full length of the bladder and the ends of the ribs are attached at opposite ends of the standpipe. The tank surrounds the bladder and is spaced therefrom to provide a space which can be pressurized to collapse the bladder between the ribs and thereby discharge fluid from the bladder through openings in the ribs and in the standpipe.

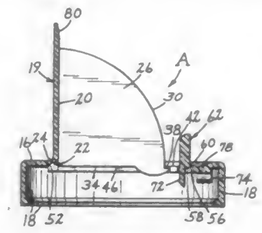
3,404,814
ACTUATOR FOR AEROSOL VALVE
Alfred W. Wakeman, Durham, Conn., assignor to The Risdon Manufacturing Company, Naugatuck, Conn., a corporation of Connecticut
Filed June 27, 1967, Ser. No. 649,169
9 Claims. (Cl. 222—402.13)



An actuator for an aerosol valve comprising a nozzle body for attachment to the stem of the valve and legs joined to the nozzle body at one of their ends on opposite sides of the body, the other ends of the legs having provision for gripping a rim on the valved end of the aerosol container. The legs are bent upwardly in their intermediate portions to form knees which when squeezed together by thumb and forefinger pressure axially depress the nozzle body through a toggle action of the legs to operate an associated valve.

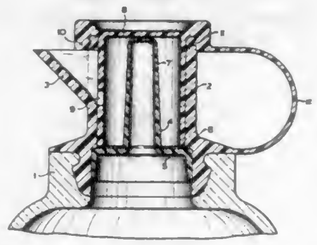
3,404,815
ONE PIECE MOLDED CLOSABLE POUR SPOUT CAP FOR A CONTAINER
Alvin J. Porter, Minneapolis, Minn., assignor to Product Design & Engineering, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Sept. 5, 1967, Ser. No. 665,463
10 Claims. (Cl. 222—517)

The disclosure includes a cap having a top portion from which depends a wall for connection with a container. The top portion has a pour spout hingedly connected by molding to the top at one edge of the spout and molded at an angle to the top. A ledge member is hingedly molded to the top in a position at an angle thereto. The ledge member has notches formed therein whereby the same may be hingedly moved and bypass the side walls of the spout. The top carries lug means for locking the



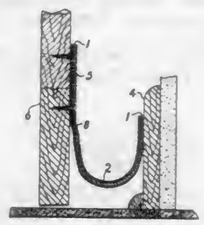
ledge to the top and which is engaged by hook means carried by the side walls of the spout to limit the open spout position.

3,404,816
POURING MEANS AND CLOSURE
Wolfgang Weber, Karlsruhe, Baden, Germany, assignor to Chemische Werke Werner & Mertz G.m.b.H., Mainz (Rhine), Germany
Filed Mar. 20, 1967, Ser. No. 624,395
7 Claims. (Cl. 222—545)



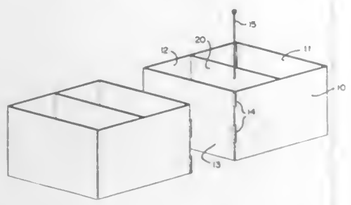
Container closure of three main parts, one part being locked to container and having a spout, another part being supported in first part and displaceable into container only, and a third part covering first part and concealing second part.

3,404,817
COMBINATION FOOTWEAR REMOVER AND DOOR STOP
Hugh Stephens, 90 Leighton Ave., Winnipeg 15, Manitoba, Canada
Filed Mar. 7, 1966, Ser. No. 532,230
2 Claims. (Cl. 223—114)



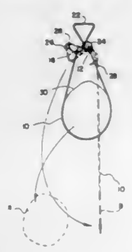
A simple, inexpensive, one piece high boot and galosh remover comprising a U-shaped bar with one leg of the U being rigidly secured to the inside lower surface of a door to provide for removal of a galosh and serve as a door stop.

3,404,818
PACKAGE CONTAINERS
Constance K. Miscoe, 211 Palliser St., Johnstown, Pa. 15905
Filed Nov. 15, 1966, Ser. No. 594,523
2 Claims. (Cl. 224—42.42)



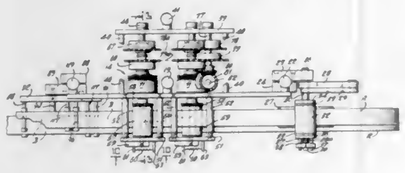
A shopping arranger for automotive vehicles is provided in the form of a pair of foldable quadrilateral members, each having four flat sides hinged at their intersections and a removable hinge connection between said pair of members at one intersection, each of said members being independently foldable into a flat planar unit.

3,404,819
TRASH RECEPTACLE AND HANDLING MEANS
Edwin J. Rolph, 2931 W. Pierson, Phoenix, Ariz. 85017
Filed Dec. 19, 1966, Ser. No. 602,888
2 Claims. (Cl. 224—49)



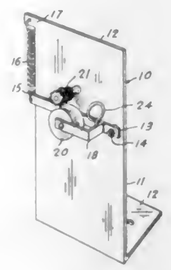
A flexible sheet of material having opposite edges provided with fixtures adapted to connect said opposite edges; a plurality of handles connected to one of the edges and provided with hooks for hooking through the fixtures of the opposite edges to provide a loop-shaped receptacle for holding trash, such as horticultural prunings, or the like.

3,404,820
APPARATUS FOR UNIFORM WEB FEED
Herbert W. Marano, Summit, N.J., assignor to Consolidated Cigar Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 12, 1966, Ser. No. 541,988
7 Claims. (Cl. 226—40)



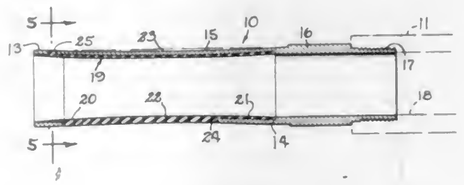
A tension regulating band feed mechanism includes a constant speed take-up and a feed roll, the band traversing a loop between the take-up and feed roll which is engaged by a sensing element. The feed roll is rotated at less than take-up speed through a slow overrunning clutch and is rotated at greater than take-up speed by an electric clutch. The electric clutch is deactuated when the loop exceeds a predetermined first amplitude and is actuated when the loop is less than a predetermined value. Means are provided for adjusting the tension of the sensing member on the loop and the loop amplitude control points.

3,404,821
APPARATUS FOR USE IN THE SEEDING OF CLOUDS
Jacques d'Avignon, Repentigny, Quebec, Canada, assignor to Weather Engineering Corporation of Canada, Ltd., Dorval, Quebec, Canada
Filed Apr. 21, 1966, Ser. No. 544,231
Claims priority, application Canada, Apr. 30, 1965, 929,609
7 Claims. (Cl. 226—90)



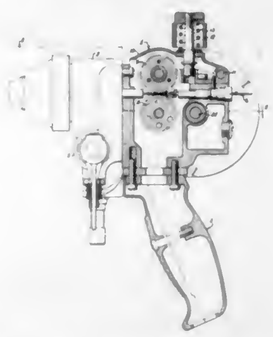
A feeding apparatus for feeding a soft cord including a driven toothed roller having parallel, circumferential rows of gear teeth forming a gripping nip with a spring urged grooved roller.

3,404,822
FEED FINGER
Edouard S. Green, Roscoe, Ill., assignor to Green Manufacturing Company, Rockton, Ill., a corporation of Illinois
Filed Apr. 20, 1966, Ser. No. 543,903
7 Claims. (Cl. 226—158)



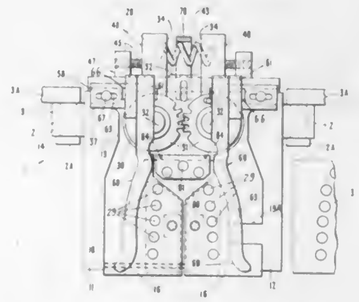
For use with an automatic screw machine for frictionally gripping and advancing a work bar, a feed finger comprises a tubular metal shell formed with a series of angularly spaced and resiliently yieldable strips which are bowed intermediate their ends to apply gripping pressure to the shell. A rubber sleeve telescoped into the bar is contracted by the bowed strips and engages the bar to increase the gripping effectiveness of the strips by distributing the gripping pressure around the periphery of the bar and over a substantial portion of the length of the bar.

3,404,823
FLAME SPRAY GUN WITH IMPROVED DRIVE MECHANISM
Henry C. Thompson, Westbury, N.Y., assignor to Metco Inc., Westbury, N.Y., a corporation of New Jersey
Filed Jan. 11, 1965, Ser. No. 424,750
14 Claims. (Cl. 226—178)



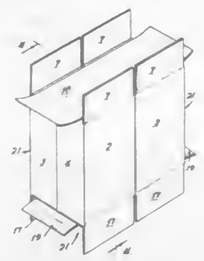
1. In a wire type flame spray gun having a wire feed roll for feeding wire through the gun and a speed-governed drive for said wire feed roll, the improvement which comprises torque-sensing means directly responsive to the drive torque of said feed roll, without speed change, said torque-sensing means being operationally connected to said drive for varying the power output of said drive transmitted to said feed roll in accordance with variations of the torque of said roll whereby the power output is increased with an increase of the torque and decreased with a decrease of the torque.

3,404,824
ADJUSTABLE GANG NAIL HOLDER
Charles A. Davis, Saugus, Mass., assignor to W. J. Young Machinery Co., Inc., Peabody, Mass., a corporation of Massachusetts
Filed Apr. 11, 1966, Ser. No. 541,546
8 Claims. (Cl. 227—140)



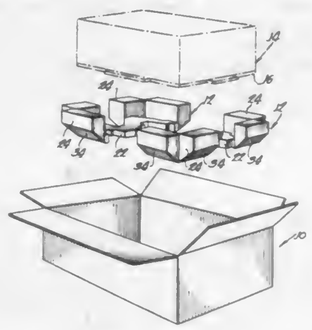
A nail holder for use with gang nailing shoe machines having a frame supporting a pair of nailing blocks with each block having a plurality of holes extending vertically therethrough and adapted to received upwardly pointed nails. The blocks are interengaged and supported for symmetrical pivoting lateral movement by intermeshed quadrant gears. Guide means are secured to the blocks with these guide means adapted to engage the sides of a shoe last as the shoe last is inserted into the nail holder so that the blocks will adjust to the size of the last being inserted and thereby properly align the holes containing upwardly pointed nails with the bottom of the last for a subsequent nailing operation in which the nails are driven upwardly by a nail-driving mechanism on actuation of a hammer or the like.

3,404,825
CARTON BUNDLING
George G. Rumberger, Kalamazoo, Mich., assignor to Brown Company, Kalamazoo, Mich., a corporation of Delaware
Filed Sept. 23, 1966, Ser. No. 581,530
4 Claims. (Cl. 229—6)



A unit bundle comprising a plurality of cartons secured to each other at their ends, each of the cartons having an end flap and at least one underlying flap positioned immediately below, each of the cartons being comprised of laminated paperboard having a layer of thermoplastic adhesive intermediate two layers of paperboard, and having exit means provided in the paperboard of the flaps permitting the adhesive to be extruded therethrough, an integral web being placed between two of the flaps of each carton and being adhesively affixed to at least one flap of each carton by means of the thermoplastic adhesive extruded from the laminated paperboard.

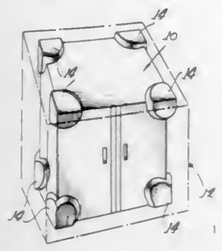
3,404,826
CUSHIONING UNIT
John M. Carmody, Palos Heights, Ill., assignor to Republic Packaging Corporation, Chicago, Ill., a corporation of Delaware
Filed Aug. 8, 1967, Ser. No. 659,113
7 Claims. (Cl. 229—14)



A cushioning unit which is formed of a resilient compressible material, such as polyethylene foam, and has an irregular-shaped or contoured bottom cushion which is affixed, by heat sealing, to two corner members of a like material. The corner members are L-shaped, and are formed from a generally rectangular-shaped piece of material which is cut to form two like pieces joined by a web. These like pieces are then folded L-shaped and affixed to the bottom cushion. The lower outside edges of

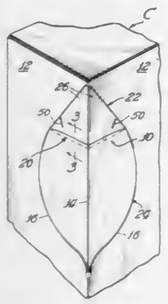
the corner members are beveled, to prevent shearing the joints between them and the bottom cushion, on bottom or vertical impacts. The beveled edges on the corner members also permit the bottom cushion to function properly by eliminating the cushioning material which does not compress due to the fact that there is no "load" to compress it.

3,404,827
CORNER CUSHIONS
John M. Carmody, Palos Heights, Ill., assignor to Republic Packaging Corporation, Chicago, Ill., a corporation of Delaware
Filed May 18, 1967, Ser. No. 639,365
9 Claims. (Cl. 229—14)



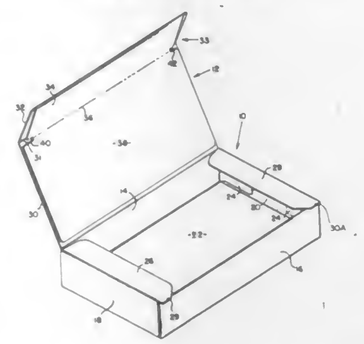
A corner cushion for packaging articles in cartons for shipping and/or storing them having a generally cylindrical-shaped body which has a three-faced pointed tip on one end thereof forming an outside corner and a three-faced interior cavity in the other end thereof forming an inside corner. The apparatus for cutting the corner cushions includes a number of electrically heated wires or cutting blades, for simultaneously cutting a number of the corner cushions from a length of cylindrical-shaped material, preferably foamed polyethylene. A sprue can be provided between the corner, during the cutting operation, to connect the corner cushions together to form a long length of connected corner cushions for ease in storing and/or shipping them.

3,404,828
DISPENSING CARTON WITH SIFTPROOF POURING ARRANGEMENT
Ronald L. Whipperman, Northlake, Ill., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Aug. 2, 1967, Ser. No. 657,969
6 Claims. (Cl. 229—17)



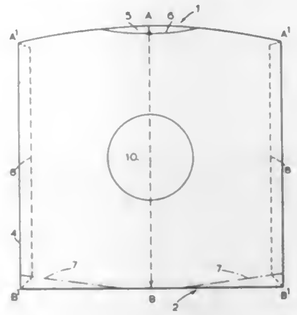
A paperboard dispensing carton having a pouring member in a corner thereof comprising a pair of upper and lower elements which are alternately depressible to open and close the pouring member and which are divided from each other by an area of severance formed by a pair of inner and outer cuts spaced from each other to define therebetween marginal portions on the respective elements which overlap.

3,404,829
CARTON LOCKING COVER
Orison W. Stone, Valley Cottage, N.Y., assignor, by mesne assignments, to Stecher-Traung-Schmidt Corporation, Rochester, N.Y., a corporation of New York
Filed July 21, 1967, Ser. No. 655,055
9 Claims. (Cl. 229—44)



A carton having a carton shell **10** with a cover **12** hingedly connected to a rear wall thereof to overlie the bottom wall. A pair of panels **32** and **34** facing each other and hinged to an external top cover wall **30** of cover **12** along spaced hinge lines **31** and **36** respectively with the other edges of the panels **32** and **34** being hinged together to provide a self-supporting cover flap **33** for overlying the front wall of the carton shell. Locking tabs **29** and **30** extending beyond a front wall **16** of the carton shell are received in locking relationship with slots **40** and **42** formed along the hinge line **36** of the self-supporting flap **33** for releasably locking the cover **12** in closed relationship with the carton shell **10**.

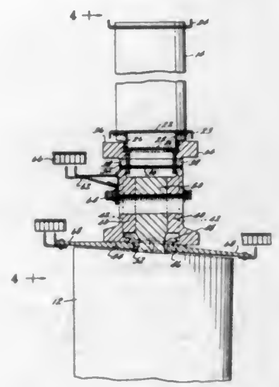
3,404,830
ENVELOPES FOR GRAMOPHONE RECORDS
Walter Leslie Rand, Gerrards Cross, England, assignor to Electrical & Musical Industries Limited, Hayes, Middlesex, England, a British company
Filed Dec. 8, 1966, Ser. No. 600,177
Claims priority, application Great Britain, Dec. 15, 1965, 53,143/65
5 Claims. (Cl. 229—68)



This specification describes a gramophone record in a sleeve of thin pliable material which is slightly tapered

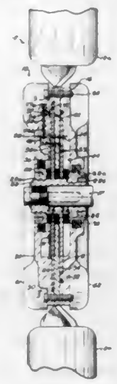
at one or both ends towards the sides to facilitate its insertion sideways into the outer jacket. The tapering may be linear or curved and a cut-away may be provided at the centre of the open end of the sleeve to facilitate extraction therefrom of the record.

3,404,831
TURBINE BUCKET SUPPORTING STRUCTURE
William B. Campbell, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
Filed Dec. 7, 1966, Ser. No. 599,820
8 Claims. (Cl. 230—116)



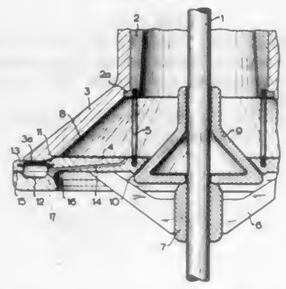
The invention relates generally to tip turbine fan rotors and is directed to a take-apart arrangement whereby packages of turbine buckets may be easily and quickly replaced in the event of damage without extensive repair or rework of much of the prime supporting structure.

3,404,832
FLUID COUPLING
Alex Sutaruk, Hazel Park, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Dec. 6, 1966, Ser. No. 599,639
14 Claims. (Cl. 230—270)



Disclosed herein is a fluid coupling assembly which is used for driving a fan and includes input and output members having surfaces located in a chamber holding a fluid shear medium. The output member forms an integral unit with blades of the fan to promote a dissipation of heat from the working chamber by the fan blades. The input member is releasably coupled to a drive shaft to enable the input member to slip relative to the drive shaft in response to a condition of operation of the coupling assembly. One of the members is formed of a resilient material to enable the member to be readily deflected relative to the other member to minimize the transmission of wobble inducing forces between the members.

3,404,833
CENTRIFUGE
Kurt Pause, Grevenbroich, Germany, assignor to Maschinenfabrik Buckau R. Wolf Aktiengesellschaft, Grevenbroich, Germany
Filed Aug. 16, 1967, Ser. No. 661,502
Claims priority, application Germany, Aug. 22, 1966, M 70,652
9 Claims. (Cl. 233—20)

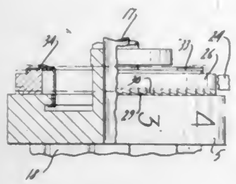


A centrifuge for separating a solid fraction from a liquid fraction includes a drum which is rotatable about a predetermined axis and includes a peripheral wall spaced from the axis and defining a centrifuge compartment. The wall consists of two sections which have juxtaposed end faces defining with one another a gap communicating with the compartment as well as with the exterior of the drum. One of the faces is provided with a chamber which is open to the gap. A sealing element separates the chamber from the gap. A first conduit connects the compartment with the chamber so that a portion of liquid fraction can enter from the compartment into the chamber. A second conduit connects the chamber with the ambient atmosphere and it defines a throttling orifice so that liquid fraction can escape from the chamber only at a rate which is smaller than the maximum rate at which the liquid fraction can enter the chamber through the first conduit. On rotation of the drum a predetermined pressure develops in the chamber and deflects the sealing element across the gap into contact with the other end face, thereby sealing the gap.

3,404,834
PRESET COUNTER HAVING ADJUSTABLE CONTROL ELEMENT
Robert D. Emery, Northeast, and Charles E. Freese, Erie, Pa., assignors to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed May 24, 1967, Ser. No. 640,957
4 Claims. (Cl. 235—132)

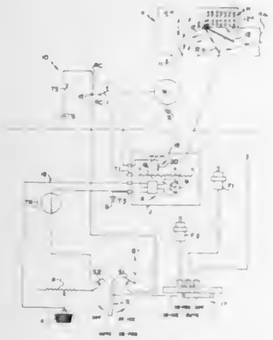
A presettable counter includes indicating display wheels having numbers on the periphery. A ring or cylinder cam is secured to the side face of at least one wheel and has an operating notch in the peripheral surface. The abutting surfaces of the cam and the wheel include meshing teeth having a locking edge and a cam edge. The cam is held against the wheel by generally U-shaped spring clips one arm of which overlies the outer face of the cam and the other of which hooks over a part of the wheel. The spring clips hold the cam to the wheel when the wheel is driven

in one direction, but permits opposite rotation of the cam when the wheel is held fixed for adjusting the angu-



lar positioning of the cam notch relative to the numbers on the wheel.

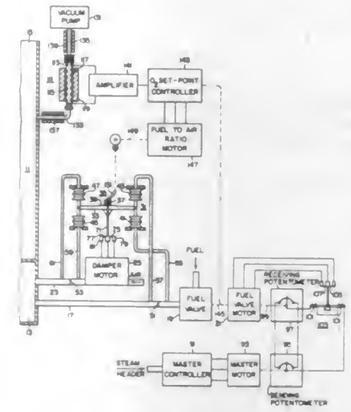
3,404,835
AUTOMOBILE AIR TEMPERATURE CONTROL
Gerald L. Rodgers, Worthington, Ohio, assignor to Ranco Incorporated, Columbus, Ohio, a corporation of Ohio
Filed Feb. 15, 1967, Ser. No. 616,269
10 Claims. (Cl. 236—13)



A temperature control system for an automotive vehicle comprises duct means for directing a flow of air into the passenger compartment of the vehicle, a heat exchanger in the duct means for transferring heat to the air, a blower for providing a forced flow of air in the duct means, a vane-like member for directing proportions of air in the duct means across the heat exchanger and which member is movable to change the proportion of air directed to the heat exchanger so as to vary the temperature of air directed to the passenger compartment, electrically energized actuating means for moving the vane-like member and circuitry including an amplifier having a temperature responsive input circuit for controlling the electrically energized actuating means in response to passenger compartment temperature.

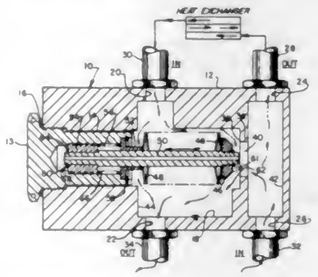
3,404,836
HEAT GENERATING APPARATUS
William M. Hickam, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 20, 1965, Ser. No. 514,871
10 Claims. (Cl. 236—15)

An oxygen solid-electrolyte cell continuously measures the relation between oxygen in the reaction products of the combustion of gas and fuel and a reference gas such as air. A control mechanism responds continuously to



this measurement to adjust the relationship between the gas and fuel subject to combustion.

3,404,837
THERMAL BYPASS VALVE WITH BIMETALLIC CONTROL
Don W. James, Kirtland, Ohio, assignor to North American Rockwell Corporation
Filed Apr. 24, 1967, Ser. No. 633,236
12 Claims. (Cl. 236—34.5)

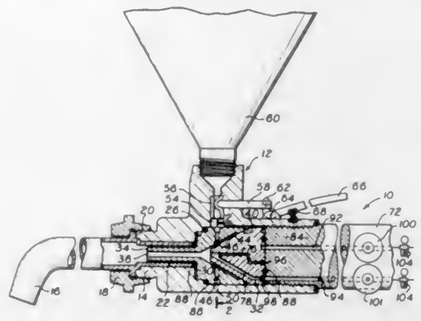


A fluid bypass valve having a chamber with heat responsive bimetallic discs positioned therein to expand and close off the chamber to incoming fluid above a predetermined temperature level thereby, in the most common uses of the valve, forcing the fluid into a heat exchanger to be cooled. The valve chamber remains closed and continues to divert incoming fluid above a predetermined temperature level to the heat exchanger until the temperature of the incoming fluid drops below the predetermined chamber closing temperature whereupon the heat responsive bimetallic discs contract and open the valve chamber to the incoming fluid thereby bypassing the heat exchanger. The closed valve chamber is also pressure sensitive to open above a predetermined pressure differential level thereby bypassing the heat exchanger.

3,404,838
TORCH FOR APPLYING POWDERED MATERIAL
Elwin A. Hawk, Sr., Rte. 1, East Rochester, Ohio 44625
Filed May 24, 1966, Ser. No. 552,486
9 Claims. (Cl. 239—79)

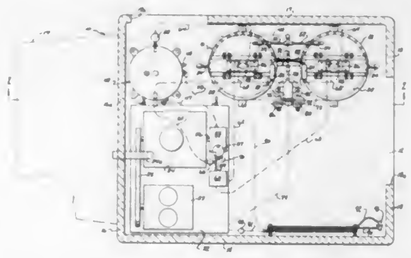
This torch is used for heating a metal surface and for spraying powdered metal through the flame to coat the

surface with hard-facing material. Powder is aspirated into the torch from a hopper and the construction of the torch prevents backfires and explosions which in prior-art torches, blow the powder out of the hopper. Oxygen and fuel gas passages in the torch are correlated so that with gas flowing in either passage, an aspirating action is exerted on the other passage. By making the oxygen passage smaller than the fuel gas passage, the oxygen can be supplied at higher pressure and higher velocity,



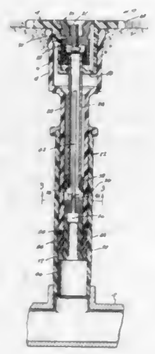
without unduly increasing the proportion of oxygen, and the mixed gases can be accelerated by the oxygen stream velocity to a speed higher than the rate of flame propagation through the mixture. The aspirating action on each gas passage by flow of gas in the other is effected by a nozzle which can either have the passages converge at a low angle so that they are adjacent and merged within the nozzle or discharge through the face of the nozzle at adjacent locations.

3,404,839
MOBILE PAINT MAKING AND SPRAYING APPARATUS
David D. Pipkins, Gainesville, Fla., and Angelo F. Deposta, Chicago, Ill., assignors to The Valspar Corporation, Rockford, Ill., a corporation of Delaware
Filed Dec. 5, 1966, Ser. No. 599,258
10 Claims. (Cl. 239—113)



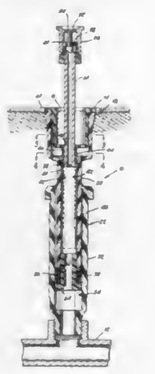
1. In a truck mounted paint making and spraying apparatus, the combination of: a generally cylindrical grinding tank on the truck and having an access opening for placing a quantity of pigment and wetting agent therein, means for supplying a quantity of water to the grinding tank, a shaft extending generally coaxially in the grinding tank, a grinding impeller mounted on the shaft, motor means for rotating the grinding impeller at a speed to suspend the pigment in the water, a second tank on the truck for receiving a latex emulsion, pump means for transferring the water-pigment composition to the second tank, means for slowly mixing the composition and emulsion in the second tank to make a paint, conduit means communicating with the second tank for carrying the paint therefrom, said pump means operative to pump the paint through the conduit means, a spray gun at the end of the conduit means, and valve means for controlling the flow of paint through the conduit means.

3,404,840
POP-UP HEAD FOR SPRINKLER SYSTEM
William J. Trickey, East Lansing, Mich., assignor to Mahogany Corporation, Williamston, Mich., a corporation of Michigan
Filed Oct. 22, 1965, Ser. No. 500,656
15 Claims. (Cl. 239—204)



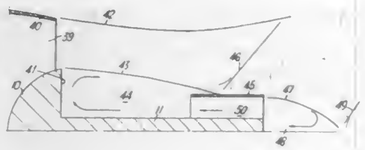
An apparatus for use with underground lawn sprinkler systems, such apparatus having an adjustable riser section for positioning the sprinkler head at a selected elevation above an underground water supply conduit, and a pop-up spray nozzle adapted to be elevated in response to water pressure in said conduit.

3,404,841
POP-UP SPRINKLER ASSEMBLY
William L. Brittain, Williamston, and William J. Trickey, East Lansing, Mich., assignors to Mahogany Corporation, Williamston, Mich., a corporation of Michigan
Filed Oct. 22, 1965, Ser. No. 500,657
5 Claims. (Cl. 239—204)



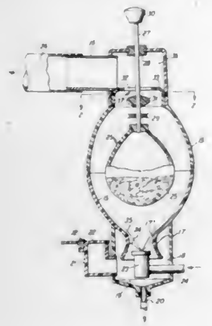
An apparatus for use with underground lawn sprinkler systems, such apparatus having an adjustable riser section for positioning the sprinkler head at a selected elevation above an underground water supply conduit, and a pop-up spray nozzle adapted to be elevated in response to water pressure in said conduit.

3,404,842
NOZZLES FOR JET ENGINES
Henry McDonald, Rocky Hill, Conn., assignor to British Aircraft Corporation (Operating) Limited, a British company
Filed Feb. 13, 1967, Ser. No. 615,578
5 Claims. (Cl. 239—265.37)



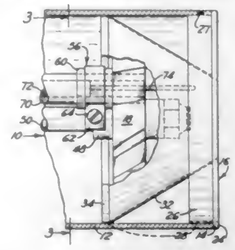
1. A jet engine nozzle including: an annular throat defined between a surrounding wall and a central plug, the plug having a rear face which is transverse to the axis of the nozzle; and a rearwardly-extending stem supported by the plug, the stem being thin relatively to the plug and supporting at its rear end a body which, in use, joins up with a streamline extending rearwards from the periphery of the rear face of the plug.

3,404,843
AEROSOL APPARATUS FOR INHALATION THERAPY
George Szekely, New York, N.Y., assignor to G. S. International Laboratory Corp., Bronx, N.Y., a corporation of New York
Filed Jan. 23, 1967, Ser. No. 610,967
7 Claims. (Cl. 239—338)



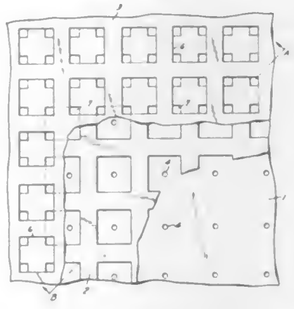
An aerosol producing apparatus in which a liquid is forced upwardly under pressure through a spray nozzle housed in the small tubular inlet of a comparatively large upright casing having a single principal baffle therein. The issuance of the spray automatically creates an air flow through the casing in the nebulization process and forces the manufactured aerosol through an upper outlet from the casing for delivery to a patient. Both the baffle and the interior surface of the casing are of bulb form, and the tubular inlet's inner surface is convex and merges smoothly with the interior surface of the casing whereby a streamlined path for the air and fluid particles is offered through the apparatus. The baffle is adjustable in position along the vertical to alter the quality of the aerosol produced. A valve arranged to be operated by baffle movement, closes more as the baffle is raised and opens more as the baffle is lowered in the casing, to maintain an aerosol delivery of practically constant quantity to the patient. A valve controlling the delivery to the outlet, has its movable member which moves with the baffle, above the baffle in the casing, and the underside at least, of said valve member is convex so it also offers streamlining.

3,404,844
OIL BURNER COMBUSTION HEAD
Bruce R. Walsh, Pittsburgh, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed June 9, 1966, Ser. No. 556,339
11 Claims. (Cl. 239—406)



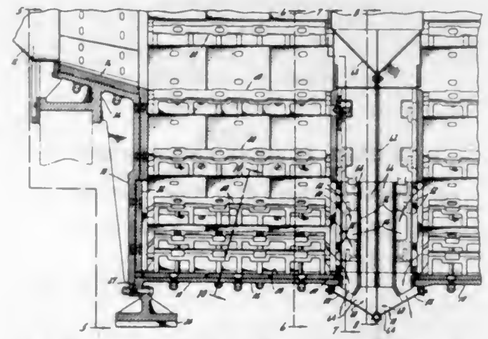
A combustion head, particularly for gun-type oil burners, adapted to be readily installed or removed from the front end of the blast tube, having a forwardly converging cone portion terminating in an exit orifice, and a peripherally slotted swirl plate which tightly fits in the rear end of the cone portion. A swirl chamber is defined between the front surface of the swirl plate and the orifice, in which a fuel nozzle may be positioned.

3,404,845
FLUIDIZING-BED PLATE
Gerhard Schmeling, Cologne-Dellbrueck, and Kurt Kleisa, Essen, Germany, assignors to Bergwerksverband G.m.b.H., Essen, Germany
Filed Oct. 12, 1966, Ser. No. 586,137
Claims priority, application Germany, Oct. 15, 1965, B 84,120
10 Claims. (Cl. 239—556)



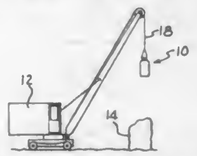
1. For use in fluidizing beds, a composite plate structure having an upper surface on which particulate material to be fluidized is adapted to be located, and a lower surface exposed to the fluidizing medium, said composite plate structure including at least a lower, a middle and an upper plate superimposed upon each other, said lower of said plates having a plurality of spaced apertures therethrough; said middle one of said plates being superimposed upon said lower plate and having a plurality of apertures overlapping at least partly said apertures in said lower one of said plates and having a cross-sectional area greater than the area of the respective exposed portion of the corresponding aperture in said lower sheet; and an upper plate superimposed upon said middle plate and having a plurality of apertures corresponding to said apertures in said middle plate and each of said apertures of said upper plate being aligned with a portion of an aperture in said middle plate, which portion is not in alignment with said exposed portion of the corresponding aperture in said lower plate, whereby said apertures form for the fluidizing medium composite circuitous passages which extend in a direction other than normal to the general plane of said composite plate structure.

3,404,846
AUTOGENOUS GRINDING MILL
Arthur R. MacPherson and Guy L. Saunders, Toronto, Ontario, Canada, and Robert C. Meaders, Milwaukee, Wis., assignors to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Original application Oct. 9, 1962, Ser. No. 229,334, now Patent No. 3,206,128, dated Sept. 14, 1965. Divided and this application Feb. 24, 1964, Ser. No. 352,710
14 Claims. (Cl. 241—72)



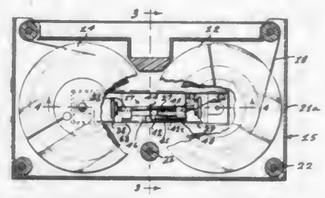
1. A combined crushing and grinding mill in which the rock itself is used for grinding, comprising a generally horizontal rotatable drum having a cylindrical wall and two generally smooth vertical end walls, the ratio of the interior diameter of the drum and the interior length being of the order of 3 to 1, means for feeding coarse feed material into said mill, means for withdrawing the product from said mill, and a plurality of highly upstanding transverse impact and lifting elements extending generally radially inwardly from the wall, said elements being in a space height relationship of not less than 3 to 1 and not more than 4.5 to 1, and means for rotating the mill in the speed range of generally from 72 percent to 80 percent of critical speed.

3,404,847
DROP HAMMER
Forrest E. Smith, 151 Point Circle, Jupiter Tequesta, Fla. 33458
Filed Aug. 9, 1966, Ser. No. 571,235
14 Claims. (Cl. 241—291)



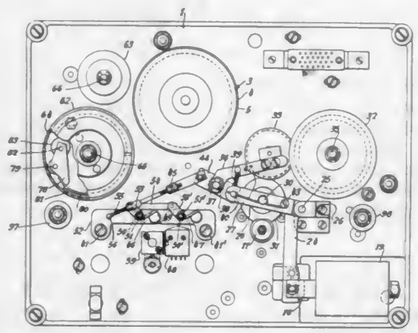
1. A drop hammer comprising a heavy drop body of heat treatable material having upper and lower end portions, at least the lower end portion having a plurality of sections therein defining walls in said body, said walls having a maximum thickness not exceeding the effective penetrating depth of a quenching liquid for effecting heat treatment of said sections.

3,404,848
MAGNETIC RECORDING TAPE CARTRIDGE
John O. Fundingsland, 1126 N. Sheridan St., Colorado Springs, Colo. 80909
Filed Nov. 20, 1964, Ser. No. 412,679
3 Claims. (Cl. 242—55.13)



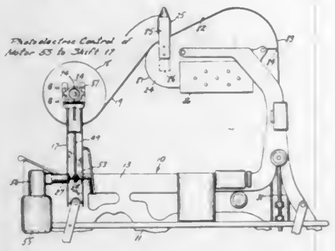
3. A record medium storage cartridge comprising:
a housing including spaced parallel walls;
a platform spaced from and parallel to one of said housing walls and attached thereto;
two recording medium storage reels disposed within the housing;
means mounted on the platform to support said reels for independent rotation about spaced parallel axes;
means operably coupling said reels together, said means including,
a shaft,
two wheels affixed to said shaft at a separation different from the separation of the axes;
spring means mounted on said platform and comprising a slender elongated finger supporting said shaft for engagement between each of said wheels and one of said reels, for longitudinal translation of said shaft, and for pivotal movement of said shaft about an axis transverse to said shaft; and
resilient means biasing said shaft to positions in which the shaft is skew to the axes of the reels, said resilient means and said spring means being a unitary structure.

3,404,849
TAPE RECORDER AND TAPE DECK ASSEMBLY THEREFOR
Ronald Leslie Howard, Waddon, England, assignor to Vectron Electro-Physics Limited, a British company
Filed May 13, 1966, Ser. No. 549,920
10 Claims. (Cl. 242—55.12)



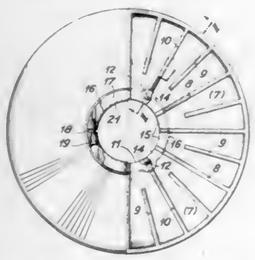
The motor of a tape recorder deck provides two rotating circumferential paths of different diameters, the smaller diameter path being associated with forward drive mechanism to drive the tape for recording or playback, and the larger diameter path being associated with reverse drive mechanism for fast rewind.

3,404,850
BRAKING DEVICE FOR CLOTH LAYING MACHINES
Edward M. Merrill, Sayville, N.Y., assignor to Cutting Room Appliances Corp., New York, N.Y., a corporation of New York
Original application Aug. 5, 1965, Ser. No. 477,372, now Patent No. 3,345,062, dated Oct. 3, 1967. Divided and this application Apr. 17, 1967, Ser. No. 636,237
4 Claims. (Cl. 242—75.4)



In a cloth laying machine, improved braking means including a pair of pivotally mounted brake shoe members defining in one position an open interstice into which a cloth roll supply shaft may be inserted, inserting movement causing a pivoting of the shoes to position for applying a braking force thereupon.

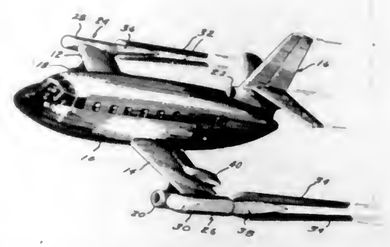
3,404,851
HEAD FOR YARN PACKAGE SPOOL
Erwin Pfarrwaller, Winterthur, Switzerland, and Horst Dittrich, Bad Homburg, Germany, assignors to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company
Filed July 15, 1966, Ser. No. 565,432
Claims priority, application Switzerland, Nov. 2, 1965, 15,102
1 Claim. (Cl. 242—118.5)



An end flange or head for the spools for yarn employed in weaving, comprising coaxial flat and conical annular plates united together coaxially at their periphery, a split but tightenable internally threaded ring, and means to fasten the ring to one of the plates coaxially thereof at points at least 90° distant around the axis of symmetry of the ring from the split in the ring.

3,404,852
TRAILING ROTOR CONVERTIPLANE
Kenneth W. Sambell and John A. De Tore, Arlington, Tex., assignors to Bell Aerospace Corporation, Wheatfield, N.Y.
Continuation-in-part of application Ser. No. 435,582, Feb. 26, 1965. This application Aug. 24, 1966, Ser. No. 584,030
15 Claims. (Cl. 244—7)

An aircraft convertible between fixed wing and helicopter flight modes. The helicopter blade assembly is characterized by a programmed relation between blade pitch and position of the blade assembly during conversion so as to avoid undue stresses on the rotary wing

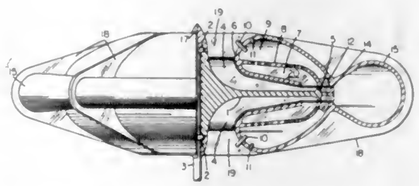


assembly and which minimally affect the aircraft (i.e., as to attitude and speed).

ERRATUM

For Class 244—46 see:
Patent No. 3,405,280

3,404,853
RADIAL TURBINE ENGINES AND APPLICATIONS THEREOF
George B. Miller, 5005 Aspen, Bow-Mar, Littleton, Colo. 80120
Filed Dec. 12, 1966, Ser. No. 593,833
19 Claims. (Cl. 244—55)

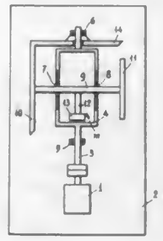


A gas turbine engine comprising a supportive disc rotating about a center point, a plurality of compressor blades upstanding from said disc and radially spaced from said center point, an annular combustion zone axially spaced from and surrounding a portion of said compressor blades, a series of turbine buckets upstanding from said supportive disc and at a greater distance from said center point than said compressor blades, a housing for directing air to said compressor blades and for collecting exhaust gases from said turbine buckets and means for mounting said gas turbine engine in an aircraft so that said housing may be rotated to vary the direction of said exhaust gases.

3,404,854
APPARATUS FOR IMPARTING MOTION TO A BODY
Alfio di Bella, Via Montallegro 1, Genoa, Italy
Continuation-in-part of application Ser. No. 524,365, Dec. 23, 1965. This application May 5, 1967, Ser. No. 636,553
Claims priority, application Italy, Aug. 30, 1963, 18,038/63
7 Claims. (Cl. 244—62)

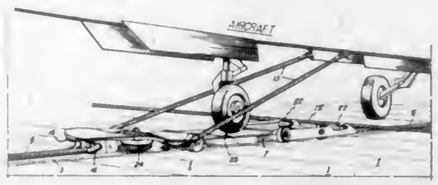
Apparatus for propelling a body free to move in a plane unidirectionally along a straight path. A driven mass is guided by guide means for guiding the driven

mass in a path of movement defined by a three-dimensional curve and at a speed which varies along the curve.



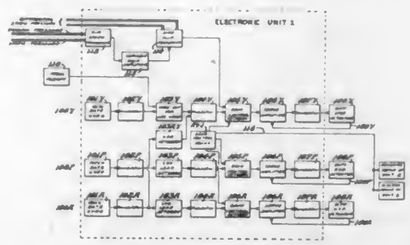
The path of movement is followed by the center of mass of the mass.

3,404,855
DOLLY GUIDE FOR CATAPULT
James E. Scholl, Fairfax, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 18, 1966, Ser. No. 521,452
1 Claim. (Cl. 244—63)



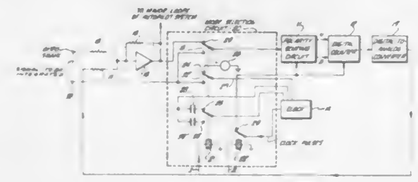
A launching dolly for aircraft provided with a track and with endless cables moving in opposite directions. The dolly has guides designed to maintain it on a true path and also to counteract any lifting force. It is provided with cable engaging wedges and means for disengaging these wedges from the cable.

3,404,856
AUTOMATIC STABILIZATION OF AIRCRAFT
Milton I. Gerstine, Ardentown, Del., assignor to the Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Nov. 14, 1961, Ser. No. 152,188
18 Claims. (Cl. 244—77)



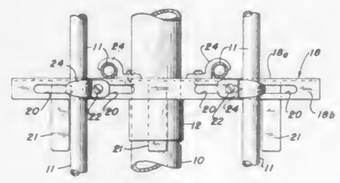
13. In an aircraft having a control system, a pair of automatic stabilization units, each of said units including first electrical means for supplying a signal indicating the rate and direction of turn of the aircraft about a reference axis, actuator mechanism adapted for actuating the control system in response to said signal from said first electrical means so as to stabilize the aircraft about its reference axis, second electrical means interconnecting said pair of stabilization units for sensing a failure in one of said units and for modifying said first electrical means in the other of said units to increase said signal therefrom for increasing the actuation of said actuator mechanism associated therewith, whereby the loss of motion of the actuator mechanism in the failed unit is compensated by the increased motion of the actuator mechanism of the operating unit.

3,404,857
SIGNAL GENERATOR FOR CONTROL SYSTEMS
Earl Le Vell Tippetts, Manhattan Beach, Calif., assignor to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Oct. 12, 1966, Ser. No. 586,269
9 Claims. (Cl. 244—77)



A completely electrical signal generator adaptable to generate either a nulling signal or an integral signal. The input to the signal generator comprises a polarity sensing circuit that controls the operation of a digital counter. The counter operates responsive to the pulses produced by a clock source whose frequency is dependent upon the magnitude of an input signal. Depending upon the instantaneous polarity of a signal applied to the polarity sensing circuit, the counter either counts up or down at a rate determined by the frequency of the clock pulses. The digital output of the counter is converted to an analog signal that constitutes the output signal of the signal generator.

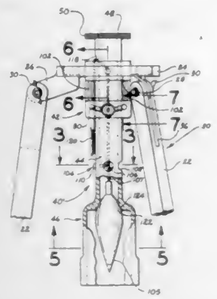
3,404,858
CONDUIT SUPPORT BRACKET
Erwin Levy, 2728 41st Ave., San Francisco, Calif. 94116
Filed Oct. 7, 1966, Ser. No. 586,336
1 Claim. (Cl. 248—68)



The invention comprises, in combination with a stationary member located in a building structure, such as a waste pipe or a vent pipe, and a collar adjustably encircling and engaging said stationary member, means for holding conduits in proximity to said stationary member against displacement; said means comprising an elongated bracket consisting of two sides disposed at right angles to each other; each of said sides having a plurality of spaced apart slots therethrough, a plurality of depending flanges on one of said sides arranged in spaced relationship to one another for mounting the bracket in any selected one of a plurality of laterally extending positions on said collar in secure engagement with said stationary member to hold the bracket against displacement with respect to said stationary member, and a series of fasteners adjustably mounted in said slots of said sides

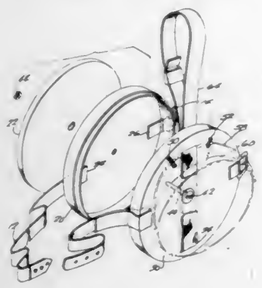
of said bracket for effecting clamping engagement with horizontally and vertically extending conduits in the building structure in proximity to and extending in different planes from said stationary member.

3,404,859
LEVELLING AND SUPPORTING APPARATUS
Burton B. Chapman, 1612 W. Shorb St., Alhambra, Calif. 91803
Filed Dec. 16, 1966, Ser. No. 602,301
13 Claims. (Cl. 248—184)



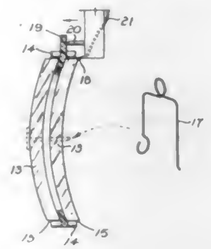
A leveling means of the type used to support transits on tripod stands. The levelling means utilizing a gimbal-type support provided with adjusting means to move the transit to a level position and locking means to secure it in the desired position. A plumb bob type level indicator is mounted within a vertical sleeve member to indicate when the support is in a level position.

3,404,860
HINGED OSCILLATING SWING SUPPORT FOR A MIRROR
Clarence Higgins and Catherine Higgins, both of P.O. Box 215, Grand Central Station, New York, N.Y. 10017
Filed Nov. 28, 1966, Ser. No. 597,399
7 Claims. (Cl. 248—479)



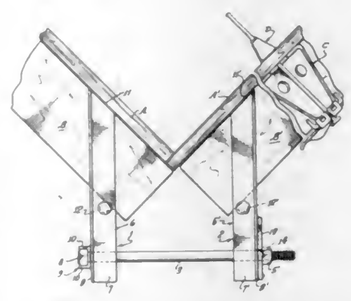
1. A hinged oscillating swing support for a mirror comprising a circular rimmed base having a back with a cushion adapted to be positioned against a hinged or sliding door of a medicine cabinet, a mating base for engaging the rimmed base, a strap looped about the door and being adjustable and elastic for retaining the rimmed base securely to said door, said strap passing through peripheral apertures disposed in said rimmed base, a strap looped about the other dimension of said door and passing through intermediately disposed pairs of apertures in said mating base, a bolt having a head and an engaging nut for passing through said rimmed base, said mating base, and said cushion for maintaining said components in engagement to each other, a bracket disposed on the surface of said mating base and a wire support for a concave-flat mirror to be adjustably secured thereto.

3,404,861
OPTICAL CASTING GASKET
Ronald W. Ewer, Torrens Park, South Australia, Australia, assignor to Optics Australia Pty. Ltd., Adelaide, South Australia, Australia
Filed Feb. 16, 1966, Ser. No. 527,907
Claims priority, application Australia, Feb. 22, 1965, 55,409/65
4 Claims. (Cl. 249—187)



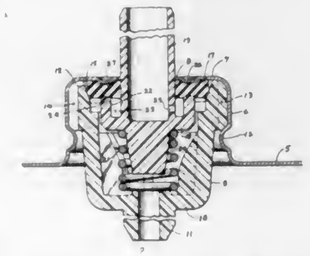
An optical casting gasket for interpositioning between the optical surfaces of a pair of dies during the casting of lenses from monomer material, wherein the gasket has an outwardly directed portion extending substantially radially outwardly beyond the peripheries of the dies, and upstanding projections on the outwardly directed portion to engage the peripheries of the dies and thereby position the gasket without the formation of pockets which would allow the monomer to set and adhere to the outer edges of the dies.

3,404,862
SINGLE WALER CORNER CLAMP
Stanley Roy Chandler, 1628 S. 6th Ave., Arcadia, Calif. 91006
Continuation-in-part of application Ser. No. 449,897, Apr. 21, 1965. This application Sept. 15, 1965, Ser. No. 487,450
7 Claims. (Cl. 249—219)



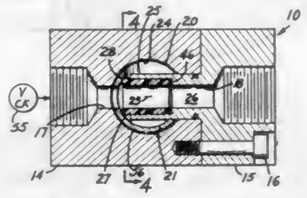
1. A waler corner clamp adapted to interconnect the ends of two walers reinforcing an outside corner formed by the sides of a concrete form, said clamp comprising a pair of elongated, waler engaging elements each having an opening in one end thereof in which the end of one each of the walers is received, each of said openings including portions engaging the inner and outer edge surfaces of the waler engaged thereby and the opposite ends of said waler engaging elements each having a bolt receiving means, and a bolt engaging said bolt receiving means of both of said elements, said bolt having a head at one end thereof engageable with the surface adjacent to the bolt receiving means of one of said waler engaging elements and having a nut at the opposite end thereof engageable with a corresponding surface on the other of said waler engaging elements; the said portion of each of said elements which engage the outer edge surfaces of the walers being disposed to engage the said outer edges at points closer to the waler ends than the said portions which engage the inner edge surfaces of the walers, whereby when subjected to pressure applied by said bolt, said elements tend to cramp the waler ends inwardly toward the form.

3,404,863
AEROSOL VALVE ASSEMBLY
Derek B. Green, 186 Roysan St., Manchester, N.H. 03103
Filed June 24, 1966, Ser. No. 560,169
4 Claims. (Cl. 251—170)



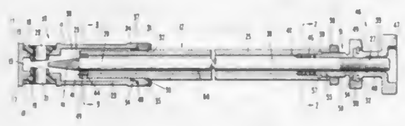
1. In an aerosol valve assembly for closing the top of a pressure fluid container having
(a) a cap with a cylindrical wall and a top wall, the top wall having a central aperture;
(b) a valve housing in the form of a cup anchored firmly in said cap and having passageway means around the rim and over the top edge of said cup providing communicaiton between the container and the inner surface of said top wall of the cap;
(c) a sealing washer of elastic material having smooth flat top and bottom surfaces, the top surface normally bearing directly against the inner surface of said top wall of the cap;
(d) a valve having a closed bottom, a tubular stem extending upwardly through said hole in the washer and said aperture in the cap, and a seal rim in the form of an annular flange projecting upwardly from said closed bottom, said rim being spaced radially from said stem to form an annular channel between them, the outer diameter of said channel being substantially larger than the diameter of said aperture in the cap, the hole in the washer being aligned with said aperture and being of such size as to make a snug fit around said stem; and
(e) spring means housed within said cup and exerting upward thrust on said valve to force said seal rim into engagement with said sealing washer and said washer in turn against said inner surface of said cap top wall; that improvement which consists of an annular downward deformation of said cap top wall directly across from or in vertical alignment with said seal rim to concentrate the upward thrust of said spring and increase deformation of the top surface of said washer in at least one narrow circular zone to insure against leakage between said washer and the cap.

3,404,864
ROTARY VALVE WITH CONCAVE SEATING SURFACE
Robert R. Reddy, 1195 Michillinda Blvd., Pasadena, Calif. 91107
Continuation-in-part of application Ser. No. 551,270, May 19, 1966. This application Dec. 27, 1966, Ser. No. 613,697
21 Claims. (Cl. 251—172)



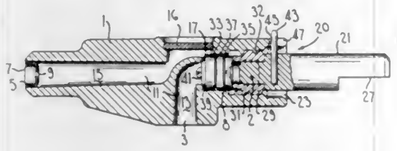
This invention relates to a valve for controlling fluid streams. A valve according to the present invention comprises a body having a cavity with an inlet port and an outlet port connected thereto. A valve operator is rotatably mounted in the cavity. A valving wall is carried on the operator and is a concave surface of revolution that is centered on the axis of rotation of the operator. A valve seal, mounted to a valving tube, includes a peripheral contact surface which is congruent to and continuously in contact with the concave surface of the valving wall in all permissible angular positions of the valve operator. One port is in fluid communication with the valving tube and the other port is in fluid communication with the cavity. Either port may be used for the intake port. When one port serves as the intake, fluid under pressure is admitted into the cavity to bias the seal towards the valving wall, thereby preventing fluid flow from one port to the other except when a valve port through the valving wall is in fluid communication within the contact surface of the seal. When the other port is used as the intake, the cavity is relieved to the exhaust port and a separate bias means may bias the seal towards the valving wall.

3,404,865
CRYOGENIC VALVE
Donald R. Nelson, Worcester, Mass., assignor to Goddard Industries, Inc., Worcester, Mass., a corporation of Massachusetts
Filed Apr. 29, 1966, Ser. No. 546,450
7 Claims. (Cl. 251—214)



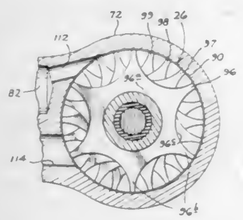
A cryogenic gate valve comprising a body member having an upper cylindrical end. An elongated, cylindrical stem tube projects into the upper cylindrical end and is secured to it along an annular portion by an annular ring or bonnet cap fitted into a shoulder in the stem tube and sealed by an annular weld. A stem is supported in spaced relation to the stem tube by special journaling means at the upper and lower ends. The stem tube is also spaced from the inner surface of the cylindrical end except by the means sealing the stem tube to the cylindrical end.

3,404,866
GAS VALVE
Thomas P. Fleer, Affton, Mo., assignor to Aurora Corporation of Illinois, Chicago, Ill., a corporation of Illinois
Filed May 26, 1966, Ser. No. 553,072
4 Claims. (Cl. 251—284)



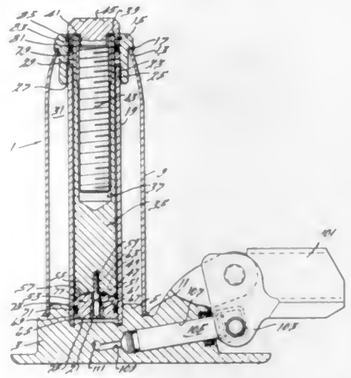
1. A gas valve comprising a body of elongate form having an opening extending into it from one end,
an outlet gas passage extending into the body from its other end,
an inlet gas passage extending transversely into the body from one side and having a portion turned toward said opening and forming a seat,
said body having an inside hollow portion connecting said turned portion with said outlet passage,
said opening being formed interiorly first with a cylindrical portion adjacent said turned portion of the inlet, second with an axial exterior cylindrical portion having a peripheral slot therein, and third, with an intermediate threaded portion therebetween,
a rotatatable valve assembly extending through said opening and including a cylindrical end including packing in said cylindrical portion of the body,
a resilient washer carried on the end of said cylindrical portion of the valve assembly engageable with said seat,
said assembly including a threaded portion threaded with said threaded portion of the body,
and a transverse extension from said valve assembly movable in said slot,
terminal portions of said slot forming stops for said extension positioned positively and substantially to limit rotation of the valve assembly after initial seating of the washer on said seat, whereby compression on the washer is substantially limited below the maximum compression of which it is capable after seating thereof.

3,404,867
TURBINE WHEEL
Norman C. Williams, Portland, and Harry E. Everett, Lake Oswego, Oreg., assignors to Power Brake Equipment Company, Portland, Oreg., a corporation of Oregon
Filed Apr. 3, 1967, Ser. No. 627,716
5 Claims. (Cl. 253—2)



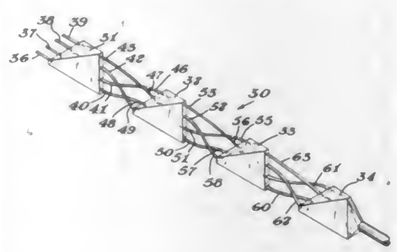
A viscous drag turbine wheel for a pneumatic motor comprising spaced, opposed, imperforate, circular shrouds mounted on an arbor and a stack of discs mounted side by side between the shrouds, said discs including equally circumferentially spaced arms radiating from the hubs separated by arcuately outlined pockets, and the discs being offset at regular angular modules about the arbor axis with the pockets collectively forming helically curving voids about the circumference of the wheel which mutually intersect with each other.

3,404,868
HYDRAULIC JACK
Clyde G. Belongia, Racine, and Herbert Pikoske, Union Grove, Wis., assignors to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed June 22, 1966, Ser. No. 559,599
6 Claims. (Cl. 254—93)



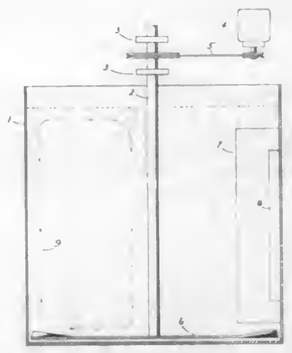
The hydraulic ram carries a conically-faced valve at its bottom end which contacts a stop ring carried by the tank nut when the ram has reached the upper limit of permissible travel to unseat and connect the pressure face of the ram with the reservoir. The top end of the ram cylinder extends inside of the tank nut but is not secured to it so that it is free-floating or unstressed.

3,404,869
INTERFACIAL SURFACE GENERATOR
Richard E. Harder, Williamsburg, Va., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed July 18, 1966, Ser. No. 565,890
5 Claims. (Cl. 259—4)



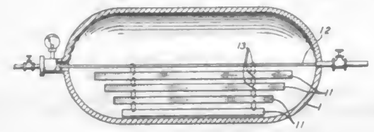
A static mixer is disclosed which consists of a number of chambers having two or more inlets and two or more outlets, the inlets and outlets being non-coplanar and the planes intersecting an axis of flow. A number of such elements are series-connected to provide a mixer which creates layers within a stream and the mixing or layering action is independent of throughput below the region of turbulent flow.

3,404,870
AGITATOR
Robert K. Multer, R.F.D 1, Colts Neck, N.J. 07722
Filed Sept. 23, 1965, Ser. No. 489,632
8 Claims. (Cl. 259—43)



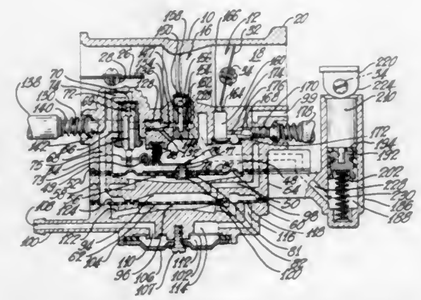
1. An agitator for liquids comprising a vessel and an axial impeller suspended concentrically therein, the impeller comprising a vertical rotatable shaft with two in-line opposed arms carried radially by this shaft and an impeller blade affixed radially and substantially horizontally to the outer end of each of these supporting arms,
(a) the vessel being a right circular cylinder whose axis is vertical and whose bottom is flat and horizontal, and
(b) the length of each arm being about two-thirds of the radius of the vessel, each arm being made of a thin strip of flat material whose greater width lies in the horizontal plane of rotation and whose thickness in the vertical direction is so small that the hydraulic resistance in the direction of rotation is too slight to generate substantial rotary motion of the fluid under treatment, and the plane of rotation of the arms being adjacent to the bottom of the vessel so that sediment cannot accumulate to any significant depth beneath the rotating arms, and
(c) the length of each blade being about one-third of the radius of the vessel so that the outer tips of the blades rotate in close proximity to the wall of the vessel, the blades being made of flat material similar in shape to that of which the arms are made, with their thin leading edges rotating in the plane of the arms adjacent to the bottom of the vessel, and with their trailing portions twisted upward behind a line connecting the leading outer corner of the blade with the trailing inner corner of the blade so that the rearward surface of the blade comprises an approximately triangular plane inclined upward at an angle of about 10° to 15° from the horizontal plane of rotation of the arms while the forward surface of each blade comprises an approximately triangular plane in the plane of rotation of the arms.

3,404,871
VANE FOR GAS CYLINDER
Alfred H. Taylor, Millington, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Original application Feb. 17, 1964, Ser. No. 345,240, now Patent No. 3,241,819, dated Mar. 22, 1966. Divided and this application Sept. 16, 1965, Ser. No. 508,882
14 Claims. (Cl. 259—114)
The invention relates to the use of vanes inside of containers to intermix the contents of the containers. The vanes are constructed and mounted so that they can move



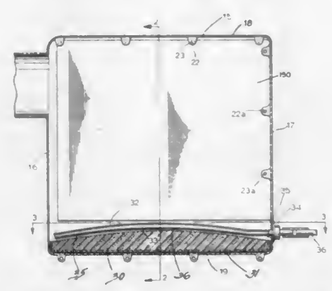
under the influence of gravity relative to the container walls.

3,404,872
CHARGE FORMING APPARATUS
Warren D. Nutten, Erie, Mich., assignor to The Tillotson Manufacturing Company, Toledo, Ohio, a corporation of Ohio
Filed May 25, 1966, Ser. No. 552,817
5 Claims. (Cl. 261—34)



An apparatus providing for normal fuel delivery from a first variable volume fuel chamber into the mixing passage of a diaphragm carburetor, the arrangement including a second variable volume chamber wherein the volume is varied by movements of a throttle valve in the mixing passage to deliver additional fuel into the mixing passage through the main fuel delivery orifice for engine accelerating purposes wherein fuel flow into and out of the second chamber occurs through a single channel.

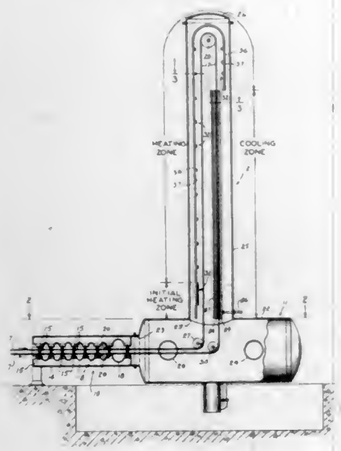
3,404,873
HUMIDIFYING AND MOISTURE DIFFUSING ATTACHMENT FOR MOTOR VEHICLE HEATERS
Sidney R. Orens, 63—95 Austin St., Rego Park, N.Y. 11374
Filed Oct. 23, 1965, Ser. No. 503,804
10 Claims. (Cl. 261—141)



A device for heating and humidifying air or for distribution in a motor vehicle having a moisture retaining and distributing pad removably mounted and solely

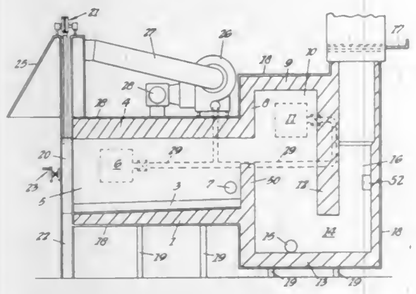
moistened to humidify air passing over it so that the humidity of the air distributed in the vehicle is a function of the moistness of the pad and the velocity and temperature of the flow of air over the pad.

3,404,874
VACUUM FURNACE
Peter J. Wynne, Pittsburgh, Pa., assignor, by mesne assignments, to Lectromelt Corporation, Pittsburgh, Pa., a corporation of Delaware
Filed Sept. 25, 1964, Ser. No. 399,226
12 Claims. (Cl. 266—3)



A device for treatment of continuous strip material in a vacuum wherein radiant heat sources transfer heat directly from a source to the material without the deleterious effects of glow discharge and the device need not be maintained at an elevated temperature between operations.

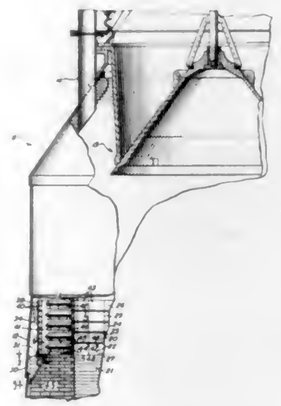
3,404,875
FURNACE FOR BURNING INSULATION
Isaiah Lees Hall, Meeching House, Church Hill, Newhaven, Sussex, England
Filed Oct. 14, 1965, Ser. No. 495,962
Claims priority, application Great Britain, Oct. 19, 1964, 42,508/64
1 Claim. (Cl. 266—37)



A furnace for burning insulation off of cables and for the recovery of metal from such cables comprises a smoke-burning chamber, located above and rearwardly of the hearth with a bridge wall extending upwardly and running transversely across the rear of the hearth but terminating below the roof of the hearth to define a flue entrance leading from the hearth to the smoke-burning chamber. The outlet to the chimney from said smoke-burning chamber is located below the top of the bridge wall.

A second smoke-burning chamber may be located downstream in the chimney and triggered by a photosensitive smoke warning device so as to be operable only when the smoke density exceeds a predetermined level.

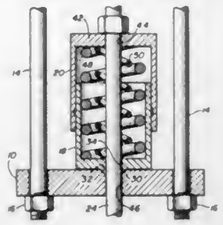
3,404,876
STOCKLINE ARMOR WITH FREE-FLOATING ELEMENTS
Lawrence G. Maloney, Munster, Ind., assignor to Inland Steel Company, Chicago, Ill., a corporation of Delaware
Filed May 12, 1966, Ser. No. 549,551
10 Claims. (Cl. 266—43)



10. In a vertically disposed, shaft-type metallurgical furnace having a circular, horizontal cross section;
an outer shell;
a refractory lining inside said shell;
a vertically disposed, circular, tubular member;
means, independent of said refractory lining, supporting said tubular member in a free-floating condition radially inwardly of the outer shell;
means on said tubular member and on said supporting means for the tubular member cooperating to accommodate thermal dimensional changes of the tubular member in a radial direction;
a stockline armor, located radially inwardly of said tubular member, and comprising a first tier of plate members and a second tier of plate members in vertically spaced relation to said first tier;
a plurality of first means mounted on said tubular member, each for supporting a plate member in said first tier in a free-floating condition inwardly of the tubular member and independently of the refractory lining;
each of said first supporting means and each plate member in the first tier including means cooperating to accommodate thermal dimensional changes of said plate member in radial, circumferential and vertical directions relative to said furnace;
and a plurality of second means mounted on said tubular member, each separate and discrete from said first supporting means and from said plate members on the first tier, and each for supporting a plate member in said second tier in a free-floating condition inwardly of the tubular member, independently of

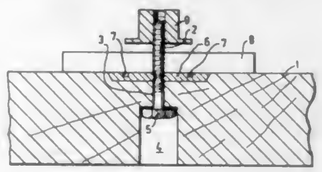
the refractory lining, and immediately adjacent the first tier of plate members in vertical spaced relation thereto;
each of said second supporting means and each of said plate members in the second tier including means cooperating to accommodate thermal dimensional changes of said plate member in radial, circumferential and vertical directions relative to said furnace.

3,404,877
SHOCK ABSORBER
William J. Darnell, 2504 W. 51st St., Tulsa, Okla. 74107
Filed June 20, 1966, Ser. No. 558,700
6 Claims. (Cl. 267—1)



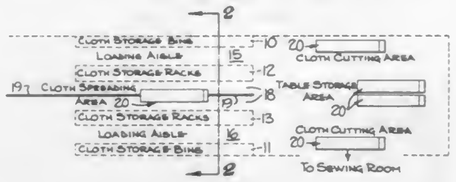
1. A shock absorber for oil well pumping equipment comprising:
a base plate supportable by hanger rods, said base plate having a substantially central polish rod opening therethrough and a counterbore on an upper side of said plate coaxial with said opening, said counterbore of said base plate defining a conical section;
a first cylindrical member having a polish rod opening in a lower end thereof and a flange portion adjacent said opening, said flange portion abuttable against said counterbore and encircling said polish rod opening and defining a conical section to abut within said counterbore conical section;
a second cylindrical member slidably positionable upon said first cylindrical member, said second cylindrical member having a polish rod opening in an upper end thereof; and
a coil spring member within said first and said second cylindrical members, said spring also coaxial with said polish rod opening in said first cylindrical member and said polish rod opening in said second cylindrical member.

3,404,878
DEVICE FOR HOLDING A WORKPIECE, TOOL OR THE LIKE ON THE TOP OF A BENCH OR TABLE
Frans Oskar Thure Kenne, Zornvagen 25, Bromma, Sweden
Filed Jan. 24, 1966, Ser. No. 522,647
Claims priority, application Sweden, Jan. 29, 1965, 1,177/65
6 Claims. (Cl. 269—91)



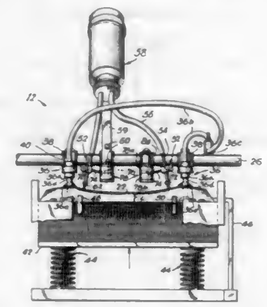
A holder for a workpiece on a work bench comprises a screw-threaded bolt that extends vertically reciprocably but nonrotatably up through the bench and projects above the bench. A disk is screw-threadedly received on the bolt and is recessed into the surface of the bench. The disk may be rotated to raise or lower the bolt, and a screw-threaded nut or clamp carried by the upper end of the bolt clamps the workpiece between itself and the bench.

3,404,879
SHEET MATERIAL HANDLING APPARATUS AND METHOD
Joseph W. Burris, Lincolnton, N.C., assignor to Burris Manufacturing Company, Lincolnton, N.C., a corporation of North Carolina
Filed July 1, 1966, Ser. No. 562,192
7 Claims. (Cl. 270—52)



A method and an apparatus for handling rolls of sheet material in preparation for patterned cutting thereof wherein a plurality of rolls of sheet material supported in a predetermined arrangement on rack structures are brought into predetermined alignment with a movable cutting table for spreading on the table at a first location and cutting after removal of the table to a remote location.

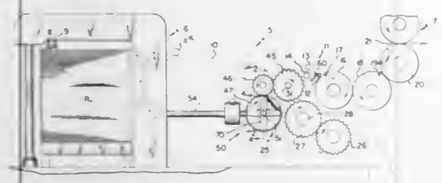
3,404,880
GLUEING ATTACHMENT FOR COLLATING MACHINE
Herbert R. Porter, Jr., Rutherford, N.J., and Peter J. Pittala, Orangeburg, N.Y., assignors to Osmond Johnson, Inc., New York, N.Y., a corporation of New York
Filed Sept. 2, 1966, Ser. No. 576,941
7 Claims. (Cl. 270—58)



1. A glueing attachment for a collating machine of the type having a conveyor, means located adjacent said conveyor defining plural stations for storing stacks of sheets adapted to be placed on said conveyor in a collated arrangement and sheet-transfer means at each said station for transferring individual sheets from said stacks to said conveyor including a pair of spaced picking fingers operatively connected to a vacuum and effective to draw the topmost sheet of a stack through a prescribed lift movement against said picking fingers in response to the application of said vacuum through said picking fingers, said glueing attachment being operatively associated with at least some of said sheet-transfer means and comprising glue-applying means located adjacent to said spaced

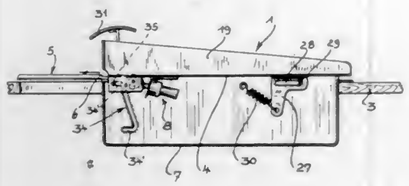
picking fingers and having an exit opening therein operatively arranged in facing relation to said topmost sheet of said stacks and flow-control means in said exit opening effective to be actuated by contact of said sheet during said prescribed lift movement thereof into an operative position permitting a controlled flow of glue from said exit opening onto said sheet for maintaining the collated arrangement of said sheets which are transferred to said conveyor.

3,404,881
DRIVE MECHANISM
Frank L. Kastelic, Cleveland, and William H. Weidman, Maple Heights, Ohio, assignors to Harris Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Mar. 21, 1966, Ser. No. 536,112
16 Claims. (Cl. 271—8)



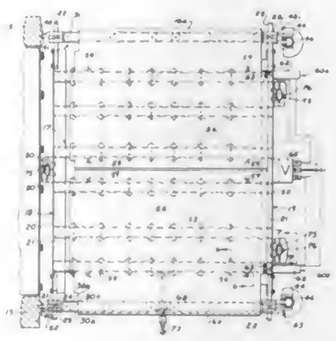
A sheet feeder includes driven parts operable to effect feeding of sheets from a pile. The drive means for driving the parts of the feeder includes a drive member which is abruptly stopped during the operation of the feeder. A shock-absorbing drive unit is drivingly connected to the feeder and to the drive member. The shock-absorbing drive unit includes a driven member drivingly connected to the drive member to abruptly stop upon stopping of the drive member and a feeder drive member drivingly connected with the feeder and free for movement relative to the driven member thereof due to the inertia of the parts of the feeder when the drive member is abruptly stopped.

3,404,882
APPARATUS FOR PROCESSING PUNCHED CARDS AND THE LIKE
Klaus J. Hecker, Oberursel, Taunus, and Heinz Ostwald, Frankfurt am Main-Bonames, Germany, assignors to Eichner Organisation G.m.b.H., Frankfurt am Main, Germany
Filed Oct. 21, 1966, Ser. No. 588,473
Claims priority, application Germany, Oct. 23, 1965, E 30,349
14 Claims. (Cl. 271—61)



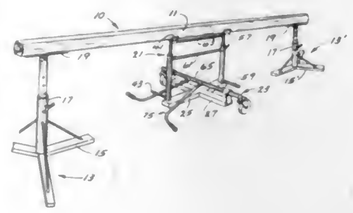
Apparatus for processing punched cards or analogous carriers of information in which the lowermost carriers of a stack of carriers arranged in an automatic input means may be automatically fed one by one by the latter into the inlet of a reader, and in which the automatic input means is tiltable about an axis between an active position in which the carrier discharge portion of the input means is aligned with the inlet of the reader and a second position in which the automatic input means and the stack of carriers thereon is moved away from the inlet so that carriers may be fed independently of said automatic input means, for instance by hand, into said inlet, without removing the stack of carriers from the automatic input means.

3,404,883
PILE ELEVATOR
Nick R. Grabowski and Richard P. Neiden, Parma, Ohio, assignors to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Jan. 27, 1966, Ser. No. 523,307
16 Claims. (Cl. 271—62)



A pile elevator for supporting a pile of sheets to be fed one at a time to a machine for operating on the sheets including a pile support which is comprised of two plates which are movable to adjust the pile along a line of adjustment relative to the guide means for the pile and relative to each other to effect angular adjustment of the pile. Each of the members is operated by an individual fluid pressure device.

3,404,884
BALANCE BEAM ADAPTER FOR GYMNASTIC APPARATUS TRANSPORTERS
Bill W. Sorenson and Carl Denhardt, Jefferson, Iowa, assignors, by mesne assignments, to New American Co., Inc., Jefferson, Iowa, a corporation of Iowa
Filed Sept. 27, 1965, Ser. No. 490,574
12 Claims. (Cl. 272—60)



A balance beam adapter for gymnastic apparatus transporters, the adapter including a support means adapted

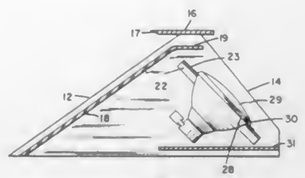
to engage the balance beam. A base portion is secured to the lower end of the support means and is adapted to be detachably secured to and raised by a gymnastic apparatus transporter so that the balance beam may be lifted from its supporting surface to transport the same.

3,404,885
BOWLING PIN
Richard A. Smith, Cornwall on the Hudson, N.Y., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Mar. 30, 1966, Ser. No. 538,678
Claims priority, application Great Britain, Apr. 5, 1965, 14,333/65
2 Claims. (Cl. 273—82)



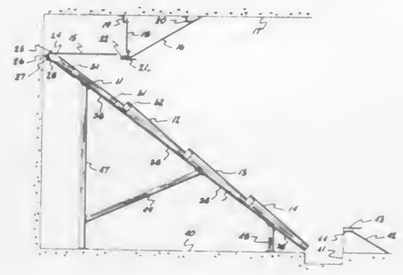
1. A bowling pin comprising a preformed body encased in a plastic protective cladding composition comprising a resinous layer of from about 20 to about 200 mils minimum overall thickness, said composition comprising a copolymer of caprolactam and a lower alkyl ester of an acrylic acid.

3,404,886
BULLET DEFLECTING DEVICE
Otto J. Dundr, La Grange, Ill., assignor to Shooting Equipment, Inc., Chicago, Ill., a corporation of Illinois
Filed May 13, 1965, Ser. No. 455,496
4 Claims. (Cl. 273—102.4)



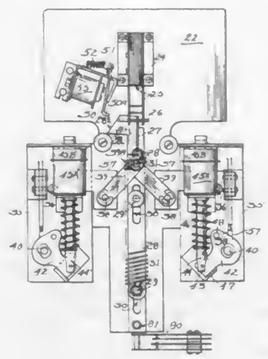
A bullet deflecting device including a first plate having a sharp forward edge and positioned in a first plane intersecting a shooting region from which bullets are fired, a second plate in a plane inclined with respect to the first plane and intersecting the first plane along a line spaced rearwardly from the sharp edge of the first plate, and a third plate extending rearwardly from the rearward edge of the second plate in parallel relation to the first plate to define a channel through which bullets and bullet fragments pass. The deflector plates are supported by a pair of side plates and a light may be supported behind the second deflector plate for illumination of a region behind the device.

3,404,887
BULLET TRAP WITH UPWARDLY INCLINED IMPACT PLATES
Otto J. Dundr, 500 S. Edgewood Lane, La Grange, Ill. 60525
Filed Oct. 24, 1965, Ser. No. 504,920
13 Claims. (Cl. 273—102.4)



A bullet trap having an upwardly inclined impact surface and a collecting trap at the top of the impact surface. Spent bullets return to a point adjacent the front end of the trap. Horizontal plates reduce splatter of bullet fragments.

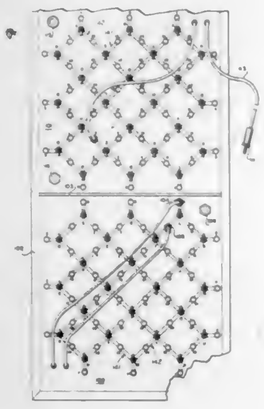
3,404,888
BALL GATING AND REPROJECTING MEANS
Joseph E. Lally, McHenry, Thad F. Zale, Chicago, and Terrence A. Reedy, Jr., Skokie, Ill., assignors to Lion Manufacturing Corporation, Chicago, Ill., a corporation of Illinois
Filed Nov. 30, 1966, Ser. No. 597,949
20 Claims. (Cl. 273—121)



A combination reprojecting ball bumper and gating mechanism is disclosed for use in ball-rolling games and is characterized by the disposition of at least two cantilever-type bumper arms each on a spindle which is disposed in a shiftable carrier, the carriers being in close proximity so that they can be moved to turn the bumpers toward and

away from each other to define a ball gate which can be rapidly opened and closed by such movement of the carriers. The bumpers can also be pivoted individually about their spindles in a ball reprojecting action to drive the ball back away from the gate in both open and closed conditions thereof. Electromagnetic actuating mechanisms are selectively operable to effect movement of the carriers in gating action as well as pivotal reprojecting movement of the individual bumpers.

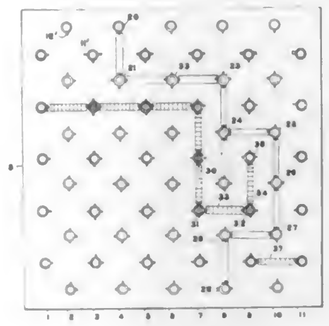
3,404,889
ELECRICAL GAME APPARATUS HAVING MULTIPLE CIRCUIT PATHS TO BE SELECTIVELY COMPLETED AND INTERRUPTED BY OPPOSING PLAYERS
Charles Warner III, 4780 San Feliciano, Woodland Hills, Calif. 91364
Filed Sept. 25, 1964, Ser. No. 399,184
6 Claims. (Cl. 273—130)



Electrical game apparatus having two playing areas concealed from one another. Corresponding grid networks are associated with each of the playing areas, each network having a multiplicity of circuit junctions, each junction being provided with a switch. These are selectively operated by either player for opening or closing the circuit paths through one of his junctions. This switching operation at the same time performs the same function at the corresponding junction on the opponent's playing area, the opponent however not knowing which switch was thrown. The circuit connections are such that if corresponding switches are in the same position, the corresponding junctions are open, whereas if the switches are differently positioned, the junctions are closed. Test means are provided to each player for testing circuit paths for continuity.

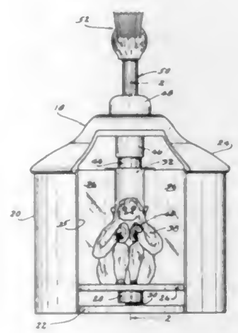
3,404,890
GAME APPARATUS
Raymond Christy, 80 Sheridan Blvd., Mineola, N.Y. 11501
Filed May 10, 1965, Ser. No. 454,431
1 Claim. (Cl. 273—130)

Game apparatus having a flat base member having a plurality of hollow cylinder members with vertical extensions attached to the periphery thereof mounted in spaced rows, the rows being color coded. A plurality of rods are adapted to be placed inside the hollow members and a plurality of link members with Y shaped slots in their ends are adapted to connect the cylinders. Both the rods and the link members are also color coded. The idea is for the two players to select one color and form a chain



across the board. The players take turns and may block the chain the opponent is trying to build in accordance with the rules.

3,404,891
BOARD GAME WITH CAROUSEL-TYPE SPINNER
Marvin I. Glass and Henry Stan, Chicago, and Gunars Licitis, Lombard, Ill., assignors to Marvin Glass & Associates, Chicago, Ill., a partnership
Filed Mar. 29, 1965, Ser. No. 443,369
3 Claims. (Cl. 273—134)



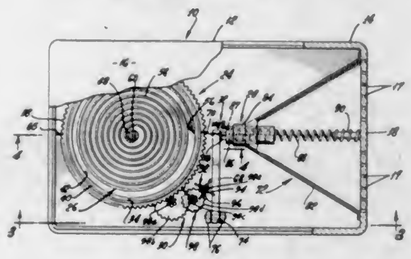
Game apparatus including a three-dimensional spinner comprising a housing of cylindrical form having an opening in one side, a support mounted for rotation within the housing and including a plurality of simulated monkey figures differing in appearance and in position to be successively presented to said opening by reason of the rotation of the support. A stem extends through the top of the housing and has a releasable driving connection with the rotatable support, so that vertical movement of the stem effects rotation of the support. There is provided a game board with a path for movement of playing pieces therealong, a die, a plurality of simulated coconuts and baskets for receiving same. The die is used to determine the movement of the playing pieces, and when a player reaches particular stations along the path he operates the spinner to determine whether he acquires or discards some of the simulated coconuts.

3,404,892
MAGNETICALLY ATTRACTABLE GOLFING TARGET AND BALL
Lawrence E. Pearce, 1510 E. 54th St. N., Tulsa, Okla. 74126
Filed Aug. 18, 1966, Ser. No. 573,409
2 Claims. (Cl. 273—181)



A garden golf panel having magnetic components dispersed throughout for retaining a golf ball in place. The golf ball includes flakes or small chips of magnetic material, so that when the magnetic material of the golf ball and the magnetic material of the panel interact, they hold the two objects securely together so that the ball is held at the point of impact.

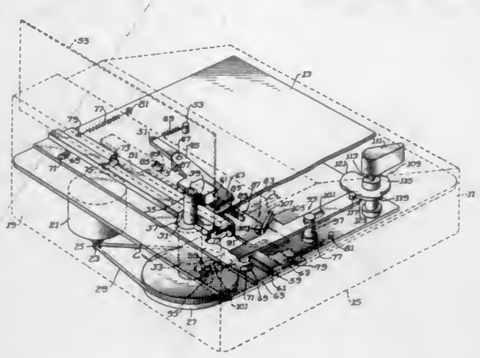
3,404,893
PHONOGRAPH
Sonny Alexander, 10136 National Blvd., Los Angeles, Calif. 90034
Filed Oct. 24, 1965, Ser. No. 504,332
8 Claims. (Cl. 274—1)



A miniaturized phonograph consisting of a cylinder having recording grooves and gear teeth on its outer surface. The gear teeth drive, through an appropriate gear train, a paddle wheel which acts as both a speed governor and a brake.

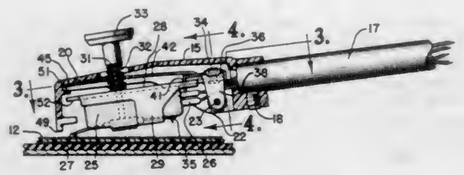
3,404,894
RECORD CARD SHIFTING MECHANISM
Fred G. Kral, Berwyn, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 17, 1966, Ser. No. 587,127
6 Claims. (Cl. 274—4)

1. In a record machine adapted for vertical record cards of the type having a horizontal media strip for recordal of sound indicia and adapted for translocation in a lineal path, the combination of sensing means arranged at a relative fixed station along the path of travel of a record card for indicia transfer, driving means for advancing a record card along a path to carry its media strip into and out of engagement with said sensing means, with multi-level track means arranged to support a record card for translocation into and out of operative association with said sensing means, and shifting means to condition said track means with selected of its levels in



record card support disposition whereby the relative position of engagement of said sensing means and the media strip of a record card can be selectively varied.

3,404,895
PHONOGRAPH TONE ARM AND CARTRIDGE ASSEMBLY THEREFOR
Richard A. Hathaway, Des Plaines, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed Aug. 25, 1965, Ser. No. 482,499
3 Claims. (Cl. 274—24)

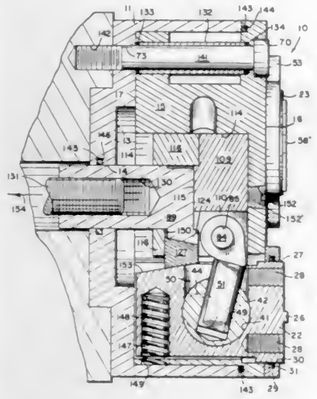


There is described a floating cartridge support assembly which is extremely light in weight and thus especially suited for use in a low mass tone arm. The assembly comprises a cartridge including a record-tracking stylus and a bracket assembly for mounting the cartridge within a tone arm housing for pivotal movement about a substantially horizontal axis between a playing position in which the stylus projects below the confines of the housing to operatively engage a record and a non-playing, protective position in which the stylus recedes into the confines of the housing. A flexible cantilever member has a base portion coupled to the cartridge pivotal mounting member and a free end which engages the upper interior surface of the cartridge housing to exert a yieldable bias force to normally maintain the cartridge in its playing position but permits retraction of the cartridge to its non-playing position in response to a force in excess of the yieldable bias force.

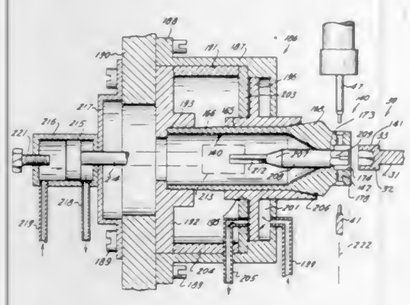
3,404,896
CHUCK
Walter L. Stace and Joseph S. Allen, both of 2250 W. Minnesota St., Indianapolis, Ind. 46221
Filed Aug. 11, 1966, Ser. No. 571,910
16 Claims. (Cl. 279—2)

1. A chuck including a base structure and a plurality of jaw members radially arranged about an axis of said base structure and adapted for radial movement relative to said axis, means for simultaneously operating all of said

jaw members comprising cam follower means supporting each of said jaw members, cam means cooperating with each of said cam follower means, said cam means being rotatably supported in said base, linkage means for rotating said cam means, means disposed in said base structure for reciprocation substantially on said axis, said linkage means being pivotally connected to said reciprocating means, and wedge means for pivoting said cam follower means about said cam means so as to lock said jaw members in a closed position, said wedge means being disposed on said reciprocating means.

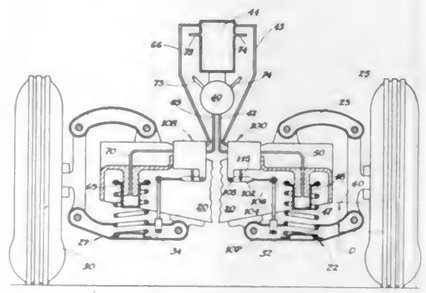


3,404,897
SOCKET CAP SCREW WITH CROSS HOLES
Earle Russell Carter, Jr., Bloomfield, and Edmund West, Glastonbury, Conn., assignors to The Allen Manufacturing Company, Hartford, Conn., a corporation of Delaware
Original application Apr. 29, 1963, Ser. No. 276,545, now Patent No. 3,204,266, dated Sept. 7, 1965. Divided and this application July 16, 1965, Ser. No. 472,471
2 Claims. (Cl. 279—50)



1. A tubular collet for holding the cylindrical head of a multi-walled socket-head screw so as to permit tie-wire holes to be drilled transversely of the head at a specific location, comprising a rear portion adapted for attachment to a chuck body, a group of longitudinally extending resilient segmental jaws defining axially of their combined front end an annular recess adapted to receive the cylindrical head of a socket-head screw, the recess having an annular shoulder at its bottom as a seat for the head of the screw, the jaws adapted upon being pressed radially inward to clamp the head of the screw fast after it has been seated in the recess, the wall of the recess having radial drill guide holes countersunk at their outer ends adapted for reception of drill means for drilling tie-wire holes at a specific location transversely of the head of a screw that might be seated and clamped in the recess, there being an indexing means guide opening extending axially of the shoulder communicating the recess with the interior of the collet, and indexing means adapted for sliding axial movement through the opening so as to engage in the socket of the head of a screw that might be seated in the recess, but not as yet clamped in the recess, to locate in a specific position the walls of the socket relative to the drill guide holes.

3,404,898
CONTROL SYSTEM FOR VEHICLE SUSPENSION
Arthur E. Vogel, Columbus, Ohio, assignor, by direct and mesne assignments, of twenty-five percent each to said Vogel, Robert Dawson, Coshocton, Palmer Fultz and Warren H. F. Schmieding, both of Columbus, Ohio
Continuation of application Ser. No. 201,851, June 12, 1962, which is a division of application Ser. No. 541,337, Oct. 19, 1955, now Patent No. 3,038,739, dated June 12, 1962. This application Sept. 15, 1966, Ser. No. 579,668.
19 Claims. (Cl. 280—6)

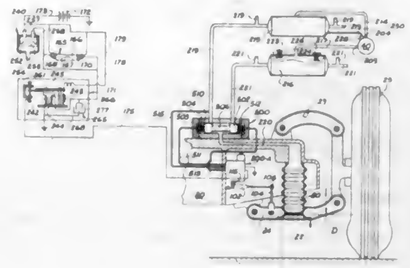


A controlled vehicle suspension system of the type that includes fluid actuated means operative between the sprung and unsprung weights of the vehicle. The system includes flow control valve means for controlling the flow of fluid to and from said fluid actuated means and valve movement retarding means and is further characterized by means for automatically varying the rate of movement of said retarding means between certain positions of movement thereof. The system is further characterized by a resilient operator operative between said flow control valve means and one of said weights.

3,404,899
METHOD AND APPARATUS FOR CONTROLLING VEHICLE SUSPENSION
Arthur E. Vogel, Columbus, Ohio, assignor, by direct and mesne assignments, of twenty-five percent each to said Vogel, Robert Dawson, Coshocton, Palmer Fultz and Warren H. F. Schmieding, both of Columbus, Ohio
Continuation of application Ser. No. 200,597, May 28, 1962, which is a division of application Ser. No. 577,777, Apr. 21, 1956, now Patent No. 3,036,844, dated May 29, 1962. This application Sept. 15, 1966, Ser. No. 579,773
15 Claims. (Cl. 280—6)

A controlled vehicle suspension system of the type that includes fluid actuated means operative between the sprung and unsprung weights of the vehicle. The system includes valve means for controlling the flow of fluid to and from said fluid actuated means and valve movement

retarding means and is further characterized by means for automatically varying the rate of movement of said retarding means between certain positions of movement thereof.

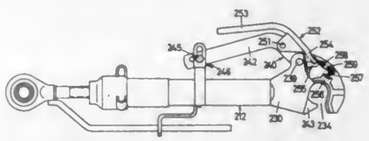


3,404,900
SLALOM SNOW SKI
James L. Rippetoe, 17200 Grays Bay Blvd., Wayzata, Minn. 55391
Filed Nov. 21, 1966, Ser. No. 595,942
6 Claims. (Cl. 280—11.13)



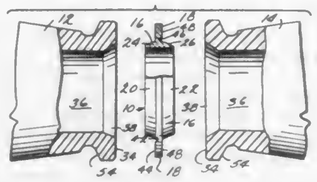
A single snow ski having a base constructed with elongated, generally elliptical ends and substantially straight edge portions therebetween. The base has a releasable binding attached in an approximately central location to the upper surface thereof, which releasable binding clamps one boot of the skier so as to substantially prevent relative movement between the boot and the base, and a second binding attached to the upper surface to the rear of the first binding, which second binding receives the toe of the skier's other boot therein and substantially prevents transverse or forward movement thereof relative to the base. The base has attached to the under surface thereof a downwardly extending rib which extends along the longitudinal direction at approximately the transverse center of the base, a sufficient distance to intersect a perpendicular line through the center of gravity of the skier.

3,404,901
COUPLING MEANS FOR TOWING VEHICLES
Willy Rau, Kirchheim, Teck, Germany, assignor to Maschinenfabrik Rau o.H.G.
Filed July 18, 1966, Ser. No. 565,955
Claims priority, application Germany, July 31, 1965, M 66,183; Apr. 22, 1966, M 69,241
13 Claims. (Cl. 280—456)



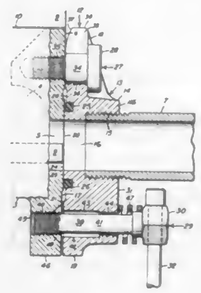
Coupling means for coupling to a towing member an object to be towed and including a towing bar having at least two sections adjustable longitudinally with respect to each other, means for locking said two sections against movement in longitudinal direction, a movable coupling member connected to one end of the towing bar, means for operating the coupling member, and operable means connecting the operating means and the locking means for common operation.

3,404,902
DEFLECTABLE LIP SEALING CONNECTION HAVING SPOILER FEATURE
Raymond E. Latham, Robert T. Brown, and Charles A. Bollfrass, Houston, Tex., assignors to Gray Tool Company, Houston, Tex., a corporation of Texas
Filed Nov. 9, 1965, Ser. No. 507,002
16 Claims. (Cl. 285—14)



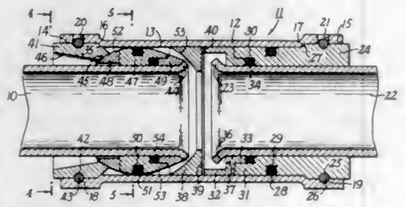
A stressed sealing arrangement wherein the annular sealing ring having tapered, annular, elastically deflectable sealing lips and a radially directed rib is provided with an axially opening groove in at least one rib axially presented face, the groove extending across the entire radial extent of all of that face which will abut another part, for assuring that when sealing is accomplished using the ring it is accomplished by the lips, rather than by abutment of the rib face with the other part.

3,404,903
SAND DISCHARGE PIPE CONNECTION
Virgil L. Frantz, Salem, Va., assignor to Graham-White Sales Corporation, Salem, Va., a corporation of Virginia
Filed Mar. 15, 1966, Ser. No. 534,301
10 Claims. (Cl. 285—24)



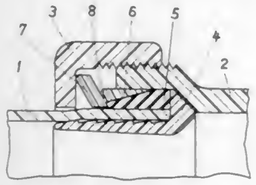
A releasable connection between a discharge pipe and an outlet port of a locomotive sander combining a union on the pipe and fittable over the port and having side flanges at opposite sides of the port wtih a stud secured to the sander and slidably interlockable with one of the side flanges and a bolt extending through the other flange and threadable into the sander, the bolt mounting a handle for manual actuation and being carried against accidental removal by the union on disconnection thereof from the sander.

3,404,904
PIPE COUPLINGS
Homer D. Roe, % Holmberg, Inc., Melville, N.Y. 11746
Filed Jan. 17, 1966, Ser. No. 520,920
2 Claims. (Cl. 285—165)



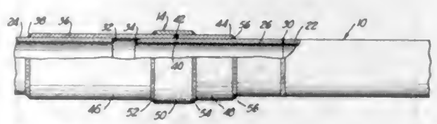
A flexible demountable pipe coupling includes a cylindrical tubular casing operatively connected in a pipe line. A pipe extending into said casing through one end thereof includes an inner end portion operatively engaged coaxially in a composite pipe end positioning element which is mounted for angular flexing movement in the bore of said casing. Said element is an annular assembly having a generally spherical peripheral surface and comprises separate parts including an annular washer, an annular bushing and an annular sealing ring carrier mounted coaxially on said pipe between said washer and said bushing. A sealing ring is mounted on said carrier in sealing contact with opposed internal substantially cylindrical surface portions of the bore of said casing and another sealing ring provides a seal between the carrier and the tube. A second pipe extends coaxially through an opposed open end of the casing and is mounted for limited axial displacement therein.

3,404,905
SMOOTH PIPE CONNECTION ESPECIALLY FOR PIPES OF SYNTHETIC MATERIAL
Robert Albrecht, Neuhausen am Rheinfall, Switzerland, assignor to Georg Fischer Aktiengesellschaft, Schaffhausen, Switzerland
Filed July 11, 1966, Ser. No. 564,209
Claims priority, application Switzerland, July 15, 1965, 9,947/65
3 Claims. (Cl. 285—249)



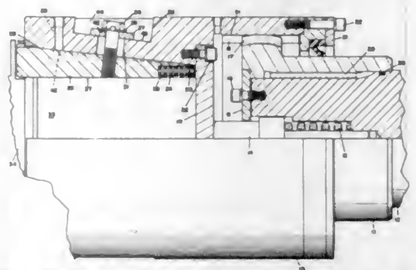
A connection between a first and a second tubular member having overlapping portions spaced in radial direction with regard to each other and confining therebetween an outer and an inner wedge shaped member. The outer member is adapted to be engaged by an annular clamping element interposed between said first tubular member and a hollow nut surrounding said clamping element and threadedly engaging the second tubular member to exert axial pressure upon said outer wedge shaped member so as to cause the latter to wedge itself further between the inner wedge shaped member and the second tubular member whereby a radial pressure is conveyed through said inner wedge shaped member inwardly upon the first mentioned tubular member and by said outer wedge shaped member directly outwardly upon the second tubular member so as to establish a firm connection between said two tubular members.

3,404,906
EXPANSION JOINT
Walter C. Hutton, 1567 Waldren Ave., Los Angeles, Calif. 90041
Filed Apr. 1, 1966, Ser. No. 539,370
3 Claims. (Cl. 285—286)



An expansion joint is disclosed which includes first and second tubes having spaced ends. A sleeve is secured to the first tube so as to extend therefrom around the second tube. A sealing ring in the sleeve engages the second tube.

3,404,907
WEDGE KEY
John J. Kane, Erie, and John E. Wright, Fairview, Pa., assignors to Zurn Industries, Inc., Erie, Pa., a corporation of Pennsylvania
Filed Sept. 7, 1965, Ser. No. 485,423
1 Claim. (Cl. 287—52.05)

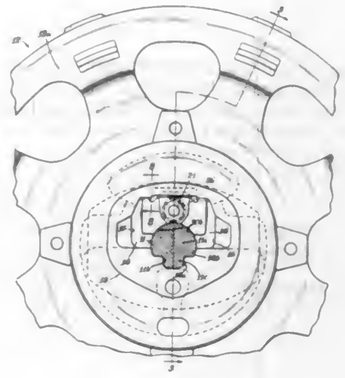


The spindle coupling disclosed herein is of general utility but finds its most common usage in rolling mills, wherein it is important that the effective driving connection be established between the roll and the driving spindle, while at the same time providing for easy and rapid roll changes. The roll disclosed insures proper driving connection between the driving spindle and the roll yet allows the roll to be easily removed. The cylindrical male coupling member has a recessed portion at a side thereof providing a surface extending longitudinally of the male coupling and a female coupling member having a socket receiving the male coupling. The female coupling member having a generally longitudinally extending surface disposed opposite said surface of the male coupling member when the male coupling member is inserted in the female coupling member. A space is provided between the male coupling and the female coupling tapering from a relatively small width to a greater width in a direction from the bottom of the socket of the female coupling member outwardly. A generally wedge-shaped key is disposed in the space between the coupling members to restrain them to rotate together. A spring is provided which acts directly on the wedge to urge it outwardly and a slot is provided in the female coupling member through which a stud extends and the stud is attached to the wedge.

3,404,908
TRACTOR WHEEL SECURING DEVICE
John S. Palmer, Clarendon Hills, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 19, 1966, Ser. No. 587,778
10 Claims. (Cl. 287—52.06)

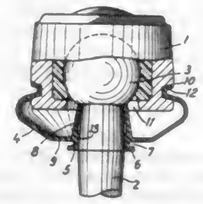
1. A wheel mounting assembly comprising

(a) an axle having a generally cylindrical end portion for mounting a wheel in driving relation,
(b) a wheel having an enlarged hub-like central portion with a generally central opening extending therethrough forming a housing,
(c) a first portion of said housing being defined by a generally arcuate surface disposed coaxially of said wheel and arranged to seat said axle,
(d) complementary means on said axle and wheel for preventing relative rotation therebetween,
(e) a second portion of said housing extending generally oppositely of said first portion radially and circumferentially of said wheel and being conformed and disposed to receive a wedge type sub-assembly in cooperative relation therewith,
(f) a plurality of generally parallel tapered ramps on said wheel interiorly of said housing in predetermined spaced relation with one another and with the axis of the wheel, said ramps being curved longitudinally thereof and respectively arranged and disposed for tangential wedging engagement with corresponding wedges of said sub-assembly,



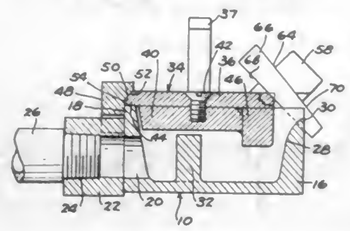
(g) a wedge type sub-assembly comprising
(1) a rotatable drive shaft,
(2) a first member mounted on said shaft adjacent one end thereof co-axially therewith and for rotation relative thereto,
(3) means on said shaft restricting movement of said first member longitudinally of said shaft,
(4) a second member removably threaded on said shaft in variable, opposed spaced relation and co-axially with said first member,
(5) said members being generally similar in conformation and having on one side thereof a bearing surface for receiving a corresponding surface of said axle in co-axial sliding relation, and on the opposite side thereof in predetermined spaced relation with one another and with the axis of said shaft a plurality of generally parallel tapered wedge surfaces configured for tangential engagement with said ramps,
(6) said first and second members and the parts of said sub-assembly associated therewith being so conformed and arranged for operation in relation to one another and to said shaft that upon said sub-assembly being positioned for operation within said housing, with said wedge surfaces respectively in juxtaposition with corresponding ramps, the axle being seated in stated splined relation with the wheel, rotation of said shaft in one direction will cause said members to move toward one another thereby bringing the respective wedge surfaces into tangential wedging engagement with said corresponding ramps thereby effecting the clamping of the wheel upon the axle, and subsequent predetermined reverse rotation of the shaft, will cause reverse movement of the members thereby enabling release of the wheel.

3,404,909
SEAL FOR THE JOINT PIN OF UNIVERSALLY MOVABLE JOINTS
Rudolf Gottschald, Osterath, Germany, assignor to A. Ehrenreich & Cie.
Filed Oct. 21, 1965, Ser. No. 499,863
Claims priority, application Germany, Sept. 17, 1965, E 30,114
3 Claims. (Cl. 287—87)



The subject invention relates to the seal for ball and socket type universal joints. Basically, the seal is of the bellows type and is provided with a peripheral collar designed to fit in a peripheral groove on the joint case, and an axially disposed collar arranged to afford passage of the joint pin therethrough. In addition, the design includes an external flange integral with the seal located adjacent the axially disposed collar arranged in such a manner that an annular external recess is formed in which a tension ring can be inserted to impose a positive force on the collar to insure positive sealing contact between the collar interior and the joint pin. Also, formed integrally on the seal is a sleeve which extends from the axially disposed collar to the ball of the joint and which is designed to facilitate sliding movement of the pin with respect to it. To achieve this result, the internal diameter of the sleeve is sized larger than the outside diameter of the pin at the point nearest the collar with the internal diameter of the sleeve progressively decreasing in size as it approaches its terminus wherein the sleeve interior engages the joint pin and the sleeve exterior engages the ball in sealing relationship.

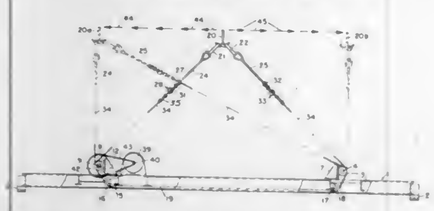
3,404,910
LADLE
Robert R. Rader, Port Huron, Mich., assignor to Wirtz Manufacturing Co., Inc., Port Huron, Mich., a corporation of Michigan
Filed Nov. 1, 1966, Ser. No. 591,250
6 Claims. (Cl. 292—257)



1. An overflow type ladle comprising a receptacle having a bottom wall, end walls and front and back walls, said end walls and back wall having upper edge portions

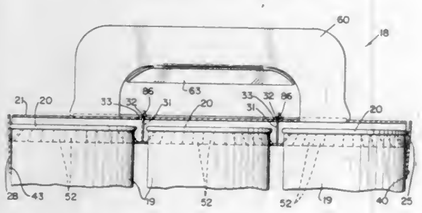
lying in a common plane, a cover on said receptacle supported on said upper edge portions of said end and back walls and means for maintaining the cover in tightly seated relation with said upper edge portions comprising means forming downwardly facing shoulder means on said receptacle spaced above said cover and tapered wedge means slidably engaged between said shoulder means and said cover and urging the cover downwardly against said upper edge portions of the back and end walls, said shoulder means comprising a bracket on each end wall, each bracket extending upwardly above said cover and having a shoulder thereon which overlies and is spaced above a corresponding end portion of the cover, said wedge means comprising tapered pins driven between said shoulders and the end portions of the cover, means on said back wall engaging the cover along its rear edge and adapted to press the cover downwardly tightly against said upper edge portions in response to movement of the cover in a rearward direction, said tapered pins being inclined to the plane of the cover and adapted to apply pressure to the front edge portion of the cover in a downward and rearward direction.

3,404,911
CARGO-HANDLING APPARATUS
Richard C. Burnett, Claymont, Del., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Oct. 27, 1966, Ser. No. 590,030
2 Claims. (Cl. 294—81)



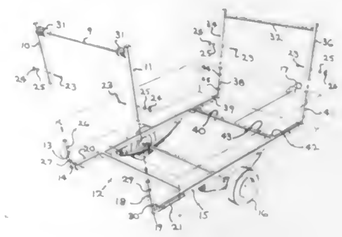
A rectangular spreader for lifting containers is rigged to a single-point suspension by means of two flexible members each of which passes around a respective pair of aligned wheels located at opposite ends of the longer sides of the spreader. Reversible driving means are provided on the spreader for so driving the wheels that the ends of the members move in a direction parallel to the longer sides of the spreader.

3,404,912
SUPPORTING STRUCTURE AND BLANKS THEREFOR
Richard M. Watts, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Oct. 6, 1965, Ser. No. 493,508
21 Claims. (Cl. 294—87.2)



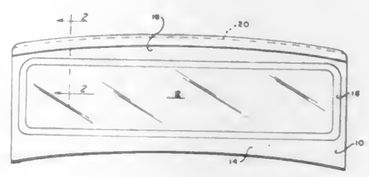
This disclosure relates to a supporting structure or carrier adapted to fasten to the upper end portion of containers such as cylindrical beverage cans, for example, and suspend such cans therebelow during carrying thereof. The supporting structure has features enabling easy carrying, stacking, and removal of individual cans.

3,404,913
BOAT CARRIER FOR CAMPING TRAILERS
David J. Lahey, R.F.D. Rte. 2, Tracey Road, Perrysburg, Ohio 43551
Filed May 9, 1966, Ser. No. 548,520
4 Claims. (Cl. 296—23)



A camping trailer boat carrier comprising bumper element brackets secured to the trailer frame, four hollow upstanding corner posts telescopically mounted on the respective brackets and a pair of cross bars mounted on the posts for supporting a boat.

3,404,914
VEHICLE CONVERTIBLE TOPS
James J. Stengel, P.O. Box 318, Boulder, Colo. 80301
Filed Sept. 6, 1966, Ser. No. 577,351
4 Claims. (Cl. 296—120)

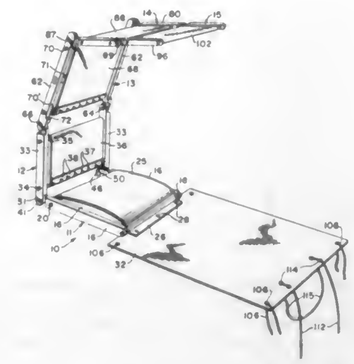


A convertible top for utility-type vehicles, having an inverted metal channel secured to the top frame member of a windshield, includes a plastic channel having one long leg secured along the front edge of the top, whereby the shorter leg fits into and conforms to the curvature of the metal channel.

3,404,915
BEACH CHAIR AND COT
José Luiz de Souza Filho, Praca Vereador Rocha Leao 42, Apt. 701, Copacabana, Rio de Janeiro, Brazil
Filed Mar. 16, 1967, Ser. No. 623,651
10 Claims. (Cl. 297—17)

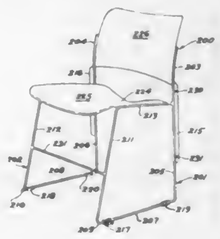
The disclosure describes an articulated, portable, collapsible beach chair and cot which can be set up in various ways on a sand beach to serve as a chair or as a cot or as both a chair and a cot. This "chair-cot" has a plurality of rectangular sections connected by hinge joints so that the sections can be rotated at various angles to each other. Clamps are provided for locking the sections in fixed angular positions to each other. One or more sections

can serve as a sun shade at one end of the chair or cot while another section at the other end serves as a seat or



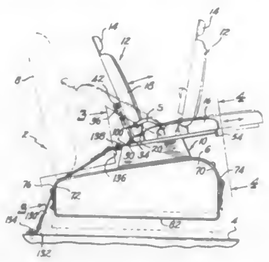
pillow, and still other sections serve as a seat back or a support for the sun shade.

3,404,916
COMPACTLY STACKABLE CHAIR
David L. Rowland, 49 W. 55th St., New York, N.Y. 10019
Original application Feb. 19, 1965, Ser. No. 441,947. Divided and this application Jan. 12, 1966, Ser. No. 520,184
2 Claims. (Cl. 297—239)



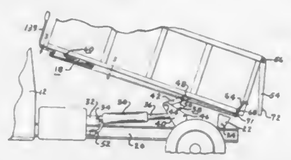
1. A stackable lightweight chair comprising frame means providing (1) a pair of substantially parallel members each bent to provide a side rail, a front leg, a bottom rail, and a rear leg, said bottom rail being joined by an offsetting portion to the bottom of said front leg, (2) a front reinforcing member extending between and welded to said front legs, and (3) a reinforcing member welded to the rear legs and side rails and connecting the rear legs to each other and spacing them from the side rails, seat and back members secured to and carried by the frame means of each said chair, and means for stiffening each said rear leg including a frame portion enlarged in cross-sectional area, extending laterally of said frame a substantial distance both above and below the connection between said rear legs and said rear reinforcing member, said front reinforcing member being different in thickness from said front legs, positioned below said side rails and providing a different natural frequency of vibration thus constituting a vibration damper, thereby protecting the welded assembly from breakage due to the development of vibrations when a chair is dropped or struck a hard blow.

3,404,917
MOUNTING BRACKET FOR AUTOMOBILE BABY SEAT
Richard Donald Smith, McAllen, Tex., assignor to Reynolds Research & Manufacturing Corp., McAllen, Tex.
Filed June 28, 1966, Ser. No. 561,145
6 Claims. (Cl. 297—250)



A bracket for mounting a baby seat on the bench portion of the passenger seat of a vehicle, including a base plate with an undersurface shaped to conform to the transverse contour of the bench seat portion. The front and rear end portions of the base plate are downturned to prevent the plate from sliding forwardly and rearwardly, and each of said downturned end portions has a pair of spaced slots therein for receiving securing straps that are passed beneath the bench seat portion. An upright standard is secured to the base plate, and has means on its upper end for slidably receiving a baby seat.

3,404,918
POWER OPERATED TAIL GATE LATCH FOR DUMP TRUCK
Joseph A. Lackey, 2450 Blake Road, Portage, Ind. 46368
Filed Sept. 28, 1966, Ser. No. 582,668
5 Claims. (Cl. 298—23)

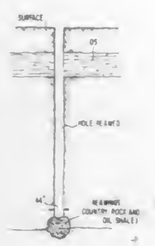


A mechanism for operating a dump truck in which the hydraulic system of the truck is used to operate the tailgate latching mechanism as the body is lifted and lowered. The mechanism includes a pair of spaced shafts mounted on the underside of the body and interconnected with one another and with the latch for the tailgate, the mechanism having an over-center position which firmly holds the latching mechanism in its locked position.

3,404,919
METHOD OF CREATING LARGE DIAMETER BOREHOLES USING UNDERGROUND NUCLEAR DETONATIONS
Rod P. Dixon, Salt Lake City, Utah, assignor to Nuclear Processing Corporation, Salt Lake City, Utah, a corporation of Utah
Continuation-in-part of application Ser. No. 325,721, Nov. 22, 1963. This application May 4, 1966, Ser. No. 547,672
9 Claims. (Cl. 299—13)

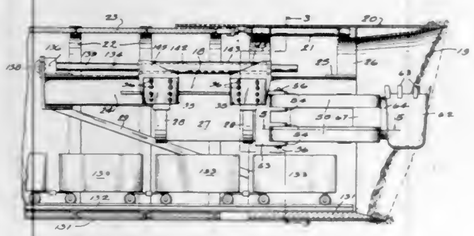
Deep, large diameter bore holes are created in a geological formation by first drilling a slim hole, detonating

a nuclear device in the slim hole, and thereafter reaming the slim hole to the desired diameter, the nuclear device being of a size predetermined to produce a cavity of sufficient volume to receive the cuttings received in the reaming operation. In preferred embodiments the large hole is used as a means for emplacing one or more large



nuclear devices in the formation to break and fracture it for the recovery of mineral values therefrom, and a second hole may be drilled to permit emplacement of a further nuclear device at a location such that its detonation creates a cavity toward which the previously broken formation can cave, thereby increasing the permeability of the broken formation.

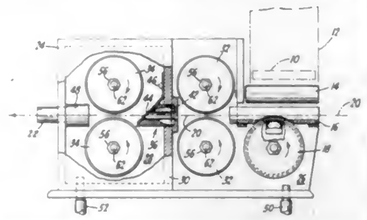
3,404,920
TUNNELING MACHINE WITH SHIELD SUPPORTED TRAVELING EXCAVATOR
John R. Tabor, 3400 Spruce St., Racine, Wis. 53403
Filed July 13, 1966, Ser. No. 564,844
18 Claims. (Cl. 299—31)



This disclosure relates to a tunneling machine comprising a tunneling shield, an excavator support mechanism on the shield and conveyed by the shield as it moves forwardly in the tunnel, a power operated excavator mounted on the support mechanism to be carried within the shield and conveyed by the shield, said excavator having a boom, a cutting tool and means for moving the cutting tool in all directions across the tunnel face.

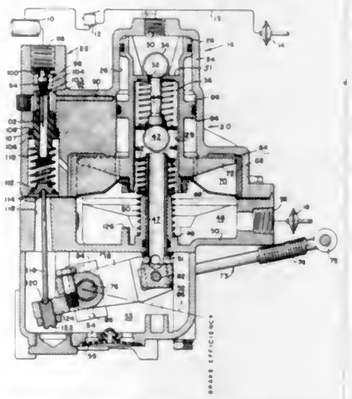
3,404,921
PNEUMATIC TRANSPORT DEVICE FOR CIGARETTES OR THE LIKE
Melvin Vergales and James Meredith Woolard, Richmond, Va., assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed Jan. 30, 1967, Ser. No. 612,472
7 Claims. (Cl. 302—2)

The following disclosure relates to a device for conveying and transferring rod-like articles into pneumatic transport tubes. The device comprises generally a valve type structure wherein air flow in an undesirable direc-



tion is prevented by providing means for positively moving an article through a one-way gate.

3,404,922
BRAKE BALANCING VALVE WITH BRAKE TARE COMPENSATING MEANS
Harry M. Valentine, Elyria, Ohio, assignor to Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio, a corporation of Delaware
Filed Mar. 23, 1967, Ser. No. 625,436
8 Claims. (Cl. 303—60)

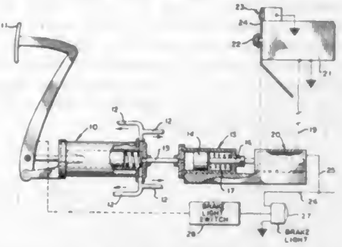


A brake balancing valve which delivers a braking pressure to brake chambers proportional to load, proportioning being achieved through the balancing of brake valve pressure applied to a constant area piston against brake chamber pressure applied to a variable area diaphragm, the invention comprising an added area piston part of constant size which acts in concert with the first constant area piston, means being provided for delivering to the second piston part pressure inversely proportional to load in order to overcome brake tare which is defined as the inherent resistance to movement of the brake apparatus from brake release to the point where the brake shoes are in light rubbing engagement with the drum known as "brake impending" whereby the brakes subject to proportioning exert their effective share of braking effort with substantially none of the effective braking effort being utilized merely to overcome brake tare.

3,404,923
NON-SKID BRAKING SYSTEM FOR AUTOMOBILES
Robert Smoren, 61—28 214th St., Bayside, N.Y. 11364
Filed June 24, 1966, Ser. No. 560,200
4 Claims. (Cl. 303—61)

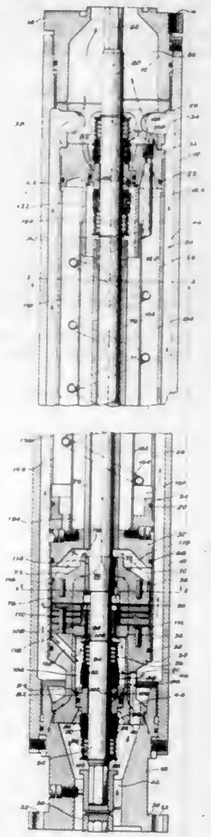
Anti-skid control for fluid-actuated braking systems including a master cylinder actuated by the brake pedal, a second cylinder connected to the master cylinder and having a solenoid actuated piston energized by a timer for varying the fluid pressure in timed pulses. The solenoid

circuit includes a switch responsive to movement of the brake pedal and an additional deenergizing switch, the arrangement being such that when the brake pedal is depressed, the braking pressure is periodically reduced. In an



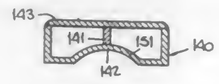
air brake system, a control valve having high and low pressure chambers separated by a flexible diaphragm is connected to be actuated periodically for reducing the fluid pressure applied to the brake line.

3,404,924
OIL FILLED THRUST BEARING MODULES FOR SUBMERSIBLE PUMPS
Charles Leon Choate, Tulsa, Okla., assignor to Goulds Pumps, Inc., Seneca Falls, N.Y.
Filed Feb. 6, 1967, Ser. No. 614,221
9 Claims. (Cl. 308—36.2)



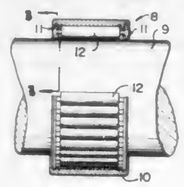
A thrust bearing module providing improved protection from destructive contamination of the lubricating fluid by the ambient liquid being pumped. The construction of the housing and related parts is such as to effectively seal the housing in certain regions while also providing a vent for the lubricant reservoir to the pressure of the ambient fluid. A baffle or labyrinth arrangement is used to control commingling of the lubricant with ambient fluid entering through the vent and to stay as long as is possible the migration of contaminating ambient fluid from within the reservoir to those regions housing the thrust bearing and the seals.

3,404,925
BEARING WITH HOLLOW RINGS
Joseph K. Balley, Lakewood, N.Y., assignor to TRW Inc., Euclid, Ohio, a corporation of Ohio
Filed May 12, 1966, Ser. No. 549,700
11 Claims. (Cl. 308—184)



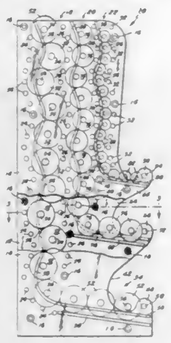
The bearing has hollow rings preferably made from sheet metal to form the axial walls of the bearing with the bearing surfaces having a substantially greater width than thickness to render the walls controllably yieldable in relation to the antifriction members. The wall of one of the members has an annular strut for controlling the yieldability of the walls. Coolant flows in the hollow rings. This coolant may be a lubricant and holes may be provided to introduce the lubricant adjacent to the bearing surfaces.

3,404,926
FULL COMPLEMENT BEARING ASSEMBLY
Charles E. Horne, Torrington, Conn., assignor to The Torrington Company, Torrington, Conn., a corporation of Maine
Filed Mar. 1, 1966, Ser. No. 530,872
12 Claims. (Cl. 308—213)



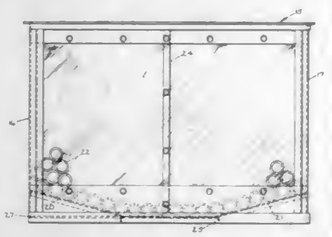
A retaining washer for a bearing assembly is provided, the washer being adapted to engage a trunnion end of rollers, for retaining the rollers adjacent a bearing cup race surface. The washer includes an axially inwardly extending lip for engaging the trunnions, and has a radially outwardly extending annular flange which is engaged between radially inwardly extending cup lips, and is confined between both lips. An annular clearance slot is provided for the trunnion ends, and lubrication slots of arcuate configuration may be provided, extending through the washer. The washer, being constructed as an annulus, is a complete ring, and has at its radial outermost surfaces a frusto-conical configuration which cooperates with a complementally configured surface on an axial outermost one of the radially inwardly extending cup lips, for facilitating positioning of the washer. The inner diameter of the washer may provide clearance for shaft rotation, or may be sized for press-fit engagement with a shaft, in the latter case the washer flange being rotatable within the radially inwardly extending cup lips.

3,404,927
BATTERY DISPENSER
Frank Mellion, Providence, R.I., assignor to Jo-Dee Corp., Warwick, R.I., a corporation of Rhode Island
Filed Apr. 17, 1967, Ser. No. 631,219
6 Claims. (Cl. 312—45)



A dispenser for use on a counter of a retail establishment in the dispensing of batteries having a magazine portion formed therein in which the batteries are received, the magazine portion being generally vertical for receiving the batteries in stacked relation and being defined by a plurality of aligned pins that provide for restricted movement of the batteries through the magazine portion to a dispensing station.

3,404,928
TEXTILE BOBBIN CONTAINER
Herman Haagsma, Whitinsville, Mass., and Leo L. Chabot, Cumberland, R.I., assignors, by mesne assignments, to John Donald Marshall and Horace L. Bomar as trustee of The Carolina Patent Development Trust
Filed Feb. 14, 1967, Ser. No. 615,980
1 Claim. (Cl. 312—72)

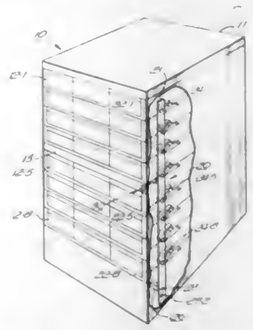


A hopper for warp bobbins adapted to be positioned on a donning machine and to feed the empty bobbins loosely contained therein through the force of gravity to the bobbin reservoir of said machine.

3,404,929
INTERLOCKING OF SELECTED UNITS OF A STORAGE SYSTEM
David M. Wright, Shrewsbury, and Carl J. Dean, Southbridge, Mass., assignors to Barry Wright Corporation, Watertown, Mass., a corporation of Massachusetts
Filed Feb. 20, 1967, Ser. No. 617,140
10 Claims. (Cl. 312—216)

A system of independent units, such as a storage cabinet with a plurality of drawers, in which selected units, i.e. drawers, of the system are interlocked and prevented from moving in response to the movement of a particular unit, i.e. drawer, of the system.

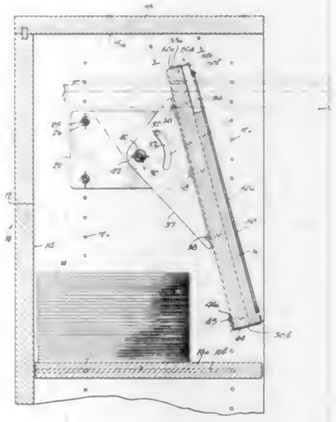
Illustratively, a movable locking bar within the cabinet, and spanning the drawers, includes a separate pin projection for each of selected drawers. Upon each such drawer is mounted a two-part cam assembly for engaging the corresponding pin. During the withdrawal of a particular drawer, its cam assembly acts upon the associated pin projection to move the bar to a position where the cam assemblies of the other drawers are blocked by the other pin projection, thus locking the other drawers in place. Upon closure of the withdrawn drawer, the bar is returned to its original position.



The cam assembly operates upon its associated pin projection by ramp surfaces which move the bar in successive and opposite directions. A further ramp surface operates to reposition the bar should it move inadvertently with a drawer open.

Also disclosed is a single key lock unit by which all of the drawers can be secured in a closed position. The lock unit includes a crank which turns, upon being actuated by a key, and contacts brackets on the locking bar, moving it to a position where the cam assemblies of all drawers are blocked.

3,404,930
PIVOTAL DISPLAY SHELF
Vincent J. Cañero, Riverview Terrace, Irvington, N.Y. 10533, and William I. Sohl, 10 Barnes Lane, Chappaqua, N.Y. 10514
Continuation-in-part of application Ser. No. 563,163, July 6, 1966. This application June 28, 1967, Ser. No. 652,398
15 Claims. (Cl. 312—234.1)



A pivotable display shelf for mounting above a horizontal support surface having a space above said support surface to accommodate any articles supported thereon

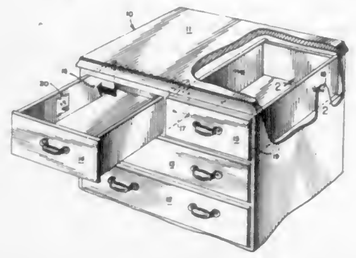
(e.g. a bookshelf) including, a display shelf surface, a pivot support for the display shelf surface located at an intermediate height within the space above the support surface and essentially parallel to and spaced from the display shelf surface, pivot connections between the display shelf surface and the pivot support structure, and limit structure limiting the pivotal movement of the display shelf surface to a first extreme wherein the display shelf surface is essentially horizontal at the upper portion of the space and a second extreme wherein the display shelf surface is essentially vertical in front of the space. In specific forms thereof, there is included a cover for all or a portion of the display shelf surface, having a hinge connecting the cover along the uppermost edge of the display shelf surface, and being slidably connected thereto for adjustable retention of articles on the display shelf surface; and specific pivot structure comprising a pair of pivot pins supported at opposite sides of the display shelf surface, and a pair of brackets carried one at each lateral edge of the display shelf surface, including curved slots which engage with the pins to provide the range of pivotal movement of the display shelf surface including the extreme limits thereto.

3,404,931
CABINET STRUCTURE
Herbert S. Fall, 6248 E. Iona St., Indianapolis, Ind. 46203, and Lawrence M. Vaughn, Acton, and Hubert I. Short, Indianapolis, Ind.; said Vaughn and said Short assignors to said Fall
Filed Mar. 20, 1967, Ser. No. 624,509
10 Claims. (Cl. 312—257)

A cabinet structure comprising a pair of identical, horizontally disposed, generally rectangular rigid frames with open corners, one frame being congruently superposed above the other, and four identical corner posts secured within said corners to connect said frames and support said one frame. Removable side and rear wall panels are provided, each of the wall panels being disengageably connected to the top of said cabinet structure to hang vertically downwardly therefrom. Each of the wall panels is provided, at its lower end, with a latch mechanism which is engageable with the lower frame.

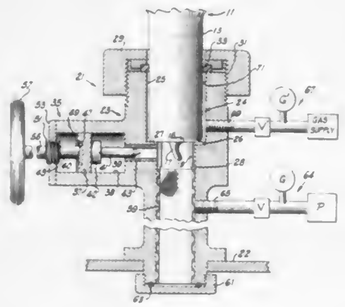
3,404,932
SLIDEABLE DRAWER STOP
Kenneth H. Gutner, 591 Roger Williams, Highland Park, Ill. 60035
Filed Sept. 21, 1967, Ser. No. 669,437
1 Claim. (Cl. 312—348)

A removable rivet-like member for insertion into the side wall or bottom wall of a slideable drawer wherein the head of the member is undercut and the shank of the



member is equipped with a plurality of convergent circumferentially spaced apart ribs.

3,404,933
METHOD AND APPARATUS UTILIZED IN REPAIRING ELECTRON TUBES
Robert John Weideman, Ottawa, Ohio, assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Dec. 19, 1966, Ser. No. 603,035
11 Claims. (Cl. 316—2)

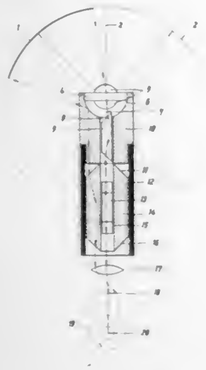


An improved method and means for opening an evacuated electron tube, having an externally projecting seal, and preventing the entrance of contaminants thereinto. The tube portion containing the seal is vertically oriented in a small hermetic chamber from which the environmental atmosphere is evacuated to a level substantially equalling that existent within the tube. Activation of plunger means opens the seal whereupon the seal portion falls from the point of attachment into non-interfering trapping means. A non-contaminating gas is controllably admitted into the evacuated chamber and opened tube to provide a protective backfill exceeding atmospheric pressure.

3,404,934
ORTHOSCOPIC PANORAMIC AND STRAIGHT-VIEW OPTICAL SYSTEM
Heinz Brachvogel, Aubundt 750, Vaduz, Liechtenstein, and Gerhard Pickroth, Rossfeldstrasse 16, Schaan, Liechtenstein
Filed Oct. 28, 1963, Ser. No. 319,163
Claims priority, application Austria, Oct. 31, 1962, A 8,589/62
10 Claims. (Cl. 350—198)

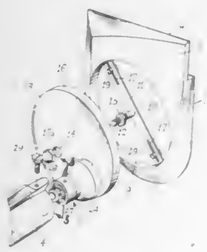
1. An optical system which comprises panoramic optical means defining an optical axis and arranged to receive light which is laterally incident with respect to said axis and to transmit said light in a tubular path along

said axis, a tubular inverting member defining a cylindrical cavity and arranged to receive the light thus transmitted around one end of said cavity and to invert said light and emit it around the opposite end of said cavity, and straight-view optical means comprising a first inverting prism disposed in said path and having a reflecting surface and adapted to receive light which is incident



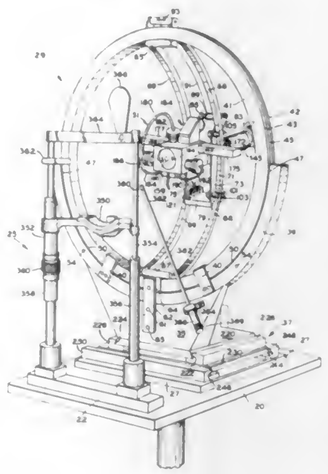
substantially longitudinally of said axis and to emit said light into said one end of said cavity, and a second inverting prism disposed in said cavity and having a reflecting base extending at an angle of 90° to the reflecting base of said first inverting prism and adapted to receive said light emitted into said one end of said cavity and to transmit it out of the other end of said cavity.

3,404,935
DUAL PLANE ADJUSTABLE AUTOMOBILE MIRROR
James L. Creager, 36 Kenner St., Ludlow, Ky. 41016
Filed Nov. 23, 1964, Ser. No. 413,226
5 Claims. (Cl. 350—303)



A dual plane adjustable mirror structure comprising a mirror frame of general rectangular configuration mounting a primary mirror surface and an angularly related secondary mirror surface horizontally disposed along the uppermost part of the mirror frame, the mirror frame having a circular well therein, a hub which is received in the well and which rotatably mounts the mirror frame for rotation about the axis of the hub, attachment means for rotatably securing the hub in the well, the attachment means including an attachment bolt and means for effecting limited lateral movement of the bolt relative to the mirror frame to effect non-binding engagement of the hub in the well, a mounting member for the mirror frame, and means pivotally connecting the mirror frame to the mounting member, the means pivotally connecting the mirror frame to the mounting member engaging the hub at a point offset with respect to the axis of the hub, whereby proper adjustment of both mirror surfaces may be achieved by first adjusting the primary mirror surface by rotating the mirror frame about the axis of the primary mirror surface, and then rotating the mirror frame about the axis of the hub so as to bring the secondary mirror surface into a horizontally disposed position without displacing the primary mirror surface from its adjusted position.

3,404,936
OPHTHALMOMETER AND METHOD OF MEASURING CURVATURE OF A CORNEA
Reuel W. Bennett, Bradenton, and Philip L. Salvatori, Sarasota, Fla., and Chester J. Black, Elmhurst, Ill., assignors to Obrig Laboratories, Inc., Sarasota, Fla., a corporation of New York
Filed Oct. 1, 1964, Ser. No. 400,770
18 Claims. (Cl. 351—6)

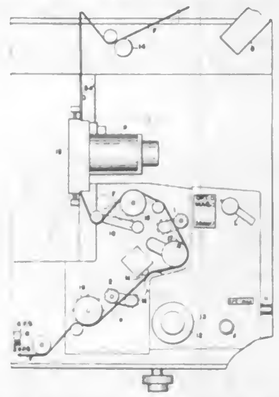


An ophthalmometer with an improved mire system and a telescope for superimposing at the eye of an operator reflected mire images from the eye of a patient with extreme accuracy, together with an improved mounting structure for the telescope of the ophthalmometer by which the telescope may be adjustably positioned about an optical axis of the telescope in alignment with the eye of the patient at such adjusted positions that measurement of the curvature of a cornea of the eye of the patient may be effected for the more accurate design and fitting of a contact lens to the eye of a patient.

3,404,937
MOTION PICTURE PROJECTION USING OPTICAL AND MAGNETIC SOUND TRACKS
Ben Peirez and Marvin I. Mindell, Great Neck, N.Y., assignors to Viewlex, Inc., Holbrook, N.Y.
Filed May 13, 1965, Ser. No. 455,456
3 Claims. (Cl. 352—29)

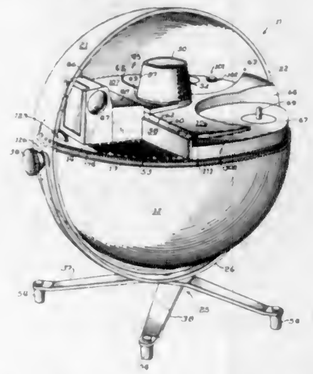
A motion picture projector adapted to use both optical and magnetic sound tracks. Means are provided to accurately gauge the film to measure a predetermined distance from the viewing aperture to the optical and magnetic heads in accordance with the approved film standards Additional switching and matching are provided in the sound amplifier portion to match and accommodate

the two different heads. Means are also provided for physically removing the magnetic head from contact with



the film when in the optical mode. Means are provided for running the film at different speeds for the different modes of operation.

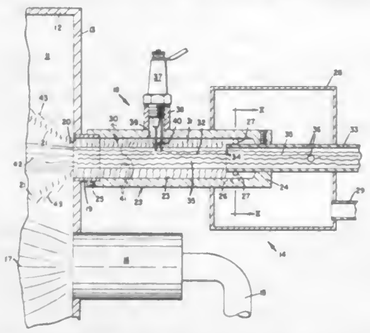
3,404,938
SELF-STORING PROJECTOR
Norman R. Kubnick, Skokie, and Allen R. Obergfell, Niles, Ill., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 13, 1965, Ser. No. 479,566
14 Claims. (Cl. 352—242)



A compact, self-storing projector having a semi-globular cover which is rockable into and out of nesting relation with a projector mounting housing portion preferably of a similar shape. The cover may be releasibly locked in several adjusted positions. Film is transported horizontally to a take-up spindle positioned near the periphery of the platform over which the film travels. As the diameter of the film roll increases beyond the periphery, a film roll support member expands to support the film convolutions beyond the periphery.

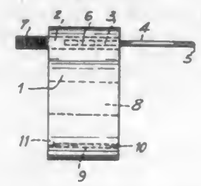
3,404,939
FUEL BURNER IGNITOR
Aatto P. Saha, Jamesville, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Oct. 6, 1965, Ser. No. 493,444
2 Claims. (Cl. 431—263)

1. In an igniter for use with a dispersible fuel burner to provide a pilot flame for igniting a main combustible mixture, the combination of a tube having one end opening through a combustion wall chamber of the burner to provide a nozzle orifice for projecting a free spiral vortex flame diverging outwardly from the nozzle orifice, a body forming a vortex carrying combustion passage extending from the nozzle orifice to the opposite rear end of the body, said body being mounted on said tube, vortex forming means including a plurality of air passages extending through the body and opening tangentially into the rear end of the combustion passage to form a free spiral vortex of combustion air adapted to travel axially through the passage to the nozzle orifice with an axial velocity less than the pilot flame propagation rate,



the vortex including an annular portion rotating relatively rapidly about a relatively slower rotating core, a pilot gas supply tube extending generally coaxial with the combustion passage and slightly downstream of the openings of said air passages for projecting a jet of combustible gas axially through the vortex core, and igniter means for igniting the combustible mixture in said combustion passage to provide a pilot flame, said tube nozzle orifice discharging the pilot flame from said combustion passage in an outwardly diverging hollow conical pattern to ignite the main combustible mixture.

3,404,940
ELECTRODE HOLDER FOR SPARK IGNITED OIL BURNERS
Jean Chappuy, 6 Ave. des Pavillons, Colombes, Hauts-de-Seine, France
Filed Mar. 22, 1966, Ser. No. 536,396
Claims priority, application France, Mar. 26, 1965, 10,852
7 Claims. (Cl. 431—264)



An ignition device for oil burners including a body of thermoplastic or thermosetting material carrying the two electrodes for providing an ignition spark adjacent the nozzle of the oil burner. This body is formed with an aperture receiving a component of the oil burner, such as, for example, a nozzle adapter. The external surface of the adapter and the aperture in the body are so formed as to prevent relative angular displacement of the body with respect to the oil burner component, while providing for axial movement of the body relative to the component of the oil burner. Pressure exerting means are provided for assuring a tight conforming fit between the body and the component part of the oil burner, preventing relative angular displacement of these two parts.

CHEMICAL

3,404,941
VAT DYEING WITH AN AMINOETHYL-PIPERAZINE-DICARBOXYLIC ACID POLYAMIDE LEVELLER
Alfred Berger, Basel, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss company
No Drawing. Filed June 8, 1962, Ser. No. 200,955
Claims priority, application Switzerland, June 12, 1961, 6,891/61
6 Claims. (Cl. 8—34)

The invention is vat dyeing with a polyamide made from a water soluble condensate of N-aminoethyl piperazine and adipic acid. Other diamines and dibasic acids are also shown. The amide can be quaternized with dimethyl sulfate, ethylene chlorohydrin, glycolchlorohydrin or chloroacetic acid.

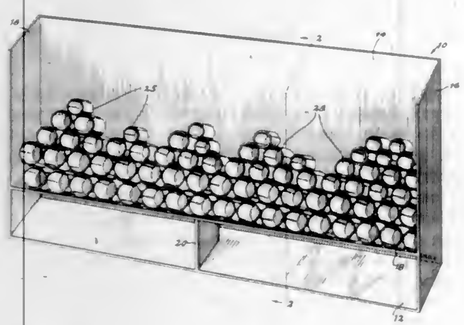
3,404,942
SHRINKPROOFING OF ANIMAL FIBERS
Walter J. Thorsen, El Cerrito, and Robert Y. Kodani, Oakland, Calif., assignors to the United States of America as represented by the Secretary of Agriculture
Filed Aug. 18, 1965, Ser. No. 480,829
2 Claims. (Cl. 8—127.5)

1. A process for shrink-proofing a fabric of proteinous animal fibers which comprises, applying heat at a temperature in the range 80–170° C. to one side of the fabric, concomitantly passing a gas stream containing ozone over the opposite side of the fabric, and positively confining the passage of said gas to a path adjacent and parallel to said opposite side.

3,404,943
PROCESS FOR CLEANING TEXTILE MATERIALS
Alfred F. Morris, Runcorn, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Sept. 20, 1965, Ser. No. 488,748
Claims priority, application Great Britain, Sept. 18, 1964, 38,216/64
8 Claims. (Cl. 8—137)

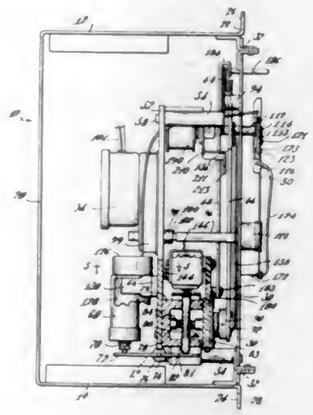
There is provided a process for cleaning textile materials of dirt and greasy substances wherein the textile is scoured with trichloro-trifluoroethane and subsequently contacted with hot water wherby any remaining trichloro-trifluoroethane is vaporized from the textile.

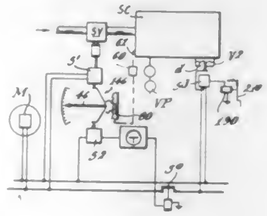
3,404,944
BEAUTICIAN'S APPLIANCE
John R. De Rose, Scranton Road, Hamburg, N.Y. 14075
Filed Aug. 29, 1963, Ser. No. 305,420
1 Claim. (Cl. 21—83)



Hair rollers are stacked upon a false bottom of a casing and disinfectant located below the false bottom disinfects the rollers by fumes freely circulating to the space above the false bottom.

3,404,945
CONDITIONING APPARATUS AND INDICATOR CONTROL THEREFOR
Francis B. Barter, Westwood, and John S. Machado, Woburn, Mass., assignors to United Electric Controls Company, Watertown, Mass., a corporation of Massachusetts
Filed Aug. 29, 1963, Ser. No. 305,323
4 Claims. (Cl. 21—93)



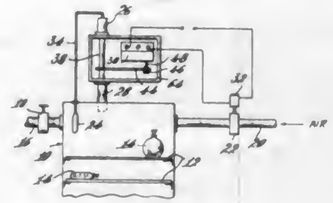


Sterilizing apparatus, operation of which is desirably initiated from a predetermined initial condition, and indicator means operable, in addition to controlling the progress of the operation, to make a distinctive mark on a chart indicative of the fact that the apparatus was returned to said predetermined condition prior to initiating the next operation. The indicator means employed is of the kind disclosed in United States Patent No. 3,144,771, issued Aug. 18, 1964.

3,404,946
HEAT-TREATING APPARATUS AND CONTROL THEREFOR
Robert D. Reis, Hingham, Mass., assignor to United Electric Controls Company, Watertown, Mass., a corporation of Massachusetts
Filed Oct. 28, 1963, Ser. No. 319,183
1 Claim. (Cl. 21—94)

A device comprising two pressure-operable motors connected in opposite relation to each other and to a switch-

actuating arm to operate a switch. One motor is exposed to the pressure within a sterilizing chamber wherein there are supported receptacles for treatment containing a sterilizing fluid which is volatile, and the other is connected to a bulb situated in the sterilizing chamber containing a volatile fluid corresponding to that in the receptacle or



having a known ratio of expansion relative thereto, so that expansion of the fluid in the receptacle and the bulb takes place simultaneously. A valve is operable by the switch to supply pressure to the chamber in excess of the pressure developed by the expansion of the volatile fluid.

3,404,947
PROCESS FOR WASTE DISPOSAL
Arthur F. Miller, Lyndhurst, and Richard C. Keiffer, Cleveland, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Feb. 14, 1966, Ser. No. 527,086
6 Claims. (Cl. 23—1)

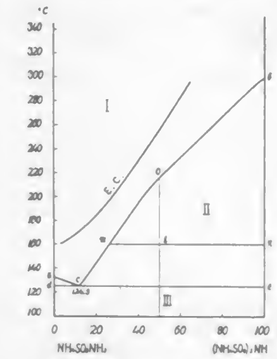
The instant application relates to a method for incinerating a waste aqueous stream containing ammonium sulfate and high-molecular weight organic polymeric materials, incidental to the manufacture of acrylonitrile and methacrylonitrile, known generally as "heavies."

3,404,948
PROCESS FOR MAKING SODIUM ARSENATE
Lewis P. Harris, Fanwood, and Earl F. Rothemich, Califon, N.J., assignors to The Sherwin-Williams Company, a corporation of Ohio
No Drawing. Filed Apr. 27, 1965, Ser. No. 451,341
2 Claims. (Cl. 23—53)

1. The method of making porous granular dry sodium arsenate containing from 60% to 70% As_2O_5 by weight which comprises reacting dry sodium carbonate with hot aqueous arsenic acid containing from 82% to 90% H_3AsO_4 and the balance water at a temperature of from 100° C. to 195° C. until the reaction is complete with stirring during the reaction, said stirring being terminated prior to completion of the reaction of all the carbonate, removing water formed during the reaction and water added with the acid, and crushing the resultant solid sodium arsenate mass.

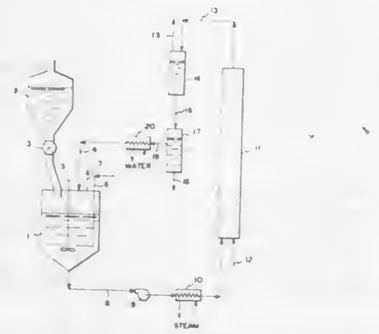
3,404,949
PROCESS FOR THE PRODUCTION OF AMMONIUM SULFAMATE
Yukio Ito, Setagaya-ku, Tokyo, Japan, assignor to Agency of Industrial Science and Technology, Tokyo, Japan, a corporation of Japan
Filed Nov. 13, 1964, Ser. No. 410,852
Claims priority, application Japan, Nov. 16, 1963, 38/61,377
6 Claims. (Cl. 23—114)

The process for producing ammonium sulfamate in which a wholly or partially fused mixture of ammonium sulfamate with either ammonium imidodisulfonate or ammonium nitridotrisulfonate, is reacted at high tem-



perature in a pressurized ammonia atmosphere to produce ammonium sulfamate.

3,404,950
MANUFACTURE OF AMMONIUM SULFAMATE
Nobuo Sasaki and Hideyuki Sugahara, Omuta, Tetsuya Maehara, Takada-machi, Kazuo Tsutsumi, Omuta, and Yoshiaki Egami, Yamato-gun, Fukuoka, Japan, assignors to Toyo Koatsu Industries, Incorporated, Tokyo, Japan, a corporation of Japan
Filed Apr. 28, 1965, Ser. No. 451,505
Claims priority, application Japan, Oct. 20, 1964, 39/59,305
10 Claims. (Cl. 23—114)



Ammonium sulfamate can be continuously produced from ammonium imidosulfonate suspended in an inert heat-transfer medium by heating under a high ammonia atmosphere to produce ammonium sulfamate, which is separated from the medium at a temperature above the melting point of ammonium sulfamate.

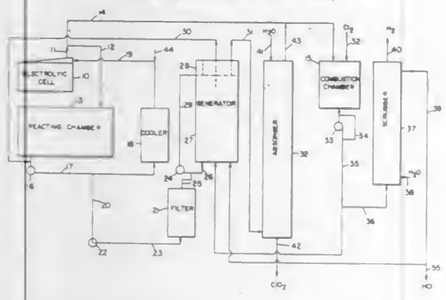
3,404,951
BASIC COPPER SULFATE
Hideo Tanabe, Nishinomiya, and Yasuo Sano, Kawanishi, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan
Continuation-in-part of application Ser. No. 390,786, Aug. 18, 1964. This application Sept. 9, 1966, Ser. No. 578,192
6 Claims. (Cl. 23—125)

A novel basic sulfate is prepared by addition of copper sulfate and alkali solutions to a phosphate solution in definite proportions.

3,404,952
PROCESS FOR THE PREPARATION OF CHLORINE DIOXIDE

Gothe O. Westerlund, Vancouver, British Columbia, Canada, assignor to Chemech Engineering Ltd., Vancouver, British Columbia, Canada

Filed June 20, 1966, Ser. No. 558,997
14 Claims. (Cl. 23—152)



1. A continuous process for the production of chlorine dioxide which comprises:
(a) effecting electrolysis of an aqueous solution of a metal chloride whereby to form
(i) an aqueous solution of a metal chlorate, and
(ii) gaseous hydrogen;
(b) reacting the gaseous hydrogen (a)(ii) with gaseous chlorine whereby to form
(iii) gaseous hydrogen chloride;
(c) reacting the aqueous solution of metal chlorate (a)
(i) with the gaseous hydrogen (b)(iii) whereby to form
(iv) an aqueous solution of metal chloride, which is recycled to step (a), and
(v) an aqueous solution of chloric acid, and
(d) reacting the aqueous solution of chloric acid (c)(v) with the gaseous hydrogen chloride (b)(iii) whereby to form
(vi) chlorine dioxide, which is recovered;
(vii) water, and
(viii) gaseous chlorine which is recycled to step (b).

3,404,953
MANUFACTURE OF HYDROGEN FLUORIDE

Samuel Corbett Carson, Runcorn, England, assignor to Imperial Chemical Industries Limited, Millbank, England, a corporation of Great Britain

No Drawing. Filed May 19, 1965, Ser. No. 457,202
Claims priority, application Great Britain, June 2, 1964, 22,778/64
6 Claims. (Cl. 23—153)

Process for producing hydrogen fluoride from fluorspar which includes forming a slurry of fluorspar in sulfuric acid and incorporating in the slurry a minor amount of hydrogen fluoride, fluorosulphonic acid or their mixtures based on the weight of sulfuric acid employed. The slurry is formed at a temperature not greater than 25° C. Thereafter the slurry is subjected to thermal decomposition to liberate hydrogen fluoride.

3,404,954
MANUFACTURE OF PHOSPHORIC ACID

James Henry Elliston Jeffes, London, and Richard Mark Orpen Maunsell, Pyrford, Surrey, England, assignors to Electric Reduction Company of Canada Ltd., Toronto, Ontario, Canada, a corporation of Canada

Filed June 22, 1964, Ser. No. 376,874
Claims priority, application Great Britain, June 28, 1963, 25,805/63; Feb. 26, 1964, 8,060/64
6 Claims. (Cl. 23—165)

A process for concentrating wet process phosphoric acid in which liquid dilute phosphoric acid is heated with gaseous combustion products at a sufficiently high temperature to cause distillation of P_2O_5, together with gaseous impurities and entrained impure wet process phosphoric acid. The entrained impure wet process phosphoric acid is then separated from the gaseous products containing an aerosol of purified P_2O_5 which is recovered and becomes the product concentrate phosphoric acid.

3,404,955
PROCESS FOR PRODUCING SULFUR TRIOXIDE AND SULFURIC ACID

Herbert Drechsel, Karl-Heinz Dorr, and Hugo Grimm, Frankfurt am Main, Germany, assignors to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany

Continuation of application Ser. No. 323,658, Nov. 14, 1963. This application Dec. 28, 1966, Ser. No. 605,501
Claims priority, application Germany, Nov. 16, 1962, M 54,832
4 Claims. (Cl. 23—168)

Gases having an SO_2 content of less than 9% are catalytically oxidized to SO_3 and H_2SO_4 in a process in which no external source of heat is employed. A novel combination of heat exchange, oxidation and SO_3 absorption steps are employed, including a hot intermediate SO_3 absorption step, to provide the heat necessary to conduct the process.

3,404,956
PROCESS FOR CATALYTIC CONVERSION OF DILUTE SULFUR DIOXIDE GASES TO SULFUR TRIOXIDE AND SULFURIC ACID

Herbert Drechsel, Karl-Heinz Dorr, and Hugo Grimm, Frankufurt am Main, Germany, assignors to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany

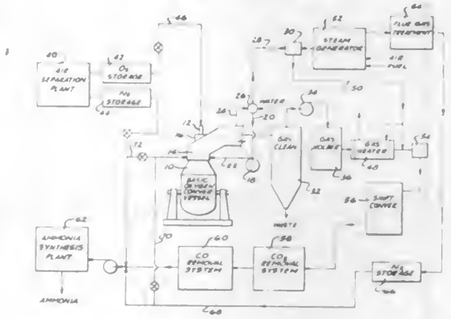
Continuation of application Ser. No. 323,659, Nov. 14, 1963. This application Dec. 28, 1966, Ser. No. 605,500
Claims priority, application Germany, Nov. 16, 1962, M 54,831
6 Claims. (Cl. 23—168)

Gases having a total SO_2 content of less than 9% after being admixed with a small portion of hot, SO_2 rich gas are catalytically oxidized to SO_3 and sulfuric acid using a plurality of heat exchange steps and oxidation steps and an intermediate SO_3 absorption step in a process which is self sufficient as to sensible heat requirements since heat losses experienced during the intermediate absorption step are compensated for by heat generated during the oxidation steps and by the heat supplied by the hot, SO_2 rich gas.

3,404,957
AMMONIA SYNTHESIS

Henry J. Blaskowski, Simsbury, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed Apr. 20, 1966, Ser. No. 543,994
8 Claims. (Cl. 23—198)



A process and system for producing ammonia in which the nitrogen is obtained from an air separation process and in which the hydrogen is obtained from a metal refining process which utilizes oxygen also from the air separation process and which produces CO gas which is reacted with water to produce the hydrogen gas for reaction with the nitrogen.

3,404,958
PROCESS FOR THE PREPARATION OF PERCHLORYL FLUORIDE

Anthony J. Beardell, Morris Plains, and Chester J. Greleckl, Denville, N.J., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Mar. 31, 1965, Ser. No. 444,466
4 Claims. (Cl. 23—203)

A process for the preparation of perchloryl fluoride by reacting nitryl perchlorate with chlorine trifluoride and then recovering perchloryl fluoride by cooling and condensing the reaction mixture.

3,404,959
$B_{20}H_{16}$ AND ITS PREPARATION

Norman E. Miller, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 7, 1963, Ser. No. 300,704
1 Claim. (Cl. 23—204)

Eicosaborane(16) which has the formula $B_{20}H_{16}$. It is prepared by reacting $B_{10}H_{14}$ with an alkylaminodialkylborane catalyst at elevated temperatures of at least 175° C.
The compound is useful as a reducing agent for metals.

3,404,960
CONTINUOUS PROCESS FOR SIMULTANEOUSLY PRODUCING COKE AND CARBON BLACK

Vaughn Mansfield, Gallatin, Tenn., assignor to Peabody Coal Company, a corporation of Delaware

Continuation-in-part of application Ser. No. 330,081, Dec. 12, 1963. This application Dec. 11, 1967, Ser. No. 689,383
7 Claims. (Cl. 23—209.6)

A bed of coal from storage is fed horizontally through a carbonizer furnace on a chain grate and partially coked, and then dropped onto a downwardly moving stack in a shaft furnace wherein coking is completed, and thence passed through a coke cooler where it is quenched and then to coke storage. Cool inert gas is circulated through the cooler and lower portion of the shaft furnace and thence through a heat exchanger. Air is preheated in the heat exchanger and fed under pressure from airbox zones beneath the chain grate through the coal bed in controlled amounts sufficient only to achieve partial coking of the coal on the chain grate and to drive off hydrocarbons, but in sufficient amounts to achieve cracking temperature for unburned hydrocarbon driven from the coal thereby producing carbon black in the gaseous effluent from the coal. The gaseous effluent is taken off, quenched, and the carbon black is filtered from the exhaust. The exhaust is dampered so that the pressure in the carbonizer furnace above the bed is at least as high as atmospheric pressure, thereby avoiding inward air leaks so that the amount of air reaching the coal in the bed be closely controlled in such amounts as to minimize burning of the carbon black before recovery, and assuring process control.

3,404,961
PROCESS FOR THE RECOVERY OF CARBON DISULFIDE FROM TRITHIANE

Hans-Dieter Rupp, Erlenbach, Erhard Siggel, Maihohl, and Gerhard Meyer, Obernburg, Germany, assignors to Vereinigte Glanzstoff-Fabriken AG., Wuppertal-Elberfeld, Germany

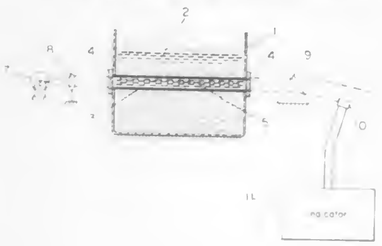
No Drawing. Filed Mar. 29, 1966, Ser. No. 538,229
Claims priority, application Germany, Apr. 8, 1965, V 28,223
5 Claims. (Cl. 23—206)

Recovery of carbon disulfide by heating trithiane at 1100–1500° C. in contact with activated carbon and collecting the resulting carbon disulfide in a cooled receiver. The process is useful in recovering and reusing carbon disulfide in the production of viscose rayon.

3,404,962
APPARATUS FOR DETECTING A CONSTITUENT IN A MIXTURE

Lewis A. Medlar, Lansdale, and Zoltan Nagy, Hatboro, Pa., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Oct. 22, 1964, Ser. No. 405,652
6 Claims. (Cl. 23—253)



Apparatus including a sealed tube containing an electrolyte which changes in pH in the presence of the constituent to be detected, and containing an indicator which changes in color as the pH of the electrolyte changes. The tube is located in the mixture containing the constituent, and is formed of a membrane which is selectively permeable to the constituent. The changes in the color of the indicator are detected by a photocell which receives a light beam passed through the indicator.

3,404,963
SALT DISSOLVER WITH AUTOMATIC SALT LEVEL CONTROLLER

Richard K. Fritsche, Fort Thomas, Ky., and Ahmad M. Moustafa, Roscoe V. Brock, and Charles H. Struble, Cincinnati, Ohio, assignors to The Miami Margarine Company, Cincinnati, Ohio, a corporation of Ohio

Filed May 28, 1965, Ser. No. 459,675
6 Claims. (Cl. 23—270)

1. A continuous salt dissolving apparatus comprising:
a vertical tank having a top opening;
the solvent inlet fixed on a lower extremity of said tank and communicating with said tank;
a solution outlet extending from the upper extremity of said tank and communicating with said tank;
a stand pipe mounted atop said tank, said stand pipe having an open top and an open bottom communicating in sealed relationship with the top opening of said tank;
first upper and second lower vertically spaced normally closed pressure sensitive limit switches mounted on said stand pipe and communicating with an interior of said stand pipe, said switches being operated by solute buildup distending and opening said switches;

at least one horizontal conveyor having a discharge end positioned adjacent said stand pipe and directed into the open top of said stand pipe;

a motor drivingly connected to said conveyor;

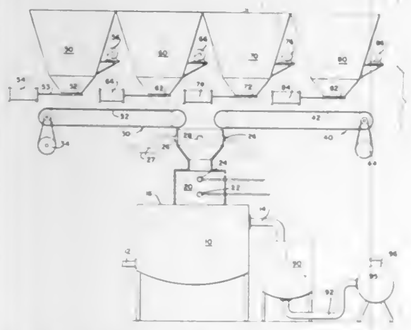
at least one salt storage bin mounted over said conveyor, said bin having a discharge valve positioned over said conveyor;

an actuator connected to said valve, said actuator operative to open said valve;

solute disposed within said tank, said stand pipe and said bin;

an electrical power source;

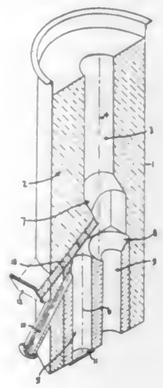
electrical circuit means interconnecting said power source through said first and second switches to said motor and to said actuator; said electrical circuit means including a first circuit interconnecting said source, said first switch, and a first coil of a first contactor; a second circuit interconnecting said source,



said second switch, and a second coil of a second contactor; a third circuit containing first contacts of said second contactor, said third circuit connected to said first circuit intermediate said first switch and said first coil and connected to said second circuit intermediate said second switch and said second coil; and a fourth circuit containing a third first contacts of said first contactor, second contacts of said second contactor, and interconnecting said source, said motor, and said actuator, said electrical circuit means being operable to stop solute supply to said standpipe by disconnecting said motor and said actuator from said electrical power source when said first switch is operated by solute buildup distending and opening said first switch, and being operable to resume solute supply to said standpipe by connecting said motor and said actuator with said electrical power source when said second switch returns to its normally closed position due to the solute level falling below said second switch.

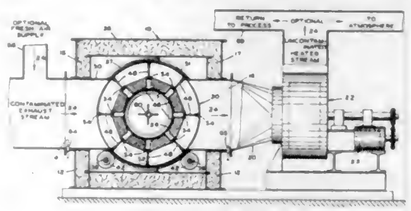
3,404,964
VAPOR PHASE REACTOR-COLLECTOR
Bernard Harris, Middlesbrough, and Peter Alan Jones, Stockton-on-Tees, England, assignors to British Titan Products Company Limited, Billingham, England, a corporation of the United Kingdom
Original application Mar. 1, 1965, Ser. No. 440,956, now Patent No. 3,356,455. Divided and this application May 17, 1967, Ser. No. 639,140
Claims priority, application Great Britain, Mar. 2, 1964, 8,743/64
3 Claims. (Cl. 23—284)

In the oxidation of vaporous metal halides by reaction of the vaporous metal halides with an oxidizing gas, it is common to effect the process in two stages or steps with the second step or stage of the process conducted vertically above the first zone in which the first step or stage is conducted such that rising gases including suspended metal oxide particles can be carried into the upper zone. It has been found that undesirable accretion products forming in the upper zone tend to loosen from the walls of the reactor and fall into the lower zone with a cooling and/or other interference with the reaction proceeding



the lower zone. This problem can be obviated by laterally offsetting the lower zone relative to the upper zone and providing a second lower zone which serves as a receiver for accretion products falling from the upper zone. The lower reaction zone, however, communicates with the upper reaction zone without danger of accretion products falling therein. Both process and apparatus are described for overcoming the problem discussed above.

3,404,965
FUME COMBUSTION APPARATUS
Benjamin P. Shiller, 19123 Greenwald Drive, Southfield, Mich. 48075
Filed Nov. 13, 1964, Ser. No. 410,909
14 Claims. (Cl. 23—288)



Apparatus for oxidizing combustible contaminants in an exhaust gas whereby, a fume combustion apparatus incorporating a regenerative type of heat exchanger mounted for rotation on an axis passing through the combustion chamber and a means for dividing the heat exchanger into a plurality of gas flow passages, is combined with a combustion chamber in such a way that fuel requirements for maintaining combustion of fumes in the combustion zone are reduced to minimum levels.

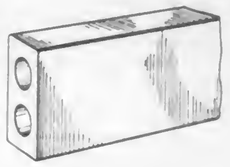
3,404,966
MELTING A FERROUS ION CONTAINING FERRIMAGNETIC OXIDE IN A FERRIC ION CRUCIBLE
William D. Westwood and Derek C. Lewis, Ottawa, Ontario, Canada, assignors to Northern Electric Company Limited, Montreal, Quebec, Canada
No Drawing. Filed Sept. 4, 1964, Ser. No. 394,608
3 Claims. (Cl. 23—293)

1. A method for melting a ferrimagnetic oxide compound in a crucible by induction heating without the compound being contaminated by the crucible, comprising the steps of:

(a) placing a pellet of the ferrimagnetic oxide compound to be melted in a crucible formed of the same ferrimagnetic oxide compound, the pellet and the crucible having substantially the same composition except that iron in the crucible is substantially only in the form of ferric ion, whereas at least a portion of the iron in the pellet is in the form of ferrous ion and is present in an amount to reduce the resistivity of the substance to melting,

(b) and melting the pellet in the crucible by induction heating, whereby due to its ferric ion content and consequent higher resistivity, the crucible is heated an amount insufficient to cause its deterioration.

3,404,967
TWO-HOLE EXTRUSION
Douglas W. Rowell, Woodbury, Conn., assignor to Anaconda American Brass Company, a corporation of Connecticut
Original application June 24, 1965, Ser. No. 466,717, now Patent No. 3,347,079, dated Oct. 17, 1967. Divided and this application July 11, 1967, Ser. No. 662,237
4 Claims. (Cl. 29—183)



An elongated extruded metal having two holes extending longitudinallly is characterized by a unitary structure which is welded between the holes but is free from welds throughout the remainder of the structure and the welded portion is free from contamination.

3,404,968
GLASS-TO-METAL SEALS AND METHOD FOR MAKING SAME
Kenneth L. Rohrer, Horseheads, N.Y., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 30, 1964, Ser. No. 400,388
7 Claims. (Cl. 29—195)

1. A glass-to-metal seal comprising a glass member, a metal member selected from the group consisting of molybdenum, tungsten ferrous metals, and alloys thereof, a first layer of an alloy of chromium and a substance selected from the group consisting of nickel, iron and cobalt, and a second layer of chromium oxide disposed upon said first layer, said second layer being bonded to said glass member.

3,404,969
COLD-DRAWN ALLOY STEEL WIRE WHICH CAN BE HOT DIP COATED WITH ALUMINUM
Alvin W. Holmes, Muncie, Ind., assignor to General Cable Corporation, New York, N.Y., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 391,280, Aug. 21, 1964. This application Oct. 12, 1967, Ser. No. 674,714
14 Claims. (Cl. 29—196.2)

A cold drawn, carbon steel wire which consists essentially of 0.5% to 1.0% carbon, 0.03% to 0.5% of a metal selected from the group of chromium, tungsten, molybdenum, vanadium and columbium, and the balance iron. The cold drawn wire may be subjected to temperatures of approximately 800° F. to 1300° F. in the course of hot dip coating of the wire with aluminum. The normal loss of tensile strength due to the exposure of the wire to said temperatures is reduced, by virtue of the chemical composition of the wire combined with the severe cold working to which it has been subjected.

3,404,970
MOTOR FUEL CONTAINING AN OCTANE APPRECIATOR
George W. Eckert, Wappingers Falls, N.Y., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 6, 1965, Ser. No. 511,973
10 Claims. (Cl. 44—56)

1. A motor fuel composition comprising a mixture of hydrocarbons in the gasoline boiling range containing an effective anti-knock amount of a tetraalkyl lead fluid, 0.05 to 5 volume percent of hydroxy-substituted pyridine selected from the group consisting of 2-hydroxypyridine, 3-hydroxypyridine and 4-hydroxypyridine and a solubility promoter effective to promote the solubility of said hydroxypyridine in said composition.

2. A composition according to claim 1 in which said solubility promoter is an alcohol represented by the formula:

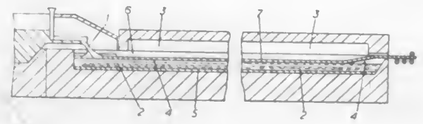
ROH

in which R is a radical selected from the group consisting of aliphatic and cyclo-aliphatic radicals having from 1 to 24 carbon atoms.

3,404,971
ODORIZATION OF COMBUSTIBLE HYDROCARBON GASES
Sven A. Olund, San Rafael, Calif., assignor to Chevron Research Company, a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 173,832, Feb. 16, 1962. This application Apr. 8, 1965, Ser. No. 446,740
12 Claims. (Cl. 48—195)

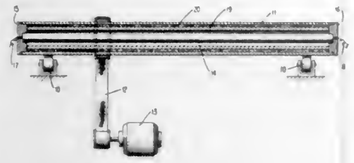
A warning agent for odorization of gaseous hydrocarbon fuels, based on mixtures of ethane dimercaptan with a monomercaptan or a sulfide.

3,404,972
METHOD OF AND APPARATUS FOR THE MANUFACTURE OF FLAT GLASS ON A MOLTEN METAL BATH
John Graham Banner, Meols, Hoylake, and Norman Aidan Murphy, Wilton, Liverpool, England, assignors to Pilkington Brothers Limited, Liverpool, England, a company of Great Britain
Filed Mar. 30, 1965, Ser. No. 443,920
Claims priority, application Great Britain, Apr. 2, 1964, 13,740/64
6 Claims. (Cl. 65—65)



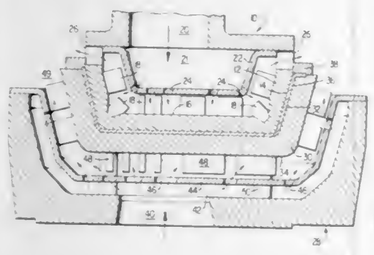
Flat glass in ribbon form is manufactured on a bath of molten metal, e.g. tin, which is contained in a tank structure which presents to the molten metal a retaining surface of a material more readily oxidisable than the metal of the bath, e.g. a graphite surface.

3,404,973
GLASS SHEET FORMING APPARATUS WITH COATED SILICA CORE ROLLER AND ROLLER
Maurice Nedelec, Paris, France, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France
Filed Mar. 5, 1964, Ser. No. 349,652
Claims priority, application France, Mar. 5, 1963, 926,937
12 Claims. (Cl. 65—253)



12. A roller for the support and transport of hot sheet glass, comprising, a core of fused silica, and a continuous, smooth, microbubble-free refractory coating adherently secured to and about said core, said coating consisting of material selected from the group alumina, zirconia, zirconium silicate, and silica.

3,404,974
COOLING ARRANGEMENT FOR GLASS FORMING EQUIPMENT
Yilmaz C. Belentepe and Arieh Carmi, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Apr. 21, 1965, Ser. No. 449,755
2 Claims. (Cl. 65—319)



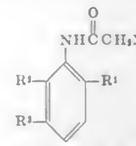
An air cooled glass press plunger and mold each have coolant passages adjacent mold surfaces to be cooled. Air introduced from a single central cooling inlet and plenum chamber is directed by openings in a relatively thin flat air distributing and control plate spaced from the outer mold surface directly on to the surfaces to be cooled. The air in contact with the mold is guided in a cumulative manner for generally non-channeled radial flow over the surface to be cooled in order to further enhance the effectiveness of the air used.

3,404,975
m-(CARBAMOYLOXY)-CARBANILATES AS HERBICIDES
Kenneth R. Wilson, Lockport, and Kenneth L. Hill, Middleport, N.Y., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 419,559, Dec. 18, 1964. This application Nov. 15, 1965, Ser. No. 507,713
25 Claims. (Cl. 71—100)

Herbicidal compositions containing m-(carbamoyloxy)-carbanilates.

3,404,976
HERBICIDAL COMPOSITION AND METHOD
John F. Olin, Ballwin, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Application Feb. 1, 1966, Ser. No. 523,923, which is a continuation-in-part of applications Ser. No. 134,131, Ser. No. 134,158, and Ser. No. 134,160, Aug. 28, 1961. Divided and this application Nov. 21, 1966, Ser. No. 608,712
50 Claims. (Cl. 71—118)
The portion of the term of the patent subsequent to Sept. 5, 1984, has been disclaimed and dedicated to the Public

Compositions comprising alpha-haloacetanilides of the formula



wherein R^1 is tertiary alkyl of at least 4 and not more than 10 carbon atoms, R^2 is hydrogen, halogen, primary, secondary, and tertiary alkyl of not more than 8 carbon atoms or alkoxy of not more than 4 carbon atoms, R^3 is hydrogen, primary and secondary alkyl of not more than 6 carbon atoms, chloride or nitro, and X is chloride, bromide or iodide, provided that one and not more than one of R^2 and R^3 is always hydrogen unless R^2 is primary alkyl or secondary alkyl in which case R^3 is as defined above and further provided that R^2 is always primary alkyl or secondary alkyl when R^3 is chloride or nitro, exhibit phytotoxic utility.

3,404,977
BRASS ALLOY
Harry Glenn Hopper, Jr., Louisville, Ky., assignor to American Standard Inc., a corporation of Delaware
No Drawing. Filed Dec. 9, 1965, Ser. No. 512,804
7 Claims. (Cl. 75—156.5)

A brass alloy having improved resistance to corrosion, an alpha structure, a high tensile strength, improved fluidity and excellent castability. The alloy consists essentially of 61.8 to 64% Cu, 2.8 to 4% Pb, 0.75–1.25% Sn, 0.75 to 1.25% Ni, 0.60 to 1.10% Fe and the balance Zn.

3,404,978
COINABLE ELECTRICAL DISCHARGE MACHINE ELECTRODE MATERIAL
Otto G. Kopplus, 54 Industrial Road, Florence, Ky. 41042
Filed Jan. 27, 1967, Ser. No. 612,173
7 Claims. (Cl. 75—208)

A method of producing an electrical discharge machine electrode wherein tungsten powder placed in a mold is covered with copper or silver, the mold then being heated to the melting temperature of the copper or silver, causing the molten metal to infiltrate the tungsten powder to form a composite body. This body is then placed in a die cavity where it is subjected to pressure and annealing operations until it has assumed the desired configuration.

3,404,979
ELECTROPHOTOGRAPHIC LAYERS WITH POLYAMIDE BINDERS AND A PROCESS FOR THEIR MANUFACTURE
Georges Bonjour, Bron, France, assignor to Societe Lumiere, Paris, France, a French company
No Drawing. Filed Nov. 4, 1964, Ser. No. 408,743
Claims priority, application Switzerland, Nov. 13, 1963, 13,938/63
7 Claims. (Cl. 96—1.8)

The present invention provides a process for the manufacture of an electrophotographic layer, which comprises applying to a substrate an aqueous composition comprising a salt of a resin-forming polymer containing acid groups imparting solubility in water and a volatile nitrogen-containing base, a photoconductor and a non-volatile amine containing at least two reactive amino groups, and heating the substrate having the composition applied thereto to remove the volatile base and to form a polyamide by reaction of the non-volatile amine with the polymer.

3,404,980
SILVER IMAGES IN LIGHT-SENSITIVE PRINT-FORMING LAYERS
Paul B. Gilman, Jr., and Charles A. Goffe, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Dec. 13, 1962, Ser. No. 244,456
26 Claims. (Cl. 96—27)

Photographic elements and processes feature a photoreactive composition adsorbed to non-silver halide, light insensitive physical development nuclei. The photoreactive composition inhibits physical development of the nuclei until exposure to light destroys the inhibiting effect. Subsequent to exposure, the element is physically developed to produce a negative of the original.

3,404,981
PROCESS FOR PREVENTING IMAGE DESTRUCTION IN THIOCYANATE-STABILIZED PHOTOGRAPHIC PRINTS
Albert Edward Harris and Edward Cyril Dodd, Ilford, England, assignors to Ilford Limited, Ilford, England, a British company
No Drawing. Filed June 21, 1965, Ser. No. 465,747
Claims priority, application Great Britain, June 24, 1964, 26,126/64
6 Claims. (Cl. 96—50)

There is provided a process for producing a photographic print by imagewise exposing a photographic material comprising an absorbent base carying on one side thereof a layer of silver halide emulsion containing a photographic developer therein. An image is developed in the emulsion of the photographic material and stabilized with a thiocyanate stabilizer solution. The improvement comprises preventing the image destruction resulting from residual thiocyanate contained in the absorbent base by applying a water-vapor impermeable layer to the said base on the side thereof which does not carry the said emulsion. The water vapor impermeable layer can be applied either before or after the developing and stabilizing steps.

3,404,982
PHOTOGRAPHIC MATERIALS FOR THE SILVER DYESTUFF BLEACHING PROCESS
Walter Anderau, Aesch, Basel-Land, and Hansrolf Loeffel, Neu-Allschwil, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company
No Drawing. Filed May 18, 1965, Ser. No. 456,829
Claims priority, application Switzerland, June 2, 1964, 7,195/64
7 Claims. (Cl. 96—99)

The present invention provides photographic materials for the silver dyestuff bleaching process that contain in one layer silver halide and at least a copper complex of an azo dyestuff containing a radical of a dibasic carbon-containing acid. These dyestuffs generally display a very pure cyan tint in gelatine, are fast to light and diffusion and yield pure whites in areas where they have been completely reduced.

3,404,983
YEAST LEAVENED BREAD IMPROVER AGENT AND COMPOSITIONS AND PROCESSES EMPLOYING THE SAME
James F. Conn, St. Louis, and Thomas P. Kichline, Chesterfield, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Apr. 26, 1965, Ser. No. 451,016
20 Claims. (Cl. 99—90)

A synergistic bread improver agent comprising (1) a monoalkali metal orthophosphate and (2) monocalcium orthophosphate used in amounts of at least about 0.6 part per 100 parts of flour is effective in imparting improved dough characteristics to yeast leavened bread and in improving processes for the production of bread.

3,404,984
PROCESS OF MAKING A FROZEN BACTERIAL CONCENTRATE
Ronald H. Olsen, Kalamazoo, Mich., assignor to Dairy Technics, Inc., Kalamazoo, Mich., a corporation of Michigan
No Drawing. Filed Sept. 25, 1964, Ser. No. 399,335
2 Claims. (Cl. 99—91)

A stable bacterial concentrate useful for imparting desirable flavor, aroma and texture to bakery products is prepared by culturing certain species of Lactobacilli, concentrating (by centrifuging) and freezing.

3,404,985
LIQUID SHORTENING
Rudolf G. K. Strobel, Colerain Township, Hamilton County, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed June 29, 1965, Ser. No. 468,108
10 Claims. (Cl. 99—92)

Liquid shortening useful for baking containing about 0.5 to 15% by weight of the shortening of alpha phase crystal tending emulsifier such as propylene glycol monostearate and about 0.25 to 2% of preformed oil-soluble stannous or polytitanyl salts of saturated fatty acids having about 14 to 22 carbon atoms.

3,404,986
PROCESS FOR MANUFACTURING CORN FLOUR
Ernest L. Wimmer, Elm Grove, and John L. Susek, Milwaukee, Wis., assignors to Krause Milling Company, Milwaukee, Wis., a corporation of Wisconsin
Continuation-in-part of application Ser. No. 351,784, Mar. 13, 1964. This application July 18, 1966, Ser. No. 567,802
5 Claims. (Cl. 99—93)

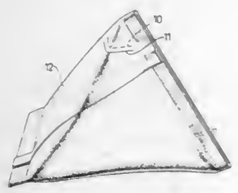
Preparation of instant masa flour from whole ground corn meals or mixtures of selected meals or flours by increasing the moisture content to about 18 to 35%, partially gelatinizing between heated rotating rollers, removing the resulting flakes and grinding to form flour.

3,404,987
FOOD PRESERVATIVE COMPOSITIONS AND METHOD FOR INHIBITING MICROBIAL GROWTH IN FOOD PRODUCTS
John A. Kooistra, Forest Park, and John A. Troller, Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed Mar. 31, 1965, Ser. No. 444,407
12 Claims. (Cl. 99—150)

1. An antimicrobial food preservative composition consisting essentially of from about 1 to 10 parts by weight an edible mineral salt selected from the group consisting of salts of iron, manganese, zinc, tin, and silver and from about 1 to 150 parts by weight of an edible preservative substance selected from the group consisting

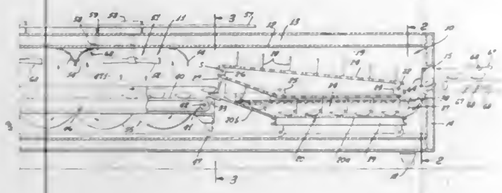
of propionic acid, sorbic acid, benzoic acid, methyl and ethyl esters of benzoic acid and edible salts of these acids.

3,404,988
LIQUID FILLED PACKAGE WITH DISPENSING OPENING MEANS
Hans Anders Rausing, Lund, Sweden, assignor to AB Tetra Pak, Lund, Sweden, a Swedish Company
Filed Oct. 22, 1965, Ser. No. 500,965
Claims priority, application Switzerland, Nov. 4, 1964. 14,274/64
3 Claims. (Cl. 99—171)



A liquid filled container with an opening notch formed in the side walls by cutting a notch on the plastic coated inside layer of the container and another spaced notch on the outside of the container so that the liquid in the container will contact only the plastic coated side of the container when opened for pouring.

3,404,989
METHOD OF FREEZING FOODS WITH LIQUID NITROGEN
Walter Earl Hirtensteiner, 15051 Eastvale Road, Poway, Calif. 92064
Filed Mar. 9, 1964, Ser. No. 350,248
20 Claims. (Cl. 99—193)



Preservation of foods by freezing that includes contacting the food with liquid nitrogen and then advancing the food along an extended path where it is contacted with nitrogen gas being evolved from liquid nitrogen at a temperature of about −320° F. The nitrogen gas contact is at high velocity at successive locations along the path absorbing heat from the food so that the temperature of the exiting gas has increased by 200° F.

3,404,990
PREPARATION OF CLOUDING AND COLORING AGENT FOR SOFT DRINKS
Karl Johan Stampe Villadsen, Arhus, Denmark, assignor to Aktieselskbet Grindstedvaerket, Arhus, Denmark
No Drawing. Filed Aug. 17, 1964, Ser. No. 390,239
Claims priority, application Great Britain, Aug. 26, 1963, 33,747/63
6 Claims. (Cl. 99—205)

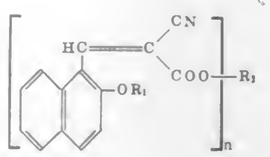
This invention provides a new composition of matter for addition to fruit juices and to other juices and beverages such as soft drinks, lemonades, and the like, particularly to citrus fruit juices, to improve their natural cloudiness and natural color by addition of natural substances extracted from parts of the citrus fruits including citrus fruit peels and citrus fruit rags.

3,404,991
EMULSIONS OF FATTY ACIDS
Harry Pelham Taylor, Aston Rowant, and Brian A. Pethica, Altrincham, England, assignors to British Bewoid Company Limited, London, England, a British company
No Drawing. Filed Dec. 3, 1964, Ser. No. 415,797
Claims priority, application Great Britain, Dec. 5, 1963, 48,106/63
6 Claims. (Cl. 106—132)

1. A composition of matter consisting essentially of a stable pourable fluid oil-in-water emulsion of a fatty acid selected from the group consisting of straight and branched, saturated and unsaturated aliphatic carboxylic acids containing 8 to 22 carbon atoms in the molecule, the emulsion containing at least 10% by weight of the fatty acid and including as an emulsifier for the fatty acid a minor proportion, based on the weight of fatty acid, of a soap of a rosin Diels-Alder adduct.

3,404,992
METHOD FOR PROTECTING ORGANIC MATERIAL AGAINST THE DEGRADATIVE EFFECTS OF ULTRA-VIOLET LIGHT RADIATION
Albert F. Strobel, Delmar, and Sigmund C. Catino, Castleton, N.Y., assignors to GAF Corporation, a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 97,758, Mar. 23, 1961. This application June 23, 1965, Ser. No. 466,411
14 Claims. (Cl. 106—176)

A method for protecting organic material against the degradative effects of ultra-violet radiation which comprises incorporating into said organic material an essentially colorless compound of the formula

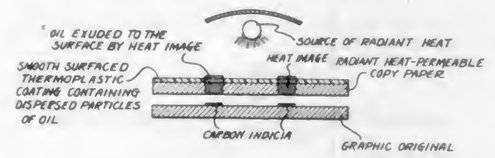


wherein R_1 is a radical selected from the group consisting of alkyl radicals of from 1 to 9 carbon atoms and alkenyl radicals of 3 to 9 carbon atoms and n is an integer from 1 to 2, and when n is 1, R_2 is a radical selected from the group consisting of alkyl, hydroxyalkyl, haloalkyl, cyanoalkyl, alkoxyalkyl, hydroxy, alkoxyalkyl, carbalkoxyalkyl, alkenyl, aryl, substituted aryl, and hetero radicals, and when n is 2, R_2 is a radical selected from the group consisting of alkylene, substituted alkylene, arylene, substituted arylene, and bi-substituted heterocyclic radicals.

3,404,993
HIGH SHEAR DISPERSION OF PIGMENTS
Frederick W. Sanders, Chillicothe, Ohio, assignor to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
No Drawing. Filed May 24, 1966, Ser. No. 552,446
3 Claims. (Cl. 106—308)

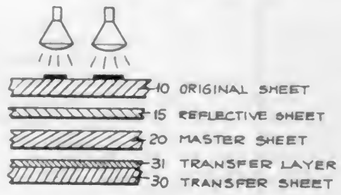
The present invention relates to preparation of aqueous dispersions of pigments in high shear mixers, using as the dispersing agent vinyl acetate-crotonic acid copolymers containing 3–10%, by weight, of crotonic acid, the dispersion being effected by kneading said pigments while maintaining the pH of the mixture at 6.5–8.5 by means of added water-soluble alkalies.

3,404,994
THERMOGRAPHIC COPYING PROCESS UTILIZING RECORDING MEMBER WITH DISPERSED OIL PARTICLES
Arnold G. Gulko, 1835 Arcola Ave., Silver Spring, Md. 20202
Filed Feb. 11, 1965, Ser. No. 431,952
7 Claims. (Cl. 117—1.7)



Right-way-round copies are produced by superimposing a radiant heat-permeable sheet carrying a thermoplastic coating containing dispersed oil particles over a graphic original bearing radiant heat absorptive indicia. Radiant heat is directed through the heat-permeable sheet to heat the indicia and the heat image is transmitted through the heat-permeable sheet to the thermoplastic coating which causes the oil particles to be exuded to the surface and form a stable oil image which can be developed by adhering particulate printing material thereto or by other appropriate means.

3,404,995
HECTOGRAPH PRODUCTS AND PROCESSES
Douglas A. Newman, Glen Cove, N.Y., assignor to Columbia Ribbon and Carbon Manufacturing Co., Inc., Glen Cove, N.Y., a corporation of New York
Filed Sept. 20, 1965, Ser. No. 488,498
18 Claims. (Cl. 117—36.1)



Hectograph transfer sheets for the pressure-placement of spirit-soluble images on a hectograph master sheet. The pressure-transferable hectograph layer comprises a solid binder material and a particular aromatic amine salt which is spirit-soluble and absorbs infrared radiation. The spirit copies produced contain a sufficient amount of the amine salt that they are thermographically reproducible.

3,404,996
METHOD OF TREATING POLYMERIC SUBSTRATES SO AS TO IMPROVE ADHESION OF MAR-RESISTANT SURFACES THERETO
William George Deichert, Flushing, N.Y., and Wallace Burton Ramsey, Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed May 27, 1965, Ser. No. 459,467
12 Claims. (Cl. 117—47)

A method for the production of a plastic body having a mar-resistant surface which comprises contacting a plastic body with sulfuric acid, washing the body and coating the thus treated body such as poly(methyl methacrylate) with a substantially linear, water-insoluble, non-gelled unsaturated polyester resin composition, is disclosed.

3,404,997
MAGNETIC RECORDING MEDIA
Morton J. Jacobson, San Carlos, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
No Drawing. Filed May 10, 1965, Ser. No. 454,736
2 Claims. (Cl. 117—62)

A magnetic recording medium wherein magnetic particles are imbedded in a resinous binder containing from about 75 to 85% of weight of a partially hydrolyzed copolymer of vinyl chloride and vinyl acetate and from about 15 to 25% by weight of a urea formaldehyde resin.

3,404,998
METHOD OF METAL PLATING ALUMINUM ALLOYS
Bernard I. Pesetsky, South Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed May 18, 1965, Ser. No. 456,834
10 Claims. (Cl. 117—62)

A method of metal plating aluminum alloys without permanent loss of strength or hardness due to annealing caused by high plating temperatures. The method comprises decomposition of a bis(arene)metal compound to form a metal plate on the aluminum alloy followed by solution heat-treatment and precipitation hardening to restore the strength and hardness to substantially their original levels. Both the heating and quenching steps of the solution heat-treatment are carried out under the inert atmosphere of the plating zone so that discoloration problems are effectively avoided.

3,404,999
WELDING PRODUCT
Daniel P. Tanzman, Far Rockaway, N.Y., and Charles E. Rogers, Kokomo, Ind., assignors to Eutectic Welding Alloys Corporation, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 419,292, Dec. 18, 1964. This application Oct. 21, 1965, Ser. No. 510,141
14 Claims. (Cl. 117—105)

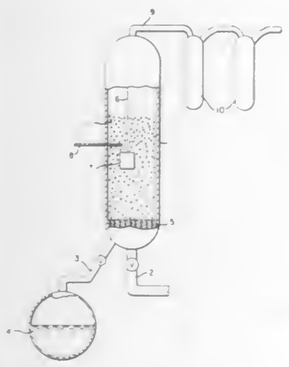
1. An iron base alloy comprising the following constituents in the following percents by weight.

Carbon	1–3
Nickel	25–60
Silicon	0–3
Manganese	0–1
Boron	0.5–2
Iron	Balance

3,405,000
PROCESS FOR COATING METAL ARTICLES EMPLOYING FLUIDIZED BED
Howard W. Jacobson, Brandywine Hundred, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Oct. 7, 1965, Ser. No. 493,692
5 Claims. (Cl. 117—107.2)

1. In a process for coating a metallic article the step comprising heating it at a temperature in the range of

750 to 1250° C. in a fluidized bed of particles comprising at least one element selected from the group consisting of boron, chromium, hafnium, molybdenum, silicon, titanium, tungsten, and zirconium, the metal in said article consisting essentially of at least one metal selected



from the group consisting of columbium, tantalum, molybdenum and alloys in which one of these metals is the major constituent, the fluidized bed being kept in suspension by an upward flow of gas comprising iodine vapor, and the pressure in the fluidized bed being in the range of 40 to 600 mm. of mercury.

3,405,001

SOLID MATERIAL RENDERED ANTISTATIC

Ralph K. Iler, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Original application Nov. 13, 1962, Ser. No. 237,284, now abandoned. Divided and this application Aug. 26, 1964, Ser. No. 392,309
12 Claims. (Cl. 117—121)

A method of inhibiting the development of an electrostatic charge on solid materials such as textiles, paper, glass fibers, glass fabrics, glass staple, plastics, coated fiber glass, mica and the like which comprises depositing on said solid materials an hydrocarbyl onium salt of a tetraarylboron which results in a solid tetraarylboron coated material with a reduced propensity for the development of an electrostatic charge thereon.

3,405,002

CRYSTALLINE GLAZED CERAMIC CONTAINING LEAD TITANATE CRYSTALS AND METHOD

Francis W. Martin, Painted Post, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

No Drawing. Filed Oct. 27, 1964, Ser. No. 406,870
17 Claims. (Cl. 117—125)

An improved thermally devitrifiable sealing glass comprising from 60% to 80% PbO, from 18% to 25% TiO_2 and from 6% to 12% SiO_2, especially adapted for glazing ceramic bodies having coefficients of thermal expansion less than about 50×10^{-7}. Upon devitrification the glass separates into a vitreous phase and a crystalline phase, said crystalline phase being substantially uniformly distributed through the vitreous phase and constituting at least about 75% by volume of the glaze, said crystalline phase being composed of lead titanate crystals having a cubic lattice structure.

3,405,003

SOIL RETARDANT COMPOSITION CONTAINING A SULFONATE - POLYACRYLAMIDE COPOLYMER SALT AND AN IMIDAZOLINE PLASTICIZER, PROCESS FOR TREATING A TEXTILE MATERIAL THEREWITH AND THE TREATED MATERIAL

George Robert De Paolo, Readington Township, Hunterdon County, William Julius van Loo, Jr., Middlesex, and Samuel James O'Brien, Dunellen, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Feb. 18, 1965, Ser. No. 433,788
12 Claims. (Cl. 117—139.5)

A soil retardant composition comprising a sulfonate-polyacrylamide copolymer salt and an imidazoline plasticizer. The composition is used in a process for imparting soil retardance to textile.

3,405,004

FIBROUS ARTICLES HAVING IMPROVED WATER RESISTANCE

Richard H. Hall, Andrew J. Sikkema, and Charles G. Humiston, Midland, William A. Foster, Mapleton, and Junior J. Lamson, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 25, 1964, Ser. No. 413,982
4 Claims. (Cl. 117—155)

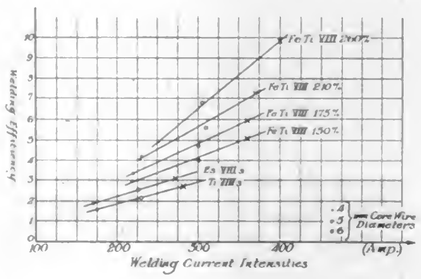
A process which comprises distributing throughout a fibrous material an aqueous dispersion of a copolymer of a tertiary alkylstyrene such as tertiary-butylstyrene and a conjugated diolefin such as isoprene and drying the resulting composition. The aqueous dispersion is distributed throughout the fibrous material by any of a variety of methods such as by adding the dispersion to a slurry of the fibers (which is then passed onto suitable sheeting equipment) or by applying the dispersion to webs or mats of the fibrous material by roll coating or spraying or by running the webs through vats of the aqueous dispersion. Fibrous products and articles having improved water repellancy are obtained.

3,405,005

WELDING ELECTRODE

Klaus Feldmann, Hermulheim, near Cologne, Werner Zschaage, Oberursel, Taunus, Paul Schmidt, Frankfurt am Main-Griesheim, Klaus Frank, Hermulheim, near Cologne, and Joachim Kandler, Bruhl, near Cologne, Germany, assignors to Knapsack Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany

Filed Apr. 28, 1965, Ser. No. 451,571
Claims priority, application Germany, May 23, 1964, K 53,020
9 Claims. (Cl. 117—207)



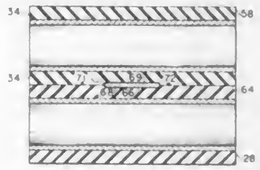
An extruded type of welding electrode comprising an iron core wire and a sheathing material surrounding and adhered to the core wire, the sheathing material containing as an additive 65–85% by weight iron powder having an apparent bulk factor of at most 26.5 cc. and a vibration bulk factor of at most 24 cc. per 100 grams iron powder and consisting to an extent of at least 90% of granular matter having a smooth and rounded-off surface area.

3,405,006

APPARATUS AND METHOD FOR THE PRECISION COATING OF STRIP

Richard D. Follrath, Birmingham, Mich., assignor to Anaconda Wire and Cable Company, a corporation of Delaware

Filed Aug. 9, 1965, Ser. No. 478,355
11 Claims. (Cl. 117—213)



8. The method of applying a uniform coating to the faces and edges of a flat strip having rounded edges comprising the steps of:

(A) continuously upwardly advancing said strip,

(B) applying excess coating to the edges only of said strip,

(C) passing said strip between a pair of rolls having solid resilient cylindrical outer layers,

(a) said rolls rotating in opposition to the advancing of said strip,

(D) urging said rolls together so as to compress said layers together beyond the edges of said strip, and against the entire edges of said strip, and

(E) applying a coating to said rolls, said rolls transferring said coating over the faces and edges of said strip and wiping the excess coating from the edges of said strip.

3,405,007

FUEL CELL ELECTRODE AND PROCESS FOR ITS MANUFACTURE

Robert F. Waters, Hammond, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Oct. 22, 1965, Ser. No. 502,477
9 Claims. (Cl. 136—86)

1. In a method for uniformly depositing a catalytic metal on a porous, electrically conductive electrode support, the improvement which consists of impregnating said electrode support with a solution containing a soluble compound of said catalytic metal along with an organic dicarboxylic reducing acid having the general formula:

$$\left(\begin{matrix}CH\\ \downarrow\\ Z\end{matrix}\right)_m^{(CH_2)_n(COOH)_2}$$

wherein m and n are integers of from 0 to 16 and the sum of m and n is no greater than 16 when both m and n are greater than 0 and wherein Z is selected from hydrogen and the hydroxy group, said organic dicarboxylic reducing acid being present in an amount sufficient to reduce the desired amount of catalytic metal compound; followed by heating said impregnated electrode between about 130° C. to about 200° C., for about from 1 to 24 hours in an oxygen-free atmosphere, whereby said catalytic metal compound is reduced by said reducing acid.

3,405,008

FUEL CELL AND FUEL CELL ELECTRODE CONTAINING NICKEL-RARE EARTH INTERMETALLIC CATALYST

Louis R. Dilworth, Milwaukee, and Wayne J. Wunderlin, West Allis, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

No Drawing. Filed Mar. 31, 1965, Ser. No. 444,443
5 Claims. (Cl. 136—86)

1. An improved fuel cell having a housing; anode and cathode electrodes mounted within said housing in spaced relation to each other; an electrolyte disposed between said electrodes; means for supplying a fuel to the anode and means for supplying an oxidant to the cathode; said improvement consisting of said anode comprising a nickel intermetallic catalytic material having the formula Ni_5M where M is a metal selected from the group consisting of yttrium, lanthanum, cerium, praseodymium, neodymium, samarium, europium, gadolinium, terbium, dysprosium, nolmium, erbium, thulium, ytterbium, and lutetium and a support member carrying said catalytic material.

4. A fuel cell electrode comprising a fibrous thermoplastic sheet; said sheet having its intertwined fibers forming a myriad of interstices; and particles of a catalytic material selected from the group consisting of a nickel intermetallic having the formula Ni_5M where M is a metal selected from the group consisting of yttrium, lanthanum, cerium, praseodymium, neodymium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, and lutetium dispersed within said interstices.

3,405,009

FUEL CELL AND FUEL CELL ELECTRODE CONTAINING NICKEL-TRANSITION METAL INTERMETALLIC CATALYST

Louis R. Dilworth, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

No Drawing. Filed Mar. 31, 1965, Ser. No. 444,453
5 Claims. (Cl. 136—86)

1. An improved fuel cell having a housing; anode and cathode electrodes mounted within said housing in spaced relation to each other; an electrolyte disposed between said electrode; means for supplying a fuel to the anode and means for supplying an oxidant to the cathode; said improvement consisting of said anode comprising a nickel intermetallic catalytic material having the formula Ni_3M where M is a metal selected from the group consisting of titanium, vanadium, tantalum, niobium, and zirconium and a support member carrying said catalytic material.

4. A fuel cell electrode comprising a fibrous thermoplastic sheet; said sheet having its intertwined fibers forming a myriad of interstices; and particles of a catalytic material selected from the group consisting of a nickel intermetallic having the formula Ni_3M where M is a metal selected from the group consisting of titanium, vanadium, tantalum, niobium, and zirconium dispersed within said interstice.

3,405,010

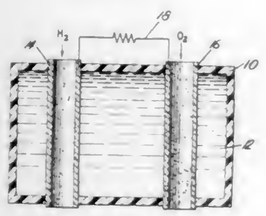
SPINEL-RUTHENIUM CATALYZED ELECTRODE

Karl V. Kordesch, Lakewood, and Marvin L. Kronenberg, Cleveland, Ohio, assignors to Union Carbide Corporation, a corporation of New York

Filed July 18, 1963, Ser. No. 295,878
9 Claims. (Cl. 136—120)

1. A method for catalyzing a porous electrode, which method comprises applying to said electrode a catalyzing solution of a heavy metal salt, an aluminum salt, and a ruthenium salt; and then heating the electrode to a tem-

perature in the range of about 700° C. to about 900° C. to deposit said heavy metal, aluminum, and ruthenium from said salts on said electrode.



8. Electrodes produced by the process of claim 1.

3,405,011

ELECTRODE COMPRISING THIN POROUS METALLIC MATRIX AND PROCESS FOR MAKING SAME

Giovanni Caprioglio, San Diego, Calif., assignor, by mesne assignments, to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware

No Drawing. Filed Nov. 12, 1964, Ser. No. 410,707
18 Claims. (Cl. 136—120)

1. In a method of making a porous electrode for an electrochemical cell that utilizes a liquid electrolyte and a gaseous reactant, the steps comprising mixing particles of a metal that is resistant to electrolytic attack with particles of noncrystalline carbon, forming said mixture into a self-supporting structure using heat and subjecting the structure to electrolysis in an aqueous electrolyte at a potential sufficient to cause the evolution of oxygen until the noncrystalline carbon is removed from the structure leaving a porous metal matrix.

15. In an electrode for an electrochemical cell that utilizes a liquid electrolyte and a gaseous reactant, a thin porous matrix between about 0.2 mm. and about 2 mm. in thickness of an electrically conductive metal which has a liquid-contact surface and a gas-supply surface and which also has a minority of large pores extending between said surfaces and a majority of small pores forming a network of interconnected small pores in communication with each of said large pores, the void volume of said matrix being equal to between about 40 and about 60 percent of total volume, said large pores having an average diameter of about 20 microns and being substantially uniformly distributed across said liquid-contact surface, whereby a gaseous reactant supplied to said gas-supply surface at an operating pressure between about 5 p.s.i.g. and about 30 p.s.i.g. will bubble through said porous matrix into the liquid electrolyte.

3,405,012

METHOD OF FORMING A BATTERY CUP

Rodolfo Rodriguez Balaguer, Fort Lauderdale, Fla., assignor to Battery Corporation of America, Fort Lauderdale, Fla., a corporation of Florida

Filed May 24, 1966, Ser. No. 552,452
18 Claims. (Cl. 136—122)

A method of molding a thin walled, self-supporting, electrically conductive green carbon cup in which a mixture is formed of from 20–40% by weight of a thermosetting resin and the balance an electrically conductive carbonaceous material. The mixture is charged into a mold and is contacted with a heated piston to cure the binder. An axial external force is immediately applied to the piston to mold the mixture. After a partial cure of the binder has been effected, the pressure is reduced to a small fraction of its initial value and is held at tht level until a substantially complete cure of the binder is obtained. The piston and mold are then cooled and separated.

3,405,013

METHOD OF FORMING A BATTERY CUP

Rodolfo Rodriguez Balaguer, Fort Lauderdale, Fla., assignor to Patent Holding Corporation, Fort Lauderdale, Fla., a corporation of Florida

Filed May 24, 1966, Ser. No. 552,478
7 Claims. (Cl. 136—122)

A molding method in which a quantity of carbonaceous molding powder is charged into a hollow mold element and a piston element is inserted in the mold and into contact with the molding powder to apply a molding pressure to the powder. One, but not both, of the mold and piston elements is heated, prior to the insertion of the piston element into the mold, to a temperature sufficient for the heat content of the heated element, when transferred to the powder, to soften the powder for conversion thereof to a green carbon state. The piston element is maintained in contact with the powder under a molding pressure to convert the powder to a green carbon state. The piston and mold elements are then cooled and separated and the molded cup is removed therefrom.

3,405,014

PROCESS FOR PRODUCING DYED CHROMATE FILMS ON ZINC AND ZINC ALLOYS

Kenji Kuwabara, Minoru Ieyoshi, and Kazuhiko Nakade, Tokyo, Japan, assignors to Mitsui Mining & Smelting Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed July 30, 1964, Ser. No. 386,405
Claims priority, application Japan, Mar. 10, 1964, 39/13,222
10 Claims. (Cl. 148—6.1)

Chromate films which can be dyed with organic dyes are obtained by treating zinc or zinc alloys with a solution consisting essentially of chromic acid, an inorganic chloride and an inorganic sulfate.

3,405,015

COPPER ALLOY

John G. Ferrero, Sylvania, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

No Drawing. Filed Dec. 3, 1965, Ser. No. 511,467
3 Claims. (Cl. 148—32)

This invention relates to a base alloy which has a homogeneous structure and which is substantially devoid of alpha gamma eutectoid areas, said alloy consisting of 7 to 7.5 percent by weight aluminum, 10 to 16 percent by weight nickel, 2.5 to 6 percent by weight iron, and a balance of copper. The alloy has increased thermal and physical properties and is particularly suitable for use in the preparation of glass mold components.

3,405,016

HEAT TREATABLE TITANIUM BASE ALLOYS AND METHOD

Robert I. Jaffee, Worthington, and Horace R. Ogden, Columbus, Ohio, assignors, by mesne assignments, to Crucible Steel Company of America, Pittsburgh, Pa., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 520,357, July 6, 1955. This application Apr. 11, 1956, Ser. No. 577,461
3 Claims. (Cl. 148—133)

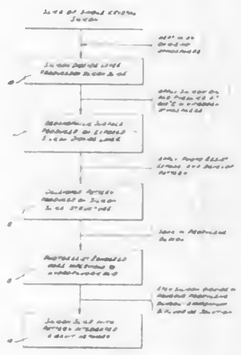
1. A method for producing a titanium-base alloy article having a relatively low yield strength and a relatively high ratio of ultimate tensile strength to yield strength, comprising heat-treating a titanium-base alloy consisting of at least one alpha stabilizer selected from the group consisting of 1 to 10% aluminum, 1 to 23% tin, 1 to 19% antimony, and at least one beta stabilizer selected from the group consisting of 1 to 15% molybdenum, 2 to 20% vanadium, 1 to 8% manganese, 1 to 10% chromium and 1 to 5% iron to a temperature about that at which said alloy shows a minimum point on its yield strength, solution heat treating temperature curve, and rapidly quenching to produce a yield strength to ultimate tensile strength ratio of between 0.25 and 0.75.

3,405,017

USE OF ORGANOSILICON SUBBING LAYER IN PHOTORESIST METHOD FOR OBTAINING FINE PATTERNS FOR MICROCIRCUITRY

Allen Gee, Newport Beach, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Feb. 26, 1965, Ser. No. 435,517
6 Claims. (Cl. 156—17)



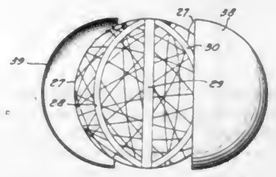
This invention relates to improved new and alternative photoresist method and modification thereof for obtaining fine patterns as in integrated circuit fabrication. Preferably an organophilic surface is initially produced upon a clean or oxide-coated substrate before it is subjected to photoresist processing. By using this organophilic layer, the photoresist withstands much longer etching periods so that deeper, sharper etch patterns are produced with fewer pinholes or other defects. With or without such organophilic layer, additional organic coating protection of the developed pattern, from etchants, is preferably obtained by treating the pattern with a polar organic compound to retard diffusion of the etch solution into the pattern through the developed photoresist film.

3,405,018

METHOD OF MAKING SIMULATED SEAM REINFORCING AND RIGIDIZING FOR AIR-INFLATED BALLS

Jack W. Way, Garden Grove, Calif., assignor to W. J. Voit Rubber Corporation, a corporation of California

Original application Sept. 7, 1961, Ser. No. 136,540, now Patent No. 3,219,347, dated Nov. 13, 1965. Divided and this application Aug. 5, 1964, Ser. No. 387,735
4 Claims. (Cl. 156—147)



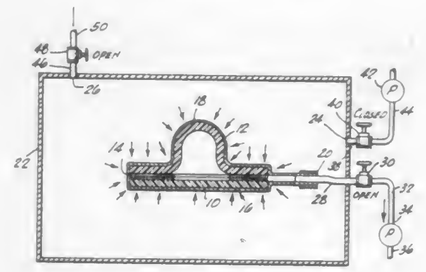
This invention relates to a method of producing a ball having an elastomeric cover with a simulated inwardly projecting seam pattern molding into the cover and having the wall reinforced along and under the simulated seams so as to make the flexing characteristics of the wall uniform over its entire surface and to prevent premature failure of the wall along the seams. The method comprises the steps of providing a plurality of bands on the inner wound bladder having the same locus as the seams but wider than said seams, applying first an elastomer to the band portion of the winding and thereafter covering the entire surface of the ball with a second elastomer. The ball is then compression molded to impart the final configuration.

3,405,019

VACUUM BONDING PROCESS

Christian A. Seil, Santa Monica, Calif., and Guy W. Lively, Flemington, N.J., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of California

Filed July 30, 1965, Ser. No. 476,019
3 Claims. (Cl. 156—286)



1. Method of adhesively bonding or laminating elements to eliminate entrapped air therebetween and comprising the steps of:

applying a layer of adhesive resin on an element to be bonded;

flexibly confining said elements establishing a first enclosed area;

rigidly confining said flexibly confined elements establishing a second enclosed area encompassing said first enclosed area;

simultaneously evacuating gases from the first enclosed area and the second enclosed area whereby the absolute gas pressure in said first and second areas is approximately equal and at a minimum value; and

venting said second enclosed area to atmosphere while maintaining said first enclosed area at the minimum value thereby allowing the atmospheric gas pressure to firmly force said elements together, sandwiching said adhesive resin and creating a substantially void-free bonded unit.

3,405,020

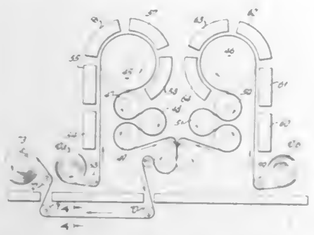
METHOD AND APPARATUS FOR THE MANUFACTURE OF PLASTIC LAMINATES AND CELLULAR MATERIALS

Marc A. Chavannes, Fort Lee, N.J., assignor to Sealed Air Corporation, Hawthorne, N.J., a corporation of New Jersey

Filed Dec. 26, 1963, Ser. No. 336,097
6 Claims. (Cl. 156—306)

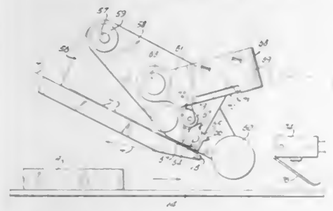
3. The method of making a three-ply laminate consisting of the steps of coating each of two sheets of plastic material with a plastic containing a copolymer of polyvinylidene chloride and acrylonitrile, heating said plastic coating on each of said sheets, cooling said coatings rapidly substantially to ambient temperature to transform them to an amorphous state and then bringing the cooled coating on each of said sheets into pressure contact one with the

other to produce a composite three-ply laminate with the coatings forming a single layer intermediate said plastic sheets, the plastic material forming said sheets being select-



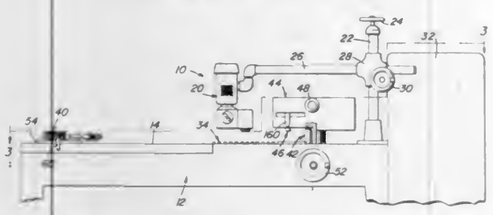
ed from the group consisting of polyethylene, polyvinyl chloride, polypropylene, nylon, cellulose acetate and polystyrene.

3,405,021
LABEL SENSOR AND APPLICATOR
Herbert W. Marano, Summit, N.J., assignor to Consolidated Cigar Corporation, New York, N.Y., a corporation of Delaware
Filed June 24, 1964, Ser. No. 377,748
3 Claims. (Cl. 156—361)



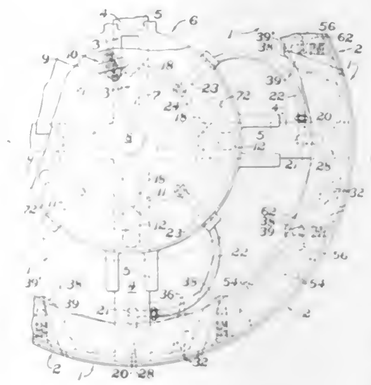
An apparatus for applying tape-carried pressure sensitive labels includes a swingable arm having a sharp separator edge with means being provided for advancing the tape along the upper face of the arm and sharply about the separator edge. A label sensing star wheel is urged toward the label tape along the arm top face and its periphery is engaged by a follower which actuates a switch which in turn controls the increment advance of the tape.

3,405,022
EDGE BANDING MACHINE
Gerald M. Donlin, 1320 8th Ave. N., St. Cloud, Minn. 56301
Filed July 6, 1965, Ser. No. 469,651
6 Claims. (Cl. 156—380)



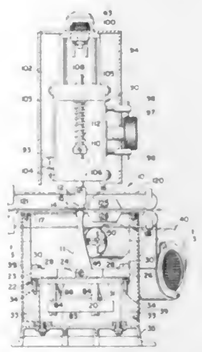
The banding of the edge of a panel during feed of the panel with the edge band along a roller fence through an adhesive activating energy field. Edge bands varying in thickness down to a veneer are accommodated by adjusting the position of the field establishing electrode relative to the fence so that it overlies the glue line between the panel and the edge band.

3,405,023
TIRE BUILDING DRUM
James W. Eckenwiler, Phoenix, Ariz., and Donald K. Porter, Cuyahoga Falls, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed May 19, 1964, Ser. No. 368,480
17 Claims. (Cl. 156—415)



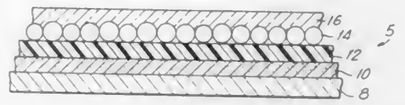
A radially collapsible tire building drum having a plurality of circumferentially spaced sectors having alternately expandable sectors to permit collapse of the drum and wherein the sectors are axially expandable and contractible.

3,405,024
METHOD AND APPARATUS FOR FORMING ULTRASONIC SEALS
John G. Attwood, Oak Park, and Robert L. Kosrow, Elk Grove Village, Ill., assignors to Union Special Machine Company, Chicago, Ill., a corporation of Illinois
Filed Jan. 13, 1965, Ser. No. 425,231
21 Claims. (Cl. 156—73)



A temperature control system for an ultrasonic bonding tool having opposed jaws in the form of a vibratory horn and a stationary anvil. Prior to the bonding operation, the horn is heated to an elevated temperature. Upon the vibration of the horn at its natural resonant frequency, the application of heat is arrested, and the horn is cooled to offset the tendency of the vibrations to generate heat internally. The arrangement is such that the horn is held at a substantially constant temperature both before and during the application of vibratory energy thereto.

3,405,025
RETRO-REFLECTIVE ASSEMBLY AND METHOD OF MAKING THE SAME
William A. Goldman, New York, N.Y., assignor to Canrad Precision Industries, Inc., New York, N.Y., a corporation of New York
Filed June 17, 1965, Ser. No. 464,744
17 Claims. (Cl. 161—4)



A retro-reflecting surface including a plurality of transparent glass beads forming a surface monolayer of lens elements electrostatically adhered to a reflective backing unit by means of a transparent pressure sensitive resinous layer, said beads being bonded tangentially to the upper surface of said layer in spaced relation so as to lie on top of said resinous layer.

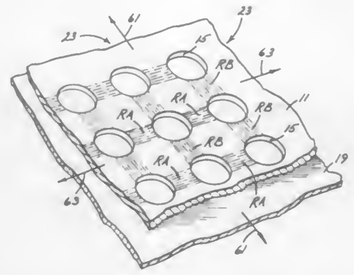
3,405,026
IMPACT RESISTANT ARTICLE AND METHOD OF MANUFACTURE
Arthur H. Roberts, Brooklyn, N.Y. (12 Lynnwood Drive, Westbury, N.Y. 11590)
Continuation-in-part of application Ser. No. 22,002, Apr. 13, 1960. This application May 14, 1965, Ser. No. 455,764
17 Claims. (Cl. 161—7)



This invention relates to composite decorative articles of manufacture and their preparation. The articles are fracture-resistant, three-dimensional, hollow and rigid. They comprise of two essential elements: (1) a pliable outer premolded plastic skin and (2) a rigid plastic structural backing member solidified behind the skin and forming a joint cavity with the latter. The joint cavity may be filled with the foam of a rigid plastic. Illustrative for the skin materials are plastisol, polyethylene and rubber. Illustrative for the rigidifier are plaster of paris, asphalt and a colloidal combination of asphalt, rubber and polyethylene. A preferred skin is molded from plastisol by slush-casting or rotational casting using a seamless mold. The plastisol is gelled, fused and removed from the mold. The rigid structural backing member can be molded in the premolded skin and in many cases without the assistance of a supporting second mold. By the favored method decorative articles with complicated undercuts can be prepared in a simple and economic manner.

3,405,027
REINFORCED BIAXIALLY ORIENTED FILM
Harold W. Wyckoff, Middletown Township, Delaware County, Pa., assignor, by mesne assignments, to Avisun Corporation, Philadelphia, Pa., a corporation of Delaware
Filed June 2, 1961, Ser. No. 114,418
11 Claims. (Cl. 161—113)

7. A composite polymeric film including an unbroken web and a continuous perforated web integrally united with said unbroken web and providing a series of stiffening ribs extending longitudinally and transversely thereof, said webs being formed of thermoplastic polymeric material, said ribs and the portions of the unbroken web integral therewith being oriented only in the direction



of the respective longitudinal axes of said ribs, and the portions of the unbroken web extending across the openings in said perforated web being biaxially oriented.

3,405,028
INSULATING AND REFRACTORY COMPOSITION AND ELEMENTS FOR THE LINING OF METAL CASTING MOLDS INCORPORATING SUCH COMPOSITIONS
Henry Nouveau, Saint-Germain-les-Corbeil, France, assignor to Société à Responsabilité Limitée Doittau Produits Metallurgie, Corbeil - Essonnes, Seine - et - Oise, France, a French company
No Drawing. Filed May 17, 1965, Ser. No. 456,483
Claims priority, application France, Apr. 2, 1965, 11,715
3 Claims. (Cl. 161—162)

A lining for ingot hot tops, comprising an insulating layer in contact with the ingot top, and consisting of 15 to 40% by weight a comminuted silica, 15 to 45% by weight of fireclay, 4 to 12% by weight of kieselguhr, 7 to 15% by weight of wood flour, and 0 to 11% by weight of asbestos fiber, and a refractory layer consisting of 40 to 80% by weight of grains of 0 to 0.2 mm. of fireclay, 5 to 24% by weight of grains of 0.3 to 1 mm. of fireclay, 0 to 6% by weight of wood flour, and 0 to 11% by weight of asbestos fiber, the elements being agglomerated in each layer by means of a phenolic synthetic resin present in an amount between 7 to 11% by weight of the other elements of the layer.

3,405,029
BONDING TRANSDUCERS TO DELAY LINES
Maurice H. Hanes, Warren, and George E. Helmke, Bernards Township, Somerset, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed May 19, 1967, Ser. No. 639,908
2 Claims. (Cl. 161—165)

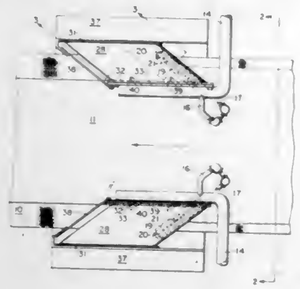
The disclosure is directed to a method for bonding transducers such as quartz to ultrasonic delay media such as quartz, fused silica or glass. The adhesive is an epoxy resin with a specific curing agent applied in a manner so as to provide bond thicknesses of less than one micron.

3,405,030
METHOD OF DETERMINING AND CONTROLLING MICROBIAL ACTIVITY IN AQUEOUS PAPER MACHINE SYSTEMS
Harry E. Morter, Port Townsend, Wash. 98368
Filed May 20, 1965, Ser. No. 457,365
2 Claims. (Cl. 162—161)

A procedure for controlling the growth of slime and other microorganisms in the water system of a paper

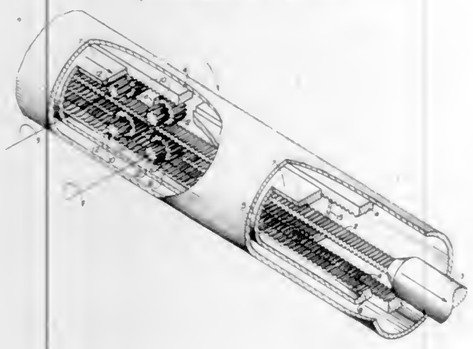
machine where spaced electrodes are inserted into the flow system of the machine, the electric current produced between the electrodes is measured, and in response to a current measurement corresponding to microorganism activity in the system at a predetermined intolerable level adding chemical toxicant to the system effective to control such microorganism activity.

3,405,031
APPARATUS AND METHOD FOR TRIMMING AND REMOVING THE EDGE OF A PULP WEB
James Bryant Sisson, Hamilton, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed May 27, 1965, Ser. No. 459,209
5 Claims. (Cl. 162—195)



Apparatus and method for defining and removing a trim strip from a wet pulp web on a moving foraminous carrier by defining a trim strip using fluid means, elevating the strip by means of a low velocity water stream which issues from a slot of adjustable length and is directed through the carrier from the underside, collecting the elevated strip with a curviform scoop, and conveying the collected strip to a recycling system.

3,405,032
REACTOR CONTROL BY FREE PINION RACK AND PINION LINEAR ACTUATOR MOTION MULTIPLIER
Donald M. Barrus, Canoga Park, and Ardell C. Williams, Chatsworth, Calif., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed July 26, 1967, Ser. No. 656,639
6 Claims. (Cl. 176—36)



The invention describes a mechanism in which floating pinions operate between a system of fixed and movable racks to provide motion multiplication which is highly advantageous for systems such as control rod drives. The pinions are triple gears having two small gears integrally mounted on each side of a larger gear. Four such pinions are used in the basic mechanism; however, any number may be used. Two fixed racks are mounted in opposition within a housing. One movable output rack is provided in the center of the housing with teeth on both sides; the large gears are in contact with the fixed racks and the output rack. Four movable input racks are mounted in pairs facing each other in a fork frame in contact with the smaller gears to impart rotary motion thereto. Motion of the input rack is multiplied at the output rack in relation to the pitch diameter ratios of the pinions.

3,405,033
SPACER FOR FUEL ASSEMBLIES
Björn Widell, Vasteras, Aart Van Santen, Hokasen, and Constan Glandin, Vasteras, Sweden, assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed July 1, 1966, Ser. No. 562,223
Claims priority, application Sweden, July 2, 1965, 8,759/65
10 Claims. (Cl. 176—78)



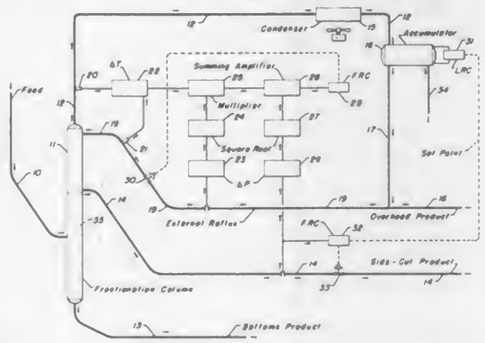
A nuclear fuel assembly having spacers comprising an outer frame surrounding two rigid grids in spaced relationship to each other and elongate resilient spacer springs supported by and extending between the two grids. Each grid comprises a plurality of polygonal meshes and each elongate spring has opposite ends fixed to the grids at the corners of the meshes.

3,405,034
AMINOPEPTIDASE CLEAVING L-LEUCINAMIDE, HYPERTENSIN, AND OXYTOCIN
Franz Wenzel, Darmstadt, Helmut Uhlig, Rossdorf uber Darmstadt, and Klaus Lehmann, Darmstadt, Germany, assignors to Rohm & Haas G.m.b.H., Darmstadt, Germany
No Drawing. Filed May 4, 1965, Ser. No. 453,208
Claims priority, application Germany, May 9, 1964, R 37,859; Apr. 17, 1965, R 40,416
5 Claims. (Cl. 195—62)

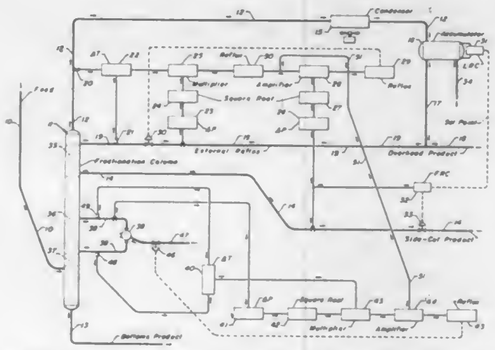
An aminopeptidase cleaving L-leucinamide, hypertensin, and oxytocin. The enzyme is isolated by heating an aqueous cobaltic solution of peptidases and proteinases precipitated from a culture filtrate of a mold fungus variant whose enzymes cleave L - leucine - p - nitranilide and L - cystine - bis - p - nitranilide.

3,405,035
FRACTIONATOR SYSTEM WITH SIDE STREAM PRODUCT REMOVAL AND INTERNAL REFLUX CONTROL
David M. Boyd, Clarendon Hills, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Oct. 23, 1967, Ser. No. 677,190
3 Claims. (Cl. 202—160)

Method and system for controlling a fractionation column. The system utilizes calculated internal reflux rate for control and is uniquely applicable to fractionation columns taking an overhead product stream, a bottoms product stream, and at least one side-cut product stream. The side-cut product stream flow rate is taken into consideration in calculating the internal reflux.



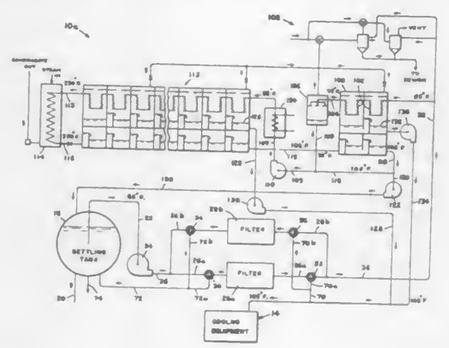
3,405,036
FRACTIONATOR SYSTEM WITH SIDE-CUT STREAMS AND INTERNAL REFLUX CONTROL
David M. Boyd, Clarendon Hills, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Oct. 23, 1967, Ser. No. 677,154
4 Claims. (Cl. 202—160)



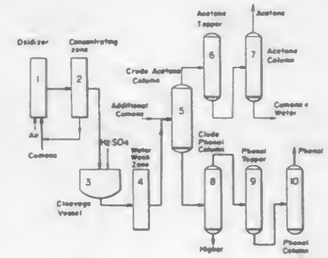
Method and system for controlling a fractionation column. The system utilizes calculated internal reflux rate for control and is uniquely applicable to fractionation columns taking an overhead product stream, a bottoms product stream, at least one side-cut product stream, and has as part of the fractionation system a side-cut intercooler which removes fluid, cools such fluid, and returns the cool fluid directly to the tower as reflux at an intermediate location on the tower. The side-cut product flow rate and the heat loss of the returned, cooled fluid are taken into consideration in controlling the internal reflux in the column.

3,405,037
DISTILLAND TREATMENT WITH CONCENTRATE RECYCLE
David Aronson, Upper Montclair, Harold Fleit, Closter, and Richard E. Japhet, Livingston, N.J., assignors to Harrworth, Inc., a corporation of Delaware
Filed Oct. 4, 1965, Ser. No. 492,688
1 Claim. (Cl. 202—173)

Feed water is filtered and deaerated and then combined with a portion of the concentrate derived from a multistage flash distillation system. The combined stream is then cooled and used as the condensing cooling fluid prior to distillation in the multistage flash distillation system.



3,405,038
PROCESS FOR THE MANUFACTURE OF HIGHLY PURE PHENOL BY DISTILLATION IN THE PRESENCE OF EXCESS CUMENE
Masayuki Kohmoto, Ohtake-shi, Japan, assignor to Mitsui Petrochemical Industries, Ltd., Tokyo, Japan
Continuation-in-part of application Ser. No. 320,940, Nov. 1, 1963. This application Apr. 25, 1967, Ser. No. 633,605
Claims priority, application Japan, Mar. 27, 1963, 38/13,881
2 Claims. (Cl. 203—69)

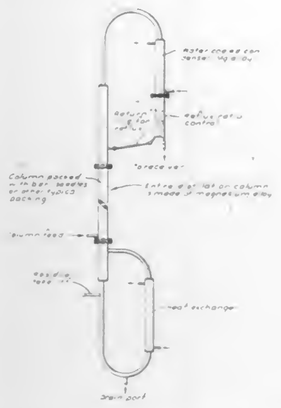


Process for producing a purified phenol from a conventional oxidative-cumene process by adjusting the remaining cumene to phenol ratio so that it is within a range of 0.28:1 to 1:1 prior to a first distillation step to remove those products boiling at a lower boiling point than phenol thereafter subjecting the residue to a second distillation step to remove the phenol in the overhead fraction.

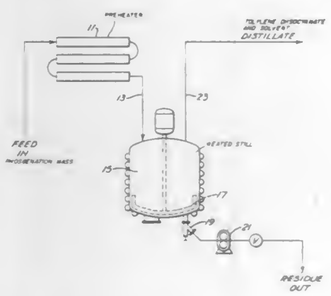
3,405,039
MAGNESIUM STRUCTURES FOR STORING AND PURIFYING ARALKYL HALIDES
Charles F. Raley, Jr., Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Aug. 9, 1965, Ser. No. 478,455
3 Claims. (Cl. 203—86)

Method for handling and purification of chlorinated hydrocarbons such as methyl chloride, carbon tetrachloride, methyl chloroform, benzyl chloride, ethylbenzyl chloride, chloroethylbenzyl chloride or vinylbenzyl chloride con-

sisting of conducting such acts in magnesium alloys which contain alloying ingredients of 0–9% by weight of aluminum, and up to 6% of at least one of manganese, thorium, zinc and zirconium.



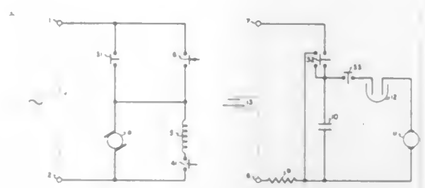
3,405,040
METHOD FOR RECOVERING TOLYLENE DIISOCYANATE
Raymond M. Ewald, New Martinsville, W. Va., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
Filed Aug. 31, 1965, Ser. No. 484,038
4 Claims. (Cl. 203—88)



Continuous separation of tolylene diisocyanate from a crude mixture by heating, flash vaporizing, and introducing the mixture into a stirred heated chamber where tolylene diisocyanate and solvent are continuously separated from a residue containing not less than 10% tolylene diisocyanate, which residue is continuously pumped from the chamber.

3,405,041
METHOD AND APPARATUS FOR ANODIC VOLTAMMETRY
André E. Van Langermeersch, Mont-Saint-Aignan, France, assignor to Esso Standard Societe Anonyme Francaise, Paris, France, a corporation of France
Filed Dec. 16, 1963, Ser. No. 330,863
Claims priority, application France, Dec. 20, 1962, 919,323
8 Claims. (Cl. 204—1)

The instant disclosure is directed to a method and apparatus for chemical analysis by anodic voltammetry. According to the teachings of the instant disclosure, a linearly increasing voltage is applied across the terminals of an electrolytic cell and the current passing through the cell is measured as a function of voltage. The linearly increasing voltage is obtained by applying a constant voltage for a predetermined time across the cell, a current measuring device and a high resistance in series in order to charge a condenser of high capacity which is connected in parallel with the cell and current measuring device.

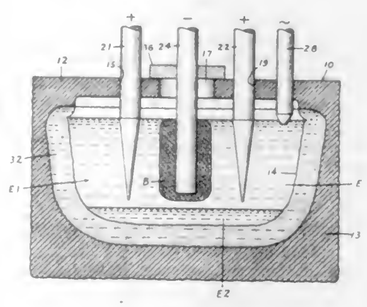


The invention relates to a process and apparatus for chemical analysis, and is particularly concerned with a process and apparatus for anodic voltammetry.

3,405,042
ALUMINUM ANODIZING PROCESS
Heinrich Neunzig, Grevenbroich (Lower Rhine), and Veit Roehrig, Duisdorf, Germany, assignors to Vereinigte Aluminum-Werke Aktiengesellschaft, Bonn, Germany
No Drawing. Filed Apr. 7, 1965, Ser. No. 446,409
Claims priority, application Germany, Mar. 4, 1965, V 22,035
4 Claims. (Cl. 204—58)

An aluminum or aluminum alloy surface is provided with a colored oxide layer by subjecting such surface to anodic oxidation in an aqueous electrolyte containing effective amounts of oxalic acid, sulfate ions and maleic acid.

3,405,043
METHOD OF PRODUCING SILICON AND ELECTROLYTIC CELL THEREFOR
Diawar Barakat, Geneva, and Hans Keller, Martigny, Switzerland, assignors to The General Trustee Company Inc., Geneva, Switzerland
Filed July 30, 1965, Ser. No. 476,022
Claims priority, application Switzerland, June 15, 1965, 8,287
8 Claims. (Cl. 204—60)



1. A method of producing silicon comprising introducing an electrolyte comprising molten cryolite into a cavity in a mold composed principally of finely divided silica, dissolving approximately 3% to 10% silica in said molten cryolite and maintaining said molten cryolite and dissolved silica at a temperature between about 970° and 1400° C., passing a direct current through said electrolyte between an anode and a cathode immersed in said electrolyte to reduce said dissolved silica to silicon and deposit said silicon on said cathode.

3,405,044
METHOD OF MAKING HIGH PURITY METAL ZEOLITE AND PRODUCT THEREOF
Peter V. Goedertier, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Aug. 19, 1964, Ser. No. 390,628
14 Claims. (Cl. 204—130)

A high purity metal zeolite is made by heating a body of sintered zeolite, e.g. sodium zeolite type A, at a temperature of 1000 to 1200° C. in a vacuum for a time sufficient to remove substantially all of the mobile cations from the body by thermionic emission, and then injecting sufficient ions of a metal selected from groups I and II of the Periodic Table into the body to replace substantially all of the cations removed therefrom, as by a process of electrolytic migration of ions of the selected metal from a molten salt of that metal. In an example wherein substantially all of the sodium cations in sodium zeolite type A, $Na_{12}(AlO_2)_{12}(SiO_2)_{12}$, are replaced by cesium ions, the resulting zeolite is $Cs_{12}(AlO_2)_{12}(SiO_2)_{12}$, which is substantially free of sodium impurities and has an ion capacity for thermionic ion emission of about 10^{22} ions/cm.^{3}.

3,405,045
METHOD FOR INDUCING CHEMICAL REACTIONS WITH LASERS
Raymond H. Hoskins, San Pedro, Calif., assignor to Union Carbide Corporation, a corporation of New York
Filed Jan. 11, 1965, Ser. No. 424,709
2 Claims. (Cl. 204—159.11)

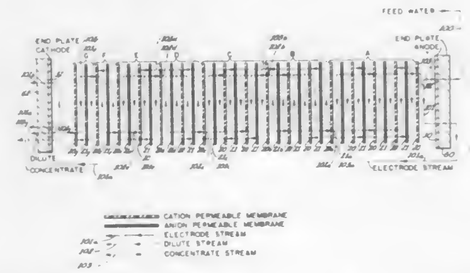
A method and apparatus for effecting photodissociation in a photo-sensitive chemical to provide free radicals by irradiating the chemical with coherent radiation from a laser system. The radiation is modified in wavelength to a value for which the photo-sensitive chemical has a large absorption cross section. The impingement of the laser radiation results in a direct separation of molecules into free radicals.

3,405,046
PROCESS FOR THE MANUFACTURE OF 2,2,3-TRICHLOROBUTANE
Kurt Sennewald and Wilhelm Vogt, Knapsack, near Cologne, and Herbert Baader, Hermulheim, near Cologne, Germany, assignors to Knapsack Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany
Filed Oct. 19, 1965, Ser. No. 497,986
Claims priority, application Germany, Nov. 3, 1964, K 54,429
7 Claims. (Cl. 204—163)

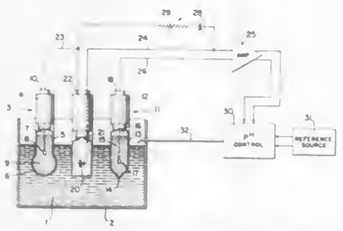
A process for producing 2,2,3-trichlorobutane by admixing butene-(2) with chlorine at a molar ratio of about 1.5–2:1 at a temperature of 0 to −80° C. in the presence of ultra violet irradiation.

3,405,047
ELECTRODIALYSIS METHOD AND APPARATUS HAVING A SERIES OF CASCADES
William Kwo-wei Chen, Stamford, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey
Application July 19, 1965, Ser. No. 484,499, now Patent No. 3,375,182, dated Mar. 26, 1968, which is a division of application Ser. No. 195,352, Mar. 30, 1962, now Patent No. 3,228,867, which in turn is a division of application Ser. No. 815,188, May 22, 1959. Divided and this application July 10, 1967, Ser. No. 675,722
6 Claims. (Cl. 204—180)

Electrodialysis process and apparatus wherein a multicell electrodialysis device produces the desired gradation in solution velocity and reduces concentration polarization by incorporating a series of cascaded membrane cells between a single electrode pair so that the cross sectional area in succeeding cascades progressively decreases in the direction of flow.

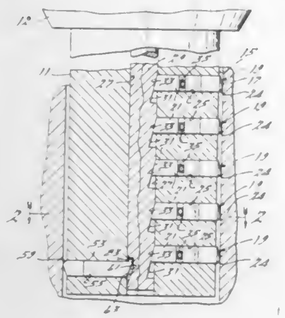


3,405,048
APPARATUS FOR MEASURING pH WITH TEMPERATURE COMPENSATING DIODE MEANS
Daniel J. Soltz, Elkins Park, Pa., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed July 1, 1965, Ser. No. 468,681
3 Claims. (Cl. 204—195)



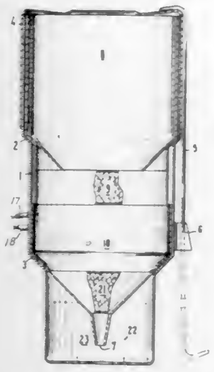
1. In a pH measuring and controlling apparatus having a glass measuring electrode, a reference electrode, amplifying means arranged to amplify a difference in potential between said measuring electrode and said reference electrode, as a representation of the pH of a test fluid and pH control apparatus responsive to an output signal from said amplifying means and arranged to control the pH of said test fluid at a desired pH, the improvement comprising a rectifying semiconductor means having a forward voltage drop having a temperature dependence which is substantially the same as that of the measuring electrode, thermally conductive, electrically insulating means enclosing said rectifying means and adapted to thermally expose said rectifying means to said test fluid while electrically isolating said rectifying means from said test fluid, and circuit means connecting said rectifying means in series with said measuring electrode such that the voltage drop across the said rectifying means is subtracted from the potential between the said electrodes.

3,405,049
CYLINDRICAL BORE SIZING AND FINISHING DEVICE
Albin S. Czubak, Detroit, Mich., assignor to Micromatic Hone Corporation, Detroit, Mich., a corporation of Michigan
Filed Oct. 27, 1964, Ser. No. 406,844
17 Claims. (Cl. 204—217)



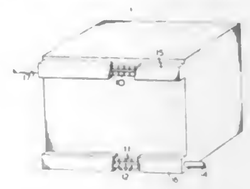
A rotary boring tool including a plurality of cutting tools for performing different cutting operations on a single tool spindle.

3,405,050
APPARATUS FOR THE RADIOACTIVE DECONTAMINATION OF WATER
Pierre Bovard, Ecquevilly, and André Grauby, Clamart, France, assignors to Commissariat a l'Energie Atomique, Paris, France
Filed June 8, 1964, Ser. No. 373,461
Claims priority, application France, June 21, 1963, 939,031
5 Claims. (Cl. 204—240)



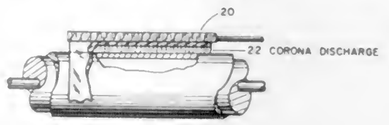
The present invention is a portable apparatus for the decontamination of drinking water containing radioactive pollutants. The apparatus comprises a closeable generally cylindrical outer housing confining a stacked array of various filters arranged between a water inlet tank having a perforated bottom and an outlet duct. A top, inert filter in the array is comprised of a suitable natural soil such as talc, kaolin, bentonite or vermiculite confined between a pair of rigid semi-permeable plastic membranes. Below the first inert filter is arranged an electrolytic filter system which is arranged above a second inert filter similar in design to the first filter but comprised of a mixture of diatomics, ion exchange resins or activated charcoal. Below the second inert filter is arranged a bacterial filter or some means of adding an appropriate disinfectant to the water before it is discharged.

3,405,051
ELECROLYTIC CELL CONTAINER
George J. Crane, Islington, Ontario, Canada, assignor to Huron Nassau Limited, Nassau, Bahama Islands, a corporation of the Bahama Islands
Filed Apr. 2, 1965, Ser. No. 445,021
Claims priority, application Canada, Oct. 27, 1964, 914,973
6 Claims. (Cl. 204—269)



The provision in an electrolytic cell tank of an electrolytic cell used in the electrolytic refining of corrosive liquids, of the inlets and outlets respectively at the base and top of the cell tank in the form of spaced holes in a block of material resistant to corrosion located on the side of the tank, the holes communicating with the interior of the cell tank.

3,405,052
APPARATUS FOR CORONA TREATMENT OF FILM INCLUDING A POROUS SINTERED METAL ELECTRODE
Henry G. Schirmer, Spartanburg, S.C., assignor to W. R. Grace & Co., Duncan, S.C., a corporation of Connecticut
Original application Aug. 26, 1964, Ser. No. 392,147, now Patent No. 3,346,480, dated Oct. 10, 1967. Divided and this application July 12, 1967, Ser. No. 688,629
1 Claim. (Cl. 204—312)



An apparatus for treating polymeric film in a corona discharge to improve the printability thereon. One of the electrodes is made from a porous sintered metal electrode having a concave arcuate surface.

3,405,053
TWO-STEP STEAM-HEAT TREATED LIGNOCELLULOSE PRODUCT AND PROCESS
Ronald L. Broadhead, Addison, and William R. Dunlop, Maywood, Ill. (both % The Richardson Company, Melrose Park, Ill. 60160)
No Drawing. Filed Nov. 2, 1964, Ser. No. 408,350
8 Claims. (Cl. 260—17.2)

A mixture of lignocellulose and a phenolic agent are subjected to an initial reaction with steam in a confined chamber followed by a reduction of pressure in the chamber to 100 p.s.i. or below and then a second steam treatment under the same conditions as the first steam treatment to produce a lignocellulose derivative having a high curable resin content.

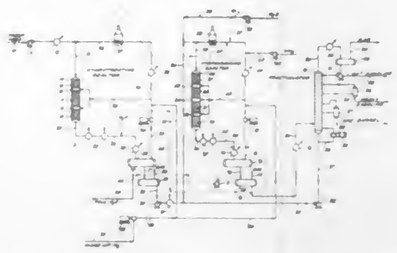
3,405,054
REFINERY PROCESS STREAM ANTI-FOULANT
Jerome W. Arkis, Alton, and John K. Carpenter, Joliet, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed June 23, 1965, Ser. No. 466,462
10 Claims. (Cl. 208—48)

1. A method of preventing the deposition of solids in petroleum refinery processing equipment at temperatures between about 300° F. and about 1500° F. by unrefined and partially refined liquid hydrocarbons which have a propensity for depositing gums and sediments when heated to said temperatures, which method comprises incorporating in said liquid hydrocarbons which are present in said equipment, a hydrolyzed phosphorus sulfide-hydrocarbon reaction product.

3,405,055
METAL-CONTAINING CRYSTALLINE ALUMINOSILICATE CATALYSTS
Clarence W. Bittner, Orinda, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 1, 1966, Ser. No. 569,081
11 Claims. (Cl. 208—111)

A catalyst and hydroconversion process using the catalyst comprising transitional metals incorporated into a crystalline zeolite in excess of the ion-exchange capacity of the zeolite by using a metal ion-exchange solution of greater than 6 pH.

3,405,056
HYDROCRACKING PROCESS USING A MODIFIED ZEOLITE CATALYST AT LOW H_2S CONCENTRATIONS
Raoul P. Vaell, Los Angeles, and Bernal Peralta, Fullerton, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed Mar. 20, 1967, Ser. No. 624,452
14 Claims. (Cl. 208—111)

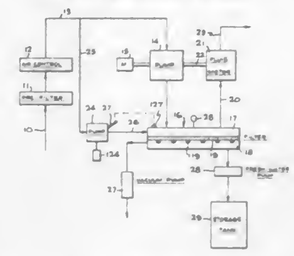


A process is disclosed for the production of gasoline by the catalytic hydrocracking of hydrocarbons using Group VIII noble metal-zeolite catalysts which have been partially deactivated by coking, and wherein optimum gasoline yields and quality are obtained by maintaining certain minimal concentrations of ammonia and hydrogen sulfide in the hydrocracking zone.

3,405,057
METHOD FOR IMPROVING MOLECULAR SIEVES
Richard W. Neuzil, Downers Grove, and Hertha Skala, Lake Zurich, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Jan. 28, 1966, Ser. No. 523,520
4 Claims. (Cl. 208—310)

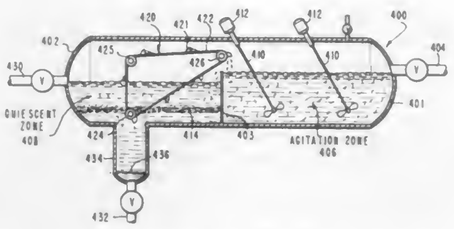
Separation of straight chain hydrocarbons from hydrocarbon mixtures by means of bindered zeolite particles which have been preliminarily treated with liquid water at below about 175° C., followed by drying of the particles to remove the water, whereby to improve the sorption exchange rate of the zeolite particles and desensitize the latter to surface poisons.

3,405,058
PURIFICATION OF WATER
Wendell S. Miller, 1341 Comstock Ave., Los Angeles, Calif. 90024
Filed Feb. 17, 1964, Ser. No. 345,243
25 Claims. (Cl. 210—23)



The process and apparatus for purifying water by forcing it through a filter having minute pores which are small enough, and which have pore walls of sufficiently hydrophobic character, to prevent passage of water in liquid form through the pores in spite of the maintenance of a pressure differential tending to cause such flow of the water, but with water in vapor form being capable of flowing through those same pores. The filter is preferably formed at least in part of a highly heat conductive metallic substance for conducting the heat of condensation of the water vapor from the discharge side of the filter back to its inlet side.

3,405,059
SETTLING OF EMULSIONS
Frank B. Sprow, Baytown, Tex., assignor to Esso Research and Engineering Company
Filed Aug. 18, 1966, Ser. No. 573,315
26 Claims. (Cl. 210—40)



Oil-in-water emulsions are separated by stirring in a mixture with polytetrafluoroethylene chips and then letting the separated water settle from the oil.

3,405,060
SEQUESTRATION OF METAL IONS
Richard P. Carter, Jr., Chesterfield, and Riyad R. Irani, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed June 16, 1966, Ser. No. 557,926
10 Claims. (Cl. 210—58)

Poly (itaconic acid) or one of its water soluble salts is added to aqueous solutions containing metal cations for the purpose of inhibiting precipitation (sequestering) of the metal cations. The sequestering agent is effective over a wide range of pH conditions. Metals mentioned include cations of calcium, sodium and iron.

3,405,061
WELL DRILLING FLUIDS

Karl F. Keirstead and William E. Paton, Quebec City, Quebec, Canada, assignors to Lignosol Chemicals Limited, Quebec City, Quebec, Canada

Continuation-in-part of application Ser. No. 531,379, Mar. 3, 1966. This application July 13, 1966, Ser. No. 564,940

9 Claims. (Cl. 252—8.5)

1. A dispersant for well drilling muds consisting essentially of dried lignin sulphonate obtained by the following steps:

(a) heating sodium base sulphite liquor in a closed zone at a temperature of about 270° to 300° F.,

(b) passing air into said hot liquor at a rate of about 0.5 to 1 cubic foot per minute per gallon of liquor for about 4 to 5 hours to oxidize the material therein to maximum degree,

(c) providing a body of said liquor having a solids content of 40–45%,

(d) adding to said body of liquor 15 to 30% of its solids content by weight of iron sulphate, and forming a substantially uniform mixture of said liquor and iron sulphate,

(e) following completion of said iron sulphate addition and said mixture formation, and within about one to twelve hours thereafter adding to said mixture 0.5 to 6% of its solids content by weight of an alkali metal dichromate and forming a substantially uniform mixture of said dichromate, iron sulphate, and liquor, and

(f) within a period not substantially exceeding three minutes after said addition of alkali metal dichromate drying said last-mentioned mixture.

3,405,062
LOW LIQUID LOSS COMPOSITION

David A. Kuhn, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed Jan. 25, 1965, Ser. No. 427,942

4 Claims. (Cl. 252—8.55)

1. A low fluid loss aqueous well fracturing composition comprising:

(a) 40 to 200 pounds per 1000 gallons of a water-soluble gum,

(b) 2 to 200 pounds per 1000 gallons of perlite, and

(c) water in an amount sufficient to make 1000 gallons of said composition.

3,405,063
SOLID LUBRICANT COMPOSITION AND PROCESS FOR ITS PREPARATION

David J. Boes, Monroeville, and Donald L. Dezzutti, Penn Hills Township, Verona, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 16, 1966, Ser. No. 534,822

14 Claims. (Cl. 252—12)

A solid lubricant including a heat reacted mixture of (1) gallium or gallium alloy such as gallium-indium, gallium-tin and gallium-indium-tin, and (2) powdered disulfide or diselenide solid lubricant such as tungsten diselenide, molybdenum diselenide, and tungsten disulfide.

3,405,064
LUBRICATING OIL COMPOSITION

Clark O. Miller, Willoughby, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed June 6, 1963, Ser. No. 285,910

9 Claims. (Cl. 252—51.5)

Mineral lubricating oil containing a nitrogen-containing composition characterized by amidine linkages and prepared by reacting aliphatic amines with an aliphatic branched carboxylic acid acylating agent having 15–21 carbon atoms.

3,405,065
DETERGENT LUBRICANT COMPOSITIONS FOR CLOSED EMISSION INTERNAL COMBUSTION ENGINES

James K. Goodwine, Jr., San Rafael, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 580,892, Sept. 21, 1966, which is a continuation-in-part of application Ser. No. 468,517, June 30, 1965. This application Sept. 22, 1967, Ser. No. 669,969

4 Claims. (Cl. 252—51.5)

Mineral lubricating oil composition contains the combination of nitrogenous ashless detergent and ethylene glycol monoalkyl ether.

3,405,066
HIGH THERMAL CONDUCTIVITY FLUID DIELECTRIC

Kenneth B. McGhee, Westport, Conn., and William G. Pitt, White Plains, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Jan. 22, 1965, Ser. No. 430,233

2 Claims. (Cl. 252—63.5)

In electrical apparatus having a fluid or solid dielectric material, the addition of an effective amount of boron nitride or silicon dioxide to the dielectric material to maintain the dielectric properties as well as improve the thermal properties of the dielectric materials.

3,405,067
HYDRAULIC FLUID

Benjamin F. Fay, Wilmington, Del., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 8, 1965, Ser. No. 506,888

9 Claims. (Cl. 252—75)

A water-in-oil emulsion suitable for use as a fire-resistant hydraulic fluid containing petroleum lubricating oil, a condensation product of an adduct of a polyhydric alcohol and an epihalohydrin with a fatty carboxylic acylation product of a polyalkylene polyamine, a nonionic or an anionic emulsifier and water.

3,405,068
GAS GENERATION

Ralph H. Hiltz, Pittsburgh, Pa., assignor to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Apr. 26, 1965, Ser. No. 451,000

6 Claims. (Cl. 252—182)

Solid compositions, stable at ambient temperatures, are used for gas generation, the compositions evolving a gas when heated to initiate reaction between components of the composition. The compositions contain a water reactive material, for example, metal hydrides, metal borohydrides or metal superoxides, and a material that releases water at elevated temperatures.

3,405,069
CHLOROFLUOROALKANE COMPOSITIONS

Ralph John Gilbert Houslay and Robert Leslie McGinty, Runcorn, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Sept. 12, 1966, Ser. No. 578,485

Claims priority, application Great Britain, Sept. 16, 1965, 39,581/65; Nov. 24, 1965, 49,942/65

9 Claims. (Cl. 252—182)

There is provided a chlorofluoroalkane composition which is resistant to reaction between the chlorofluoroalkane and primary and secondary polyols and amines in the composition. The improvement resides in the use of inhibitors selected from esters of salicylic acid, azobenzene, p-amino azobenzene, pyrrole, N-methyl pyrroles, eugenol, isoeugenol, hydrazine and substituted hydrazines. The composition is useful for making polyurethane foam compositions when there is included a polyol and a polyfunctional isocyanate. The chlorofluoroalkanes function as a blowing agent. From 0.05 to 5% by weight of the inhibitor, based on the weight of the chlorofluoroalkane, is included in the composition.

3,405,070
PROCESS FOR PREPARATION OF MICROCAPSULES

Zoila Reyes, Menlo Park, Calif., assignor, by mesne assignments, to International Business Machines Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Jan. 30, 1961, Ser. No. 85,487

10 Claims. (Cl. 252—316)

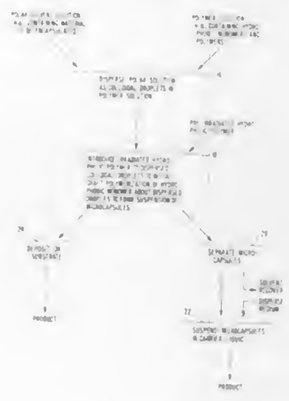
A process for preparing microcapsules by (1) forming an emulsion having a solution containing a gellable lipophobic polymer as the dispersed phase and a continuous phase of lipophilic polymer in a non-polar organic solvent, (2) gelling the lipophobic polymer to form a plurality of gelled polymeric droplets, and (3) precipitating the lipophilic polymer around the dispersed phase, i.e., said gelled polymeric droplets, by adding a nonpolar organic nonsolvent liquid for the lipophilic polymer.

3,405,071
PROCESS OF MAKING MICROCAPSULES

Zoila Reyes, Menlo Park, Calif., assignor, by mesne assignments, to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 30, 1963, Ser. No. 334,458

5 Claims. (Cl. 252—316)



A process for making microcapsules having an outer hydrophobic polymer layer grafted onto a gelled hydrophilic polymer containing a polar solution, wherein microscopic swollen hydrophilic particles are irradiated to create reactive sites at their surfaces and added to an emulsion having droplets of a polar solution as its dispersed phase and a non-polar liquid containing a hydrophobic film-forming material susceptible to graft polymerization as its continuous phase, whereby the particles are taken up by the dispersed phase droplets and become gelled, and whereby the hydrophobic material graft polymerizes onto the said reactive sites.

3,405,072
METHOD OF INHIBITING CORROSION OF AQUEOUS MEDIUMS BY ADDITION OF LITHIUM SALTS OF ORGANIC ACIDS

James W. Kinnavy, Oak Lawn, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Jan. 5, 1966, Ser. No. 518,797

10 Claims. (Cl. 252—389)

The corrosion of metal surfaces in contact with aqueous non-edible compositions is inhibited by adding to the aqueous compositions an effective amount of a lithium salt of a compound selected from naphthenic acid, ethyl hexoic acid, polyacrylic acid, and styrene-substituted maleic acid and the anhydride thereof.

3,405,073
ENHANCEMENT OF RESISTANCE OF ETHYLENE SULFIDE POLYMERS TO HEAT DETERIORATION

Charles Abramoff, Brooklyn, N.Y., assignor to Argus Chemical Corporation, Brooklyn, N.Y., a corporation of New York

No Drawing. Filed May 28, 1965, Ser. No. 459,890

7 Claims. (Cl. 252—400)

Stabilizers suitable for enhancing the resistance of ethylene sulfide polymers to deterioration at temperatures in excess of about 200° C. are provided. The stabilizer is an organotin compound having organic radicals attached to tin through oxygen, and no organic radicals attached to tin through carbon. Stabilizer combinations also are provided comprising such organotin compound, and a compound of a polyvalent metal selected from Groups II to VIII of the Periodic Table in an amount to enhance the stabilizing effect of the tin salt in the presence of the ethylene sulfide polymer.

3,405,074
MAGNESIUM-CONTAINING CRYSTALLINE ZEOLITES

William Judson Mattox, Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Dec. 27, 1963, Ser. No. 333,844

13 Claims. (Cl. 252—455)

The ion exchange of synthetic faujasite with $MgNO_3$ achieves lower residual sodium level, higher magnesium level and improved stability.

3,405,075
NONFLAMMABLE PHOSPHORUS-CONTAINING POLYMERS

Frank J. Welch, Charleston, and Herbert J. Paxton, Jr., Elkview, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed July 29, 1964, Ser. No. 386,060

36 Claims. (Cl. 260—2)

Nonflammable polymers containing phosphonite or phosphite groups and the corresponding rearranged nonflammable polymers containing phosphinate and phosphonate groups are claimed. The polymers react with mono-alcohols, mono-mercaptans, primary amines or monomeric oxirane mono-epoxides to yield terminally altered polymers which are subsequently crosslinked. The claimed phosphorus containing polymers are useful as adhesives, liquid flame retardant plasticizers, stabilizers and in the production of molded articles.

3,405,076

BORON-CONTAINING POLYMERS AND PROCESS FOR MAKING THE SAME

Joseph Green, Dover, and Nathan Mayes, Ironia, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed Nov. 27, 1964, Ser. No. 414,431
11 Claims. (Cl. 260—2)

Curable hydroxy-terminated copolymers having the repeating unit



wherein R_1 is an aliphatic group and R is a divalent linear group including a carboranyl group therein, e.g. a divalent linear carboranyl ether group, formed by reacting an aldehyde R_1CHO with a carboranyl diol HOROH.

3,405,077

PROCESS FOR MAKING SOFT POLYURETHANE FOAMS AND PRODUCT

Arthur J. Pastor, Lake Jackson, Lamar E. Peterson, Angleton, and Charles D. Price and Donnell A. Ballard, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 31, 1964, Ser. No. 422,525
2 Claims. (Cl. 260—2.5)

A process for making a soft, flexible polyurethane foam, which process comprises reacting (1) a polyether polyol that is the condensate of propylene oxide and glycerine, which polyether polyol has an OH equivalent weight of from 800 to 1500 in admixture with (A) from 1.8 to 5 parts by weight of water per 100 parts by weight of said polyether polyol, and (B) a compound selected from the group consisting of alkyl ethers of ethylene glycol, propylene glycol, hexane triol and trimethylolpropane, which ethers have at least one hydroxyl group in the molecule and have an OH equivalent weight of from 74 to 150 and are used in amount corresponding to from 0.01 to 0.90 hydroxyl equivalent per chemical equivalent of water, with (2) a polyisocyanate in amount of from about 1 to 1.15 chemically equivalent NCO group for each reactive hydrogen in the mixture of ingredients.

3,405,078

SENSITIZERS IN FOAM RUBBER MANUFACTURE

Willem Jan van der Geer, Oosterbeek, Netherlands, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 21, 1965, Ser. No. 500,318
5 Claims. (Cl. 260—2.5)

A sensitizer having the general formula

(wherein R is an alkylene group having from 1 to 4 carbon atoms, R_1 is a member selected from the group consisting of alkyl, cycloalkyl, hydroxy-substituted alkyl and hydroxy-substituted cycloalkyl groups having from 1 to 8 carbon atoms, R_2, R_3 and R_4 each is a member selected from the group consisting of hydrogen, alkyl, cycloalkyl, hydroxy-substituted alkyl and hydroxy-substituted cycloalkyl groups having from 1 to 8 carbon atoms and when R_1 and R_2 are considered together and when R_3 and R_4 are considered together they each represent an alkylene group having from 4 to 5 carbon atoms) is added to a compounded latex to improve the gelation characteristics of the latex. The latex is foamed in a conventional manner, is congealed and then vulcanized.

3,405,079

REACTION PRODUCT OF AN ALKYLATED AMINO RESIN AND AN AROMATIC HYDROCARBON-FORMALDEHYDE RESIN

Ching Yun Huang, Minoo-shi, Kazuo Ueno, Ibaraki-shi, Shinji Kawamura, Amagasaki-shi, Hisanori Tanabe, Ibaraki-shi, and Keizo Masawaki, Osaka, Japan, assignors to Japan Gas-Chemical Company, Inc., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Mar. 25, 1966, Ser. No. 537,315
Claims priority, application Japan, Mar. 27, 1965, 40/17,664
12 Claims. (Cl. 260—3)

An alkylated amino resin modified with an aromatic hydrocarbonformaldehyde resin is used to improve the properties of rubber, said modified alkylated amino resin being a viscous liquid or solid resin at room temperature, and prepared by heating an alkylated amino resin with an aromatic hydrocarbon-formaldehyde resin in the presence of an acidic catalyst to react them. Said modified resin works as plasticizer for natural and synthetic rubbers, and hence can be well dispersed thereinto, and thus, the modified resin and the rubber can easily and smoothly be mixed with each other. Further, said modified resin can remarkably reinforce a vulcanized rubber when incorporated thereinto.

3,405,080

PROCESS FOR PREPARING POLYETHER-POLYURETHANE-STARCH RESINS

Felix H. Otey, Florence L. Bennett, and Charles L. Mehltretter, Peoria, Ill., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Oct. 7, 1965, Ser. No. 493,938
1 Claim. (Cl. 260—9)

Low cost polyether-urethane parts for small machines, chair legs, and the like are obtained by pressure molding an unfoamed diisocyanate modified glycol glycoside polyether prepolymer of which prepolymer about one-half to about two-thirds of the total weight represents directly added starch.

ERRATUM

For Class 260—17.2 see:
Patent No. 3,405,053

3,405,081

SOLUBILIZATION OF POLYACRYLONITRILES AND CELLULOSE IN LIQUID SULFUR DIOXIDE

Kunio Hata, 6–55 Araya-Hinai-cho; Kingo Yokota, 5–25 Araya-Hinai-cho; and Akira Hasegawa, 6–17 Araya-Hinai-cho, all of Akita-shi, Akita-ken, Japan

No Drawing. Continuation-in-part of application Ser. No. 451,337, Apr. 27, 1965. This application June 2, 1966, Ser. No. 554,675
Claims priority, application Japan, June 5, 1965, 40/33,233; June 16, 1965, 40/35,924; Aug. 31, 1965, 40/53,201; Jan. 31, 1966, 41/5,940
12 Claims. (Cl. 260—17.4)

A homogeneous polymer solution is prepared by dissolving in liquid sulfur dioxide an acrylonitrile polymer in the presence of a solubilizing agent which is soluble in liquid sulfur dioxide.

3,405,082

NOVEL HIGH-GLOSS INK FOR LITHOGRAPHIC PRINTING

Robert George Savageau, Pompton Lakes, N.J., assignor to Interchemical Corporation, New York, N.Y., a corporation of Ohio

No Drawing. Filed Apr. 20, 1966, Ser. No. 543,784
7 Claims. (Cl. 260—22)

A lithographic printing ink that contains an aliphatic hydrocarbon solvent, and gelled glycerol ester type drying oil, and a polymer formed by condensation polymerization of rosin, pentaerythritol or glycerol, and a dibasic acid such as maleic acid, fumaric acid, or a phthalic acid.

3,405,083

HEAT-SEALABLE FILMS COMPRISING A POLYOLEFIN COATED WITH AN ETHYLENE - ETHYL ACRYLATE COPOLYMER AND SURFACTANTS

Edward D. Morrison and Billy R. Dotson, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 5, 1964, Ser. No. 349,749
5 Claims. (Cl. 260—23)

1. A unitary member suitable for use as a heat-sealable packaging material comprising a polyolefin substrate and a relatively thin well-bonded coating consisting essentially of an ethylene-ethyl acrylate copolymer containing from about 2 to about 25 weight percent combined ethylacrylate, an oil-in-water emulsifying agent and a wetting agent on at least one surface of the substrate; the ratio of emulsifying agent to copolymer being from about 0.1–0.5 part emulsifying agent to about 3–7 parts copolymer and the ratio of wetting agent to copolymer being from about 0.4 to about 0.8 part of said wetting agent to about 3–7 parts of copolymer.

3,405,084

NEUTRALIZED TERPOLYMERIC RESIN OF VINYL PYRROLIDONE, ALKYL ACRYLATE OR METHACRYLATE, AND UNSATURATED MONOCARBOXYLIC ACID

Stanley Bohac, Chicago, and Morris J. Root, Highland Park, Ill., assignors to G. Barr Company, Division of Pittsburgh Railways Company, Niles, Ill., a corporation of Pennsylvania

No Drawing. Filed June 30, 1965, Ser. No. 468,568
6 Claims. (Cl. 260—29.6)

A terpolymeric resin of 25% to 75% by weight vinyl pyrrolidone, 20% to 70% acrylate and 3% to 25% unsaturated acid, said resin being especially useful as a hair spray because of its solubility in alcohol or water, hardness for easier combability, nonhygroscopicity and luster.

3,405,085

NON-FOAMING SYNTHETIC RESIN DISPERSIONS WITH PROLONGED STORABILITY

Friedrich Girg, Worsdorf, Taunus, Guido Max Rudolf Lorentz, Oes, Post Espa, and Gerhart Schultz, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Continuation-in-part of application Ser. No. 399,377, Sept. 25, 1964. This application Mar. 13, 1967, Ser. No. 622,444
Claims priority, application Germany, Sept. 28, 1963, F 40,867
4 Claims. (Cl. 260—29.6)

Foaming of synthetic resin dispersions which contain emulsifiers is avoided by incorporating in the dispersions a mixture consisting of at least 2 glycol ethers which are non-ionic surfactants and which consist of the same or different hydrophobic radicals and must contain different molar proportions of ethylene oxide. The glycol ethers used are oxyethylated derivatives of alkyl phenols, fatty alcohols, fatty amines and fatty acids.

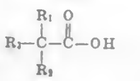
3,405,086

POLYEPOXIDE BINDER COMPOSITIONS AND PROCESS FOR PREPARING SAME

Ype Schaafsma, Amsterdam, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 10, 1964, Ser. No. 388,663
Claims priority, application Netherlands, Aug. 28, 1963, 297,207
4 Claims. (Cl. 260—31.4)

1. A curable binder composition comprising (1) from 50 to 70 parts by weight of a glycidyl polyether of 2,2-bis-(4-hydroxyphenyl) propane, (2) from 30 to 50 parts by weight of a plasticizer prepared by reacting (a) glycidyl esters of alpha-branched, saturated, aliphatic monocarboxylic acids, said acids containing from 9 to 19 carbon atoms and having the general formula:



wherein R_1 and R_2 are alkyl radicals and R_3 is hydrogen or alkyl radical with (b) 3,5,5-trimethylhexanol and (3) an amine curing agent.

3,405,087

STABLE POLYMER DISPERSION IN AN ORGANIC LIQUID AND PROCESS OF PREPARING SAME

Michael Fryd, Willingboro, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 29, 1965, Ser. No. 429,110
31 Claims. (Cl. 260—33.6)

Stable polymer dispersions in organic liquid prepared by polymerizing a suitable monomer such as a methacrylate in the presence of a graft copolymer one of whose components is soluble in the organic liquid, the other component being insoluble in said liquid and incompatible with the dispersed polymer but soluble in or at least swollen by the monomer from which the dispersed polymer is prepared.

3,405,088

THICK, CURED POLYMETHYL METHACRYLATE ARTICLE AND PROCESS FOR ITS PREPARATION

Donald H. Slocum, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 23, 1965, Ser. No. 434,691
16 Claims. (Cl. 260—41)

The use of at least 40% of an inert filler, e.g., calcium carbonate, calcium sulfate, clay, silica, calcium silicate, etc. along with a hemi-perester of maleic acid catalyst in the polymerization and curing of methyl methacrylate-containing sirups provides a process for forming thick (¼" to 2" or more) articles of polymeric methyl methacrylate within reasonable periods and at moderate temperatures.

3,405,089

STABILIZED POLYALKYLENE OXIDES

Otto Mauz, Frankfurt am Main, and Horst Behrenbruch, Kelkheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Apr. 5, 1965, Ser. No. 445,739
Claims priority, application Germany, Apr. 18, 1964, F 42,645
9 Claims. (Cl. 260—45.8)

Polyalkylene oxides stabilized by a mixture of (I) a benzotriazole, (II) a bisphenol methane or sulfide and (III) a bisaliphatic sulfide.

3,405,090

ULTRAVIOLET LIGHT STABLE POLY-α-OLEFIN COMPOSITION

Gordon C. Newland and Gerald R. Lappin, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Original application Jan. 4, 1963, Ser. No. 249,311. Divided and this application Dec. 16, 1966, Ser. No. 619,097

5 Claims. (Cl. 260—45.85)

A polyolefin composition containing a stabilizing amount a phenyl salicylate selected from the group consisting of p-(1,1,3,3-tetramethylbutyl)phenyl 5-(1,1,3,3-tetramethylbutyl)salicylate, p-t-dodecylphenyl-4-t-butylsalicylate, p-nonylphenyl-5-t-butylsalicylate, and p-t-butylphenyl-4-dodecyloxysalicylate.

3,405,091

METHYLENE DIPHENYL OXIDE POLYMERS AND METHODS OF PREPARING THEM

Gerhard R. Sprengling, Derry Township, and Daniel R. Sassano, Monroeville, Pa., Orlin D. Trapp, Linthicum Heights, Md., and Leo S. Chang, Florham Park, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 11, 1964, Ser. No. 351,212

5 Claims. (Cl. 260—47)

1. A process for the production of a soluble and fusible resinous composition which comprises the steps of (1) mixing together (A) an essentially monomeric halomethyldiphenyl oxide wherein the average number of halomethyl groups per diphenyl oxide moiety is from about 0.6 to about 3.0, (B) an amount of diphenyl oxide to provide a product functionality (F_n)$\geq$0.75 and (C) a condensation catalyst selected from the group consisting of Friedel-Crafts catalysts, silica, diatomaceous earth, bentonite, organic soluble metallic chelates, and p-toluene sulfonic acid, (2) heating the mixture of (A), (B), and (C) until substantially all of the halogen has reacted and (3) stripping off any residual diphenyl oxide.

3,405,092

METHOD FOR THE OXIDATIVE POLYMERIZATION OF PHENOLS

Jan A. Meijs, Arnhem, and Franciscus I. M. van Haaren, Velp, Gelderland, Netherlands, assignors to N.V. Onderzoekingsinstituut Research, Arnhem, Netherlands, a corporation of the Netherlands

Filed Oct. 15, 1965, Ser. No. 496,446

Claims priority, application Netherlands, Oct. 29, 1964, 6412572

4 Claims. (Cl. 260—47)

Phenols are oxidatively polymerized by passing a stream of an oxygen-containing gas (e.g., air) through a solution of the phenol containing an oxidation catalyst (e.g., cuprous chloride) at a superficial velocity of at least about 0.15 meter per second. The process may be continuous or discontinuous, and may be carried out in one or more vertical tubular reactors.

3,405,093

PROCESS FOR HYDROLYZING POLYEPOXIDE RESINS

Eddie B. Walker, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 5, 1966, Ser. No. 598,956

3 Claims. (Cl. 260—47)

Polymeric polyhydric alcohols are prepared by hydrolysis of polyepoxides dissolved in certain solvents or solvent mixtures, catalyzed by dilute aqueous acid solutions.

3,405,094

PROCESS FOR STABILIZING ALDEHYDE POLYMERS

Atsushi Tanaka, Yukio Hozumi, Shigetaka Endo, and Kotaro Taniguchi, Iruma-gun, Saitama-ken, Japan, assignors to Dai Cellu Kabushiki Kaisha, a corporation of Japan

No Drawing. Filed Apr. 20, 1964, Ser. No. 361,282

Claims priority, application Japan, Apr. 30, 1963, 38/22,243

6 Claims. (Cl. 260—67)

A process for stabilizing an aliphatic aldehyde polymer by removing organometallic polymerization catalyst contained in the polymer by adding a chelating agent such as acetylacetone, benzoylacetone or ethylaceto acetate to the pulverized polymer in a solvent and thereafter contacting the resulting polymer with a solution containing a diamine.

3,405,095

POLYMERIZATION OF UNSATURATED ALDEHYDES USING METALLIC SILVER AS REDUCING AGENT IN A REDOX CATALYST

Heinz Hartel, Oberlar, and Hans Mirau, Hennef (Sieg), Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Bezirk Cologne, Germany

No Drawing. Filed Dec. 23, 1966, Ser. No. 604,150

Claims priority, application Germany, Dec. 24, 1965, D 49,019

6 Claims. (Cl. 260—67)

Polymerization of lower unsaturated aldehydes using a redox catalyst system in the presence of metallic silver as the reducing agent.

3,405,096

PROCESS FOR THE PRODUCTION OF POLY(POLYMETHYLENE) TEREPHTHALATES

Jean Chambion and Paul Hilaire, Lyon, Rhone, France, assignors to Societe Rhodiaceta, Paris, France, a corporation of France

No Drawing. Filed Sept. 22, 1965, Ser. No. 489,389

Claims priority, application France, Sept. 24, 1964, 989,213

7 Claims. (Cl. 260—75)

1. Process for the production of poly(polymethylene) terephthalates, which comprises effecting polycondensation of a bis-(omega-hydroxy-n-alkyl) terephthalate in the presence as catalyst of bismuth aminotriethanolate.

3,405,097

POLYMERIC COMPOSITIONS OF MATTER

Robert M. Lusskin, Neenah, Wis., Frank Backer, Albany, N.Y., and John R. Larson, Upper Saddle River, N.J., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 311,620, Sept. 26, 1963. This application Feb. 13, 1967, Ser. No. 615,347

5 Claims. (Cl. 260—75)

The polymers comprise the reaction product of a polyurethane which contains a reactive isocyanate and group with a halo-substituted polyhydromethanonaphthalenedicarboxylic acid or anhydride thereof. The thus formed

polymers possess desirable characteristics such as fire retardance and color stability.

3,405,098

PROCESS FOR PREPARING HIGH VISCOSITY LINEAR CONDENSATION POLYESTERS FROM PARTIALLY POLYMERIZED GLYCOL TEREPHTHALATES

Harold H. Heighton and Elmer E. Most, Jr., Kinston, N.C., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 417,004, Dec. 9, 1964. This application Oct. 29, 1965, Ser. No. 513,616

6 Claims. (Cl. 260—75)



1. In the preparation of linear condensation polyesters wherein glycol terephthalate is partially polymerized to form an amorphous melt of polyester, the melt is solidified and the polymerization is continued in the solid phase, the process for preparing polyester of unusually high intrinsic viscosity which comprises the combination of steps:

(a) quenching the melt rapidly to form a substantially amorphous solid polyester, the molten polyester being partially polymerized to an intrinsic viscosity of 0.20 to 0.65 when quenched,

(b) heating the solid polyester at 150° to 200° C. to form a partially crystallized polyester,

(c) grinding the partially crystallized polyester into particles passing a 20-mesh screen, with less than 10% fine enough to pass through a 200-mesh screen, and

(d) polymerizing the ground polyester at 200° to 235° C. in a fluidized-bed solid-phase polymerization to an intrinsic viscosity of at least 0.8.

3,405,099

POLYMERIZATION OF PYRROLIDONE EMPLOYING HALIDES OF GROUP IV ELEMENTS AS CHAIN INITIATORS

David Taber, Easton, Pa., assignor to GAF Corporation, a corporation of Delaware

No Drawing. Filed Apr. 4, 1958, Ser. No. 726,307

1 Claim. (Cl. 260—78)

1. In the process of polymerizing pyrrolidone under anhydrous conditions in the presence of a minor amount up to about 10 mole percent based on said pyrrolidone of an alkali metal pyrrolidone as the polymerization catalyst; the improvement comprising effecting the polymerization in the presence of a minor amount up to about 10 mole percent based on said pyrrolidone of carbon tetrachloride.

3,405,100

ESTERS CONTAINING EPOXIDE GROUPS, THEIR PRODUCTION AND THEIR USES

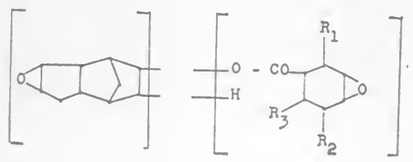
Keith Wood Humphreys, Cambridge, Bernard Peter Stark, Stapleford, Cambridge, and Reginald Francis Webb, Cambridge, England, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Mar. 23, 1961, Ser. No. 97,722

Claims priority, application Great Britain, Apr. 5, 1960, 12,064/60; Aug. 4, 1960, 27,127/60

8 Claims. (Cl. 260—78.4)

1. A compound which conforms to the general formula:



wherein R_1 and R_2 taken together are selected from the group consisting of two hydrogen atoms and one endomethylene group, and R_3 is selected from the group consisting of a hydrogen atom and a methyl group.

3,405,101

PYROMELLITONITRILE/AMMONIA REACTION PRODUCTS

Bernard S. Wildi, Bethesda, Md., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed June 15, 1964, Ser. No. 375,343

The portion of the term of the patent subsequent to Jan. 12, 1981, has been disclaimed

2 Claims. (Cl. 260—78.4)

Pyromellitonitrile/ammonia reaction product having a molar ratio of pyromellitonitrile to ammonia of about 1:2, the reaction being carried out at a temperature insufficient to cause substantial pyrolysis of the reaction product; and prolyzed reaction products thereof made at a temperature and range of 180–700° C. sufficient to drive off ammonia and give product having improved semiconductor properties.

3,405,102

CURABLE MIXTURES OF CYCLOALIPHATIC POLYEPOXIDES, CURING AGENTS AND ACCELERATORS

Fritz Kugler, Muttenz, and Otto Ernst, Pfeffingen, Basel-Land, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

No Drawing. Filed Oct. 6, 1964, Ser. No. 401,980

Claims priority, application Switzerland, Oct. 8, 1963, 12,342/63

7 Claims. (Cl. 260—78.4)

Curable compositions suitable for use in coatings, castings, moldings, adhesives and laminates comprising (a) a cycloaliphatic polyepoxy compound containing at least one 1,2-epoxide group in a six-membered ring, (b) a curing agent for epoxy resins, especially a polycarboxylic acid anhydride, (c) a tin (II) salt of a carboxylic acid or a tin (II) alcoholate or phenolate, and (d) an alkali metal alcoholate.

The combination of tin (II) carboxylates or tin (II) alcoholates or phenolates and alkali metal alcoholates as accelerators for curable systems of polycarboxylic acid anhydrides and cycloaliphatic polyepoxides containing at least one 1,2-epoxide group in a six-membered ring provide curable systems of relatively long shelf-lives and relatively short gelling times.

3,405,103

PROCESS FOR PREPARING POLYVINYL PHTHALATE IN WHICH THE IMPROVEMENT IS THE USE OF ACTIVATED POLYVINYL ALCOHOL

Carlton L. Crane and Donald F. Ingerick, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 7, 1966, Ser. No. 592,315
7 Claims. (Cl. 260—78.4)

1. In a process for preparing a polyvinyl dicarboxylic acid ester, which process comprises reacting together a dicarboxylic acid anhydride and said polyvinyl alcohol in the presence of a solvent and under substantially anhydrous conditions; the improvement which comprises (a) in a presoaking step, contacting particulated polyvinyl alcohol with water for a period of time sufficient for some of said water to penetrate into the particles of said polyvinyl alcohol, and (b) thereafter removing said water from the resulting presoaked polyvinyl alcohol by reacting said water with a lower fatty acid anhydride; steps (a) and (b) being accomplished before said dicarboxylic acid anhydride is intermixed with said polyvinyl alcohol.

3,405,104

ANTISTATIC TEXTILE FINISH AND METHOD OF APPLYING SAME

Reginald L. Wakeman, Philadelphia, Pa., and Sidney Cohen, Fair Lawn, and Zdzislaw J. Dudzinski, Hasbrouck Heights, N.J., assignors, by mesne assignments, to Millmaster Onyx Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 7, 1964, Ser. No. 358,080
15 Claims. (Cl. 260—79.3)

An antistatic finish for hydrophobic textile fibers and the like consisting of a polymeric compound having a linear carbon chain interrupted by a plurality of tertiary amino radicals, which can be cured on the hydrophobic fibers. The compound is a water-soluble linear polytertiary amine having at least one terminal tertiary amino radical and having the structure:

$$Y—Z—[N(R)—Z]_p—Y'$$

wherein Y is a tertiary amino radical, Z is a divalent radical derived from a polyglycol, R is either alkyl, alkenyl or hydroxyalkyl having 1 to 22 carbon atoms, and Y' is either a tertiary amino group, a secondary amino group or a covalently linked radical of the group consisting of the ester-forming residue of an inorganic acid, and organically substituted sulfuric, sulfonic and phosphoric acids, and p is an integer of at least 1.

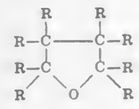
3,405,105

POLYMERIZATION OF TETRAHYDROFURAN AND DERIVATIVES THEREOF WITH ORGANIC SULFONIC ACIDS

Jennings P. Blackwell, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Nov. 12, 1965, Ser. No. 507,566
10 Claims. (Cl. 260—79.3)

At least one cyclic ether is reacted with at least one organic sulfonic acid to produce a solid polymer. The cyclic ether has the formula



where each R is selected from the group consisting of hydrogen and alkyl, cyclo-alkyl and aryl groups and combinations thereof, the number of carbon atoms in any one R group not exceeding 8 and the total number of carbon atoms in all the R groups not exceeding 12. The acid has the formula $R'SO_3H$ wherein R' is selected from the group consisting of alkyl, cycloalkyl, and aryl groups and combinations thereof, the number of carbon atoms in R' not exceeding 12. The polymer has repeating

$$—CR_2CR_2CR_2CR_2O—$$

units and $R'SO_3—$ end groups.

3,405,106

POLYMERIZATION OF WATER SOLUBLE VINYL MONOMERS IN PRESENCE OF METAL SALTS

Clyde Stephen Scanley, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed June 29, 1964, Ser. No. 378,657
6 Claims. (Cl. 260—80)

1. In a process for the polymerization of a water-soluble vinyl monomer to a polymer of said monomer, wherein said monomer is reacted in an aqueous medium, at a temperature of from about 0° C. to about 100° C. and in the presence of from about 0.0001% to about 1.0%, by weight, based on the total weight of the reaction media, of a polymerization catalyst, the improvement which comprises conducting the reaction in the presence of a water-soluble neutral salt selected from the group consisting of alkali metal salts and alkaline earth metal salts, in an amount ranging from about 9%, by weight, based on the total weight of the reaction media, to about the saturation point of said salt in said reaction media.

3,405,107

USE OF AMINE N-OXIDE AS A REGULATOR OF MOLECULAR WEIGHT IN ETHYLENE-PROPYLENE COPOLYMERIZATION WITH SOLUBLE CATALYST COMPRISING VANADIUM OXYTRICHLORIDE AND ALKYL ALUMINUM SESQUICHLORIDE

Demetreos N. Matthews, Bloomfield, and Robert J. Kelly, Montville, N.J., assignors to Uniroyal, Inc., a corporation of New Jersey

No Drawing. Filed Apr. 8, 1964, Ser. No. 358,371
10 Claims. (Cl. 260—88.2)

1. In a method of solution interpolymerizing ethylene and propylene by means of a soluble catalyst comprising an alkylaluminum sesquichloride and vanadium oxytrichloride, the molar ratio of aluminum to vanadium being at least 5:1, the improvement comprising carrying out the said interpolymerization in the presence of an amine N-oxide to regulate the molecular weight of the interpolymer, the said amine N- oxide being selected from heterocyclic nitrogen base N-oxides, trialkylamine N-oxides, and dialkylarylamine N-oxides, the said N-oxide being present in amount of from 0.1 to 20 moles per mole of alkylaluminum sesquihalide.

6. A method of interpolymerizing ethylene, propylene and a copolymerizable non-conjugated diene in solution in an inert organic solvent comprising introducing separately catalyst ingredients to said solvent containing at least a portion of the said monomers, said catalyst ingredients being alkylaluminum sesquihalide and vanadium oxytrichloride, the molar ratio of aluminum to vanadium being at least 5:1, to form a soluble catalyst in situ in the presence of the monomers, thereafter introducing an amine N-oxide which is soluble in said solvent, the amine N-oxide being selected from the group consisting of heterocyclic nitrogen base N-oxides, and the amount of amine N-oxide present being from 0.1 to 20 moles per mole of alkylaluminum sesquichloride, trialkylamine N-oxides, and dialkylarylamine N-oxides, whereby the said monomers interpolymerize to form an amorphous interpolymer of the said monomers in which the diene is randomly distributed, the molecular weight of the interpolymer being less than it would be in the absence of said amine N-oxide.

3,405,108

COPOLYMERS AND ARTICLES

Keith Jasper Clark, Welwyn Garden City, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed July 6, 1964, Ser. No. 380,666
21 Claims. (Cl. 260—88.2)

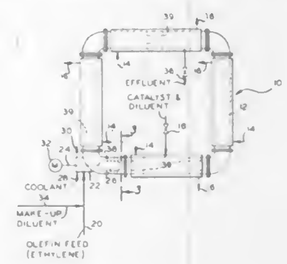
A solid copolymer of 4-methyl-hexene-1 with a minor amount of a linear 1-olefine having from 4 to 8 carbon atoms. The copolymer is capable of being melt-shaped into articles of high clarity and low haze. The linear 1-olefine may be, for example, butene-1, pentene-1 or hexene-1.

3,405,109

POLYMERIZATION PROCESS

Raymond G. Rohlfing, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Original application Oct. 3, 1961, Ser. No. 59,991, now Patent No. 3,226,205, dated Dec. 28, 1965. Divided and this application Jan. 25, 1965, Ser. No. 427,651
5 Claims. (Cl. 260—88.2)



1. In a process wherein solid particle form polymer is formed by continuously pumping polymerizable hydrocarbon material in liquid form thru a section of conduit by means of an impeller operating on a shaft on an inboard bearing wherein polymer settles around said bearing and hinders the operation of said impeller, the improvement comprising continuously forcing a fluid nondeleterious to said reaction free of catalyst thru an annular passageway surrounding said shaft and thru said bearing to the interior of said conduit so as to prevent settling of polymer in said bearing, on said shaft, and between said bearing and said impeller.

3,405,110

POLY(PROPYNOL) PREPARED USING A NICKEL DICARBONYL DI(TRIPHENYLPHOSPHINE) IN AN INERT NON-HYDROXYLATED ORGANIC SOLVENT

Otto F. Hecht, Easton, Pa., and Arthur P. Castaldi, Phillipsburg, N.J., assignors to GAF Corporation, a corporation of Delaware

No Drawing. Filed Mar. 2, 1964, Ser. No. 348,874
2 Claims. (Cl. 260—91.3)

1. Solid, rust colored, poly(propynol) which is insoluble in water and organic solvents prepared by the polymerization of anhydrous propynol which comprises refluxing said propynol in a solution of nickel dicarbonyl di(triphenylphosphine) in an inert non-hydroxylated organic solvent.

3,405,111

HALOGENATION OF ORGANIC COMPOUNDS IN HALOGENATED ACETONITRILE SOLVENTS

George W. Brady, Jr., Barboursville, and Joseph P. Henry, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 23, 1965, Ser. No. 442,173
7 Claims. (Cl. 260—92.8)

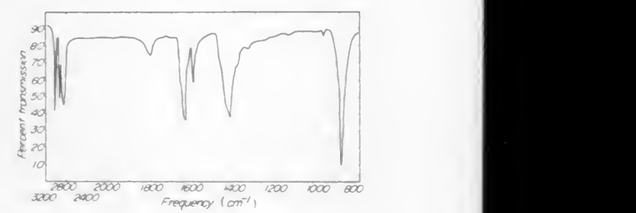
The chlorination of organic compounds can be efficaciously carried out in the presence of halogenated acetonitriles. Whether the mechanism of the chlorination reaction proceeds by addition or substitution, it has been discovered that the chlorination reaction can be satisfactorily carried out by dissolving the organic compounds in a halogenated acetonitrile, preferably a solvent such as trichloroacetonitrile, and passing chlorine through the solution.

3,405,112

ALLENE HYDROCARBON POLYMER FORMED BY 1,2-ADDITION AND METHOD OF PRODUCING THE SAME

Seinosuke Otsuka, Takarazuka-shi, and Hiroshi Mori, Taro Suminoe, Fumitake Imaizumi, and Takanao Taketomi, Yokkaichi-shi, Japan, assignors to Japan Synthetic Rubber Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed Feb. 8, 1966, Ser. No. 525,992
Claims priority, application Japan, Feb. 9, 1965, 40/6,913
9 Claims. (Cl. 260—93.1)



1. A polymer of allene hydrocarbon of the formula $CH_2=C=CR_2$, wherein R is selected from the group consisting of hydrogen, phenyl radical, and alkyl radical containing from 1 to 4 carbon atoms, in which substantially all of the polymer is formed by 1,2-addition.

3,405,113

POLYMERIZATION CATALYST

Gifford G. McClaflin, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed Nov. 20, 1964, Ser. No. 412,852
6 Claims. (Cl. 260—93.5)

It is disclosed that ethylenically unsaturated monomer can be polymerized to produce stereo regulated polymers by carrying out the polymerization in the presence of a catalyst comprising an aluminum hydrocarbon, titanium trichloride, and, as a promoter, acitic acid or its anhydride.

3,405,114

PRODUCTION OF 1,3-DIENE POLYMERS

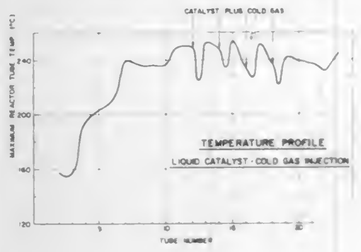
Herbert Naarmann, and Heinz Eilingsfeld, Ludwigshafen (Rhine), and Ernst-Guenther Kastning, Assenheim, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed June 20, 1966, Ser. No. 558,599
Claims priority, application Germany, June 24, 1965, B 82,539
6 Claims. (Cl. 260—94.3)

1. A process for the production of 1,3-diene polymers by polymerizing 1,3-dienes having four to six carbon

atoms wherein a polymerization catalyst is used which comprises a transition metal chelate complex of a thio-α,β-dicarbonyl compound.

3,405,115
LIQUID CATALYST INJECTION
Hans M. Schappert, Bethel Park, and Archie Hill, Pittsburgh, Pa., assignors to Koppers Company, Inc., a corporation of Delaware
Filed Feb. 26, 1964, Ser. No. 347,585
7 Claims. (Cl. 260—94.9)



1. In the polymerization of ethylene in a tubular reactor at maximum operating temperatures of 220–300° C. and pressures of 16,000–50,000 p.s.i.g. in the presence of a catalytic amount of a free radical generating liquid catalyst component, the improvement comprising dividing the ethylene being introduced into the reactor into a feed gas stream and a cold gas stream, introducing the feed gas stream into the preheater section of said reactor wherein the temperature of the feed gas is raised to a temperature of at least 150° C., subdividing the cold gas stream into $N+1$ streams, wherein N is an integer having a value between one and ten, introducing finely divided droplets of liquid catalyst component into each of the N streams, with the remaining 1 stream being catalyst free, by passing a mixture of liquid catalyst component and ethylene through a restricted tortuous path to provide a uniform dispersion of liquid catalyst component in cold ethylene gas, separately introducing at successive spaced points along the length of the reactor said N streams at a temperature of 0–50° C., the amount of cold gas being introduced at each of said successive points being increased by measured increments to provide a substantially uniform temperature drop at each successive point of introduction along the reactor, and regulating the total amount of cold gas in said N streams by introducing the catalyst-free stream of cold gas into the preheater section of the reactor and varying the amount of gas in said catalyst-free stream between 2–15 percent of the total amount of said cold gas stream, the relative proportion of cold gas in said N streams to the total amount of ethylene being introduced into the reactor being such as to provide at each of said successive points of catalyst injection a minimum temperature greater than 140–170° C.

3,405,116
PROCESS FOR THE PRODUCTION OF AZO COMPOUNDS
Hans Ischer, Basel, Switzerland, assignor to Sandoz Ltd. (also known as Sandoz A.G.), Basel Switzerland
No Drawing. Filed Sept. 10, 1965, Ser. No. 486,563
Claims priority, application Switzerland, Sept. 15, 1964, 11,957/64
13 Claims. (Cl. 260—145)

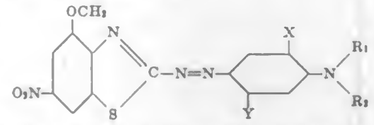
The production of azo compounds by coupling diazotized amines with coupling components is accelerated by amino sulfonic acids, guanidines, biguanides, guanylureas and salts thereof.

3,405,117
α-CHLORO-DI-p-XYLYLENES
Ying L. Yeh, Highland Park, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 24, 1964, Ser. No. 421,116
2 Claims. (Cl. 260—649)

This invention discloses alpha chlorinated di-p-xylylenes and the method of preparing them free of interfering ring chlorination from the cyclic dimer-di-p-xylylenes.

3,405,118
4-METHOXY-6-NITROBENZOTHIAZOLYLAZO DISPERSE DYES
Mario Francesco Sartori, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 21, 1965, Ser. No. 515,471
6 Claims. (Cl. 260—158)

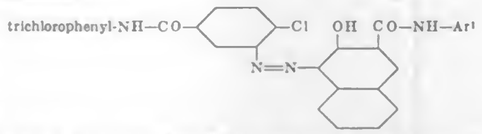
Azo dyes of the formula



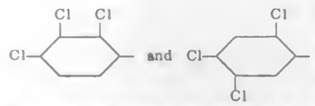
wherein X is Cl, Br, OCH_3 or OC_2H_5; Y is H, Cl, Br, CH_3 C_2H_5, OCH_3, OC_2H_5, NH_2 NHCO-alkyl $NHSO_2$-alkyl, NHCO-phenyl or $NHSO_2$-phenyl, in which said phenyl radicals may be substituted by Cl, NO_2, CN, OCH_3, or alkyl and said alkyls contain 1–4 C-atoms; and R_1 and R_2 are spearately H, C_1–C_4 alkyl, C_2–C_4 hydroxyalkyl, 2-cyanoethyl, alkoxyalkyl having 3 to 4 C-atoms, 2-acetoxyethyl or 2-benzoyloxyethyl, have good brightness, sublimation fastness, lightfastness and tinctorial value on polyester fibers.

3,405,119
MONO-AZO PIGMENTS
Emil Stocker, Riehen, and Kurt E. Burdeska and Walter Stammbach, Basel, Switzerland, assignors to J. R. Geigy A.G., Basel, Switzerland
No Drawing. Continuation-in-part of application Ser. No. 207,773, July 5, 1962. This application May 10, 1965, Ser. No. 454,630
Claims priority, application Switzerland, July 6, 1961, 7,927/61
4 Claims. (Cl. 260—203)

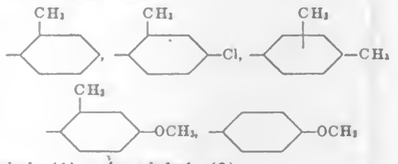
Azo pigments are provided herein corresponding to the formula:



wherein "trichlorophenyl" is a member selected from the groupings

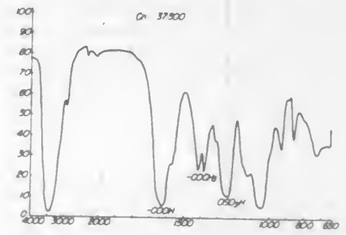


and Ar^1 is a member selected from the group consisting of the following radicals



naphthyl - (1) and naphthyl - (2).

3,405,120
LOW MOLECULAR CHONDROITIN SULFATE AND METHOD FOR MANUFACTURING THE SAME
Takehiko Kawano, Tadakazu Suyama, and Junji Nagai, Hirakata-shi, and Yoshiro Iga, Nishinomiya-shi, Japan, assignors to The Green Cross Corporation, Osaka, Japan, a corporation of Japan
Filed Dec. 30, 1966, Ser. No. 606,288
Claims priority, application Japan, Jan. 27, 1966, 41/4,880
11 Claims. (Cl. 260—234)



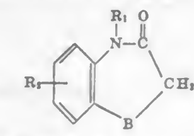
Commercially available chondroitin sulfate prepared from animal cartilage is hydrolyzed at a temperature ranging from 35° to 95° C. using hydrochloric acid, or oxalic acid having a final acid concentration of less than 1 N and during the reaction. Any contact of the reaction mixture with a metal surface must be avoided to prevent the resulting product from being discolored by metal. After the hydrolysis is complete, the pH of the resultant reaction mixture is adjusted to 4.5–5.5 with a weak alkaline reagent such as sodium carbonate, calcium carbonate or the like. The resultant low molecular weight chondroitin sulfate is charged with alcohol of at least 7 times the volume of the solution to precipitate and recover low molecular chondroitin sulfate as a powder having a molecular weight of about 4,000, an intrinsic viscosity of 0.1–0.3, and a unique pharmacological activity.

3,405,121
TRIADDUCT OF ALKYLENIMINE WITH 2,6-BIS(2,3-EPOXYPROPYL) PHENYL GLYCIDYL ETHER
George F. Bulbenko and Riad H. Gobran, Levittown, and Elizabeth A. Blommers, Abington, Pa., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
No Drawing. Original application Nov. 1, 1963, Ser. No. 320,856, now Patent No. 3,329,674, dated July 4, 1967. Divided and this application Mar. 1, 1967, Ser. No. 632,866
1 Claim. (Cl. 260—239)

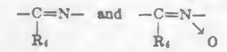
Compounds which are adducts of aziridine or alkylated aziridine with polyfunctional epoxides are provided. Specific products disclosed are the triadduct of propylenimine with 2,6-bis(2,3-epoxypropyl)phenyl glycidyl ether, the diadduct of propylenimine with butadiene dioxide, the triadduct of propylenimine with the triglycidyl ether of glycerine, the triadducts of propylenimine, butylenimine and isobutylenimine with N,N-bis(2,3-epoxypropyl)-4-(2,3-epoxy-1-propoxy)aniline, and the diadduct of propylenimine with the diglycidyl ether of bisphenol A. The adducts are useful as curing agents for polymers containing carboxyl groups.

3,405,122
NOVEL 3H-1,4-BENZODIAZEPIN-2-(1H)-ONES
Leo Berger, Montclair, Arthur Stempel, Teaneck, Leo Henryk Sternbach, Upper Montclair, and Edward Wenis, Leonia, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed June 20, 1961, Ser. No. 118,243
9 Claims. (Cl. 260—239.3)

1. A compound selected from the group of compounds consisting of compounds of the formula



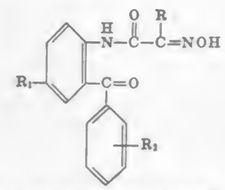
and their acid-addition salts;
wherein B is selected from the group consisting of



R_1 is selected from the group consisting of hydrogen and lower alkyl; R_2 is selected from the group consisting of hydrogen, halogen, nitro and lower alkoxy; and R_4 is selected from the group consisting of pyrryl and furyl.

3,405,123
PROCESS FOR PREPARING 1,4-BENZODIAZEPIN-2-ONES
Arthur Stempel, Teaneck, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 431,174, Feb. 8, 1965. This application Jan. 6, 1966, Ser. No. 519,017
7 Claims. (Cl. 260—239.3)

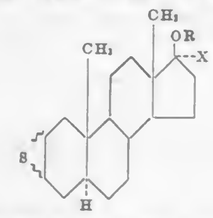
This invention relates to a process for preparing 1,4-benzodiazepin-2-ones by catalytically hydrogenating a compound of the formula



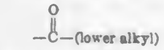
wherein R_1 and R_2 are hydrogen, halogen, nitro, trifluoromethyl and lower alkyl and R is selected from the group consisting of hydrogen and lower alkyl whereby to effect ring closure thereof to the aforesaid 1,4-benzodiazepin-2-ones.

3,405,124
OPTIONALLY 17 - (HYDROCARBON - SUBSTITUTED) - 17 - OXYGENATED - 2,3 - EPITHIO-5α-ANDROSTANES
Paul D. Klimstra, Northbrook, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware
No Drawing. Filed Aug. 12, 1963, Ser. No. 301,651
9 Claims. (Cl. 260—239.5)

1. A compound represented by the formula



wherein R is selected from the group consisting of hydrogen and radicals of the formula



and X is a radical selected from the group consisting of lower alkyl, lower alkenyl and lower alkynyl.

3,405,125

1-OXYGENATED ANDROSTANES

Klaus Irmscher, Darmstadt, and Karl-Heinz Bork, Darmstadt-Arheilgen, Germany, assignors to E. Merck A.G., Darmstadt, Germany

No Drawing. Continuation-in-part of application Ser. No. 328,121, Dec. 4, 1963. This application Apr. 18, 1966, Ser. No. 543,087

6 Claims. (Cl. 260—239.5)

Reductively splitting a 1α,2α-oxido-3-keto-steroid with an alkaline metal or an alkaline earth metal in either liquid ammonia, primary amine, or secondary amine, the ratio of the metal to the starting material being about 1:1 to 1:15, respectively; the resultant 1-oxygenated, 3-keto androstanes having a free or esterified 17-hydroxyl group being useful for their anabolic and/or androgenic activity.

3,405,126

4-HYDROXY-7-AMINO-3-SULFANYLAMIDE-COUMARIN

Hisashi Ichibagase and Masataka Ichikawa, Kumamotoshi, and Senkichi Nagasaki, Tokyo, Japan, assignors to Daiichi Seiyaku Company Limited, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Jan. 5, 1966, Ser. No. 518,775

Claims priority, application Japan, Jan. 11, 1965, 40/1,086

1 Claim. (Cl. 260—239.6)

The novel compound 4-hydroxy-7-amino-3-sulfanylamide-coumarin can be prepared by nitrating 4-hydroxy-7-acetamido-coumarin with nitric acid in glacial acetic acid to give 3-nitro-4-hydroxy-7-acetamido-coumarin; hydrogenating catalytically the resulting compound to afford 3-amino-4-hydroxy-7-acetamido-coumarin; condensing the latter compound with p-acetylamino-benzenesulfonyl chloride to produce 4-hydroxy-7-acetamido-3-(N⁴-acetylsulfanylamide)-coumarin; and finally hydrolyzing thus obtained compound.

3,405,127

12,17-DIOXYGENATED STEROIDS

Philip E. Shaw, Bethlehem, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 13, 1965, Ser. No. 471,735

20 Claims. (Cl. 260—239.55)

The addition of Grignard reagents, R-Mg-halide, to 5β-androstane-3α,12α-diol-17-one provides the unexpected 17α-hydroxy-17-R-isomers. The latter are converted to 3-oxo and 3-oxo-Δ⁴ compounds, and to their 12,17-cyclic ketonide derivatives. Novel derivatives of 5β-androstane-3α,12α,17β-triol are also described. The compounds of the invention modify serum electrolyte content, enhance desoxycorticosterone acetate activity, reverse urinary nitrogen loss, and possess progestational activity.

3,405,128

18 - ALKYLATED - 17α - (2 - ALKYNYL)ESTRA-1,3,5(10)-TRIENE-3,17β-DIOLS, ETHERS AND ESTERS THEREOF

Paul D. Klimstra, Northbrook, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed July 11, 1966, Ser. No. 563,980

7 Claims. (Cl. 260—239.55)

18-alkylated 17α-(2-alkynyl) estra-1,3,5(10)-triene-3,17β-diols, ethers and esters thereof useful as deciduogenic agents and estrogen inhibitors possessing minimal estrogenic side-effects and preparable by reaction of the corresponding 17-keto starting materials with the appropriate organometallic reagent.

3,405,129

PYRIDAZINES

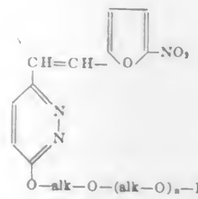
Kurt Eichenberger and Paul Schmidt, Therwil, and Max Wilhelm, Allschwil, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 14, 1965, Ser. No. 455,982

Claims priority, application Switzerland, June 11, 1964, 7,608/64

3 Claims. (Cl. 260—240)

Anti-parasitic and anti-bacterial pyridazines of the formula



in which R represents a hydrogen atom or a lower alkyl radical, the symbols alk represent lower alkylene radicals that separate the oxygen atoms by at least 2 carbon atoms, and *n* represents an integer of at most 2.

3,405,130

ADDUCTS OF ALUMINUM, BERYLLIUM AND ZIRCONIUM BOROHYDRIDES WITH NITROGEN AND/OR OXYGEN-CONTAINING LIGANDS

John N. Hogsett, Charleston, Albert Khuri, South Charleston, and Helmut W. Schulz, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Oct. 25, 1961, Ser. No. 147,438

17 Claims. (Cl. 260—242)

1. An adduct of a metal borohydride of the group consisting of aluminum borohydride, beryllium borohydride, and zirconium borohydride, with a ligand composed solely of carbon, hydrogen, etheric oxygen, and amino nitrogen atoms, wherein at least one of said atoms of the group consisting of etheric oxygen and amino nitrogen atoms functions as a Lewis base, and wherein said adduct possesses at least one coordinate bond between the metal moiety of said metal borohydride and an atom of the group consisting of etheric oxygen and amino nitrogen atoms of said ligand.

7. An adduct of aluminum borohyride with morpholine, said adduct possessing at least one coordinate bond between the aluminum moiety of said aluminum borohydride and an atom of the group consisting of etheric oxygen and amino nitrogen atoms of said morpholine.

3,405,131

TRIAZINE SALT

Hugh T. Harrison, Tulsa, Okla., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 22, 1964, Ser. No. 405,834

3 Claims. (Cl. 260—242)

1. Mono-salt of 2-chloro-4,6-bis(ethylamino)-s-triazine and a member selected from the group consisting of hexafluoroarsenic acid and hexafluorophosphoric acid.

3,405,132

N - [OMEGA - (2 - AMINO - ALPHA PHENYLBENZYLIDENEAMINO)C_2–C_3 ALKYLENE] MORPHOLINES

Stanley C. Bell, Penn Valley, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Application July 25, 1963, Ser. No. 297,705, which is a continuation-in-part of application Ser. No. 211,003, July 27, 1962. Divided and this application Aug. 8, 1966, Ser. No. 570,713

8 Claims. (Cl. 260—247.2)

7. N-[3-(2-chloroacetamido - 5 - chloro - α-phenylbenzylideneamino)propyl]morpholine.

3,405,133

PHTHALOCYANINE DYESTUFFS

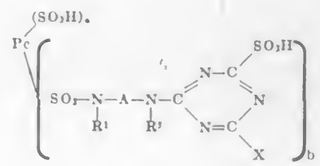
Victor David Poole, Manchester, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Mar. 10, 1966, Ser. No. 533,241

Claims priority, application Great Britain, Mar. 18, 1965, 11,564/65

2 Claims. (Cl. 260—249.5)

1. The phthalocyanine dyestuffs which, in the form of the free acids are represented by the formula:



wherein Pc represents a copper phthalocyanine radical;

A represents a lower alkylene radical;

R^1 and R^2 are each independently selected from the class consisting of hydrogen, lower alkyl and hydroxy lower alkyl;

X is selected from the class consisting of sulphonic acid, lower alkoxy, phenoxy, methylphenoxy, chlorophenoxy, methoxyphenoxy, amino, lower alkylamino, di(lower alkyl)amino, hydroxy lower alkylamino, di(hydroxy lower alkyl)amino and anilino;

a represents a value of from 0 to 2 and

b represents a value of from 1 to 4 provided that the sum of *a* and *b* does not exceed 4.

3,405,134

QUINUCLIDYL ESTERS OF AROMATIC ACIDS

Claude I. Judd, Mequon, Wis., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 17, 1965, Ser. No. 480,490

3 Claims. (Cl. 260—294.3)

The compounds are substituted benzoic acid esters of 3-quinuclidinol which are useful as central nervous system stimulants and as intermediates in the preparation of more complex chemical and pharmaceutical agents. A species disclosed is 3-quinuclidyl m-benzyloxybenzoate.

3,405,135

PROCESS FOR PRODUCING N:N'-DISUBSTITUTED 4:4'-BIPYRIDYLIUM SALTS

John Edward Colchester and John Hubert Entwisle, Runcorn, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Apr. 5, 1965, Ser. No. 445,770

Claims priority, application Great Britain, Apr. 9, 1964, 14,720/64

14 Claims. (Cl. 260—295)

A process is disclosed for the production of an N,N'-disubstituted-4:4'-bipyridylium salt by treating an N,N'-disubstituted-tetrahydrobipyridyl with an oxidizing agent that is an organic compound which is a hydrogen acceptor and has a redox potential more positive than −1.48 volts. Typically the oxidizing agent is a quinone such as 1:4-benzoquinone.

3,405,136

1 - PHENYLSULFONYL - 2 - BENZIMIDAZOLINONES AND 1 - PHENYLSULFONYL - 2-BENZIMIDAZOLINETHIONES

John B. Wright, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan

No Drawing. Filed Sept. 15, 1964, Ser. No. 396,722

20 Claims. (Cl. 260—309.2)

Certain new 1 - phenylsulfonyl-2-benzimidaxolinones and 1-phensulfonyl-2-benzimidazolinethiones, active as diuretics, tranquilizers, and against parasitic protozoa, are prepared by reacting an N-phenylsulfonyl-2-aminoaniline with phosgene, thiophosgene, or carbondisulfide. The benzimidazole benzene ring may be unsubstituted or substituted with 1 to 2 lower alkyl groups, lower alkoxy groups, or halogen atoms. The benzene ring of the benzenesulfonyl group may be substituted with a lower alkyl group or a halogen atom.

3,405,137

PHOTOCHROMIC DICYANO-DIHYDRO-DIBENZOFURANS AND DIBENZOTHIOPHENES

Joseph Csapilla, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed May 17, 1966, Ser. No. 550,594

9 Claims. (Cl. 260—329.3)

1,4 - substituted-2,2-dicyano-1,2-dihydro-dibenzofurans and the corresponding dibenzothiophenes are provided. They are made by reductive cyclization of the corresponding 3-[3-(benzoyl)-2-benzofuryl or benzothiophenyl]-3-phenyl-1-propene-1,1-dicarbonitrile with a metal alkoxide. The final products exhibit photochromism and are therefore useful in the manufacture of articles such as sunglasses and windows.

3,405,138

O-SUBSTITUTED BENZODIOXYL OXIMES

Claude I. Judd, Mequon, Wis., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 19, 1965, Ser. No. 473,208

12 Claims. (Cl. 260—340.3)

The compounds are novel O-substituted benzodioxyl oximes which are useful as skeletal muscle relaxant agents. A compound disclosed is 2-acetyl-1,4-benzodioxane O-methyloxime.

3,405,139
PHENYL-CYCLOHEXYLALKYLAMINE COMPOUNDS

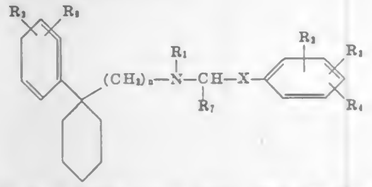
Erich Haack, Heidelberg, Alfred Popelak, Mannheim, Gustav Lettenbauer, Lampertheim, Hesse, Wolfgang Schaumann, Mannheim-Waldhof, and Klaus Ritter, Mannheim, Germany, assignors to C. F. Boehringer & Soehne GmbH, Mannheim-Waldhof, Germany, a corporation of Germany

No Drawing. Continuation-in-part of application Ser. No. 436,653, Mar. 2, 1965. This application Mar. 16, 1966, Ser. No. 534,635

Claims priority, application Germany, Apr. 1, 1965, B 81,257; Apr. 17, 1965, B 81,504

16 Claims. (Cl. 260—340.5)

Novel phenyl-cyclohexylalkylamines and their acid addition salts of the formula



wherein R_1 is hydrogen or lower alkyl, R_2, R_3, R_4, R_5 and R_6 are hydrogen, halogen, hydroxyl, lower alkyl, aralkoxy or alkoxy and wherein two adjacent groups R_2–R_6 together form a methylene-dioxy radical, X is lower alkylene which may be substituted by hydroxyl and/or keto groups and/or interrupted by a hetero atom, R_7 is hydrogen or lower alkyl and n is 2 or 3.

The compounds as above set out and chemotherapeutic agents and constitute particularly valuable coronary artery dilating agents.

3,405,140
17 - (LOWER ALIPHATIC MONO - UNSATURATED HYDROCARBON) - 17β - HYDROXY - 2 - OXAESTRA - 4,9(10) - DIEN - 3 - ONES, 11 - DEHYDRO COMPOUNDS CORRESPONDING AND ESTERS THEREOF

Raphael Pappo, Skokie, and Christopher J. Jung, Morton Grove, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 479,318, Aug. 12, 1965. This application July 18, 1966, Ser. No. 565,707

9 Claims. (Cl. 260—343.2)

17-(lower aliphatic mono-unsaturated hydrocarbon)-17β-hydroxy-2-oxaestra-4,9(10)-dien-3-ones, 11-dehydro compounds corresponding and esters thereof preparable by utilizing as starting materials the corresponding $\Delta^{5(10)}$ compounds and useful in view of their hormonal properties, e.g., progestational, anabolic and androgenic. Thus, the $\Delta^{5(10)}$ compounds are contacted with bromine in the presence of a suitable organic base to produce the corresponding $\Delta^{4,9(10)}$ dienes. The $\Delta^{4,9(10),11}$ compounds are produced by an acid or base catalyzed rearrangement of said dienes to the corresponding $\Delta^{5(10),9(11)}$ compounds followed by treatment with a peroxidizing agent, cleavage of the produced epoxy compounds and dehydration of the hydroxy intermediates prepared thereby.

3,405,141
(OPTIONALLY 17-ALKYLATED) 17-OXYGENATED 2 - OXAESTRA - 4,9(10) - DIEN - 3 - ONES AND $\Delta^{4,9(10),11}$ COMPOUNDS CORRESPONDING

Raphael Pappo, Skokie, and Christopher J. Jung, Morton Grove, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 477,600, Aug. 5, 1965. This application July 18, 1966, Ser. No. 565,732

13 Claims. (Cl. 260—343.2)

(Optionally 17-alkylated) 17-oxygenated 2-oxaestra-4,9(10)-dien-3-ones and $\Delta^{4,9(10),11}$ compounds corresponding preparable from the corresponding $\Delta^{5(10)}$ starting materials and useful as anabolic, androgenic and anti-protozoal agents. Thus, the $\Delta^{5(10)}$ compounds are contacted with bromine in the presence of a suitable base to produce the corresponding $\Delta^{4,9(10)}$ compounds, which are rearranged to the $\Delta^{5(10),9,(11)}$ double-bond isomers by means of an acidic or basic catalyst and those dienes are epoxidized. The resulting epoxides are cleaved to afford the 10β- and 11α-hydroxy intermediates which are dehydrated.

3,405,142
17β - HYDROXY - 2 - OXAESTRA - 5(10),9(11)-DIEN - 3 - ONE, 17α - (HYDROCARBON - SUBSTITUTED) DERIVATIVES CORRESPONDING AND ESTERS THEREOF

Raphael Pappo, Skokie, and Christopher J. Jung, Morton Grove, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 477,600, Aug. 5, 1965. This application Aug. 17, 1966, Ser. No. 572,904

11 Claims. (Cl. 260—343.2)

17β - hydroxy - 2 - oxaestra - 5(10),9(11) - dien-3-one, 17α - (hydrocarbon substituted) derivatives corresponding and esters thereof preparable by rearrangement of the corresponding 4,9(10) - dienes and useful by reason of their antibacterial, antipepsin, anabolic, androgenic and progestational properties.

3,405,143
NITROGEN FLUORINE COMPOUNDS AND METHOD OF SYNTHESIS

Marion Douglas Meyers and Simon Frank, Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

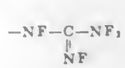
No Drawing. Filed June 16, 1966, Ser. No. 559,051

5 Claims. (Cl. 260—349)

This invention relates to a novel process which comprises reacting anhydrous hydrazoic acid with a compound having the formula

(I)

wherein R and R′ are, individually, N_3, NF_2, F or



radicals, in the presence of a catalytic amount of a nitrogen containing material, and the compounds produced thereby. Still more particularly, this invention relates to a process which comprises reacting the product produced by reacting hydrazoic acid with a compound represented by Formula I, with fluorine gas, and the products produced thereby.

3,405,144
1-AZIDO-N,N,N′-TRIFLUOROFORMAMIDINE

Thomas H. Brownlee, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed May 16, 1966, Ser. No. 551,191

1 Claim. (Cl. 260—349)

This invention relates to trifluoroguanyl azide. More particularly, this invention relates to trifluoroguanyl azide and a method for the production thereof. Still more particularly, this invention relates to propellant compositions containing trifluoroguanyl azide.

3,405,145
SELECTIVE OXIDATION OF LEUCOANTHRAQUINONES COMPRISING A DIHYDROXYPHENYL SUBSTITUENT

Marshall R. Brimer and Charles L. Gibson, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 25, 1965, Ser. No. 482,622

3 Claims. (Cl. 260—380)

A process for selectively oxidizing the leucoanthraquinone nucleus of a leucoanthraquinone compound containing at least one dihydroxyphenyl group to form the corresponding anthraquinone dye without oxidizing the dihydroxyphenyl group by heating the leucoanthraquinone compound in the presence of a benzoquinone compound and activated carbon under acid conditions.

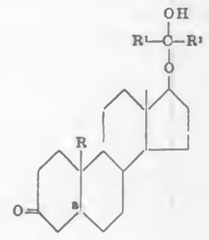
3,405,146
SELECTED HYDROXYDI(PERFLUOROALKYL) METHYL - SUBSTITUTED ANDROSTANES AND ESTRANES

Eugene A. La Lancette, Hockessin, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 5, 1966, Ser. No. 547,758

8 Claims. (Cl. 260—397.4)

Described and claimed are 3-keto-17-[hydroxybis(perfluoroalkyl)methoxy]-androstanes and estranes and their 4-unsaturated derivatives as represented by the structural formula



wherein

R is hydrogen or methyl;

R^1 and R^2, which may be the same or different, are each perfluoro lower alkyl where the term "lower alkyl" is defined as an alkyl group containing 1 through 6 carbon atoms; and

a is a single or a double carbon carbon bond.

The new compounds of this invention are useful in that besides being potent anti-implantation and anti-ovulation agents, they all possess androgenic and anabolic activity.

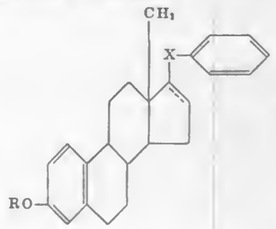
3,405,147
17 - PHENYLALIPHATYLESTRA - 1,3,5(10) - TRIEN-3 - OLS, 16 - DEHYDRO DERIVATIVES CORRESPONDING AND ESTERS THEREOF

Raymond E. Counsell, Ann Arbor, Mich., and Paul D. Klimstra, Northbrook, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Feb. 25, 1966, Ser. No. 529,931

8 Claims. (Cl. 260—397.5)

1. A compound of the formula



wherein R is selected from the group consisting of hydrogen and lower alkanoyl, X is a member of the class consisting of ethylene, vinylene and ethynylene and the dotted line symbolizes the optional presence of a 16,17 double bond.

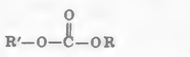
3,405,148
ACIDIC LIPID ALKYL CARBONATES

James E. Thompson, Colerain Township, Hamilton County, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Dec. 17, 1964, Ser. No. 419,182

10 Claims. (Cl. 260—404.8)

New acidic lipid alkyl carbonates having the formula



wherein R is an alkyl group; and R′ is an acidic lipid acyl residue derived from a condensation product of a fatty acid and a hydroxy carboxylic acid containing 3–6 carbon atoms, or a condensation product of a dicarboxylic acid containing 3–6 carbon atoms having no hydroxyl groups and fatty alcohol or fatty ester with free hydroxyl groups. The compounds are useful as bakery additives, and have wetting, emulsifying and detergent properties.

3,405,149
DIRECT CLEAVAGE OF EPOXIDES TO PRODUCE ALDEHYDES

Gerhard Maerker and Elizabeth T. Haeberer, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Mar. 24, 1965, Ser. No. 442,555

12 Claims. (Cl. 260—405)

Upon contacting a compound containing at least one oxirane group, preferably dissolved in a water miscible solvent, with a concentrated aqueous periodic acid solution at ambient temperature, the oxirane group is converted rapidly to a product in which the carbon to carbon bond of the oxirane group has been cleaved and, in place of the oxirane group two aldehyde functions are formed. Ester functions are not hydrolyzed. Illustrative of the process, methyl 9,10-epoxystearate is converted to pelargonic aldehyde (nonanal) and methyl azelaaldehydate.

3,405,150
POLYMERIZATION OF UNSATURATED FATTY ACIDS EMPLOYING A SYNTHETIC LITHIUM-MODIFIED MAGNESIUM SILICATE CATALYST

Sidney E. Miller, deceased, late of St. Paul, Minn., by Barbara B. Miller, executrix, St. Paul, Minn., and Donald H. Wheeler, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware

No Drawing. Filed May 14, 1964, Ser. No. 367,920

15 Claims. (Cl. 260—407)

1. A process of polymerizing unsaturated higher fatty acids comprising heating said fatty acids at polymerizing temperature in the range of 160 to about 300° C. in the presence of a synthetic lithium-magnesium silicate catalyst.

3,405,151
CHROMATOGRAPHIC SEPARATION OF GAMMA-LINOLENIC ACID ESTERS

John E. Pike, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan

No Drawing. Filed July 1, 1966, Ser. No. 562,122

10 Claims. (Cl. 260—410.9)

1. A process for the separation of γ-linolenic acid lower alkyl ester from its mixture with associated unsaturated fatty acid lower alkyl esters of substantially

the same molecular weight but different number of double bonds, which comprises:

(1) placing about 1 part by weight of said mixture in contact with between about 3 to about 10 parts by weight of an adsorbent impregnated with between about 5% to about 40% by weight of silver nitrate based on the weight of adsorbent and

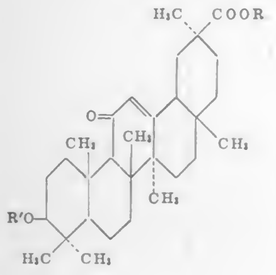
(2) eluting the γ-linolenic acid lower alkyl ester from said adsorbent.

3,405,152
GLYCYRRHETINIC ACID ESTERS AND THE METHOD OF PREPARATION THEREOF

Takeo Ueda, Tokyo, Japan, assignor to Maruzen Kasei Co., Ltd., Mitsuki-gun, Hiroshima-ken, Japan, a corporation of Japan

Filed May 10, 1965, Ser. No. 454,566
Claims priority, application Japan, May 14, 1964, 39/26,913; Aug. 28, 1964, 39/48,426
4 Claims. (Cl. 260—410)

Novel glycyrrhetinic acid esters represented by the formula:



wherein R is selected from the class consisting of stearyl and oleyl groups, and R′ is selected from the class consisting of hydrogen, stearoyl and oleoyl groups.

3,405,153
METAL - ALUMINUM INORGANIC - ORGANIC COMPLEXES AND METHODS OF PREPARING SAME

John L. Jones, North Plainfield, and Andrew M. Rubino, Providence, N.J., assignors to Armour Pharmaceutical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Sept. 15, 1965, Ser. No. 487,580
16 Claims. (Cl. 260—429.3)

Inorganic-organic complexes of the formula:

$$n\mathrm{Q.Al_2(OH)_{4-5}A_{1-2}R_{1-4}H_2O_{0.5-4}}$$

wherein Q is a specified zinc or zirconyl halide or hydroxy halide, A is chloride, bromide or iodide, and R is the coordinating moiety of a polyhydroxy compound having at least 2 carbon atoms to which are attached at least two hydroxy groups, and n is the number of moles of Q and is at least 0.05, and methods for making such complexes. These complexes are useful as antiperspirants.

3,405,154
STABILIZATION OF ALUMINUM ALKOXIDES

Allan J. Lundeen and James E. Yates, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed Oct. 13, 1965, Ser. No. 495,707
2 Claims. (Cl. 260—448)

Aluminum trialkoxides are stabilized against pyrolysis by adding a small amount of a low-molecular-weight aluminum alkyl, an alkali metal or an aluminum hydride.

3,405,155
PROCESS FOR THE PREPARATION OF DIPHENYLSILANEDIOL

Joseph G. Natoli, Middlesex, N.J., assignor to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 29, 1966, Ser. No. 538,208
10 Claims. (Cl. 260—448.2)

1. The process for preparing a diphenyl silane diol which comprises

(a) maintaining a reaction mixture containing an inert hydrocarbon and $\phi_a SiX_b$ wherein ϕ is a phenyl radical, X is an active halide, $a+b=4$, and a is less than 2;

(b) adding to said reaction mixture ϕMgX in solution-complex with a complexing agent selected from the group consisting of tetrahydrofuran, tetrahydropyran, 2-methyltetrahydrofuran, 2-ethoxytetrahydropyran, tetrahydrofurfuryl ethylether, dihydropyran, and N-methylmopholine;

(c) maintaining a molar ratio in said reaction mixture of (b–2) moles of ϕMgX per mole of $\phi_a SiX_b$;

(d) agitating said reaction mixture during said addition whereby said reaction mixture is maintained substantially uniform thereby forming $\phi_2 SiX_2$;

(e) distilling a portion of said complexing agent from said reaction mixture thereby forming a reduced reaction mixture containing less than about two moles of complexing agent per mole of magnesium present;

(f) hydrolyzing said reaction mixture thereby precipitating diphenyl silane diol;

(g) recovering said precipitated diphenyl silane diol.

3,405,156
PROCESS FOR PRODUCTION OF ISOCYANATES

Eric W. Stern, Mountainside, and Marshall L. Spector, Livingston, N.J., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Mar. 10, 1965, Ser. No. 438,721
19 Claims. (Cl. 260—453)

A process comprising reacting a saturated aliphatic primary amine or an aromatically unsaturated primary amine with carbon monoxide and a platinum group metal salt to form an isocyanate derivative of the primary amine.

3,405,157
THIOFORMYLDIPHENYLTHIOPHOSPHINATES

Sheldon Herbstman, Spring Valley, N.Y., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 23, 1965, Ser. No. 504,190
5 Claims. (Cl. 260—455)

1. An organophosphorus ester of the formula:

$$(R')_1\overset{\uparrow}{\underset{\downarrow}{P}}(Z)-S-\overset{\|}{C}(O)-S-R$$

wherein R is selected from the class consisting of alkyl of from 1 to 20 carbon atoms, phenyl, naphthyl and benzyl, R′ is an aromatic hydrocarbon radical selected from the class consisting of phenyl, naphthyl, chlorophenyl, lower alkylated phenyl and lower alkoxylphenyl and Z is a chalcogen selected from the class consisting of sulfur and oxygen.

3,405,158
N-SULFONOXYACETYL-ANTHRANILIC ACIDS

Stanley Charles Bell, Penn Valley, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

Original application June 26, 1964, Ser. No. 378,345, now Patent No. 3,328,397, dated June 27, 1967. Divided and this application Sept. 22, 1966, Ser. No. 581,230
2 Claims. (Cl. 260—456)

1. 5-chloro-N-phenylsulfonoxyacetylanthranilic acid.

3,405,159
PROCESS FOR RESOLVING RACEMIC MIXTURES OF OPTICALLY-ACTIVE ENANTIOMORPHS

Kenneth H. Krieger, Chatham, James Lago, Murray Hill, and Joseph A. Wantuck, Woodbridge, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Nov. 17, 1964, Ser. No. 411,704
10 Claims. (Cl. 260—465)

A process is described for the resolution of racemic mixtures by direct preferential crystallization of one enantiomorph from a supersaturated solution of racemic mixtures of D- and L-enantiomorphs by contacting the supersaturated solution with one of the enantiomorphs in solid crystalline form to preferentially crystallize this enantiomorph and separating this enantiomorph followed by the addition to the remaining solution more racemic mixture which dissolves the enantiomorph and leaves the other optical antipode undissolved which is separated from the solution. The solution is supersaturated and the process is repeated.

3,405,160
XENYL-ALKYL ISONITRILES

Ulrich Eholzer, Cologne, Uwe Fetzer and Ivar Ugi, Leverkusen, Ingeborg Hammann, Cologne, and Günter Unterstenhofer, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed June 21, 1965, Ser. No. 465,712
Claims priority, application Germany, July 9, 1964, F 43,384
2 Claims. (Cl. 260—465)

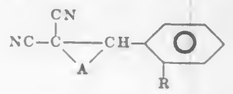
2–3 ring system polynuclear aromatic substituted C_{1-8} aliphatic isonitriles having the formula R—A—NC and mixtures thereof with dispersible carrier vehicles having pesticidal, such as acaricidal, insecticidal and fungicidal, activity and usable to combat pests.

3,405,161
DIELS-ALDER ADDUCTS OF CYCLOPENTADIENES WITH 1,1-DICYANO-2-(PHENYL)ETHYLENES

Reuben Proper, Pikesville, and Friedrich W. Hoffmann, Bel Air, Md., assignors to the United States of America as represented by the Secretary of the Army

No Drawing. Filed June 28, 1966, Ser. No. 563,020
3 Claims. (Cl. 260—465)

A new chemical compound having the structure



wherein A is a divalent radical selected from the group consisting of 4-cyclopenten-1,3-ylene and 3,5-tricyclo (5.2.1.$0^{2,6}$)-8-decenylene and R is a radical selected from the group consisting of halo, nitro, cyano, and hydroxy and having utility as a lachrymatory agent.

3,405,162
COPOLYMER PRODUCED BY THE COPOLYMERIZATION OF AN ORGANIC STARTER, A VICINAL EPOXIDE, AND AN ETHYLENICALLY UNSATURATED MONOMER

William Collier, Kuryla, St. Albans, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Oct. 23, 1964, Ser. No. 406,182
14 Claims. (Cl. 260—465.6)

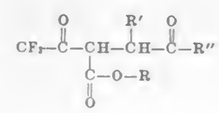
Copolymer polyols are produced by the simultaneous reaction of an organic starter with a mixture of a vicinal epoxide and a polymerizable ethylenically unsaturated monomer. The copolymer polyols are random copolymers having in the molecule polymerized divalent alkyleneoxy residues from the vicinal epoxide and polymerized polyvalent residues from the polymerizable ethylenically unsaturated monomer; these polymerized residues are attached to the residue of the particular organic starter used. The copolymer polyols can be used to produce urethane polymers.

3,405,163
TRIFLUOROMETHYL DIONES

Ronald E. Bambury, Kenneth K. Wyckoff, and David M. Tennent, Ashland, Ohio, assignors to Richardson-Merrell Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 26, 1965, Ser. No. 482,907
10 Claims. (Cl. 260—469)

A compound of the formula:



wherein R is a member selected from the group consisting of lower alkyl, cyclopropyl, cyclobutyl, cyclohexyl, phenyl, naphthyl, phenylalkyl having 7 to 14 carbon atoms; and naphthylalkyl having from 11 to 14 carbon atoms; and each of R′ and R″ is a member selected from the group consisting of hydrogen, lower alkyl, cyclopropyl, cyclobutyl, cyclohexyl, phenyl, naphthyl, phenylalkyl having 7 to 14 carbon atoms, and naphthylalkyl having from 11–14 carbon atoms. These compounds have utility as solvents, chelating agents for heavy metals, and as chemical intermediates.

3,405,164
2,5-DIACYLAMINO-3,6-DIAMINO-1,4-DIHYDROXYBENZENES

Erhardt Winkelmann, Kelkheim, Taunus, and Wolf-Helmut Wagner, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed May 18, 1964, Ser. No. 368,337
Claims priority, application Germany, May 25, 1963, F 39,839
4 Claims. (Cl. 260—471)

2,5-di-lower acylamino and 2,5-di carbo-lower alkoxy-amino-3,6-diamino-1,4-dihydroxybenzene compounds and the acid addition salts thereof with physiologically tolerable inorganic and organic acids which are active against poultry coccidiosis.

3,405,165
SULFONIC ACID COMPOUND

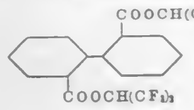
Mildred C. Rebstock, Ann Arbor, Mich., assignor to Parke Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Oct. 23, 1965, Ser. No. 504,114
1 Claim. (Cl. 260—472)

D-threo-1-p-nitrophenyl - 2 - dichloroacetamido - 3 - L-phenylalanyloxypropan-1-ol methanesulfonate. This new substance is rapidly hydrolyzed to chloramphenicol under physiological conditions and thus exhibits the antibacterial activity of chloramphenicol. In addition it has greatly increased water solubility even when compared with substances of quite similar chemical structure.

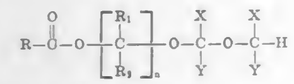
3,405,166
2-HEXAFLUOROISOPROPYL-2'-DICHLOROTETRAFLUOROISOPROPYL DIPHENATE
Jerome Hollander and Cyril Woolf, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Mar. 25, 1964, Ser. No. 354,755
1 Claim. (Cl. 260—475)

A compound having the formula:



3,405,167
FLUOROESTERS
Robert A. Braun, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 5, 1965, Ser. No. 493,244
9 Claims. (Cl. 260—476)

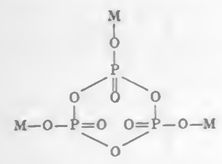
Fluoroesters of the formula



where R can be phenyl, substituted phenyl, or alkyl, R_1 and R_2 are hydrogen or alkyl and X and Y are perfluoroalkyl, useful as plasticizers in acrylic coatings.

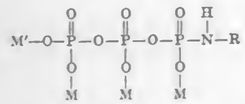
3,405,168
N-SUBSTITUTED MONOAMIDOTRIPHOSPHATE AND PROCESSES FOR THEIR MANUFACTURE
Xavier Kowalski and Kenneth J. Shaver, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Dec. 2, 1964, Ser. No. 415,499
24 Claims. (Cl. 260—501.12)

1. A process for producing a N-mono-aliphatic monoamido triphosphate which process comprises reacting together in an aqueous medium a trimetaphosphate having the structure



wherein M is selected from the group consisting of alkali metal cations, NH_4, and H, and at most 2 of M is H and a primary aliphatic amine containing from 1 to about 30 carbon atoms at a pH of from about 6 to about 11; the molar ratio of said aliphatic amine to said trimetaphosphate in said medium being from about 0.2:1 to about 5:1 and wherein said aqueous medium is at a temperature of from about 25° C. to about 105° C. and contains from about 10% to about 90% of water.

11. An N-substituted monoamidotriphosphate having the structure



wherein R is a hydrophobic aliphatic radical containing from about 1 to about 30 carbon atoms, M is an alkali metal cation, and M' is a cation selected from the group consisting of M, H^+, NH_4^+ and RNH_3^+.

3,405,169
PROCESS FOR THE PREPARATION OF HYDROXY NAPHTHOIC ACIDS
Joseph Levy, Paramus, and William W. Walker, Rutherford, N.J., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed July 14, 1965, Ser. No. 472,006
12 Claims. (Cl. 260—520)

Preparation of hydroxy naphthoic acids by reaction of carbon dioxide with potassium naphtholates under substantially anhydrous conditions in the presence of dibenzyl ether or diphenyl ether.

3,405,170
PROCESS FOR THE PREPARATION OF HYDROXY NAPHTHOIC ACIDS
Joseph Levy, Paramus, and William W. Walker, Rutherford, N.J., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed July 14, 1965, Ser. No. 472,005
12 Claims. (Cl. 260—520)

Preparation of hydroxy naphthoic acids by reaction of carbon dioxide with potassium naphtholates under substantially anhydrous conditions in the presence of dibutyl carbitol.

3,405,171
OXIDATION OF ALKYLNAPHTHALENES TO NAPHTHALENE CARBOXYLIC ACIDS
Edward S. Roberts, 874 Woodward Ave., Ridgewood, N.Y. 11227, and Ludwig J. Christmann, 9 Center Knolls, Bronxville, N.Y. 10708; Louise Christmann, administratrix of the estate of said Ludwig J. Christmann, deceased
No Drawing. Continuation of application Ser. No. 194,200, May 11, 1962. This application July 27, 1966, Ser. No. 568,348
4 Claims. (Cl. 260—524)

1. A process for the oxidation of alkyl naphthalenes to form carboxylic acids, which comprises dissolving said naphthalenes in a solvent which is substantially inert to NO_2 at elevated temperatures, maintaining a temperature of said solution of at least 160° C. and below the point of substantial decomposition of the reactants and products, and passing gaseous NO_2 into the solution, wherein Se is present in the reaction mixture.

3,405,172
PREPARATION OF ACRYLIC ACID WITH THE PREVENTION OF FORMATION OF ACRYLIC POLYMERS
Christopher John Brown, Tadworth, and Alfred Frank Millidge, Coulsdon, England, assignors to The Distillers Company Limited, Edinburgh, Scotland, a British company
Continuation-in-part of application Ser. No. 245,896, Dec. 19, 1962. This application Sept. 26, 1966, Ser. No. 592,698
6 Claims. (Cl. 260—530)

A process for the production of acrylic acid and for prevention of the formation of acrylic acid polymers wherein the vapor effluent from a catalytic vapor phase oxidation of acrolein or propylene in the presence of oxygen is rapidly quenched with liquid acrylic acid or aqueous solutions thereof to a temperature of from 0° C. to below about 100° C.

3,405,173
PREPARATION OF HYDROXYCARBOXYLIC ACIDS AND DERIVATIVES THEREOF
Gerald Sugerman, Fort Lee, and John Kollar, Wallington, N.J., assignors to Halcon International, Inc., a corporation of Delaware
No Drawing. Filed Apr. 17, 1963, Ser. No. 273,578
6 Claims. (Cl. 260—531)

1. A process for the preparation of hydroxycarboxylic acids and derivatives thereof which comprises contacting an oxidate of a cyclic secondary alcohol having 5–12 ring carbon atoms with at least 0.2 mole of formic acid at a temperature between 0 and 200° C.

3,405,174
PREPARATION OF HYDROXYCARBOXYLIC ACIDS AND DERIVATIVES THEREOF
Gerald Sugerman, Fort Lee, and John Kollar, Wallington, N.J., assignors to Halcon International, Inc., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 273,544, Apr. 17, 1963. This application Nov. 17, 1965, Ser. No. 508,392
5 Claims. (Cl. 260—535)

A cycloalkanol oxidate is rearranged to a hydroxy carboxylic acid and/or derivatives thereof by contacting with an organic acid having at least 2 carbon atoms and a pK below about 4.8.

3,405,175
TRIAMINOGUANIDINIUM DICYANAMIDE
Dorothy Ann Carvalho, Bridgeport, and Stanley Frank Stafiej, Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Apr. 12, 1966, Ser. No. 543,486
1 Claim. (Cl. 260—551)

1. The compound triaminoguanidinium dicyanamide.

3,405,176
BROMODICHLOROACETANILIDES
Basil S. Farah, Allentown, Pa., and Everett E. Gilbert, Morris Township, Morris County, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Nov. 6, 1964, Ser. No. 409,574
4 Claims. (Cl. 260—562)

The invention relates to bromodichloroacetanilides which have fungicidal and nematocidal activity.

3,405,177
HEXAHALOHYDROXYISOPROPYL-AROMATIC AMINES
Edward S. Jones, Hanover Township, Morris County, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Dec. 11, 1963, Ser. No. 329,889
6 Claims. (Cl. 260—575)

1. 1-(hexafluoro-2-hydroxy-2-propyl)-4-amino-monochlorobenzene.

3,405,178
PROCESS FOR THE SINGLE STAGE MANUFACTURE OF METHYL ISOBUTYL KETONE
Johannes Wöllner, Kapellen Kreis Moers, and Friedrich Engelhardt, Homberg (Lower Rhine), Germany, assignors to Rheinpreussen Aktiengesellschaft für Bergbau und Chemie, Homberg (Lower Rhine), Germany, a corporation of Germany
No Drawing. Filed Mar. 2, 1964, Ser. No. 348,883
Claims priority, application Germany, June 29, 1963, R 35,549
21 Claims. (Cl. 260—593)

Single stage process for producing methyl isobutyl ketone from acetone by liquid phase contact of acetone with hydrogen in the simultaneous presence of an acid cation exchange resin and a hydrogenation catalyst, e.g., palladium on carbon, optionally using a fixed bed or suspension catalyst system and concomitantly a batch or continuous technique, e.g., at temperatures between about 50–200° C. and pressures between about 1–50 atmospheres absolute, with a hydrogen partial pressure between about 1.1–25 atmospheres absolute.

3,405,179
METHOD OF PREPARING ARYLBORANE COMPOUNDS
Anatole Wowk, Rahway, N.J., assignor to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 8, 1963, Ser. No. 322,515
15 Claims. (Cl. 260—606.5)

1. The process for preparing triarylborane which comprises (1) reacting an aryl Grignard reagent selected from the group consisting of arylmagnesium bromide and arylmagnesium iodide with boron fluoride in the presence of organic ether thereby forming product mixture of triarylborane and magnesium fluoride etherate; (2) adding to said product mixture inert hydrocarbon solvent in which said triarylborane is soluble and said magnesium fluoride is substantially insoluble, said inert hydrocarbon solvent having a boiling point which is higher than the decomposition temperature of said magnesium fluoride etherate; (3) heating and stripping said organic ether from said product mixture thereby cleaving said magnesium fluoride etherate, precipitating said magnesium fluoride, and dissolving said triarylborane in said inert hydrocarbon solvent thereby forming a solution; and (4) separating triarylborane solution from said magnesium fluoride thereby recovering said triarylborane as a solution in said inert hydrocarbon solvent.

3,405,180
PROCESS FOR PREPARING TERTIARY PHOSPHINES
Joseph G. Natoli, Parlin, N.J., assignor to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 3, 1964, Ser. No. 342,234
17 Claims. (Cl. 260—606.5)

In accordance with certain of its aspects, the process of this invention for reducing trihydrocarbon phosphorus oxide to trihydrocarbon phosphorus comprises reacting trihydrocarbon phosphorus oxide with a halo-complexing agent thereby forming an adduct of trihydrocarbon phosphorus dihalide with said agent; heating said adduct to its decomposition temperature of at least 105° C. in a halobenzene solvent having a melting point of less than about 55° C. and boiling point higher than said decomposition temperature and less than about 250° C. thereby separating trihydrocarbon phosphorus dihalide from said complex; and reducing said trihydrocarbon phosphorus dihalide with a metal reducing agent having an oxidation potential of 0.75 volt–2.5 volts thereby forming trihydrocarbon phosphorus.

3,405,181
POLYTHIOETHER DIENES AND THEIR PREPARATION
Bernard Gourdon, Pau, France, assignor to Societe Nationale des Petroles d'Aquitaine, Paris, France
No Drawing. Filed Mar. 15, 1965, Ser. No. 439,998
Claims priority, application France, Mar. 16, 1964, 967,517
12 Claims. (Cl. 260—609)

A process for producing polythioether dienes containing a chain of —CH_2S— groups with an alkenyl radical connected to each end thereof, wherein at least two molecules of diene are reacted with one molecule of polythioether dithiol.

3,405,182
METHOD FOR THE PRODUCTION OF ALKYLENE POLYTHIOETHER THIOLS
Bernard Gourdon, Pau, France, assignor to Societe Nationale des Petroles d'Aquitaine, Paris, France
No Drawing. Filed Mar. 15, 1965, Ser. No. 439,999
Claims priority, application France, Mar. 16, 1964, 967,516
3 Claims. (Cl. 260—609)

A method of preparing unsaturated alkylene polythio-

ether thiols by reacting an alkyl diene with a polythioether thiol in the presence of a catalyst.

3,405,183
ARALKANOLS AND PROCESS FOR THEIR PREPARATION

William J. Farrissey, Jr., Northford, and Adnan A. R. Sayigh, North Haven, Conn., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed May 7, 1964, Ser. No. 365,820
9 Claims. (Cl. 260—613)

Novel aralkanols [1 - (2',5'-di-loweralkoxyphenyl)-2-(4''-nitrophenyl)-ethanols are typical] are prepared by condensing the appropriate aldehyde and alkylbenzene substituted by an electron-withdrawing group, in the presence of a strong base catalyst. Hydrogenation of the aralkanols to the corresponding aralkanes and dehydration of the aralkanols to the corresponding stilbenes is also described. The aralkanols, aralkanes and stilbenes are all intermediates e.g. for photographic developers.

3,405,184
PROCESS FOR PREPARING HALOGENATED PHENOXYPHENOLS

Alexander H. Widiger, Jr., and Richard L. Johnson, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 13, 1965, Ser. No. 513,581
10 Claims. (Cl. 260—613)

Halogenated phenols wherein the halogen substituents are chlorine or bromine react at a temperature of 150° C. or above in the presence of a metal catalyst to form a halogenated phenoxyphenol by condensation of two phenol molecules and elimination of hydrogen halide. Suitable catalysts are halides of iron, magnesium, antimony, aluminum, copper, and zinc or substances converted thereto by reaction with a halophenol.

3,405,185
PRODUCTION OF ISOMENTHOL ISOMERS

William J. Houlihan, Mountain Lakes, and Donald R. Moore, Washington Township, N.J., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 142,770, Oct. 4, 1961. This application May 18, 1965, Ser. No. 456,803
2 Claims. (Cl. 260—631)

1. A process for producing a product containing approximately 90 percent of isomenthol isomers which comprises hydrogenating thymol in the presence of Raney cobalt catalyst, said cobalt catalyst being present in an amount of from about 5 to 50 weight percent based upon the weight of thymol, at a temperature of from about 80° to 200° C. and a pressure of from about 100 to 1200 pounds per square inch, and recovering the product.

3,405,186
METHOD FOR PREPARING DICYCLOPENTADIENYL MAGNESIUM

Ronald L. Davey, Kenneth L. Piggott, Allen F. Reid, and Peter C. Wailes, Melbourne, Victoria, Australia, assignors to Commonwealth Scientific and Industrial Research Organization, East Melbourne, Victoria, Australia

Filed June 16, 1965, Ser. No. 464,487
1 Claim. (Cl. 260—665)

The invention is directed to an improvement in a method for preparing magnesium dicyclopentadienyl wherein cyclopentadiene is reacted at an elevated temperature with magnesium to form magnesium dicyclopentadienyl, the improvement comprising bringing cyclopentadiene in contact with a molten alloy containing about 35 weight percent of magnesium and about 65 weight percent of lead at said elevated temperature at a selected point within a confined reaction zone while causing the molten alloy to move along an endless path passing through said point, a portion of said path extending upwardly from said point.

3,405,187
ALKYL SUBSTITUTED BICYCLIC MONOOLEFINS

Herman S. Bloch, Skokie, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Original application Oct. 28, 1964, Ser. No. 407,232. Divided and this application June 28, 1967, Ser. No. 649,459
4 Claims. (Cl. 260—666)

A monoolefin having from about 9 to about 20 carbon atoms is condensed with a conjugated cyclodiolefin to produce an alkyl substituted bicyclic monoolefin suitable for use in the manufacture of detergents.

3,405,188
ALKYL-SUBSTITUTED CYCLOHEXENES

Herman S. Bloch, Skokie, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Original application Oct. 28, 1964, Ser. No. 407,233. Divided and this application June 30, 1967, Ser. No. 650,186
4 Claims. (Cl. 260—666)

A monoolefin having from about 9 to about 20 carbon atoms is condensed with a conjugated diene to produce an alkyl substituted cyclohexene suitable for use in the manufacture of detergents.

3,405,189
METHOD FOR INHIBITING POLYMERIZATION OF ISOPRENE AND/OR 1,3-PENTADIENE

Taketami Sakuragi, Tokyo, and Tatsuo Sakashita, Kamakura-shi, Japan, assignors to The Japanese Geon Co., Ltd., a corporation of Japan

No Drawing. Filed May 16, 1967, Ser. No. 638,716
Claims priority, application Japan, May 25, 1966, 41/32,929
8 Claims. (Cl. 260—666.5)

The tendency for isoprene and/or 1,3-pentadiene to polymerize when heated as solutions in polar solvents such as dimethylformamide is reduced by adding minor amounts, up to 10% by weight of solvent, of furfural or of an aromatic nitro compound. Synergism with known inhibitors such as sodium nitrite and beta-naphthylamine is shown.

3,405,190
PROCESS FOR PREPARING CYCLOHEXANE

Johan D. Logemann, Stein, and Theodorus J. van der Mond, and Waltherus H. Castenmiller, Geleen, Netherlands, assignors to Stamicarbon N.V., Heerlen, Netherlands

No Drawing. Filed Nov. 8, 1965, Ser. No. 506,826
Claims priority, application Netherlands, Nov. 12, 1964, 6413156
6 Claims. (Cl. 260—667)

1. In processes for the preparation of cyclohexane by catalytic hydrogenation of benzene containing sulphur compounds, the improvements comprising in combination, the steps of mixing benzene in gaseous phase with hydrogen, passing the resulting gas mixture over a catalyst containing a platinum group metal in a first reaction zone while maintaining the pressure and temperature at a level whereby said benzene is partially hydrogenated while hydrogenating substantially the entire sulphur content of said sulphur compounds to hydrogen sulphide, and subsequently passing the resulting reaction gaseous mixture through a hydrogen sulphide absorption zone where substantially all of the hydrogen sulphide is removed from the said reaction gaseous mixture, and thereafter completing the hydrogenation of said benzene containing gaseous reaction mixture from which hydrogen sulphide has been removed in a second reaction zone.

3,405,191
SELECTIVE POLYMERIZATION OF TERTIARY MONOOLEFINS

Robert L. Banks, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

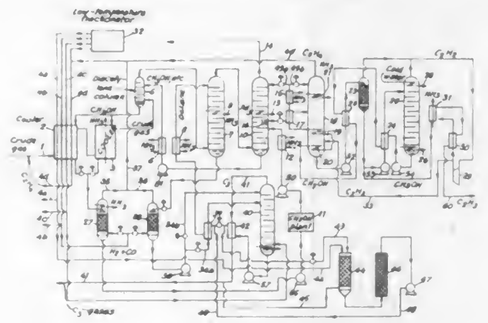
No Drawing. Filed Nov. 18, 1964, Ser. No. 412,230
11 Claims. (Cl. 260—677)

A tertiary monoolefin in admixture with an isomeric normal monoolefin is selectively polymerized by contact with a catalyst comprising a silica supported tungsten oxide or tungsten sulfide.

3,405,192
PROCESS FOR OBTAINING PURE ACETYLENE

August Kruis, Pullach, Isartal, Walter Scholz, Wolfratshausen, and Gerhard Ranke, Pocking, Germany, assignors to Gesellschaft für Linde's Eismaschinen Aktiengesellschaft, Wiesbaden, Germany

Filed Jan. 27, 1965, Ser. No. 428,439
Claims priority, application Germany, Feb. 1, 1964, G 39,753
18 Claims. (Cl. 260—679)



Recovery of acetylene from a gas containing diacetylene and C_3-hydrocarbons in addition, by first scrubbing the gas with methanol to remove diacetylene, second, scrubbing the resultant gas with octane to remove the C_3-hydrocarbons, and then thirdly, scrubbing the gas with methanol to dissolve the acetylene, the first step being conducted at sufficiently low temperatures and with sufficient methanol to selectively dissolve the diacetylene.

3,405,193
PROCESS FOR PREPARING NON-CONJUGATED DIENES

Go Hata, Masahiro Aoyama, Masaki Nishino, and Akihisa Miyake, Kamakura-shi, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Sept. 28, 1967, Ser. No. 671,192
Claims priority, application Japan, Oct. 4, 1966, 41/64,911
16 Claims. (Cl. 260—680)

The preparation of non-conjugated dienes wherein conjugated diolefinic hydrocarbons along with ethylene are contacted with a catalyst composed of a cobalt salt, a sulfur-containing tertiary phosphine and an organo-aluminum compound.

3,405,194
PROCESS FOR PREPARING HEXADIENES FROM CONJUGATED DIOLEFINIC HYDROCARBONS AND α-MONOOLEFINS

Masao Iwamoto and Sadao Yuguchi, Ohtsu-shi, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Oct. 7, 1965, Ser. No. 493,914
Claims priority, application Japan, Oct. 9, 1964, 39/57,334; Oct. 22, 1964, 39/59,697; Dec. 10, 1964, 39/69,146; Dec. 29, 1964, 39/74,567; Jan. 8, 1965, 40/615; Jan. 21, 1965, 40/2,768; Mar. 5, 1965, 40/12,363, 40/12,366; Mar. 22, 1965, 40/16,297; Apr. 8, 1965, 40/20,284
11 Claims. (Cl. 260—680)

A method of producing hexadienes by the reaction of an α-monoolefin with a conjugated diolefin in the presence of a three-component catalyst comprising (1) a salt of cobalt or iron, (2) a tertiary phosphine or an oxide thereof wherein said phosphine has two phosphorus atoms and (3) an organoaluminum compound.

3,405,195
IODINATIVE DEHYDROGENATION AND IODINE RECOVERY

Charles E. Sanborn, Walnut Creek, Elmer A. Anderson, El Cerrito, and Herbert H. Engel, Piedmont, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

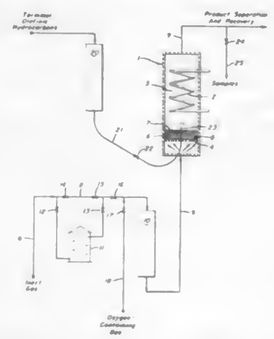
No Drawing. Filed May 9, 1966, Ser. No. 548,392
6 Claims. (Cl. 260—680)

Iodine is recovered from organic iodides produced in iodinative hydrocarbon dehydrogenation by reaction with an aqueous alkali metal or ammonium hydroxide, at a pressure of about 1000 to 3000 p.s.i.g., and a temperature of about 250° to 375° C.

3,405,196
ISOMERIZATION OF TERMINAL OLEFINS

Will'am F. Wolff, Park Forest, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Continuation-in-part of application Ser. No. 354,417, Mar. 24, 1964. This application Apr. 10, 1967, Ser. No. 629,617
10 Claims. (Cl. 260—683.2)



Catalyst-preparation method wherein a catalyst comprising an alkali metal dispersed upon a high-surface, substantially inert, solid support is contacted with an activating gas at a temperature between about 5° C. and about 50° C. in sufficient quantity to provide an oxygen-to-alkali metal ratio between about 0.01 and 2.0 atoms of oxygen per atom of alkali metal. The activating gas is selected from a molecular-oxygen-containing gas, nitrous oxide, mixtures thereof, and mixtures thereof with inert gases.

3,405,197

COMPOSITIONS DERIVED FROM POLY-1,2-EPOXIDE COMPOUNDS AND AMIDES OF AMINES INCLUDING AT LEAST 20% TETRAHYDROTRICYCLOPENTADIENYLENE DIAMINE AND DICARBOXYLIC ACIDS

Hugo Schaedler, Maikammer, Pfalz, Franz Steden, Mannheim, and Ludwig Schuster, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Nov. 1, 1965, Ser. No. 505,977
Claims priority, application Germany, Nov. 7, 1964, B 79,248
5 Claims. (Cl. 260—830)

Curable compositions for moldings, laminates and coatings comprising 1,2-epoxide compounds and polyamides derived from an amine component consisting of 20 to 100 mole percent of tetrahydrotricyclopentadienylene diamine and 0 to 80 mole percent of other monoamines or polyamines, and a dicarboxylic acid component having 3 to 20 carbon atoms, said polyamide having amino groups.

3,405,198

PROCESS FOR MAKING IMPACT RESISTANT INJECTION MOLDED POLYETHYLENE TEREPHTHALATE PRODUCTS

Walter Rein, Obernburg, and Erhard Siggel, Seckmauern, Germany, assignors to Glanzstoff A.G., Wuppertal, Germany

No Drawing. Continuation-in-part of application Ser. No. 296,380, July 19, 1963. This application Nov. 22, 1966, Ser. No. 596,093
Claims priority, application Germany, Nov. 25, 1965, V 29,798
8 Claims. (Cl. 260—873)

This invention is concerned with a process for the manufacture of impact-resistant polyethylene terephthalate products by homogeneously incorporating polyethylene into the polyester used for injection molding.

3,405,199

FLAME RETARDED COMPOSITIONS COMPRISING A THERMOPLASTIC POLYHYDROXYETHER AND A RUBBER

Robert Howard Snedeker, New Brunswick, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 128,968, Aug. 3, 1961. This application Dec. 4, 1962, Ser. No. 242,109
10 Claims. (Cl. 260—887)

Flame retarded thermoplastic compositions are prepared comprising

(a) 100 parts by weight of a thermoplastic polyhydroxyether substantially free of 1,2-epoxy groups and having repeating units of the general formula

$$\text{—D—O—E—O—}_n$$

wherein D is the radical residuum of a dihydric phenol, E is the radical residuum of epichlorohydrin and n is an integer representing the degree of polymerization and is at least 30;

(b) 2 to 10 parts by weight of a rubber compound selected from the group consisting of natural rubber, diene polymers, polyisobutylene and chlorosulfonated polyethylene; and

(c) 7 to 40 parts by weight of a flame-retardant mixture comprising an aromatic halide having at least one halogen substituent on the ring and a halogen carrier selected from the group consisting of oxides and sulfides of metals of Group VA of the Deming Periodic Table. The compositions are flame retarded, drip resistant and stress rupture resistant.

3,405,200

POLYOLEFIN COMPOSITION CONTAINING A COPOLYMER OF ETHYLENE-ACRYLAMIDE-ETHYLENICALLY UNSATURATED COMPOUND

Tomohide Yasumura, Shiga-ken, Yasuro Sameshima, Neyagawa, Kosaku Onodera and Teruo Oono, Shiga-ken, Isoji Taniguchi, Toyonaka, Kenichi Maemoto, Takatsuki, and Yoshiharu Tatsukami, Niihama, Japan, assignors to Toyo Boseki Kabushiki Kaisha, and Sumitomo Chemical Co., Ltd., both of Osaka, Japan

No Drawing. Filed July 1, 1966, Ser. No. 562,113
Claims priority, application Japan, July 8, 1965, 40/40,955
5 Claims. (Cl. 260—897)

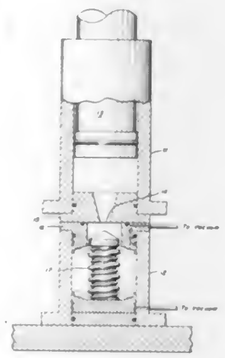
This invention relates to improved polyolefin compositions having an improved affinity for dyes. More specifically, this invention relates to moulded polyolefin compositions with improved dyeability comprising a polyolefin and a copolymer of ethylene, at least one acrylamide compound and at least one ethylenically unsaturated compound other than ethylene and acrylamide compounds, the amount of said acrylamide compound and ethylenically unsaturated compound in the copolymer being 1–50 mole percent, based on the ethylene, said copolymer having an intrinsic viscosity of 0.1 to 4.0 dl./g. and being 0.1–30 weight percent based on the weight of the polyolefin.

3,405,201

PROCESS FOR PREPARING PROPELLANT GRAIN

Stanley G. Roach, Overland Park, Kans., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Dec. 21, 1965, Ser. No. 515,390
7 Claims. (Cl. 264—3)



Process for preparation of a propellant grain having a combustible thermoplastic binder material comprising introducing propellant composition at its softening point under pressure through a blending zone into a shape restricting zone and maintaining pressure until the composition assumes the form of the shape restricting zone.

3,405,202

PRODUCTION OF CELLULAR BODIES OF SYNTHETIC THERMOPLASTIC MATERIAL

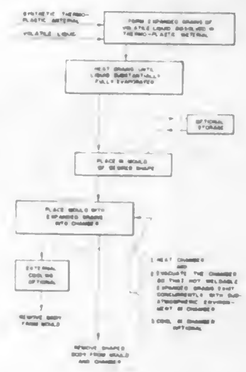
Sven Olof Kjell Kjell-Berger, Skovde, Sweden, assignor to Skovde Gasbetong Aktiebolag Skovde, Sweden, a corporation of Sweden

No Drawing. Filed Sept. 19, 1963, Ser. No. 310,151
Claims priority, application Sweden, Sept. 25, 1962, 10,267/62
10 Claims. (Cl. 264—53)

1. A method for the production of cellular bodies of synthetic thermoplastic material from grains of said material having a volatile liquid added thereto comprising the steps of:

(1) expanding the said grains until substantially complete evaporation of the said liquid, and

(2) subsequently welding the expanded grains together by heating the expanded grains to an elevated temperature at which they are capable of being plastic welded together, and evacuating the chamber to create a sub-atmospheric pressure in the chamber, wherein the said sub-atmospheric pressure and the said elevated temperature exist in the chamber concurrently.

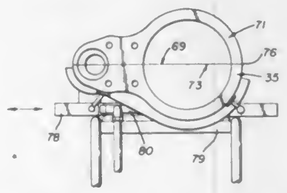


3,405,203

METHOD OF MAKING CERAMIC SHAPES

Fred L. Derror, Lucas, Ohio, assignor to Mansfield Sanitary, Inc., Perrysville, Ohio, a corporation of Ohio

Filed Jan. 10, 1966, Ser. No. 519,611
10 Claims. (Cl. 264—69)



A method for making ceramic shapes. The shapes are cast in sections which are matingly juxtapositionable along joinder surfaces while only green cured. The joinder surfaces are preferably lubricated and conformed so as to be contiguous. Thereafter, one section is vibrated with respect to the other to cause an amalgamated joinder of the opposed sections. The resulting shape is then fired.

3,405,204

PROCESS OF VULCANIZING WITH AMMONIA A CHLOROSULFONATED POLYETHYLENE COATING CONTAINING AN ACTIVE METAL OXIDE

Charles E. McCormack, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 23, 1964, Ser. No. 384,807
4 Claims. (Cl. 264—83)

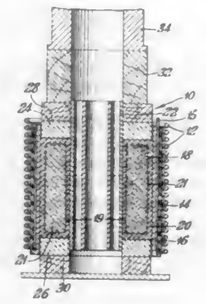
1. In a process which comprises covering a conductor with an uncured chlorosulfonated polyethylene composition having a chlorine content from 25 to 37% and a sulfur content from 0.4 to 3.0% and containing an active metal oxide, and vulcanizing said composition, the improvement in said vulcanization step of contacting said coated conductor with ammonia at a temperature below about 100° C. until substantial cross-linking of said composition occurs.

3,405,205

METHOD OF UNIFORMLY HEATING AN ANNULAR CARBONACEOUS BODY

Gayle L. Rowe, Parma Heights, and Joe R. Wilson, North Olmsted, Ohio, assignors to Union Carbide Corporation, a corporation of New York

Filed Dec. 1, 1965, Ser. No. 510,920
3 Claims. (Cl. 264—105)



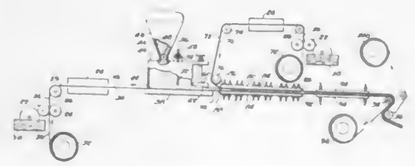
A method for forming a large thick-walled annular carbonaceous body by placing an electrically conductive mandrel within the hollow portion of the annular body and heating the body by activating induction heating means. The mandrel due to its presence in the inductive field, becomes hot at its surface and transfers heat to the inner wall of carbonaceous body thereby effecting a minimization of temperature gradient in the body during heating. The mandrel is cooled at the termination of the heating cycle by passing a coolant therethrough.

3,405,206

METHOD OF MAKING A MICROPOROUS SHEET MATERIAL

Jerrold J. Abell, Manchester, and Bruce G. Kosa, Eastford, Conn., assignors to Rogers Corporation, Rogers, Conn., a corporation of Massachusetts

Filed Jan. 7, 1964, Ser. No. 336,234
5 Claims. (Cl. 264—112)



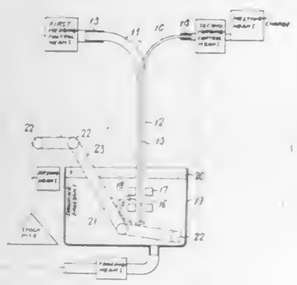
1. The method of manufacturing a microporous layer of plasticized vinyl chloride polymer resin comprising the steps of spreading fine granules of said resin in a uniform layer on the surface of one of two sheets covering the exposed surface of said uniform layer with the other of said sheets, at least one of the surfaces of said sheets adjacent to said layer being coated with 0.5 to 5 grams per square foot of an air permeable, resinous material containing as a film-forming ingredient a member selected from the group consisting of polyvinyl chloride and acrylic

resins having a film-forming temperature above 300° F. and being dried at a temperature below said film-forming temperature, passing the resultant assembly between heated plates defining a passageway diminishing in thickness from a thickness at the entry to the passageway approximating the initial thickness of said assembly to a thickness less than said initial thickness at the exit of said passageway, said heated plates being at a temperature of from about 200° to about 400° F. and supplying heat and pressure to said assembly to sinter the resin granules together into a microporous layer and at the same time to transfer said coating from said sheet and bond it to the surface of said layer, cooling said assembly and stripping the sheets from the coated microporous resin layer.

3,405,207
CYCLIC HIGH-PRESSURE HOT-PRESSING OF OXIDES
Fred W. Vahldiek, 5851 Barrett Drive, Dayton, Ohio 45431, and Charles T. Lynch, 387 Cherrywood Drive, Fairborn, Ohio 45324
No Drawing. Filed July 20, 1965, Ser. No. 473,536
3 Claims. (Cl. 264—120)

Process of heating and pressing fine grained refractory oxide powders under cycled pressure and temperature conditions ranging from room temperature to 1700° C. and pressures from atmosphere to 30,000 atmospheres with controlled heating and cooling rates resulting in a high-density product in excess of 99% theoretical.

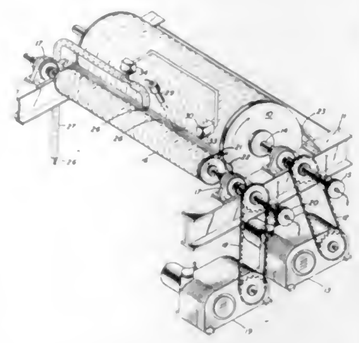
3,405,208
METHOD FOR GRANULATING MELTABLE MATERIAL
Shozo Kurata, 2421 Oomachi, Kamakuro, Kanagawa Prefecture, Japan
Continuation-in-part of abandoned application Ser. No. 444,120, Mar. 31, 1965. This application Dec. 12, 1966, Ser. No. 600,938
Claims priority, application Japan, Apr. 7, 1964, 39/19,631
4 Claims. (Cl. 264—144)



A process for granulating meltable material employing vertical streams of a molten material by gravity and of immiscible liquid freezant having a velocity equal to that of the stream of the molten material.

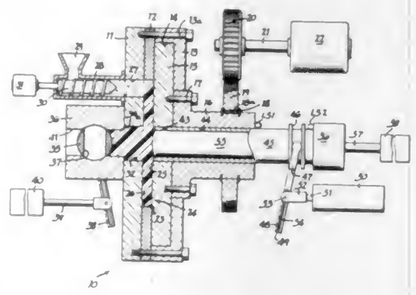
3,405,209
METHOD OF DRUM FLAKING A DIFFICULTLY CRYSTALLIZABLE MATERIAL
Fridtjof Aagaard, Rahway, and Joseph Peter Zangara, Bound Brook, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed July 6, 1964, Ser. No. 380,340
4 Claims. (Cl. 264—144)

Difficultly crystallizable liquids such as 4,4′-ditertiaryoctyl diphenylamine are readily crystallized by feeding as a liquid to an agitated pool between an upward moving flaker drum at 50° to 60° C. and an adjacent downward moving crystallizing shear roll at 70° to 80° C., while



feeding the molten liquid to the pool, and maintaining crystals in the agitated pool.

3,405,210
METHOD AND APPARATUS FOR EXTRUDING PLASTIC MATERIAL
James E. Helder, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Mar. 18, 1966, Ser. No. 535,484
7 Claims. (Cl. 264—176)



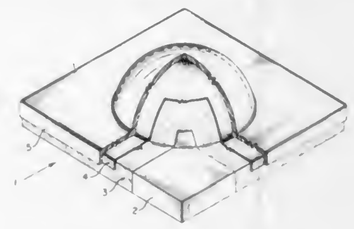
1. In an elastic melt extruder having a pair of relatively rotatable plates having an axis of rotation and defining a melt gap therebetween and means to supply nonplasticized thermoplastic material to the periphery of the gap for centripetal flow through the gap to issue therefrom at a predetermined relatively low output pressure, the improvements of a reservoir for plasticized material coaxial with the axis of relative rotation of said plates and having an outlet orifice, actuatable first valve means controlling said orifice, said first valve means being openable to accommodate the flow of material through said orifice and closable to prevent such flow, actuatable second valve means openable to accommodate the flow of plasticized material from said gap into said reservoir and closable to prevent such flow, a pressurizing ram located in said reservoir and movable therein (1) in a first direction to express plasticized material from said reservoir through said orifice at a pressure different from said output and (2) in a second direction to accommodate the entry of plasticized material at said output pressure into said reservoir from said gap, actuatable power means for (1) moving said ram in said first direction and (2) resisting movement of said ram in said second direction, and

control means correlating actuation of said power means, said second valve means and said first valve means (1) to close said first valve means and to open said second valve means to fill said reservoir from said gap and against the resistance of said power means, and then (2) to open said first valve means and to close said second valve means when said power means is actuated to move said ram in said first direction to issue material from said reservoir without backfeeding the material to said gap.

3,405,211
METHOD FOR PRODUCING QUALITY YARN FROM GEL-CONTAINING POLYAMIDE
Leopoldo V. Cancio, Chattanooga, Tenn., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 16, 1964, Ser. No. 352,298
3 Claims. (Cl. 264—210)

A process for producing improved quality yarn from gel-containing polyamides by adding about 0.5 to about 10.0 percent (by weight of polyamide) of a poly(alkylene ether) of a molecular weight of about 1000 to 50,000 to a linear fiber-forming gel susceptible polycarbonamide containing a Coulter counter gel level of from 1.0 to 1,000; melt-spinning filaments of the composition and thereafter drawing the filaments to at least two times their extruded length.

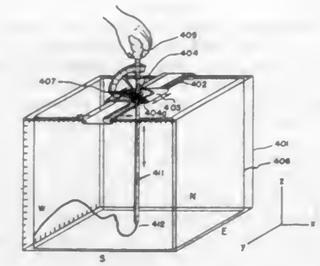
3,405,212
METHOD OF MAKING METAL CLAD TOOLS
Richard S. Fraser and Paul Y. Jone, Seattle, Wash., assignors to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Filed Feb. 17, 1966, Ser. No. 528,279
9 Claims. (Cl. 264—221)



A method of making plastic contour tools having a hard, high melting point metal on the surface thereof by direct deposition of such metals comprising impregnating or intermixing with the mold surface a water-soluble thermoplastic material prior to deposition of the high melting point material on the impregnated surface. After deposition of the metal a plastic backing is deposited on the metal coat and the plastic backing hardened by heat. The plastic tool is easily separated from the mold by immersing the mold in water to partially dissolve the water-soluble thermoplastic material. The preferred water-soluble thermoplastic material is a polyamide-epichlorohydrin resin.

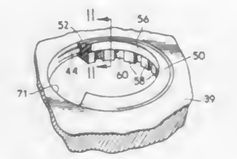
3,405,213
METHOD FOR THREE-DIMENSIONAL IMPRINTING A THERMOPLASTIC OBJECT
Otto John Munz, Rte. 3, Box 1615–A, Annapolis, Md. 21401
Continuation-in-part of applications Ser. No. 199,199, Dec. 5, 1950; Ser. No. 228,180, May 25, 1951; and Ser. No. 560,847, Jan. 23, 1956. This application Jan. 30, 1956, Ser. No. 562,134
1 Claim. (Cl. 264—245)

A method for three-dimensional imprinting of a thermoplastic object comprising the steps of penetrating the surface of the object with a needle, depositing ink-type



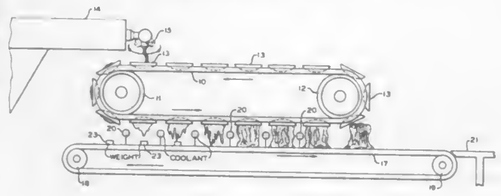
material into the penetration, sealing the penetration, thereby embedding the ink-type material within it.

3,405,214
MOLDING APPARATUS AND PROCESS
Charles Homer Butts, Fort Wayne, Ind., assignor to Tri-State Products, Inc., Fort Wayne, Ind., a corporation of Indiana
Filed Apr. 8, 1965, Ser. No. 446,510
8 Claims. (Cl. 264—269)



A molding apparatus for a transfer mold or compression mold having a mold plate with a number of spaced openings for receiving a number of inserts, with a dam extending about an arcuate segment of the inner periphery of the insert to cover the split portion of a ring to prevent the occurrence of flash thereby eliminating the requirement for trimming of finishing the article being molded.

3,405,215
METHOD OF PRODUCING THERMOPLASTIC ORNAMENTS
William A. Caldwell, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 16, 1964, Ser. No. 404,330
9 Claims. (Cl. 264—263)



1. The method of forming an ornamental object which comprises positioning a molten thermoplastic material in a container having an open top, and inverting the container over a surface so that the thermoplastic material will flow from the container to the surface as the

material is cooled, thereby forming a solid object having a base and top connected by a plurality of legs.

3,405,216
METHOD FOR MAKING POROUS POLYURETHANE FOAMS
Walter L. Garrett, Freeland, and Harold H. Roth, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Mar. 30, 1964, Ser. No. 355,931
4 Claims. (Cl. 264—321)

1. A method for making an open cell polyurethane product which comprises contacting a flexible polyether polyurethane foam prepared by reaction of a polyether polyol consisting predominantly of chemically combined propylene oxide units and having a molecular weight between about 1800 and 5800 and containing from 2 to 3 hydroxyl groups in the molecule, and a polyisocyanate with an aqueous liquid solution of an inorganic salt selected from the group consisting of solutions of potassium permanganate and solutions of ceric sulfate, made acidic with sulfuric acid having a concentration of said salt between about 0.1 weight percent and a saturated solution of said salt at temperatures between —10° and 120° C. for a time sufficient to appreciably increase the porosity of the foam by destroying membranes of the cells while leaving largely a skeletal network of the foam structure.

3,405,217
METHOD FOR MAKING OPEN CELL POLYURETHANE FOAMS
Walter L. Garrett, Freeland, and Harold H. Roth, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Mar. 30, 1964, Ser. No. 355,950
8 Claims. (Cl. 264—321)

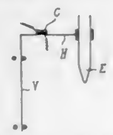
1. A method for making an open cell polyurethane product which comprises contacting a flexible polyether polyurethane foam prepared by reaction of a polyether polyol consisting predominantly of chemically combined alkylene oxide units having from 3 to 4 carbon atoms and having a molecular weight between about 1800 and 5800 and containing from 2 to 3 hydroxyl groups in the molecule, and a polyisocyanate, with a liquid aqueous basic solution having a concentration between about 0.1 weight percent and a saturated solution of a hypohalite selected from the group consisting of the alkali metal hypohalites and the alkaline earth metal hypohalites, at temperatures between —10° and 120° C. for a time sufficient to appreciably increase the porosity of the foam by destroying membranes of the cells while leaving largely a skeletal network of the foam structure.

3,405,218
EXTRACTING *BORDETELLA PERTUSSIS* ANTIGENS WITH LITHIUM BROMIDE
Theodore H. Haskell and Stephen Hanessian, Ann Arbor, Mich., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan
No Drawing. Filed Sept. 22, 1965, Ser. No. 489,396
8 Claims. (Cl. 424—92)

1. In a process for preparing *Bordetella pertussis* protective antigen by extracting said antigen from cells of *Bordetella pertussis* with an aqueous solution, the improvement which comprises extracting said cells
(a) with an extractant solution of lithium bromide, said extractant solution having a lithium bromide concentration between about 0.75 molar and about 2.25 molar,
(b) at a pH above 6.0 and below 8.5, and
(c) at a temperature below about 25° C., until a substantial quantity of said antigen has been extracted into said extractant solution; and separating the extractant solution containing antigen from said cells and cellular debris thereof.

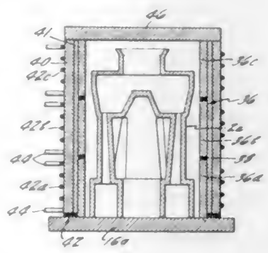
ELECTRICAL

3,405,219
TILT RESPONSIVE AND WEIGHT RESPONSIVE MEANS TO PROTECT ARC FURNACE ELECTRODES FROM ACCIDENTAL BREAKAGE
Marcel Sivet, Firminy, France, assignor to Compagnie des Ateliers et Forges de la Loire, Paris, France
Filed Jan. 13, 1965, Ser. No. 425,140
Claims priority, application France, Jan. 15, 1964, 960,377; Sept. 22, 1964, 988,868
11 Claims. (Cl. 13—1)



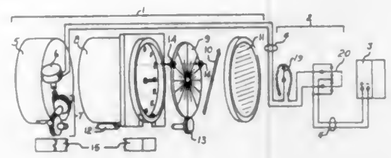
An automatic device for protecting electrodes against accidental breakage in a steel melting arc furnace by detecting when an electrode contacts an insulating solid body. Means having an electrode holder arm is provided for mounting the electrode. Such means are movable when the electrode strikes an insulating solid body in the furnace to a tilting or vertical position and an electrical contact or stress gauges are operated by said means upon movement of said means when said electrode presses against an insulating solid body, whereby a warning signal may be triggered, the power feed cut off to the furnace or an automatic regulation device activated to move said electrode.

3,405,220
INDUCTION ELECTRIC MOLD HEATER
Robert B. Barrow, Chesire, and Larry W. Sink, Northford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed July 16, 1965, Ser. No. 472,644
6 Claims. (Cl. 13—27)



A mold heater for producing controlled grain high temperature alloys wherein a temperature gradient is established from one end of the mold to the other during solidification of the melt. The temperature gradient is established along a transverse solid-liquid front and moves at a selected rate from one end of the mold to the other.

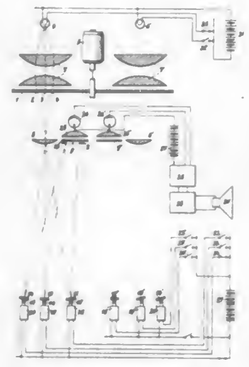
3,405,221
DIRECTION AND RATE OF TURN REFERENCE SYSTEM
Harry L. Nelson, 1727 Woodland Ave., Apt. 1, Palo Alto, Calif. 94303
Filed Aug. 12, 1963, Ser. No. 301,679
3 Claims. (Cl. 35—10.2)



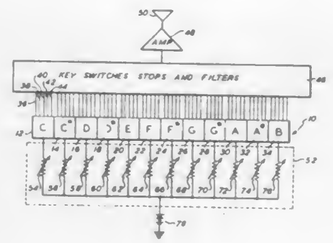
1. A direction and rate of turn reference system comprising:
(A) a direction indicating compass comprising:
(1) a compass rose element of circular configuration and being angularly calibrated about its periphery,
(2) an index marker element positioned with respect to said compass rose element to designate particular angular designations on said compass rose element as a function of orientation of said compass, and
(3) one of the two said elements, said compass rose element or said index marker element, being movable with respect to the other to accomplish an indicated change of indication upon change of orientation of said compass;
(B) a rate of turn directing means including an indicator corresponding to the movable element of said elements of said compass and said indicator being positioned in concentric alignment with the movable said element to display an aligned presentation with said movable said element when the movable said element and said indicator are moved in position about their axis at the same rate of rotation; and
(C) rotational driving means coupled to said directing means for rotating said indicator in either direction of rotation and at a selected rate of rotation.

3,405,222
MULTI-TONE PHOTOELECTRIC MUSICAL INSTRUMENT
Joachim L. Heinzl, 24 Tulbeckstrasse, 8 Munich 12, Germany
Filed July 8, 1965, Ser. No. 470,449
Claims priority, application Germany, July 27, 1964, H 53,366
4 Claims. (Cl. 84—1.18)

1. In a photoelectric musical instrument an interchangeable stationary modulation pattern representing by means of different light transmitting qualities, independent of the pitch, amplitudes and differences in phase of the harmonic components of a complex tone in one direction (ωt) and their variations with time and an unmodulated part in another direction (z) and a multi-tone scanning device comprising a number of scanning disks, objectives and other optical means, a plurality of beam deflection appliances, light sources and photoelectric transducer means said scanning disks continuously rotated at constant speed being generally opaque, however perforated by a plurality of concentric rows of equidistant scanning apertures, one of said rows for each note of the musical scale, said objectives forming by means of said beam deflection appliances optical images of single scanning apertures of each of the said rows on a section of said modulation pattern and analogously of the same section of the modulation pattern on said rows, said single scanning apertures scanning said modulation pattern periodically with the fundamental frequency of the corresponding complex tone in said one direction (ωt) and said beam deflection appliances being optically arranged between said objectives and said modulation pattern, each of them corresponding to one of said rows and controlling individually the scanning motion in said other direction (z) and thus determining begin, duration, and time variations of a complex tone, said scanning disks, said objectives, said beam deflection appliances, and said modulation pattern being optically arranged between said stationary light sources and said photoelectric transducer means, receiving the modulated light and converting it into electric signals, which are used to produce sound waves.

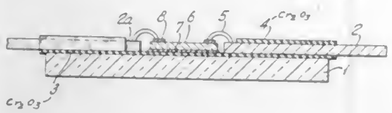


3,405,223
ELECTRONIC ORGAN
Leonard W. Pavia, Florham Park, N.J., assignor to Pavia-Farny Associates, Morris Plains, N.J.
Filed Oct. 8, 1965, Ser. No. 494,086
11 Claims. (Cl. 84—1.18)



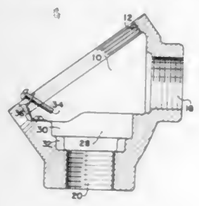
1. An electronic organ comprising a plurality of electrical tone generators each operative to provide electrical signals having a different predetermined frequency, transducing means operative to change an applied electrical signal to a sound signal at the frequency of the applied electrical signal, key means for selectively connecting one or more of said tone generators to said transducing means, and random sound effect means for individually controlling each of said tone generators in a different manner whereby each tone generator will produce a different random variation in the electrical signal frequency of each tone generator at any given time.

3,405,224
SEALED ENCLOSURE FOR ELECTRONIC DEVICE
Keisuke Yawata, Hiroshi Shiba, and Shinzo Anazawa, Tokyo, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan
Filed Apr. 19, 1967, Ser. No. 632,089
Claims priority, application Japan, Apr. 20, 1966, 41/25,054
2 Claims. (Cl. 174—52)



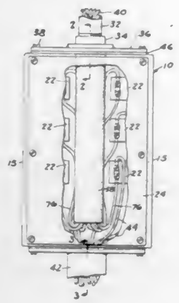
An enclosure for hermetically encapsulating a microminiature electronic device which utilizes an oxide film of good adhesive quality between metal lead wires for the device and a substrate provided as a portion of the enclosure.

3,405,225
UNIVERSAL THERMOCOUPLE HEAD
Raymond F. McHugh, Jr., 9209 Ditman St., Philadelphia, Pa. 19114
Filed Aug. 13, 1965, Ser. No. 479,505
2 Claims. (Cl. 174—52)



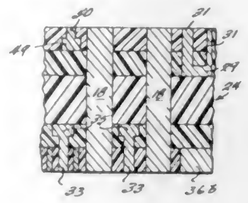
A universal thermocouple head provided with an internal recess having one or more tiers, the said tiers having shaped peripheral configurations to receive and retain terminal blocks manufactured by various producers.

3,405,226
TERMINAL BOX CONSTRUCTION
John B. Orlando, St. Clair Shores, Mich., assignor to F. Jos. Lamb Company, Incorporated, Detroit, Mich., a corporation of Michigan
Filed Nov. 25, 1966, Ser. No. 596,838
11 Claims. (Cl. 174—60)



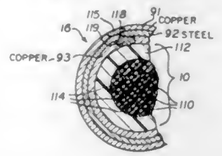
A terminal box having electrical terminals and a rubber sleeve extending from a lead-in conduit into the box. The sleeve terminates below the level of the terminals so that water entering the box through the conduit will not reach the terminals.

3,405,227
MULTILAYER UNIVERSAL PRINTED CIRCUIT BOARD
Lester H. Hazlett, Scottsdale, Ariz., assignor to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Sept. 16, 1966, Ser. No. 580,104
8 Claims. (Cl. 174—68.5)



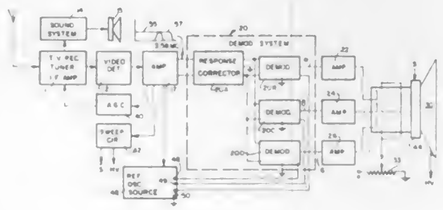
5. A multilayer printed circuit board comprising: a slab of electrical insulator material, a plurality of electrical signal conductor segments arranged in spaced planes adjacent one major surface of said slab, additional electrical insulator material surrounding said segments and separating the planes, a plurality of conductive risers connected to individual signal conductor segments and projecting through said additional insulator material to thereby expose portions of the risers, said risers being electrically insulated from the risers connected to other signal conductor segments; at least one conductive strip positioned adjacent the second major surface of said slab and a further conductor spaced by an insulator from said strip on the opposite side of said strip from said slab, at least one additional conductive riser connected to said strip and projecting through the insulator separating the strip and the further conductor to thereby expose a portion of the additional riser, said additional riser being electrically insulated from the further conductor; and a plurality of conductive posts passing through said slab and projecting through the other insulator materials to thereby expose portions of the posts on opposite sides of the printed circuit board, the insulator materials electrically insulating said posts from the signal conductor segments, the further conductor, the conductive risers and strip, and each other.

3,405,228
FOLDED, LAMINATED ELECTRICAL CABLE SHEATH HAVING ABUTTING EDGES OF ONE LAMINATION UNWELDED
Fred F. Polizzano, Allendale, N.J., assignor to General Cable Corporation, New York, N.Y., a corporation of New Jersey
Continuation-in-part of application Ser. No. 478,820, Aug. 11, 1965. This application Nov. 29, 1967, Ser. No. 686,670
11 Claims. (Cl. 174—106)



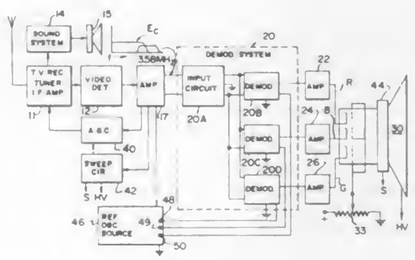
This specification discloses an improved construction for shielded electric cable that has a metallic sheath longitudinally wrapped around the cable with a butt seam which is welded. The sheath is laminated but instead of having the outer lamination wider than any inner lamination, so that the welded seam has no shielding under it, this invention has the outer welded lamination of higher electric conductivity and lower melting point than the underlying lamination, and has the underlying lamination extending under the entire area of the butt welded edge portions of the outer laminations. The preferred construction has copper as the outer lamination and a stainless steel as the inner lamination with only the copper welded.

3,405,229
COLOR TELEVISION SYNCHRONOUS DEMODULATOR CIRCUIT WITH SPURIOUS MODULATION PRODUCTS ELIMINATION
Norman W. Parker, Wheaton, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Oct. 24, 1965, Ser. No. 504,749
5 Claims. (Cl. 178—5.4)



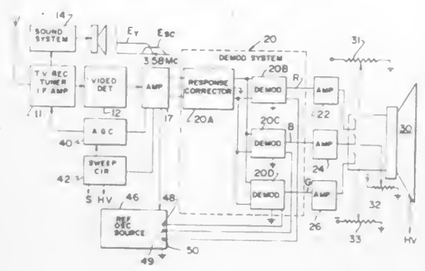
There is disclosed a direct color television signal demodulator with means for reducing production of spurious modulation products of the luminance signal with the color reference signal and provision to adjust and decode a composite signal with various luminance to subcarrier ratios.

3,405,230
COLOR TELEVISION DEMODULATION SYSTEM
Norman W. Parker, Wheaton, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 504,749, Oct. 24, 1965. This application Feb. 12, 1968, Ser. No. 704,620
12 Claims. (Cl. 178—5.4)



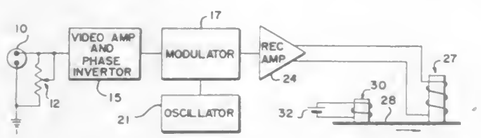
A direct demodulator for a composite color television signal operates upon both the video frequency brightness components and the chroma subcarrier. The demodulator output is a signal representing brightness, hue and saturation of a television image. Modulation of the brightness components with the demodulator control signal of subcarrier frequency, producing undesired spurious signals, is offset by action of a cancelling network.

3,405,231
COLOR TELEVISION DEMODULATION SYSTEM
Francis H. Hilbert, River Grove, and Norman W. Parker, Wheaton, Ill., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 504,523, Oct. 24, 1965. This application Feb. 12, 1968, Ser. No. 704,659
9 Claims. (Cl. 178—5.4)



A direct demodulator for a composite color television signal decodes the combined video frequency brightness components and the chroma subcarrier. The demodulator output comprises a signal representing brightness, hue and saturation of the television image. Since the brightness components also beat with the demodulator control or reference signal of the subcarrier frequency, thereby producing a spurious signal accompanying the desired signal, a secondary demodulator section is used to provide a cancellation signal at the output of the demodulator in order to eliminate the spurious signal.

3,405,232
VIDEO TAPE RECORDER USING AMPLITUDE MODULATED CARRIER AND SATURATED TAPE
Robert D. Morrow, Baltimore, Md., and Andrew S. Hegeman, Glen Ridge, N.J., assignors to Par Ltd., Clifton, N.J., a limited partnership
Filed May 28, 1965, Ser. No. 459,711
8 Claims. (Cl. 178—6.6)

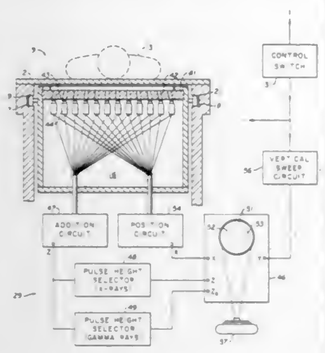


A video tape recording system, in which a magnetic tape is pre-polarized to D.C. saturation in one sense, after which the moving tape is subjected to a carrier wave, amplitude modulated by the video signal and by a D.C. polarization signal operative in the same sense as the original bias signal.

3,405,233
ISOTOPE SCANNER WHICH CREATES X-RAY AND GAMMA RADIATION IMAGES SIMULTANEOUSLY
Hal O. Anger, Oakland, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed July 13, 1965, Ser. No. 471,773
11 Claims. (Cl. 178—6.8)

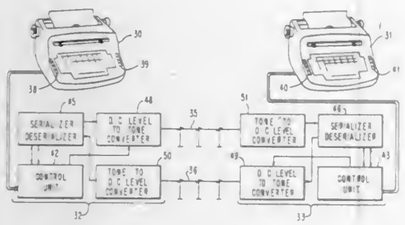
A radiation detecting device for creating an image showing the distribution of a gamma emitting radioactive substance in a patient, together with an X-ray image formed concurrently, to aid in accurately determining the

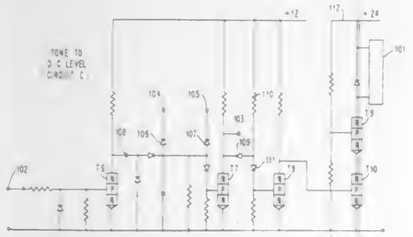
location of the radioactive substance. A row of radiation sensing devices are scanned along the patient, detecting both X-rays and gamma-rays, with pulse-height analyzers



to separate the X-ray and gamma-ray signals received from the detectors so that both an X-ray image and a gamma-ray image are formed.

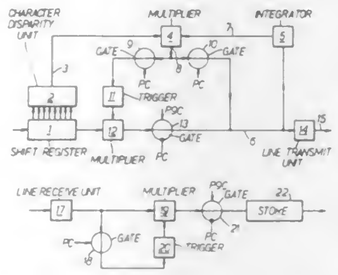
3,405,234
TONE CIRCUITS FOR CONTROL AND DATA SIGNALS
Lloyd Elwood West, Lexington, Ky., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 30, 1965, Ser. No. 517,653
23 Claims. (Cl. 178—66)





14. A data transmission arrangement, comprising:
a source of signals representing data bits;
means responsive to signals from said source for generating an alternating signal at a particular first frequency level representing the absence of a data bit and another alternating signal at a particular different second frequency level representing the presence of a data bit;
a logical signal circuit responsive to said first frequency signals and said second frequency signals to provide output indications signifying the absence and presence of data bits, respectively;
and signal monitoring means associated with said logical signal circuit for supplying a monitoring indication when (1) no signal is generated by said signal generating means, and (2) a signal is generated having a frequency lower or higher than said particular frequency level or said different frequency level.
21. A frequency discriminating circuit comprising:
a first capacitor;
a constant voltage source connected to said first capacitor for charging the same at a predetermined rate;
a discharge circuit for said first capacitor;
said discharge circuit comprising a second capacitor and a bistable switch connected in series relation;
a source of a variable frequency input signal coupled to said switch for actuating said switch to alternately open and close said discharge circuit at the frequency of the input signal with said first capacitor discharging when said switch is closed;
a bistable output switch; and
circuit means interconnecting said first capacitor with said bistable output switch for actuating the latter when the voltage on said first capacitor exceeds a predetermined threshold level.

3,405,235
SYSTEMS FOR TRANSMITTING CODE PULSES HAVING LOW CUMULATIVE DISPARITY
Robert Owen Carter, Woodford Green, Essex, England, assignor to Her Majesty's Postmaster General, London, England
Filed Feb. 23, 1965, Ser. No. 434,293
5 Claims. (Cl. 178—69)

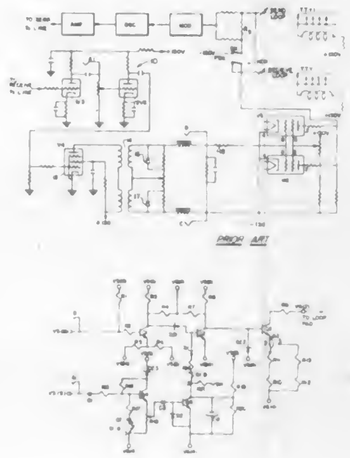


A system for transmitting groups of coded pulses in which the disparity value of successive transmitted groups of code pulses is summed, and in which the disparity value of individual groups of code pulses is maintained. The polarity of each digit of an individual group is inverted before transmission if by so doing the summed disparity value is reduced. The system also provides for the addition of an extra digit to a group whose digits have been inverted in polarity so as to indicate that polarity inversion has taken place.

3,405,236
TRANSISTORIZED FSK TELEGRAPH DRIVER
James T. Nelswinter, Garden City, N.Y., and Carl N. Pederson, Westmont, Ill., assignors to Pioneer Electric & Research Corporation, Forest Park, Ill., a corporation of Illinois
Filed Sept. 3, 1965, Ser. No. 484,882
18 Claims. (Cl. 178—88)

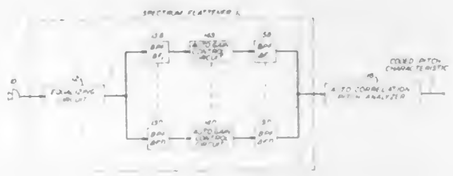
A loop or hub driver in the terminal equipment of a telegraph system in which a carrier is shifted above and

below a nominal mid-band frequency to form mark and space signals. The driver is transistorized and is compatible with older terminal equipment of the vacuum tube type to provide power savings and lower heat generation, while yielding improved transmission characteristics to handle signals at a faster keying rate for higher information density at lower carrier frequencies. A Space Hold feature enables the carrier channel to present a steady



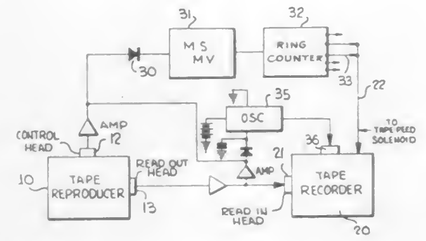
spacing condition to its receive hub under conditions of too low carrier level. The hub driver unit is provided with a Return Space feature, enabling the receive hub, under conditions of an activated space hold condition, to transmit back a space over the carrier terminal duplex to cue the originator that his signal is being blocked. A simulated low signal level can be introduced to check the operation of the space hold feature.

3,405,237
APPARATUS FOR DETERMINING THE PERIODICITY AND APERIODICITY OF A COMPLEX WAVE
Edward E. David, Jr., Berkeley Heights, Manfred R. Schroeder, Gillette, and Man M. Sondhi, Princeton, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 1, 1965, Ser. No. 460,101
1 Claim. (Cl. 179—1)



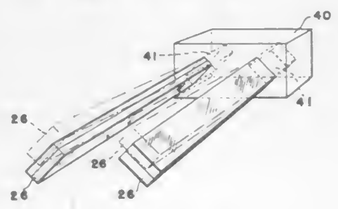
In a pitch detector, formants are suppressed thereby eliminating any spurious peaks in the auto-correlation function. Speech is sub-divided into frequency bands, the amplitude of each band is adjusted, either by AGC or infinite clipping, in a manner that flattens the spectral content of the wave, and unwanted components are filtered.

3,405,238
MEANS TO ELIMINATE REDUNDANT INFORMATION
Hyman Hurvitz, 822 Warner Building, Washington, D.C. 20004
Filed May 6, 1964, Ser. No. 365,419
1 Claim. (Cl. 179—100.2)



A system for re-recording less than all of plural pre-recorded identical frames separated by blank spaces greater than the frame lengths, and leaving between each pair of re-recorded frames a predetermined small space occupied by a control signal. Two readout heads are provided in a first reproducer, which reads out the pre-recorded tape, one of which is a readout head and the other a control head. These are so positioned that the control head senses the initial point of a frame ½ second before the other readout head senses the frame. The control head operates a ring counter, arranged to control tape feed of a recorder. The counter causes tape feed of the recorder only at one or two of its positions and disables tape feed for all other counts. The counter has a number of counts per cycle of operations equal to the total number identical frames on the pre-recorded tape. While the control head is sensing signal and the readout head not sensing signal a control signal is recorded on the final tape.

3,405,239
PHONOGRAPH PICKUP HAVING FREE OR OPERATIVE TRANSDUCER POSITIONS
Henry J. Cvetko and Duane E. Punkar, Conneaut, Ohio, assignors to The Astatic Corporation, Conneaut, Ohio, a corporation of Ohio
Filed Dec. 31, 1964, Ser. No. 422,723
1 Claim. (Cl. 179—100.41)

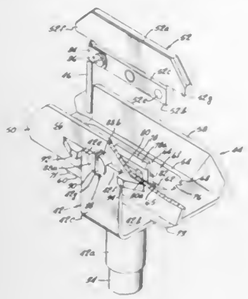


A phonograph pickup cartridge wherein the transducer is mounted in cantilever manner with the fixed end mounted in a soft but resilient elastomeric block wherein the transducer is moved from a free position to an operative position when the stylus tip is applied to a record.

3,405,240
MOBILE ELECTRIFICATION COLLECTOR HEAD
Ronald J. Kilburg, San Carlos, Calif., assignor to Insul-8-Corp., San Carlos, Calif., a corporation of California
Filed Jan. 4, 1967, Ser. No. 607,265
11 Claims. (Cl. 191—59.1)

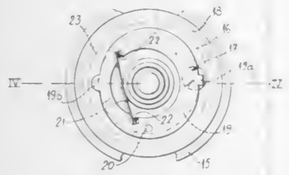
An integral collector case of insulating material is formed with a pair of upstanding flexible gripping ele-

ments spaced to receive a conductor shoe. A pair of projections on the gripping elements mate with grooves in



the conductor shoe to releasably secure the shoe in the collector case.

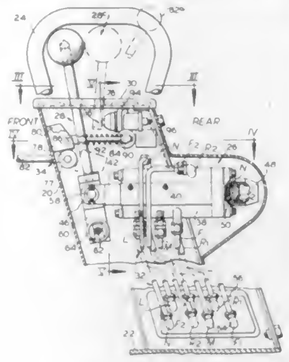
3,405,241
TIMEPIECE
Paul Vogt, Neuchatel, Switzerland, assignor to Ebauches S.A. Neuchatel, Switzerland, a firm of Switzerland
Filed June 2, 1966, Ser. No. 554,794
Claims priority, application Switzerland, June 3, 1965, 7,966/65
2 Claims. (Cl. 200—38)



An alarm timepiece having a release mechanism operating an electrical switch and including an alarm wheel frictionally mounted on the frame of the timepiece coaxially with the hour wheel and settable to a desired position by a control device, a release cam rigidly secured to the hour wheel while the movable annular contact member is mounted for displacement on the alarm wheel and is elastically urged against the cam, so that when a recess of the cam and the movable contact member are aligned during the rotation of the hour wheel, the contact member is displaced under the action of the spring and comes into contact with a stationary ring carried by the frame in electrical isolation therefrom, thereby closing the switch.

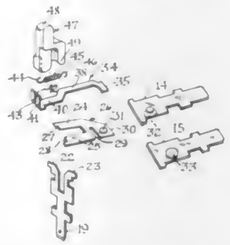
3,405,242
VALVE WITH SWITCH FOR CONTROLLING ENGINE, TRANSMISSION, AND BRAKE
Charles A. L. Ruhl, Wheaton, and Edward Mayer, North Riverside, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Feb. 3, 1966, Ser. No. 524,692
4 Claims. (Cl. 200—61.86)

Multiway forward-reverse range valve selectively shiftable by a valve lever among neutral, reciprocated, and combined rotated and reciprocated positions to co-ordinate the functions of a vehicle engine, cranking motor, power train clutch, and ground engaging brakable means. The valve lever in shifting the valve is effective to cause the engine to be cranked, to fast idle, or to idle in neutral at an ordinary speed, and the lever operates in conjunction with a safety handle that is provided so that the



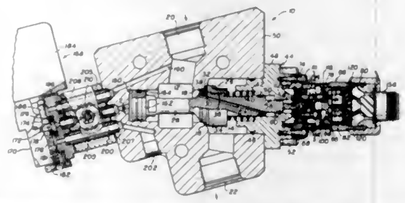
lever can be locked in neutral preventing it and the power train entering the drive range.

3,405,243
ACTUATING LEVER FOR A SWITCH
Walter L. Cherry and Robert T. Main, Highland Park, Ill., assignors to Cherry Electrical Products Corporation, Highland Park, Ill., a corporation of Illinois
Filed Jan. 12, 1967, Ser. No. 618,241
5 Claims. (Cl. 200—67)



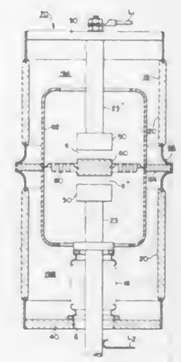
A snap-action switch which requires a relatively light actuation force for operating a coil spring over-centering mechanism which in turn pivots a movable switch blade between fixed circuit making contact points with the over-centering mechanism having an elongated actuating lever which normally extends substantially parallel to the switch blade and is pivoted in a like direction upon actuation of the switch.

3,405,244
ELECTRO-MECHANICAL DEVICE RESPONSIVE TO POSITION OF RECIPROCATING PART
Richard Collins, 361 Diamond Spring Road, Denville, N.J. 07834
Filed Feb. 21, 1966, Ser. No. 529,154
10 Claims. (Cl. 200—82)



For providing signals to an electric circuit to indicate the position of a reciprocating valve element, this invention has a switch actuator located between the switch and the valve element that moves in a predetermined stroke between open and closed positions. The actuator moves as a unit with the valve element during at least the latter portion of the stroke of the valve element. The actuator operates motion transmitting means that include a yielding means between the actuator and the switch for transmitting motion from the actuator to the switch. The stroke of this motion transmitting means is limited by an abutment. In the preferred construction there are two switches with correlated operating mechanism to close one when the valve element is at either end of its stroke and to close the other when the valve element is in a mid position.

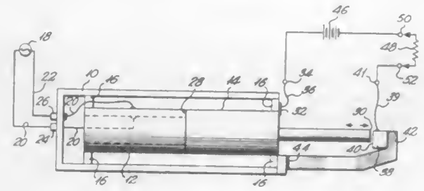
3,405,245
MULTIPLE-BREAK VACUUM-TYPE CIRCUIT INTERRUPTERS
Toshio Ito and Toshimoto Ohkura, Amagasaki-shi, Japan, assignors to Mitsubishi Denki Kabushiki Kaisha, Tokyo, Japan, a company of Japan
Filed May 26, 1965, Ser. No. 458,943
Claims priority, application Japan, May 29, 1964, 39/30,197
3 Claims. (Cl. 200—144)



A multiple-break vacuum-type circuit interrupter is provided having three separable arcing contacts disposed within an evacuated enclosure. A cylindrical condensing shield is interposed between the arcing contacts and the outer insulating portions of the evacuated enclosure. A flexible diaphragm-like supporting plate supports an intermediate arcing contact which makes abutting engagement with two outer arcing contacts. One of the outer arcing contacts is moved to abut the flexibly mounted intermediate contact and force the latter into and out of contacting engagement with an outer stationary contact. A double-break device with the intermediate contact at the potential of the floating condensing shield is thus provided.

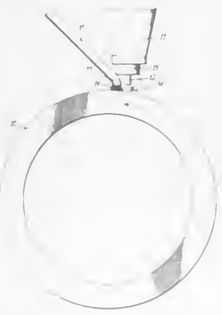
3,405,246
ULTRASONIC SWITCH FOR HIGH SPEED ELECTRICAL SWITCHING
Donald J. Coughenour, Boalsburg, Pa., and William J. Getson, Vestal, N.Y., assignors to HRB-Singer, Inc., State College, Pa., a corporation of Delaware
Filed Aug. 26, 1966, Ser. No. 575,340
10 Claims. (Cl. 200—181)

1. An electronic switch for electrical energy comprising in combination: ultrasonic transducer means responsive to an electrical driving signal for producing a mechanical vibration in accordance with said driving signal; first circuit means coupled to said transducer means for applying said driving signal thereto; vibration magnification means connected to said transducer means including a first electrical contact surface; electrical contact means including a second electrical contact surface mounted in fixed positional relationship adjacent said first electrical contact surface and cooperating therewith for



making and breaking contact at a frequency substantially equal to the frequency of said mechanical vibration, said first and said second contact surface being separated a predetermined distance which is a function of said frequency of mechanical vibration; and second circuit means coupled to said first and said second contact surface for coupling a soure of electrical energy thereacross.

3,405,247
METHOD AND APPARATUS FOR PRODUCING SMOOTH OVERLAYS FOR TOOL JOINTS
Andrew Hlivka, West Mifflin, Pa., assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
Filed Dec. 3, 1964, Ser. No. 415,584
5 Claims. (Cl. 219—76)



In the production of smooth, hard surface overlays for tool joints and the like, wherein finely divided particles of a hard and refractory material (e.g. tungsten carbide) are applied to a weld puddle created by an inert-gas-shielded arc, the particles are mechanically shielded from the blast of the inert gas as they are fed into the gas stream, by means of a tube, which tube discharges the particles within the stream of the inert gas just above the weld puddle.

3,405,248
CORE WIRE FOR ELECTRIC ARC WELDING
Wilhelmus Gerardus Essers, Johannes Gerardus Verhagen, and Gerrit Willem Tichelaar, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed May 20, 1965, Ser. No. 457,471
Claims priority, application Netherlands, May 22, 1964, 6405698
9 Claims. (Cl. 219—146)

Welding electrode and process for welding iron under a protective gas atmosphere. The electrode being in the

shape of an iron containing cored wire containing in the core a slag-forming mineral constituent containing titanium dioxide and silicon dioxide in the ratio of 10:1 to 1:1.5 by weight. The combined total content of the titanium dioxide and the silicon dioxide being at least 3.5% by weight of the electrode and the maximum content of the mineral constituent being 9% by weight of the electrode.

3,405,249
ELECTRIC WATER HEATING CONTAINER WITH WATER LEVEL RESPONSIVE HEATER CONTROL MEANS
Yong Won Kim, No. 6, 2-Chome, Tukagawa-shirakawa-cho, Koto-ku, Tokyo, Japan
Filed Oct. 28, 1965, Ser. No. 505,552
6 Claims. (Cl. 219—333)



An electric water heating container having means to deenergize the heating element when the water level falls below a safe level in order to prevent dry operation and consequent damage to the container. The container includes a heating element wound on a bobbin supported on the bottom interior thereof. A float housing a mercury switch is secured by means of a universal joint to a stand attached to the upper surface of the bobbin. Lead wires spirally wound about the universal joint connect the switch to the heating element. The universal joint permits the float to incline in any direction to deenergize the heating element.

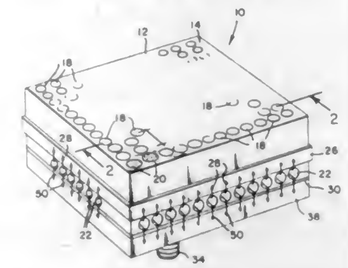
3,405,250
TUBE WIRE ELECTRODE
Robert H. Lee, Lakeridge, Matawan, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Continuation of abandoned application Ser. No. 305,210, Aug. 28, 1963. This application Jan. 19, 1966, Ser. No. 521,498
8 Claims. (Cl. 219—146)

1. A consumable composite electrode for use in a carbon dioxide gas shielded electric arc welding process consisting of a mild steel sheath containing a flux core material consisting of the following ingredients:

Ingredients:	Weight percent
MgO	6.5–15
TiO_2	35–50
Na_3AlF_6	2–6
Fe_3O_4	0–15
FeMnSi	10–20
Fe	15–30
Zircon sand	5–10
Na or K silicate	0–5

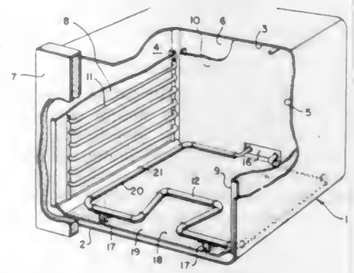
in which the flux core material is about 18 to about 24 weight percent of the total electrode.

3,405,251
VACUUM EVAPORATION SOURCE
Reuben S. Spriggs, San Pedro, Arthur J. Learn, Torrance, and Charles Marinoff, Lakewood, Calif., assignors to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed May 31, 1966, Ser. No. 553,981
9 Claims. (Cl. 219—275)



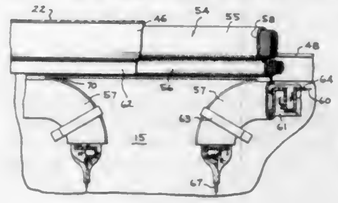
1. A vacuum evaporation source, comprising:
a block of thermally conducting material provided with a multiplicity of uniformly spaced cylindrical cavities extending from a surface of the block to a depth less than the thickness thereof;
the minimum wall thickness of said block material between adjacent cavities being at least ⅛ the depth of said cavities;
the volume of cavities per unit surface area of the block encompassing the cavities being no less than .005 cubic inch per square inch; and
the diameter of each cavity being no greater than ¼ inch.

3,405,252
BAKE UNIT BAFFLE
Ernst P. Laug, Park Ridge, Ill., assignor to General Electric Company, a corporation of New York
Filed Oct. 25, 1966, Ser. No. 589,272
6 Claims. (Cl. 219—399)



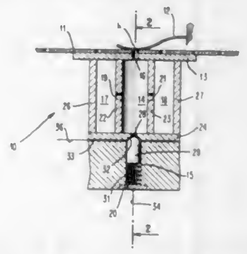
1. An oven comprising:
(a) top, bottom, back, side and front walls forming an oven cavity, wherein one of said walls is removable to provide access to said cavity, said bottom wall having a coating of smooth, easily-cleaned material which is degraded by application of excessive heat;
(b) a sheathed electric heating unit positioned in a plane substantially parallel to and closely spaced above said bottom wall, said unit having a high emissivity surface;
(c) and a generally flat baffle of heat-resistant material having an emissivity substantially lower than said heating unit, said baffle being rigidly secured to said heating unit therebeneath close enough to be heated to a temperature where pyrolysis keeps said baffle clean, said baffle having a width which increases the minimum angle at which said heating unit can radiate to said bottom wall sufficiently to keep the temperature of said bottom wall adjacent to said heating unit below the temperature at which said material is degraded.

3,405,253
COMBINED FRONT HEATING AND INSULATING MEANS FOR SELF-CLEANING OVEN
Raymond L. Dills, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Sept. 12, 1966, Ser. No. 578,566
3 Claims. (Cl. 219—413)



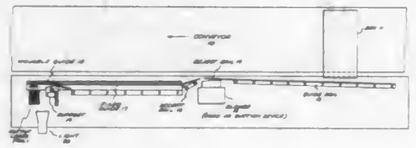
1. An oven comprising an oven liner of box-like construction with a front opening for gaining access thereto, an oven housing surrounding the oven liner and including a layer of thermal insulation to insulate the housing from the oven liner, the oven housing also having a front opening for receiving the oven liner therethrough, an oven door mounted at the front of the oven for closing the front opening of the oven liner, an outwardly extending annular lip formed on the oven liner near the front thereof, tension means at the back of the oven housing for pulling against the oven liner so that the said annular lip of the oven liner is drawn toward the edge of the said opening in the front of the oven housing; the invention comprising a combined door gasket, breaker strip and mullion heater with a high temperature, flexible, nonmetallic jacket material surrounding the three combined elements, high temperature filler material comprising the core of both the door gasket and breaker frame, and a resistance heating element forming the core of the mullion heater, the mullion heater portion encircling the front of the oven liner and in thermal contact therewith, the breaker strip being sandwiched between the annular lip of the oven liner and the peripheral edge of the front opening in the oven housing, the door gasket being adapted to be disposed between the front of the oven housing and the inside surface of the oven door.

3,405,254
PNEUMATIC SENSING DEVICE
Hugh St. L. Dannatt, Rowayton, Conn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 6, 1964, Ser. No. 357,459
3 Claims. (Cl. 235—61.11)



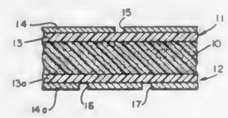
An electro-pneumatic device for sensing holes in cards and the like is provided, wherein fluid under pressure is directed into a chamber having openings toward its top and bottom. A spring loaded valve element normally closes the opening toward the bottom of the chamber to close an electrical circuit. The card to be sensed is passed over the top opening. When a hole is detected in the card the valve stays in place. When no hole in the card is present pressure builds up in the chamber to unseat the valve and thereby open an electrical circuit.

3,405,255
CARD READER
William D. Cockrell, Waynesboro, Va., assignor to General Electric Company, a corporation of New York
Filed Oct. 23, 1964, Ser. No. 405,971
12 Claims. (Cl. 235—61.11)



6. A device for positioning and reading a card that is fastened to a moving object so that the major plane of said card formed by the length and width of said card is substantially parallel to the direction of motion of said object and so that a portion of said card is free to move relative to said object comprising a first guide that is fixed relative to said moving object for receiving said moving card and fixing the position of a portion of said major plane of said card; a mechanically biased second guide for receiving said moving card from said first guide, said second guide fixing the position of a portion of said major plane of said card and being movable along said major plane; an edge guide fastened to said second guide at a position such that, while the position of a portion of said major plane of said card is fixed, an edge of said card may contact said edge guide and move said second guide against said mechanical bias to a predetermined position relative to said card edge; and reading means fastened to said second guide for reading said card while said second guide is at said predetermined position relative to said card edge.

3,405,256
LAMINATES FOR PUNCH CARD SUBSTITUTES
Erwin Gottfried Weber, Munich, Waldperlach, Germany, assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed May 14, 1964, Ser. No. 367,508
16 Claims. (Cl. 235—61.12)



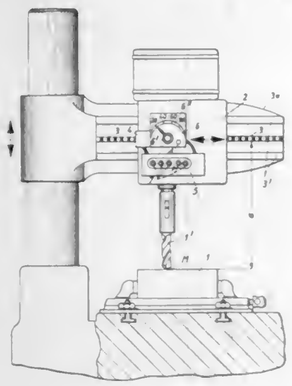
A record member wherein information contained thereon is detected by optical means and wherein the opposite major surfaces thereof may be provided with different information patterns such that the information recorded on one surface thereof differs from the information recorded on the opposite surface.

3,405,257

CORRECTION INDICATING DEVICE FOR THE TILT OF A SLIDING CARRIAGE OF A TOOL HOLDER

Kurt Rantsch, Adolf Weyrauch, and Otto Trotscher, Wetzlar, Lahn, and Otto Ambrosius, Oberbiel, near Wetzlar, Germany, assignors to Carl Zeiss-Stiftung, doing business as Carl Zeiss, Heidenheim on the Brenz, Wurttemberg, Germany, a corporation of Germany

Filed May 18, 1964, Ser. No. 395,105
Claims priority, application Germany, May 18, 1963, H 49,215
33 Claims. (Cl. 235—151.11)



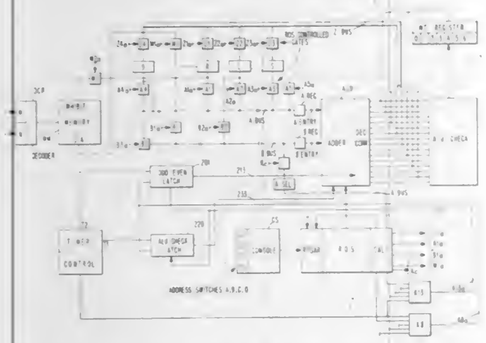
An electrically operated correction device for indicating in a machine tool the tilt of a tool holder on a sliding carriage provided with an indicator for indicating the position of the tool holder on said carriage, and correcting means on said carriage to sense the tilting of the tool holder and to produce correction impulses and to act upon said indicator so that the corrected value may be read at said indicator. Adjustable means are provided on the indicator for varying the number of correction impulses so as to adapt the correction device to different heights of the tool holder above a workpiece in the machine.

3,405,258

RELIABILITY TEST FOR COMPUTER CHECK CIRCUITS

Humbert C. Godoy and Norman E. Gross, Vestal, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Apr. 7, 1965, Ser. No. 446,184
7 Claims. (Cl. 235—153)



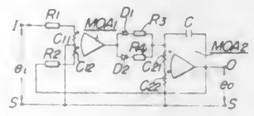
The disclosure sets forth a reliability check circuit for the arithmetic and logic unit (ALU) of a computer. The check circuit is comprised of eleven exclusive OR circuits which compare the positive and negative outputs issued by the adder portion of the ALU, the adder portion being a duo-binary device. Thus, each bit of the adder portion is compared with a corresponding nonbit by means of the exclusive OR circuit. A read only storage means supplies a plurality of pattern control signals in each computer cycle of operation. Appropriate sequences of these signals are utilized for operation of the computer during test operations as well as during arithmetic and logic operations. Test operations are controlled by means of console switches for initiating the appropriate sequence of microprograms for the test operations.

3,405,259

SPEED ORDERING DEVICES UTILIZING COMPARATOR AND INTEGRATOR MEANS

Tsukasa Sano, Hitachi-shi, Japan, assignor to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

Filed Nov. 27, 1964, Ser. No. 414,059
Claims priority, application Japan, Nov. 27, 1963, 38/63,280
10 Claims. (Cl. 235—183)



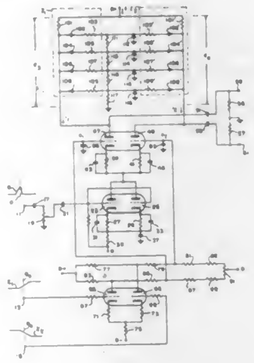
A speed ordering device for electric motors used in various machines and equipments, comprising a comparator and an integrator delivering a linearly varying output speed ordering signal in response to a stepped speed setting input signal. The rate of decrease of the linearly varying speed ordering signal is made different from the rate of increase of the speed ordering signal by changing the integration constant of the integrator or by connecting or disconnecting a feedback circuit to the comparator.

3,405,260

RADAR SIGNAL STRENGTH AND ERROR MULTIPLIER CIRCUIT

Richard N. Close, Garden City, and Eugene W. Sard, Flushing, N.Y., assignors to the United States of America as represented by the Secretary of the Army

Filed July 8, 1955, Ser. No. 520,942
5 Claims. (Cl. 235—194)



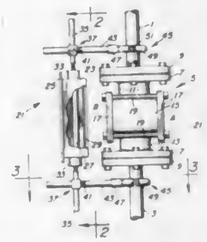
1. An electronic multiplying circuit comprising a differential amplifier having a first pair of electron discharge tubes with non-linear plate loads connected to one terminal of a supply source, means including a third electron discharge tube connecting the cathodes of said pair of electron discharge tubes to another terminal of said supply source and adapted to vary the total current flow through said first pair of electron discharge tubes in response to a pulse of signal input to a control element of said third electron discharge tube, and means including a second pair of electron discharge tubes adapted to vary the relative distribution of the anode current between the first pair of electron tubes in response to the relative phasing of the input to the third electron discharge tube with respect to a reference time.

3,405,261

SIGHT GLASS ILLUMINATOR

George S. Tarbox, Yonkers, N.Y., assignor to Jacoby-Tarbox Corporation, Yonkers, N.Y., a corporation of New York

Filed July 11, 1966, Ser. No. 564,095
5 Claims. (Cl. 240—2)



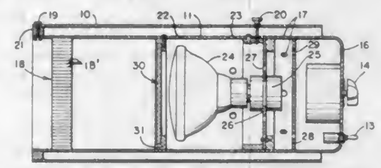
1. An illuminator for a sight glass which is positioned in a fluid flow line for flow of fluid therethrough, including a light source assembly, and means for mounting said light source assembly adjacent to said sight glass for directing illuminating rays thereon, said means including a leg fixed to and extending from each end of said light source assembly, connecting means slidably mounted on each leg and locking means for releasably locking each connecting means in predetermined position on each leg, an arm slidably connected to each connecting means and further locking means for locking each arm in predetermined position relative to said connecting means, each of said arms extending radially from each of said legs, and clamping means on one end of each arm adapted to clamp on the fluid flow line at each side of the sight glass.

3,405,262

FILTER DARKROOM LIGHT

James J. Dolan, Woodland Hills, and David J. Degenkolb, Mission Hills, Calif., assignors to Texrtron Electronics, Inc., Sylmar, Calif., a corporation of Delaware

Filed Oct. 3, 1966, Ser. No. 583,605
6 Claims. (Cl. 240—20)



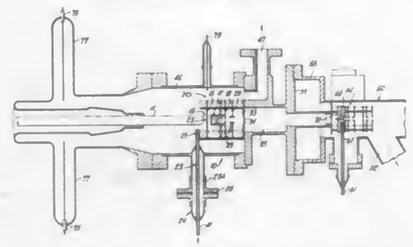
A safe light for photographic darkrooms is provided in the form of a double walled cylindrical holding structure incorporating a light source, filter, and a honeycomb structure defining straight parallel passages for limiting the angle of divergence of the output light. The filter includes a first piece of glass having a multi-layer dielectric coating and a dichroic filter positioned on the opposite side of the multi-layer dielectric coating so that the coating is sandwiched between the glass and dichroic filter. The coating reflects light radiation falling outside a given spectral pass band for which film being processed is relatively insensitive. Thus a large degree of illumination is provided for working on the film with minimum risk of damaging the film itself.

3,405,263

DUAL MASS SPECTROMETER ION SOURCE COMPRISING FIELD IONIZATION AND ELECTRON BOMBARDMENT SOURCES AND THE METHOD OF USE

Graham G. Wanless, Westfield, and Boyd E. Hudson, Jr., Cranford, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Jan. 14, 1966, Ser. No. 520,730
9 Claims. (Cl. 250—41.9)



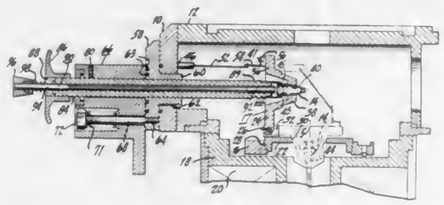
The instant invention involves the novel structural combination of a field ionization source with a conventional electron bombardment type of ion source for use in a mass spectrometer. The combination of the instant invention facilitates the switching from one type of electron analysis of a sample under test to the other type of analysis of the sample with minimum changes being required. The specific construction is such that the separate ion sources share several common components. The field ionization source produces mainly parent ions and electron bombardment source produces more fragmented ions, thus allowing more versatility in the analysis of complex samples.

3,405,264

SPECIMEN INJECTOR FOR ELECTRON MICROSCOPES WITH A ROTATABLE SPECIMEN HOLDER

John R. Fairbanks, Cherry Hill, and Bruno F. Melchionni, Camden, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed Aug. 24, 1965, Ser. No. 482,105
3 Claims. (Cl. 250—49.5)



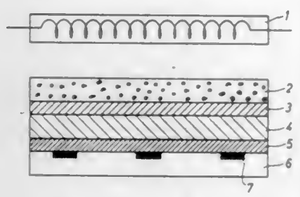
A specimen injector is provided for an electron microscope comprising a turret which is rotatable with respect to a closure plate for the specimen chamber of the microscope. The turret has a hole therethrough which registers at a certain rotated position of the turret with a hole through the plate. At other rotated positions of the turret, the hole in the plate is sealed by the turret. A grasping member is insertable into the specimen chamber through the registered holes of the turret and of the plate to grasp

a specimen holder in a certain position thereof. The specimen holder is moveable between two positions. In one position thereof it may be grasped by the specimen holder grasping member. In the second position thereof, the specimen holder is in a position where the specimen held thereby is in the electron beam of the microscope.

3,405,265
THERMOGRAPHIC COPYING METHOD AND APPARATUS HAVING MEANS FOR UNIFORMLY PRE-HEATING THE COPY SHEET

Marcel Nicolas Vrancken, Hove, Belgium, assignor to Gevaert Photo-Producten N.V., Mortsel, Belgium, a company of Belgium

Filed May 24, 1965, Ser. No. 458,345
Claims priority, application Australia, Dec. 4, 1964, 52,485
14 Claims. (Cl. 250—65)



1. A process of thermographic reproduction which comprises the steps of:

(1) Exposing with infrared radiation an original adapted to reflect said radiation in an imagewise manner;

(2) Intercepting at least about 20% but not more than about 80% of said radiation by means of an infrared absorbing layer arranged between the radiation source and said original, substantially the remainder of said radiation being transmitted by said layer to said original and substantially reflected from the reflective areas thereof; and

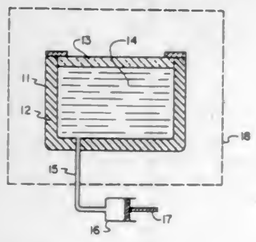
(3) Arranging in heat-conductive relationship with said absorbing layer a heat-sensitive layer adapted to undergo a change upon exposure to heat,

whereby said absorbing layer is heated uniformly by the radiation directly absorbed thereby and differentially by the radiation reflected imagewise from said original, said heat-sensitive layer being correspondingly heated through conduction from said absorbing layer and acquiring a correspondingly differentiated image therein.

3,405,266
SUBATOMIC PARTICLE DETECTOR BY MEANS OF PRODUCING SOLIDIFIED TRACKS IN A LIQUID

Tenny D. Lode, 4925 Sherwood Road, Madison, Wis. 53711

Filed Dec. 4, 1964, Ser. No. 416,088
5 Claims. (Cl. 250—83)

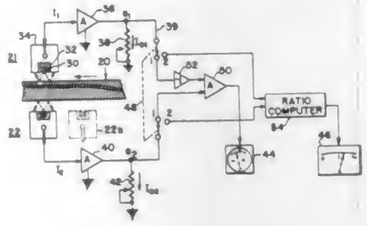


This disclosure shows a particle detector for the detection and measurement of the passages and paths of individual subatomic particles. In one form, a liquid at a controlled temperature is placed in an unstable supercooled state by a change in pressure. Preferential solidification will then take place along the paths of charged subatomic particles, thereby indicating these paths.

3,405,267
INNER LAYER DISPLACEMENT MEASURING METHOD AND APPARATUS

Wilbert E. Chope, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio

Continuation-in-part of application Ser. No. 24,105, Apr. 22, 1960. This application June 17, 1964, Ser. No. 375,794
17 Claims. (Cl. 250—83.3)



3. Apparatus for determining the position of a sheet of one material of constant composition and density of an intermediate layer of different material but of constant composition and weight per unit area, said apparatus comprising:

means for directing a beam of radiation into opposite surfaces of said sheet toward said layer,

means for detecting radiation returned from a first surface on one side of said sheet to generate a first signal that is a function of the thickness of said sheet material located between said surface and said layer,

means for detecting radiation returned from a second surface on the opposite side of said sheet to generate a second signal that is a function of the thickness of said sheet material located between said opposite surface and said layer, and

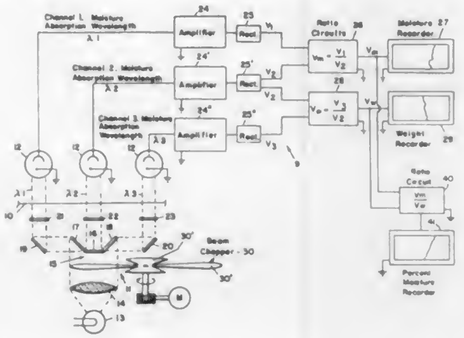
means for combining said first and second signals in accordance with a predetermined relationship to obtain an output signal that is a function of the deviation of said intermediate layer from the median plane of said opposite sheet surfaces.

3,405,268
RADIANT ENERGY ABSORPTION GAGE FOR MEASURING THE WEIGHT OF A BASE MATERIAL AND THE CONTENT OF A MATERIAL SORBED BY THE BASE MATERIAL

Donald C. Brunton, Columbus, Ohio, assignor to Brun Sensor Systems, Inc., a corporation of Ohio

Filed Mar. 12, 1965, Ser. No. 439,301
16 Claims. (Cl. 250—83.3)

An apparatus for measuring the basis weight and moisture content of a paper web comprising a source of radiant energy emitting radiant energy consisting of at least the infrared spectral band, an optical device for deriving at least three separate beams of substantial monochromatic radiation within the infra-red spectral band from the radiant energy source and directing each beam through a paper web, each beam being of a specific wave length such that a first beam λ_1 is of a wave length that is subject to molecular bond absorption by the water molecules within the paper web but is independent of molecular bond absorption by the cellulose molecules in the paper web, a second beam λ_2 is of a wave length that is independent of a molecular bond absorption by the cellulose molecules and the water molecules, and a third beam λ_3 is of a wave length that is subject to molecular bond absorption by the cellulose molecules but is independent of molecular bond absorption by the water molecules, a detector system including a detector located on the opposite side of said paper web from said radiant energy source for intercepting the radiant energy of each of the beams λ_1, λ_2, and λ_3, which are transmitted through said web and for producing separate electrical voltage signals

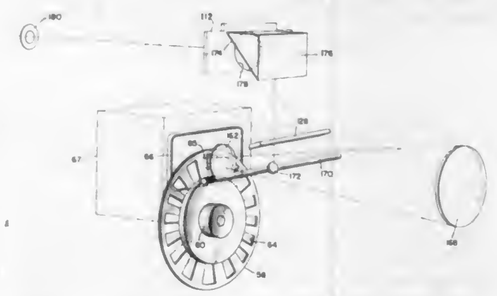


which are proportional to the intensity of the radiant energy of each of said beams intercepted by the detector, a first ratio calculating device for producing a voltage signal V_m proportional to the ratio of the signal produced from λ_1 to the signal produced from λ_2, and said voltage V_m being proportional to the moisture present in the web, from λ_1 to the signal produced from λ_2 said voltage signal V_w proportional to the ratio of the signal produced from λ_3 to the signal produced from λ_2, the voltage V_w being proportional to the cellulose content of the paper web and thus to the basis weight, and an indicator for indicating moisture content and basis weight in response to V_m and V_w respectively.

3,405,269
RADIATION PYROMETER HAVING FOCUSING MEANS

David F. Wood, Roslyn, Pa., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed July 16, 1965, Ser. No. 472,645
8 Claims. (Cl. 250—83.3)

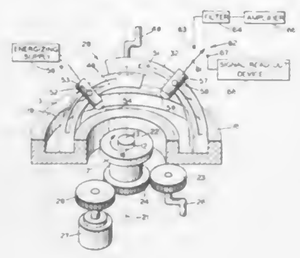


A radiation pyrometer having a lens for focusing infrared wavelengths upon a sensor is also provided with a mirror for reflecting visible wavelengths into a second path toward a reticle formed on a slide. The slide and lens are simultaneously adjusted while the slide is viewed through a second lens and mirror system. A visual indication of a focused condition on the reticle of the slide automatically indicates a focused condition of the infrared wavelengths upon the sensor.

3,405,270
INTERNAL FLAW DETECTION USING COLLIMATED BEAMS

Thomas H. Briggs, Allentown, Pa., assignor to Western Electric Company, Incorporated, a corporation of New York

Filed Aug. 6, 1965, Ser. No. 477,710
8 Claims. (Cl. 250—83.3)

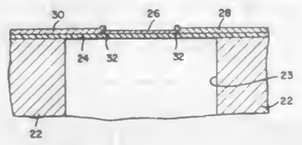


The presence of internal cracks in a body may be ascertained by directing, toward a face of the body, a collimated beam of wave energy to whose frequency the body is transparent. The body is rotated about a normal to the face with a constant angular frequency to cyclically vary the orientation of a crack which may be present therein with respect to the incident beam. A portion of the beam is reflected from the crack with a periodicity determined by the angular frequency of the rotating body, and is suitably detected.

3,405,271
DETECTOR HAVING RADIATION COLLECTOR SUPPORTED ON ELECTRICALLY INSULATING THERMALLY CONDUCTING FILM

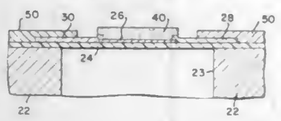
Norman B. Stevens and Daryl D. Errett, Santa Barbara, Calif., assignors to Santa Barbara Research Center, Goleta, Calif., a corporation of California

Filed May 2, 1966, Ser. No. 546,661
4 Claims. (Cl. 250—83.3)



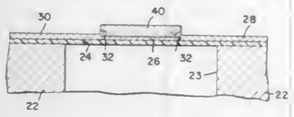
A radiation detector is disclosed which comprises a thermal sink defining a cavity and having an electrically insulating thermally conducting thin film surface abutting the sink and spanning the cavity. Radiation collectors are supported by the film in overlying relation with the cavity, and thermoelectric strips are directly connected to opposed ends of the collectors and thermally joined to the cold sink. A plurality of collectors are provided and arranged in electric series relationship.

3,405,272
FILM SUPPORTED DETECTOR WITH LOW HEAT TRANSFER IMPEDANCE PATH FROM COLD JUNCTIONS TO THERMAL SINK
Norman B. Stevens and Daryl D. Errett, Santa Barbara, Calif., assignors to Santa Barbara Research Center, Goleta, Calif., a corporation of California
Filed May 2, 1966, Ser. No. 546,832
5 Claims. (Cl. 250—83.3)



A radiation detector is shown comprising a thermal sink defining a central cavity and having a thin film of electrically insulating thermally conducting material applied thereto. Radiation collectors are supported by the film overlying the cavity and have porous electrical insulating material applied to the surfaces. Thermoelectric materials join opposed ends of the collectors and extend outwardly to overlie the thermal sink relation therewith. To aid in maintaining constant cold junction temperature, material having low thermal impedance such as silver or gold is arranged to overlie the thermoelectric cold junctions and adjacent segments of the thermal sink to provide a low thermal impedance heat transfer path between the cold junctions and the sink.

3,405,273
DETECTOR ARRANGEMENT HAVING A COLLECTOR WITH ELECTRICALLY INSULATING POROUS MATERIAL THEREON
Norman B. Stevens and Walter J. Colton, Santa Barbara, Calif., assignors to Santa Barbara Research Center, Goleta, Calif., a corporation of California
Filed May 2, 1966, Ser. No. 546,976
4 Claims. (Cl. 250—83.3)



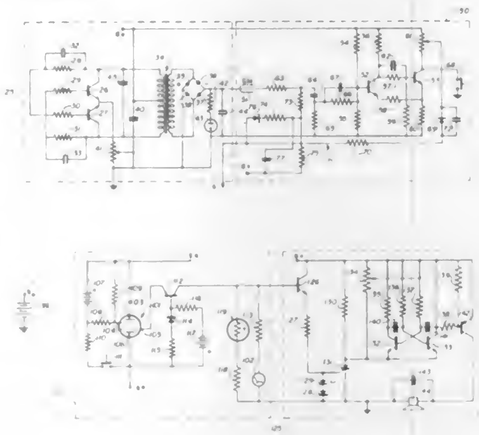
A radiation detector arrangement is disclosed comprising a cold sink having a cavity therein. A thin film of electrically insulating and thermally conducting material is applied to the cold sink and spans the cavity. A radiation collector is supported by the film overlying the cavity and has thermoelectric materials directly connected to opposed ends thereof, said thermoelectric materials being thermally joined to the sink to maintain cold junction temperature. A porous electrically insulating material is deposited on the collector to aid in radiation capture.

3,405,274
DOSIMETER INCORPORATING AN ELECTRO-CHEMICAL INTEGRATING DEVICE
Roger W. Lakin, Livermore, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 17, 1966, Ser. No. 588,267
5 Claims. (Cl. 250—83.6)

I. In an electrode dosimeter capable of use over extended time periods and wide radiation intensity ranges; the combination comprising:

(a) a Geiger-Muller counter tube means adapted to receive a power source; said tube means responsive to incident radiation and productive of electrical output pulses coincident with each quantum of said radiation, and furthermore productive of an average current flow proportionally increasing with the intensity of said radiation;

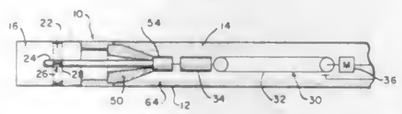
(b) electronic pulse shaping means to provide uniformity of electrical characteristics therebetween, said pulse shaping means including network compensation means electrically communicative with said tube means for sensing said average current flow and producing a compensation voltage proportional thereto;



(c) an electro-chemical integrating device, said device having an input electrode, a shield electrode, a readout electrode and a common electrode; means for biasing said shield electrode negatively with respect to said input electrode; said device arranged to receive across said input and common electrodes outputs of said pulse-shaping means and compensation means, whereby said device characteristically exhibits a change in resistance between said readout and common electrodes in proportion to the integral of said uniform voltage pulses and said compensation voltage; and

(d) output means for monitoring the accumulation of said radiation being responsive to variations in the resistance between said readout electrode and said common electrode.

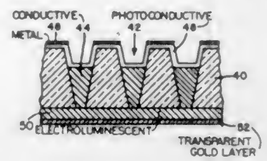
3,405,275
HIGH VOLTAGE INSULATOR FOR NEUTRON GENERATOR
Reuben A. Bergan, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Jan. 4, 1965, Ser. No. 423,200
9 Claims. (Cl. 250—84.5)



The compact static atmosphere neutron generator for use in radioactivity well logging has a high voltage insulator arranged structurally in a specific manner relative to the source of high energy neutrons and is formed of a material having high mechanical strength characteristics, such as high density, isostatically formed, alumina. The insulator has a generally frustum conical outer surface and a tapering inner passage to minimize voltage stress concentrations and to provide leakage paths for arc discharges in order to avoid puncturing the material forming the insulator.

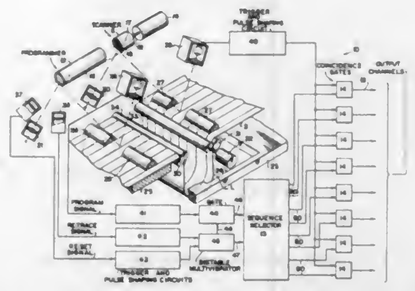
A sealed enclosure is divided into two compartments, the first compartment being under a substantial pressure and the second compartment being under a reduced pressure. The large end of the high voltage insulator is hermetically sealed adjacent the second compartment, and the small end of the insulator is positioned in the first compartment for supporting a hollow electrode at a point removed from the ion-permeable section thereof.

3,405,276
IMAGE INTENSIFIER COMPRISING PERFORATED GLASS SUBSTRATE AND METHOD OF MAKING SAME
Zoltan Szepesi, Elmira, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Jan. 26, 1965, Ser. No. 428,262
6 Claims. (Cl. 250—213)



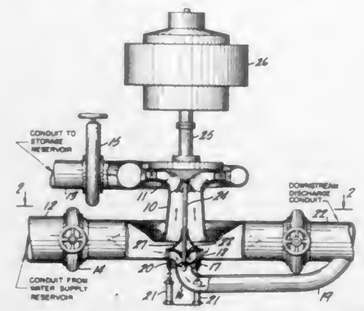
A solid state image intensifier and light amplifier comprising an array of photoconductive elements arranged on one side of a perforated glass sheet and an array of electroluminescent elements arranged on the opposite side, individual pairs of the photoconductive and electroluminescent elements being connected by conductive material.

3,405,277
SCANNING DEVICE WITH OUTPUT INDICATING TRACE AND AXIS COINCIDENCE
Donald C. Bowman, Tulsa, Okla., assignor, by mesne assignments, to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Filed May 18, 1965, Ser. No. 456,743
9 Claims. (Cl. 250—219)



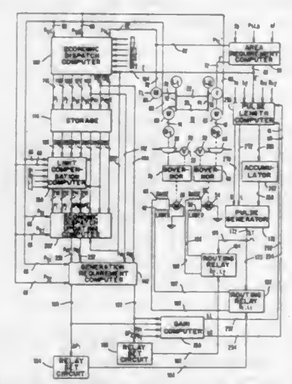
I. A scanning and sorting device for reproducing as an electrical signal information graphically recorded in the form of a trace varying in amplitude about an axis which includes scanning means for repeatedly scanning transversely across said trace, each scan being incrementally displaced in the direction of said axis from the preceding scan, said scanning means having an output circuit developing an output signal responsive in time to the position of said trace on each scan, programming means operable in synchronism which said scanning means having an output circuit developing an output signal at the point in time each scan is at the position of said axis, an output channel having two input circuits, said output channel developing an electric signal when both input circuits thereto are simultaneously actuated, one input circuit of said output channel being connected to the output circuit of said scanning means, and the other input circuit of said output channel being connected to the output circuit of said programming means.

3,405,278
HYDROELECTRIC PUMP-TURBINE APPARATUS
Roger D. Ley, Reading, Pa., assignor to General Public Utilities Corporation, Reading, Pa., a corporation of New York
Filed Aug. 19, 1965, Ser. No. 480,925
10 Claims. (Cl. 290—52)



A hydraulic apparatus in which a pump-turbine is provided in a flow passage connecting a water supply reservoir with a storage reservoir at higher level and in which a tandem rotor mechanically connected to the pump-turbine is adapted to be driven by a flow of water from the water supply reservoir to a lower level to supply mechanical energy to assist the pump-turbine in its operation as a pump to lift water from the water supply reservoir to the storage reservoir.

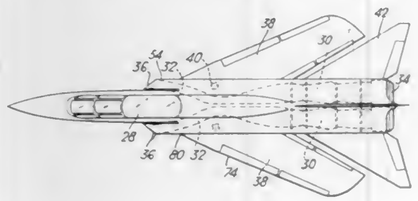
3,405,279
DIGITAL POWER GENERATION CONTROL SYSTEM
Charles W. Ross, Hatboro, Pa., assignor to Leeds & Northrup Company, a corporation of Pennsylvania
Filed June 4, 1965, Ser. No. 461,407
12 Claims. (Cl. 307—29)



A control system for controlling the distribution of load among a plurality of generating sources from pe-

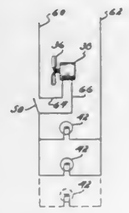
riodic complete economic dispatch calculations of the desired generation for each source and controlling between said periods based upon an updating of the previous calculations when the load change in the system exceeds a certain value. The updated calculation is based upon the changes in load and source production costs. Also, the magnitude of the control signals for changing source outputs are related to the capacity of the sources which can be controlled in the desired direction.

3,405,280
AIRCRAFT
Frank Gerrie Willox, Wrea Green, Preston, Lancashire, England, assignor to British Aircraft Corporation (Operating) Limited, a British company
Filed Mar. 29, 1966, Ser. No. 539,610
Claims priority, application Great Britain, Apr. 1, 1965, 13,967/65
4 Claims. (Cl. 244—46)



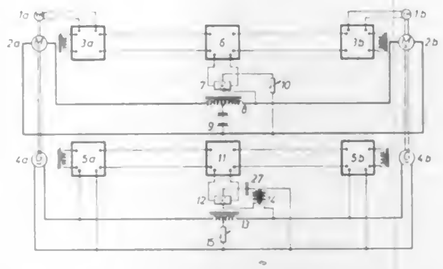
A swing wing aircraft has wings mounted in "shoulder" position and pivoted about fixed vertical pivots on a fuselage. At least one air-breathing jet propulsion engine is mounted at the rear of the fuselage. Air intake ducts extend from the front of the fuselage to the engine or engines, extending beneath the wing and having a total width abreast of the wing pivots of about half the width between the pivot axes and a depth equal to the major depth of the fuselage beneath the wings. Under carriage units are mounted for retraction forwards, upwards and inwards into a housing adjacent to and below the pivots and outboard of the intake ducts.

3,405,281
REFRIGERATOR FAN MOTOR AND LAMP CONTROL CIRCUIT
William E. Wilson, Detroit, Mich., assignor to American Motors Corporation, Detroit, Mich., a corporation of Maryland
Filed Mar. 22, 1965, Ser. No. 441,695
2 Claims. (Cl. 307—38)



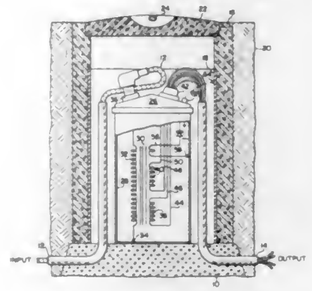
An electrical control circuit in which the power source is in series with a lamp so that when the circuit switch is closed the lamp is illuminated and further, in which the electric motor is connected in shunt to the switch to effect energization of the motor when the switch is open.

3,405,282
REGULATING CIRCUIT FOR THE EQUAL LOAD DISTRIBUTION
Max J. Balkow, Feucht, and Michael J. Frank, Altenfurt, Nurnberg, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 4, 1964, Ser. No. 408,965
Claims priority, application Germany, Nov. 8, 1963, ST 21,296
4 Claims. (Cl. 307—57)



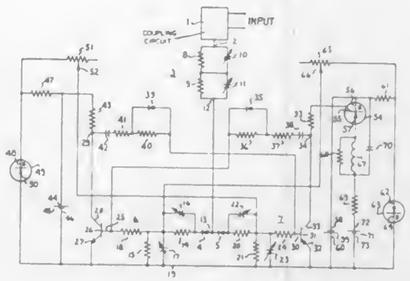
The voltages and currents of parallel operated motors and generators are applied to Hall effect devices producing Hall voltage signals of respective polarities indicative of the type of correction necessary to effect equalization of the power dissipated or generated. The Hall voltages via direction-dependent amplifiers appropriately modify the machine speeds through control governors by changing the excitation field to produce the said equalization.

3,405,283
ELECTRICAL TRANSFORMER APPARATUS
Merrill G. Leonard, Brookfield Township, Fowler, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 20, 1965, Ser. No. 481,250
9 Claims. (Cl. 307—95)



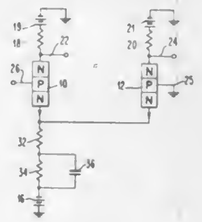
1. In combination, a transformer comprising a metallic casing, a magnetic core in said casing, first winding means inductively associated with said magnetic core, means for connecting an input to said first winding means, second winding means inductively associated with said magnetic core so that a voltage is induced in said second winding means, an auxiliary metallic anode spaced from said metallic transformer casing, means rectifying a portion of the current due to voltage induced in said second winding means, and means connecting the output from said rectifying means between said metallic transformer casing and said auxiliary anode.

3,405,284
BASE TRIGGERED MONOSTABLE REGENERATIVE PULSE DETECTOR CIRCUIT EMPLOYING COMPLEMENTARY SEMICONDUCTOR DEVICES
Pritindra Chowdhuri, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Feb. 3, 1965, Ser. No. 430,053
4 Claims. (Cl. 307—235)



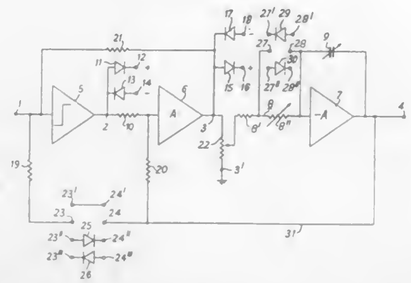
Bipolar pulse or transient detector wherein rectifiers apply input pulses in response to their polarity to the base of a respective one of two complementary transistors of a monostable regenerative circuit causing both transistors to conduct for a time determined by the discharge time of resistance capacitance networks connected between the collector of each transistor and the base of the other transistor, each of said networks including a parallel connected diode and resistor, said diode being connected to permit discharge of the associated capacitor and to block transfer of a pulse applied to the base of one transistor to the collector of the other device.

3,405,285
STABILIZATION CIRCUIT
James L. Walsh, Hyde Park, and John R. Turnbull, Jr., Wappingers Falls, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed May 14, 1965, Ser. No. 455,911
13 Claims. (Cl. 307—239)



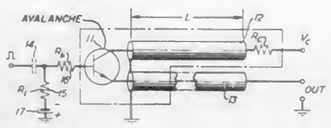
A high speed digital current switch circuit that is stabilized even under certain high frequency conditions of operation with a relatively small effect upon circuit operating speeds. Connected in parallel with the resistive means is a load circuit with capacitive characteristics, which, unless corrected, allow the circuit to oscillate over a predetermined range of frequencies. Reactance means are connected in shunt with the resistive means and are responsive to the occurrence of frequency components of the unstable range of the circuit to reduce the effective resistance in the emitter circuit and to thereby stabilize the overall circuit.

3,405,286
ELECTRIC WAVE GENERATOR WITH TWO-STATE AND INTEGRATOR CIRCUITS
Ronald Mudie, Crowborough, England, assignor to Servomex Controls Limited
Filed Aug. 17, 1965, Ser. No. 480,374
Claims priority, application Great Britain, Aug. 31, 1964, 35,620/64
8 Claims. (Cl. 307—261)



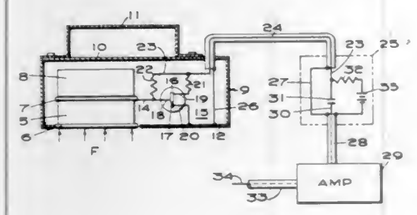
With known waveform generators of the trigger-plus-integrator type, difficulty has been experienced due to very small flat-tops of triangular and sawtooth output waveforms and corresponding triggering delay by the feedback path from integrator output to trigger input. To overcome this difficulty, the present invention provides a circuit in which the trigger feeds the inegrator through an intermediate amplifier. A second feedback path is provided from integrator output to intermediate amplifier input and a third feedback path is provided from intermediate amplifier output to trigger input. Additionally, the intermediate amplifier square wave levels are set by oppositely-sensed diodes and the trigger is a bi-stable multivibrator circuit.

3,405,287
AVALANCHE TRANSISTOR PULSE GENERATOR
David E. Miller, Greensboro, N.C., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 2, 1965, Ser. No. 506,050
6 Claims. (Cl. 307—268)



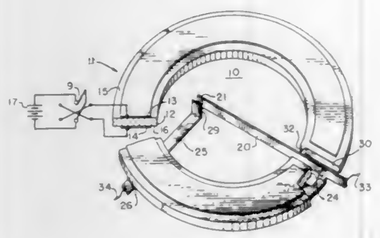
An avalanche transistor is connected in an emitter follower configuration with a pulse forming coaxial transmission line connected in the collector path thereof to provide for energy storage. Another section of coaxial transmission line is connected in the emitter path and is of a length such as to present a pure resistive impedance regardless of the output terminating load. The two sections of coaxial line comprise a single length of coaxial cable with a small section of the center conductor thereof removed to coaxially receive the transistor. The connection to the collector is made via the transistor case to which the collector is internally connected, the case being disposed in a reamed hole in the center conductor of the first section of the cable. A short emitter lead bridges the small gap to the center conductor of the second section. The base connection is made through a small hole in the outer conductor. The collector resistor is also mounted coaxially in the cable at the end remote from the collector and it is of a value such as to provide a reflection coefficient that is real and very nearly one.

3,405,288
SOUND AND VIBRATION DETECTOR DEVICE
William A. Dittrich, 2405 Ball Road, Willow Grove, Pa. 19090
Filed Feb. 25, 1966, Ser. No. 531,647
3 Claims. (Cl. 310—8.4)



An electrical device for use in the detection of low-frequency pulses and vibrations in objects of low rigid mass, such as the human body, with a piezoelectric crystal as the detector element and a field-effect transistor as the self-contained low impedance output coupling means therefor. All elements of the device are inclosed in a lightweight, thin-walled casing with one electrodal face of the crystal adapted for effectively direct contact with the object to be tested, and with the other electrode in contact with a relatively-heavy inertial mass which is out of contact with the casing so that the pulse and vibrational energy from the object to be tested is used to compress the crystal directly against the inertial mass without the impedance and load of the casing.

3,405,289
SWITCH
Emanuel Gikow, 115 Forest Ave., West Long Branch, N.J. 07764
Filed June 4, 1965, Ser. No. 461,560
15 Claims. (Cl. 310—8.5)



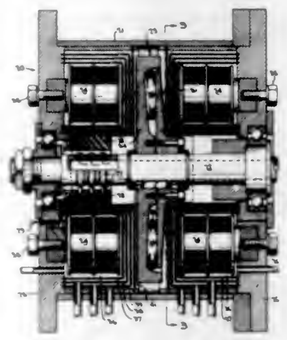
A switch having at least one switch contact arm movable in response to either flexural deformation of an arcuate piezoelectric or electrostrictive transducer member or radial deformation of a discoidal piezoelectric or electrostrictive transducer member occasioned by exposure of said member to an electric field.

The transducer member can be in the form of a split ring provided with electrodes to which a unidirectional control voltage may be applied. Flexural movement of the split ring causes the ends of the ring to move relative to one another and a switch arm carried at one end face of the ring moves with said one end face. This movement can be accentuated by having a projection on the opposite end face of the split ring exert pressure on the moveable arm at a region intermediate the ends of the moveable arm, but remote from the free end of said arm, thereby obtaining a lever action. This projection may be bonded to the moveable switch arm to permit actuation of the moveable arm in either direction. Both switch arms may be moveable and may intersect at a pivot.

The transducer member can be in the form of a split hollow cylinder electroded on inner and outer surfaces with a sealed switch body disposed lengthwise along the gap formed between the two end faces of the split member and bonded to one end face. The switch body encloses portions of moveable and stationary switch arms with the outer arm of the fixed arm engaging one end face of the cylindrical member and a moveable arm being pivotally mounted at one end of the switch body. Relative movement of the two ends of the cylinder causes the moveable arm to pivot until contact is made with the fixed arm inside the switch body. This switch body also may be used in connection with the split ring transducer member already described.

The transducer member can be a discoidal member electroded on opposite faces and capable of distorting radially. The disc is received in a split retaining ring having juxtaposed end faces forming a gap. The moveable switch arm is carried on one end of the retaining ring and a projecting tab is on the other end of said ring and disposed radially inwardly from the region of support of the moveable switch arm.

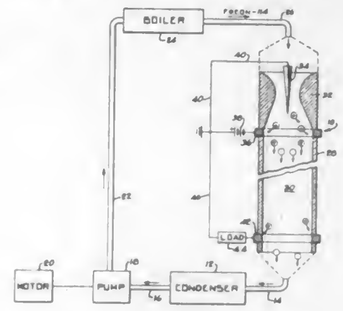
3,405,290
SUPERCONDUCTING GENERATOR
Edward Halas, 186 Hope St., Woodbridge, Va. 22191
Filed July 21, 1965, Ser. No. 473,877
4 Claims. (Cl. 310—10)



This invention is directed to a superconducting generator making use of the isolation of the superconducting elements at cryogenic temperatures while the rotor operates at ambient temperature. A substantial saving in weight and volume is accomplished by the use of superconducting coils. For example, a 1-million watt superconducting generator including its refrigeration unit, would be only ⅓ the weight of a conventional electric generator with similar output.

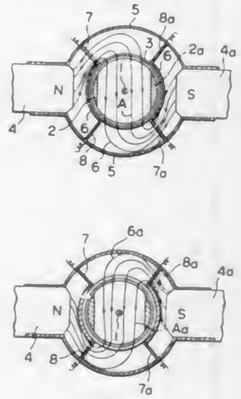
3,405,291
RANKINE CYCLE ELECTROGASDYNAMIC GENERATOR
Harold E. Brandmaier, Harrington Park, N.J., assignor to Curtiss-Wright Corporation
Filed Oct. 20, 1965, Ser. No. 498,836
8 Claims. (Cl. 310—10)

1. Apparatus for generating electric energy comprising a dry-expansion motive fluid, and means providing a closed-loop Rankine cycle operation for said motive fluid and including an electrogasdynamic generator through



which said fluid after expansion is caused to flow for generating electric power.

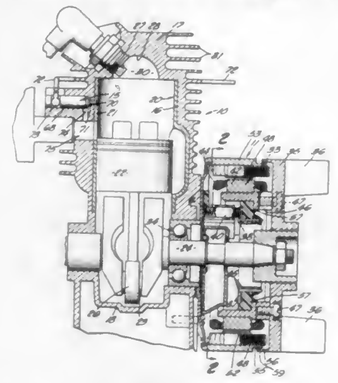
3,405,292
MAGNETIC FLUX PATH SWITCHING DEVICE WHEREIN SUPERCONDUCTIVE SUBSTANCES ARE UTILIZED
Seijiro Maeda, Fuchu-shi, Tokyo-to, Japan, assignor to Kabushiki Kaisha Hitachi Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan
Filed Feb. 19, 1965, Ser. No. 433,852
Claims priority, application Japan, Feb. 21, 1964, 39/9,653
4 Claims. (Cl. 310—11)



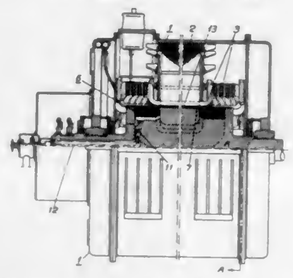
A magnetic flux path device using superconductive substances provided with a pair of magnetic poles and a space and magnetic flux therebetween, a superconductive magnetic shield enclosing said space and flux, and superconductive substance members disposed within the space. Means are provided to controllably vary the superconductivity of the substance members and thus to vary the magnetic field, so that an alternating current is produced.

3,405,293
ELECTRICAL STARTER FOR GASOLINE ENGINES
Wilford B. Burkett, Pacific Palisades, and Robert V. Jackson, Los Angeles, Calif., assignors to McCulloch Corporation, Los Angeles, Calif., a corporation of Wisconsin
Filed Apr. 19, 1966, Ser. No. 543,583
6 Claims. (Cl. 310—74)

A lightweight electrical machine having a short axial length wherein the rotor is mounted to a flywheel in a spaced-apart relationship rather than to a shaft to provide space for the circulation of air to cool the machine when in operation. The machine further includes an extension of the flywheel around the stator housing and the cooperation of the extension of the flywheel with an annular recess in the stator housing to form a labyrinth seal.



3,405,294
ROTOR STRUCTURE FOR A HIGH POWER SYNCHRONOUS MACHINE OF THE TURBO TYPE
Kristian Dahl Madsen, Vasteras, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed Oct. 19, 1965, Ser. No. 497,970
Claims priority, application Sweden, Nov. 26, 1964, 14,267/64
14 Claims. (Cl. 310—86)



1. High power synchronous machine of turbo type and with an average flux density of at least 1.2 Tesla in the air gap, comprising a laminated stator, an armature winding arranged on said stator and a bi-polar rotor surrounded by said stator, said rotor comprising a rotor core with two salient poles and an internally ventilated field coil for each of said poles, a retaining body surrounding said rotor core and said coils, the radial inner surface of said body comprising a circularly cylindrical surface, said body being arranged in pressure engagement against the whole of the radially outwards facing surface of said coils, at least a cylindrical part of said body being sufficiently pre-stressed for maintaining said pressure at normal rotor speed, the radial thickness of said coils being substantially constant.

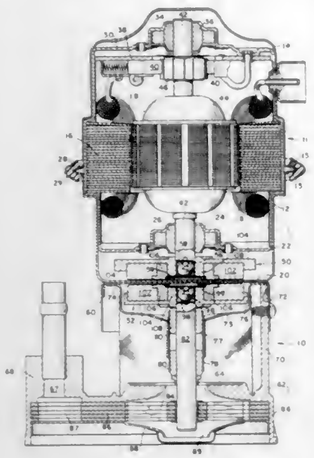
3,405,295
THRUST BEARING AND SEAL ASSEMBLY
Roger J. Daley and Wilfred W. Herderhorst, Fort Wayne, Ind., assignors to Tokheim Corporation, Fort Wayne, Ind., a corporation of Indiana
Filed Nov. 14, 1966, Ser. No. 594,236
7 Claims. (Cl. 310—104)

1. A thrust bearing assembly, comprising:
a thrust reaction member,

a rotor rotatable on an axis and subject to thrust toward said member,

thrust faces on said rotor and member lying transversely of said axis in spaced opposed relation along the axis,

a thrust ball disposed in thrust-bearing relation between said thrust faces, substantially on said axis,



means forming a lubricant chamber containing a lubricant about said ball, open at one end toward one of said thrust faces,

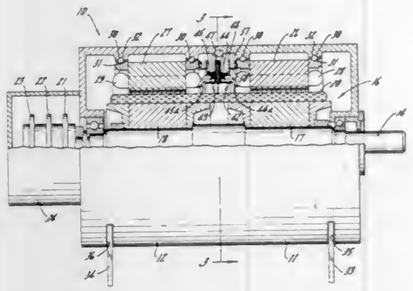
a sealing wall of flexible material closing the open end of said chamber and having a central aperture through which the ball makes bearing contact with one of the thrust faces, the edges of said aperture lying between the inward-converging surfaces of the ball and thrust face surrounding the contact area therebetween.

3,405,296

TAKE-UP REEL FOR ROTATABLE STATOR LEADS

Herschel H. Stilley and Kenneth S. Kordik, Rockton, Ill., assignors, by direct and mesne assignments, of one-half to Warner Electric Brake & Clutch Company, South Beloit, Ill., and one-half to said Stilley

Filed Sept. 24, 1965, Ser. No. 489,832
5 Claims. (Cl. 310—116)



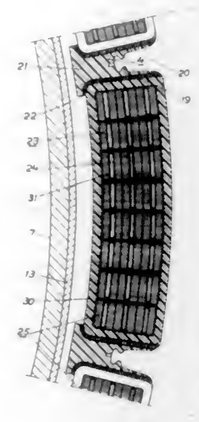
A motor having at least one rotatably adjustable stator for controlling the speed and torque characteristics thereof. The said motor utilizes an apparatus which comprises a reel structure for carrying the motor stator leads thereby preventing the motor stator leads from obstructing any of the moving parts within the motor housing.

3,405,297

STATOR STRUCTURE FOR A HIGH POWER SYNCHRONOUS MACHINE HAVING HIGH AVERAGE INDUCTION IN THE AIR GAP

Kristian Dahl Madsen, Vasteras, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden

Filed Oct. 14, 1965, Ser. No. 495,873
Claims priority, application Sweden, Dec. 12, 1964, 15,068/64
17 Claims. (Cl. 310—258)



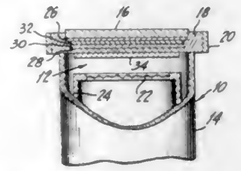
1. High power synchronous machine having high average flux density in the air gap, comprising a rotor with a rotor core and a field winding supported by the core, a laminated stator core member enclosing the rotor, an armature winding supported by said stator core member, said armature winding comprising a number of stator coils, said coils having axially directed coil sides, axially directed stator tooth members which are equally distributed along the air gap surface of the stator, and between which the coil sides are retained, the radial extension of said tooth members being substantially as great as the radial dimension of the said coil sides, the total average tangential extension of the space between two adjacent tooth members being at least three times as great as the average width of each of the stator tooth members.

3,405,298

PHOTOCONDUCTIVE DEVICE HAVING A TARGET INCLUDING A SELENIUM BLOCKING LAYER

Joseph Dresner, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Mar. 4, 1965, Ser. No. 437,252
9 Claims. (Cl. 313—65)



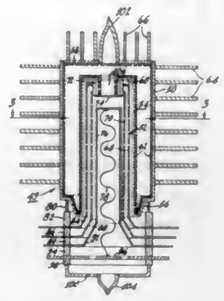
A photoconductive target comprises a conducting signal electrode, a layer of selenium alloy containing selenium, tellurium and arsenic or antimony, and an intermediate layer of substantially pure selenium having a thickness of from 100 Angstroms to 600 Angstroms.

3,405,299

VAPORIZABLE MEDIUM TYPE HEAT EXCHANGER FOR ELECTRON TUBES

William B. Hall, Lancaster, and Donald M. Ernst, East Petersburg, Pa., assignors to Radio Corporation of America, a corporation of Delaware

Filed Jan. 27, 1967, Ser. No. 612,181
4 Claims. (Cl. 313—12)



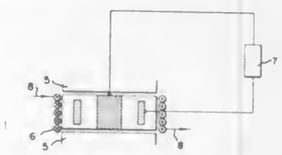
In a relatively high power electron tube having an exposed anode and an internal grid subjected to relatively high temperatures in operation, the anode and grid have structures incorporating a modified heat pipe principle for improved heat dissipation. The anode comprises a double walled cylindrical structure defining an annular space between the walls. The walls are lined with a capillary structure for transport of a vaporizable medium in the liquid state. The inner wall may not only serve as an anode for the tube but may extend into heat transfer relation with respect to the grid and thus constitute the heat input zone of a heat pipe. The outer wall serves as the heat dissipation zone of the heat pipe. Heat radiators at this zone may also constitute heat pipes.

3,405,300

GAS FILLED COAXIAL TYPE ELECTRIC SWITCH WITH MAGNETIC FIELD CUT-OFF

Kiyotaka Wasa, Osaka-shi, Osaka-fu, and Shigeru Hayakawa, Hirakata-shi, Osaka-fu, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan

Filed Dec. 29, 1965, Ser. No. 517,345
Claims priority, application Japan, July 7, 1965, 40/40,663
3 Claims. (Cl. 313—161)



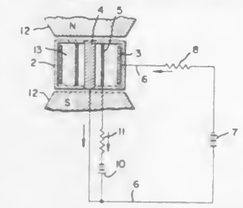
An electric switch of the coaxial cylinder type. It has a pair of cylindrical electrodes which are enclosed in a gas tight envelop, there being an outer cylindrical electrode and an inner cylindrical electrode surrounded at least partially by said outer cylindrical electrode. One of said pair of cylindrical electrodes is a cold cathode and the other of said pair of cylindrical electrodes is an anode. The envelope is filled with an ionizable medium at a pressure which is less than λ_0/r_2-r_1 torr, where λ_0 is the mean free path of an electron at 1 torr and r_1 and r_2 are the radius of said inner and outer electrode, respectively. A magnet means is provided adjacent the outside of said envelope and consists of a permanent magnet and a coil superposing a magnetic field between said electrodes in a direction transverse to the spacing of said electrodes. As a result, the electric switch closes an electrical circuit across the space between said electrodes when there is superposed thereon a magnetic field more than an electron cut-off field Bc, and opens said electrical circuit across the space between said electrodes when the superposed magnetic field is less than said electron cut-off field Bc.

3,405,301

APPARATUS FOR PRODUCING QUIESCENT PLASMA

Shigeru Hayakawa, Hirakata-shi, Osaka-fu, and Kiyotaka Wasa, Osaka-shi, Osaka-fu, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan

Filed Mar. 2, 1966, Ser. No. 531,263
Claims priority, application Japan, June 21, 1965, 40/37,268
3 Claims. (Cl. 313—162)



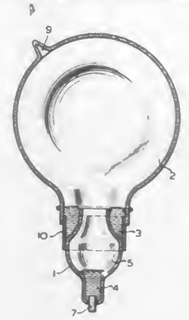
A discharge tube for producing a high density quiescent plasma. The tube has a sealed envelope and two cylindrical electrodes within said envelope and positioned with each other, one of said two cylindrical electrodes is a cold cathode and the other of said two cylindrical electrodes is an anode. Said discharge tube further has a negatively biased, cylindrical grid electrode positioned between said two cylindrical electrodes, said cylindrical grid electrode being coaxial with said two cylindrical electrodes and positioned near said cold cathode. Said sealed envelope is filled with an ionizable medium at a subatmospheric pressure and a magnet superposing an axial magnetic field is positioned adjacent the outside of said envelope.

3,405,302

MERCURY VAPOR TUBE WITH SPECIAL DISCHARGE CHAMBER MEANS SEPARATING MERCURY ELECTRODES

Gerhard Winter, Stuttgart-Frauenkopf, and Helmut Reum, Stuttgart-Weilimdorf, Germany, assignors to Robert Bosch, G.m.b.H., Stuttgart, Germany

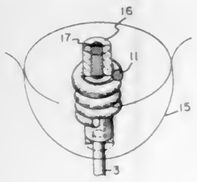
Filed Apr. 22, 1966, Ser. No. 544,496
Claims priority, application Germany, Apr. 30, 1965, B 81,683
1 Claim. (Cl. 313—165)



A mercury vapor tube for switching high currents and comprising tube means having a vertical axis and includ-

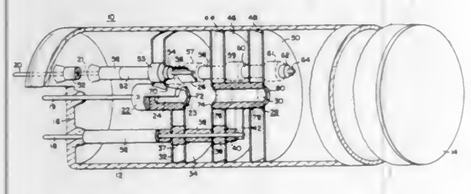
ing a pair of mercury electrode means arranged at different elevations and discharge chamber means between said electrode means, said electrode means and said discharge chamber means being arranged symmetrically with respect to said axis and said discharge chamber means being constructed to permit overflow of mercury from the higher to the lower electrode with the overflowing mercury at least during part of its pass out of contact with the wall of the discharge chamber means.

3,405,303
ARC DISCHARGE TUBE HAVING AN ELECTRODE WHICH CONTAINS A LIGHT-EMITTING METAL
Frederic Koury, Lexington, and Wilfrid G. Matheson and John F. Waymouth, Marblehead, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Dec. 29, 1964, Ser. No. 421,841
3 Claims. (Cl. 313—217)



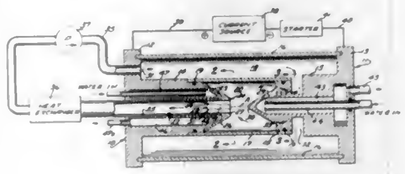
1. An arc tube for a high pressure electric discharge device comprising: a glass envelope sealed at either end; an electrode sealed at each end thereof; at least one of said electrodes comprising a tube of tungsten and a core of at least one light-emitting metal selected from the group consisting of thorium, scandium, vanadium, yttrium, praseodymium, gadolinium, terbium, dysprosium, erbium, indium, molybdenum, gallium, cadmium and sodium; said envelope containing a fill including halogen atoms and mercury.

3,405,304
ELECTRON DISCHARGE DEVICE FOR EMISSION OF ATOMIC RESONANCE LINES
Wallace Gillies, Pine Valley, and George Kiyoshi Yamasaki, Horseheads, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 10, 1966, Ser. No. 571,498
9 Claims. (Cl. 313—218)



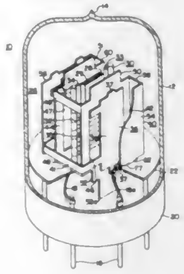
This invention relates to electron discharge devices of the hollow cathode type illustratively including first and second electrodes for respectively generating beams of differing characteristic spectral radiation, and an anode element. The first electrode generates from a hollow portion the first beam of radiation along a given path. The second electrode has an aperture therethrough and is so disposed that the path of the first beam of spectral radiation passes through the aperture.

3,405,305
VORTEX-STABILIZED RADIATION SOURCE WITH A HOLLOWED-OUT ELECTRODE
John W. Winzeler, Santa Ana, and Delbert G. Van Ornum, Newport Beach, Calif., assignors to Giannini Scientific Corporation, Amityville, N.Y., a corporation of Delaware
Filed Dec. 28, 1964, Ser. No. 421,370
8 Claims. (Cl. 313—231)



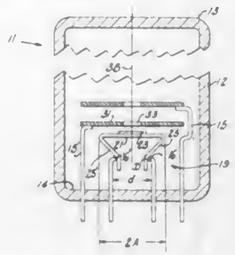
A vortex-stabilized radiation source in which at least one of the end portions of the arcing electrodes is hollowed out adjacent the axis. The hollowed-out portion has gas-outlet means communicating directly therewith, being located radially-outwardly from the arcing surfaces of the hollowed-out portion. The gas-outlet means is sufficiently close to the arcing surfaces that the layer of partially-excited gas which surrounds the hot core of the arc discharges directly through the gas-outlet means.

3,405,306
MULTI-PURPOSE ELECTRODE FOR ELECTRON DISCHARGE DEVICES
Wesley J. Payne and Edward R. Campagna, Bath, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 11, 1965, Ser. No. 494,343
9 Claims. (Cl. 313—239)



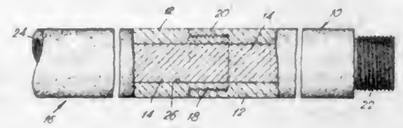
1. An electron discharge device comprising a cathode element for the emission of a stream of electrons, a grid electrode disposed to traverse said stream of electrons, an anode element having first and second surfaces, said first surface being disposed to collect said stream of electrons, and a unitary multi-purpose member having a first portion disposed between said grid electrode and said anode element to suppress secondary electrons emitted from said anode element and a second portion disposed upon the opposite side of said anode element with respect to said cathode element to shield said second surface of said anode element, said first portion having an aperture therein through which said stream of electrons passes and an extension therefrom for shielding said anode element.

3,405,307
CATHODE SUPPORTED BY INTEGRAL, INWARDLY EXTENDING LEGS WITH VERTICALLY-TURNED ENDS FASTENED TO INWARDLY ORIENTED END PORTIONS OF SUPPORT LEADS
Stanley L. Pawlikowski, Donald L. Say, and Harry E. Smithgall, Seneca Falls, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Mar. 30, 1967, Ser. No. 627,017
2 Claims. (Cl. 313—278)



A self-supporting and self-spacing thermionic cathode structure formed for use in a cathode ray device comprising a transverse portion in spaced relationship with a control grid and supported by a leg at either end thereof. The transverse portion and the legs are of selected lengths and have selected acute angular jointures to produce a resultant thermal movement of the transverse portion that is substantially only longitudinal. The height of the cathode structure and the spacing between the transverse portion and the control grid remain substantially constant.

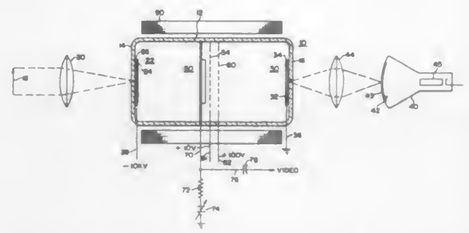
3,405,308
STRENGTHENED ARC CARBON ELECTRODE JOINTS
Martin A. Roche, Jr., Brook Park, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed May 12, 1966, Ser. No. 549,673
5 Claims. (Cl. 313—354)



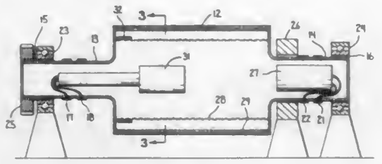
1. An arc carbon electrode having a core and a shell and a cement interposed therebetween, said cement comprising one hundred parts by weight of a bisphenol A-epichlorohydrin resin, one to thirty parts by weight of coal tar pitch, twenty to thirty parts by weight of trimellitic anhydride, and one to fifty parts by weight of an inert filler selected from the group consisting essentially of graphite and coke, or from the group consisting essentially of the oxides, sulfides, carbides and borides of the metals comprising titanium, aluminum, zinc and zirconium, said cement rigidly securing said core to said shell.

3,405,309
RADIATION DETECTION SYSTEM
Gerhard W. Goetze and Alvin H. Boerio, Elmira, N.Y., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 241,641, Dec. 3, 1962. This application Jan. 12, 1965, Ser. No. 425,020
6 Claims. (Cl. 315—11)

A radiation detection system which utilizes a first photoemissive input screen onto which an input scene is directed. The electrons generated therefrom are accelerated by high voltages into a transmission secondary electron conduction type of target and establish a charge pattern on the opposite surface of said secondary electron conduction target corresponding to the input scene. Read out of the charge pattern on the secondary electron conduction target is provided by means of a second photosensitive image screen spaced from the secondary electron induction target and excited by a flying spot scanning device. A high magnetic focusing field is provided for focusing the electrons directed onto the secondary electron conduction target from both photoemissive screens to provide a high resolution image device. The deflection portion of the reading system is completely isolated from the high magnetic field provided in the envelope and the conductive backing on the secondary electron conduction target facing the first screen prevents charge build up or redistribution of electrons on the input side of the target.

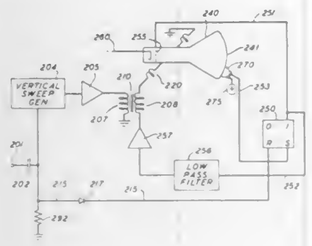


3,405,310
DIRECT-VIEWING STORAGE TUBE
John A. Rado, Los Angeles, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 9, 1966, Ser. No. 600,661
4 Claims. (Cl. 315—12)



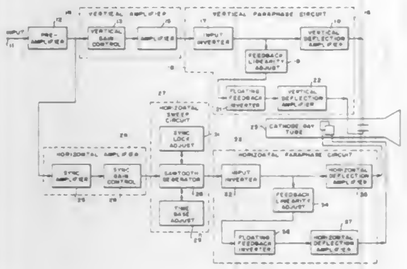
1. A direct viewing storage tube comprising:
an evacuated envelope including a central enlarged diameter portion and first and second reduced diameter portions connected concentrically with and extending outwardly from the ends of said enlarged diameter portion,
means for rotaing said evactuaed envelope about its longitudinal axis,
a target assembly within said enlarged diameter portion comprising a storage screen and a viewing screen,
a writing gun within said first reduced diameter portion for providing a pattern on said target assembly,
a yoke stationarily mounted around said first reduced diameter portion for deflecting horizontally electrons from said writing gun onto said storage screen,
a reading gun within said evacuated envelope for flooding said storage screen with electrons, and
means for erasing said pattern from said target assembly.

3,405,311
TELEVISION SCANNING CONTROL APPARATUS TO COMPENSATE FOR VARIATIONS IN THE VERTICAL SCANNING RATE BY VARYING THE BLANKING INTERVAL
Ralph C. Brainard, Tewkesbury Township, Hunterdon County, and Earl F. Brown, Piscataway Township, Middlesex County, N.J., assignors to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York
Filed Aug. 3, 1966, Ser. No. 569,964
9 Claims. (Cl. 315—19)



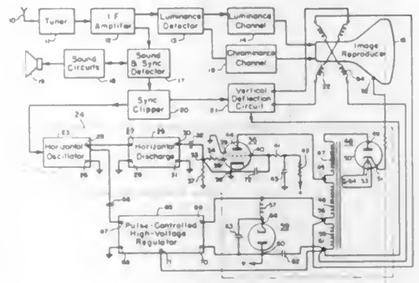
In a system where horizontal and vertical scanning signals run independently and the vertical scanning rate is dependent upon the line voltage frequency, apparatus is provided to maintain the number of horizontal lines in each frame constant. A photosensitive device detects horizontally scanned lines at a particular location on the screen and sets a multivibrator which generates a blanking pulse to block any further horizontally scanned lines until a vertical scanning retrace signal is deveioped.

3,405,312
TRANSISTORIZED OSCILLOSCOPE
Norman P. Huffnagle, Box B–4, 607 W. 11th St., Panama City, Fla. 32401
Filed June 29, 1965, Ser. No. 468,176
9 Claims. (Cl. 315—25)



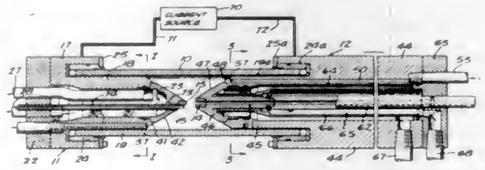
An oscilloscope system having an input with a vertical amplifier and a horizontal amplifier effectively connected thereto. A vertical voltage doubling paraphase circuit is connected to the output of the vertical amplifier, and a series connected horizontal sweep circuit and horizontal voltage doubling paraphase circuit are connected to the output of the horizontal amplifier. The vertical and horizontal deflection plates of a cathode ray tube readout are respectively connected to the outputs of the aforesaid vertical and horizontal voltage doubling paraphase circuits.

3,405,313
TELEVISION DEFLECTION APPARATUS
Melvin E. Gabriel, Niles, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed Dec. 27, 1966, Ser. No. 604,772
9 Claims. (Cl. 315—27)



1. A horizontal deflection system for generating a sawtooth scanning current in the deflection windings of a cathode-ray tube image reproducer, comprising:
an electron-discharge amplifier device having at least a cathode, a control grid, a screen grid and an anode;
a reactive load circuit, including said deflection winding, coupled to said anode;
means for rendering said electron-discharge amplifier device nonconducting during each retrace period and conducting during the latter portion of each horizontal scan period; and
means, comprising a capacitor coupled between said control grid and said screen grid, for inhibiting the production of snivets in the image reproduced by said receiver.

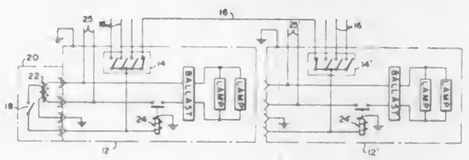
3,405,314
HIGH-PRESSURE LIGHT SOURCE HAVING INCLINED TANGENTIAL GAS SUPPLY PASSAGES
Delbert G. Van Ornum, Newport Beach, John W. Winzeler, Santa Ana, and Arthur C. Miller, Anaheim, Calif., assignors, by mesne assignments, to Giannini Scientific Corporation, Amityville, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 203,760, June 20, 1962. This application Nov. 18, 1963, Ser. No. 324,518
4 Claims. (Cl. 315—111)



1. Apparatus for generating high-intensity light, comprising:
wall means to define an arc chamber,
at least a major portion of said wall means being a surface of revolution about a central axis,
at least a portion of said wall means being light-transmissive to permit light to emanate from said chamber,

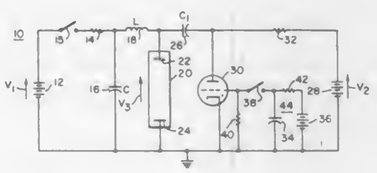
passage means inclined relative to said axis to introduce directly and generally tangentially into said chamber, for flow vortically about said axis, a relatively cool, inert gas having a pressure of at least 100 p.s.i.a. at said axis,
means to discharge gas from said chamber along said axis, and
means to create in said chamber along at least a portion of said axis a high-current electric arc or discharge,
said arc or discharge being stabilized by said gas and generating light for transmission through said light-transmissive portion of said wall means.

3,405,315
MODULAR LIGHTING SYSTEM AND CONTROL MEANS USING A SINGLE INTERCONNECTING CONDUCTOR BETWEEN ANY TWO LAMP CIRCUITS
William C. Moreland II, Franklin Township, Export, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 13, 1965, Ser. No. 495,411
5 Claims. (Cl. 315—166)



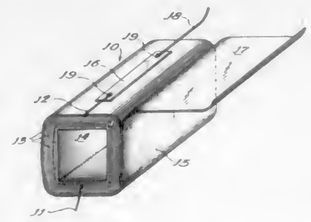
A circuit arrangement for selectively establishing lighting groups, the arrangement comprising a master switch for controlling the application of a signal to a switching device connected to control the application of power to a lamp or fixture associated therewith. Other lamps or fixtures are controlled by the same master switching by being connected thereto through associated single conductors and serially connected selector switching devices. The lighting groups are formed by simple operation (closing and opening) of the appropriate selector switching devices which complete or open circuits between the master switch and power controlling switching devices associated with the other lamps or fixtures.

3,405,316
ELECTRICAL TRIGGERING SYSTEM
Thaddeus A. Osial, Pittsburgh, Kenneth B. Steinbruegge, Wilkinsburg, and Richard J. Ravas, Monroeville, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 7, 1966, Ser. No. 555,872
4 Claims. (Cl. 315—243)



This invention relates to a triggering circuit for an electron discharge device such as a laser pumping lamp and illustratively includes a first capacitor for storing a potential charge less than that required to ignite the laser pumping lamp, a first potential source for charging the first capacitor, an inductance means disposed between the first capacitor and the laser pumping lamp, a second capacitor for initially igniting the laser pumping lamp, a second potential source for charging the second capacitor to a potential sufficient to cause the breakdown of the laser pumping lamp, and a switching means for applying the second capacitor across the pumping lamp so as to apply a potential of an opposite sense to that applied by the first capacitor.

3,405,317
FUSED COIL HAVING POSITIVE BREAK
William C. Anderson, Winfield, Ill., assignor to Jefferson Electric Company, a corporation of Delaware
Filed May 13, 1966, Ser. No. 549,917
8 Claims. (Cl. 317—15)



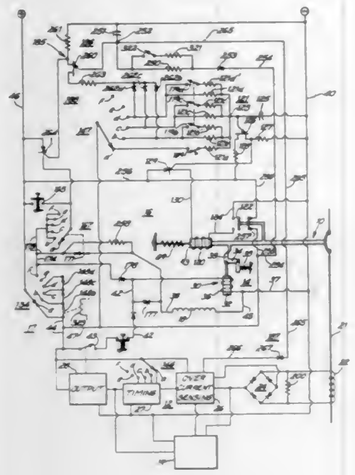
An electric coil includes a thermally responsive fuse connected between the finish end and the coil lead. The fuse comprises a strip of metal foil, the metal being a fusible alloy, melting point 125° C. The coil wrapper is lapped over itself to provide a flap, the foil strip being located beneath the flap, together with the finish end and the lead. In a modification, the flap has windows exposing the fuse so that the finish end and the coil lead can extend through the windows. The foil strip may have terminals of tinned copper strips welded thereto.

In another modification, the foil strip is connected to the start end, and located between the winding tube and the winding. The winding tube has a window to accommodate the coil lead. This modification can be wound as a part of a multicoil stick on a continuous winding tube having a plurality of foil strips connected end to end by tinned copper strips.

3,405,318
REPEATING CIRCUIT INTERRUPTER
Clyde Gilker, South Milwaukee, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Sept. 20, 1965, Ser. No. 488,371
29 Claims. (Cl. 317—22)

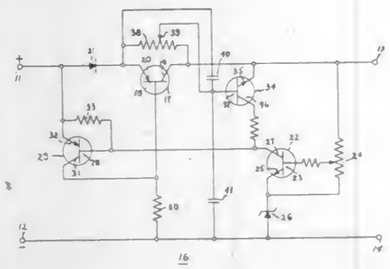
A repeating circuit interrupter in which a main switch is controlled to perform a sequence of opening and closing operations. The switch is opened after an opening time delay in response to the sensing of a relatively low overload condition by a current level detector and closed after a predetermined time delay which is relatively short for at least the first closing operation and longer for subsequent closing operations. If the overload condition continues after a predetermined number of such opening and closing operations, as determined by a sequencing circuit, the switch is locked open. In the event that the switch operates through less than the predetermined number of operations, a reset circuit resets the sequencing circuit to its initial position after a time delay sufficient to prevent inadvertent resetting. An additional current level de-

tector is provided to modify the opening, reclosing and resetting time delays and the number of operations to



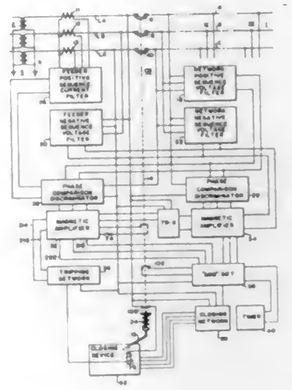
locked-open condition upon the occurrence of a higher magnitude overload condition.

3,405,319
SERIES REGULATOR WITH DISABLING NETWORK
Jerry M. Barringer, Lynchburg, Va., assignor to General Electric Company, a corporation of New York
Filed Jan. 3, 1966, Ser. No. 518,331
2 Claims. (Cl. 317—23)



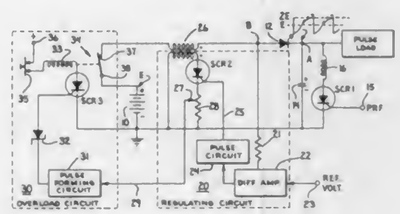
A voltage regulator including a potentiometer connected across the collector-emitter path of the series-regulating transistor to sample the voltage drop across the path to disable the regulator whenever the dissipation across the collector-emitter of the series-regulating transistor exceeds a predetermined value. The voltage across the emitter-collector path is utilized to drive a normally non-conducting switching transistor into the conductive state whenever the voltage exceeds a predetermined level. When the switching transistor is driven into the conducting state, the output from the switching transistor biases the series-regulating transistor into the non-conducting state, thereby disabling the regulator and protecting the series transistor. When the abnormal condition ceases the regulator is restored to its operative state.

3,405,320
NETWORK PROTECTOR WITH STATIC AND CIRCUIT
Paul J. Schwanenflugel, Glen Ridge, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 10, 1966, Ser. No. 548,989
15 Claims. (Cl. 317—27)



1. In a protecting apparatus, a circuit breaker having polyphase supply terminals for connection to a source of polyphase energy and polyphase load terminals for connection to a polyphase load, said breaker including operating means for connecting said load terminals with said supply terminals, an actuating network connected to said operating means and effective in a first operating condition to cause said operating means to connect said load terminals to said supply terminals, said actuating network including first and second static switching devices, each said static device having a main circuit and a control circuit for actuating its associated said main circuit from a first to a second operating condition upon the application of a first signal thereto, said actuating network being placed in its said first condition solely when said static devices are each in their said second operating conditions, a first control network having an output circuit connected to said control circuit of said first static device and having first and second input circuits, first circuit means energized by a predetermined sequence of the voltage at said load terminals and connected to said first input circuit, said first circuit means being effective to supply a second signal in response to said predetermined sequence voltage at said load terminals, second circuit means energized by a voltage differential existing between the voltage at said load terminals and the voltage at said supply terminals and connected to said second input circuit, said second circuit means being operable to supply a third signal in response to a predetermined characteristic of said differential voltage, said first control network being effective to supply said first signal to its said output circuit when energized with said second and said third signals, a second control network having an output circuit connected to said control circuit of said second static device and having first and second input circuits, third circuit means energized by a desired sequence of the voltage at said load terminals and connected to said first input circuit of said second control network, said third circuit means being effective to supply a fourth signal in response to said desired sequence voltage at said load terminals, fourth circuit means energized by a voltage differential existing between the voltage at said load terminals and the voltage at said supply terminals and connected to said second input circuit of said second control network, said fourth circuit means being operable to supply a fifth signal in response to a predetermined characteristic of said differential voltage, said second control network being effective to supply said first signal to its said output circuit when energized with said fourth and said fifth signals.

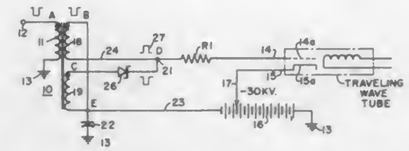
3,405,321
SOLID STATE MAGNETRON MODULATOR MISMATCH PROTECTIVE CIRCUIT
John P. Staples, Indianapolis, Ind., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 7, 1966, Ser. No. 577,784
6 Claims. (Cl. 317—33)



1. A regulation and protection circuit for a modulator having an inductance-capacitance network with a diode therebetween and a silicon controlled rectifier for discharging said capacitance to supply voltage pulses to a pulse load comprising:
- an inductive means in magnetic coupling with the inductance of said network, said inductance being in a circuit loop;
- a first switching means in said circuit loop, said switching means having a control electrode;
- fault sensing means coupled to said modulator between said inductance and diode with an output coupled to said control electrode of said first switching means to control said first switching means to limit the current flow in said circuit loop and through said inductance in said network to limit the charging voltage on said capacitance; and
- an overload circuit having a second switching means in the voltage supply to said modulator with a switch control electrode therefor coupled through a voltage limiting means to said first switching means loop to open said second switching means whenever the voltage in said loop exceeds the voltage of said limiting means.

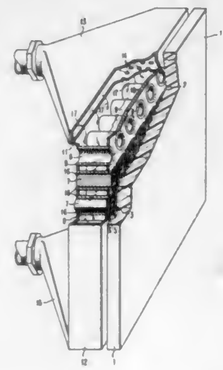
3,405,322
LOAD TRANSIENT REFLECTION SUPPRESSOR WITH DIFFERENTIAL INDUCTOR MEANS INTERPOSED IN PARALLEL LINE CIRCUITS BETWEEN THE SOURCE AND LOAD
Walter E. Milberger, Severna Park, and Wayne L. Weigle, Ellicott City, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 22, 1966, Ser. No. 559,435
5 Claims. (Cl. 317—50)

1. A system for protecting equipment at one point in a transmission line from voltage transients reflected from a second point in said transmission line comprising: differential inductor means having a winding with a common reference input-output terminal and a pair of terminals in balanced relation on either side of said reference terminal; an output terminal for said system; one of said pair of terminals being connected to said system output terminal; and a fast-acting switch connected between the other of said pair of terminals and said system output terminal, said switch being normally in open-circuit condition for applied voltages within the normal



operating voltage range but responsive to reflected voltage transients above said operating voltage to close and pass current to produce a bucking magnetomotive force in said differential inductor means.

3,405,323
APPARATUS FOR COOLING ELECTRICAL COMPONENTS
Rohinton J. Surty and Jak Taranto, Menlo Park, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Mar. 20, 1967, Ser. No. 624,549
9 Claims. (Cl. 317—100)

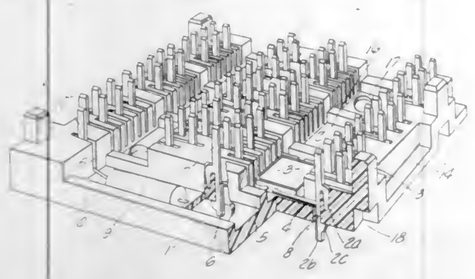


This cooling system for an electronic assembly includes studs affixed to the components to be cooled. The studs fit into a heat sink which is adapted to have a liquid circulated therein. A low melting point material bonds the studs to the walls of the heat sink. Insertion or removal of the studs is accomplished by heating the fluid within the heat sink to melt the bonding material.

3,405,324
ULTRACOMPACT MODULAR STRUCTURE FOR LOW COST MOUNTING AND INTERCONNECTION OF ELECTRONIC COMPONENTS
Lester D. Alexander, Los Angeles, and Gordon R. Stayboldt, Torrance, Calif., assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Feb. 15, 1967, Ser. No. 616,299
7 Claims. (Cl. 317—101)

A basic plug-in module is shown which is adapted to act as a carrier for electronic components and especially integrated circuit flat packs. Particular features are adaptability to high production techniques in which component wire leads are preformed before insertion into their places

on the assembly and the ease with which flow soldering techniques are applied. Components are mounted on the connector pin side of the assembly and the opposite side

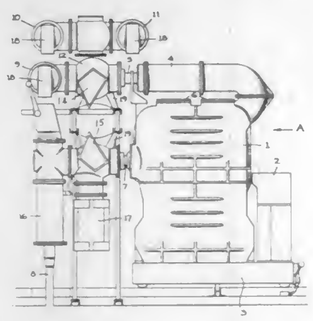


is available for interconnections either for experimental type wiring or for application of preformed or printed circuit interconnections.

3,405,325
HIGH TENSION SWITCHING STATION

Paul Brückner and Hennig Gremmel, Ratingen, Alfred Hartig, Essen, and Hans-Günther Schütte and Günter Leonhardt, Ratingen, Germany, assignors to Calor-Emag Elektrizitats-Aktiengesellschaft, Ratingen, near Dusseldorf, Germany, a corporation of Germany

Filed Nov. 8, 1965, Ser. No. 506,641
Claims priority, application Germany, Nov. 7, 1964, C 34,311; Nov. 21, 1964, C 34,439
7 Claims. (Cl. 317—103)



A high tension switching station with a fixed component having coupling contacts positioned therein and insulated from ground, a movable power switch element also insulated from ground and having insulated couplings for making contact with the fixed station coupling contacts, and a closure mechanism in the fixed component for sealing the insulating material surrounding the coupling contacts during disengagement between the coupling contacts.

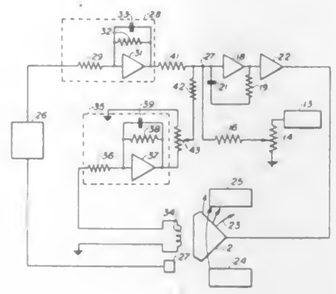
3,405,326
MAGNET SWEEP CONTROL CIRCUIT

George W. Barton, Jr., Alamo, and Ronald J. Dupzyk, Livermore, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed June 4, 1965, Ser. No. 461,562
8 Claims. (Cl. 317—123)

1. In a system for controlling a time varying output function, the feedback combination comprising:

(a) a first feedback loop including a rate sensitive transducer responsively generative of a first signal of a predetermined roll-on rate whose amplitude closely follows the time rate of change of said output function; and a first roll-off means having a corner frequency f_c, having a flat frequency response at frequencies substantially below said corner frequency and having at frequencies substantially higher than the corner frequency a roll-off rate substantially equal to said roll-on rate of said first transducer, said roll-off means disposed to receive at a first input terminal said first signal from said first transducer and reponsively provide a rolled-off first output signal at a first output channel,



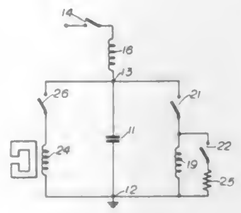
(b) at least a second feedback loop including a position sensitive transducer responsively generative of a second signal proportionate to the instantaneous value of said output function; a second roll-off means having a frequency response characteristic substantially equivalent to the frequency response characteristic of said first roll-off means, said second roll-off means provided with an input channel to receive said second signal and responsively provide a rolled-off second output signal at a second output channel; and

(c) summing means disposed to receive and add said output signals at least from said output channels of said first and second roll-off means.

3,405,327
PULSE ENERGIZING AND ENERGY RECOVERY SYSTEM FOR AN ELECTROMAGNET

John L. Cole, Palo Alto, and Julius J. Muray, Los Altos, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Oct. 19, 1965, Ser. No. 498,170
6 Claims. (Cl. 317—151)

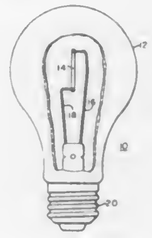


A system for pulse energizing an electromagnet having a single winding wherein by switching a current source to charge, a capacitor is charged from a current source to a first voltage level at a first polarity, reversing the charge on the capacitor by switching it from one capacitor plate to the other through an inductance and clipping the voltage across the inductance at a precise second level that is lower in magnitude than the first level, and then applying the reversed charge to the electromagnet winding to simultaneously energize the electromagnet and partially recharge the capacitor in the direction of the first polarity.

3,405,328
INCANDESCENT LAMP WITH A REFRACTORY METAL CARBIDE FILAMENT

Herman A. Johansen, Monroeville, and James G. Cleary, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 2, 1966, Ser. No. 531,134
4 Claims. (Cl. 317—222)

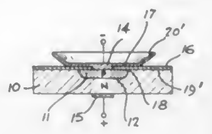


The invention provides a refractory metal carbide filament, in a lamp, with a major percentage of tantalum carbide. The filament has a reservoir of carbon dispersed through it for replacing any carbon lost when carbide escapes from the filament.

3,405,329
SEMICONDUCTOR DEVICES

Alberto Loro and Stanley D. Rosenbaum, Ottawa, Ontario, Canada, assignors to Northern Electric Company Limited, Montreal, Quebec, Canada

Filed Aug. 10, 1964, Ser. No. 388,455
Claims priority, application Canada, June 12, 1964, 904,967
11 Claims. (Cl. 317—234)



A semiconductor device having a P-N junction, e.g. a diode or a transistor, is provided with an electrically conducting shield superposed on the oxide layer and electrically connected to one of the regions (P or N).

In a first form (FIGURE 1), the shield overlies the junction edge in a diode. In other forms (FIGURE 5 or 6), it overlies one or both junctions of a transistor. In another form (FIGURE 7 or 8), a shield overlies a portion of the region surrounding the junction.

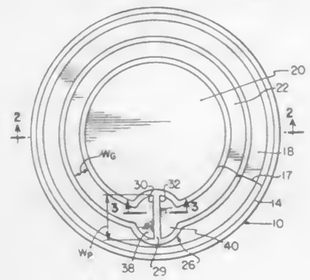
In variants of the first form (FIGURES 12 to 20) the shield terminates in an "upturned collar" diverging from the surface of the device to produce a gradually tapering electrostatic field.

The shields, and particularly the latter variants (FIGURES 12 to 20) afford improved breakdown voltages. In a transistor, a shield over the emitter base junction improves gain stability, while a guard shield (FIGURE 7 or 8) prevents channelling from the P-N junction to a side surface of the device.

3,405,330
REMOTE-CUTOFF FIELD EFFECT TRANSISTOR

David F. Hilbiber, Los Altos, Calif., assignor to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware

Filed Nov. 10, 1965, Ser. No. 507,134
5 Claims. (Cl. 317—235)

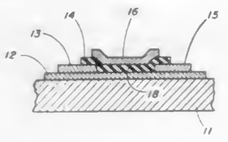


A semiconductor field-effect device having a remote-cutoff characteristic and having a channel region with a pair of spaced channel contacts. Between the channel contacts is a monocrystalline gate region which forms a continuous interruption of the current path at the surface of the device between the pair of channel contacts, except for a gap. The gap provides a second current path through the channel region at the surface so as to modify the characteristics of the field-effect device to provide a remote-cutoff characteristic.

3,405,331
INSULATED GATE FIELD EFFECT TRANSISTOR USING LEAD SALT

James F. Skalski, West Hyattsville, and Marcella C. Petree, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy

Filed June 29, 1966, Ser. No. 562,446
12 Claims. (Cl. 317—235)



1. A thin film active semiconductor comprising an insulating substrate,

an epitaxial semiconductor film of a lead salt deposited thereon, and

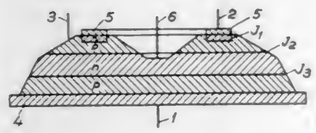
first and second spaced apart ohmic electrodes forming electrical junctions on said semiconductor film, whereby said semiconductor material provides a low resistance electrical path between said electrodes.

2. The device of claim 1 further comprising

biasing means connecting said first and second elec-

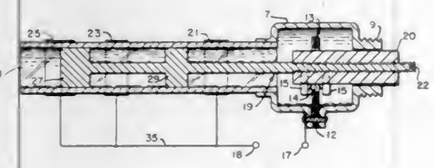
trodes establishing an electrical signal path therebetween,
a third electrode separated from said first and second electrodes by a thin layer of insulating material, and
means connected between said third and first electrodes for modulating said electrical signal.

3,405,332
SEMI-CONDUCTOR DEVICE WITH INCREASED REVERSE AND FORWARD BLOCKING VOLTAGES
Per Svedberg, Vallingby, and Eric Spicar, Ludvika, Sweden, assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed Jan. 26, 1966, Ser. No. 523,171
Claims priority, application Sweden, Jan. 30, 1965, 1,258/65
3 Claims. (Cl. 317—235)



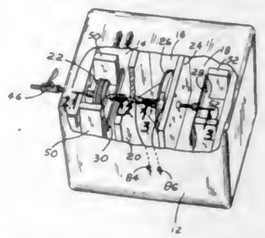
A controllable semi-conductor device has two connections for the load current and has three junctions between alternately p- and n-conducting layers; the base layers have low conductivity; a control electrode is connected to one of the base layers and a bias electrode to the other on which a sufficient voltage can be imposed to make both junctions adjacent such layer reverse biased; the area of contact of the bias electrode with such base layer is always outside the depletion layers formed at the adjacent junctions when the device is non-conducting.

3,405,333
TEMPERATURE COMPENSATING TRIMMER CAPACITOR FOR USE IN CRYSTAL OSCILLATOR CIRCUITS
Richard S. Tilton, 29 Sagmore Ave., Oceanport, N.J. 07757
Filed Jan. 13, 1967, Ser. No. 609,728
7 Claims. (Cl. 317—248)



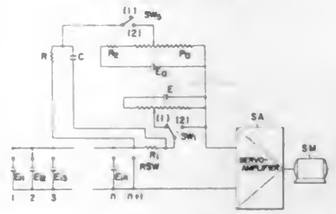
A sleeve and piston type trimmer capacitor comprising a plurality of sleeve electrodes mounted on a dielectric sleeve and one or more piston electrodes which are moveable within the dielectric sleeve to vary the capacity between the piston and sleeve electrodes. The piston electrodes are moved along the inside of the dielectric sleeve by a temperature-responsive means such as a bimetallic strip. Two arrangements of the electrodes are shown which result in a curve of temperature versus capacity which is generally sinuous. Such a capacitor is useful for temperature compensating crystal oscillators.

3,405,334
ELECTROSTATIC POWER GENERATOR DRIVEN BY PNEUMATIC POWER MEANS
Homer H. Jewett, 4244 Harwood Drive 50312, and Jerald F. Clark, 3203 62nd St. 50322, both of Des Moines, Iowa
Continuation of application Ser. No. 330,177, Dec. 12, 1963. This application Mar. 6, 1967, Ser. No. 621,065
13 Claims. (Cl. 317—250)



A variable capacitor driven by pneumatic means. The driving linkages and return springs are operatively connected so as to drive an electrode plate of the capacitor at the resonant frequency of the pneumatic means.

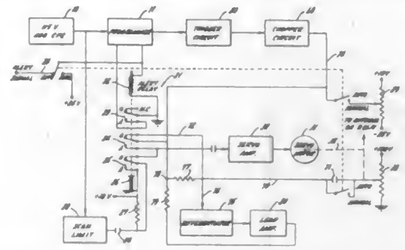
3,405,335
ZERO-DRIFT COMPENSATION DEVICE FOR SELF-BALANCING MOTOR DRIVEN INSTRUMENTS
Fumiyuki Inose, Hachioji-shi, Kenichi Isoda, Kokubunji-machi, and Toshio Numakura and Masaharu Nishimura, Kodaira-shi, Japan, assignors to Kabushiki Kaisha Hitachi Seisakusho, Chiyoda-ku, Tokyo-to, Japan, a joint-stock company of Japan
Filed July 1, 1964, Ser. No. 379,475
Claims priority, application Japan, July 4, 1963, 38/34,391
1 Claim. (Cl. 318—18)



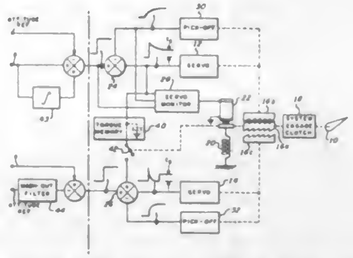
A self-balance device for use e.g., in a self-balancing recorder, which automatically compensates for zero point fluctuations of recorder indications caused by influences such as thermoelectric force of the input circuit or induction from a power transformer or servomotor. The unbalance voltage of a reference voltage and a measured voltage are amplified and applied to a servomotor, and a main potentiometer balanced by a contact connected to the servomotor; the input is periodically shorted, and a compensation potentiometer coupled to the servomotor; the output drift voltage is determined in the potentiometer, and the output voltage of the latter applied so as to cancel the drift voltage.

3,405,336
SERVO REPOSITIONING CIRCUIT IN A SERVOMOTOR DRIVE SYSTEM FOR COMPENSATING SERVOMOTOR OVERTRAVEL
Dorsey Davidoff, Fort Lee, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 7, 1965, Ser. No. 446,440
13 Claims. (Cl. 318—18)

A servo repositioning circuit coupled to a servomotor system having a potentiometer varied with servomotor rotative movement and coupled to a memory device to produce an analog voltage corresponding to servomotor overtravel after stop signal which analog overtravel voltage is switched by the servomotor stop signal to reverse the rotative direction of the servomotor by an amount to compensate for the overtravel and return the servomotor to the position it was when the stop signal was applied.



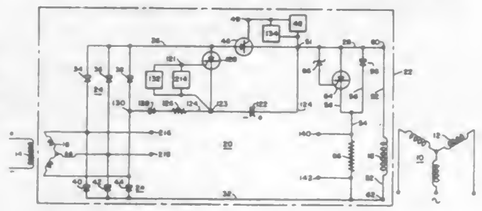
3,405,337
FAIL OPERATIONAL CONTROL SYSTEM FOR REDUNDANT SERVOS WITH TORQUE SIGNAL EQUALIZATION
Michael J. Popik, Phoenix, Ariz., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Apr. 13, 1965, Ser. No. 447,668
10 Claims. (Cl. 318—18)



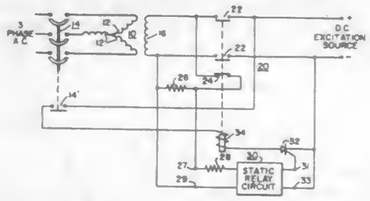
A fail operational control system in which control is switched automatically from a normally operative servo to a standby servo during malfunction with the torque signal from the normally operative servo being applied immediately to the standby servo to prevent transients and then permitted to gradually decay.

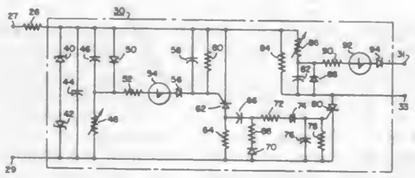
3,405,338
BRUSHLESS SYNCHRONOUS MOTOR CONTROL SYSTEM AND CIRCUITRY THEREFOR
Frank V. Frola, Monroeville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 19, 1964, Ser. No. 368,484
8 Claims. (Cl. 318—176)

1. In a brushless synchronous motor having rotating field winding means, an alternating current exciter armature rotatable with the field winding means and rectifier means connected to the exciter armature to supply direct current excitation to the field winding means, a control system comprising a discharge circuit connected across said field winding means and including a resistor for discharging current induced in the field winding means at subsynchronous speeds, a semiconductor exciter switch connected in an excitation circuit between the rectifier means and the field winding means to control said direct current excitation, a firing circuit for transmitting a sharp gating pulse to said exciter switch so as to apply the excitation voltage to said field winding means substantially at a predetermined slip voltage frequency and phase of the slip voltage cycle, said firing circuit including voltage dropping means connected across said field winding means and also including a silicon controlled rectifier frequency switch and a unijunction transistor phase switch connected in a series pulse path, a transformer connected in said series pulse path and coupled with said exciter switch so that the latter switch is fired when said series pulse path is pulsed, respective energy storage circuit means responsive to positive field voltage developed across said voltage dropping means so as respectively to fire said silicon controlled rectifier and said unijunction transistor, the energy storage means associated with said silicon controlled rectifier including a resistor-capacitor charging circuit and a diode coupling the latter circuit to said silicon controlled rectifier, said diode becoming conductive at a predetermined capacitor voltage level so that said silicon controlled rectifier is fired substantially at said predetermined slip voltage frequency, the energy storage circuit means associated with said unijunction transistor including a resistor-capacitor charging circuit coupled to the transistor emitter terminal and providing a capacitor discharge current through said transistor and said series pulse path to fire said exciter switch substantially as the induced field voltage is reversing to a negative polarity, and a resistor bypassing said transformer and said silicon controlled rectifier so as to provide a continuous path for voltage application across said transistor.



3,405,339
SYNCHRONOUS MOTOR FIELD CONTROL SYSTEM
Arthur H. Hoffmann, Monroeville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 18, 1965, Ser. No. 497,397
11 Claims. (Cl. 318—176)





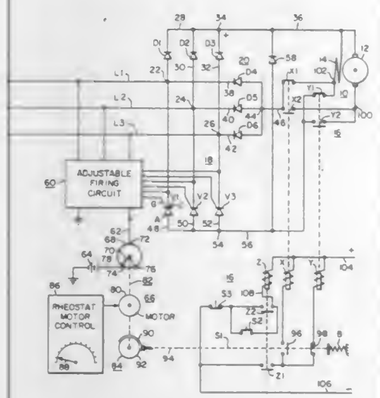
A circuit arrangement for measuring one half cycle of one polarity of a synchronous machine slip frequency to

accurately determine proper rotor speed for applying DC excitation, and for delaying a field energizing output signal during the next half cycle of the opposite polarity for a period of time complementary to the time it takes for relay contactors to close in applying excitation energy to the field of the machine.

3,405,340
DC MOTOR POWER SUPPLY HAVING SINGLE CONTROL UNIT ALTERNATIVELY VARYING ARMATURE AND FIELD VOLTAGES

Earl B. Ankenman, Cincinnati, Ohio, and Stanley E. Morgan, Williamsville, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 28, 1966, Ser. No. 530,512
4 Claims. (Cl. 318—336)



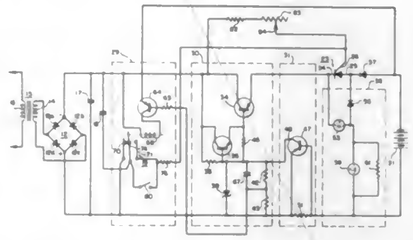
1. Apparatus for controlling a DC motor having respective field and armature windings, said apparatus comprising a controllable first AC to DC rectifier having a first DC output circuit, a second AC to DC rectifier having a second DC output circuit, switch means selectively operable in first and second modes, said switch means being connected to said first and second DC output circuits and to said armature and field windings, said switch means in the first mode connecting the first DC output circuit to the armature winding and the second DC output circuit to the field winding, said switch means in the second mode connecting the first DC output circuit to the field winding and the second DC output circuit to the armature winding.

3,405,341
GATE ELECTRODE CONTROLLED BATTERY CHARGER CIRCUIT

Roman Buchowski, now by change of name, Roman Buch, Wheeling, and Louis L. Kocsis, Elmhurst, Ill., assignors to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware

Filed Nov. 26, 1965, Ser. No. 509,844
7 Claims. (Cl. 320—33)

A system for charging a storage battery from a source of alternating current wherein the charging cycle is accurately terminated as the battery reaches a desired level of charge. A variable DC bias is applied to the gate electrode of an SCR having principal electrodes serially included in the charging circuit for the battery. By varying this bias, the minimum holding current of the SCR, and hence the ultimate level of charge of the battery, is accurately controlled. Triggering means initiate conduction through the SCR upon initial application of alternating current to the system, upon battery terminal voltage falling below a predetermined threshold value, and upon actuation of a manually operated switch. By terminating

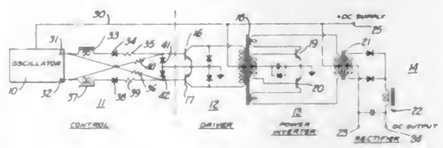


the charging cycle in response to a selected level of charging current, greatly improved charging accuracy is obtained.

3,405,342
VOLTAGE REGULATOR FOR D.C. INVERTER TYPE POWER SUPPLY

Bruce L. Wilkinson, Torrance, Calif., assignor, by mesne assignments, to Varo, Inc., Garland, Tex., a corporation of Texas

Filed Aug. 1, 1966, Ser. No. 569,197
7 Claims. (Cl. 321—2)

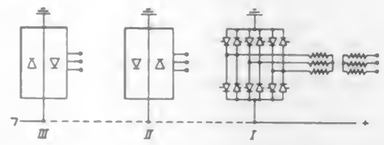


A voltage regulator for use in providing a controlled output voltage from a D.C. power source which may vary in amplitude over a wide range. A D.C. power supply of the inverter type, with a driver stage, power converter stage and a rectifier stage. A voltage regulator incorporating an oscillator for energizing the driver stage, with the oscillator energized from the D.C. power source and having an amplitude varying as a function of the amplitude of the D.C. power source and having a frequency substantially independent of the amplitude of the D.C. power source.

3,405,343
HIGH VOLTAGE STATIC CONVERTER WITH SEMICONDUCTING RECTIFIERS

Carl Ingvar Boksjö, Ludvika, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation

Filed June 8, 1966, Ser. No. 556,007
Claims priority, application Sweden, June 8, 1965, 7,449/65
4 Claims. (Cl. 321—5)



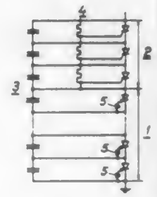
A static converter for inverter or rectifier operation having an input side and an output side, one of said sides being an A.C. side, the other being a D.C. side. Said converter comprises a set of main rectifier branches

and a set of auxiliary branches reverse-parallel connected thereto. Said auxiliary branches are in general equal to said main branches and form an over-voltage protection therefor.

3,405,344
CONVERTER WITH SEMI-CONDUCTOR RECTIFIERS

Carl Ingvar Boksjö and Erich Uhlmann, Ludvika, Sweden, assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden

Filed Oct. 14, 1966, Ser. No. 586,719
Claims priority, application Sweden, Oct. 14, 1965, 13,311/65
8 Claims. (Cl. 321—11)

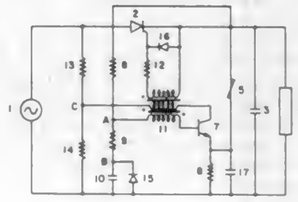


In a static converter for high voltages composed of several branches each containing thyristors connected in series, and with voltage divider means in parallel with the thyristors, the thyristors in each branch are divided into two or more groups, the voltage divider means produce different voltages across the thyristors of the two groups, during the blocking period, and means are provided to cause the thyristors of the group of higher voltage to ignite sooner than those of lower voltage.

3,405,345
CONSTANT OUTPUT VOLTAGE RECTIFYING SYSTEM

Sadamichi Someda, Hirakata-shi, Osaka-fu, and Goro Hamano, Matsubara-shi, Osaka-fu, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan

Filed Nov. 14, 1966, Ser. No. 594,085
Claims priority, application Japan, Dec. 2, 1965, 40/75,442; Dec. 3, 1965, 40/75,201
6 Claims. (Cl. 321—18)

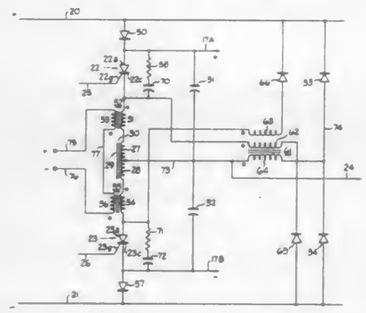


1. A constant output voltage rectifying system, comprising a rectifier having an anode, a cathode and a gate means, said rectifier having an input side adapted to be coupled to a source of AC voltage; an input filter means coupled in series with the output side of said rectifier and adapted to be coupled in parallel with a load; an output voltage dividing circuit connected to the output side of said rectifier and adapted to be in parallel with a load and having a resistor, a condenser connected in parallel with said resistor, and a non-linear resistance element connected in series with said condenser, said non-linear resistance element having a voltage-current characteristic such that the current flowing therein increases rapidly when the voltage thereof exceeds a predetermined voltage; an input voltage dividing circuit coupled in parallel with said source of AC voltage and having two resistance means connected in series; an integrating circuit having a further condenser, a diode connected in parallel to said further condenser and two resistors connected in series with said diode, said integrating circuit being connected to the output side of said rectifier with said resistances between said condenser and said rectifier and adapted to be in parallel with a load, and a blocking oscillator having a transistor with an emitter, a collector and a base, and a pulse transformer having a primary, secondary and tertiary winding, one end of the primary winding being connected to said input voltage dividing circuit between said resistance means and the other end connected to said collector of the transistor, one end of the secondary winding being connected to said integrating circuit between said resistances and the other end being connected to the base of said transistor, and the tertiary winding of said transformer being connected across said gate means and said cathode of rectifier, said emitter of transistor being connected to said output voltage dividing circuit between said resistor and said non-linear resistance element therein.

3,405,346
INVERTER CIRCUIT WITH MAGNETIC BIAS TO DELAY LOAD CURRENT RISE AND WITH PRE-CHARGE CIRCUIT FOR COMMUTATING CAPACITORS

Stanley Krauthamer, Monterey Park, Calif., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Oct. 11, 1965, Ser. No. 494,712
2 Claims. (Cl. 321—45)



Magnetic bias transformers **52**, **55** coupled in series with the controlled rectifiers are initially reverse biased to saturation to delay the rise in load current through the rectifiers until the signal injected at the gate has been propagated across the rectifiers. A pre-charge circuit **16** provides an independent path for supplying energy to the commutating capacitors.

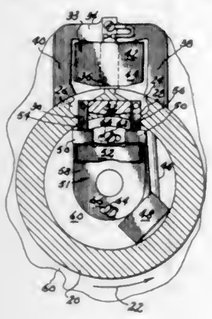
3,405,347
BREAKERLESS FLYWHEEL MAGNETO IGNITION SYSTEM

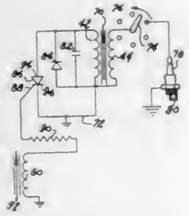
Thomas Edwin Swift, West Springfield, Elwin John Brayley, East Longmeadow, and Ray Campbell Noddin, Chicopee, Mass.; said Swift and said Brayley assignors, by mesne assignments, to Eltra Corporation, Toledo, Ohio, a corporation of New York

Continuation-in-part of application Ser. No. 469,076, July 2, 1965. This application Sept. 30, 1965, Ser. No. 491,805
15 Claims. (Cl. 322—91)

This invention provides an improved magneto system which is reliable and stable irrespective of environmental conditions, wear and the like, and has no contacts, breakers or other moving parts in addition to the rotor

itself. The conduction in the magneto winding means is initiated and terminated by a solid state device and preferably a solid state threshold device which is responsive to impulses of electrical energy to change its state be-





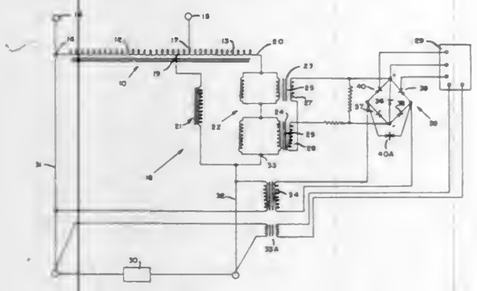
tween one of conduction and nonconduction whereby magneto operation can be controlled by relatively short duration trigger impulses. The trigger impulses may automatically produce a spark advance for increased magneto speeds.

3,405,348

VOLTAGE REGULATING SYSTEM WITH AN INDUCTIVE POTENTIAL DIVIDER INCLUDING A MAGNETIC AMPLIFIER

Boleslaw C. Biega, Deerfield, Ill., and Aloysius J. Hauck, Milwaukee, Wis., assignors to Sola Basic Industries, Inc., a corporation of Wisconsin

Filed Oct. 24, 1965, Ser. No. 504,555
5 Claims. (Cl. 323—89)



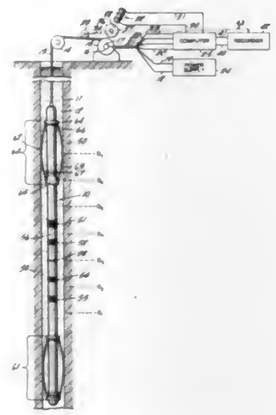
A voltage regulating system in which an inductive potential divider having a variable impedance device and a linear impedance device is connected to the load side of a transformer having unidirectionally wound main and extension windings. Regulation is obtained by controlling the reactance of the variable impedance device.

3,405,349

WELL LOGGING WITH BOREHOLE EFFECT COMPENSATION AND INCLUDING MEMORY STORAGE OF BOREHOLE MEASUREMENTS

James H. Moran, Juniper Ridge, Conn., assignor, by mesne assignments, to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Continuation of application Ser. No. 834,872, Aug. 19, 1959. This application Apr. 7, 1965, Ser. No. 449,362
19 Claims. (Cl. 324—6)



1. Apparatus to determine the value of a physical characteristic of earth matter surrounding a fluid containing well hole, said apparatus comprising sensing means adapted to be placed in said hole to detect such characteristic within a localized region extending from below to above said means to include a limited length of said hole and earth matter adjacent said limited length of said hole, said sensing means being responsive to such characteristic to represent the same by a first signal having wanted and unwanted components which are respectively derived from the earth matter in said region and the fluid contained within said limited length of said hole, means to provide a respective indication of hole width at each of a plurality of points within said limited length of said hole, means coupled to said indication providing means to combine said indications to produce a second signal representative of said unwanted component, and means to combine said first signal with said second signal to produce a modified first signal having a reduced amount of said unwanted component.

3,405,350

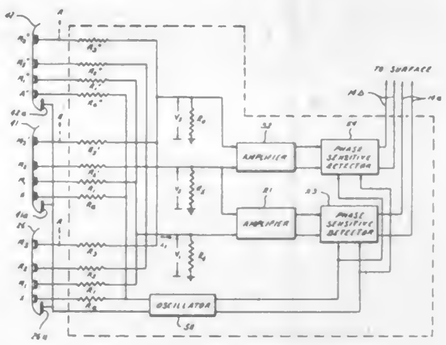
APPARATUS FOR COMBINING WELL LOGGING MEASUREMENTS DERIVED FROM A PLURALITY OF BOREHOLE WALL-ENGAGING PAD MEMBERS

Denis R. Tanguy, Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Filed Nov. 22, 1966, Ser. No. 596,182
7 Claims. (Cl. 324—10)

In accordance with an illustrative embodiment of the invention, apparatus for combining well logging measurements derived from a plurality of borehole wall-engaging pad members is disclosed. More specifically, the measurements derived from given electrodes on each pad member are averaged by a plurality of averaging circuits com-

prising relatively high value resistors connected between different ones of the electrodes and a low resistance summing resistor. The potential difference between different



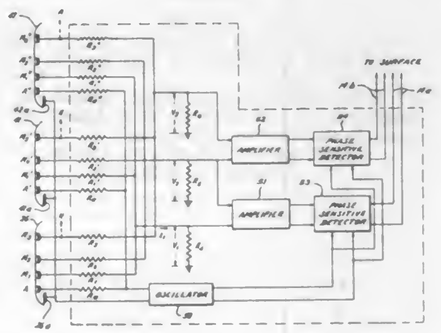
ones of the averaged measurements are obtained through the use of high input impedance amplifying means connected to different ones of the summing resistors.

3,405,351

METHODS AND APPARATUS FOR AVERAGING WELL LOGGING MEASUREMENTS

Nick A. Schuster, Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Filed Nov. 22, 1966, Ser. No. 596,204
17 Claims. (Cl. 324—10)



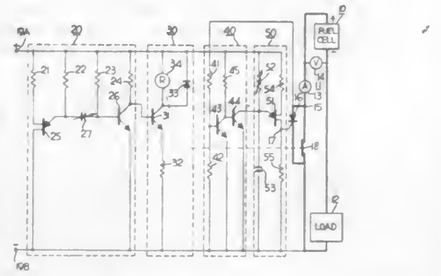
In accordance with an illustrative embodiment of the invention, the measurements derived from a plurality of investigating devices spaced at a plurality of circumferential points around the wall of a borehole are averaged to provide one averaged measurement. This averaged measurement is desirably more accurately representative of the characteristic of the formations which is measured than the individual measurements. In another embodiment, the individual measurements are monitored to determine the magnitudes of the individual measurements relative to one another and any measurement which is relatively different from the other measurements is inhibited from being averaged. If, on the other hand, all of the measurements are relatively different from one another, then all of the measurements are averaged to provide the best possible result.

3,405,352

SQUARE WAVE SWITCHING CIRCUIT HAVING SHARP TURN-ON AND TURN-OFF CHARACTERISTICS

Richard J. Wondra, West Allis, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Oct. 21, 1965, Ser. No. 499,443
10 Claims. (Cl. 324—29.5)



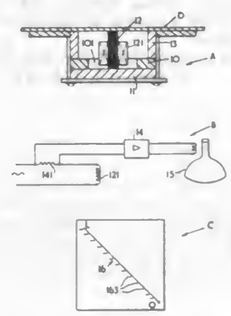
A square wave switching circuit having sharp opening and closing characteristics to permit testing of the internal conditions of a fuel cell has the parallel arrangement of an SCR and a pair of relay contacts in series with the fuel cell and a load. An oscillator cyclically turns the relay on and off, and opening of the relay contacts cuts off a short-circuiting transistor and initiates energization of an RC network which fires the SCR after a preselected delay. The sharp turn-on characteristics of the SCR and the sharp turn-off characteristics of the relay contacts provide square wave switching with steep leading and trailing edges.

3,405,353

MAGNETIC THICKNESS GAUGE USING SIMULTANEOUS CONSTANT AND AC MAGNETIZATION

Terence Princep Smith and Keith Malcolm Lack, Tipton, England, assignors to Teledictor Limited, Tipton, England, a corporation of Great Britain and Northern Ireland

Filed Apr. 6, 1966, Ser. No. 545,202
Claims priority, application Great Britain, July 21, 1965, 30,990/65
8 Claims. (Cl. 324—34)



Apparatus for measuring the thickness of sheets of ferromagnetic materials involving magnetization of such a sheet to saturation and measurement of the saturation flux. This flux is caused to flow around a complete magnetic circuit and is measured at a position in the circuit remote from the sheet. Measurement takes place by obtaining a measure of amplitudes of current peaks in a coil

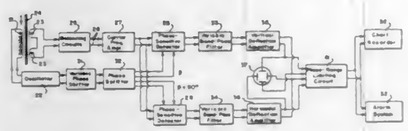
which surrounds a core in the magnetic circuit, the current driving the core to saturation and the current peaks thus depending on the flux of said magnetic circuit flowing through the core.

3,405,354

APPARATUS FOR LIMITING PHASE-ANGLE RESPONSE RANGE, PARTICULARLY IN EDDY CURRENT TESTING APPARATUS

Joseph M. Callan, Pelham Manor, and Ignacy Gerner, Forest Hills, N.Y., assignors to Magnetic Analysis Corporation, Long Island City, N.Y., a corporation of New York

Filed July 19, 1965, Ser. No. 472,955
31 Claims. (Cl. 324—40)



In eddy current testing apparatus, signals within certain phase-angle ranges may be unimportant whereas signals within other ranges may be very important. This may also be true in other environments. The present invention utilizes quadrature components of signals to produce an output limited to signals lying within a restricted phase-angle range.

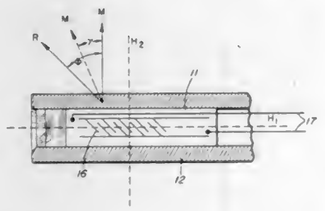
The quadrature signal components may be rectified and subtracted to yield such an output. The phase angle range may be altered by different relative amplification and by delay biasing of one rectified component. By changing the rectifier and subtracting circuits, different phase-angle characteristics may be obtained. Preferably the resultant signal is used to gate one of the quadrature signal components to the output circuit, or to gate an additive combination of the quadrature signals yielding an approximately uniform response independent of phase angle within the pass regions. Other means responsive to the relative amplitudes of the quadrature components may be used to produce the gate signal.

3,405,355

THIN FILM MAGNETORESISTANCE MAGNETOMETER HAVING A CURRENT PATH ETCHED AT AN ANGLE TO THE AXES OF MAGNETIZATION

Ralph S. Hebbert, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Feb. 26, 1965, Ser. No. 435,754
7 Claims. (Cl. 324—46)



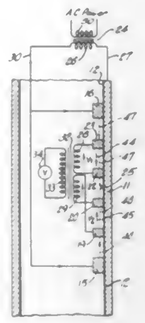
A magnetometer employing thin permalloy films having magnetoresistive properties. The relationship between the resistivity of the material and the angle of rotation of the magnetization in the film is utilized to measure external magnetic fields. When a biasing field is applied to the magnetoresistive films, fields of high intensity can be measured.

3,405,356

SYSTEM INCLUDING TWO PAIRS OF VOLTAGE ELECTRODES FOR DETECTING DISCONTINUITIES IN INSULATION COATINGS ON CONDUCTIVE CONDUIT

Laurence M. Hubby, Bellaire, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 9, 1966, Ser. No. 600,583
5 Claims. (Cl. 324—54)



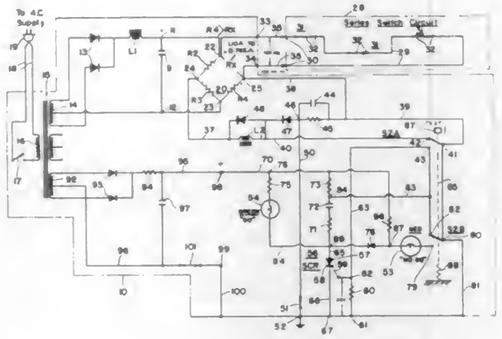
Apparatus and method for detecting the location of discontinuities in insulation coating on the inside of metallic pipe when the pipe is filled with conductive fluid. It employs a pair of current electrodes having a potential applied between them and the metallic pipe. It also has two pairs of voltage electrodes spaced apart but both located between the current electrodes. The voltages between the voltage electrode pairs are measured and compared.

3,405,357

CONTINUITY TEST BRIDGE CIRCUIT WITH SILICON-CONTROLLED RECTIFIER INDICATOR MEANS

Curtis B. Thompson, Bellevue, Wash., assignor by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Oct. 14, 1965, Ser. No. 496,201
5 Claims. (Cl. 324—51)



A silicon-controlled rectifier is connected in circuit with two colored indicator lamps to conduct operating current to the one and to short circuit the other, or to cut off said current and remove said short circuit to permit

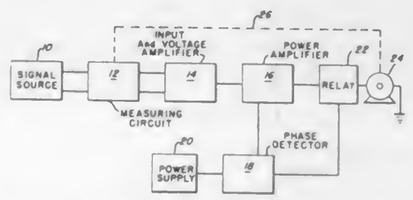
operating current to flow to the other, depending upon the value and polarity of the gating voltage applied to it. The gating voltage, as a pulse, is derived from a storage capacitor which is charged from an inductor connected to receive the unbalance output current from a bridge circuit one arm of which is a circuit to be tested for continuity and low resistance. If the circuit is normal the rectifier is triggered on and the one lamp is energized, but if not, low voltage or reversed polarity in the bridge output results and the rectifier remains off for each test so that the other lamp is energized to warn of the abnormal test circuit condition.

3,405,358

PEAK READER APPARATUS EMPLOYING A SERVO REBALANCE MOTOR OPERATING IN A SINGLE DIRECTION

Wendell P. Cropper, Olympia Fields, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Dec. 13, 1965, Ser. No. 513,484
5 Claims. (Cl. 324—103)



1. An electronic peak measurement and recorder device comprising; reference phase signal means; null-balance measuring means to detect an input signal and producing an output error signal of a first phase with respect to the reference phase when unbalanced in a first direction from a null position and producing an output error signal of a second phase 180 degrees displaced from the first phase when unbalanced in a second direction from the null position; an amplifier responsive to the output of the measuring means; a servo motor; a load resistance; relay switch means, when deactivated, for simultaneously coupling the servo motor to the output of the amplifier and decoupling the load resistance from the output of the amplifier, and, when activated, simultaneously decoupling the servo motor from the output of the amplifier and coupling the load resistor to the output of the amplifier; said servo motor being coupled to drive the measuring means to a rebalance condition in response to the output of the amplifier; a phase detector for comparing the phase of the error signal with the reference phase and for producing an output when the error signal phase and the reference phase differ; means coupling the output of the phase detector to the relay to operate the relay when the error signal phase differs from the reference phase; whereby the measuring means will be driven in one direction only and remain at its peak value for a time sufficient to record the peak of the input signal.

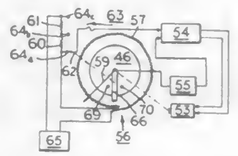
3,405,359

EXTENDED-RANGE INDICATING INSTRUMENTS

Carl E. Gilman, Reading, Cosmo Abbondante, Burlington, and Donald A. Senour, Carlisle, Mass., assignors to BLH Electronics, Inc., Waltham, Mass., a corporation of Delaware

Filed May 25, 1965, Ser. No. 458,533
13 Claims. (Cl. 324—131)

An indicating instrument, having a pointer rotated in company with a rebalancing potentiometer by a servo motor, is provided with a pair of electrical contacts auxiliary to the adjacent ends of the potentiometer and held at electrical potentials which cause the associated servo motor to drive the pointer further upscale or downscale



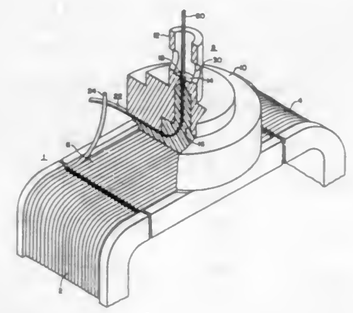
forcefully and, at the same time, to set a resistance-bank switch and range indicator which place the instrument in an appropriate one of multiple operating ranges, both electrically and visually.

3,405,360

TOWER MEMBER INCLUDING A CEMENT RECEIVING APERTURE AND FILAMENT GUIDING APERTURE FOR A TAUT BAND SUSPENSION SYSTEM

Stanley G. Hayter, Bloomfield, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 10, 1964, Ser. No. 417,324
7 Claims. (Cl. 324—154)



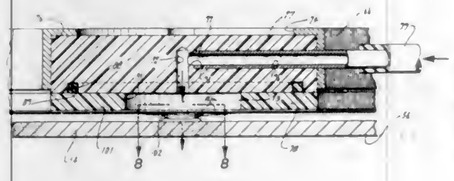
1. In a suspension type instrument in which a moving coil is supported by a filamentary element, a tower member for joining the moving coil to the filamentary element, said tower member having a first surface portion adapted to set against the coil and a second portion spaced from said first portion, said tower member being provided with a first cement receiving aperture opening outwardly through said first surface portion and a second filamentary guiding aperture opening outwardly through said second surface portion, said tower member being provided with an apertured wall separating said first and said second apertures, said wall aperture being not substantially greater in cross-sectional area than the cross-sectional area of the filamentary element, said tower member being provided with a venting passageway opening into said first aperture and opening externally of said tower member and spaced from said first surface to vent any excess material in said first aperture to the exterior of said tower member when said surface is being positioned in engagement with the coil, the cross-sectional area of said venting passageway being substantially larger than the difference in cross-sectional areas of said filamentary element at said wall and said aperture

through said wall to reduce the passage of said material through said apertured wall during assembly to the coil.

3,405,361
FLUID ACTUABLE MULTI-POINT MICROPROBE FOR SEMICONDUCTORS

Lionel E. Kattner, Santa Clara, Albert P. Youmans, Cupertino, and Patrick J. Shasby, San Jose, Calif., assignors to Signetics Corporation, Sunnyvale, Calif., a corporation of California

Filed Jan. 8, 1964, Ser. No. 336,489
5 Claims. (Cl. 324—158)

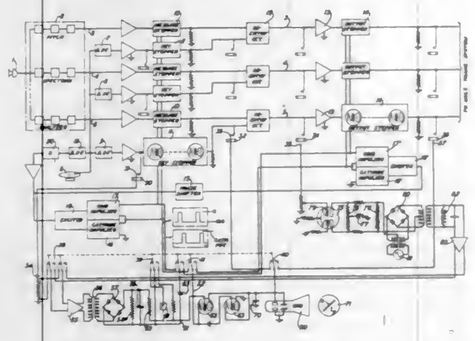


Multi-point probe for contacting closely spaced pads of a semiconductor device having a flexible sheet-like member which carries the probes that make contact with the semiconductor device. The flexible sheet-like member forms part of a chamber, into which a fluid is introduced to deform said member to cause the probes thereon to make contact with the semiconductor device.

3,405,362
SPACE DISCHARGE TUBE CIRCUIT

Robert H. Badgley, New Providence, N.J., and Luther G. Schimpf, New Brighton, N.Y., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 20, 1943, Ser. No. 514,995
8 Claims. (Cl. 328—151)

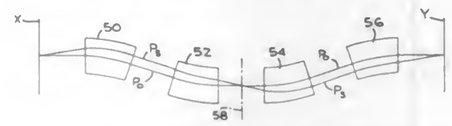


1. In a timing circuit a condenser and an indicator connected across said condenser, a first grid-controlled discharge tube having said condenser included serially in its anode-cathode circuit, a second grid-controlled discharge tube having its grid connected to the cathode of said first tube and having its cathode and anode connected in shunt to said condenser with its anode connected to the same terminal of the condenser that is connected to the cathode of the first tube, a source of anode voltage connected between said terminal and the cathode of said first tube, a circuit for impulsing the grid of said first tube to charge said condenser, and means to reduce the anode voltage applied to said first tube sufficiently to permit the second tube to discharge said condenser.

3,405,363
METHOD OF AND APPARATUS FOR DEFLECTING BEAMS OF CHARGED PARTICLES

Karl L. Brown, Menlo Park, Calif., assignor, by mesne assignments, to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Jan. 22, 1962, Ser. No. 167,489
20 Claims. (Cl. 328—230)



1. A method for achromatically deflecting a beam of non-monoenergetic charged particles which comprises subjecting the charged particles to a series of deflecting forces such that all monoenergetic particles following initially parallel paths are deflected an amount by all of the deflecting forces to satisfy the condition that:

$$\int_x^y C(t)h(t)dt=0$$

and all monoenergetic particles following initially divergent paths emanating from a point in a predetermined entrance plane are deflected an amount by all of the deflecting forces to satisfy the additional condition that:

$$\int_x^y S(t)h(t)dt=0$$

x is the entrance plane,
y is the exit plane,
t is the distance along the central trajectory of a particle P_o from the object point in the plane x,
$h(t)$ is the curvature of a particle P_o on the central orbit at position t,
$S(t)$ is the deviation from the central orbit of a particle P_s at a position t and having the same momentum as the central orbit particle P_o, and
$C(t)$ is the deviation from the central orbit of a particle P_o at position t, where the orbit of such particle P_c is parallel to the central orbit at the entrance plane x.

15. Apparatus for achromatically deflecting a beam of non-monoenergetic charged particles which comprises a convergent magnetic lens, and a pair of bending magnets positioned respectively on opposite sides of said lens so the charged particles can successively traverse the three magnetic elements, the summation of the forces produced by said elements being such that all monoenergetic particles following initially parallel paths are deflected an amount to satisfy the condition that:

$$\int_x^y C(t)h(t)dt=0$$

and all monoenergetic particles following initially divergent paths emanating from a point in a predetermined entrance plane are deflected an amount to satisfy the additional condition that:

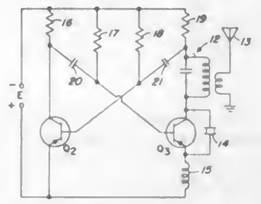
$$\int_x^y S(t)h(t)dt=0$$

x is the entrance plane,
y is the exit plane,
t is the distance along the central trajectory of a particle P_o from the object point in the plane x,
$h(t)$ is the curvature of a particle P_o on the central orbit at position t,
$S(t)$ is the deviation from the central orbit of a particle P_s at a position t and having the same momentum as the central orbit particle P_o, and
$C(t)$ is the deviation from the central orbit of a particle P_c at position t, where the orbit of such particle P_c is parallel to the central orbit at the entrance plane x.

3,405,364
REFLEX QUENCHED SUPERREGENERATIVE DETECTOR

Robert T. Hart, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed June 30, 1965, Ser. No. 468,249
7 Claims. (Cl. 329—122)

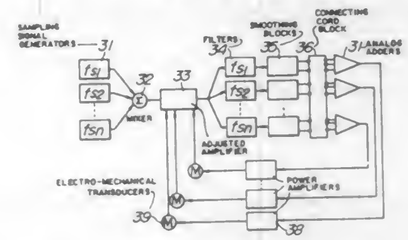


Disclosed is a superregenerative detector circuit including a first circuit portion which constitutes an astable multivibrator, a second circuit portion which constitutes an R-F oscillator, said first and second circuit portions having a common electron control means or transistor. The R-F oscillator portion is coupled to an antenna system and receives a modulated R-F signal therefrom. The frequency of the multivibrator portion is lower than the R-F oscillator portion frequency and greater than the modulation frequency of the received signal.

3,405,365
AUTOMATIC ADJUSTING SYSTEM OF TUNED AMPLIFIER

Kazutsugu Kobayashi, Kadoma-shi, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan

Filed Aug. 23, 1965, Ser. No. 481,571
Claims priority, application Japan, Aug. 29, 1964, 39/49,576; Aug. 31, 1964, 39/50,071, 39/50,072
8 Claims. (Cl. 330—2)

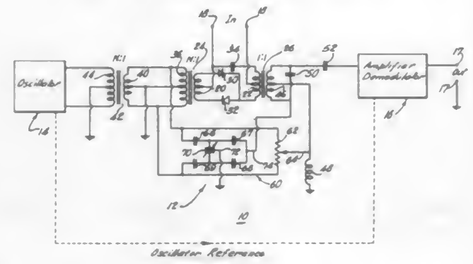


An automatic system for adjusting gain-frequency characteristic comprising a sampling signal generating means, an adjusted amplifier, filter means, rectifying and smoothing means, adding means, power amplifier, and electro-mechanical transducers, and voltage adjuster means. The sampling signal generating means supplies a sampling signal to the input of the adjusted amplifier. The output of the adjusted amplifier is decomposed into sampling frequency components by the filter means and fed to the rectifying and smoothing means through the voltage adjusting means or directly and normalized gain-frequency characteristic sample signals or gain-frequency characteristic sample signals are obtained. The adding means are fed by the output of the rectifying and smoothing means to transform the normalized gain-frequency characteristic sample signals or gain-frequency characteristic sample signals into adjusting signal voltages. The power amplifiers amplify the adjusting signal voltages and drive the electro-mechanical transducers which vary the adjusting variables of the adjusted amplifier simultaneously and enable high speed, high precision adjustment.

3,405,366
ELECTRONIC AMPLIFIER

George A. Philbrick, Dover, Mass., assignor to George A. Philbrick Researches, Inc., Dedham, Mass., a corporation of Massachusetts

Filed June 30, 1965, Ser. No. 468,279
8 Claims. (Cl. 330—7)

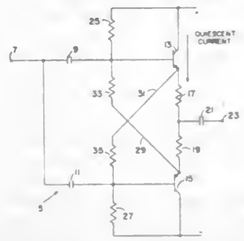


An improved high gain highly stable parametric type of amplifier in which a single pair of variable capacity diodes, a single capacitor, and a pair of transformers are arranged in a balanced bridge to which is applied a carrier wave. The balance of the bridge is changed in accordance with a low level input signal, the output from the bridge being accurately proportional to a low level input signal. Because only two diodes and a single capacitor are required, the problems of matching of components and temperature stability are considerably simplified. The use of isolating transformers gives a high degree of isolation between the input and the remainder of the amplifier circuit.

3,405,367
QUIESCENT CURRENT STABILIZED TRANSISTOR AMPLIFIER

Björn H. Engelhardt, Orlando, Fla., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Oct. 19, 1966, Ser. No. 588,675
1 Claim. (Cl. 330—13)



A transistor push-pull amplifier having a feedback loop for quiescent current stabilization. Emitter resistors are added to the output transistors for developing voltage across these resistors to provide a larger feedback voltage for stabilizing the quiescent current which will change due to aging, temperature, and other reasons.

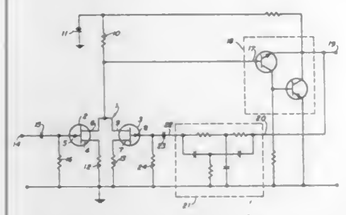
3,405,368
BAND-PASS AMPLIFIER USING FIELD EFFECT TRANSISTORS

James M. Howe, Westminster, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Dec. 30, 1965, Ser. No. 517,871
4 Claims. (Cl. 330—21)

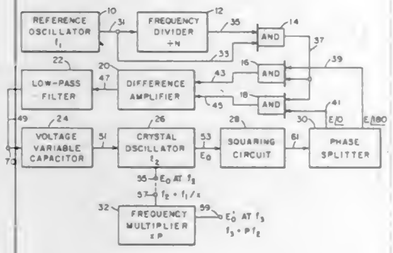
A narrow-bandwidth band-pass amplifier utilizing field-effect transistors. A summing amplifier is provided with

feedback between its output and one of its inputs. The feedback path comprises an inverter and a parallel-T



notch filter circuit. At the notch frequency of the filter the amplifier has its maximum output.

3,405,369
SYNTHETIC FREQUENCY DIVIDER
James B. Couvillon, Laurel, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 21, 1964, Ser. No. 339,280
15 Claims. (Cl. 331—14)



1. Apparatus for producing synthetic frequency division of an electrical signal comprising:

(A) a first oscillator for providing a first oscillator signal;

(B) a second oscillator for providing a second oscillator signal;

(C) frequency divider means coupled only to said first oscillator for providing a comparison signal having a frequency which is equal to f/N, where f is the frequency of said first oscillator and N is a whole number;

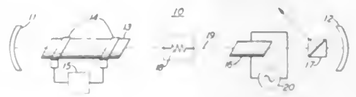
(D) said whole number N being directly proportional to the number of cycles of said first oscillator signal between phase coincidence crossover points of said first and second oscillator signals;

(E) said frequency f/N being different than the frequencies of both said first and second oscillators; and

(F) circuit means responsive to said comparison signal and said second oscillator signal, with respect to time coincidence, for controlling said second oscillator signal.

3,405,370
INTERNAL OPTICAL MODULATOR
Ivan P. Kaminow, New Shrewsbury, Eatontown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 30, 1964, Ser. No. 379,273
5 Claims. (Cl. 331—94.5)

Means for extending the permissible modulation bandwidth of optical maser modulators in which the modulation element is within the optical cavity. By combining an optical maser having a Doppler broadened transition width less than twice the resonator mode spacing with a broadband optical attenuator, cavity resonator modes



other than the carrier mode can be suppressed, thereby permitting modulation bandwidths greater than the resonator mode spacing. Critical frequency tuning of the mode suppressor is not required.

3,405,371
FLUORESCENT GARNET COMPOSITIONS AND OPTICAL MASER DEVICES UTILIZING SUCH COMPOSITIONS
Leo F. Johnson, Bedminister, and Le Grand G. Van Uitert, Morris Township, Morris County, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 300,616, Aug. 7, 1963. This application Apr. 1, 1966, Ser. No. 539,462
7 Claims. (Cl. 331—94.5)

1. A fluorescent crystalline composition of matter of the general formula

$$(M_aYb_bEr_cTm_dHo_e)Me_5O_{12}$$

wherein

M is selected from the group consisting of yttrium, gadolinium, lutetium and mixtures thereof,

Me is selected from the group consisting of gallium and aluminum,

a ranges from 0.0–2.85

b ranges from 0.05–1.5

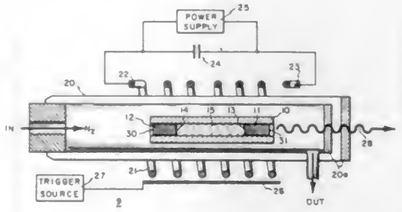
c ranges from 0.05–1.5

d ranges from 0.05–1.5

e ranges from 0.001–1.0

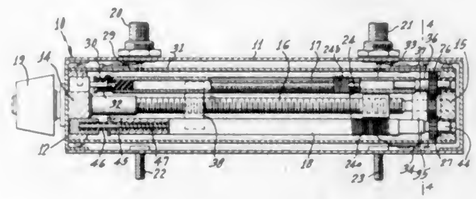
and the sum of $a+b+c+d+e$ equals 3.

3,405,372
OPTICAL MASER UTILIZING A LIQUID MEDIUM CONTAINING A CHELATE OF EUROPIUM AND DIBENZOYLMETHANE
Charles Brecher, Flushing, Alexander Lempicki, New Hyde Park, and Harold Samelson, New York, N.Y., assignors to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware
Filed Nov. 2, 1964, Ser. No. 407,961
6 Claims. (Cl. 331—94.5)



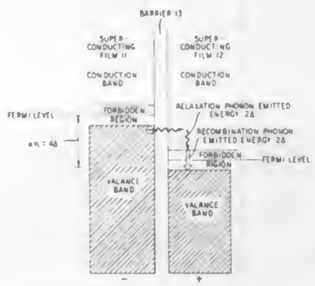
An optical maser utilizing a liquid active medium which is a solution containing a chelate of europium and dibenzoylmethane in a solvent which is a mixture of alcohol and dimethylformamide.

3,405,373
VARIABLE DELAY LINE
Eugene S. Wendolkowski, Northport, N.Y., assignor to Computer Devices Corp., Huntington Station, N.Y., a corporation of New York
Filed May 8, 1964, Ser. No. 365,876
10 Claims. (Cl. 333—29)



A distributed-constant, constant impedance, continuously variable delay line having the same impedance at the input as at the output with the input and output terminals being connected by a length of flexible conductor which is mechanically connected near one end to an insulated ground plane mandrel and near its other end to an electrically conducting shorting mandrel, with the two mandrels being adjustably rotatable, so that the conductor winds up on one mandrel while unwinding from the other, thus changing the capacitance and inductance in the same direction to change the delay time.

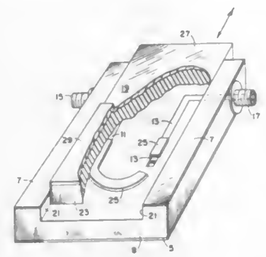
3,405,374
ULTRAHIGH FREQUENCY PHONON GENERATOR AND RELATED DEVICES
Aly H. Dayem, New Providence, Wolfgang F. Eisenmenger, Summit, and Barry I. Miller, Plainfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York
Filed Oct. 12, 1966, Ser. No. 586,247
13 Claims. (Cl. 333—30)



In the superconducting devices disclosed, phonon generation or detection is achieved through tunneling by charge carriers.

The devices include a delay line, a reversible generator-detector, a coherent phonon generator, a signal amplifier, and a spectrum analyzer.

3,405,375
STRIPLINE VARIABLE PHASE SHIFTER HAVING MEANS TO MAINTAIN A CONSTANT CHARACTERISTIC IMPEDANCE
Douglas J. Kelley, Lexington, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed May 24, 1966, Ser. No. 552,647
1 Claim. (Cl. 333—31)

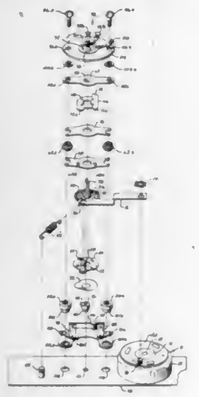


1. A printed circuit phase shifter comprising: a first planar conductor providing a first ground plane; a second planar conductor disposed in parallel with said first planar conductor providing a second ground plane; a first structural dielectric disposed between said first and second planar conductors; a pair of elongated, inner, planar conductors disposed in an inner plane intermediate said first and second ground planes, said planar conductors and said first dielectric forming a printed circuit board, one end of each of said inner planar conductors being in parallel relationship with each other; each of said inner planar conductors being connected to a transmission line connector means for connecting said phase shifter in a transmission line system, said printed circuit board having an elongated channel the depth of which is coincident with said plane of said pair of inner conductors; a dielectric slider disposed for sliding movement in said channel; a generally, U-shaped, elongated, inner conductor disposed on a lower surface of said slider superimposed on, slidably engaging said pair of inner planar conductors, said U-shaped inner conductor being substantially wider than said parallel inner conductors so as to make the impedance of said phase shifter primarily that of said U-shaped conductor, thus allowing said phase shifter to maintain a constant impedance over the entire range of phase variations, said slider having a third planar conductor being coplanar with said second ground plane, said slider means having a fourth planar conductor electrically connected to said third planar conductor and being in a plane elevated with respect to said second ground plane and extending over the area occupied by said U-shaped inner conductor for providing an unbalanced ground plane for said U-shaped inner conductor with respect to said pair of inner conductors and a second structural dielectric disposed on said third and fourth planar conductors of said slider and forming said lower surface of said slider.

3,405,376
ROTARY STEPPING MECHANISM
Clifford C. Giese, Jr., Kettering, and Ronald E. Baker and Edward A. Heilman, Dayton, Ohio, assignors to Ledex Inc., Dayton, Ohio, a corporation of Ohio
Filed Mar. 15, 1966, Ser. No. 534,463
15 Claims. (Cl. 335—138)

A stepping mechanism for driving a rotary switch is produced by mounting a reciprocating type rotary actuator adjacent the rotary switch so that the rotary axis to the switch is spaced from and parallel to the rotary axis for the actuator. A driving connection is provided by a link transverse to the aforementioned parallel axes.

In one embodiment, the link is pivotally connected to a driving ratchet mounted for rotation about the driven switch axis and transmits the reciprocating movements of the rotary actuator to the driving ratchet. A driven ratchet cooperating with the driving ratchet provides a one-



way drive between the driving ratchet and the rotary switch so as to unidirectionally step the driven switch.

In a second embodiment, the link carries a pawl which cooperates with a driven ratchet to unidirectionally step the rotary switch.

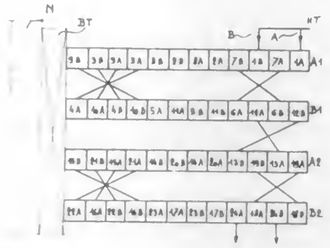
3,405,377
HOLDER FOR SOCKET WRENCH HEADS
James B. Pierce, 3414 Devon Way, Redwood City, Calif. 94061
Filed Mar. 10, 1967, Ser. No. 622,164
4 Claims. (Cl. 335—285)



A holder having a body member provided with a plurality of sockets of various diameters, each socket being dimensioned to receive a particular size socket wrench head, whereby these heads may be displayed in a prearranged pattern, and permanent magnets embedded in the body member to hold the wrench heads in place, and these magnets extending to an outer surface of the body member so that they may be placed against a metallic surface so as to support the body member and the inserted wrench heads.

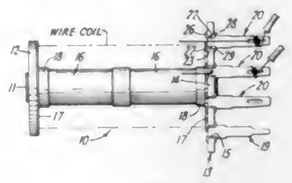
3,405,378
HIGH VOLTAGE COIL WITH FLAT DISKS
Pierre-Remey-Alexis Vincent-Martin, Aix-les-Bains, France, assignor to Alsthom-Savoisienne, Paris, France
Filed June 15, 1966, Ser. No. 557,735
Claims priority, application France, June 17, 1965, 21,230; Nov. 4, 1965, 37,287
9 Claims. (Cl. 336—70)

A high-tension winding constituted of flat disk coils distributed in the form of double disks each comprising two single disks which are connected with one another and wound in opposite directions, each of said disks consisting of two winding portions being interleaved in series by means of one of the winding portions of the other single disk of the same double disk, said winding being characterized in that the high tension voltage between conductor portions disposed oppositely on the inner surfaces of



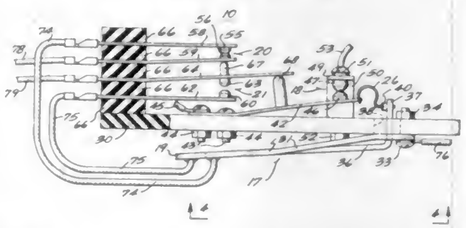
consecutive disks are at most equal to the voltage between the input and the output of a double disk coil.

3,405,379
TERMINAL ARRANGEMENT FOR COIL BOBBIN
Russell Cargill Wilson, Princeton, Ind., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Oct. 24, 1966, Ser. No. 589,092
9 Claims. (Cl. 336—192)



A prefabricated flanged bobbin to be wire wound to form an electromagnetic coil with coil terminals connected to one of the flanges at one end of the bobbin and extending outwardly therefrom, which connections each provide a protective path through the one flange and within its annular periphery for the ends of the wire to be wound thereon.

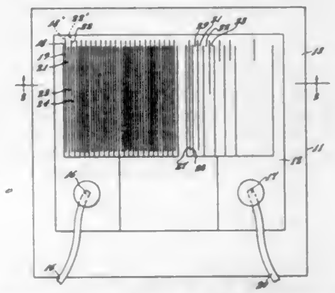
3,405,380
THERMAL RELAY HAVING SEPARATE HEATER MEANS TO OPEN OR CLOSE THE RELAY
Richard E. Riebs, Hales Corners, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Dec. 6, 1965, Ser. No. 511,750
11 Claims. (Cl. 337—36)



A thermal relay having a complex bimetallic element for operating main switch means and including first resistance heater means on a first portion thereof for operating said element in a switch open direction, second resistance heater means on a second portion thereof for operating said element in a switch closed direction and

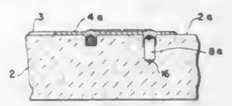
resilient means for holding the element in its operated direction. The relay also includes auxiliary switch means operative to open circuit the first resistance heater means when the element operates in the switch open direction and to open circuit the second resistance heater means when the element operates in the switch closed direction.

3,405,381
THIN FILM RESISTOR
Felix Zandman, Villanova, and Branin A. Boyd, Malvern, Pa., assignors, by mesne assignments, to Vishay Intertechnology, Inc., Malvern, Pa., a corporation of Pennsylvania
Filed May 4, 1965, Ser. No. 453,098
6 Claims. (Cl. 338—254)



A precision resistor having a predetermined pattern of thin metallic film supported on a substrate and oppositely disposed coating positioned on each side of the substrate to eliminate the effect of dimensional changes.

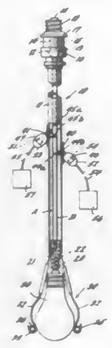
3,405,382
TERMINAL AND TAP CONNECTIONS FOR RESISTANCE ELEMENT
Alan J. Wright, Orange, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Sept. 13, 1965, Ser. No. 486,607
2 Claims. (Cl. 338—323)



A terminal lead wire connection for a resistance element in the form of a deposited layer of resistance material on a non-conductive base member. The base includes a terminal lead passage having at least two sections formed at an angle with respect to each other and adapted to snugly receive an end portion of a terminal lead wire over which is deposited a conductive material for conducting a current between the resistance layer and the terminal lead wire.

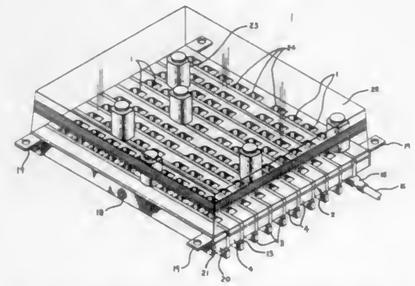
3,405,383
HAND PORTABLE ELECTRIC CURRENT TAP DEVICE
Theodore L. Jarboe, 407 Tulip Ave., Takoma Park, Md. 20012
Filed Nov. 23, 1966, Ser. No. 596,630
9 Claims. (Cl. 339—7)

A portable extension device formed by an elongated tube having a gripping means at one end for removing an elevated bulb, and adapted at the other end to be connected to the light socket for supplying power to the bulb at the one end. Plural outlets on the tube permit energizing firemen's apparatus for example. In one embodiment, the tube has a joint permitting pivoting of a



section thereof. The device may also be connected to a wall receptacle.

3,405,384
ELECTRICAL PINBOARD
John Ernest Finch, London, England, assignor to AMP Incorporated, Harrisburg, Pa.
Filed July 20, 1966, Ser. No. 566,596
Claims priority, application Great Britain, July 31, 1965, 32,891/65
10 Claims. (Cl. 339—18)

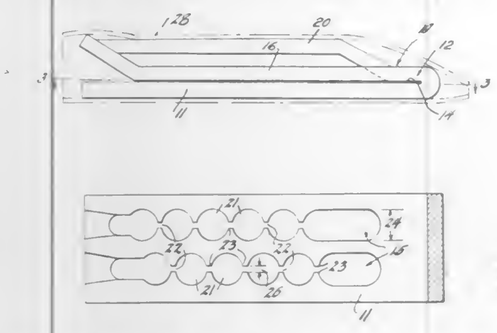


An electrical pinboard assembly is disclosed featuring insulating lamina having printed conductors on one side thereof with the lamina arranged in a manner to define apertures adapted to receive contact pins to provide an interconnection of the printed conductors. The printed conductors on the lamina include portions extending longitudinally of the aperture joined by portions extending along the length of the lamina. The contact pin includes a contact spring engaging the printed conductor at a side of the aperture on one lamina and a contact spring engaging a further conductor within a given aperture to provide a circuit connection therebetween.

3,405,385
QUICK CONNECT SOLDERLESS WIRE CONNECTOR
Willard E. Rapp, New Brunswick, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 2, 1966, Ser. No. 524,408
11 Claims. (Cl. 339—97)

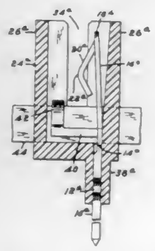
A connector retains two insulated wires in slots formed in a strip of resilient, electrically conductive metal. Each slot constitutes a series of holes, interconnected by slits

to define teeth. The strip has a U-shaped configuration with the toothed slots opposed by aligned grooves in a pressure arm. The grooves initially receive the insulated wires, whereupon pressure on the pressure arm forces the



wires into the toothed slots. The teeth bite through the insulation to electrically contact the wires and mechanically retain them in place. An electrical insulator covers the connector.

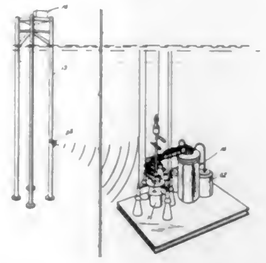
3,405,386
CONTACT USED WITH EDGE CONNECTOR
William H. McKee, West Covina, Calif., assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed May 27, 1966, Ser. No. 553,453
3 Claims. (Cl. 339—176)



This invention relates to an electrical connector for printed circuit boards. It consists of a housing which has a longitudinal slot for receiving a printed circuit board and a slot normal to the longitudinal slot for receiving a bus bar. Contacts having arms for engaging both printed circuit boards and bus bars are mounted in the housing. The bus bars are used to connect a series of housings.

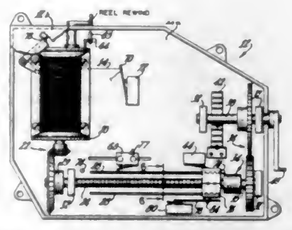
3,405,387
ACOUSTICAL UNDERWATER CONTROL APPARATUS
Paul C. Koomey, Houston, Tex., and Alan J. Streb, Baltimore, Md.; said Koomey assignor, by mesne assignments, to C. Jim Stewart & Stevenson, Inc., Houston, Tex., a corporation of Texas, and said Streb assignor to Martin Marietta Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 24, 1965, Ser. No. 504,742
6 Claims. (Cl. 340—5)

An acoustical control apparatus for controlling the operation of underwater valve equipment from the surface by coded acoustical signals and monitoring the status of the equipment by acoustical signals. A radioisotope thermoelectric generator positioned underwater continuously charging a battery which powers a pump for maintaining hydraulic pressure in an accumulator for actuating an underwater valve, all of which is controlled and monitored



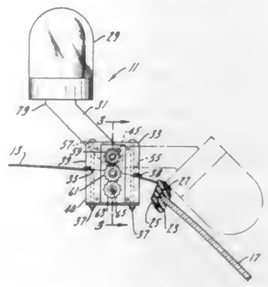
about the water surface by the use of coded acoustical signals.

3,405,388
DRIFT ALARM SYSTEM FOR BOATS
John Joseph Byrne, New York, N.Y.
(9 Benedict Place, Greenwich, Conn. 06830)
Continuation-in-part of application Ser. No. 324,089, Nov. 15, 1963. This application July 26, 1965, Ser. No. 474,919
3 Claims. (Cl. 340—29)



An apparatus for detecting the dragging of an anchor by a ship. A dual alarm system is employed. Warning means indicate drift within a preset range and alarm means indicate drift beyond a critical range. A drift distance indicator is provided.

3,405,389
VEHICLE ADJUSTABLE WARNING LIGHT
William A. Romain, Western Springs, Ill., assignor to Novo Industrial Corporation, New York, N.Y., a corporation of New York
Filed Jan. 3, 1966, Ser. No. 518,190
8 Claims. (Cl. 340—87)



1. For use in a vehicle having a roof, a windshield located in front of and below said roof and a rearview mirror mounted behind said windshield and below said roof, a warning light assembly adapted to be mounted on said roof including:

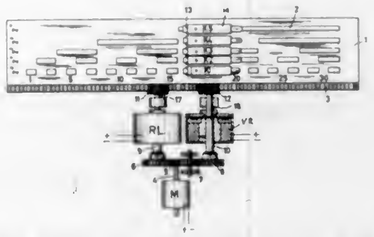
a base adapted to be attached to said roof,

a warning light,

an arm supporting said warning light being pivotally connected to said base and moveable between a rearward position in which said warning light is positioned above said roof and is visible from a position rearwardly of the vehicle to a forward position in which said warning light is located substantially below the roof of said vehicle and forward of the windshield, and

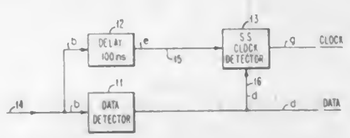
means located inside of said vehicle for rotating said arm between said forward and rearward positions.

3,405,390
SELECTION CONTROL CIRCUIT FOR ADDRESSING COMPONENTS OF A DATA PROCESSING SYSTEM
Klaus Tauchert, Villingen, Germany, assignor to Kienzle Apparate GmbH., Villingen im Black Forest, Germany
Continuation of application Ser. No. 474,395, July 23, 1965. This application Oct. 30, 1967, Ser. No. 679,264
Claims priority, application Germany, July 25, 1964, K 53,564
12 Claims. (Cl. 340—146.2)



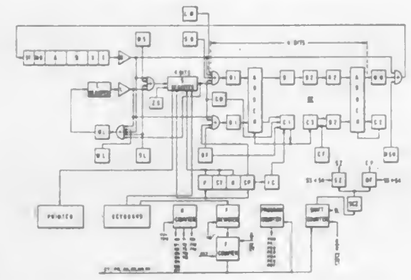
An arrangement for moving a mechanical apparatus from one position to another position, in accordance with the directions of a digital code. The first or old position is stored in digital binary form by one set of switches. A second set of switches receives the new address, also transmitted in binary form. The old and the new address are compared to determine whether the magnitude of the new address is greater, smaller, or equal to the magnitude of the old address. Appropriate signals are derived from the comparison procedure to drive the mechanical apparatus to the new position corresponding precisely to the new address.

3,405,391
DOUBLE FREQUENCY DETECTION SYSTEM
Martin O. Halfhill and Harold C. Stephens, San Jose, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 21, 1964, Ser. No. 419,797
5 Claims. (Cl. 340—167)



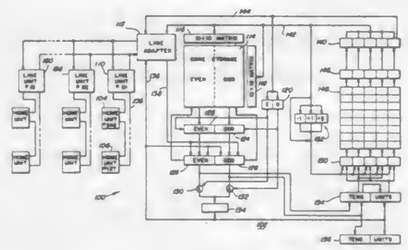
A playback system for reading out magne ically recorded double frequency coded data includes timing and delay circuitry for detecting and separating the clock bits from the data bits.

3,405,392
ELECTRONIC CALCULATORS
James F. Milne, Penfield, N.Y., and Shimshon Zur, Fairfield, Conn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 30, 1965, Ser. No. 452,218
21 Claims. (Cl. 340—172.5)



An electronic desk calculator of the print out variety having a decimal preselect dial and rotating shutter means settable by the dial for detecting the position along the print out span at which a decimal should be printed and providing a signal to cause printing of the decimal at the preselected position. The decimal preselect dial also selects the number of decimal places to the right of the decimal place required to accommodate certain arithmetic functions. Means are provided for counting each digit entered into the calculator after depression of the decimal point key. If the number of decimal digits entered via the keyboard does not equal the number selected on the decimal preselect dial, zeroes are automatically entered into the calculator until all the decimal positions are filled.

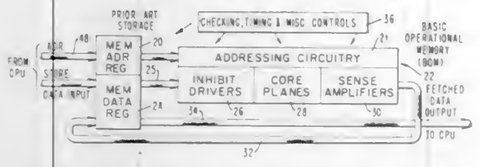
3,405,393
DATA HANDLING SYSTEM
Donald E. Haselwood, Deerfield, Ill., assignor to A. C. Nielsen Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 15, 1965, Ser. No. 496,361
24 Claims. (Cl. 340—172.5)



A data handling system for collecting and processing data from a plurality of external stations combines a computer or central data processor and its addressable storage and addressing units with a data acquisition network that permits data requests and collected data to flow between the computer and the external stations without special instruction or address conversion. Addressable line terminating units containing a register are added to the computer's usual storage facility, and each line unit is associated with a group of the remote stations. Each line unit also includes circuitry for interrogating the remote stations. When a number corresponding to a particular station is placed in one of these registers from addressa-

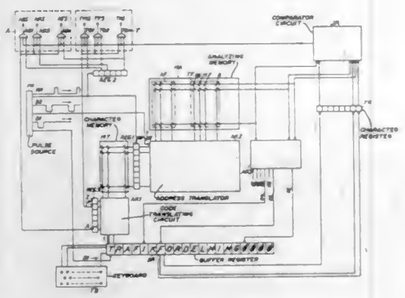
ble storage in the computer, the associated circuitry automatically interrogates the selected station. The data returned by the station is placed in the same register and then transferred into addressable storage from which it is available to the computer.

3,405,394
CONTROLLED REGISTER ACCESSING
Jules F. Dirac, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 22, 1965, Ser. No. 515,657
13 Claims. (Cl. 340—172.5)



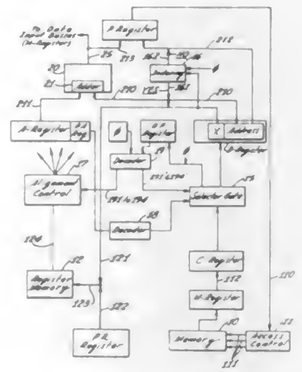
In the environment of a data processing system, an apparatus for controlling access to a storage unit is disclosed. The accessibility condition of the storage unit is identified by the bit configuration within a particular location in or associated with the storage unit. The bit configuration is directly forced to a preestablished code whenever the location is accessed. Further accessing of that location causes the preestablished bit configuration to be read-out and tested thereby signifying that the storage unit is in a nonaccessible condition. That further accessing directly causes a preestablished bit configuration to be forced into the location independently of what accessibility condition was detected by the test on the read-out bit configuration. When it is desired to remove the nonaccessibility condition, the bit configuration in the location is reset.

3,405,395
CIRCUIT ARRANGEMENT FOR ACTIVATING AN ELECTRIC CIRCUIT BY MEANS OF AN INSTRUCTION WORD
Sven-Erik Wallin, Enskede, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed Apr. 12, 1966, Ser. No. 542,147
Claims priority, application Sweden, Apr. 27, 1965, 5,457/65
3 Claims. (Cl. 340—172.5)



There is disclosed a circuit system for operating a circuit selected among a plurality of circuits wherein a unique instruction word is associated with each of the circuits. The instruction words are recorded in memory in word rows and character columns. An indication is separately recorded of the location of the first column in memory in which all characters are different from each other. When a test word is stored in a buffer register to be compared with the words stored in memory, only that character of the test word which corresponds in position to said first column in memory with all different characters is compared with the characters in said memory column in order to select the word in memory corresponding to the test word and thus select one of the plurality of circuits.

3,405,396
DIGITAL DATA PROCESSING SYSTEMS
Myron J. Mendelson, Encino, and Alfred W. England, Reseda, Calif., assignors to Scientific Data Systems, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Apr. 29, 1966, Ser. No. 546,279
21 Claims. (Cl. 340—172.5)



1. In a digital processing system, having a memory comprised of individually addressable storage locations, each such location having a plurality of storage cells, and including means for accessing the locations, the combination comprising:

first means for providing addressing numbers individually identifying memory locations:

second means for providing address modifying numbers;

means responsive to a modifying number when provided by said second means and subjecting such modifying number to an arithmetic operation to arrive at a second and third modifying number;

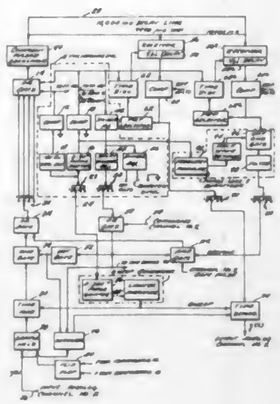
means for arithmetically combining said second modifying number with an addressing number as concurrently providde by said first means, thereby providing a resulting addressing number applied to the memory accessing means; and

means responsive to said third modifying number for providing operative restrictions for the content of the memory location identified by the resulting addressing number, the restriction relating to the content of a particular number of storage cells in the latter memory location and identified by the third modifying number.

3,405,397
MULTI-CHANNEL DYNAMIC MEMORY SYSTEM FOR ANALOG SIGNALS
Stanley H. Jury, 6008 Kaywood Drive, Knoxville, Tenn. 37920
Filed Jan. 21, 1965, Ser. No. 426,920
14 Claims. (Cl. 340—173)

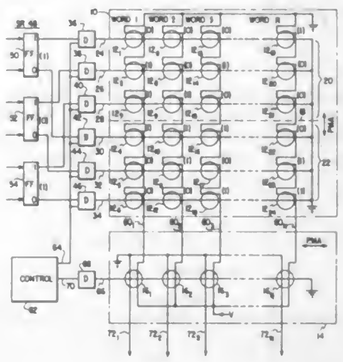
A dynamic analog memory wherein input information is first converted to a staircase replica of the analog

function. Each step of the staircase is then time modulated and the resultant pulses trigger an oscillator to provide high frequency pulse bursts. These bursts are propagated along a delay line. If readout is desired, the delay line is tapped at a prescribed point, and the operations performed to develop the high frequency bursts



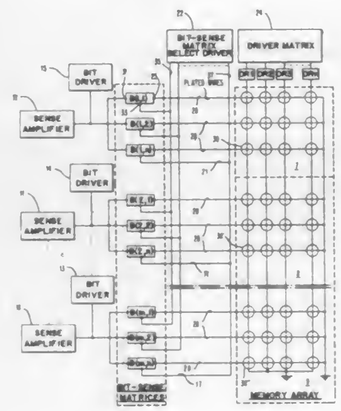
are reversed so as to reconstruct the original analog function. If long term storage is desired, the delay line is tapped at another point. The pulse bursts in this case are converted to the form of the original triggering pulses, and these are fed back to the oscillator to cause recirculation of the stored information.

3,405,398
THIN FILM DETECTOR
William B. Johnson, Richfield, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 16, 1964, Ser. No. 360,317
28 Claims. (Cl. 340—174)



A magnetic thin film search memory employing thin films as output detectors. A signal on a drive winding oriented parallel to the preferred magnetic axis of a "steered" thin film rotates the flux substantially perpendicular to the preferred magnetic axis. Signals are selectively applied to plural drive windings associated with plural steering films to rotate the flux therein. A closed loop transfer winding is inductively coupled with the steering films and the steered film and is oriented substantially transverse to the preferred magnetic axis of the steered film. The signals applied to the drive windings of the steering films either begin or terminate at the same time the signal on the drive winding of the steered film is terminated. The current induced in the transfer winding by the steering films controls the direction in which the rotated flux of the steered film returns to the preferred magnetic axis.

3,405,399
MATRIX SELECTION CIRCUIT
Carlos F. Chong and Charles A. Nelson, Philadelphia, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 16, 1964, Ser. No. 375,522
31 Claims. (Cl. 340—174)

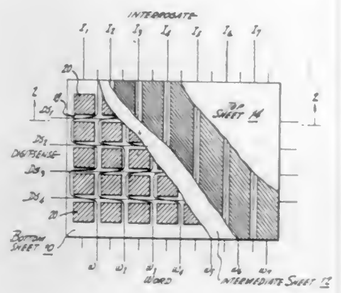


The invention relates to a memory arrangement whereby any one of a plurality of memory elements can be connected either to a sense amplifier during a read cycle or a bit driver during a write cycle. For example, considering a memory with a capacity of 16,384 words of 9 bits each, one such word may be selected by energizing one of 1,024 drive lines. The selected word line will actually select 16 words of 9 bits each. However, the bit-sense matrix selection circuit of this invention selects only the 9 bits of the required word. The bit-sense matrix which acts as a low impedance switch couples these nine bits to the required nine sense amplifiers during a read cycle or during a write cycle, couples a steering current in any one of two directions to the nine bits of the selected word from nine different bit drivers.

3,405,400
NONDESTRUCTIVE READOUT MEMORY
Hemmige Venkata Rangachar, Collingswood, and Luke Dillion, Jr., Burlington, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed June 29, 1964, Ser. No. 378,510
11 Claims. (Cl. 340—174)

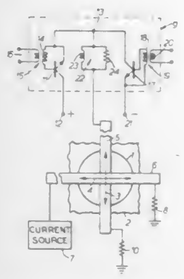
A nondestructive readout memory having conductors in grooves at interfaces of three assembled magnetic sheets. The surfaces of a bottom ferrite sheet and a top ferrite sheet at their interfaces with an intermediate "soft" permalloy sheet are provided with grooves. Digit-sense conductors and word conductors are provided in

the grooves at one interface. Each word conductor includes straight portions each of which lies closely parallel with a straight portion of one digit-sense conductor. Interrogate conductors are provided in the grooves at the other interface so that each extends in orthogonal rela-



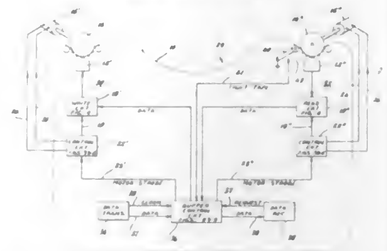
tion with the centers of straight parallel portions of digit-sense and word conductors.

3,405,401
PULSE GENERATING COMPENSATION CIRCUITS IN MAGNETIC THIN FILM DEVICES
John Bernard James, London, England, assignor to International Computers and Tabulators Limited
Filed July 14, 1964, Ser. No. 382,574
Claims priority, application Great Britain, July 19, 1963, 28,661/63
7 Claims. (Cl. 340—174)



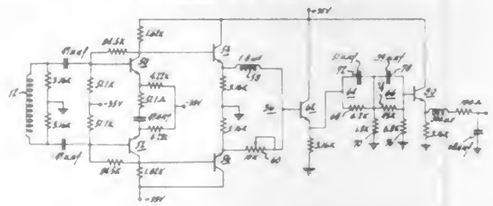
In thin magnetic film devices, wherein the thin films are supported on an electrically conducting substrate, and are controlled by the external magnetic fields generated by the energization of drive conductors magnetically linked with the film, it has previously been understood that each energization produces eddy currents in the substrate which reinforce the applied magnetic field acting on the film. In pulse-operated devices of this kind the eddy current component of the total magnetic field has been found to decrease with time. There is disclosed an arrangement in which drive currents for the conductors are supplied by a pulse generating circuit which includes, in series with a drive conductor, a circuit comprising a parallel resistor/inductor combination having a time constant approximately equal to the time constant of the eddy currents. Under these conditions the amplitude of drive current pulses in a serially-applied train is varied to compensate for the changes in the effective magnetic fields which would otherwise be produced due to the eddy current variations.

3,405,402
SYNCHRONIZED INCREMENTAL DRIVE FOR MAGNETIC TAPE RECORDER-REPRODUCER
William Reid Smith-Vaniz, Darien, Conn., assignor to Wiltek, Inc., a corporation of Connecticut
Filed Mar. 18, 1964, Ser. No. 352,909
17 Claims. (Cl. 340—174.1)



The disclosed recorder-reproducer records random data inputs on a sprocketed magnetic tape or reads out recorded data on command. Transducers are positioned adjacent the tape at a point where it is engaged by a sprocket driven by a stepping motor. The recording or reproducing operation is coordinated with each tape step by a synchronizing circuit which includes a multivibrator whose output varies according to the input or output data rates above a pre-determined level. A motor drive circuit includes a capacitor assisting winding current reversals necessary for stepping operation.

3,405,403
READBACK CIRCUITS FOR INFORMATION STORAGE SYSTEMS
George V. Jacoby, Bala-Cynwyd, Pa., and Joseph D. Gleitman, Camden, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Mar. 3, 1965, Ser. No. 436,764
6 Claims. (Cl. 340—174.1)

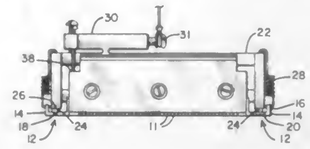


A readback circuit provides phase and amplitude compensated readback signals. The readback circuit boosts the amplitude of the frequency components in the readback signal up to a desired cut-off frequency, so as to provide a substantially linear amplitude response up to the cut-off frequency. The readback circuit also phase shifts the readback signal so as to provide an overall phase shifting that is substantially quadrantal.

3,405,404
AIR BEARING MAGNETIC HEAD MOUNTING
Wesley R. Johnson, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 4, 1965, Ser. No. 492,385
16 Claims. (Cl. 340—174.1)

The present invention is directed to magnetic head structures. A particular head provides a stable mounting for a multiple channel flying magnetic record-read head. Ball points provide a zero clearance mount under load to reduce head vibration and yet allow the free movement

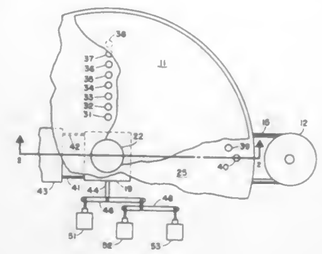
necessary for landing the head in a flying position. The ball studs seat in cone and V-shaped ball seats, which



hold accurately and reduce the need for close tolerances on the studs. The head is spring-retained to the cradle.

3,405,405
DISPLACEABLE DISC MAGNETIC STORAGE ASSEMBLY
Thomas A. Boissevain, Bedford, and Frederick J. Dow, North Billerica, Mass., assignors to Laboratory for Electronics, Inc., Waltham, Mass., a corporation of Delaware
Filed Aug. 11, 1965, Ser. No. 479,364
8 Claims. (Cl. 340—174.1)

A disc storage device which makes use of a flexible disc is mounted so that its position can be shifted while it is rotating. In this way, each head for reading and writing on the disc is adapted to cooperate selectively with one of several tracks. The heads are recessed in a stationary



backing plate which underlies the disc. To maintain close spacing between the heads and the disc, jets of air impinge upon the disc from above where the heads are located.

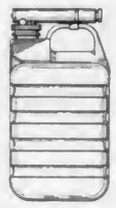
DESIGNS

OCTOBER 8, 1968

212,349
PULL FOR A SLIDE FASTENER
Gerald F. Harlam, Providence, R.I., assignor to Pilling Chain Co., Inc., West Barrington, R.I., a corporation of Delaware
Filed May 31, 1967, Ser. No. 7,314
Term of patent 14 years
(Cl. D2—415)



212,350
COMBINED JUG AND DISPENSER
Norman A. Kelly, Wayne Township, Kosciusko County, Ind., assignor to Haskon, Inc., Warsaw, Ind., a corporation of Delaware
Filed Jan. 16, 1967, Ser. No. 5,446
Term of patent 14 years
(Cl. D9—52)



212,351
COMBINED BOTTLE AND CAP
Carl J. Strobe, Winnetka, Ill., assignor to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware
Filed Jan. 3, 1968, Ser. No. 10,039
Term of patent 14 years
(Cl. D9—58)



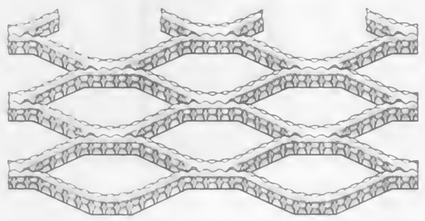
212,352
CUP
Paul Davis, 18 Parsons Drive, Swampscott, Mass. 01907
Filed Sept. 11, 1967, Ser. No. 8,551
Term of patent 14 years
(Cl. D9—220)



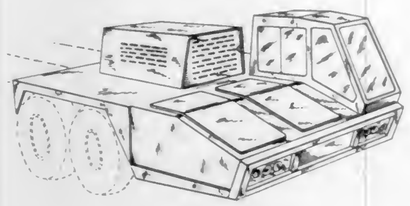
212,353
END CLOSURE FOR A CONTAINER
William T. Saunders, Weirton, W. Va., assignor to National Steel Corporation, a corporation of Delaware
Filed Dec. 7, 1967, Ser. No. 9,701
Term of patent 14 years
(Cl. D9—255)



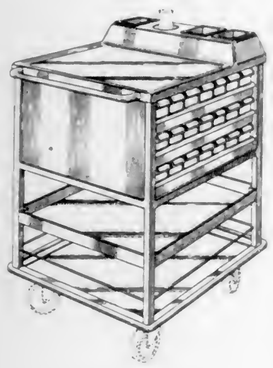
212,354
GRATING
Mark M. Stone, Highland Park, Ill., assignor to Metalex Corporation, Libertyville, Ill., a corporation of Illinois
Filed Feb. 15, 1968, Ser. No. 10,588
Term of patent 14 years
(Cl. D13—1)



212,355
VEHICLE FOR TRANSPORTING CRANES
Nolan K. Rhoades, Beloit, Wis., assignor to Bucyrus-Erie Company, Milwaukee, Wis., a corporation of Delaware
Filed Sept. 13, 1967, Ser. No. 8,590
Term of patent 14 years
(Cl. D14—3)



212,356
MEDICATION CART
Daniel A. Cronin, Jr., Concord, Mass., assignor to The MacBick Company, Wilmington, Mass., a corporation of Delaware
Filed Mar. 7, 1967, Ser. No. 6,102
Term of patent 14 years
(Cl. D14—3)

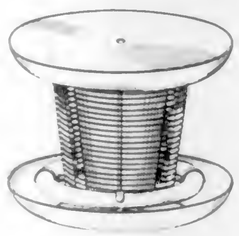




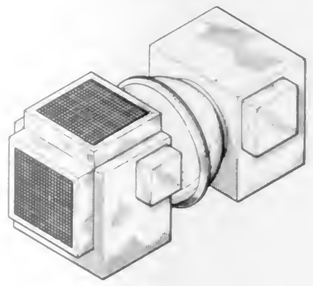
212,357
CULTURE FLASK OR SIMILAR ARTICLE
Paul A. Rohde, Baltimore, Md., assignor to Baltimore Biological Laboratory, Baltimore, Md., a corporation of Maryland
Filed Aug. 22, 1967, Ser. No. 8,344
Term of patent 14 years
(Cl. D16—1)



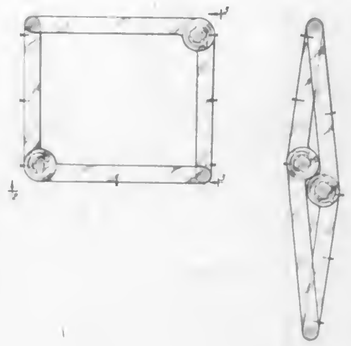
212,358
ELECTRIC INSECT CONTROL UNIT
Frank L. Giordano, Stone Mountain, Ga., assignor to The National Ideal Company, Stone Mountain, Ga., a corporation of Ohio
Filed Dec. 4, 1967, Ser. No. 9,625
Term of patent 14 years
(Cl. D22—19)



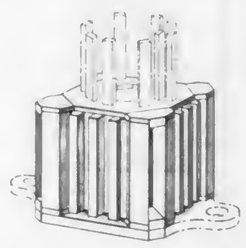
212,359
AIR TREATING MACHINE
Robert T. Martin, 1708 East 4800 South, Salt Lake City, Utah 84117
Filed July 10, 1967, Ser. No. 7,740
Term of patent 14 years
(Cl. D23—145)



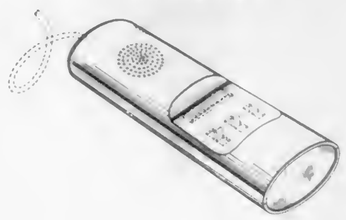
212,360
APPLIANCE TO HOLD DENTAL RUBBER DAM
Harry G. Greene, 1737 W. Howard St., Chicago, Ill. 60626
Filed Jan. 15, 1968, Ser. No. 10,159
Term of patent 14 years
(Cl. D24—1)



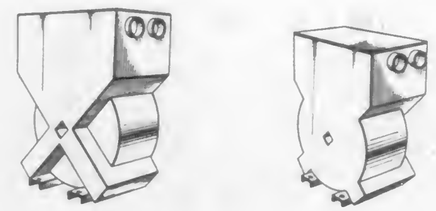
212,361
MODULAR ELECTRICAL CIRCUIT PACKAGE
Chester L. Schuler, Wayland, and Norman Edward Chapman, West Peabody, Mass., assignors to Powercube Corporation, Waltham, Mass., a corporation of Massachusetts
Filed June 26, 1967, Ser. No. 7,619
Term of patent 14 years
(Cl. D26—1)



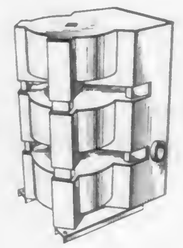
212,362
MICROPHONE OR THE LIKE
Eliot F. Noyes, New Canaan, Conn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 7, 1967, Ser. No. 9,685
Term of patent 14 years
(Cl. D26—14)



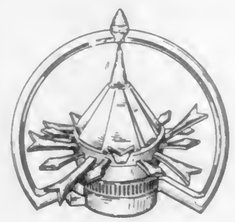
212,363
TRANSFORMER ENCLOSURE
Buell Moore, Houston, Tex., assignor to Esquire, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 1, 1968, Ser. No. 10,800
Term of patent 14 years
(Cl. D26—15)



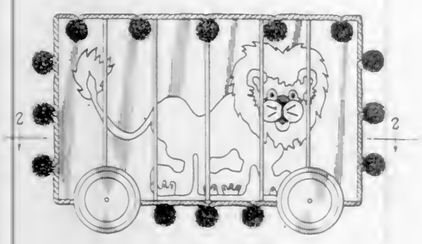
212,364
TRANSFORMER ENCLOSURE
Buell Moore, Houston, Tex., assignor to Esquire, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 4, 1968, Ser. No. 10,844
Term of patent 14 years
(Cl. D26—15)



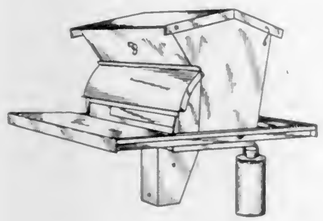
212,365
CHRISTMAS TREE ORNAMENT
Miklos V. Kemenczky, Point Pleasant Beach, N.J., assignor to Paul Guilden, New York, N.Y.
Filed Nov. 29, 1967, Ser. No. 9,577
Term of patent 7 years
(Cl. D29—1)



212,366
WALL PLAQUE
Susan Kuller Traub, 9121 Market Lane, Greenbelt, Md. 20770
Filed Sept. 2, 1966, Ser. No. 3,712
Term of patent 7 years
(Cl. D29—23)



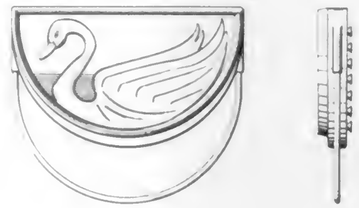
212,367
BIRD FEEDER
Norman G. Carlson, P.O. Box 8571, White Bear Lake, Minn. 55110
Filed Dec. 29, 1967, Ser. No. 9,994
Term of patent 14 years
(Cl. D30—14)



212,368
COMBINED RAZOR AND BLADE HOLDER
Robert D. Bowman, 1308 Ocean Park Blvd., Apt. 3, Santa Monica, Calif. 90405
Filed Nov. 20, 1967, Ser. No. 9,465
Term of patent 14 years
(Cl. D33—23)



212,369
HOLDER FOR SOAP, WASH CLOTHS, AND SIMILAR ARTICLES
Charles H. Hagopian, 2344 Davidson Ave., Bronx, N.Y. 10468
Filed Oct. 23, 1967, Ser. No. 9,128
Term of patent 14 years
(Cl. D33—26)



212,370
DOLL
Reuben B. Klamer, 245 S. Barrington, Los Angeles, Calif. 90049
Filed Apr. 14, 1967, Ser. No. 6,694
Term of patent 14 years
(Cl. D34—4)



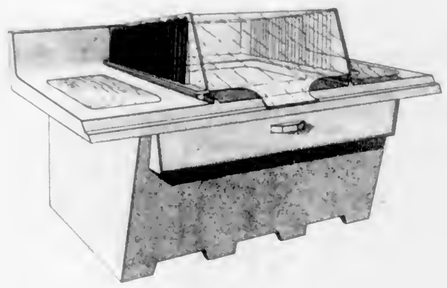
212,371
DOLL
Reuben B. Klamer, 245 S. Barrington, Los Angeles, Calif. 90049
Filed Apr. 14, 1967, Ser. No. 6,707
Term of patent 14 years
(Cl. D34—4)



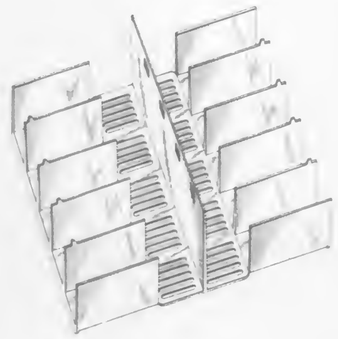
212,372
GOAL POST
James Trimble, R.R. 1-Hudson, Quebec, Quebec, Canada, and Joel Rottman, 113 Finchley Road, Hampstead, Quebec, Canada
Filed Dec. 20, 1966, Ser. No. 5,131
Term of patent 14 years
(Cl. D34—5)



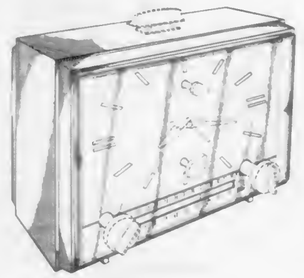
212,373
TOY GRILL
Karl A. Utrecht, Cincinnati, Ohio, assignor to Kenner Products Company, Cincinnati, Ohio, a corporation of Delaware
Filed Sept. 20, 1967, Ser. No. 8,659
Term of patent 14 years
(Cl. D34—15)



212,374
CONTAINER FOR SEEDLINGS AND CUTTINGS
Archibald John Hundt, Castle Hill, New South Wales, Australia, assignor to Walter Barr Pty. Limited, Enfield, New South Wales, Australia, a corporation of New South Wales
Filed Feb. 19, 1968, Ser. No. 10,635
Term of patent 3½ years
(Cl. D35—3)



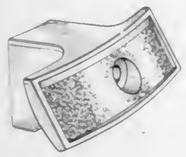
212,375
CLOCK RADIO
Keith D. Kitts, Glenview, Ill., assignor to Admiral Corporation, Chicago, Ill., a corporation of Delaware
Filed Nov. 1, 1966, Ser. No. 4,506
Term of patent 7 years
(Cl. D42—7)



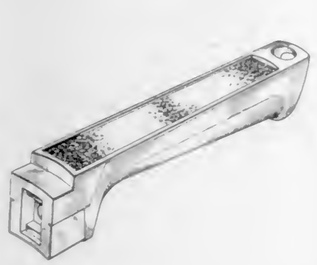
212,376
BEVERAGE SERVER
Irwin Schneider, Lincolnwood, Ill., assignor to Imperial Arts Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 12, 1968, Ser. No. 10,143
Term of patent 14 years
(Cl. D44—26)



212,377
HANDLE FOR A COOKING UTENSIL
Frank E. Dudas and Anthony D. Mackeen, Toronto, Ontario, Canada, assignors to Dudas Kuypers Rowan Limited, Toronto, Ontario, Canada
Filed Nov. 2, 1967, Ser. No. 9,254
Claims priority, application Canada May 6, 1967
Term of patent 7 years
(Cl. D44—29)



212,378
HANDLE FOR A COOKING UTENSIL
Frank E. Dudas and Anthony D. Mackeen, Toronto, Ontario, Canada, assignors to Dudas Kuypers Rowan Limited, Toronto, Ontario, Canada
Filed Nov. 2, 1967, Ser. No. 9,253
Claims priority, application Canada May 6, 1967
Term of patent 7 years
(Cl. D44—29)



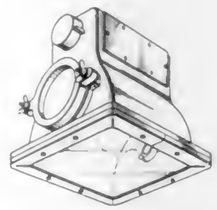
212,379
COVER KNOB FOR A COOKING UTENSIL
Frank E. Dudas and Anthony D. Mackeen, Toronto, Ontario, Canada, assignors to Dudas Kuypers Rowan Limited, Toronto, Ontario, Canada
Filed Nov. 2, 1967, Ser. No. 9,252
Claims priority, application Canada May 6, 1967
Term of patent 7 years
(Cl. D44—29)



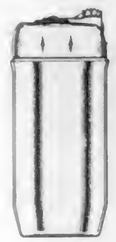
212,380
LAMP
Lester Kaehne, 4214 N. Mobile, Chicago, Ill. 60630
Filed Apr. 11, 1968, Ser. No. 11,411
Term of patent 14 years
(Cl. D48—20)



212,381
LIGHT FIXTURE
Buell Moore, Houston, Tex., assignor to Esquire, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 3, 1968, Ser. No. 10,044
Term of patent 14 years
(Cl. D48—20)



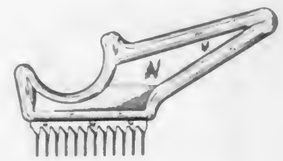
212,382
LIGHTER
Albertus van Poppel, Asserstraat 11, Rolde, Netherlands
Filed Dec. 1, 1967, Ser. No. 9,605
Term of patent 3½ years
(Cl. D48—27)



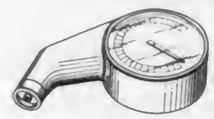
212,383
LUMINAIRE
Giacinto C. D'Ercoli, Park Forest, Ill., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Feb. 7, 1968, Ser. No. 10,490
Term of patent 14 years
(Cl. D48—31)



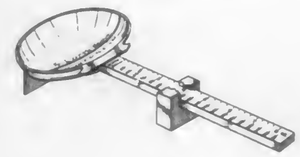
212,384
PAINT BRUSH COMB
David R. Darge, Whitehouse Station, N.J., assignor to Red Devil Inc., Union, N.J., a corporation of New Jersey
Filed Jan. 29, 1968, Ser. No. 10,347
Term of patent 14 years
(Cl. D49—23)



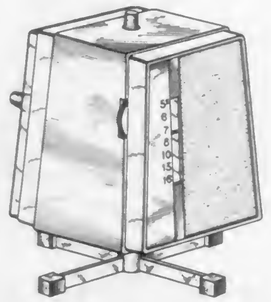
212,385
TIRE PRESSURE GAUGE
Toyoo Yamada, Tokyo, Japan, assignor to Yamada Yuki Seizo Co. Ltd., Tokyo, Japan
Filed Aug. 22, 1967, Ser. No. 8,345
Claims priority, application Japan Mar. 10, 1967
Term of patent 14 years
(Cl. D52—6)



212,386
DIET SCALE
Charles W. H. Matthael, Rte. 1, Box 1455, Gig Harbor, Wash. 98335
Filed Apr. 10, 1967, Ser. No. 6,597
Term of patent 14 years
(Cl. D52—10)



212,387
PIVOTALLY MOUNTED CLOCK-RADIO
Melvin H. Boldt, Glenview, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed May 15, 1967, Ser. No. 7,114
Term of patent 14 years
(Cl. D56—4)



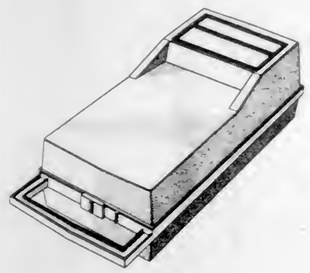
212,388
SPOON OR SIMILAR ARTICLE
Frank R. Perry, Oneida, N.Y., assignor to Oneida Ltd., Oneida, N.Y., a corporation of New York
Filed Jan. 23, 1968, Ser. No. 10,276
Term of patent 14 years
(Cl. D54—12)



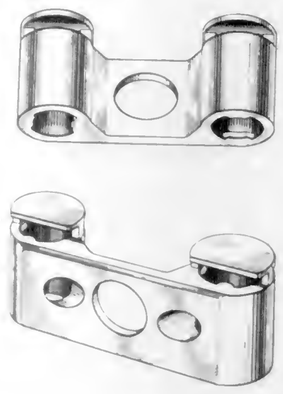
212,389
GUITAR OR SIMILAR ARTICLE
Vincent Gambella, Tenafly, and Nathan I. Daniel, Deal, N.J., assignors, by mesne assignments, to The Danelectro Corporation, Neptune City, N.J., a corporation of New York
Filed July 11, 1967, Ser. No. 7,759
Term of patent 14 years
(Cl. D56—1)



212,390
PORTABLE RECORD PLAYER
Terry L. Bernard, Cincinnati, Ohio, assignor to Kenner Products Company, Cincinnati, Ohio, a corporation of Delaware
Filed Dec. 14, 1967, Ser. No. 9,786
Term of patent 14 years
(Cl. D56—4)



212,391
SURFACE ILLUMINATOR HOUSING FOR AN OPTICAL COMPARATOR
Paul Francis Dietz, 7235 Santa Catalina Circle, Buena Park, Calif. 90620
Filed Jan. 26, 1968, Ser. No. 10,334
Term of patent 7 years
(Cl. D57—1)



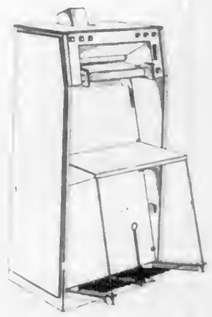
212,392
PAIR OF SUNGLASSES OR THE LIKE
Atherton R. Mitchell, San Francisco, Calif., assignor to Renauld International, Ltd., Fitchburg, Mass., a corporation of Delaware
Filed Oct. 5, 1967, Ser. No. 8,867
Term of patent 14 years
(Cl. D57—1)



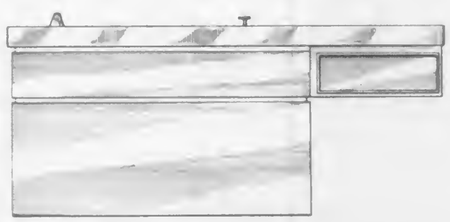
212,393
COMBINATION HAIR BAND AND SUNGLASS
Richard R. Maiese, Webster, Mass., assignor, by mesne assignments, to American Optical Company, Southbridge, Mass., a corporation of Delaware
Filed Dec. 2, 1966, Ser. No. 4,905
Term of patent 14 years
(Cl. D57—1)



212,394
PHOTOGRAPHIC COPYING APPARATUS
Theodore G. Clement, David D. McNair, and Conrad Altmann, all of 400 Plymouth Ave. N., Rochester, N.Y. 14608
Filed Oct. 19, 1967, Ser. No. 9,071
Term of patent 14 years
(Cl. D61—1)



212,395
CASING FOR A PHOTOCOPY MACHINE OR THE LIKE
Thomas G. Dulin, Penfield, N.Y., assignor to Litton Business Systems, Inc., Orange, N.J., a corporation of New York
Filed Oct. 4, 1967, Ser. No. 8,854
Term of patent 14 years
(Cl. D61—1)



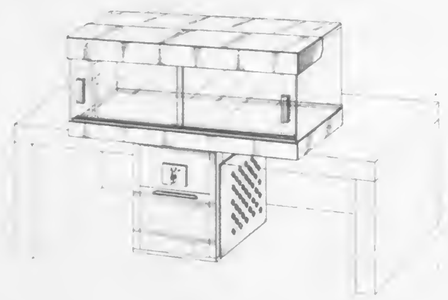
212,396
CALCULATING MACHINE
Carl Auböck, Vienna, Austria, assignor to Olympia Werke A.G., Wilhelmshaven, Germany
Filed Nov. 2, 1967, Ser. No. 9,255
Term of patent 14 years
(Cl. D64—11)



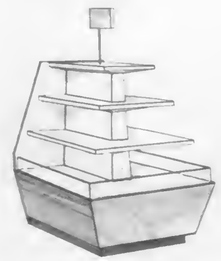
212,397
AIRCRAFT
Lawrence Bernard Rellis, 10460 SW. 163rd St., Miami, Fla. 33157
Filed Nov. 28, 1967, Ser. No. 9,570
Term of patent 14 years
(Cl. D71—1)



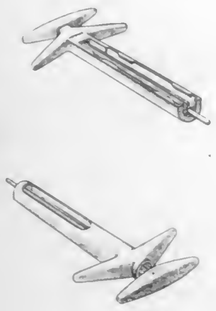
212,398
REFRIGERATED DISPLAY CASE
George W. Dieckmann, Jr., Riverview Gardens, Mo., assignor to Food Equipment Corporation, St. Louis, Mo., a corporation of Missouri
Filed Nov. 4, 1966, Ser. No. 4,555
Term of patent 14 years
(Cl. D80—11)



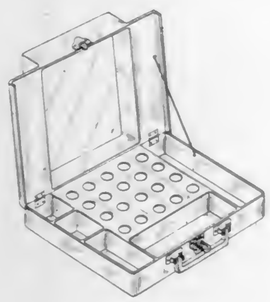
212,399
REFRIGERATED DISPLAY STAND
Gene M. Kimler, 7209 Gail Way, Fair Oaks, Calif. 95608, and Stanley Paul Edwards, 1630 Kathleen Ave., Sacramento, Calif. 95815
Filed Nov. 15, 1967, Ser. No. 9,423
Term of patent 14 years
(Cl. D80—11)



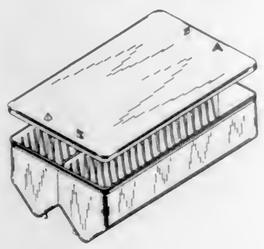
212,400
HYPODERMIC SYRINGE BODY
Hans Christer Arvid Evers and Hans Gösta Enström, Sodertalje, Sweden, assignors to Aktiebolaget Astra, Sodertalje, Sweden, a company of Sweden
Filed Dec. 11, 1967, Ser. No. 9,723
Term of patent 14 years
(Cl. D83—12)



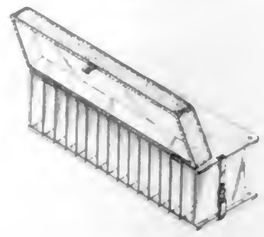
212,401
COMBINED VANITY AND MAKE-UP CASE
Robert A. Sanford, 27267 Clairview, Dearborn Heights, Mich. 48127
Filed Oct. 9, 1967, Ser. No. 8,926
Term of patent 7 years
(Cl. D86—10)



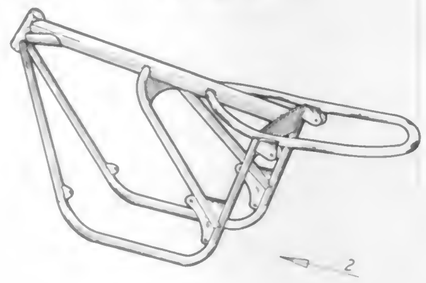
212,402
HANDLING AND STORAGE TRAY FOR SILICON WAFERS
Dale E. De Rousse, 1103 Royal Ann Court, Sunnyvale, Calif. 94087
Filed Mar. 6, 1967, Ser. No. 6,060
Term of patent 14 years
(Cl. D87—1)



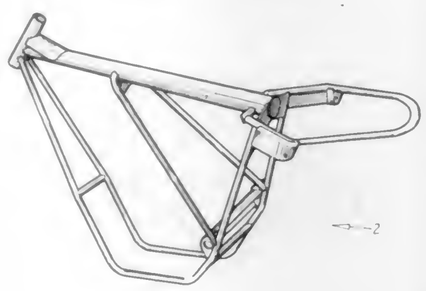
212,403
COMBINED ARM REST AND STORAGE CONTAINER FOR TAPE CARTRIDGES
Anthony Di Vona, 27 Hawthorne St., Selden, N.Y. 11784, and William Eckelkamp, 29 Peak St., Lake Ronkonkoma, N.Y. 11779
Filed Apr. 12, 1967, Ser. No. 6,665
Term of patent 14 years
(Cl. D87—1)



212,404
MOTORCYCLE FRAME
Stefan George Bauer, Hilton, Bernard Hooper, Wordsley, and Robert Victor Trigg, Brimingham, England, assignors to Norton Villiers Limited, Wolverhampton, England, a British company
Filed Oct. 2, 1967, Ser. No. 8,830
Claims priority, application Great Britain July 29, 1967
Term of patent 14 years
(Cl. D90—8)



212,405
MOTORCYCLE FRAME
Stefan George Bauer, Hilton, Bernard Hooper, Wordsley, and Robert Victor Trigg, Birmingham, England, assignors to Norton Villiers Limited, Wolverhampton, England, a British company
Filed Oct. 2, 1967, Ser. No. 8,818
Claims priority, application Great Britain June 17, 1967
Term of patent 14 years
(Cl. D90—8)



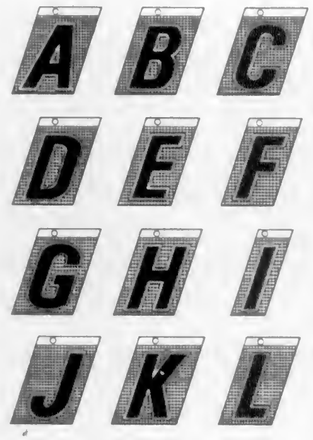
212,406
SAFETY RAZOR MAGAZINE
Louis V. Nigro, Saugus, Mass., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware
Filed Aug. 7, 1967, Ser. No. 8,157
Term of patent 14 years
(Cl. D95—3)



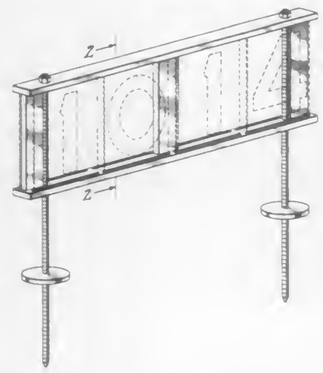
212,407
SIGN
George P. Marsden, 4604 Drummond Ave., Chevy Chase, Md. 20015
Filed Sept. 13, 1967, Ser. No. 8,584
Term of patent 14 years
(Cl. D96—12)



212,408
SET OF SIGN PANEL LETTERS, NUMERALS AND SYMBOLS
David D. Fishback, 223 S. Saint Francis, Wichita, Kans. 67262
Filed Mar. 14, 1966, Ser. No. 1,430
Term of patent 14 years
(Cl. D96—12)



212,409
HOLDER FOR HOUSE STREET NUMBERS
Tony Robert, 5701 Southwest Freeway, Houston, Tex. 77027
Filed Feb. 13, 1968, Ser. No. 10,564
Term of patent 14 years
(Cl. D96—12)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 8TH DAY OF OCTOBER, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Altman, George I. : *See*—
Altman, Russell S. Re. 26,474.

Altman, Russell S., deceased, by G. I. Altman and M. J. Ward (nee Altman), co-executors. Grain and bean cooker. Re. 26,474, 10–8–68, Cl. 99—443.

Baermann, Walter P., A. V. Cooke, and E. A. Peterson, to Medical Supply Co. Sheath package. Re. 26,477, 10–8–68, Cl. 206—63.2.

Cohen, Leonard A. Composite space vehicle. Re. 26,475, 10–8–68, Cl. 244—1.

Cooke, Armand V. : *See*—
Baermann, Walter P., Cooke, and Peterson. Re. 26,477.

Hannah, Nancy A. : *See*—
Reynolds, Linton C., and Shirley. Re. 26,473.

Kuehnle, Manfred R. Toroidal transmission. Re. 26,476, 10–8–68, Cl. 74—424.5.

Medical Supply Co. : *See*—
Baermann, Walter P., Cooke, and Peterson. Re. 26,477.

Peterson, Everett A. : *See*—
Baermann, Walter P., Cooke, and Peterson. Re. 26,477.

Reynolds, Linton C., and J. W. Shirley, deceased (by N. A. Hannah, administratrix), to Riegel Textile Corp. Laminated breathable textile product and method of manufacturing same. Re. 26,473, 10–8–68, Cl. 161—148.

Riegel Textile Corp. : *See*—
Reynolds, Linton C., and Shirley. Re. 26,473.

Shirley, Julian W. : *See*—
Reynolds, Linton C., and Shirley. Re. 26,473.

Ward, Mary J. : *See*—
Altman, Russell S. Re. 26,474.

LIST OF DESIGN PATENTEES

Admiral Corp. : *See*—
Kitts, Keith D. 212,375.

Aktiebolaget Astra : *See*—
Evers, Hans C. A., and Enstrom. 212,400.

Altmann, Conrad : *See*—
Clement, Theodore G., McNair, and Altmann. 212,394.

American Optical Co. : *See*—
Malese, Richard R. 212,393.

Auböck, Carl, to Olympia Werke AG. Calculating machine. 212,396, 10–8–68, Cl. D64—11.

Baltimore Biological Laboratory : *See*—
Rohde, Paul A. 212,357.

Barr, Walter, Pty. Ltd. : *See*—
Hundt, Archibald J. 212,374.

Bauer, Stefan G., B. Hooper, and R. V. Trigg, to Norton Villiers Ltd. Motor cycle frame. 212,404, 10–8–68, Cl. D90—8.

Bauer, Stefan G., B. Hooper, and R. V. Trigg, to Norton Villiers Ltd. Motor cycle frame. 212,405, 10–8–68, Cl. D90—8.

Bernard, Terry L., to Kenner Products Co. Portable record player. 212,390, 10–8–68, Cl. D56—4.

Boldt, Melvin H., to Zenith Radio Corp. Pivotally mounted clock-radio. 212,387, 10–8–68, Cl. D56—4.

Bowman, Robert D. Combined razor and blade holder. 212,368, 10–8–68, Cl. D33—23.

Bucyrus-Erie Co. : *See*—
Rhoades, Nolan K. 212,355.

Carlson, Norman G. Bird feeder. 212,367, 10–8–68, Cl. D30—14.

Chapman, Norman E. : *See*—
Schuler, Chester L., and Chapman. 212,361.

Clement, Theodore G., D. D. McNair, and C. Altmann. Photographic copying apparatus. 212,394, 10–8–68, Cl. D61—1.

Cronin, Daniel A., Jr., to The Macbick Co. Medication cart. 212,356, 10–8–68, Cl. D14—3.

Danelectro Corp., The : *See*—
Gambella, Vincent, and Daniel. 212,389.

Daniel, Nathan I. : *See*—
Gambella, Vincent, and Daniel. 212,389.

Darge, David R., to Red Devil Inc. Paint brush comb. 212,384, 10–8–68, Cl. D49—23.

Davis, Paul. Cup. 212,352, 10–8–68, Cl. D9—220.

D'Ercoli, Giacinto C., to McGraw-Edison Co. Luminaire. 212,383, 10–8–68, Cl. D48—31.

De Rousse, Dale E. Handling and storage tray for silicon wafers. 212,402, 10–8–68, Cl. D87—1.

Dieckmann, George W., Jr., to Food Equipment Corp. Refrigerated display case. 212,398, 10–8–68, Cl. D80—11.

Dietz, Paul F. Surface illuminator housing for an optical comparator. 212,391, 10–8–68, Cl. D57—1.

Di Vona, Anthony, and W. Eckelkamp. Combined arm rest and storage container for tape cartridges. 212,403, 10–8–68, Cl. D87—1.

Dudas, Frank E., and A. D. Mackeen, to Dudas Kuypers Rowan Ltd. Handle for a cooking utensil. 212,377, 10–8–68, Cl. D44—29.

Dudas, Frank E., and A. D. Mackeen, to Dudas Kuypers Rowan Ltd. Handle for a cooking utensil. 212,378, 10–8–68, Cl. D44—29.

Dudas, Frank E., and A. D. Mackeen, to Dudas Kuypers Rowan Ltd. Cover knob for a cooking utensil. 212,379, 10–8–68, Cl. D44—29.

Dudas Kuypers Rowan Ltd. : *See*—
Dudas, Frank E., and Mackeen. 212,377.
Dudas, Frank E., and Mackeen. 212,378.
Dudas, Frank E., and Mackeen. 212,379.

Dulin, Thomas C., to Litton Business Systems, Inc. Casing for a photocopy machine or the like. 212,395, 10–8–68, Cl. D61—1.

Eckelkamp, William : *See*—
Di Vona, Anthony, and Eckelkamp. 212,403.

Edwards, Stanley P. : *See*—
Kimler, Gene M., and Edwards. 212,399.

Enstrom, Hans G. : *See*—
Evers, Hans C. A., and Enstrom. 212,400.

Esquire, Inc. : *See*—
Moore, Buell. 212,363.
Moore, Buell. 212,364.
Moore, Buell. 212,381.

Evers, Hans C. A., and H. G. Enstrom, to Aktiebolaget Astra. Hypodermic syringe body. 212,400, 10–8–68, Cl. D83—12.

Fishback, David D. Set of sign panel letters, numerals and symbols. 212,408, 10–8–68, Cl. D96—12.

Food Equipment Corp. : *See*—
Dieckmann, George W., Jr. 212,398.

Gambella, Vincent, and N. I. Daniel, to The Danelectro Corp. Guitar or similar article. 212,389, 10–8–68, Cl. D56—1.

Gillette Co., The : *See*—
Nigro, Louis V. 212,406.

Giordano, Frank L., to The National Ideal Co. Electric insect control unit. 212,358, 10–8–68, Cl. D22—19.

Greene, Harry G. Appliance to hold dental rubber dam. 212,360, 10–8–68, Cl. D24—1.

Guilden, Paul : *See*—
Kemenczky, Miklos. 212,365.

Hagopian, Charles H. Holder for soap, wash cloths and similar articles. 212,369 10–8–68, Cl. D33—26.

Harlam, Gerald F., to Pilling Chain Co., Inc. Pull for a slide fastener. 212,349, 10–8–68, Cl. D2—415.

Haskon, Inc. : *See*—
Kelly, Norman A. 212,350.

Hooper, Bernard : *See*—
Bauer, Stefan G., Hooper, and Trigg. 212,404.
Bauer, Stefan G., Hooper, and Trigg. 212,405.

Hundt, Archibald J., to Walter Barr, Pty. Ltd. Container for seedlings and cuttings. 212,374, 10–8–68, Cl. D35—3.

Imperial Arts Corp. : *See*—
Schneider, Irwin. 212 376.

International Business Machines Corp. : *See*—
Noyes, Eliot F. 212,362.

Kaehne, Lester. Lamp. 212,380, 10–8–68, Cl. D48—20.

Kelly, Norman A., to Haskon, Inc. Combined jug and handle dispenser. 212,350, 10–8–68, Cl. D9—52.

Kemenczky, Miklos, to P. Guilden. Christmas tree ornament. 212,365, 10–8–68, Cl. D29—1.

Kenner Products Co. : *See*—
Utrecht, Karl A. 212,373.
Bernard, Terry L. 212,390.

Kimler, Gene M., and S. P. Edwards. Refrigerated display stand. 212,399, 10–8–68, Cl. D80—11.

Kitts, Keith D., to Admiral Corp. Clock radio. 212,375, 10–8–68, Cl. D42—7.

Klamer, Reuben B. Doll. 212,370, 10–8–68, Cl. D34—4.

Klamer, Reuben B. Doll. 212,371, 10–8–68, Cl. D34—4.

Litton Business Systems, Inc. : *See*—
Dulin, Thomas C. 212,395.

Macbick Co., The : *See*—
Cronin, Daniel A., Jr. 212,356.

Mackeen, Anthony D. : *See*—
Dudas, Frank E., and Mackeen. 212,377.
Dudas, Frank E., and Mackeen. 212,378.
Dudas, Frank E., and Mackeen. 212,379.

Maiese, Richard R., to American Optical Co. Combination hair band and sunglass. 212,393, 10–8–68, Cl. D57—1.
Marsden, George P. Sign. 212,407, 10–8–68, Cl. D96—12.
Martin, Robert T. Air treating machine. 212,359, 10–8–68, Cl. D23—145.
Matthael, Charles W. H. Diet scale. 212,386, 10–8–68, Cl. D52—10.
McGraw-Edison Co.: *See*—
D'Ercoli, Giacinto C. 212,383.
McNair, David D.: *See*—
Clement, Theodore G., McNair, and Altmann. 212,394.
Metalex Corp.: *See*—
Stone, Mark M. 212,354.
Mitchell, Atherton R., to Renauld International, Ltd. Pair of sunglasses or the like. 212,392, 10–8–68, Cl. D57—1.
Moore, Buell, to Esquire, Inc. Transformer enclosure. 212,363, 10–8–68, Cl. D26—15.
Moore, Buell, to Esquire, Inc. Transformer enclosure. 212,364, 10–8–68, Cl. D26—15.
Moore, Buell, to Esquire, Inc. Light fixture. 212,381, 10–8–68, Cl. D48—20.
National Ideal Co., The: *See*—
Giordano, Frank L. 212,358.
National Steel Corp.: *See*—
Saunders, William T. 212,353.
Nigro, Louis V., to The Gillette Co. Safety razor magazine. 212,406, 10–8–68, Cl. D95—3.
Norton Villiers Ltd.: *See*—
Bauer, Stefan G., Hooper, and Trigg. 212,404.
Bauer, Stefan G., Hooper, and Trigg. 212,405.
Noyes, Eliot F., to International Business Machine Corp. Microphone or the like. 212,362, 10–8–68, Cl. D26—14.
Olympia Werke AG: *See*—
Auböck, Carl. 212,396.
Oneida Ltd.: *See*—
Ferry, Frank R. 212,388.
Perry, Frank R., to Oneida Ltd. Spoon or similar article. 212,388, 10–8–68, Cl. D54—12.
Pilling Chain Co., Inc.: *See*—
Harlam, Gerald F. 212,349.
Pillsbury Co., The: *See*—
Strobe, Carl J. 212,351.
Powercube Corp.: *See*—
Schuler, Chester L., and Chapman. 212,361.
Red Devil Inc.: *See*—
Darge, David R. 212,384.
Rellis, Lawrence B. Aircraft. 212,397, 10–8–68, Cl. D71—1.
Renauld International, Ltd.: *See*—
Mitchell, Atherton R. 212,392.
Rhoades, Nolan K., to Bucyrus-Erie Co. Vehicle for transporting cranes. 212,355, 10–8–68, Cl. D14—3.
Robert, Tony. Holder for house street numbers. 212,409, 10–8–68, Cl. D96—12.
Rohde, Paul A., to Baltimore Biological Laboratory. Culture flask or similar article. 212,357, 10–8–68, Cl. D16—1.
Rottman Joel: *See*—
Trimble, James, and Rottman. 212,372.
Sanford, Robert A. Combined vanity and make-up case. 212,401, 10–8–68, Cl. D86—10.
Saunders, William T., to National Steel Corp. End closure for a container. 212,353, 10–8–68, Cl. D9—255.
Schneider, Irwin, to Imperial Arts Corp. Beverage server. 212,376, 10–8–68, Cl. D44—26.
Schuler, Chester L., and N. E. Chapman, to Powercube Corp. Modular electrical circuit package. 212,361, 10–8–68, Cl. D26—1.
Stone, Mark M., to Metalex Corp. Grating. 212,354, 10–8–68, Cl. D13—1.
Strobe, Carl J., to The Pillsbury Co. Combined bottle and cap. 212,351, 10–8–68, Cl. D9—58.
Traub, Susan K. Wall plaque. 212,366, 10–8–68, Cl. D29—23.
Trigg, Robert Y.: *See*—
Bauer, Stefan G., Hooper, and Trigg. 212,404.
Bauer, Stefan G., Hopper, and Trigg. 212,405.
Trimble, James, and J. Rottman. Goal post. 212,372, 10–8–68, Cl. D34—5.
Utrecht, Karl A., to Kenner Products Co. Toy grill. 212,373, 10–8–68, Cl. D34—15.
Van Poppel, Albertus. Lighter. 212,382, 10–8–68, Cl. D48—27.
Yamada Yuki Seigo Co. Ltd.: *See*—
Yamada, Toyoo. 212,385.
Yamada, Toyoo, to Yamada Yuki Seigo Co. Ltd. Tire pressure gauge. 212,385, 10–8–68, Cl. D52—6.
Zenith Radio Corp.: *See*—
Boldt, Melvin H. 212,387.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 8TH DAY OF OCTOBER, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

AAI Corp.: *See*—
Angelos, Mitchell G. 3,404,598.
Beers, Raymond L. 3,404,810.
AMP Inc.: *See*—
Finch, John E. 3,405,384.
Aagaard, Fridtjof, and J. P. Zangara, to American Cyanamid Co. Method of drum flaking a difficultly crystallizable material. 3,405,209, 10–8–68, Cl. 264—144.
Abbondante, Cosmo: *See*—
Gilman, Carl E., Abbondante, and Senour. 3,405,359.
Abell, Jerrold J., and B. G. Kosa, to Rogers Corp. Method of making a microporous sheet material. 3,405,206, 10–8–68, Cl. 264—112.
Abramoff, Charles, to Argus Chemical Corp. Enhancement of resistance of ethylene sulfide polymers to heat deterioration. 3,405,073, 10–8–68, Cl. 252—400.
Adams, Frederick J., to Cam Gear (Luton) Ltd. Power steering valve. 3,404,704, 10–8–68, Cl. 137—625.22.
Addison, Edward, and J. P. Jackson, to Vickers Ltd. Hydraulically operated tools. 3,404,603, 10–8–68, Cl. 91—5.
Adomines, Alfred A.: *See*—
Mathias, Joseph S., Adomines, Storck, and McNamara. 3,404,661.
Agency of Industrial Science and Technology: *See*—
Ito, Yukio. 3,404,949.
Ahlman, Sexten E. Locking device for drink dispensers. 3,404,547, 10–8–68, Cl. 70—199.
Air Reduction Co., Inc.: *See*—
Taylor, Alfred H. 3,404,871.
Ajem Laboratories, Inc.: *See*—
Weathers, Leland C. 3,404,779.
Akita, Yoshio, T. Maeda, and T. Yada, to Ishikawajima-Harima Jukogyo Kabushiki Kaisha. Segmented metal lined liquid storing underground tank. 3,404,500, 10–8–68, Cl. 52—249.
Aktieselskbet Grindstedvaerket: *See*—
Villadsen, Karl J. S. 3,404,990.
Albert, Kris G. Heat exchange apparatus for the employment of flue gas heat. 3,404,674, 10–8–68, Cl. 126—101.
Albrecht, Robert, to Georg Fischer Aktiengesellschaft. Smooth pipe connection especially for pipes of synthetic material. 3,404,905, 10–8–68, Cl. 285—249.
Alexander, Lester D., and G. R. Stayboldt, to International Telephone and Telegraph Corp. Ultracompact modular structure for low cost mounting and interconnection of electronic components. 3,405,324, 10–8–68, Cl. 317—101.
Alexander, Sonny. Phonograph. 3,404,893, 10–8–68, Cl. 274—1.
Allen, Herman C., to Bird & Son Inc. Tube coating apparatus. 3,404,608, 10–8–68, Cl. 93—80.
Allen, Joseph S.: *See*—
Stace, Walter L., and Allen. 3,404,896.
Allen Mfg. Co., The: *See*—
Carter, Earle R., Jr., and West. 3,404,897.
Allied Chemical Corp.: *See*—
Farah, Basil S., and Gilbert. 3,405,176.
Hollander, Jerome, and Woolf. 3,405,166.
Jones, Edward S. 3,405,177.
Allis-Chalmers Mfg. Co.: *See*—
Carlson, Carl E. 3,404,516.
Dilworth, Louis R. 3,405,009.
Dilworth, Louis R., and Wunderlin. 3,405,008.
Feller, Thomas R. 3,404,579.
Fergason, Rector C. 3,404,514.
Wondra, Richard J. 3,405,352.
Allmanna Svenska Elektriska Aktiebolaget: *See*—
Boksjo, Carl I. 3,405,343.
Boksjo, Carl I., and Uhlmann. 3,405,344.
Lagerström, Gunnar. 3,404,529.
Madsen, Kristian D. 3,405,294.
Madsen, Kristian D. 3 405,297.
Sodergard, Bengt M., and Daniell. 3,404,582.
Svedberg, Per, and Spicar. 3,405,332.
Widell, Björn, Van Santen, and Glandin. 3,405,033.
Alsthom-Savoisienne: *See*—
Vincent-Martin, Pierre-Remey-Alexis. 3,405,378.
Alves Photo Service, Inc.: *See*—
Lee, Richard G. 3,404,628.
Ambrosius, Otto: *See*—
Rantsch, Kurt, Weyrauch, Trotscher, and Ambrosius. 3,405,257.
American Chain and Cable Co.: *See*—
Hayford, Theodore. 3,404,787.
Aagaard, Fridtjof, and Zangara. 3,405,209.
Brownlee, Thomas H. 3,405,144.
Carvalho, Dorothy A., and Stanej. 3,405,175.
Csapilla, Joseph. 3,405,137.
Deichert, William G., and Ramsey. 3,404,996.
De Paolo, George R., van Loo, and O'Brien. 3,405,003.
Meyers, Marion D., and Frank. 3,405,143.
Scanley, Clyde S. 3,405,106.
American Home Products Corp.: *See*—
Bell, Stanley C. 3,405,132.
Bell, Stanley C. 3,405,158.
American Hospital Supply Corp.: *See*—
Arcarese, Joseph J., Coanda, and De Berry. 3,404,593.
Elzenberg, Arthur. 3,404,683.
American-Lincoln Corp.: *See*—
Miller, Ronald M., and Rudnicki. 3,404,749.
American Machine & Foundry Co.: *See*—
Chen, William K. 3,405,047.
Hungerford, Max. 3,404,572.
Moshy, Raymond J., and Germino. 3,404,690.
Moshy, Raymond J., and Germino. 3,404,691.
Smith, Richard A. 3,404,885.
Vergales, Melvin, and Woolard. 3,404,921.
Wilson, Russell C. 3,405,379.
American Motors Corp.: *See*—
Wilson, William E. 3,405,281.
American Packaging Corp., The: *See*—
Watts, Ridley, Jr., and Berry. 3,404,511.
American Science and Engineering, Inc.: *See*—
Annis, Martin. 3,404,599.
American Standard Inc.: *See*—
Hopper, Harry G., Jr. 3,404,977.
Ampex Corp.: *See*—
Jacobson, Morton J. 3,404,997.
Amsted Industries Inc.: *See*—
Baker, James T. 3,404,724.
Boekhoff, William F. 3,404,641.
Kalm, John W. 3,404,754.
Anaconda American Brass Co.: *See*—
Rowell, Douglas W. 3,404,967.
Anaconda Wire and Cable Co.: *See*—
Follrath, Richard D. 3,405,006.
Anazawa, Shinzo: *See*—
Yawata, Keisuke, Shiba, and Anazawa. 3,405,224.
Anderau, Walter, and H. Loeffel, to Ciba Ltd. Photographic materials for the silver dyestuff bleaching process. 3,404,982, 10–8–68, Cl. 96—99.
Anderson Elmer A.: *See*—
Sanborn, Charles E., Anderson, and Engel. 3,405,195.
Anderson, James E.: *See*—
Kielsmeier, Elwood W., Kasbaum, Paynter, and Anderson. 3,404,430.
Anderson, William C., to Jefferson Electric Co. Fused coil having positive break. 3,405,317, 10–8–68, Cl. 317—15.
Andrew, William H. R., and J. H. Mulherin, to United States of America, Army. Strain field displacement measuring device. 3,404,558, 10–8–68, Cl. 73—15.6.
Angelos, Mitchell G., to AAI Corp. Cup-sealed actuator with obturating groove anchoring and sealing arrangement. 3,404,598, 10–8–68, Cl. 89—1.
Anger, Anton, to PME Holding A.G. Boring apparatus for conical bores. 3,404,588, 10–8–68, Cl. 77—57.
Anger, Hal O., to United States of America, Atomic Energy Commission. Isotope scanner which creates X-ray and gamma radiation images simultaneously. 3,405,233, 10–8–68, Cl. 178—6.8.
Ankenman, Earl B., and S. E. Morgan, to Westinghouse Electric Corp. DC motor power supply having single control unit alternatively varying armature and field voltages. 3,405,340, 10–8–68, Cl. 318—336.
Ankerson, Borge R. Incinerators. 3,404,643, 10–8–68, Cl. 110—10.
Annis, Martin, to American Science and Engineering, Inc. Apparatus and method for producing a high velocity beam of gas molecules and the like. 3,404,599, 10–8–68, Cl. 89—1.
Aoyama, Mashiro: *See*—
Hata, Go, Aoyama, Nishino, and Miyake. 3,405,193.
Arcarese, Joseph J., G. Coanda, and J. S. de Berry, to American Hospital Supply Corp. Hypodermic syringe destroyer. 3,404,593. 10–8–68, Cl. 83—167.
Arfert, Horst F. W., to Reynolds Metals Co. Opening means for a container. 3,404,800, 10–8–68, Cl. 220—54.
Argus Chemical Corp.: *See*—
Abramoff, Charles. 3,405,073.
Arkis, Jerome W., and J. K. Carpenter, to Standard Oil Co. Refinery process stream anti-foulant. 3,405,054, 10–8–68, Cl. 208—48.
Armco Steel Corp.: *See*—
Hlivka, Andrew. 3,405,247.
Armour and Co.: *See*—
Knaues, Robert L. 3,404,431.
Ray, Charles L., Baarson, and Long. 3,404,777.
Sparks, Thomas F. 3,404,429.
Armour Pharmaceutical Co.: *See*—
Jones, John L., and Rubino. 3,405,153.
Arntz, Charles V., J. T. Marshall, and R. A. Wagner, to Hancock Iron Works, Inc. Cooking stove. 3,404,672, 10–8–68, Cl. 126—25.
Arons, Irving J., to United Carr Inc. Safety valve with fusible pin. 3,404,699, 10–8–68, Cl. 137—73.

Aronson, David, to Worthington Corp. In situ flash freezing and washing of concentrated solutions. 3,404,536, 10–8–68, Cl. 62—58.

Aronson, David, H. Fleit, and R. E. Japhet, to Harrworth, Inc. Distilland treatment with concentrate recycle. 3,405,037, 10–8–68, Cl. 202—173.

Artos, Dr.-Meier-Windhorst K.G.: *See*—
Sievers, Klaus. 3,404,660.

Aspen, Inc.: *See*—
Flanagan, Robert L. 3,404,622.

Associated Electrical Industries Ltd.: *See*—
White, Francis T., Johnson, and Lloyd. 3,404,432.

Astatic Corp., The: *See*—
Cvetko, Henry J., and Punkar. 3,405,239.

Ateliers de Constructions Electriques de Charlerol (ACEC) Societe Anonyme: *See*—
Hagel, Roger. 3,404,747.

Atlas Chemical Industries, Inc.: *See*—
Hay, Benjamin F. 3,405,067.

Attwood, John G., and R. L. Kosrow, to Union Special Machine Co. Method and apparatus for forming ultrasonic seals. 3,405,024, 10–8–68, Cl. 156—73.

Aungst, Stanley E., and R. A. Lee, to Radio Corp. of America. Method of fabricating directly heated cathode. 3,404,442, 10–8–68, Cl. 29—25.14.

Aurora Corp. of Illinois: *See*—
Fleer, Thomas P. 3,404,866.

Automatic Steam Products Corp.: *See*—
Wilsker, Jay M., and Sussman. 3,404,471.

Avisun Corp.: *See*—
Wyckoff, Harold W. 3,405,027.

Avren, Max: *See*—
Gutman, Alexander P., and Avren. 3,404,680.

B. & K. Tool Die & Stamping Co., Inc.: *See*—
Klukel, Konrad. 3,404,553.

BLH Electronics, Inc.: *See*—
Gilman, Carl E., Abbondante, and Senour. 3,405,359.

Baader, Herbert: *See*—
Sennewald, Kurt, Vogt, and Baader. 3,405,046.

Baarson, Robert E.: *See*—
Ray, Charles L., Baarson, and Long. 3,404,777.

Backer, Frank: *See*—
Lusskin, Robert M., Backer, and Larson. 3,405,097.

Bacon, Karl W., and E. A. Morgan, to Walt Disney Productions. Boat amusement ride. 3,404,635, 10–8–68, Cl. 104—70.

Badgley, Robert H., and L. G. Schimpf, to Bell Telephone Laboratories, Inc. Space discharge tube circuit. 3,405,362, 10–8–68, Cl. 328—151.

Badische Anilin- & Soda-Fabrik Aktiengesellschaft: *See*—
Naarmann, Herbert, Eilingsfeld, and Kastning. 3,405,114.
Schaedler Hugo, Steden, and Schuster. 3,405,197.

Bailey Co., Inc., The: *See*—
Johnson, Leonard W. 3,404,487.

Bailey, Inc.: *See*—
Wilson, Herbert W. 3,404,611.

Bailey, Joseph K., to TRW, Inc. Bearing with hollow rings. 3,404,925, 10–8–68, Cl. 308—184.

Bailey Meter Co.: *See*—
Gardiner, Roy W., Panich, and Yager. 3,404,604.

Bakalar, David: *See*—
Navon, David H., and Bakalar. 3,404,452.

Baker, James T., to Amsted Industries Inc. Method of casting in a shell molding. 3,404,724, 10–8–68, Cl. 164—138.

Baker, Ronald E.: *See*—
Giese, Clifford C., Jr., Baker, and Heilman. 3,405,376.

Balagger, Rodolfo R., to Battery Corp. of America. Method of forming a battery cup. 3,405,012, 10–8–68, Cl. 136—122.

Balagger, Rodolfo R., to Patent Holding Corp. Method of forming a battery cup. 3,405,013, 10–8–68, Cl. 136—122.

Balkow, Max J., and M. J. Frank, to International Standard Electric Corp. Regulating circuit for the equal load distribution. 3,405,282, 10–8–68, Cl. 307—57.

Ballard, Charles M. Hinged roof structure. 3,404,496, 10–8–68, Cl. 52—64.

Ballard, Donnell A.: *See*—
Pastor, Arthur J., Peterson, Price, and Ballard. 3,405,077.

Balliet, Karl E., to Rubatex Corp. Diving suit. 3,404,406. 10–8–68, Cl. 2—2.1.

Bambury, Ronald E., K. K. Wyckoff, and D. M. Tennent, to Richardson-Merrell Inc. Trifluoromethyl diones. 3,405,163, 10–8–68, Cl. 260—469.

Banks, Robert L., to Phillip Petroleum Co. Selective polymerization of tertiary monoolefins. 3,405,191. 10–8–68, Cl. 260—677.

Banner, John G., and N. A. Murphy, to Pilkington Bros. Ltd. Method of and apparatus for the manufacture of flat glass on a molten metal bath. 3,404,972, 10–8–68, Cl. 65—65.

Barakat, Diawar, and H. Keller, to The General Trustee Co., Inc. Method of producing silicon and electrolytic cell therefor. 3,405,043, 10–8–68, Cl. 204—60.

Barnard, Dominic P.: *See*—
Henderson, Cyril, and Barnard. 3,404,485.

Barnes Drill Co.: *See*—
Estabrook, Mark R. 3,404,490.

Barnett, Eugene R., and W. L. Barnett. Power unit. 3,404,665, 10–8–68, Cl. 123—65.

Barnett, Richard D., and K. K. Moser, to Western Electric Co., Inc. Detecting apparatus. 3,404,461, 10–8–68. Cl. 33—149.

Barnett, Willard L.: *See*—
Barnett, Eugene R., and Barnett. 3,404,665.

Barr, G., Co., Div. of Pittsburgh Railways Co.: *See*—
Bohac, Stanley, and Root. 3,405,084.

Barringer, Jerry M., to General Electric Co. Series regulator with disabling network. 3,405,319, 10–8–68, Cl. 317—23.

Barrow, Robert B., and L. W. Sink, to United Aircraft Corp. Induction electric mold heater. 3,405,220, 10–8–68, Cl. 13—27.

Barrus, Donald M., and A. C. Williams, to United States of America, Atomic Energy Commission. Reactor control by free pinion rack and pinion linear actuator motion multiplier. 3,405,032, 10–8–68, Cl. 176—36.

Barry, David T., D. W. Branham, J. R. Strobel, B. J. Mullins, and P. V. Hodge, to Texas Instruments Inc. Towed oceanographic sensor system. 3,404,565, 10–8–68, Cl. 73—170.

Barter, Francis B., and J. S. Machado, to United Electric Controls Co. Conditioning apparatus and indicator control therefor. 3,404,945, 10–8–68, Cl. 21—93.

Barton, George W., Jr., and R. J. Dupzyk, to United States of America, Atomic Energy Commission. Magnet sweep control circuit. 3,405,326, 10–8–68, Cl. 317—123.

Battery Corp. of America: *See*—
Balaguer, Rodolfo R. 3,405,012.

Bauer Bros. Co., The: *See*—
Woodruff, Maurice D., and Cowhey. 3,404,778.

Beach, J. M., Mfg., Inc.: *See*—
Beach, John M., Cecil, Oglesbee, White, and Ziegler. 3,404,757.

Beach, John M., H. H. Cecil, E. C. Oglesbee, A. R. White, and G. S. Ziegler, to J. M. Beach Mfg., Inc. Automatically operable brake apparatus for trailer vehicle. 3,404,757, 10–8–68, Cl. 188—112.

Beardell, Anthony J., and C. J. Grelecki, to United States of America, Navy. Process for the preparation of perchloryl fluoride. 3,404,958, 10–8–68, Cl. 23—203.

Beckman, Instruments, Inc.: *See*—
Wright, Alan J. 3,405,382.

Beers, Raymond L., to AAI Corp. Powder dispenser. 3,404,810, 10–8–68, Cl. 222—82.

Behrenbruch, Horst: *See*—
Mauz, Otto, and Behrenbruch. 3,405,089.

Belcher, Samuel L., and C. E. Ryman, Jr., to Owens-Illinois, Inc. Pallet. 3,404,642, 10–8–68, Cl. 108—51.

Belentepe, Yilmaz C., and A. Carmi, to Corning Glass Works. Cooling arrangement for glass forming equipment. 3,404,974, 10–8–68, Cl. 65—319.

Belkin Paper Box Ltd.: *See*—
Richardson, James A. 3,404,806.

Bell Aerospace Corp.: *See*—
Sambell, Kenneth W., and De Tore. 3,404,852.
Schlitt, Helmut W. E. 3,404,571.

Bell & Howell Co.: *See*—
Koeper, Henry J., Jr. 3,404,616.
Kral, Fred G. 3,404,894.
Kubnick, Norman R., and Obergfell. 3,404,938.

Bell, Stanley C., to American Home Products Corp. N[omega-(2-amino-alpha-phenylbenzylideneamino) C_2-C_5 alkylene] morpholines. 3,405,132, 10–8–68, Cl. 260—247.2.

Bell, Stanley C., to American Home Products Corp. N-sulfonoxyacetyl-anthranilic acids. 3,405,158, 10–8–68, Cl. 260—456.

Bell Telephone Laboratories, Inc.: *See*—
Badgley, Robert H., and Schimpf. 3,405,362.
Brainard, Ralph C., and Brown. 3,405,311.
David, Edward E., Jr., Schroeder, and Sondhi. 3,405,237.
Dayem, Aly H., Eisenmenger, and Miller. 3,405,374.
Hanes, Maurice H., and Helmke. 3,405,029.
Johnson, Leo F., and Van Uitert. 3,405,371.
Kaminow, Ivan P. 3,405,370.
Miller, David E. 3,405,287.

Belongia, Clyde G., and H. Pikoske, to Walker Mfg. Co. Hydraulic jack. 3,404,868. 10–8–68, Cl. 254—93.

Bemis Co., Inc.: *See*—
White, Raymond E. 3,404,625.
White, Raymond E., and Stetson. 3,404,626.

Bendix-Westinghouse Automotive Air Brake Co.: *See*—
Valentine, Harry M. 3,404,922.

Benger Laboratories Ltd.: *See*—
Fowler, Frank. 3,404,681.

Bennett, Florence L.: *See*—
Otey, Felix H., Bennett, and Mehltretter. 3,405,080.

Bennett, Reuel W., P. L. Salvatori, and C. J. Black, to Obrig Laboratories, Inc. Ophthalmometer and method of measuring curvature of a cornea. 3,404,936, 10–8–68, Cl. 351—6.

Benson, Carl F., and J. H. Cowles, to The Torrington Co. Sheet metal roller cage for clutch. 3,404,760, 10–8–68, Cl. 192—45.

Berck, William F., to Rockwell Mfg. Co. Apparatus for eliminating air flow through fluid meters. 3,404,567, 10–8–68, Cl. 73—200.

Bergan, Reuben A., to Dresser Industries, Inc. High voltage insulator for neutron generator. 3,405,275, 10–8–68, Cl. 250—84.5.

Berger, Alfred, to Ciba Ltd. Vat dyeing with an aminoethylpiperazine-dicarboxylic acid polyamide leveller. 3,404,941, 10–8–68, Cl. 8—34.

Berger, Leo, A. Stempel, L. H. Sternbach, and E. Wenis, to Hoffmann-La Roche Inc. Novel 3H-1,4 benzodiazepin-2-(1H)-ones. 3,405,122, 10–8–68, Cl. 260—239.3.

Bergwerksverband G.m.b.H.: *See*—
Schmeling, Gerhard, and Kleisa. 3,404,845.

Berman, Ralph E., to Petrocelli Clothes, Inc. Combination single and double breasted garments. 3,404,408, 10–8–68, Cl. 2—96.

Berry, John F.: *See*—
Watts, Ridley, Jr., and Berry. 3,404,511.

Besancon, George E.: *See*—
Jensen, Warren P., and Besancon. 3,404,651.

Best Lock Corp.: *See*—
Best, Walter E. 3,404,549.

Best, Walter E., to Best Lock Corp. Lock cylinder. 3,404,549, 10–8–68, Cl. 70—370.

Bettcher, Louis A., to Lab-O-Matic Corp. Container for material being frozen. 3,404,802, 10–8–68, Cl. 220—85.

Betzelberger, Glenn F.: *See*—
Lipp, Charles E., Wilson, and Betzelberger. 3,404,764.

Bevilacqua, Michael. Medical therapy table. 3,404,679, 10–8–68, Cl. 128—71.

Biega, Boleslaw C., and A. J. Hauck, to Sola Basic Industries, Inc. Voltage regulating system with an inductive potential divider including a magnetic amplifier. 3,405,348, 10–8–68, Cl. 323—89.

Bilek, Andrew G., to United States of America, Air Force. Explosive projector for projectiles. 3,404,600, 10–8–68, Cl. 89—8.

Bird & Son Inc.: *See*—
Allen, Herman C. 3,404,608.

Bishop, Frederic L., to Owens-Illinois, Inc. Cathode-ray tube envelopes. 3,404,769, 10–8–68, Cl. 220—2.3.

Bittner, Clarence W., to Shell Oil Co. Metal-containing crystalline aluminosilicate catalysts. 3,405,055, 10–8–68, Cl. 208—111.

Bjorksten, Johan, to Griffolyn Co., Inc. Insulation laminate with reinforcing fibers and corrugated layer. 3,404,748, 10–8–68, Cl. 181—33.

Black, Chester J.: *See*—
Bennett, Reuel W., Salvatori, and Black. 3,404,936.

Blacklock, Arthur G.: *See*—
Schuller, James T., Short, Stayton, and Blacklock. 3,404,807.

Blackwell, Jennings P., to Phillips Petroleum Co. Polymerization of tetrahydrofuran and derivatives thereof with organic sulfonic acids. 3,405,105, 10–8–68, Cl. 260—79.3.

Blaskowski, Henry J., to Combustion Engineering, Inc. Ammonia synthesis. 3,404,957, 10–8–68, Cl. 23—198.

Bloch, Herman S., to Universal Oil Products Co. Alkyl substituted bicyclic monoolefins. 3,405,187, 10–8–68, Cl. 260—666.

Bloch, Herman S., to Universal Oil Products Co. Alkyl substituted cyclohexenes. 3,405,188, 10–8–68, Cl. 260—666.

Blommers, Elizabeth A.: *See*—
Bulbenko, George F., Gobran, and Blommers. 3,405,121.

Bloore, Ernest W., to United States of America, Army. Disposable radioactive liquid waste concentrator. 3,404,722, 10–8–68, Cl. 159—23.

Boehringer, C. F., & Soehne G.m.b.H.: *See*—
Haack, Erich, Popelak, Lettenbauer, Schaumann, and Ritter. 3,405,139.

Boeing Co., The: *See*—
Gerstine, Milton I. 3,404,856.

Boekhoff, William F., to Amsted Industries Inc. Railway truck side frame having a fulcrum in a window. 3,404,641, 10–8–68, Cl. 105—205.

Boerio, Alvin H.: *See*—
Goetze, Gerhard W., and Boerio. 3,405,309.

Boes, David J., and D. L. Dezzutti, to Westinghouse Electric Corp. Solid lubricant composition and process for its preparation. 3,405,063, 10–8–68, Cl. 252—12.

Bohac, Stanley, and M. J. Root, to G. Barr Co., Div. of Pittsburgh Railways Co. Neutralized terpolymeric resin of vinyl pyrrolidone, alkyl acrylate or methacrylate and unsaturated monocarboxylic acid. 3,405,084, 10–8–68, Cl. 260—29.6.

Boissevain, Thomas A., and F. J. Dow, to Laboratory for Electronics, Inc. Displaceable disc magnetic storage assembly. 3,405,405, 10–8–68, Cl. 340—174.1.

Boksjo, Carl I., to Allmanna Svenska Elektriska Aktiebolaget. High voltage static converter with semiconducting rectifiers. 3,405,343, 10–8–68, Cl. 321—5.

Boksjo, Carl I., and E. Uhlmann, to Allmanna Svenska Elektriska Aktiebolaget. Converter with semi-conductor rectifiers. 3,405,344, 10–8–68, Cl. 321—11.

Bollfrass, Charles A.: *See*—
Latham, Raymond E., Brown, and Bollfrass. 3,404,902.

Bomar, Horace L.: *See*—
Budzyna, Joseph M., and Mucciarone. 3,404,709.
Haagsma, Herman, and Chabot. 3,404,928.

Bonjour, Georges, to Societe Lumiere. Electrophotographic layers with polyamide binders and a process for their manufacture. 3,404,979. 10–8–68, Cl. 96—1.8.

Bonneric, Francis, to Service d'Exploitation Industrielle des Tabacs et des Allumettes. Apparatus for preparing equal ponderal doses of tobacco or like material. 3,404,742, 10–8–68, Cl. 177—59.

Boothe, Willis A., to General Electric Co. Liquid level control means. 3,404,700, 10–8–68, Cl. 137—81.5.

Borg-Warner Corp.: *See*—
Krauthamer, Stanley. 3,405,346.

Bork, Karl-Heinz: *See*—
Irmscher, Klaus, and Bork. 3,405,125.

Bosch, Robert, G.m.b.H.: *See*—
Eheim, Franz, and Hoefer. 3,404,668.
Winter, Gerhard, and Reum. 3,405,302.

Bot-Langlet, Yves, to Societe Anonyme Heurtey. Device for spray-freezing liquids. 3,404,541, 10–8–68, Cl. 62—314.

Boudreaux, Richard J., Jr. Sugarcane planter. 3,404,808, 10–8–68, Cl. 221—185.

Bovard, Pierre, and A. Grauby, to Commissariat a l'Energie Atomique. Apparatus for the radioactive decontamination of water. 3,405,050, 10–8–68, Cl. 204—240.

Bovio, Ilario: *See*—
Gassino, Teresio, and Bovio. 3,404,765.

Bowman, Donald C., to Sinclair Research, Inc. Scanning device with output indicating trace and axis coincidence. 3,405,277, 10–8–68, Cl. 250—219.

Boyd, Branin A.: *See*—
Zandman, Felix, and Boyd. 3,405,381.

Boyd, David M., to Universal Oil Products Co. Fractionator system with side stream product removal and internal reflux control. 3,405,035, 10–8–68, Cl. 202—160.

Boyd, David M., to Universal Oil Products Co. Fractionator system with side-cut streams and internal reflux control. 3,405,036, 10–8–68, Cl. 202—160.

Brachvogel, Heinz, and G. Pickroth. Orthoscopic panoramic and straight-view optical system. 3,404,934, 10–8–68, Cl. 350—198.

Brady, George W., Jr., and J .P. Henry, to Union Carbide Corp. Halogenation of organic compounds in halogenated acetonitrile solvents. 3,405,111, 10–8–68, Cl. 260—92.8.

Brainard, Ralph C., and E. F. Brown, to Bell Telephone Laboratories Inc. Television scanning control apparatus to compensate for varaitions in the vertical scanning rate by varying the blanking interval. 3,405,311, 10–8–68, Cl. 315—19.

Brandmaier, Harold E., to Curtiss-Wright Corp. Rankine cycle electrogasdynamic generator. 3,405,291, 10–8–68, Cl. 310—10.

Branham, Donald W.: *See*—
Barry, David T., Branham, Strobel, Mullins, and Hodge. 3,404,565.

Braun, Robert A., to E. I. du Pont de Nemours and Co. Fluoroesters. 3,405,167, 10–8–68, Cl. 260—476.

Brayley, Elwin J.: *See*—
Swift, Thomas E., Brayley, and Noddin. 3,405,347.

Brecher, Charles, A. Lempicki, and H. Samelson, to General Telephone and Electronic Laboratories, Inc. Optical maser utilizing a liquid medium containing a chelate of europium and dibenzoylmethane. 3,405,372, 10–8–68, Cl. 331—94.5.

Brewer, Earl J., Jr., D. B. Singer, and A. E. McKee. Oxygen therapy enclosure with cooling chamber. 3,404,684, 10–8–68, Cl. 128—191.

Briggs, Thomas H., to Western Electric Co., Inc. Interval flaw detection using collimated beams. 3,405,270, 10–8–68, Cl. 250—83.3.

Brimer, Marshall R., and C. L. Gibson, to Eastman Kodak Co. Selective oxidation of leucoanthraquinones comprising a dihydroxyphenyl substituent. 3,405,145, 10–8–68, Cl. 260—380.

British Aircraft Corp. (Operating) Ltd.: *See*—
McDonald, Henry. 3,404,842.

British Bewold Co. Ltd.: *See*—
Taylor, Harry P., and Pethica. 3,404,991.

British Titan Products Co. Ltd.: *See*—
Harris, Bernard, and Jones. 3,404,964.

Brittain, William I., and W. J. Trickey, to Mahogany Corp. Pop-up sprinkler assembly. 3,404,841, 10–8–68, Cl. 239—204.

Broadhead, Ronald L., and W. R. Dunlop. Two-step steam-heat treated lignocellulose product and process. 3,405,053, 10–8–68, Cl. 260—17.2.

Brock, Roscoe V.: *See*—
Fritsche, Richard K., Moustafa, Brock, and Struble. 3,404,963.

Brookhyser, Byron B., to Weyerhaeuser Co. Supply station. 3,404,790, 10–8–68, Cl. 214—8.5.

Brown, Christopher J., and A. F. Millidge, to The Distillers Co. Ltd. Preparation of acrylic acid with the prevention of formation of acrylic polymers. 3,405,172, 10–8–68, Cl. 260—530.

Brown Co.: *See*—
Rumberger, George C. 3,404,825.

Brown, Earl F.: *See*—
Brainard, Ralph C., and Brown. 3,405,311.

Brown, Karl L., to Varian Associates. Method of and apparatus for deflecting beams of charged particles. 3,405,363, 10–8–68, Cl. 328—230.

Brown, Robert T.: *See*—
Latham, Raymond E., Brown, and Bollfrass. 3,404,902.

Brown, Roger W., and R. H. Rhodehamel, to Pneumo Dynamics Corp. Indexible multiple spindle lathe. 3,404,589, 10–8–68, Cl. 82—3.

Brownlee, Thomas H., to American Cyanamid Co. 1-azido-N,N,N'-trifluoroformamidine. 3,405,144, 10–8–68, Cl. 260—349.

Broyles, James D.: *See*—
Charamond, Claude P., Broyles, and Hancock. 3,404,465.

Brückner, Paul, H. Gremmel, A. Hartig, H.-G. Schutte, and G. Leonhardt, to Calor-Emag Elektrizitats-Aktiengesellschaft. High tension switching station. 3,405,325, 10–8–68, Cl. 317—103.

Brun Sensor Systems, Inc.: *See*—
Brunton, Donald C. 3,405,268.

Brunton, Donald C., to Brun Sensor Systems, Inc. Radiant energy absorption gage for measuring the weight of a base material and the content of a material sorbed by the base material. 3,405,268, 10–8–68, Cl. 250—83.3.

Brunton, James L. Self-stabilizing shoring system. 3,404,533, 10–8–68, Cl. 61—41.

Bryans, David F., and C. C. Herb, to Carrier Corp. Air conditioning apparatus. 3,404,540, 10–8–68, Cl. 62—285.

Buch, Roman, L. L. Kocsis, to Zenith Radio Corp. Gate electrode controlled battery charger circuit. 3,405,341, 10–8–68, Cl. 320—33.

Buchard, George M.: *See*—
Hanson, Jack A., and Buchard. 3,404,462.

Buckeye Molding Co.: *See*—
Hilliard, Phillip N. 3,404,803.

Bucyrus-Erie Co.: *See*—
Mork, George W. 3,404,732.

Budzyna, Joseph M., and R. H. Mucciarone, to J. D. Marshall, and H. L. Bomar. Loom protector mechanism. 3,404,709, 10–8–68, Cl. 139—346.

Builders Equipment Co.: *See*—
Thomas, Paul M., Neill, Wright, Crile, and Burge. 3,404,788.

Bulbenko, George F., R. H. Gobran, and E. A. Blommers, to Thiokol Chemical Corp. Triadduct of alkylenimine with 2,6-bis (2,3-epoxypropyl) phenyl glycidyl ether. 3,405,121, 10–8–68, Cl. 260—239.

Burdeska, Kurt E.: *See*—
Stocker, Emil, Burdeska, and Stammbach. 3,405,119.

Burge, Russell W.: *See*—
Thomas, Paul M., Neill, Wright, Crile and Burge. 3,404,-788.

Burghard, Stephen F. Batch drier for grain. 3,404,467, 10–8–68, Cl. 34—56.

Burkett, Wilford B., and R. V. Jackson, to McCulloch Corp. Electrical starter for gasoline engines. 3,405,293, 10–8–68, Cl. 310—74.

Burnett, Richard C., to Sun Oil Co. Cargo handling apparatus. 3,404,911, 10–8–68, Cl. 294—81.

Burns, George W. Adjustable offset key. 3,404,602, 10–8–68, Cl. 90—38.

Burris, Joseph W., to Burris Mfg. Co. Sheet material handling apparatus and method. 3,404,879, 10–8–68, Cl. 270—52.

Burris Mfg. Co.: *See*—
Burris, Joseph W. 3,404,877.

Burrow, Reginald E. D., to Taylor Woodrow Construction Ltd. Pre-stressed concrete pressure vessel for housing nuclear reactor, and method of making same. 3,404,497, 10–8–68, Cl. 52—224.

Butts, Charles H., to Tri-State Products, Inc. Molding apparatus and process. 3,405,214, 10–8–68, Cl. 264—269.

Byrne, John J. Drift alarm system for boats. 3,405,388, 10–8–68, Cl. 340—29.

Cafero, Vincent J., and W. I. Sohl. Pivotal display shelf. 3,404,930, 10–8–68, Cl. 312—234.1.

Caldwell, William A., to Phillips Petroleum Co. Method of producing thermoplastic ornaments. 3,405,215, 10–8–68, Cl. 264—263.

Callan, Joseph M., and I. Gerner, to Magnetic Analysis Corp. Apparatus for limiting phase-angle response range, particularly in eddy current testing apparatus. 3,405,354, 10–8–68, Cl. 324—40.

Calor-Emag Elektrizitats-Aktiengesellschaft: *See*—
Bruckner, Paul, Gremmel, Hartig, Schutte, and Leonhardt. 3,405,325.

Cam Gear (Luton) Ltd.: *See*—
Adams, Frederick J. 3,404,704.

Cameron Iron Works, Inc.: *See*—
Nelson, Bobby H., and Williams. 3,404,736.

Campagna, Edward R.: *See*—
Payne, Wesley J. and Campagna. 3,405,306.

Campbell, William B., to General Electric Co. Turbine bucket supporting structure. 3,404,831, 10–8–68, Cl. 230—116.

Cancio, Leopoldo V., to E. I. du Pont de Nemours and Co. Method for producing quality yarn from gel-containing polyamide. 3,405,211, 10–8–68, Cl. 264—210.

Canrad Precision Industries, Inc.: *See*—
Goldman, William A. 3,405,025.

Caprioglio, Giovanni, to Gulf General Atomic Inc. Electrode comprising thin porous metallic matrix and process for making same. 3,405,011, 10–8–68, Cl. 136—120.

Carlson, Carl E., to Allis-Chalmers Mfg. Co. Corn harvester. 3,404,516, 10–8–68, Cl. 56—18.

Carlson, Elvin L.: *See*—
Johnson, Kenneth D., and Carlson. 3,404,686.

Carmi, Arieh: *See*—
Belentepe, Yilmaz C., and Carmi. 3,404,974.

Carmody, John M., to Republic Packaging Corp. Cushioning unit. 3,404,826, 10–8–68, Cl. 229—14.

Carmody, John M., to Republic Packaging Corp. Corner cushions. 3,404,827, 10–8–68, Cl. 229—14.

Carpenter, John K.: *See*—
Arkis, Jerome W., and Carpenter. 3,405,054.

Carrier Corp.: *See*—
Bryans, David F., and Herb. 3,404,540.
De Armott, Patrick R., and Moakley. 3,404,729.
Leonard, Louis H., Jr. 3,404,637.
Saha, Aatto P. 3,404,939.

Carson, Samuel C., to Imperial Chemical Industries Ltd. Manufacture of hydrogen fluoride. 3,404,953, 10–8–68, Cl. 23—153.

Carter, Earle R., Jr., and E. West, to The Allen Mfg. Co. Socket cap screw with cross holes. 3,404,897, 10–8–68, Cl. 279—60.

Carter, Richard P., Jr., and R. R. Irani, to Monsanto Co. Sequestration of metal ions. 3,405,060, 10–8–68, Cl. 210—58.

Carter, Robert O., to Her Majesty's Postmaster General. Systems for transmitting code pulses having low cumulative disparity. 3,405,235, 10–8–68, Cl. 178—69.

Carvalho, Dorothy A., and S. F. Stafiej, to American Cyanamid Co. Triaminoguanidinium dicyanamide. 3,405,175, 10–8–68, Cl. 260—551.

Castaldi, Arthur P.: *See*—
Hecht, Otto F., and Castaldi. 3,405,110.

Castenmiller, Waltherus N.: *See*—
Logemann, Johan D., van der Mond, and Castenmiller. 3,405,190.

Castle, William H., J. E. Jones, and R. A. Rahenkamp, to International Business Machines Corp. Variable spacebar mechanism for automatically operated proportional escapement printer. 3,404,766, 10–8–68, Cl. 197—84.

Caterpillar Tractor Co.: *See*—
Lipp, Charles E., Wilson, and Betzelberger. 3,404,764.

Catino, Sigmund C.: *See*—
Strobel, Albert F., and Catino. 3,404,992.

Cecil, Harry H.: *See*—
Bench, John M., Cecil, Oglesbee, White, and Ziegler. 3,404,-757.

Celanese Corp. of America: *See*—
Stoll, Reiner G., and Stucki. 3,404,522.

Centrala Automationslaboratoriet AB CALAB: *See*—
Jungner, Olof G. H. 3,404,780.

Cernel, Jose. Container for maintaining in separate condition liquids which are to be mixed together and which may be manipulated to commingle such liquids. 3,404,811, 10–8–68, Cl. 222—83.

Cerny, Miloslav: *See*—
Rajnoha, Jaroslav, Ferkl, Planansky, Cerny, and Silar. 3,404,524.

Chabot, Leo L.: *See*—
Haagsma, Herman, and Chabot. 3,404,928.

Chamberlain, Allan H. Inboard-outboard marine drives. 3,404,-656, 10–8–68, Cl. 115—41.

Chambion, Jean, and P. Hilaire, to Societe Rhodiaceta. Process for the production of poly(polymethylene) terephthalates. 3,405,096, 10–8–68, Cl. 260—75.

Chance, A. B., Co.: *See*—
Le Vee, Clarence H. 3,404,617.

Chandler, Marie W.: *See*—
Christensen, Carl B. 3,404,554.

Chandler, Stanley R. Single waler corner clamp. 3,404,862, 10–8–68, Cl. 249—219.

Chang, Leo S.: *See*—
Sprengling, Gerhard R., Sassano, Trapp and Chang. 3,405,-091.

Chanowitz, Harry, to C. P. Clare & Co. Apparatus for making sealed switches. 3,404,447, 10–8–68, Cl. 29—203.

Chapman, Burton B. Cigarette extinguishing ash receptacle. 3,404,693, 10–8–68, Cl. 131—235.

Chapman, Burton B. Levelling and supporting apparatus. 3,404,859, 10–8–68, Cl. 248—184.

Chappuy, Jean. Electrode holder for spark ignited oil burners. 3,404,940. 10–8–68, Cl. 431—264.

Charamond, Claude P., J. D. Broyles, and J. T. Hancock, to Texas Instruments Inc. Dryer control. 3,404,465, 10–8–68, Cl. 34—45.

Chavannes, Marc A., to Sealed Air Corp. Method and apparatus for the manufacture of plastic laminates and cellular materials. 3,405,020, 10–8–68, Cl. 156—306.

Chemech Engineering Ltd.: *See*—
Westerlund, Göthe O. 3,404,952.

Chemische Werke Werner & Mertz G.m.b.H.: *See*—
Weber, Wolfgang. 3,404,816.

Chen, William K., to American Machine & Foundry Co. Electrodialysis method and apparatus having a series of cascades. 3,405,047, 10–8–68, Cl. 204—180.

Cherry Electrical Products Corp.: *See*—
Cherry, Walter L., and Main. 3,405,243.

Cherry, Walter L., and R. T. Main, to Cherry Electrical Products Corp. Actuating lever for a switch. 3,405,243, 10–8–68, Cl. 200—67.

Chevron Research Co.: *See*—
Goodwine, James K., Jr. 3,405,065.
Olund, Sven A. 3,404,971.

Chilko, Robert J. Swing-blade saw. 3,404,456, 10–8–68, Cl. 30—155.

Choate, Charles L., to Goulds Pumps, Inc. Oil filled thrust bearing modules for submersible pumps. 3,404,924, 10–8–68, Cl. 308—36.2.

Chong, Carlos F., and C. A. Nelson, to Sperry Rand Corp. Matrix selection circuit. 3,405,399, 10–8–68, Cl. 340—174.

Chope, Wilbert E., to Industrial Nucleonics Corp. Inner layer displacement measuring method and apparatus. 3,405,267, 10–8–68, Cl. 250—83.3.

Chowdhuri, Pritindra, to General Electric Co. Base triggered monstable regenerative pulse detector circuit employing complementary semiconductor devices. 3,405,284, 10–8–68, Cl. 307—235.

Christensen, Carl B., to M. W. Chandler. Powered sheet- and panel-edge offsetting tools. 3,404,554, 10–8–68, Cl. 72—386.

Christmann, Louise: *See*—
Roberts, Edward S., and Christmann. 3,405,171.

Christmann, Ludwig J.: *See*—
Roberts, Edward S., and Christmann. 3,405,171.

Christy, Raymond. Game apparatus. 3,404,890, 10–8–68, Cl. 273—130.

Chung, Yun-Hoon, to International Automated Machines, Inc. Packaging machine and method. 3,404,506, 10–8–68, Cl. 53—29.

Churchill, Wilmer H., A. J. Garcia, D. B. Leathem, and M. Wright, to United-Carr Inc. Heat motor. 3,404,530, 10–8–68, Cl. 60—23.

Ciba Corp.: *See*—
Eichenberger, Kurt, Schmidt, and Wilhelm. 3,405,129.
Anderau, Walter, and Loeffel. 3,404,982.
Berger, Alfred. 3,404,941.
Humphreys, Keith W., Stark, and Webb. 3,405,100.
Kugler, Fritz, and Ernst. 3,405,102.

Cicognani, Mario, and A. Previati, to Pirelli S.p.A. Belt and gear drive. 3,404,576, 10–8–68, Cl. 74—229.

Cinanni, Vincent M., to The Gleason Works. Sag compensator for gear machine work spindle. 3,404,443, 10–8–68, Cl. 29—90.

Clare, C. P., & Co.: *See*—
Chanowitz, Harry. 3,404,447.

Clark, Daniel W. Mobile marine structure. 3,404,413, 10–8–68, Cl. 9—8.

Clark, Jerald F.: *See*—
Jewett, Homer H., and Clark. 3,405,334.

Clark, Keith J., to Imperial Chemical Industries Ltd. Copolymers and articles. 3,405,108, 10–8–68, Cl. 260—88.2.

Cleary, James G.: *See*—
Johansen, Herman A., and Cleary. 3,405,328.

Close, Richard N., and E. W. Sard, to United States of America, Army. Radar signal strength and error multiplier circuit. 3,405,260, 10–8–68, Cl. 235—194.

Closure Corp.: *See*—
Feigel, Harold J., and Green. 3,404,507.

Coad, Terrence M., to Snaplite Displays, Inc. Display sign with illuminated characters. 3,404,475, 10–8–68, Cl. 40—130.

Coanda, George: *See*—
Arcarese, Joseph J., Coanda, and De Berry. 3,404,593.

Cockrell, William D., to General Electric Co. Card reader. 3,405,255, 10–8–68, Cl. 235—61.11.

Cohen, Sidney: *See*—
Wakeman, Reginald L., Cohen, and Dudzinski. 3,405,104.

Colchester, John E., and J. H. Entwisle, to Imperial Chemical Industries Ltd. Process for producing N:N'-disubstituted 4:4'-bipyridylium salts. 3,405,135, 10–8–68, Cl. 260—295.

Cole, John L., and J. J. Muray, to United States of America, Atomic Energy Commission. Pulse energizing and energy recovery system for an electromagnet. 3,405,327, 10–8–68, Cl. 317—151.

Colgate-Palmolive Co.: *See*—
Judd, Claude I. 3,405,134.
Judd, Claude I. 3,405,138.

Collins Radio Co.: *See*—
Hart, Robert T. 3,405,364.

Collins, Richard. Electro-mechanical device responsive to position of reciprocating part. 3,405,244, 10–8–68, Cl. 200—82.

Colton, Walter J.: *See*—
Stevens, Norman B., and Colton. 3,405,273.

Columbia Ribbon and Carbon Mfg. Co., Inc.: *See*—
Newman, Douglas A. 3,404,995.

Combustion Engineering, Inc.: *See*—
Blaskowski, Henry J. 3,404,957.
Lewis, Everett C., Tallent, and Plumley. 3,404,663.

Commissariat a l'Energie Atomique: *See*—
Bovard, Pierre, and Grauby. 3,405,050.

Commonwealth Scientific and Industrial Research Organization: *See*—
Davey, Ronald L., Piggott, Reid, and Walles. 3,405,186.

Compagnie de Saint-Gobain: *See*—
Nedelec, Maurice. 3,404,973.

Compagnie des Ateliers et Forges de la Loire: *See*—
Sivet, Marcel. 3,405,219.

Compagnie Generale des Etablissements Michelin raison sociale Michelin & Cie: *See*—
Massoubre, Jean-Marie. 3,404,721.

Computer Devices Corp.: *See*—
Wendolkowski, Eugene S. 3,405,373.

Conn, James F., and T. P. Kichline, to Monsanto Co. Yeast leavened bread improver agent and compositions and processes employing the same. 3,404,983, 10–8–68, Cl. 99—90.

Connelly, La Vern R., to Eaton Yale & Towne, Inc. Pump. 3,404,633, 10–8–68, Cl. 103—136.

Connelly, La Vern R., to Eaton Yale & Towne, Inc. Pump. 3,404,634, 10–8–68, Cl. 103—136.

Consoli, Sebastian A.: *See*—
Tillotson, Neil E., and Consoli. 3,404,409.

Consolidated Cigar Corp.: *See*—
Marano, Herbert W. 3,404,820.
Marano, Herbert W. 3,405,021.

Container Corp. of America: *See*—
Whipperman, Ronald L. 3,404,828.

Continental Can Co.: *See*—
Kinnavy, James W. 3,405,072.

Continental Can Co., Inc.: *See*—
McNamara, John J. 3,404,799.

Continental Gummi-Werke Aktiengesellschaft: *See*—
Koch, Fritz, and Ludewig. 3,404,578.

Continental Oil Co.: *See*—
Kuhn, David A. 3,405,062.
Lundeen, Allan J., and Yates. 3,405,154.
McClaflin, Gifford G. 3,405,113.

Control Data Corp.: *See*—
Hazlett, Lester H. 3,405,227.

Cordova, Elmer R. Wind tee and velocity indicator. 3,404,566, 10–8–68, Cl. 73—189.

Corning Glass Works: *See*—
Belentepe, Yilmaz C., and Carmi. 3,404,974.
Martin, Francis W. 3,405,002.

Cosenza, Frank J., to Tridair Industries. Self-locking fastener. 3,404,716, 10–8–68, Cl. 151—8.

Cotrill, Harry E., Jr.: *See*—
MacGlashan, William F., Jr., and Cotrill. 3,404,562.

Coughenour, Donald J., and W. J. Getson, to HRB-Singer, Inc. Ultrasonic switch for high speed electrical switching. 3,405,-246, 10–8–68, Cl. 200—161.

Counsell, Raymond E., and P. D. Klimstra, to G. D. Searle & Co. 17-phenylalipha,tylestra-1,3,5(10)-trien-3-ols, 16-dehydro derivatives corresponding and esters thereof. 3,405,147, 10–8–68, Cl. 260—397.5.

Courtois, Peter D., and G. J. Eriksson, to Superior Concrete Accessories, Inc. Anchor insert and releasable pick-up unit therefor. 3,404,503, 10–8–68, Cl. 52—701.

Couvillon, James B., to Westinghouse Electric Corp. Synthetic frequency divider. 3,405,369, 10–8–68, Cl. 331—14.

Cowhey, Timothy T.: *See*—
Woodruff, Maurice D., and Cowhey. 3,404,778.

Cowles, John H.: *See*—
Benson, Carl F., and Cowles. 3,404,760.

Cox, Douglas L., and J. E. Savoie, to Textron Inc. Method for blocking and deblocking lenses. 3,404,488, 10–8–68, Cl. 51—284.

Crane, Carlton L., and D. F. Ingerick, to Eastman Kodak Co. Process for preparing polyvinyl phthalate in which the improvement is the use of activated polyvinyl alcohol. 3,405,-103, 10–8–68, Cl. 260—78.4.

Crane, George J., to Huron Nassau Ltd. Electrolytic cell container. 3,405,051, 10–8–68, Cl. 204—269.

Creager, James L. Dual plane adjustable automobile mirror. 3,404,935, 10–8–68, Cl. 350—303.

Crile, Eugene E.: *See*—
Thomas, Paul M., Neill, Wright, Crile, and Burge. 3,404,-788.

Crompton & Knowles Corp.: *See*—
Wueger, Karl W. 3,404,708.

Cropper, Wendell P., to Standard Oil Co. Peak reader apparatus employing a servo rebalance motor operating in a single direction. 3,405,358, 10–8–68, Cl. 324—103.

Croston, Donald E., to Sam Stein Associates, Inc. Machine for coating articles with finely divided particles, with conveyors. 3,404,659, 10–8–68, Cl. 118—24.

Crouse, Glenn R., to Oldberg Mfg. Co. Method of forming a sound attenuating and gas passage tube construction. 3,404,-445, 10–8–68, Cl. 29—157.

Crown Zellerbach Corp.: *See*—
Hartbauer, Ellsworth A., and Weinert. 3,404,609.

Crucible Steel Co. of America: *See*—
Jaffee, Robert I., and Ogden. 3,405,016.

Csapilla, Joseph, to American Cyanamid Co. Photochromic dicyano-dihydro-dibenzofurans and dibenzothiophenes. 3,405,-137, 10–8–68, Cl. 260—329.3.

Cull, William, and G. R. Holmes, to Hardy Spicer Ltd. Seal. 3,404,573, 10–8–68, Cl. 74—18.

Cunney, Edward G. Energy-absorbing camel. 3,404,534, 10–8–68, Cl. 61—48.

Curtiss-Wright Corp.: *See*—
Brandmaier, Harold E. 3,405,291.

Cushman, Paul A. Combined exhaust silencer and heat exchanger. 3,404,731, 10–8–68, Cl. 165—51.

Cutting Room Appliances Corp.: *See*—
Merrill, Edward M. 3,404,850.

Cvetko, Henry J., and D. E. Punkar, to The Astatic Corp. Phonograph pickup having free or operative transducer positions. 3,405,239, 10–8–68, Cl. 179—100.41.

Czubak, Aibin S., to Micromatic Hone Corp. Cylindrical bore sizing and finishing device. 3,405,049, 10–8–68, Cl. 204—217.

Dai Cellu Kabushiki Kaisha: *See*—
Tanaka, Atsushi, Hozumi, Endo, and Taniguchi. 3,405,-094.

Daiichi Seiyaku Co. Ltd.: *See*—
Ichibagase, Hisashi, Ichikawa, and Nagasaki. 3,405,126.

Dairy Technics, Inc.: *See*—
Olsen, Ronald H. 3,404,984.

Daley, Roger J., and W. W. Herderhorst, to Tokheim Corp. Thrust bearing and seal assembly. 3,405,295, 10–8–68, Cl. 310—104.

Daniell, Sten H.: *See*—
Sodergard, Bengt M., and Daniell. 3,404,582.

Daniy Machine Specialties, Inc.: *See*—
Georgeff, Vasil, Novak, and Froula. 3,404,789.

Dannatt, Hugh St. L., to Sperry Rand Corp. Pneumatic sensing device. 3,405,254, 10–8–68, Cl. 235—61.11.

Darnell, William J. Shock absorber. 3,404,877, 10–8–68, Cl. 267—1.

Davey, Ronald L., K. L. Piggott, A. F. Reid, and P. C. Walles, to Commonwealth Scientific and Industrial Research Organization. Method for preparing dicyclopentadienyl magnesium. 3,405,186, 10–8–68, Cl. 260—665.

David, Edward E., Jr., M. R. Schroeder, and M. M. Sondhi, to Bell Telephone Laboratories, Inc. Apparatus for determining the periodicity and aperiodicity of a complex wave. 3,405,237, 10–8–68, Cl. 179—1.

Davidoff, Dorsey, to United States of America, Navy. Servo repositioning circuit in a servomotor drive system for compensating servomotor overtravel. 3,405,336, 10–8–68, Cl. 318—18.

D'Avignon, Jacques, to Weather Engineering Corp. of Canada, Ltd. Apparatus for use in the seeding of clouds. 3,404,821, 10–8–68, Cl. 226—90.

Davis, Charles A., to W. J. Young Machinery Co., Inc., Adjustable gang nail holder. 3,404,824, 10–8–68, Cl. 227—140.

Davis, Mike, and A. B. Winter, to Dresser Industries, Inc. Pipe recovery logging. 3,404,563, 10–8–68, Cl. 73—151.

Dawson, Robert: *See*—
Vogel, Arthur E. 3,404,898.

Dawson, Robert: *See*—
Vogel, Arthur E. 3,404,899.

Dayco Corp.: *See*—
Smith, Kenneth C. 3,404,434.

Dayem, Aly H., W. F. Eisenmenger, and B. I. Miller, to Bell Telephone Laboratories, Inc. Ultrahigh frequency phonon generator and related devices. 3,405,374, 10–8–68, Cl. 333—30.

Dean, Carl J.: *See*—
Wright, David M., and Dean. 3,404,929.

De Armott, Patrick R., and W. A. Moakley, Jr., to Carrier Corp. Heat pump capacity control. 3,404,729, 10–8–68, Cl. 165—29.

De Barry, Jack: *See*—
Arcarese, Joseph J., Coanda, and de Barry. 3,404,593.

Dedrick, Dallas S., to Weyerhaeuser Co. Kiln drying process. 3,404,464, 10–8–68, Cl. 34—26.

Degenkolb, David J.: *See*—
Dolan, James J., and Degenkolb. 3,405,262.

Deichert, William G., and W. B. Ramsey, to American Cyanamid Co. Method of treating polymeric substrates so as to improve adhesion of mar-resistant surfaces thereto. 3,404,-996, 10–8–68, Cl. 117—47.

Deines, Stanley N. Scaffold. 3,404,752, 10–8–68, Cl. 182—148.

Deletraz, John: *See*—
Tripet, Jean, and Deletraz. 3,404,527.

Del Laboratories, Inc.: *See*—
Levine, Sol. 3,404,774.

Delta Plastics Co.: *See*—
Hoffman, Robert J., Jr. 3,404,476.

Demers, Romeo J. N. Automatic closure for self-propelled rotary mowers. 3,404,519, 10–8–68, Cl. 56—25.4.

Denhardt, Carl: *See*—
Sorenson, Bill W., and Denhardt. 3,404,884.

De Paola, George R., W. J. van Loo, Jr., and S. J. O'Brien, to American Cyanamid Co. Soil retardant composition containing a sulfonate-polyacrylamid copolymer salt and an imidazoline plasticizer, process for treating a textile material therewith and the treated material. 3,405,003, 10–8–68, Cl. 117—139.5.

Deposa, Angelo F.: *See*—
Pipkins, David D., and Deposta. 3,404,839.

De Rose, John R. Beautician's appliance. 3,404,944, 10–8–68, Cl. 21—83.

Derror, Fred L., to Mansfield Sanitary, Inc. Method of making ceramic shapes. 3,405,203, 10–8–68, Cl. 264—69.

Designatronics, Inc.: *See*—
Walker, Melvin F. 3,404,545.

D'Esopo, Francis P., to The Wiremold Co. Raceway system for electrical wiring. 3,404,706, 10–8–68, Cl. 138—163.

Des Ormeaux, John A., and J. R. Paradis, to F. P. Worthen. Method and apparatus for feeding textile materials in a sewing machine. 3,404,846, 10–8–68, Cl. 112—212.

DeSouza Filho, Jose L. Beach tent. 3,404,696, 10–8–68, Cl. 135—5.

De Souza, Filho, Jose L. Beach chair and cot. 3,404,915, 10–8–68, Cl. 297—17.

De Tore, John A.: *See*—
Sambell, Kenneth W., and De Tore. 3,404,852.

De Vilter Machine Co.: *See*—
Sweeny, Allen N. 3,404,590.

Dezzutti, Donald L.: See—
Boe, David J., and Dezzutti. 3,405,063.

Diamond Tool and Horseshoe Co.: *See*—
Swanstrom, John E., Sr. 3,404,457.

Di Bella, Alfio. Apparatus for imparting motion to a body. 3,404,854, 10–8–68, Cl. 244—62.

Diblick, Vernon J. Flexible bellows ice maker. 3,404,543, 10–8–68, Cl. 62—344.

Dicus, Emrold A., to The Upson-Walton Co. Coupling link. 3,404,528, 10–8–68, Cl. 59—85.

Dillon, Luke, Jr.: *See*—
Rangachar, Hemmige V., and Dillon. 3,405,400.

Dills, Raymond L., to General Electric Co. Combined front heating and insulating means for self-cleaning oven. 3,405,253, 10–8–68, Cl. 219—413.

Dilworth, Louis R., to Allis-Chalmers Mfg. Co. Fuel cell and fuel cell electrode containing nickel-transition metal intermetallic catalyst. 3,405,009, 10–8–68, Cl. 136—86.

Dilworth, Louis R., and W. J. Wunderlin, to Allis-Chalmers Mfg. Co. Fuel cell and fuel cell electrode containing nickel-rare earth intermetallic catalyst. 3,405,008, 10–8–68, Cl. 136—86.

Dirac, Jules F., to International Business Machines Corp. Controlled register accessing. 3,405,394, 10–8–68, Cl. 340—172.5.

Disney, Walt, Productions: *See*—
Bacon, Karl W., and Morgan. 3,404,635.

Distillers Co. Ltd., The: *See*—
Brown, Christopher J., and Millidge. 3,405,172.

Dittrich, Horst: *See*—
Pfarrwaller, Erwin, and Dittrich. 3,404,851.

Dittrich, William A. Sound and vibration detector device. 3,405,288, 10–8–68, Cl. 310—8.4.

Dixon, Rod P., to Nuclear Processing Corp. Method of creating large diameter boreholes using underground nuclear detonations. 3,404,919, 10–8–68, Cl. 299—13.

Dobbins, David T., and F. F. Stafford, to Westinghouse Electric Corp. High pressure fully openable tank. 3,404,796, 10–8–68, Cl. 220—3.

Dodd, Edward C.: *See*—
Harris, Albert E., and Dodd. 3,404,981.

Dolan, James J., and D. J. Degenkolb, to Textron Electronics, Inc. Filter darkroom light. 3,405,262, 10–8–68, Cl. 240—20.

Dolton, Meyer H., and S. J. Goodman, to International Patent Research Corp. Lawn edger. 3,404,520, 10–8–68, Cl. 56—256.

Dollenmayer, William L., to International Business Machines Corp. Visible perforating apparatus with reciprocating stripping. 3,404,594, 10–8–68, Cl. 83—578.

Dolling, Jens C., to United States of America, Army. Fragmentation of underground metallic silos subjected to internal blast. 3,404,797, 10–8–68, Cl. 220—18.

Donlin, Gerald M. Edge banding machine. 3,405,022, 10–8–68, Cl. 156—380.

Donovan, Charles J., and R. E. Fowler. Washing and cleaning apparatus. 3,404,419, 10–8–68, Cl. 15—3.13.

Dornier-Werke G.m.b.H.: *See*—
Pfaff, Klaus. 3,404,605.

Dorr, Karl-Heinz: *See*—
Drechsel, Herbert, Dorr, and Grimm. 3,404,955.

Dorr, Karl-Heinz: *See*—
Drechsel, Herbert, Dorr, and Grimm. 3,404,956.

Dorsett, Wendell E.: *See*—
Whitfield, Carroll J., and Dorsett. 3,404,517.

Dotson, Billy R.: *See*—
Morrison, Edward D., and Dotson. 3,405,083.

Dow Chemical Co., The: *See*—
Garret, Walter L., and Roth. 3,405,216.
Garrett, Walter L., and Roth. 3,405,217.
Hall, Richard H., Sikkema, Humiston, Foster, and Lamson. 3,405,004.
Harder, Richard E. 3,404,869.
Harrison, Hugh T. 3,405,131.
Pastor, Arthur J., Peterson, Price, and Ballard. 3,405,077.
Raley, Charles F., Jr. 3,405,039.
Walker, Eddie B. 3,405,093.
Widiger, Alexander H., Jr., and Johnson. 3,405,184.

Dow, Frederick J.: *See*—
Boissevain, Thomas A., and Dow. 3,405,405.

Drayton, John W. Scraper structure for a roll. 3,404,424, 10–8–68, Cl. 15—308.

Drechsel, Herbert, K.-H. Dorr, and H. Grimm, to Metallgesellschaft Aktiengesellschaft. Process for producing sulfur trioxide and sulfuric acid. 3,404,955, 10–8–68, Cl. 23—168.

Drechsel, Herbert, K.-H. Dorr, and H. Grimm, to Metallgesellschaft Aktiengesellschaft. Process for catalytic conversion of dilute sulfur dioxide gases to sulfur trioxide and sulfuric acid. 3,404,956, 10–8–68, Cl. 23—168.

Dresner, Joseph, to Radio Corp. of America. Photoconductive device having a target including a selenium blocking layer. 3,405,298, 10–8–68, Cl. 313—65.

Dresser Industries, Inc.: *See*—
Bergan, Reuben A. 3,405,275.
Davis, Mike, and Winter. 3,404,563.

Dreytus, Robert L., to W. R. Grace & Co. Packaging. 3,404,508, 10–8–68, Cl. 53—34.

Dudzinski, Zdzislaw J.: *See*—
Wakenian, Reginald L., Cohen, and Dudzinski. 3,405,104.

Dundr, Otto J., to Shooting Equipment, Inc. Bullet deflecting device. 3,404,886, 10–8–68, Cl. 273—102.4.

Dundr, Otto J. Bullet trap with upwardly inclined impact plates. 3,404,887, 10–8–68, Cl. 273—102.4.

Dunlop Co. Ltd., The: *See*—
Lane, Frederick H. 3,404,592.
Mortimer, Frank R. 3,404,758.

Dunlop Rubber Co. Ltd.: *See*—
Fletcher, Henry R. 3,404,720.
Keatley, William E., and Silvera. 3,404,755.

Dunlop, William R.: *See*—
Broadhead, Ronald L., and Dunlop. 3,405,053.

Du Pont de Nemours, E. I., and Co.: *See*—
Braun, Robert A. 3,405,167.
Cancio, Leopoldo V. 3,405,211.
Fryd, Michael. 3,405,087.
Heighton, Harold H., and Most. 3,405,098.
Iler, Ralph K. 3,405,001.
Jacobson, Howard W. 3,405,000.
La Lancette, Eugene A. 3,405,146.
McCormack, Charles E. 3,405,204.
Miller, Norman E. 3,404,959.
Pierce, Norwin C. 3,404,710.
Sartori, Mario F. 3,405,118.
Slocum, Donald H. 3,405,088.

Dupzyk, Ronald J.: *See*—
Barton, George W., Jr., and Dupzyk. 3,405,326.

Dynamic Displays, Inc.: *See*—
Whitman, Shepard H., and Fautsch. 3,404,783.

Dynamit Nobel Aktiengesellschaft: *See*—
Hartel, Heinz, and Mirau. 3,405,095.

Eastman Kodak Co.: *See*—
Briner, Marshall R., and Gibson. 3,405,145.
Crane, Carlton L., and Ingerick. 3,405,103.
Gilman, Paul B., Jr., and Goffe. 3,404,080.
Harvey, Donald M. 3,404,612.
MacGregor, Dean J., and Weber. 3,404,613.
Morrison, Edward D., and Dotson. 3,405,083.
Newland, Gordon C., and Lappin. 3,405,090.

Eaton Yale & Towne, Inc.: *See*—
Connelly, La Vern R. 3,404,633.
Connelly, La Vern R. 3,404,634.
Jaeschke, Ralph L., and Wolcott. 3,404,761.
Roper, Daniel W. 3,404,585.
Sutaruk, Alex. 3,404,832.

Ebauches S.A.: *See*—
Vogt, Paul. 3,405,241.

Eckenwiler, James W., and D. K. Porter, to The B. F. Goodrich Co. Tire building drum. 3,405,023, 10–8–68, Cl. 156—415.

Eckert, George W., to Texaco Inc. Motor fuel containing an octane appreciator. 3,404,970, 10–8–68, Cl. 44—56.

Edwards, Lawrence K., to Lockheed Aircraft Corp. High-speed ground transportation systems. 3,404,638, 10–8–68, Cl. 104—156.

Egami, Yoshiaki: *See*—
Sasaki, Nobuo, Sugahara, Maehara, Tsutsumi, and Egami. 3,404,950.

Eheim, Franz, and G. Hoefer, to Robert Bosch G.m.b.H. Fuel injection pump. 3,404,668, 10–8–68, Cl. 123—139.

Eholzer, Ulrich, U. Fetzer, I. Ugi, I. Hammann, and G. Unterstenhofer, to Farbenfabriken Bayer Aktiengesellschaft. Xenyl-alkyl isonitriles. 3,405,160, 10–8–68, Cl. 260—465.

Ehrenreich, A., & Cie: *See*—
Gottschald, Rudolf. 3,404,909.

Eichenberger, Kurt, P. Schmidt, and M. Wilhelm, to Ciba Corp. Pyridazines. 3,405,129, 10–8–68, Cl. 260—240.

Eichner Organisation G.m.b.H.: *See*—
Hecker, Klaus J., and Ostwald. 3,404,882.

Ellingsfeld, Heinz: *See*—
Naarmann, Herbert, Ellingsfeld, and Kastning. 3,405,114.

Eisenmenger, Wolfgang F.: *See*—
Dayem, Aly H., Eisenmenger, and Miller. 3,405,374.

Eizenberg, Arthur, to American Hospital Supply Corp. Disposable plastic hemostat. 3,404,683, 10–8–68, Cl. 128—322.

Electric & Musical Industries Ltd.: *See*—
Rand, Walter L. 3,404,830.

Electric Reduction Co. of Canada Ltd.: *See*—
Jeffes, James H. E., and Maunsell. 3,404,954.

Electrolux Corp.: *See*—
Reid, Robert A. 3,404,466.

Elfes, Lee E., and E. W. Todd, to Massey-Ferguson Inc. Drive arrangement for bale throwers. 3,404,768, 10–8–68, Cl. 198—128.

Elford, David, to FMC (Australia) Ltd. Container filling apparatus. 3,404,713, 10–8–68, Cl. 141—67.

Emain, Jean. Stone-carrying elements of gem working machines. 3,404,491, 10–8–68, Cl. 51—229.

Emary, Robert J., to Gilford Instrument Laboratories, Inc. Panel board retaining clip. 3,404,785, 10–8–68, Cl. 211—183.

Emeloid Co., Inc., The: *See*—
Freundlich, Jackson S. 3,404,435.

Emery, Robert D., and C. E. Freese, to A. O. Smith Corp. Preset counter having adjustable control element. 3,404,834, 10–8–68, Cl. 235—132.

Endo, Shigetaka: *See*—
Tanaka, Atsushi, Hozumi, Endo, and Taniguchi. 3,405,094.

Engel, Herbert H.: *See*—
Sanborn, Charles E., Anderson, and Engel. 3,405,195.

Engelhardt, Björn H., to United States of America, Army. Quiescent current stabilized transistor amplifier. 3,405,367, 10–8–68, Cl. 330—13.

Engelhardt, Friedrich: *See*—
Wollner, Johannes, and Engelhardt. 3,405,178.

England, Alfred W.: *See*—
Mendelson, Myron J., and England. 3,405,396.

Entwisle, John H.: *See*—
Colchester, John E., and Entwisle. 3,405,135.

Erb, Ernst, to Erba Maschinenbau AG. Wide package and method of manufacturing same. 3,404,772, 10–8–68, Cl. 206—64.

Erba Maschinenbau AG: *See*—
Erb, Ernst. 3,404,772.

Eriksson, George J.: *See*—
Courtois, Peter D., and Eriksson. 3,404,503.

Ernst, Donald M.: *See*—
Hall, William B., and Ernst. 3,405,299.

Ernst, Otto: *See*—
Kugler, Fritz, and Ernst. 3,405,102.

Errett, Daryl D.: *See*—
Stevens, Norman B., and Errett. 3,405,271.
Stevens, Norman B., and Errett. 3,405,272.

Espinoza, Florence S. Acoustical baffling cove system. 3,404,498, 10–8–68, Cl. 52—145.

Essers, Wilhelmus G., J. G. Verhagen, and G. W. Tichelaar, to North American Philips Co., Inc. Core wire for electric arc welding. 3,405,248, 10–8–68, Cl. 219—146.

Esso Research and Engineering Co.: *See*—
Mattox, William J. 3,405,074.
Sprow, Frank B. 3,405,059.
Wanless, Graham G., and Hudson. 3,405,263.

Esso Standard Societe Anonyme Francaise: *See*—
Van Langermeersch, Andre E. 3,405,041.

Estabrook, Mark R., to Barnes Drill Co. Honing machine with automatic force control. 3,404,490, 10–8–68, Cl. 51—165.

Eutectic Welding Alloys Corp.: *See*—
Tanzman, Daniel P., and Rogers. 3,404,999.

Everett, Harry F.: *See*—
Williams, Norman C., and Everett. 3,404,867.

Ewald, Raymond M., to Mobay Chemical Co. Method for recovering tolylene diisocyanate. 3,405,040, 10–8–68, Cl. 203—88.

Ewer, Ronald W., to Optics Australia Pty., Ltd. Optical beasting gasket. 3,404,861, 10–8–68, Cl. 249—187.

FMC (Australia) Ltd.: *See*—
Elford, David. 3,404,713.

FMC Corp.: *See*—
Wilson, Kenneth R., and Hill. 3,404,975.

Fagel, Roger, to Ateliers de Constructions Electriques de Charleroi (ACEC) Societe Anonyme. Electrical steering wheel with independent suspension. 3,404,747, 10–8–68, Cl. 180—43.

Fairbanks, Edward K., D. E. Reed, and J. L. Toth, to Space Components, Inc. Electrical contacts and method of fabrication. 3,404,455, 10–8–68, Cl. 29—630.

Fairbanks, John R., and B. F. Melchionni, to Radio Corp. of America. Specimen injector for electron microscope with a rotatable specimen holder. 3,405,264, 10–8–68, Cl. 250—49.5.

Fairchild Camera and Instrument Corp.: *See*—
Hilbiber, David F. 3,405,330.
So, John J. 3,404,451.

Fall, Herbert S., L. M. Vaughn, and H. I. Short; said Vaughn and said Short assors. to said Fall. Cabinet structure. 3,404,931, 10–8–68, Cl. 312—257.

Fanstone, William G. Outboard motor transmission. 3,404,586, 10–8–68, Cl. 74—750.

Fantuzzo, Joseph, to Xerox Corp. Sheet transport apparatus. 3,404,418, 10–8–68, Cl. 15—1.5.

Farah, Basil S., and E. E. Gilbert, to Allied Chemical Corp. Bromodichloroacetanilides. 3,405,176, 10–8–68, Cl. 260—562.

Farbenfabriken Bayer Aktiengesellschaft: *See*—
Eholzer, Ulrich, Fetzer, Ugi, Hammann, and Unterstenhofer. 3,405,160.

Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
Girg, Friedrich, Lorentz, and Schultz. 3,405,085.
Mauz, Otto, and Behrenbruch. 3,405,089.
Winkelmann, Erhardt, and Wagner. 3,405,164.

Farnum, James G. E., to Warner Electric Brake & Clutch Co. Speed and positioning control apparatus for power driven machines. 3,404,767, 10–8–68, Cl. 192—18.

Farrissey, William J., Jr., and A. A. R. Sayigh, to The Upjohn Co. Aralkanols and process for their preparation. 3,405,183, 10–8–68, Cl. 260—613.

Fautsch, Roger A.: *See*—
Whitman, Shepard H., and Fautsch. 3,404,783.

Fawick, Thomas L. Flexible coupling. 3,404,544, 10–8–68, Cl. 64—11.

Fay, Benjamin F., to Atlas Chemical Industries, Inc. Hydraulic fluid. 3,405,067, 10–8–68, Cl. 252—75.

Feick, Paul A., R. W. Helmig, and A. J. Sarka, to Harris-Intertype Corp. Material handling apparatus. 3,404,607, 10–8–68, Cl. 93—36.

Feigel, Harold J., and B. Green, to Closure Corp. Container forming device. 3,404,507, 10–8–68, Cl. 53—29.

Feld, George J., ½ to H. Heckmann. Thread pulling needle devices. 3,404,707, 10–8–68, Cl. 139—1.

Feldmann, Klaus, W. Zschaage, P. Schmidt, K. Frank, and J. Kandler, to Knapsack Aktiengesellschaft. Welding electrode. 3,405,005, 10–8–68, Cl. 117—207.

Feller, Thomas R., to Allis-Chalmers Mfg. Co. Turning gear. 3,404,579, 10–8–68, Cl. 74—354.

Fergason, Rector C., to Allis-Chalmers Mfg Co. Screen cleaning device. 3,404,514, 10–8–68, Cl. 55—295.

Ferkl, Frantisek: *See*—
Rajnoha, Jaroslav, Ferkl, Planansky, Cerny, and Silar. 3,404,524.

Ferranti, Ltd.: *See*—
Watkin, Kenneth. 3,404,623.

Ferrero, John G., to Owens-Illinois, Inc. Copper alloy. 3,405,015, 10–8–68, Cl. 148—32.

Fesco, John J., to Studley Paper Co., Inc. Vacuum cleaner filter bag. 3,404,515, 10–8–68, Cl. 55—377.

Fetzer, Uwe: *See*—
Eholzer, Ulrich, Fetzer, Ugi, Hammann, and Unterstenhofer. 3,405,160.

Filak, Carl M.: *See*—
Murphy, Alfred M., and Filak. 3,404,552.

Finch, John E., to AMP Inc. Electrical pinboard. 3,405,384, 10–8–68, Cl. 339—18.

Fineblum, Solomon S., to Ranco Inc. Restrictor means for heat pump system. 3,404,542, 10–8–68, Cl. 62—324.

Fischer, Georg, Aktiengesellschaft: *See*—
Albrecht Robert. 3,404,905.

Flanagan, Robert L., to Aspec, Inc. Mobile vehicle press. 3,404,622, 10–8–68, Cl. 100—100.

Fleer, Thomas P., to Aurora Corp. of Illinois. Gas valve. 3,404,866, 10–8–68, Cl. 251—284.

Fleit, Harold: *See*—
Aronson, David, Fleit, and Japhet. 3,405,037.

Fletcher, Henry R., to Dunlop Rubber Co. Ltd. Cured elastomeric articles. 3,404,720, 10–8–68, Cl. 152—354.

Fohl, Timothy. Depth controller. 3,404,655, 10–8–68, Cl. 114—235.

Follrath, Richard D., to Anaconda Wire and Cable Co. Apparatus and method for the precision coating of strip. 3,405,006, 10–8–68, Cl. 117—213.

Foster, William A.: *See*—
Hall, Richard H., Sikkema, Humiston, Foster, and Lamson. 3,405,004.

Fournier, Roger H., to Norton Co. Rotatable work holder for machine tools. 3,404,492, 10–8–68, Cl. 51—237.

Fowler, Frank, to Benger Laboratories Ltd. Aerosol dispenser. 3,404,681, 10–8–68. Cl. 128—173.

Fowler, Robert E.: *See*—
Donovan, Charles J., and Fowler. 3,404,419.

Frank, Klaus: *See*—
Feldmann, Klaus, Zschaage, Schmidt, Frank and Kandler. 3,405,005.

Frank, Michael J.: *See*—
Balkow, Max J., and Frank. 3,405,282.

Frank, Simon: *See*—
Meyers, Marion D., and Frank. 3,405,143.

Frantz, Virgil L., to Graham-White Sales Corp. Sand discharge pipe connection. 3,404,903, 10–8–68, Cl. 285—24.

Fraser, Richard S., and P. Y. Jone, to Weyerhaeuser Co. Method of making metal clad tools. 3,405,212, 10–8–68, Cl. 264—221.

Frater, Allen H.: *See*—
Frater, Milton A. and A. H. 3,404,804.

Frater, Milton A. and A. H., to G. B. Lewis Co. Stackable and nestable container. 3,404,804, 10–8–68, Cl. 220—97.

Fraze, Ermal C.: *See*—
Silver, Francis M. 3,404,801.

Frease, Austin M.: *See*—
Williams, Lawrence S. 3,404,744.

Freese, Charles E.: *See*—
Emery, Robert D., and Freese. 3,404,834.

French, Jack W., H. H. Heffley, R. M. Lewanski, and R. E. Modry, to Sommer & Maca Glass Machinery Co. Curtain coating apparatus. 3,404,058, 10–8–68, Cl. 118—6.

Freundlich, Jackson S., to The Emeloid Co., Inc. Paper clip. 3,404,435, 10–8–68, Cl. 24—66.

Frieberg, Bengt O., to Hiab Hydraulics Corp. Material handling device. 3,404,792, 10–8–68, Cl. 214—80.

Fritsche, Richard K., A. M. Moustafa, R. V. Brock, and C. H. Struble, to The Miami Margarine Co. Salt dissolver with automatic salt level controller. 3,404,963, 10–8–68, Cl. 23—270.

Frola, Frank V., to Westinghouse Electric Corp. Brushless synchronous motor control system and circuitry therefor. 3,405,338, 10–8–68, Cl. 318—176.

Froula, Richard D.: *See*—
Georgeff, Vasil, Novak, and Froula. 3,404,789.

Fryd, Michael, to E. I. du Pont de Nemours and Co. Stable polymer dispersion in an organic liquid and process of preparing same. 3,405,087, 10–8–68, Cl. 260—33.6.

Fultz, Palmer: *See*—
Vogel, Arthur E. 3,404,898.
Vogel, Arthur E. 3,404,899.

Fundingsland, John O. Magnetic recording tape cartridge. 3,404,848, 10–8–68, Cl. 242—55.13.

GAF Corp.: *See*—
Hecht, Otto F., and Castaldi. 3,405,110.
Strobel, Albert F., and Catino. 3,404,992.
Taber, David. 3,405,099.

G.S. International Laboratory Corp.: *See*—
Szekely, George, 3,404,843.
Gabriel, Melvin E., to Zenith Radio Corp. Television deflection apparatus. 3,405,313, 10–8–68, Cl. 315—27.
Garcia, Armando J.: *See*—
Churchill, Wilmer H., Garcia, Leathem, and Wright. 3,404,530.
Gardel, Robert, and E. Gorsky, to Lettam, Inc. Doll eye control mechanism. 3,404,483, 10–8–68, Cl. 46—135.
Gardiner, Roy W., M. Panich, and N. J. Yager, to Bailey Meter Co. Pneumatic servomotor having force beam input and spring type feedback. 3,404,604, 10–8–68, Cl. 91—47.
Gardy, Thomas A. Foul-proof anchor. 3,404,652, 10–8–68, Cl. 114—208.
Garrett Corp., The: *See*—
Kinsell, Robert C. 3,404,538.
Garrett, Walter L., and H. H. Roth, to The Dow Chemical Co. Method for making porous polyurethane foams. 3,405,216, 10–8–68, Cl. 264—321.
Garrett, Walter L., and H. H. Roth, to The Dow Chemical Co. Method for making open cell polyurethane foams. 3,405,217, 10–8–68, Cl. 264—321.
Gassino, Teresio, and I. Bovio, to Ing. Olivetti C., & C., S.p.A. Printing device with selecting mechanism employing a group of eccentrics. 3,404,765, 10–8–68, Cl. 197—55.
Gastright, Edward H.: *See*—
Schaewe, Arnold E., and Gastright. 3,404,509.
Gates Rubber Co., The: *See*—
Zahn, Edward J. 3,404,577.
Gee, Allen, to Hughes Aircraft Co. Use of organosilicon subbing layer in photoresist method for obtaining fine patterns for microcircuitry. 3,405,017, 10–8–68, Cl. 156—17.
Geigy, J. R., A.G.: *See*—
Stocker, Emil, Burdeska, and Stammbach. 3,405,119.
General Cable Corp.: *See*—
Holmes, Alvin W. 3,404,969.
Polizzano, Fred F. 3,405,228.
General Dynamics Corp.: *See*—
Spisak, John A. 3,404,551.
General Electric Co.: *See*—
Barringer, Jerry M. 3,405,319.
Boothe, Willis A. 3,404,700.
Campbell, William B. 3,404,831.
Chowdhuri, Pritindra. 3,405,284.
Cockrell, William D. 3,405,255.
Dills, Raymond L. 3,405,253.
Lang, Ernst P. 3,405,252.
Reid, Robert A. 3,404,466.
General Mills Inc.: *See*—
Miller, Sidney E., and Wheeler. 3,405,150.
General Public Utilities Corp.: *See*—
Ley, Roger D. 3,405,278.
General Telephone and Electronic Laboratories, Inc.: *See*—
Brecher, Charles, Lempicki, and Samelson. 3,405,372.
General Trustee Co., Inc., The: *See*—
Barakat, Diawar, and Keller. 3,405,043.
Georgeff, Vasil, T. F. Novak, and R. D. Froula, to Danly Machine Specialties, Inc. Destacking apparatus. 3,404,789, 10–8–68, Cl. 214—8.5.
Germino, Felix J.: *See*—
Moshy, Raymond J., and Germino. 3,404,690.
Moshy, Raymond J., and Germino. 3,404,691.
Gerner, Ignacy: *See*—
Callan, Joseph M., and Gerner. 3,405,354.
Gerstine, Milton I., to The Boeing Co. Automatic stabilization of aircraft. 3,404,856, 10–8–68, Cl. 244—77.
Gerwig, Earl W., to United States of America, Defense Supply Agency. Brim stitcher. 3,404,645, 10–8–68, Cl. 112—2.
Gesellschaft Fur Linde's Eismaschinen Aktiengesellschaft: *See*—
Kruis, August, Scholz, and Ranke. 3,405,192.
Getson, William J.: *See*—
Coughenour, Donald J., and Getson. 3,405,246.
Gevaert Photo-Producten N.V.: *See*—
Vrancken, Marcel N. 3,405,265.
Gheorghe, Aldea, N. Ioan, D. Leon, and D. Ion, to Ministerul Industriei Petrolului si Chimiei. Automated system and drilling rig for continuously and automatically pulling and running a drill-pipe string. 3,404,741, 10–8–68, Cl. 175—85.
Giannini Scientific Corp.: *See*—
Van Ornum, Delbert G. Winzeler, and Miller. 3,405,314.
Winzeler, John W., and Van Ornum. 3,405,305.
Gibson, Charles L.: *See*—
Brimer, Marshall R., and Gibson. 3,405,145.
Giese, Clifford C., Jr., R. E. Baker, and E. A. Heilman, to Ledex Inc. Rotary stepping mechanism. 3,405,376, 10–8–68, Cl. 335—138.
Gikow, Emanuel. Switch. 3,405,289. 10–8–68. Cl. 310—8.5.
Gilbert, Everett E.: *See*—
Farah, Basil S., and Gilbert. 3,405,176.
Gilford Instrument Laboratories, Inc.: *See*—
Emary, Robert J. 3,404,785.
Gilker, Clyde, to McGraw-Edison Co. Repeating circuit interrupter. 3,405,318, 10–8–68, Cl. 317—22.
Gillies, Wallace, and G. K. Yamasaki, to Westinghouse Electric Corp. Electron discharge device for emission of atomic resonance lines. 3,405,304, 10–8–68, Cl. 313—218.
Gilman, Carl E., C. Abbondante, and D. A. Senour, to BLH Electronics, Inc. Extended-range indicating instruments. 3,405,359, 10–8–68, Cl. 324—131.
Gilman, Paul B., Jr., and C. A. Goffe, to Eastman Kodak Co. Silver images in light-sensitive print-forming layers. 3,404,980, 10–8–68, Cl. 96—27.
Girg, Friedrich, G. M. R. Lorentz, and G. Schultz, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Non-foaming synthetic resin dispersions with prolonged storability. 3,405,085, 10–8–68, Cl. 260—29.6.
Glandin, Constan: *See*—
Widell, Bjorn, Van Santen, and Glandin. 3,405,033.
Glanzstoff AG: *See*—
Rein, Walter, and Siggel. 3,405,198.
Glaser Products Corp.: *See*—
Leach, Charles. 3,404,621.
Glass, Marvin & Associates: *See*—
Glass, Marvin I., Stan, and Licitis. 3,404,891.
Glass, Marvin I., H. Stan, and G. Licitis, to Marvin Glass & Associates. Board game with carousel-type spinner. 3,404,891, 10–8–68, Cl. 273—134.
Gleason Works, The: *See*—
Cinanni, Vincent M. 3,404,443.
Gleason Works, The: *See*—
Reed, William G. 3,404,763.
Gleitman, Joseph D.: *See*—
Jacoby, George V., and Gleitman. 3,405,403.
Gluchowicz, Gerszon. Method of sharpening the grinding disc in a grinding machine. 3,404,670, 10–8–68, Cl. 125—11.
Gobran, Riad H.: *See*—
Bulbenko, George F., Gobran, and Blommers. 3,405,121.
Goddard Industries, Inc.: *See*—
Nelson, Donald R. 3,404,865.
Godoy, Humbert C., and N. E. Gross, to International Business Machines Corp. Reliability test for computer check circuits. 3,405,258, 10–8–68, Cl. 235—153.
Goedertier, Peter V., to Radio Corp. of America. Method of making high purity metal zeolite and product thereof. 3,405,044, 10–8–68, Cl. 204—130.
Goetze, Gerhard W., and A. H. Boerio, to Westinghouse Electric Corp. Radiation detection system. 3,405,309, 10–8–68, Cl. 315—11.
Goffe, Charles A.: *See*—
Gilman, Paul B., Jr., and Goffe. 3,404,980.
Goldman, Sam. Fastening assembly for use with a cargo retaining belt. 3,404,438, 10–8–68, Cl. 24—201.
Goldman, William A., to Canrad Precision Industries, Inc. Retro-reflective assembly and method of making the same. 3,405,025, 10–8–68, Cl. 161—4.
Goodman, Sidney J.: *See*—
Dolton, Meyer H., and Goodman. 3,404,520.
Goodrich, B. F., Co., The: *See*—
Eckenwiler, James W., and Porter. 3,405,023.
Van der Geer, Willem J. 3,405,078.
Goodwine, James K., Jr., to Chevron Research Co. Detergent lubricant compositions for closed emission internal combustion engines. 3,405,065, 10–8–68, Cl. 252—51.5.
Gorsky, Egon: *See*—
Gardel, Robert, and Gorsky. 3,404,483.
Goserud, Chester O. Oarlock. 3,404,414, 10–8–68, Cl. 9—2.
Gottschald, Rudolf, to A. Ehrenreich & Cie. Seal for the joint pin of universally movable joints. 3,404,909, 10–8–68, Cl. 287—87.
Goulds Pumps, Inc.: *See*—
Choate, Charles L. 3,404,924.
Gourdon, Bernard, to Societe Nationale des Petroles d' Aquitaine. Polythioether dienes and their preparation. 3,405,181, 10–8–68, Cl. 260—609.
Gourdon, Bernard, to Societe Nationale des Petroles d' Aquitaine. Method for the production of alkylene polythioether thiols. 3,405,182, 10–8–68, Cl. 260—609.
Grabowski, Nick R., and R. P. Neiden, to Harris-Intertype Corp. Pile elevator. 3,404,883, 10–8–68, Cl. 271—62.
Grace, W. R., & Co.: *See*—
Dreyfus, Robert L. 3,404,508.
Krutchen, Charles M., and Sheets. 3,404,433.
Schirmer, Henry G. 3,405,052.
Graham-White Sales Corp.: *See*—
Frantz, Virgil L. 3,404,903.
Grandy, Andrew J. Liquid or gas disseminating projectile. 3,404,630, 10–8–68, Cl. 102—66.
Grauby, Andre: *See*—
Bovard, Pierre, and Grauby. 3,405,050.
Gray, Jack L.: *See*—
Thorn, Roy B., and Gray. 3,404,521.
Gray Tool Co.: *See*—
Latham, Raymond E., Brown, and Bollfrass. 3,404,902.
Green, Benjamin: *See*—
Feigel, Harold J., and Green. 3,404,507.
Green Cross Corp., The: *See*—
Kawano, Takehiko, Suyama, Nagai, and Iga. 3,405,120.
Green, Derek B. Aerosol valve assembly. 3,404,863, 10–8–68, Cl. 251—170.
Green, Edouard S., to Green Mfg. Co. Feed finger. 3,404,822, 10–8–68, Cl. 226—158.
Green, Joseph, and N. Mayes, to Thiokol Chemical Corp. Boron-containing polymers and process for making the same. 3,405,076, 10–8–68, Cl. 260—2.
Green Mfg. Co.: *See*—
Green, Edouard S. 3,404,822.
Greiner, Leonard, to United Aircraft Corp. Method and compositions for producing condensable combustion products. 3,404,531, 10–8–68, Cl. 60—207.
Greiecki, Chester J.: *See*—
Beardell, Anthony J., and Greiecki. 3,404,958.
Gremmel, Hennig: *See*—
Brückner, Paul, Gremmel, Hartig, Schütte, and Leonhardt. 3,405,325.
Griffolyn Co., Inc.: *See*—
Bjorksten, Johan. 3,404,748.
Grimm, Hugo: *See*—
Drechsel, Herbert, Dorr, and Grimm. 3,404,955.
Drechsel, Herbert, Dorr, and Grimm. 3,404,956.
Gross, Norman E.: *See*—
Godoy, Humbert C., and Gross. 3,405,258.
Gruen Industries, Inc.: *See*—
Tripet, Jean, and Deletraz. 3,404,527.

Gulf General Atomic Inc.: *See*—
Caprioglio, Giovanni. 3,405,011.
Gulf Research & Development Co.: *See*—
Walsh, Bruce R. 3,404,697.
Walsh, Bruce R. 3,404,844.
Gulko, Arnold G. Thermographic copying process utilizing recording member with dispersed oil particles. 3,404,994, 10–8–68, Cl. 117—1.7.
Gutman, Alexander P., and M. Avren. Shoulder sling. 3,404,680. 10–8–68, Cl. 128—94.
Gutner, Kenneth H. Slideable drawer stop. 3,404,932, 10–8–68, Cl. 312—348.
HRB-Singer, Inc.: *See*—
Coughenour, Donald J., and Getson. 3,405,246.
Haack, Erich, A. Popelak, G. Lettenbauer, W. Schaumann, and K. Ritter, to C. F. Boehringer & Soehne G.m.b.H. Phenyl-cyclohexylalkylamine compounds. 3,405,139, 10–8–68, Cl. 260—340.5.
Haagsma, Herman, and L. L. Chabot, to J. D. Marshall, and H. L. Bomar. Tetxile bobbin container. 3,404,928, 10–8–68, Cl. 312—72.
Haeberer, Elizabeth T.: *See*—
Maerker, Gerhard, and Haeberer. 3,405,149.
Halas, Edward. Superconducting generator. 3,405,290. 10–8–68, Cl. 310—10.
Halcon International Inc.: *See*—
Sugerman, Gerald, and Kollar. 3,405,173.
Sugerman, Gerald, and Kollar. 3,405,174.
Halfhill, Martin O., and H. C. Stephens, to International Business Machines Corp. Double frequency detection system. 3,405,391, 10–8–68, Cl. 340—167.
Hall, Isaiah L. Furnace for burning insulation. 3,404,875, 10–8–68, Cl. 266—37.
Hall, Richard H., A. J. Sikkema, C. G. Humiston, W. A. Foster, and J. J. Lamson, to The Dow Chemical Co. Fibrous articles having improved water resistance. 3,405,004, 10–8–68, Cl. 117—155.
Hall, William B., and D. M. Ernst, to Radio Corp. of America. Vaporizable medium type heat exchanger for electron tubes. 3,405,299, 10–8–68, Cl. 313—12.
Halley, John W. Web severing device for offset printing press. 3,404,627, 10–8–68, Cl. 101—228.
Halliburton Co.: *See*—
Young, Bill M., and Totty. 3,404,735.
Haluza, Jiri: *See*—
Pohl, František, Skála, and Haluza. 3,404,647.
Hamano, Goro: *See*—
Someda, Sadamichi, and Hamano. 3,405,345.
Hammann, Ingeborg: *See*—
Eholzer, Ulrich, Fetzer, Ugi, Hammann, and Untersteinhofer. 3,405,160.
Hammel, Thomas W. Hair curling devices. 3,404,694, 10–8–68, Cl. 132—40.
Hancock & Co. (Engineers), Ltd.: *See*—
Redman, Derek H. 3,404,459.
Hancock Iron Works, Inc.: *See*—
Arntz, Charles V., Marshall, and Wagner. 3,404,672.
Hancock, John T.: *See*—
Charamond, Claude P., Broyles, and Hancock. 3,404,465.
Hanes, Maurice H., and G. E. Helmke, to Bell Telephone Laboratories Inc. Bonding transducers to delay lines. 3,405,029, 10–8–68, Cl. 161—165.
Hanessian, Stephen: *See*—
Haskell, Theodore H., and Hanessian. 3,405,218.
Hansen, Howard J.: *See*—
Zopf, Kent B., Norton, and Hansen. 3,404,705.
Hansen Mfg. Co., The: *See*—
Zopf, Kent B., Norton, and Hansen. 3,404,705.
Hanson, Jack A., and G. M. Buchard, to The Standard Register Co. Dielectric heat apparatus. 3,404,462, 10–8–68. Cl. 34—1.
Harder, Richard E., to The Dow Chemical Co. Interfacial surface generator. 3,404,869, 10–8–68, Cl. 259—4.
Hardy Spicer Ltd.: *See*—
Cull, William, and Holmes. 3,404,573.
Harlin Bros.: *See*—
Harlin, J. D. 3,404,595.
Harlin, J. D., to Harlin Bros. Chord tuning mechanism for a string musical instrument. 3,404,595, 10–8–68, Cl. 84—312.
Harris, Albert E., and E. C. Dodd, to Ilford Ltd. Process for preventing image destruction in thiocyanate-stabilized photographic prints. 3,404,981, 10–8–68, Cl. 96—50.
Harris, Bernard, and P. A. Jones, to British Titan Products Co. Ltd. Vapor phase reactor-collector. 3,404,964, 10–8–68, Cl. 23—284.
Harris-Intertype Corp.: *See*—
Feick, Paul A., Helmig, and Sarka. 3,404,607.
Grabowski, Nick R., and Neiden. 3,404,883.
Kastelic, Frank L., and Weidman. 3,404,881.
Harris, Lewis P., and E. F. Rothemich, to The Sherwin-Williams Co. Process for making sodium arsenate. 3,404,948, 10–8–68, Cl. 23—53.
Harris, Robert E., and H. E. Johnson. Liquid dispensing apparatus. 3,404,809, 10–8–68, Cl. 222—17.
Harrison, Hugh T., to The Dow Chemical Co. Triazine salt. 3,405,131, 10–8–68, Cl. 260—242.
Harrworth, Inc.: *See*—
Aronson, David, Fleit, and Japhet. 3,405,037.
Hart, Robert T., to Collins Radio Co. Reflex quenched superregenerative detector. 3,405,364, 10–8–68, Cl. 329—122.
Hartbauer, Ellsworth A., and L. E. Weinert, to Crown Zellerbach Corp. Group collator apparatus and method. 3,404,609, 10–8–68, Cl. 93—93.
Hartel, Heinz, and H. Mirau, to Dynamit Nobel Aktiengesellschaft. Polymeriztaion of unsaturated aldehydes using metallic silver as reducing agent in a redox catalyat. 3,405,095, 10–8–68, Cl. 260—67.
Hartig, Alfred: *See*—
Brückner, Paul, Gremmel, Hartig, Schütte, and Leonhardt. 3,405,325.
Harvey, Donald M., to Eastman Kodak Co. Light regulation means for use with multilamp flash units. 3,404,612, 10–8–68, Cl. 95—11.
Hasegawa, Akira: *See*—
Hata, Kunio, Yokota, and Hasegawa. 3,405,081.
Haselwood, Donald F., to A. C. Nielsen Co. Data handling system. 3,405,393, 10–8–68, Cl. 340—172.5.
Haskell, Theodore H., and S. Hanessian, to Parke, Davis & Co. Extracting Bordetella pertussis antigens with lithium bromide. 3,405,218, 10–8–68, Cl. 424—92.
Hata, Go, M. Aoyama, M. Nishino, and A. Miyake, to Toyo Rayon Kabushiki Kaisha. Process for preparing non-conjugated dienes. 3,405,193, 10–8–68, Cl. 260—680.
Hata, Kunio, K. Yokota, and A. Hasegawa. Solubilization of polyacrylonitriles and cellulose in liquid sulfur dioxide. 3,405,081, 10–8–68, Cl. 260—17.4.
Hathaway, Richard A., to Zenith Radio Corp. Phonograph tone arm and cartridge assembly therefor. 3,404,895, 10–8–68, Cl. 274—24.
Hauck, Aloysius J.: *See*—
Biega, Boleslaw C., and Hauck. 3,405,348.
Hauni-Werke Korber & Co., K.G.: *See*—
Schubert, Bernhard. 3,404,689.
Hawk, Elwin A., Sr. Torch for applying powdered material. 3,404,838, 10–8–68, Cl. 239—79.
Hayakawa, Shigern: *See*—
Wasa, Kiyotaka, and Hayakawa. 3,405,300.
Hayakawa, Shigeru, and K. Wasa, to Matsushita Electric Industrial Co., Ltd. Apparatus for producing quiescent plasma. 3,405,301, 10–8–68, Cl. 313—162.
Hayford, Theodore, to American Chain and Cable Co. Suction lift for article distribution and storage system. 3,404,787, 10–8–68, Cl. 214—1.
Hayter, Stanley G., to Westinghouse Electric Corp. Tower member including a cement receiving aperture and filament guiding aperture for a taut band suspension system. 3,405,360, 10–8–68, Cl. 324—154.
Hazlett, Lester H., to Control Data Corp. Multilayer universal printed circuit board. 3,405,227, 10–8–68, Cl. 174—68.5.
Heath Terna Corp.: *See*—
Wollard, Joseph C., Slaney, and Preiss. 3,404,417.
Hebbert, Ralph S., to United States of America, Navy. Thin film magnetoresistance magnetometer having a current path etched at an angle to the axes of magnetization. 3,405,355, 10–8–68, Cl. 324—46.
Hecht, Alfred H., W. E. Hunter, and J. D. Martin, to Thiokol Chemical Corp. Friction tester for determining friction sensitivity of solid propellants. 3,404,557, 10–8–68, Cl. 73—7.
Hecht, Otto F., and A. P. Castaldi, to GAF Corp. Poly(propylnol prepared using a nickel dicarbonyl di(triphenyliphosphine) in an inert non-hydroxylated organic solvent. 3,405,-110, 10–8–68, Cl. 260—91.3.
Hecker, Klaus J., and H. Ostwald, to Elchner Organisation G.m.b.H. Apparatus for processing punched cards and the like. 3,404,882, 10–8–68, Cl. 271—61.
Heckmann, Henry: *See*—
Feld, George J. 3,404,707.
Hefley, Howard H.: *See*—
French, Jack W., Hefley, Lewanski, and Modry. 3,404,658.
Hegeman, Andrew S.: *See*—
Morrow, Robert D., and Hegeman. 3,405,232.
Heider, James E., to Owens-Illinois, Inc. Method and apparatus for extruding plastic material. 3,405,210, 10–8–68, Cl. 264—176.
Heighton, Harold H., and E. E. Most, Jr., to E. I. du Pont de Nemours and Co. Process for preparing high viscosity linear condensation polyesters from partially polymerized alycol terephthalates. 3,405,098, 10–8–68, Cl. 260—75.
Heilman, Edward A.: *See*—
Giese, Clifford C., Jr., Baker, and Heilman. 3,405,376.
Heinz & Schuermann & Co.: *See*—
Von Wedel, Ernst. 3,404,501.
Heinzl, Joachim L. Multi-tone photoelectric musical instrument. 3,405,222, 10–8–68, Cl. 84—1.18.
Helmig, Richard W.: *See*—
Feick, Paul A., Helmig, and Sarka. 3,404,607.
Helmke, George E.: *See*—
Hanes, Maurice H., and Helmke. 3,405,029.
Henderson, Cyril, and D. P. Barnard, to S. Smith & Sons (England) Ltd. Motor driven winding mechanism for motor vehicle windows. 3,404,485, 10–8–68, Cl. 49—349.
Henry, Joseph P.: *See*—
Brady, George W., Jr., and Henry. 3,405,111.
Her Majesty's Postmaster General: *See*—
Carter, Robert O. 3,405,235.
Herb, Carl C.: *See*—
Bryans, David F., and Herb. 3,404,540.
Herbstman, Sheldon, to Stauffer Chemical Co. Thioformyldiphenylthiophosphinates. 3,405,157, 10–8–68, Cl. 260—455.
Herderhorst, Wilfred W.: *See*—
Daley, Roger J., and Herderhorst. 3,405,295.
Hiab Hydraulics Corp.: *See*—
Frieberg, Bengt O. 3,404,792.
Hickam, William M., to Westinghouse Electric Corp. Heat generating apparatus. 3,404,836, 10–8–68, Cl. 236—15.
Hickok Mfg. Co.: *See*—
Whitcomb, John O. 3,404,587.
Whitcomb, John O. 3,404,711.
Higgins, Catherine: *See*—
Higgins, Clarence, and C. 3,404,860.
Higgins, Clarence, and Catherine. Hinged oscillating swing support for a mirror. 3,404,860, 10–8–68, Cl. 248—479.
Hilaire, Paul: *See*—
Chambion, Jean, and Hilaire. 3,405,096.

Hilbert, Francis H., and N. W. Parker, to Motorola, Inc. Color television demodulation system. 3,405,231, 10–8–68, Cl. 178—5.4.

Hilbiber, David F., to Fairchild Camera and Instrument Corp. Remote-cutoff field effect transistor. 3,405,330, 10–8–68, Cl. 317—235.

Hill, Archie: *See*—
Schappert, Hans M., and Hill. 3,405,115.

Hill, Kenneth L.: *See*—
Wilson, Kenneth R., and Hill. 3,404,975.

Hilliard, Phillip N., to Buckeye Molding Co. Plastic retractable handle. 3,404,803, 10–8–68, Cl. 220—94.

Hiltz, Ralph H., to Mine Safety Appliances Co. Gas generation. 3,405,068, 10–8–68, Cl. 252—182.

Hirtensteiner, Walter E. Method of freezing foods with liquid nitrogen. 3,404,989, 10–8–68, Cl. 99—193.

Hischmann, Rudolf, to Pacemin A.G. Markings for roadways, pavements and other surfaces. 3,404,610, 10–8–68, Cl. 94—1.5.

Hitachi, Ltd.: *See*—
Sano, Tsukasa. 3,405,259.

Hilvka, Andrew, to Armco Steel Corp. Method and apparatus for producing smooth overlays for tool joints. 3,405,247, 10–8–68, Cl. 219—76.

Hodge, Paul V.: *See*—
Barry, David T., Branham, Strobel, Mullins and Hodge. 3,404,565.

Hoefer, Gerald: *See*—
Ehelm, Franz, and Hoefer. 3,404,668.

Hoffman, Robert J., Jr., to Delta Plastics Co. Sign mounting device and method. 3,404,476, 10–8–68, Cl. 40—142.

Hoffmann, Arthur H., to Westinghouse Electric Corp. Synchronous motor field control system. 3,405,339, 10–8–68, Cl. 318—176.

Hoffmann, Friedrich W.: *See*—
Proper, Reuben, and Hoffmann. 3,405,161.

Hoffmann-La Roche Inc.: *See*—
Berger, Leo, Stempel, Sternbach, and Wenis. 3,405,122.
Stempel, Arthur, and Sternbach. 3,405,123.

Hogsett, John N., A. Khuri, and H. W. Schulz, to Union Carbide Corp. Adducts of aluminum, beryllium and zirconium borohydrides with nitrogen and/or oxygen containing ligands. 3,405,130. 10–8–68. Cl. 260—242.

Hohl, John, and T. L. Scribner, to Owens-Illinois, Inc. Method for packaging containers. 3,404,505, 10–8–68, Cl. 53—26.

Hollander, Jerome, and C. Woolf, to Allied Chemical Corp. 2-hexafluoroisopropyl-2'-dichlorotetrafluoro-isopropyl diphenate. 3,405,166, 10–8–68, Cl. 260—475.

Holmes, Alvin W., to General Cable Corp. Cold-drawn alloy steel wire which can be hot dip coated with aluminum. 3,404,969, 10–8–68, Cl. 29—196.2.

Holmes, Godfrey R.: *See*—
Cull, William, and Holmes. 3,404,573.

Holmes, John A. Apparatus for filling cartridge tubes. 3,404,597, 10–8–68, Cl. 86—45.

Honeywell Inc.: *See*—
Medlar, Lewis A., and Nagy. 3,404,962.
Shiiki, Akira. 3,404,701.
Soltz, Daniel J. 3,405,048.
Wood, David F. 3,405,269.

Hoppe, Clemens B. Apparatus for installing piling. 3,404,740. 10–8–68, Cl. 173—111.

Hopper, Harry G., Jr., to American Standard Inc. Brass alloy. 3,404,977, 10–8–68, Cl. 75—156.5.

Horne, Charles E., to The Torrington Co. Full complement bearing assembly. 3,404,926, 10–8–68, Cl. 308—213.

Horning, William A., to Sharon Tube Co. Heavy walled pipe manufacture. 3,404,449, 10–8–68, Cl. 29—474.3.

Hoskins, Raymond H., to Union Carbide Corp. Method for inducing chemical reactions with lasers. 3,405,046, 10–8–68, Cl. 204—159.11.

Houdaille Industries, Inc.: *See*—
Schott, Arthur K. 3,404,675.

Houlihan, William J., and D. R. Moore, to Universal Oil Products Co. Production of isomenthol isomers. 3,405,185, 10–8–68, Cl. 260—631.

Houslay, Ralph J. G., and R. L. McGinty, to Imperial Chemical Industries Ltd. Chlorofluoroalkane compositions. 3,405,069, 10–8–68, Cl. 252—182.

Howard, Ronald L., to Vectron Electro-Physics Ltd. Tape recorder and tape deck assembly therefor. 3,404,849, 10–8–68, Cl. 242—55.12.

Howard, Sheldon J., and W. C. Riester, to Trico Products Corp. Windshield cleaning apparatus. 3,404,423, 10–8–68, Cl. 15—250.23.

Howe, James M., to United States of America, Navy. Bandpass amplifier using field effect transistors. 3,405,368, 10–8–68, Cl. 330—21.

Hoyt, Earl E.: *See*—
Stockman, Robert J., Junker, Hoyt, and Torongo. 3,404,805.

Hozumi, Yukio: *See*—
Tanaka, Atsushi, Hozumi, Endo, and Taniguchi. 3,405,094.

Huang, Ching Y., K. Ueno, S. Kawamura, H. Tanabe, and K. Masawaki, to Japan Gas-Chemical Co., Inc. Reaction product of an alkylated amino resin and an aromatic hydrocarbon-formaldehyde resin. 3,405,079, 10–8–68, Cl. 260—3.

Hubby, Laurence M., to Texaco Inc. System including two pairs of voltage electrodes for detecting discontinuities in insulation coatings on conductive conduit. 3,405,356, 10–8–68, Cl. 324—54.

Hudson, Boyd E., Jr.: *See*—
Wanless, Graham G., and Hudson. 3,405,263.

Huffnagle, Norman P. Transistorized oscilloscope. 3,405,312, 10–8–68, Cl. 315—25.

Hughes Aircraft Co.: *See*—
Gee, Allen. 3,405,017.
Kurisu, Albert G. 3,404,730.

Humber, Edward J., and J. A. Ryland, to Radiovisor Parent Ltd. Scanning transducing mechanism. 3,404,568, 10–8–68, Cl. 73—209.

Humiston, Charles G.: *See*—
Hall, Richard H., Sikkema, Humiston, Foster, and Lamson. 3,405,004.

Humphreys, Keith W., B. P. Stark, and R. F. Webb, to Ciba Ltd. Esters containing epoxide groups, their production and their uses. 3,405,100, 10–8–68, Cl. 260—78.4.

Hungerford, Max, to American Machine & Foundry Co. Power take-off for tractor. 3,404,572. 10–8–68, Cl. 74—15.84.

Hunt, Russell A., Jr.: *See*—
Walker, Donald C., and Hunt. 3,404,676.

Hunter, William E.: *See*—
Hecht, Alfred H., Hunter, and Martin. 3,404,557.

Huron Nassau Ltd.: *See*—
Crane, George J. 3,405,051.

Hurvitz, Hyman. Means to eliminate redundant information. 3,405,238, 10–8–68, Cl. 179—100.2.

Hurwitz, Louis A. Food package and method of making same. 3,404,798. 10–8–68, Cl. 220—44.

Hutton, Walter C. Expansion joint. 3,404,906, 10–8–68, Cl. 285—286.

Ichibagase, Hisashi, M. Ichikawa, and S. Nagasaki, to Daiichi Seiyaku Co. Ltd. 4-hydroxy-7-amino-3-sulfanylamidecoumarin. 3,405,126, 10–8–68, Cl. 260—239.6.

Ichikawa, Masataka: *See*—
Ichibagase, Hisashi, Ichikawa, and Nagasaki. 3,405,126.

Ieyoshi, Minoru: *See*—
Kuwabara, Kenji, Ieyoshi, and Nakade. 3,405,014.

Iga, Yoshiro: *See*—
Kawano, Takehiko, Suyama, Nagai, and Iga. 3,405,120.

Iler, Ralph K., to E. I. du Pont de Nemours and Co. Solid material rendered antistatic. 3,405,001, 10–8–68, Cl. 117—121.

Ilford Ltd.: *See*—
Harris, Albert E., and Dodd. 3,404,981.

Illinois Tool Works Inc.: *See*—
Ryder, Francis E. 3,404,596.

Imaizumi, Fumitake: *See*—
Otsuka, Seinosuke, Mori, Suminoe, Imaizumi, and Taketomi. 3,405,112.

Imperial Chemical Industries Ltd.: *See*—
Carson, Samuel C. 3,404,953.
Clark, Keith J. 3,405,108.
Colchester, John E., and Entwisle. 3,405,135.
Housiay, Ralph J. G., and McGinty. 3,405,069.
Morris, Alfred F. 3,404,943.
Poole, Victor D. 3,405,133.
Tompkins, William A. 3,404,525.

Industrial Nucleonics Corp.: *See*—
Chope, Wilbert E. 3,405,267.

Industriewerk Schaeffler OHG: *See*—
Schonfeld, Harald. 3,404,448.

Ingerick, Donald F.: *See*—
Crane, Carlton L., and Ingerick. 3,405,103.

Ingersoll-Rand Co.: *See*—
Worman, Martin. 3,404,739.

Inland Steel Co.: *See*—
Maloney, Lawrence G. 3,404 876.
Slagley, William E. 3,404,662.

Inoue, Fumiyuki, K. Isoda, T. Numakura, and M. Nishimura, to Kabushiki Kaisha Hitachi Seisakusho. Zero-drift compensation device for self-balancing motor driven instruments. 3,405,335, 10–8–68, Cl. 318—18.

Insul-8-Corp.: *See*—
Kilburg, Ronald J. 3,405,240.

International Automated Machines, Inc.: *See*—
Chung, Yun-Hoon. 3,404,506.

International Business Machines Corp.: *See*—
Castle, William H., Jones, and Rahenkamp. 3,404,766.
Dirac, Jules F. 3,405,394.
Dollenmayer, William L. 3,404,594.
Godoy, Humbert C., and Gross. 3,405,258.
Halfhill, Martin O., and Stephens. 3,405,391.
Reyes, Zoila. 3,405,070.
Reyes, Zoila. 3,405,071.
Surty, Rohinton J., and Taranto. 3,405,323.
Walsh, James L., and Turnbull. 3,405,285.
West, Lloyd E. 3,405 234.

International Computers and Tabulators Ltd.: *See*—
James, John B. 3,405,401.

International Corp.: *See*—
Savageau, Robert G. 3,405,082.

International Harvester Co.: *See*—
Johnson, Kenneth D., and Carlson. 3,404,686.
Palmer, John S. 3,404,908.
Ruhl, Charles A. L., and Mayer. 3,405,242.

International Patent Research Corp.: *See*—
Dolton, Meyer H., and Goodman. 3,404,520.

International Standard Electric Corp.: *See*—
Balkow, Max J., and Frank. 3,405,282.

International Telephone and Telegraph Corp.: *See*—
Alexander, Lester D., and Stayboldt. 3,405,324.

Ioan, Nicolau: *See*—
Gheorghe, Aldea, Ioan, Leon, and Ion. 3,404,741.

Ion, Dumitru: *See*—
Gheorghe, Aldea, Ioan, Leon, and Ion. 3,404,741.

Irani, Riyad R.: *See*—
Carter, Richard P., Jr., and Irani. 3,405,060.

Irmscher, Klaus, and K.-H. Bork, to E. Merck A.G. 1-oxygenated androstanes. 3,405,125, 10–8–68, Cl. 260—239.5.

Isbrandtsen, Waldemar M. Adaptor ring and method of assembling the ring to the corner fitting of a cargo container. 3,404,444, 10–8–68, Cl. 29—150.

Ischer, Hans, to Sandoz Ltd. (also known as Sandoz A.G.). Process for the production of azo compounds. 3,405,116, 10–8–68, Cl. 260—145.

Ishikawajima-Harima Jukogyo Kabushiki Kaisha: *See*—
Akita, Yoshio, Maeda, and Yada. 3,404,500.

Ishima, Hitoshi, to United States of America, Army. Precision control arrangement. 3,404,489, 10–8–68, Cl. 51—58.

Isoda Kenichi: *See*—
Inoue, Fumiyuki, Isoda, Numakura, and Nishimura. 3,405,335.

Ito, Toshio, and T. Ohkura, to Mitsubishi Denki Kabushiki Kaisha. Multiple-break vacuum-type circuit interrupters. 3,405,245, 10–8–68, Cl. 200—144.

Ito, Yukio, to Agency of Industrial Science and Technology. Process for the production of ammonium sulfamate. 3,404,949, 10–8–68, Cl. 23—114.

Iwamoto, Masao, and S. Yuguchi, to Toyo Rayon Kabushiki Kaisha. Process for preparing hexadienes from conjugated diolefinic hydrocarbons and α-monoolefins. 3,405,194, 10–8–68, Cl. 260—680.

Jackson, John P.: *See*—
Addison, Edwards, and Jackson. 3,404,603.

Jackson, Robert V.: *See*—
Burkett, Wilford B., and Jackson. 3,405,293.

Jacobs Bros. Textile Co., Inc.: *See*—
Jacobs, Paul J. 3,404,618.

Jacobs, Paul J., to Jacobs Bros. Textile Co., Inc. Combination heating, ventilating and recirculating system for greenhouses. 3,404,618, 10–8–68, Cl. 98—33.

Jacobson, Howard W., to E. I. du Pont de Nemours and Co. Process for coating metal articles employing fluidized bed. 3,405,000, 10–8–68, Cl. 117—107.2.

Jacobson, Morton J., to Ampex Corp. Magnetic recording media. 3,404,997, 10–8–68, Cl. 117—62.

Jacoby, George V., and J. D. Gieltman, to Radio Corp. of America. Readback circuits for information storage systems. 3,405,403, 10–8–68, Cl. 340—174.1.

Jacoby, Hans, to Werkzeugmaschinenfabrik Gildemeister & Comp., Akt.-Ges. Driving arrangements for multiple-spindle machine tools. 3,404,583, 10–8–68, Cl. 74—665.

Jacoby-Tarbox Corp.: *See*—
Tarbox, George S. 3,405,261.

Jaeschke, Ralph L., and J. H. Wolcott, to Eaton Yale & Towne, Inc. Planetary hydraulic coupling. 3,404,761, 10–8–68, Cl. 192—61.

Jaffee, Robert I., and H. R. Ogden, to Crucible Steel Co. of America. Heat treatable titanium base alloys and method. 3,405,016, 10–8–68, Cl. 148—133.

James, Don W., to North American Rockwell Corp. Thermal bypass valve with bimetallic control. 3,404,837, 10–8–68, Cl. 236—34.5.

James, John B., to International Computers and Tabulators Ltd. Pulse generating compensation circuits in magnetic thin film devices. 3,405,401, 10–8–68, Cl. 340—174.

Japan Gas-Chemical Co., Inc.: *See*—
Huang, Ching Y., Ueno Kawamura, Tanabe, and Masawaki. 3,405,079.

Japan Synthetic Rubber Co., Ltd.: *See*—
Otsuka, Seinosuke, Mori, Suminoe, Imaizumi, and Taketomi. 3,405,112.

Japanese Geon Co., Ltd., The: *See*—
Sakuragi, Taketami, and Sakashita. 3,405,189.

Japhet, Richard E.: *See*—
Aronson, David, Fleit, and Japhet. 3,405,037.

Jarboe, Theordore L. Hand portable electric current tap device. 3,405,383, 10–8–68, Cl. 339—7.

Jeddeloh Bros. Sweed Mills, Inc.: *See*—
Larson, Charles L. 3,404,791.

Jefferson Electric Co.: *See*—
Anderson, William C. 3,405,317.

Jeffes, James H. E., and R. M. O. Maunsell, to Electric Reduction Co. of Canada Ltd. Manufacture of phosphoric acid. 3,404,954, 10–8–68, Cl. 23—165.

Jensen, Warren P., and G. E. Besancon, to Rexall Drug and Chemical Co. Boat-trimming vane mechanism. 3,404,651, 10–8–68, Cl. 114—66.5.

Jewett, Homer H., and J. F. Clark. Electrostatic power generator driven by pneumatic power means. 3,405,334, 10–8–68, Cl. 317—250.

Jirasek, Erik: *See*—
Kubovy, Miloslav, Jirasek, Zavadsky, and Stary. 3,404,523.

Jo-Dee Corp.: *See*—
Mellion, Frank. 3,404,927.

Johansen, Herman A., and J. G. Cleary, to Westinghouse Electric Corp. Incandescent lamp with a refractory metal carbide filament. 3,405,328, 10–8–68, Cl. 317—222.

Johnson, Howard E.: *See*—
Harris, Robert E., and Johnson. 3,404,809.

Johnson, James F. Lighted sign. 3,404,474, 10–8–68, Cl. 40—130.

Johnson, Kenneth D., and E. L. Carlson, to International Harvester Co. Corn saver mechanism for cornhuskers. 3,404,686, 10–8–68, Cl. 130—5.

Johnson, Leo F., and L. G. Van Uitert, to Bell Telephone Laboratories, Inc. Fluorescent garnet compositions and optical maser devices utilizing such compositions. 3,405,371, 10–8–68, Cl. 331—94.5.

Johnson, Leonard W., to The Bailey Co., Inc. Weatherstripping. 3,404,487, 10–8–68, Cl. 49—475.

Johnson, Oliver S.: *See*—
White, Francis T., Johnson, and Lloyd. 3,404,432.

Johnson, Richard L.: *See*—
Widiger, Alexander H., Jr., and Johnson. 3,405,184.

Johnson, Wesley R., to Sperry Rand Corp. Air bearing magnetic head mounting. 3,405,404, 10–8–68, Cl. 340—174.1.

Johnson, William B., to Sperry Rand Corp. Thin film detector. 3,405,398, 10–8–68, Cl. 340—174.

Johnston, James R., to Ridge Products, Inc. Door closure device. 3,404,426, 10–8–68, Cl. 16—51.

Jone, Paul Y.: *See*—
Fraser, Richard S., and Jone. 3,405,212.

Jones, Edward S., to Allied Chemical Corp. Hexahalohydroxyisopropylaromatic amines. 3,405,177, 10–8–68, Cl. 260—570.

Jones, Harvey W., and R. G. McIntyre, to McDonnell Douglas Corp. Fastener for use on parachute harnesses. 3,404,439, 10–8–68, Cl. 24—230.

Jones, John E.: *See*—
[illegible] William H., Jones, and Rahenkamp. 3,404,766.

Jones, John L., and A. M. Rubino, to Armour Pharmaceutical Co. Metal-aluminum inorganic-organic complexes and methods of preparing same. 3,405,153, 10–8–68, Cl. 260—429.3.

Jones, Peter A.: *See*—
Harris, Bernard, and Jones. 3,404,964.

Judd, Claude I., to Colgate-Palmolive Co. Quinuclidyl esters of aromatic acids. 3,405,134, 10–8–68, Cl. 260—294.8.

Judd, Claude I., to Colgate-Palmolive Co. O-substituted benzodioxyl oximes. 3,405,138, 10–8–68, Cl. 260—340.8.

Jung, Christopher J.: *See*—
Pappo, Raphael, and Jung. 3,405,140.
Pappo, Raphael, and Jung. 3,405,141.
Pappo, Raphael, and Jung. 3,405,142.

Jungner, Olof G. H., to Centrala Automationslaboratoriet AB CALAB. Automatic filter. 3,404,780, 10–8–68, Cl. 210—142.

Junker, Wesley F.: *See*—
Stockman, Robert J., Junker, Hoyt, and Torongo. 3,404,805.

Jury, Stanley H. Multi-channel dynamic memory system for analog signals. 3,405,397, 10–8–68, Cl. 340—173.

Kabushiki Kaisha Hitachi Seisakusho: *See*—
Inoue, Fumiyuki, Isoda, Numakura, and Nishimura. 3,405,335.
Maeda, Seijiro. 3,405,292.

Kaim, John W., to Amsted Industries Inc. Railway wheel tread brake. 3,404,754, 10–8–68, Cl. 188—47.

Kameras, Boris M. Abrasion resistance testing apparatus. 3,404,556, 10–8–68, Cl. 73—7.

Kaminow, Ivan P., to Bell Telephone Laboratories, Inc. Internal optical modulator. 3,405,370, 10–8–68, Cl. 331—94.5.

Kandler, Joachim: *See*—
Feldmann, Klaus, Zschaage, Schmidt, Frank, and Kandler. 3,405,005.

Kane, John J., and J. E. Wright, to Zurn Industries, Inc. Wedge key. 3,404,907, 10–8–68, Cl. 287—52.05.

Kapun, Walter, to Wiener Schuachstromwerke Gesellschaft m.b.H. Pressure casting apparatus with control means for batch volume. 3,404,725, 10–8–68, Cl. 164—156.

Karcher, Edmund A., to Westinghouse Electric Corp. Method of fabricating an integrated circuit structure including unipolar transistor and bipolar transistor portions. 3,404,450, 10–8–68, Cl. 29—577.

Kasbaum, Felix E.: *See*—
Kielsmeier, Elwood W., Kasbaum, Paynter, and Anderson. 3,404,430.

Kasper, Henry D., to Wood Bros. Mfg. Co. Gang mower. 3,404,518, 10–8–68, Cl. 56—25.4.

Kastelic, Frank L., and W. H. Weidman, to Harris Intertype Corp. Drive mechanism. 3,404,881, 10–8–68, Cl. 271—8.

Kastning, Ernst-Guenther: *See*—
Naarmann, Herbert, Ellingsfeld, and Kastning. 3,405,114.

Kattner, Lionel E., A. P. Youmans, and P. J. Shasby, to Signetics Corp. Fluid actuable multi-point microprobe for semiconductors. 3,405,361, 10–8–68, Cl. 324—158.

Kaule, Siegfried R. W. Method and apparatus for suppressing noise during ultrasonic testing. 3,404,560, 10–8–68, Cl. 73—67.5.

Kavieff, Sheldon M., to Jervis B. Webb Co. Apparatus and method for final assembly of automotive vehicles. 3,404,636, 10–8–68, Cl. 104—96.

Kawamura, Shinji: *See*—
Huang, Ching Y., Ueno, Kawamura, Tanabe, and Masawaki. 3,405,079.

Kawano, Takehiko, T. Suyama, J. Nagai, and Y. Iga, to The Green Cross Corp. Low molecular chondroitin sulfate and method for manufacturing the same. 3,405,120, 10–8–68, Cl. 260—234.

Kawasaki, Norinaga: *See*—
Manabe, Atsutoki, and Kawasaki. 3,404,441.

Keatley, William E., and R. W. Silvera, to Dunlop Rubber Co. Ltd. Adjustable actuating means for disc brakes. 3,404,755, 10–8–68, Cl. 188—73.

Keder, John A., Jr., to United Aircraft Corp. Control mechanism for swivel tail of an aircraft. 3,404,737, 10–8–68, Cl. 170—135.22.

Keefer, Owen F. Lock. 3,404,548, 10–8–68, Cl. 70—363.

Keiffer, Richard C.: *See*—
Miller, Arthur F., and Keiffer. 3,404,947.

Keirstead, Karl F., and W. E. Paton, to Lignosol Chemicals Ltd. Well drilling fluids. 3,405,061, 10–8–68, Cl. 252—8.5.

Keller, Hans: *See*—
Barakat, Diawar, and Keller. 3,405,043.

Kellerhals, Erwin, to Carl Sigerist & Cie. Swinging doors and door leaves. 3,404,486, 10–8–68, Cl. 49—386.

Kelley, Douglas J., to United States of America, Army. Stripline variable phase shifter having means to maintain a constant characteristic impedance. 3,405,375, 10–8–68, Cl. 333—31.

Kelly, Robert J.: *See*—
Matthews, Demetreos N., and Kelly. 3,405,107.

Kelsey-Hayes Co.: *See*—
Swift, Harvey C. 3,404,756.

Kemp, Paul G. All-plastic milk bottles. 3,404,795, 10–8–68, Cl. 215—100.

Kemp, Robert B., Jr. Process and apparatus for drying photographic prints. 3,404,463, 10–8–68, Cl. 34—23.

Kenne, Frans O. T. Device for holding a workpiece, tool or the like on the top of a bench or table. 3,404,878, 10–8–68, Cl. 269—91.

Khuri, Albert: *See*—
Hogsett, John N., Khuri, and Schulz. 3,405,130.

Kichline, Thomas P.: *See*—
Conn, James F., and Kichline. 3,404,983.

Kielsmeier, Elwood W., F. E. Kasbaum, W. D. Paynter, and J. E. Anderson, to Oscar Mayer & Co., Inc. Method and apparatus for making sausage products. 3,404,430, 10–8–68, Cl. 17—45.

Kielsmeier, Elwood W., and F. H. Middleton, to Oscar Mayer & Co., Inc. Comminutor having fluid biased blades. 3,404,715, 10–8–68, Cl. 146—192.

Kienzle Apparate G.m.b.H.: *See*—
Tauchert, Klaus. 3,405,390.

Kilburg, Ronald J., to Insul-8-Corp. Mobile electrification collector head. 3,405,240, 10–8–68, Cl. 191—59.1.

Kim, Yong W. Electric water heating container with water level responsive heater control means. 3,405,249, 10–8–68, Cl. 219—333.

Kinkel, Konrad, to B. & K. Tool Die & Stamping Co., Inc. Flower-stemming machine. 3,404,553, 10–8–68, Cl. 72—385.

Kinnavy, James W., to Continental Can Co. Method of inhibiting corrosion of aqueous mediums by addition of lithium salts of organic acids. 3,405,072, 10–8–68, Cl. 252—389.

Kinsell, Robert C., to The Garrett Corp. Environmental control system. 3,404,538, 10–8–68, Cl. 62—172.

Kirby, Thomas E., Jr., to Reynolds Metals Co. Carrier for container means and package utilizing such a carrier. 3,404,773, 10–8–68, Cl. 206—65.

Kjell-Berger, Sven O. K., to Skovde Gasbetong Aktiebolag. Production of cellular bodies of synthetic thermoplastic material. 3,405,202, 10–8–68, Cl. 264—53.

Klee, Manfred H., to Wiley Mfg. Co. Dump scow door winding and releasing arrangement. 3,404,484, 10–8–68, Cl. 49—95.

Kleisa, Kurt: *See*—
Schmeling, Gerhard, and Kleisa. 3,404,845.

Klimstra, Paul D., to G. D. Searle & Co. Optionally 17-(hydrocarbon - substituted) - 17 - oxygenated - 2,3 - epithio - 5a-androstanes. 3,405,124, 10–8–68, Cl. 260—239.5.

Klimstra, Paul D., to G. D. Searle & Co. 18-alkylated-17α-(2-alkynyl)estra-1,3,5-(10)-triene-3,17β-diols, ethers and esters thereof. 3,405,128, 10–8–68, Cl. 260—239.55.

Klimstra, Paul D.: *See*—
Counsell, Raymond E., and Klimstra. 3,405,147.

Knapsack Aktiengesellschaft: *See*—
Feldmann, Klaus, Zschaage, Schmidt, Frank, and Kandler. 3,405,005.
Sennewald, Kurt, Vogt, and Baader. 3,405,046.

Knapss, Robert L., to Armour and Co. Hide-pulling method. 3,404,431, 10–8–68, Cl. 17—45.

Kobayashi, Kazutsugu, to Matsushita Electric Industrial Co., Ltd. Automatic adjusting system of tuned amplifier. 3,405,365, 10–8–68, Cl. 330—2.

Koch, Fritz, and H. A. Ludewig, to Continental Gummi-Werke Aktiengesellschaft. Transmission belt of thermoplastic polyurethane and method of making same. 3,404,578, 10–8–68, Cl. 74—231.

Kocsis, Louis L.: *See*—
Buch, Roman, and Kocsis. 3,405,341.

Kodani, Robert Y.: *See*—
Thorsen, Walter J., and Kodani. 3,404,942.

Koeber, Henry J., Jr., to Bell & Howell Co. Drive mechanism with intermittent powered band. 3,404,616, 10–8–68, Cl. 95—45.

Kohmoto, Masayuki, to Mitsui Petrochemical Industries, Ltd. Process for the manufacture of highly pure phenol by distillation in the presence of excess cumene. 3,405,038, 10–8–68, Cl. 203—69.

Kohring, Walter. Structure capable of being used as a monomooring. 3,404,654, 10–8–68, Cl. 114—230.

Kollar, John: *See*—
Sugerman, Gerald, and Kollar. 3,405,173.
Sugerman, Gerald, and Kollar. 3,405,174.

Koolstra, John A., and J. A. Troller, to The Procter & Gamble Co. Food preservative compositions and method for inhibiting microbial growth in food products. 3,404,987, 10–8–68, Cl. 99—150.

Koomey, Paul C., and A. J. Streb; said Koomey assor. to C. Jim Stewart, and Stevenson, Inc., and Streb assor. to Martin-Marietta Corp. Acoustical underwater control apparatus. 3,405,387, 10–8–68, Cl. 340—5.

Koppers Co., Inc.: *See*—
Schappert, Hans M., and Hill. 3,405,115.

Koppius, Otto G. Coinable electrical discharge machine electrode material. 3,404,978, 10–8–68, Cl. 75—208.

Kordesch, Karl V., and M. L. Kronenberg, to Union Carbide Corp. Spinel-ruthenium catalyzed electrode. 3,405,010, 10–8–68, Cl. 136—120.

Kordik, Kenneth S.: *See*—
Stilley, Herschel H., and Kordik. 3,405,296.

Kosa, Bruce G.: *See*—
Abell, Jerrold J., and Kosa. 3,405,206.

Kosrow, Robert L.: *See*—
Attwood, John G., and Kosrow. 3,405,024.

Koucky, Frantisek: *See*—
Koucky, Josef, and F. 3,404,480.

Koucky, Josef, and F. Koucky, to Zavody Jana Svermy. Breech bolt assemblies for firearms. 3,404,480, 10–8–68, Cl. 42—16.

Koury, Frederic, W. G. Matheson, and J. F. Waymouth, to Sylvania Electric Products Inc. Arc discharge tube having an electrode which contains a light emitting metal. 3,405,303, 10–8–68, Cl. 313—217.

Kowalski, Xavier, and K. J. Shaver, to Monsanto Co. N-substituted monoamidotriphosphate and processes for their manufacture. 3,405,168, 10–8–68, Cl. 260—501.12.

Kral, Fred G., to Bell & Howell Co. Record card shifting mechanism. 3,404,894, 10–8–68, Cl. 274—4.

Kraus, Peter, to Sargent Industries, Inc. Ball screw actuator. 3,404,581, 10–8–68, Cl. 74—424.8.

Krause Milling Co.: *See*—
Wimmer, Ernest L., and Susek. 3,404,986.

Krauthamer, Stanley, to Borg-Warner Corp. Inverter circuit with magnetic bias to delay load current rise and with pre-charge circuit for commutating capacitors. 3,405,346, 10–8–68, Cl. 321—45.

Krieger, Kenneth H., J. Lago, and J. A. Wantuck, to Merck & Co., Inc. Process for resolving racemic mixtures of optically-active enantiomorphs. 3,405,159, 10–8–68, Cl. 260—465.

Kritzer, Richard W., to Peerless of America, Inc. Method of securing fins in a heat exchanger. 3,404,446, 10–8–68, Cl. 29—157.3.

Kronenberg, Marvin L.: *See*—
Kordesch, Karl V., and Kronenberg. 3,405,010.

Kruis, August, W. Scholz, and G. Ranke, to Gesellschaft fur Linde's Eismaschinen Aktiengesellschaft. Process for obtaining pure acetylene. 3,405,192, 10–8–68, Cl. 260—679.

Krutchen, Charles M., and K. E. Sheets, to W. R. Grace & Co. Extrusion coating equipment. 3,404,433, 10–8–68, Cl. 18—13.

Kubnick, Norman R., and A. R. Obergfell, to Bell & Howell Co. Self-storing projector. 3,404,938, Cl. 352—242.

Kubovy, Miloslav, E. Jirasek, K. Zavadsky, and J. Stary, to Vyzkumny Ustav Bavlnarsky. Device for guiding yarn. 3,404,523, 10–8–68, Cl. 57—58.89.

Kugler, Fritz, and O. Ernst, to Ciba Ltd. Curable mixtures of cycloaliphatic polyepoxides, curing agents and accelerators. 3,405,102, 10–8–68, Cl. 260—78.4.

Kuhn, David A., to Continental Oil Co. Low liquid loss composition. 3,405,062, 10–8–68, Cl. 252—8.55.

Kurata, Shozo. Method for granulating meltable material. 3,405,208, 10–8–68, Cl. 264—144.

Kurisu, Albert G., to Hughes Aircraft Co. Temperature control arrangement. 3,404,730, 10–8–68, Cl. 165—32.

Kuryla, William C., to Union Carbide Corp. Copolymer produced by the copolymerization of an organic starter, a vicinal epoxide, and an ethylenically unsaturated monomer. 3,405,162, 10–8–68, Cl. 260—465.6.

Kuwabara, Kenji, M. Ieyoshi, and K. Nakade, to Mitsui Mining & Smelting Co., Ltd. Process for producing dyed chromate films on zinc and zinc alloys. 3,405,014, 10–8–68, Cl. 148—6.1.

Lab-O-Matic Corp.: *See*—
Bettcher, Louis A. 3,404,802.

Laboratory for Electronics, Inc.: *See*—
Boissevain, Thomas A., and Dow. 3,405,405.

Lachat, Remy J., and O. M. Porter, to The Singer Co. Upholstery shampooing machines. 3,404,420, 10–8–68, Cl. 15—29.

Lack, Keith M.: *See*—
Smith, Terence P., and Lack. 3,405,353.

Lackey, Joseph A. Power operated tail gate latch for dump truck. 3,404,918, 10–8–68, Cl. 298—23.

Lagerström, Gunnar, to Allmänna Svenska Elektriska Aktiebolaget. Propulsion machinery for submarines. 3,404,529, 10–8–68, Cl. 60—6.

Lago, James: *See*—
Krieger, Kenneth H., Lago, and Wantuck. 3,405,159.

Lahey, David J. Boat carrier for camping trailers. 3,404,913. 10–8–68, Cl. 296—23.

Laing, Nikolaus, to Laing Vortex, Inc. Air conditioning apparatus. 3,404,539, 10–8–68, Cl. 62—262.

Laing Vortex, Inc.: *See*—
Laing, Nikolaus. 3,404,539.

Lakin, Roger W., to United States of America, Atomic Energy Commission. Dosimeter incorporating an electro-chemical integrating device. 3,405,274, 10–8–68, Cl. 250—83.6.

La Lancette, Eugene A., to E. I. du Pont de Nemours and Co. Selected hydroxydi(perfluoroalkyl)methyl-substituted androstanes and estranes. 3,405,146, 10–8–68, Cl. 260—397.4.

Lally, Joseph E., T. F. Zale, and T. A. Reedy, Jr., to Lion Mfg. Corp. Ball gating and reprojecting means. 3,404,888, 10–8–68, Cl. 273—121.

Lamb, F. Jos., Co., Inc.: *See*—
Orlando, John B. 3,405,226.

Lampert, Antal. Cigarette substitute inhaler. 3,404,692, 10–8–68, Cl. 131—170.

Lamson, Junior J.: *See*—
Hall, Richard H., Sikkema, Humiston, Foster, and Lamson. 3,405,004.

Lane, Frederick H., to The Dunlop Co. Ltd. Method of reducing the length of oversize fibers. 3,404,592, 10–8–68, Cl. 83—16.

Langer, Edwin, to The Morgan Engineering Co. Traveling crane truck of saddle and pin construction. 3,404,640, 10–8–68, Cl. 105—163.

Lapidus, Saul. Tie-less bib. 3,404,407, 10–8–68, Cl. 2—49.

Lappin, Gerald R.: *See*—
Newland, Gordon C., and Lappin. 3,405,090.

Larson, Charles L., to Jeddeloh Bros., Sweed Mills, Inc. Load-supporting apparatus. 3,404,791, 10–8–68, Cl. 214—38.

Larson, John R.: *See*—
Lusskin, Robert M., Backer, and Larson. 3,405,097.

Laug, Ernst P., to General Electric Co. Bake unit baffle. 3,405 252, 10–8–68, Cl. 219—399.

Latham, Raymond E., R. T. Brown, and C. A. Bollfrass, to Gray Tool Co. Deflectable lip sealing connection having spoiler feature. 3,404,902, 10–8–68, Cl. 285—14.

Laube, Herbert L., to The Singer Co. Air conditioning system. 3,404,728, 10–8–68, Cl. 165—22.

Leach, Charles, to Glaser Products Corp. Outdoor grill with adjustable spit. 3,404,621, 10–8–68, Cl. 99—421.

Leahey, John W., and V. D. Turner, to Lowell Technological Institute Research Foundation. Film support assembly. 3,404,472, 10–8–68, Cl. 40—106.1.

Lear Siegler, Inc.: *See*—
Tippetts, Earl L. V. 3,404,857.

Learn, Arthur J.: *See*—
Spriggs, Reuben S., Learn, and Marinoff. 3,405,251.

Leathem, Douglas B.: *See*—
Churchill, Wilmer H., Garcia, Leathem, and Wright. 3,404,530.

Leblanc, Jean, to Societe Industrielle Generale de Mecanique Appliquee (S.I.G.M.A.). Electromagnetic apparatus such as clutches and brakes including friction discs. 3,404,762, 10–8–68, Cl. 192—84.

Lectromelt Corp.: *See*—
Wynne, Peter J. 3,404,874.

Ledex Inc.: *See*—
Giese, Clifford C., Jr., Baker, and Heilman. 3,405,376.

Lee, Richard G., to Alves Photo Service, Inc. Automatic marking device. 3,404,628, 10–8–68, Cl. 101—291.

Lee, Robert A.: *See*—
Aungst, Stanley E., and Lee. 3,404,442.

Lee, Robert H., to Union Carbide Corp. Tube wire electrode. 3,405,250, 10–8–68, Cl. 219—146.

Leeds & Northrup Co.: *See*—
Ross, Charles W. 3,405,279.

Lehmann, Klaus: *See*—
Wenzel, Franz, Uhlig, and Lehmann. 3,405,034.

Leitz, Ernst, G.m.b.H.: *See*—
Naumann, Paul. 3,404,614.

Lempicki, Alexander: *See*—
Brecher, Charles, Lempicki, and Samelson. 3,405,372.

Leon, Dogaru: *See*—
Gheorghe, Aldea, Ioan, Leon, and Ion. 3,404,741.

Leonard, Louis H., Jr., to Carrier Corp. Combined refrigeration and saline water conversion system. 3,404,537, 10–8–68, Cl. 62—123.

Leonard, Merrill G., to Westinghouse Electric Corp. Electrical transformer apparatus. 3,405,283, 10–8–68, Cl. 307—95.

Leonhardt, Gunter: *See*—
Brückner, Paul, Gremmel, Hartig, Schütte, and Leonhardt. 3,405,325.

Lerch, Loren W. Trolley choke. 3,404,637, 10–8–68, Cl. 104—96.

Lettam, Inc.: *See*—
Gardel, Robert, and Gorsky. 3,404,483.

Lettenbauer, Gustav: *See*—
Haack, Erich, Popelak, Lettenbauer, Shaumann, and Ritter. 3,405,139.

Le Vee, Clarence H., to A. B. Chance Co. Self-ventilating underground transformer vault. 3,404,617, 10–8–68, Cl. 98—32.

Levine, Joseph S.: *See*—
Raifsnider, Philip J., and Levine. 3,404,734.

Levine, Sol, to Del Laboratories, Inc. Display package for cosmetics. 3,404,774, 10–8–68, Cl. 206—78.

Levy, Erwin. Conduit support bracket. 3,404,858, 10–8–68, Cl. 248—68.

Levy, Joseph, and W. W. Walker, to Universal Oil Products Co. Process for the preparation of hydroxy naphthoic acids. 3,405,169, 10–8–68, Cl. 260—520.

Levy, Joseph, and W. W. Walker, to Universal Oil Products Co. Process for the preparation of hydroxy naphthoic acids. 4,405,170, 10–8–68, Cl. 260—520.

Lewanski, Richard M.: *See*—
French, Jack W., Heffley, Lewanski, and Modry. 3,404,658.

Lewis, Derek C.: *See*—
Westwood, William D., and Lewis. 3,404,966.

Lewis, Eugene W., F. Warden, J. H. Mills, and B. F. McNickle. Method for producing dental molds or molding material. 3,404,723, 10–8–68, Cl. 164—34.

Lewis, Everette C., R. G. Tallent, and A. L. Plumley, to Combustion Engineering, Inc. Prevention of furnace corrosion. 3,404,663, 10–8–68, Cl. 122—7.

Lewis, G. B., Co.: *See*—
Frater, Milton A. and A. H. 3,404,804.

Lewis, Richard N., to West End Table Co., Inc. Window construction. 3,404,499, 10–8–68, Cl. 52—213.

Ley, Roger D., to General Public Utilities Corp. Hydroelectric pump-turbine apparatus. 3,405,278, 10–8–68, Cl. 290—52.

Licitis, Gunars: *See*—
Glass, Marvin I., Stan, and Licitis. 3,404,891.

Lignosol Chemicals Ltd.: *See*—
Keirstead, Karl F., and Paton. 3,405,061.

Lilliston Implement Co.: *See*—
Whitfield, Carroll J., and Dorsett. 3,404,517.

Lindquist, Adolph L. Pusher attachment for chain conveyor. 3,404,639, 10–8–68, Cl. 104—172.

Lindquist, Arne H., to Nydqvist & Holm Aktiebolag. Device for indicating the presence of water in and for removal of water from runner hubs of hydraulic turbines or pumps. 3,404,738, 10–8–68, Cl. 170—160.23.

Linn, David H.: *See*—
Weiss, Charles, and Linn. 3,404,458.

Lion Mfg. Corp.: *See*—
Lally, Joseph E., Zale, and Reedy. 3,404,888.

Lipp, Charles E., C. R. Wilson, and G. F. Betzelberger, to Caterpillar Tractor Co. Exchanging dispenser for articles wherein a replacement article dispenses a similar article. 3,404,764, 10–8–68, Cl. 194—4.

Lisnow & Weiss Co.: *See*—
Weiss, Irving. 3,404,440.

Lively, Guy W.: *See*—
Sell, Christian A., and Lively. 3,405,019.

Livingston, Clifton W. and R. W. Earth movement measuring apparatus. 3,404,460, 10–8–68, Cl. 33—125.

Livingston, Ross W.: *See*—
Livingston, Clifton W. and R. W. 3,404,460.

Lloyd, Edward T.: *See*—
White, Francis T., Johnson, and Lloyd. 3,404,432.

Lockheed Aircraft Corp.: *See*—
Edwards, Lawrence K. 3,404,638.

Lode, Tenny D. Sub-atomic particle detector by means of producing solidified tracks in a liquid. 3,405,266, 10–8–68, Cl. 250—83.

Loeffel, Hansrolf: *See*—
Anderau, Walter, and Loeffel. 3,404,982.

Logemann, Johan D., T. J. van der Mond, and W. H. Castenmiller, to Stamicarbon N.V. Process for preparing cyclohexane. 3,405,190, 10–8–68, Cl. 260—667.

Lombard, David B., and D. V. Power, to United States of America, Atomic Energy Commission. Transducer for measuring pressure pulses. 3,404,559, 10–8–68, Cl. 73—35.

Long, Edward W.: *See*—
Ray, Charles L., Baarson, and Long. 3,404,777.

Lorentz, Guido M. R.: *See*—
Girg, Friedrich, Lorentz, and Schultz. 3,405,085.

Loro, Alberto, and S. D. Rosenbaum, to Northern Electric Co. Ltd. Semiconductor devices. 3,405,329, 10–8–68, Cl. 317—234.

Lowell Technological Institute Research Foundation: *See*—
Leahey, John W., and Turner. 3,404,472.

Lubrizol Corp., The: *See*—
Miller, Clark O. 3,405,064.

Ludewig, Heinz A.: *See*—
Koch, Fritz, and Ludewig. 3,404,578.

Lundeen, Allan J., and J. E. Yates, to Continental Oil Co. Stabilization of aluminum alkoxides. 3,405,154, 10–8–68, Cl. 260—448.

Lusskin, Robert M., F. Backer, and J. R. Larson, to Universal Oil Products Co. Polymeric compositions of matter. 3,405,097, 10–8–68, Cl. 260—75.

Lynch, Charles T.: *See*—
Vahldiek, Fred W., and Lynch. 3,405,207.

M & T Chemicals Inc.: *See*—
Natoli, Joseph G. 3,405,155.
Natoli, Joseph G. 3,405,180.
Wowk, Anatole. 3,405,179.

MacGlashan, William F., Jr., and H. E. Cotrill, Jr., to United States of America, Army. High-strain-rate tester. 3,404,562, 10–8–68, Cl. 73—97.

MacGregor, Dean J., and J. W. Weber, to Eastman Kodak Co. Photographic film container. 3,404,613, 10–8–68, Cl. 95—31.

Machado, John S.: *See*—
Barter, Francis B., and Machado. 3,404,945.

Mack, William V., to William V. Mack, Inc. Adjustable extension-handle. 3,404,427, 10–8–68, Cl. 16—114.

Mack, William V., Inc.: *See*—
Mack, William V. 3,404,427.

MacPherson, Arthur R., G. L. Saunders, and R. C. Meaders, to Nordberg Mfg. Co. Autogenous grinding mill. 3,404,846, 10–8–68, Cl. 241—72.

Madsen, Kristian D., to Allmanna Svenska Elektriska Aktiebolaget. Rotor structure for a high power synchronous machine of the turbo type. 3,405,294, 10–8–68, Cl. 310—86.

Madsen, Kristian D., to Allmanna Svenska Elektriska Aktiebolaget. Stator structure for a high power synchronous machine having high average induction in the air gap. 3,405,297, 10–8–68, Cl. 310—258.

Maeda, Seijiro, to Kabushiki Kaisha Hitachi Seisakusho. Magnetic flux path switching device wherein superconductive substances are utilized. 3,405,292, 10–8–68, Cl. 310—11.

Maeda, Toyoo: *See*—
Akita, Yoshio, Maeda, and Yada. 3,404,500.

Maehara, Tetsuya: *See*—
Sasaki, Nobuo, Sugahara, Maehara, Tsutsumi, and Egami. 3,404,950.

Maemoto, Kenichi: *See*—
Yasumura, Tomohide, Sameshima, Onodera, Oono, Taniguchi, Maemoto, and Tatsukami. 3,405,200.

Maerker, Gerhard, and E. T. Haeberer, to United States of America, Agriculture. Direct cleavage of epoxides to produce aldehydes. 3,405,149, 10–8–68, Cl. 260—405.

Magee, John E. Controls for elevator doors. 3,404,753, 10–8–68, Cl. 187—52.

Magnetic Analysis Corp.: *See*—
Callan, Joseph M., and Gerner. 3,405,354.

Mahogany Corp.: *See*—
Brittain, William I., and Trickey. 3,404,841.
Trickey, William J. 3,404,840.

Main, Robert T.: *See*—
Cherry, Walter L., and Main. 3,405,243.

Maloney, Lawrence G., to Inland Steel Co. Stockline armor with free-floating elements. 3,404,876, 10–8–68, Cl. 266—43.

Malsbary Mfg. Co.: *See*—
Telford, Carlyle O. 3,404,702.

Manabe, Atsutoki, and N. Kawasaki, to Teijin Ltd. Apparatus for the heat treatment of a running yarn. 3,404,441, 10–8–68, Cl. 28—62.

Manitowoc Shipbuilding Inc.: *See*—
Miller, Robert H., and Zuehlke. 3,404,650.

Mann, Charles, to Reynolds Metals Co. Package construction and method for making the same or the like. 3,404,771, 10–8–68, Cl. 206—45.33.

Mansfield Sanitary, Inc.: *See*—
Derror, Fred L. 3,405,203.

Mansfield, Vaughn, to Peabody Coal Co. Continuous process for simultaneously producing coke and carbon black. 3,404,-960. 10–8–68, Cl. 23—209.6.

Marano, Herbert W., to Consolidated Cigar Corp. Apparatus for uniform web feed. 3,404,820, 10–8–68, Cl. 226—40.

Marano, Herbert W., to Consolidated Cigar Corp. Label sensor and applicator. 3,405,021, 10–8–68, Cl. 156—361.

Marinoff, Charles: *See*—
Spriggs, Reuben S., Learn, and Marinoff. 3,405,251.

Marquardt Corp., The: *See*—
Waxman, Herbert I. 3,404,813.

Marraffino, Leonard L., and R. J. Miolla, Jr.; said Miolla, assor. to said Marraffino. Mixing head with full opening control. 3,404,812, 10–8–68, Cl. 222—193.

Marshall, John D.: *See*—
Budzyna, Joseph M., and Mucciarone. 3,404,709.
Haagsma, Herman, and Chabot. 3,404,928.

Marshall, John T.: *See*—
Arntz, Charles V., Marshall, and Wagner. 3,404,672.

Martin, Francis W., to Corning Glass Works. Crystalline glazed ceramic containing lead titanate crystals and method. 3,405,002, 10–8–68, Cl. 117—125.

Martin, James D.: *See*—
Hecht, Alfred H., Hunter, and Martin. 3,404,557.

Martin Marietta Corp.: *See*—
Koomey, Paul C., and Streb. 3,405,387.

Maruzen Kasei Co. Ltd.: *See*—
Ueda, Takeo. 3,405,152.

Marx, Robert D. Bottom loading control system with transient closing and liquid level controls. 3,404,703, 10–8–68, Cl. 137—390.

Masawaki, Keizo: *See*—
Huang, Ching Y., Ueno, Kawamura, Tanabe, and Masawaki. 3,405,079.

Maschinenfabrik Buckau R. Wolf Aktiengesellschaft: *See*—
Pause, Kurt. 3,404,833.

Maschinenfabrik Rau H.G.: *See*—
Rau, Willy. 3,404,901.

Maske, Arthur. Plug retriever. 3,404,482, 10–8–68, Cl. 43—172.

Massengill, Cleburne, to Standarwerk Eugen Reis G.m.b.H. Device for feeding fragile wrappers filled with discrete units into a receptacle. 3,404,510, 10–8–68, Cl. 53—59.

Massey-Ferguson Inc.: *See*—
Elfes, Lee E., and Todd. 3,404,768.

Massoubre, Jean-Marie, to Compagnie Generale des Etablissements Michelin, raison sociale Michelin & Cie. Pneumatic tires. 3,404,721, 10–8–68, Cl. 152—361.

Matheson, Wilfrid G.: *See*—
Koury, Frederic, Matheson, and Waymouth. 3,405,303.

Mathias, Joseph S., A. A. Adomines, R. H. Storck, and J. McNamara, to Sperry Rand Corp. Evaporation system. 3,404,-661, 10–8–68, Cl. 118—49.

Matsushita Electric Industrial Co., Ltd.: *See*—
Hayakawa, Shigeru, and Wasa. 3,405,301.
Kobayashi, Kazutsugu. 3,405,365.
Someda, Sadamichi, and Hamano. 3,405,345.
Wasa, Kiyotaka, and Hayakawa. 3,405,300.

Matthews, Demetreos N., and R. J. Kelly, to Uniroyal, Inc. Use of amine N-oxide as a regulator of molecular weight in ethylene-propylene copolymerization with soluble catalyst comprising vanadium oxytrichloride and alkyl aluminum sesquichloride. 3,405,107, 10–8–68, Cl. 260—88.2.

Mattox, William J., to Esso Research and Engineering Co. Magnesium-containing crystalline zeolites. 3,405,074, 10–8–68, Cl. 252—455.

Maunsell, Richard M. O.: *See*—
Jeffes, James H. E., and Maunsell. 3,404,954.

Mauz, Otto, and H. Behrenbruch, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Stabilized polyalkylene oxides. 3,405,089, 10–8–68, Cl. 260—45.8.

Mayer, Edward: *See*—
Buhl, Charles A. L., and Mayer. 3,405,242.

Mayer, Oscar, & Co., Inc.: *See*—
Kielsmeier, Elwood W., and Middleton. 3,404,715.
Kielsmeier, Elwood W., Kasbaum, Paynter, and Anderson. 3,404,430.

Mayes, Nathan: *See*—
Green, Joseph, and Mayes. 3,405,076.

McArthur, Colin S.: *See*—
Pinkham, Jesse R., McArthur, and Speas. 3,404,688.

McClaflin, Gifford G., to Continental Oil Co. Polymerization catalyst. 3,405,113, 10–8–68, Cl. 260—93.5.

McClellan, Stephen A. System for transporting and grouping objects. 3,404,775, 10–8–68, Cl. 209—111.6.

McCormack, Charles E., to E. I. du Pont de Nemours and Co. Process of vulcanizing with ammonia a chlorosulfonated polyethylene coating containing an active metal oxide. 3,405,204. 10–8–68, Cl. 264—83.

McCulloch Corp.: *See*—
Burkett, Wilford B., and Jackson. 3,405,293.

McDonald, Henry, to British Aircraft Corp. (Operating) Ltd. Nozzles for jet engines. 3,404,842, 10–8–68, Cl. 239—265.37.

McDonnell Douglas Corp.: *See*—
Jones, Harvey W., and McIntyre. 3,404,439.
Sell, Christian A., and Lively. 3,405,019.

McGhee, Kenneth B., and W. G. Pitt, to Union Carbide Corp. High thermal conductivity fluid dielectric. 3,405,066, 10–8–68, Cl. 252—63.5.

McGinty, Robert L.: *See*—
Houslay, Ralph J. G., and McGinty. 3,405,069.

McGraw-Edison Co.: *See*—
Gilker, Clyde. 3,405,318.
Riebs, Richard E. 3,405,380.

McHugh, Raymond F., Jr. Universal thermocouple head. 3,405,225, 10–8–68, Cl. 174—52.

McIntyre, Robert G.: *See*—
Jones, Harvey W., and McIntyre. 3,404,439.

McKee, Albert E.: *See*—
Brewer, Earl J., Jr., Singer, and McKee. 3,404,684.

McKee, William H., to United-Carr Inc. Contact used with edge connector. 3,405,386, 10–8–68, Cl. 339—176.

McMurray, Arthur W. Buckle and strap combination. 3,404,-436, 10–8–68, Cl. 24—168.

McNamara, John: *See*—
Mathias, Joseph S., Adomines, Storck, and McNamara. 3,404,661.

McNamara, John J., to Continental Can Co., Inc. Container. 3,404,799, 10–8–68, Cl. 220—54.

McNickle, Bernard F.: *See*—
Lewis, Eugene W., Warden, Mills, and McNickle. 3,404,-723.

Mead Corp., The: *See*—
Sanders, Frederick W. 3,404,993.

Meaders, Robert C.: *See*—
MacPherson, Arthur R., Saunders, and Meaders. 3,404,-846.

Meckley, Daniel G., III: *See*—
Tappan, William R. 3,404,673.

Medlar, Lewis A., and Z. Nagy, to Honeywell Inc. Apparatus for detecting a constituent in a mixture. 3,404,962. 10–8–68, Cl. 23—253.

Mehltretter, Charles L.: *See*—
Otey, Felix H., Bennett, and Mehltretter. 3,405,080.

Meijs, Jan A., and F. I. M. Van Haaren, to N.V. Onderzoekingsinstituut Research. Method for the oxidative polymerization of phenols. 3,405,092. 10–8–68, Cl. 260—47.

Melchionni, Bruno F.: *See*—
Fairbanks, John R., and Melchionni. 3,405,264.

Mellion, Frank, to Jo-Dee Corp. Battery dispenser. 3,404,927. 10–8–68, Cl. 312—45.

Mendelson, Myron J., and A. W. England, to Scientific Data Systems, Inc. Digital data processing systems. 3,405,396. 10–8–68, Cl. 340—172.5.

Mennesson, Andre L., to Societe Industrielle de Brevets et d'Etudes S.I.B.E. Fuel injection devices for internal combustion engines. 3,404,667, 10–8–68, Cl. 123—119.

Merck, E., A.G.: *See*—
Irmscher, Klaus, and Bork. 3,405,125.

Merck & Co., Inc.: *See*—
Krieger, Kenneth H., Lago, and Wantuck. 3,405,159.

Merrill, Edward M., to Cutting Room Appliances Corp. Braking device for cloth laying machines. 3,404,850. 10–8–68, Cl. 242—75.4.

Metal Box Co. Ltd., The: *See*—
Rosbottom, Thomas A. 3,404,648.

Metallgesellschaft Aktiengesellschaft: *See*—
Drechsel, Herbert, Dorr, and Grimm. 3,404,955.
Drechsel, Herbert, Dorr, and Grimm. 3,404,956.

Metco Inc.: *See*—
Thompson, Henry C. 3,404,823.

Meyer, Gerhard: *See*—
Rupp, Hans-Dieter, Siggel, and Meyer. 3,404,961.

Meyers, Marion D., and S. Frank, to American Cyanamid Co. Nitrogen fluorine compounds and method of synthesis. 3,405,143, 10–8–68, Cl. 260—340.

Miami Margarine Co., The: *See*—
Fritsche, Richard K., Moustafa, Brock, and Struble. 3,404,963.

Micromatic Hone Corp.: *See*—
Czubak, Albin S. 3,405,040.

Microtherm Ltd.: *See*—
Smith, Peter H. 3,404,620.

Middleton, Frederic H.: *See*—
Kielsmeier, Elwood W., and Middleton. 3,404,715.

Milberger, Walter E., and W. L. Weigle, to Westinghouse Electric Corp. Load transient reflection suppressor with differential inductor means interposed in parallel line circuits between the source and load. 3,405,322, 10–8–68, Cl. 317—50.

Miller, Arthur C.: *See*—
Van Ornum, Delbert G., Winzeler, and Miller. 3,405,314.

Miller, Arthur F., and R. C. Keiffer, to The Standard Oil Co. Process for waste disposal. 3,404,947, 10–8–68, Cl. 23—1.

Miller, Barbara B.: *See*—
Miller, Sidney E., and Wheeler. 3,405,150.

Miller, Barry I.: *See*—
Dayem, Aly H., Eisenmenger, and Miller. 3,405,374.

Miller, Clark O., to The Lubrizol Corp. Lubricating oil composition. 3,405,064, 10–8–68, Cl. 252—51.5.

Miller, David E., to Bell Telephone Laboratories, Inc. Avalanche transistor pulse generator. 3,405,287, 10–8–68, Cl. 307—268.

Miller, George B. Radial turbine engines and applications thereof. 3,404,853, 10–8–68, Cl. 244—55.

Miller, Norman E., to E. I. du Pont de Nemours and Co. $B_{20}H_{18}$ and its preparation. 3,404,059, 10–8–68, Cl. 23—204.

Miller, Ralph G. Decorative hollow doors. 3,404,502, 10–8–68, Cl. 52—615.

Miller, Robert H., and A. J. Zuehlke, to Manitowoc Shipbuilding Inc. System and apparatus for translating and discharging a load. 3,404,650, 10–8–68, Cl. 114—29.

Miller, Ronald M., and R. A. Rudnicki, to American-Lincoln Corp. Chain saw muffler. 3,404,749, 10–8–68, Cl. 181—40.

Miller, Sidney E., deceased (by B. B. Miller, executrix), and D. H. Wheeler, to General Mills Inc. Polymerization of unsaturated fatty acids employing a synthetic lithium modified magnesium silicate catalyst. 3,405,150, 10–8–68, Cl. 260—407.

Miller, Wendell S. Purification of water. 3,405,058, 10–8–68, Cl. 210—23.

Millidge, Alfred F.: *See*—
Brown, Christopher J., and Millidge. 3,405,172.

Millmaster Onyx Corp.: *See*—
Wakeman, Reginald L., Cohen, and Dudzinski. 3,405,104.

Mills, Jack H.: *See*—
Lewis, Eugene W., Warden, Mills, and McNickle. 3,404,-723.

Milne, James F., and S. Zur, to Sperry Rand Corp. Electronic calculators. 3,405,392, 10–8–68, Cl. 340—172.5.

Mindell, Marvin I.: *See*—
Peirez, Ben, and Mindell. 3,404,937.

Mine Safety Appliances Co.: *See*—
Hiltz, Ralph H. 3,405,068.

Ministerul Industriei Petrolului si Chimiei: *See*—
Gheorghe, Aldea, Ioan, Leon, and Ion. 3,404,741.

Miolla, Ralph J., Jr.: *See*—
Marraffino, Leonard L., and Miolla. 3,404,812.

Mirau, Hans: *See*—
Hartel, Heinz, and Mirau. 3,405,095.

Miscoe, Constance K. Package containers. 3,404,818, 10–8–68, Cl. 224—42.42.

Mishcon, Sam, to The Singer Co. Links and links knitting machine with pivotal jacks. 3,404,546, 10–8–68, Cl. 66—14.

Mitsubishi Denki Kabushiki Kaisha: *See*—
Ito, Toshio, and Ohkura. 3,405,245.

Mitsui Mining & Smelting Co., Ltd.: *See*—
Kuwabara, Kenji, Ieyoshi, and Nakade. 3,405,014.

Mitsui Petrochemical Industries, Ltd.: *See*—
Kohmoto, Masayuki. 3,405,038.

Miyake, Akihisa: *See*—
Hata, Go, Aoyama, Nishino, and Miyake. 3,405,193.

Moakley, William A., Jr.: *See*—
De Armott, Patrick R., and Moakley. 3,404,729.

Mobay Chemical Co.: *See*—
Ewald, Raymond M. 3,405,040.

Mock, Karl H., to Svenska Rotor Maskiner Aktiebolag. Rotary regenerative heat exchangers. 3,404,727, 10–8–68, Cl. 165—9.

Modry, Richard E.: *See*—
French, Jack W., Heffley, Lewanski, and Modry. 3,404,-658.

Monsanto Co.: *See*—
Carter, Richard P., Jr., and Irani. 3,405,060.
Conn, James F., and Kichline. 3,404,983.
Kowalski, Xavier, and Shaver. 3,405,168.
Olin, John F. 3,404,976.
Wildi, Bernard S. 3,405,101.

Moore, Donald R.: *See*—
Houlihan, William J., and Moore. 3,405,185.

Moran, James H., to Schlumberger Technology Corp. Well logging with borehole effect compensation and including memory storage of borehole measurements. 3,405,349, 10–8–68, Cl. 324—6.

Moranduzzo, Dario. Method of forming an electric light bulb socket. 3,404,453, 10–8–68, Cl. 29—628.

Moreland, William C., II, to Westinghouse Electric Corp. Modular lighting system and control means using a single interconnecting conductor between any two lamp circuits. 3,405,315, 10–8–68, Cl. 315—166.

Morgan, Edgar A.: *See*—
Bacon, Karl W., and Morgan. 3,404,635.

Morgan Engineering Co., The: *See*—
Langer, Edwin. 3,404,640.

Morgan, Stanley E.: *See*—
Ankenman, Earl B., and Morgan. 3,405,340.

Mori, Hiroshi: *See*—
Otsuka, Seinosuke, Mori, Suminoe, Imaizumi, and Taketomi. 3,405,112.

Mork, George W., to Bucyrus-Erie Co. Excavator cooling system. 3,404,732, 10–8–68, Cl. 165—51.

Morris, Alfred F., to Imperial Chemical Industries Ltd. Process for cleaning textile materials. 3,404,943, 10–8–68, Cl. 8—137.

Morrison, Edward D., and B. R. Dotson, to Eastman Kodak Co. Heat-sealable films comprising a polyolefin coated with an ethylene-ethyl acrylate copolymer and surfactants. 3,405,083, 10–8–68, Cl. 260—23.

Morrow, Robert D., and A. S. Hegeman, to Par Ltd. Video tape recorder using amplitude modulated carrier and saturated tape. 3,405,232, 10–8–68, Cl. 178—6.6.

Morter, Harry E. Method of determining and controlling microbial activity in aqueous paper machine systems. 3,405,-030, 10–8–68, Cl. 162—161.

Mortimer, Frank R., to The Dunlop Co. Ltd. Vehicle anti-skid braking system. 3,404,758, 10–8–68, Cl. 188—181.

Moser, Karen K.: *See*—
Barnett, Richard D., and Moser. 3,404,461.

Moshy, Raymond J., and F. J. Germino, to American Machine & Foundry Co. Tobacco product and process for making same. 3,404,690, 10–8–68, Cl. 131—140.

Moshy, Raymond J., and F. J. Germino, to American Machine & Foundry Co. Tobacco product and process for making same. 3,404,691, 10–8–68, Cl. 131—140.

Most, Elmer E., Jr.: *See*—
Heighton, Harold H., and Most. 3,405,098.

Motorola, Inc.: *See*—
Hilbert, Francis H., and Parker. 3,405,231.
Parker, Norman W. 3,405,229.
Parker, Norman W. 3,405,230.

Moustafa, Ahmad M.: *See*—
Fritsche, Richard K., Moustafa, Brock, and Struble. 3,404,963.

Mucciarone, Rocco H.: *See*—
Budzyna, Joseph M., and Mucciarone. 3,404,709.

Mudie, Ronald, to Servomex Controls Ltd. Electric wave generator with two-state and integrator circuits. 3,405,286, 10–8–68, Cl. 307—261.

Mulherin, Joseph H.: *See*—
Andrew, William H. R., and Mulherin. 3,404,558.

Mullins, Billy J.: *See*—
Barry, David T., Branham, Strobel, Mullins, and Hodge. 3,404,565.

Multer, Robert K. Agitator. 3,404,870, 10–8–68, Cl. 259—43.

Munz, Otto J. Method for three-dimensional imprinting a thermoplastic object. 3,405,213, 10–8–68, Cl. 264—245.

Muray, Julius J.: *See*—
Cole, John L., and Muray. 3,405,327.

Murek, Josef K. High energy rate forming machine. 3,404,555, 10–8–68, Cl. 72—445.

Murphy, Alfred M., and C. M. Filak, to Reynolds Metals Co. Billet piercing and extrusion. 3,404,552, 10–8–68, Cl. 72—266.

Murphy, Norman A.: *See*—
Banner, John G., and Murphy. 3,404,972.

Myers-Sherman Co., The: *See*—
Shaddock, Roland E. 3,404,776.

N.V. Onderzoekingsinstituut Research: *See*—
Meijs, Jan A., and Van Haaren. 3,405,092.

Naarmann, Herbert, H. Ellingsfeld, and E.-G. Kastning, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of 1,3-diene polymers. 3,405,114, 10–8–68, Cl. 260—94.3.

Nagai, Junji: *See*—
Kawano, Takehiko, Suyama, Nagai, and Iga. 3,405,120.

Nagasaki, Senkichi: *See*—
Ichibagase, Hisashi, Ichikawa, and Nagasaki. 3,405,126.

Nagy, Zoltan: *See*—
Medlar, Lewis A., and Nagy. 3,404,962.

Nakade, Kazuhiko: *See*—
Kuwabara, Kenji, Teyoshi, and Nakade. 3,405,014.

Nasco, Inc.: *See*—
Wittke, Walter P. 3,404,726.

Natoli, Joseph G., to M & T Chemicals Inc. Process for the preparation of diphenylsilanediol. 3,405,155, 10–8–68, Cl. 260—448.2.

Natoli, Joseph G., to M & T Chemicals Inc. Process for preparing tertiary phosphines. 3,405,180, 10–8–68, Cl. 260—606.5.

Natschke, Eldred H., and F. W. St. Pierre, to Universal Railway Devices Co. Two-way automatic slack adjuster. 3,404,-759, 10–8–68, Cl. 188—202.

Naumann, Paul, to Ernst Leitz G.m.b.H. Drive device for cameras. 3,404,614, 10–8–68, Cl. 95—31.

Navon, David H., and D. Bakalar. Method of making a memory device component and the like. 3,404,452, 10–8–68, Cl. 29—604.

Nedelec, Maurice, to Compagnie de Saint-Gobain. Glass sheet forming apparatus with coated silica core roller and roller. 3,404,973, 10–8–68, Cl. 65—253.

Neff, Gene M.: *See*—
Powers, Walter H., and Neff. 3,404,750.

Nelden, Richard P.: *See*—
Grabowski, Nick R., and Nelden. 3,404,883.

Nelll, Robert H.: *See*—
Thomas, Paul M., Nelll, Wright, Crile, and Burge. 3,404,-788.

Nelswinter, James T., and C. N. Pederson, to Pioneer Electric & Research Corp. Transistorized FSK telegraph driver. 3,405,236, 10–8–68, Cl. 178—88.

Nelson, Bobby H., and L. E. Williams, to Cameron Iron Works, Inc. Apparatus for use in suspending casing from a wellhead. 3,404,736, 10–8–68, Cl. 166—85.

Nelson, Charles A.: *See*—
Chong, Carlos F., and Nelson. 3,405,399.

Nelson, Donald R., to Goddard Industries, Inc. Cryogenic valve. 3,404,865, 10–8–68, Cl. 251—214.

Nelson, Harry L. Direction and rate of turn reference system. 3,405,221. 10–8–68, Cl. 35—10.2.

Neunzig, Heinrich, and V. Roehrig, to Vereinigte Aluminum-Werke Aktiengesellschaft. Aluminum anodizing process. 3,405,042, 10–8–68, Cl. 204—58.

Neuzil, Richard W., and H. Skala, to Universal Oil Products Co. Method for improving molecular sieves. 3,405,057, 10–8–68, Cl. 208—310.

New American Co., Inc.: *See*—
Sorenson, Bill W., and Denhardt. 3,404,884.

Newkirk, Kenneth. Actuating means for toilet seats and lids. 3,404,411, 10–8–68, Cl. 4—251.

Newland, Gordon C., and G. R. Lappin, to Eastman Kodak Co. Ultraviolet light stable poly-*a*-olefin composition. 3,405,-090, 10–8–68, Cl. 260—45.85.

Newman, Douglas A., to Columbia Ribbon and Carbon Mfg. Co., Inc. Hectograph products and processes. 3,404,995. 10–8–68, Cl. 117—36.1.

Nielsen, A. C., Co.: *See*—
Haselwood, Donald F. 3,405,393.

Nippon Electric Co. Ltd.: *See*—
Yawata, Keisuke, Shiba, and Anazawa. 3,405,224.

Nishimura, Masaharu: *See*—
Inose, Fumiyuki, Isoda, Numakura, and Nishimura. 3,405,335.

Nishino, Masaki: *See*—
Hata, Go, Aoyama, Nishino, and Miyake. 3,405,193.

Nix, Andrew B., to United States of America, Army. Solid propellant cutting device. 3,404,591, 10–8–68, Cl. 83—4.

Nixon, Donald R., to Westinghouse Electric Corp. Centrifugal pump. 3,404,631, 10–8–68, Cl. 103—87.

Noddin, Ray C.: *See*—
Swift, Thomas E., Brayley, and Noddin. 3,405,347.

Nordberg Mfg. Co.: *See*—
MacPherson, Arthur R., Saunders, and Meaders. 3,404,-846.

North American Philips Co., Inc.: *See*—
Essers, Wilhelmus G., Verhagen, and Tichelaar. 3,405,248.

North American Rockwell Corp.: *See*—
James, Don W. 3,404,837.

Northern Electric Co. Ltd.: *See*—
Loro, Alberto, and Rosenbaum. 3,405,329.
Westwood, William D., and Lewis. 3,404,966.

Norton Co.: *See*—
Fournier, Roger H. 3,404,492.

Norton, James F.: *See*—
Zopf, Kent B., Norton, and Hansen. 3,404,705.

Nosworthy, Bernard F. Aerial bucket step. 3,404,751, 10–8–68, Cl. 182—46.

Nouveau, Henry, to Societe a Responsabilite Limitee Doittau Produits Metallurgie. Insulating and refractory composition and elements for the lining or metal casting molds incorporating such compositions. 3,405,028, 10–8–68, Cl. 161—162.

Novak, Theodore F.: *See*—
Georgeff, Vasil, Novak, and Froula. 3,404,789.

Novo Industrial Corp.: *See*—
Romain, William A. 3,405,389.

Nuclear Processing Corp.: *See*—
Dixon, Rod P. 3,404,919.

Null, Fay E., to United States of America, Army. Missiles and discharge apparatus therefor. 3,404,669, 10–8–68, Cl. 124—6.

Numakura, Toshio: *See*—
Inose, Fumiyuki, Isoda, Numakura, and Nishimura. 3,405,335.

Nutten, Warren D., to The Tillotson Mfg. Co. Charge forming apparatus. 3,404,872, 10–8–68, Cl. 261—34.

Nydqvist & Holm Aktiebolag: *See*—
Lindquist, Arne H. 3,404,738.

Obergfell, Allen R.: *See*—
Kubnick, Norman R., and Obergfell. 3,404,938.

O'Brien, Samuel J.: *See*—
De Paolo, George R., Van Loo, and O'Brien. 3,405,003.

Obrig Laboratories, Inc.: *See*—
Bennett, Reuel W., Salvatori, and Black. 3,404,936.

Ogden, Horace R.: *See*—
Jaffee, Robert I., and Ogden. 3,405,016.

Oglesbee, Edgar C.: *See*—
Beach, John M., Cecil, Oglesbee, White and Ziegler. 3,404,757.

Ohkura, Toshimoto: *See*—
Ito, Toshio, and Ohkura. 3,405,245.

Oldberg Mfg. Co.: *See*—
Crouse, Glenn R. 3,404,445.

Olin, John F., to Monsanto Co. Herbicidal composition and method. 3,404,976, 10–8–68, Cl. 71—118.

Olin Mathieson Chemical Corp.: *See*—
Rickards, James C., and Owens. 3,404,687.

Olivetti, Ing. C. & C., S.p.A.: *See*—
Gassino, Teresio, and Bovio. 3,404,765.

Olsen, Ronald H., to Dairy Technics, Inc. Process of making a frozen bacterial concentrate. 3,404,984, 10–8–68, Cl. 99—91.

Olstein, Myron A., to United States of America, Army. Self-sealing through-nozzle transfer system. 3,404,532, 10–8–68, Cl. 60—256.

Olund, Sven A., to Chevron Research Co. Odorization of combustible hydrocarbon gases. 3,404,971, 10–8–68, Cl. 48—196.

Onodera, Kosaku: *See*—
Yasumura, Tomohide, Sameshima, Onodera, Oono, Taniguchi, Maemoto and Tatsukami. 3,405,200.

Onsrud Machine Works, Inc.: *See*—
Onsrud, Rudolph F. 3,404,601.

Onsrud, Rudolph F., to Onsrud Machine Works, Inc. Pressure regulator for controlling the downward force on the head of a router or the like. 3,404,601, 10–8–68, Cl. 90—14.

Oono, Teruo: *See*—
Yasumura, Tomohide, Sameshima, Onodera, Oono, Taniguchi, Maemoto, and Tatsukami. 3,405,200.

Optics Australia Pty. Ltd.: *See*—
Ewer, Ronald W. 3,404,861.

Orens, Sidney R. Humidifying and moisture diffusing attachment for motor vehicle heaters. 3,404,873, 10–8–68, Cl. 261—141.

Orlando, John B., to F. Jos. Lamb Co., Inc. Terminal box construction. 3,405,226, 10–8–68, Cl. 174—60.

Osborn Mfg. Co., The: *See*—
Warner, Rueben B. 3,404,422.

Osial, Thaddeus A., K. B. Steinbruegge, and R. J. Ravas, to Westinghouse Electric Corp. Electrical triggering system. 3,405,316, 10–8–68, Cl. 315—243.

Osmond Johnson, Inc.: *See*—
Porter, Herbert R., Jr., and Pittala. 3,404,880.

Ostwald, Heinz: *See*—
Hecker, Klaus J., and Ostwald. 3,404,882.

Otey, Felix H., F. L. Bennett, and C. L. Mehltretter, to United States of America, Agriculture. Process for preparing polyether-polyurethane-starch resins. 3,405,080, 10–8–68, Cl. 260—9.

Otsuka, Seinosuke, H. Mori, T. Suminoe, F. Imaizumi, and T. Taketomi, to Japan Synthetic Rubber Co., Ltd. Allene hydrocarbon polymer formed by 1.2-addition and method of producing the same. 3,405,112, 10–8–68, Cl. 260—93.1.

Owens-Illinois, Inc.: *See*—
Belcher, Samuel L., and Ryman. 3,404,642.
Bishop, Frederic L. 3,404,769.
Ferrero, John G. 3,405,015.
Heider, James E. 3,405,210.
Hohl, John, and Scribner. 3,404,505.
Proffitt, James R., Jr. 3,404,624.

Owens, William F., Jr.: *See*—
Rickards, James C., and Owens. 3,404,687.

PME Holding A.G.: *See*—
Anger, Anton. 3,404,588.

Pacemin A.G.: *See*—
Hischmann, Rudolf. 3,404,610.

Palmer, John S., to International Harvester Co. Tractor wheel securing device. 3,404,908, 10–8–68, Cl. 287—52.6.

Panich, Michael: *See*—
Gardiner, Roy W., Panich, and Yager. 3,404,604.

Pappo, Raphael, and C. J. Jung, to G. D. Searle & Co. 17-(Lower aliphatic mono-unsaturated hydrocarbon)-17β-hydroxy-2-oxaestra-4,9(10)-dien-3-ones, 11-dehydro compounds corresponding and esters thereof. 3,405,140, 10–8–68, Cl. 260—343.2.

Pappo, Raphael, and C. J. Jung, to G. D. Searle & Co. (Optionally 17-alkylated) 17-oxygenated 2-oxaestra-4,9(10)-dien-3-ones and Δ-9(10),11 compounds corresponding. 3,405,141, 10–8–68, Cl. 260—343.2.

Pappo, Raphael, and C. J. Jung, to G. D. Searle & Co. 17β-Hydroxy-2-oxaestra-5(10)8(11)-dien-3-one, 17α - (hydrocarbon-substituted) derivatives corresponding and esters thereof. 3,405,142, 10–8–68, Cl. 260—343.2.

Papst, Hermann. Piston ring for internal combustion engines. 3,404,606, 10–8–68, Cl. 92—169.

Par Ltd.: *See*—
Morrow, Robert D., and Hegeman. 3,405,232.

Paradis, Joseph R.: *See*—
Des Ormeaux, John A., and Paradis. 3,404,646.

Parke, Davis & Co.: *See*—
Haskell, Theodore H., and Hanessian. 3,405,218.
Rebstock, Mildred C. 3,405,165.

Parker, Norman W., to Motorola, Inc. Color television demodulation system. 3,405,230, 10–8–68, Cl. 178—5.4.

Parker, Norman W., to Motorola, Inc. Color television synchronous demodulator circuit with spurious modulation products elimination. 3,405,229, 10–8–68, Cl. 178—5.4.

Parker, Norman W.: *See*—
Hilbert, Francis H., and Parker. 3,405,231.

Pastor, Arthur J., L. E. Peterson, C. D. Price, and D. A. Ballard, to The Dow Chemical Co. Process for making soft polyurethane foams and product. 3,405,077, 10–8–68, Cl. 260—2.5.

Patent Holding Corp.: *See*—
Balaguer, Rodolfo R. 3,405,013.

Paton, William E.: *See*—
Keirstead, Karl F., and Paton. 3,405,061.

Paul, Herbert W. Apparatus for washing automotive and machine parts and assemblies. 3,404,695, 10–8–68, Cl. 134—135.

Pause, Kurt, to Maschinenfabrik Buckau R. Wolf Aktiengesellschaft. Centrifuge. 3,404,833, 10–8–68, Cl. 233—20.

Pavia-Farny Associate: *See*—
Pavia, Leonard W. 3,405,223.

Pavia, Leonard W., to Pavia-Farny Associate. Electronic organ. 3,405,223, 10–8–68, Cl. 84—1.18.

Pawlikowski, Stanley L., D. L. Say, and H. E. Smithgall, to Sylvania Electric Products Inc. Cathode supported by integral, inwardly extending legs with vertically-turned ends fastened to inwardly oriented end portions of support leads. 3,405,307, 10–8–68, Cl. 313—278.

Paxton, Herbert J., Jr.: *See*—
Welch, Frank J., and Paxton. 3,405,075.

Payne, Richard E., to The Tappan Co. Lift-off oven door seal. 3,404,675, 10–8–68, Cl. 126—190.

Payne, Wesley J., and E. R. Campagna, to Westinghouse Electric Corp. Multi-purpose electrode for electron discharge devices. 3,405,306, 10–8–68, Cl. 313—239.

Paynter, William D.: *See*—
Kielsmeier, Elwood W., Kasbaum, Paynter, and Anderson. 3,404,430.

Peabody Coal Co.: *See*—
Mansfield, Vaughn. 3,404,960.

Pearce, Lawrence E. Magnetically attractable golfing target and ball. 3,404,892, 10–8–68, Cl. 273—181.

Pederson, Carl N.: *See*—
Neiswinter, James T., and Pederson. 3,405,236.

Peerless of America, Inc.: *See*—
Kritzer, Richard W. 3,404,446.

Peery, William W. Combination cigarette package and ash receptacle. 3,404,770, 10–8–68, Cl. 206—41.

Peirez, Ben, and M. I. Mindell, to Viewlex, Inc. Motion picture projection using optical and magnetic sound tracks. 3,404,937, 10–8–68, Cl. 352—29.

Peralta, Bernal: *See*—
Vaell, Raoul P., and Peralta. 3,405,056.

Pesetsky, Bernard I., to Union Carbide Corp. Method of metal plating aluminum alloys. 3,404,998, 10–8–68, Cl. 117—62.

Peterson, Lamar E.: *See*—
Pastor, Arthur J., Peterson, Price, and Ballard. 3,405,077.

Pethica, Brian A.: *See*—
Taylor, Harry P., and Pethica. 3,404,991.

Petree, Marcella C.: *See*—
Skalski, James F., and Petree. 3,405,331.

Petrocelli Clothes, Inc.: *See*—
Berman, Ralph E. 3,404,408.

Pfaff, Klaus, to Dornier-Werke G.m.b.H. System for controlling hydraulic servomotors. 3,404,605, 10–8–68, Cl. 91—453.

Pfarrwaller, Erwin, and H. Dittrich, to Sulzer Bros. Ltd. Head for yarn package spool. 3,404,851, 10–8–68, Cl. 242—118.5.

Philbrick, George A., to George A. Philbrick Researches, Inc. Electronic amplifier. 3,405,366, 10–8–68, Cl. 330—7.

Philbrick, George A., Researches, Inc.: *See*—
Philbrick, George A. 3,405,366.

Phillips Petroleum Co.: *See*—
Banks, Robert L. 3,405,191.
Blackwell, Jennings P. 3,405,105.
Caldwell, William A. 3,405,215.
Rohling, Raymond G. 3,405,109.

Pickroth, Gerhard: *See*—
Brachvogel, Heinz, and Pickroth. 3,404,934.

Pierce, James B. Holder for socket wrench heads. 3,405,377, 10–8–68, Cl. 335—285.

Pierce, Norwin C., to E. I. du Pont de Nemours and Co. Plain-weave unidirectional stretch fabric. 3,404,710, 10–8–68, Cl. 139—421.

Piggott, Kenneth L.: *See*—
Davey, Ronald L., Piggott, Reid, and Walles. 3,405,186.

Pike, John E., to The Upjohn Co. Chromatographic separation of gamma-linolenic acid esters. 3,405,151, 10–8–68, Cl. 260—410.9.

Pikoske, Herbert: *See*—
Belongia, Clyde G., and Pikoske. 3,404,868.

Pilkington Bros. Ltd.: *See*—
Banner, John G., and Murphy. 3,404,972.

Pince, Pierre: *See*—
Sierra, Charles, and Pince. 3,404,653.

Pinkert, Albert A. Load carrier. 3,404,793, 10–8–68, Cl. 214—152.

Pinkham, Jesse R., C. S. McArthur, and H. L. Speas, Jr., to R. J. Reynolds Tobacco Co. Apparatus for disassembling filter and cigarette assemblies. 3,404,688, 10–8–68, Cl. 131—20.

Pioneer Electric & Research Corp.: *See*—
Neiswinter, James T., and Pederson. 3,405,236.

Pipkins, David D., and A. F. Deposta, to The Valspar Corp. Mobile paint making and spraying apparatus. 3,404,839. 10–8–68, Cl. 239—113.

Pirelli S.p.A.: *See*—
Cicognani, Mario, and Previati. 3,404,576.

Pitt, William G.: *See*—
McGhee, Kenneth B., and Pitt. 3,405,066.

Pittala, Peter J.: *See*—
Porter, Herbert R., Jr., and Pittala. 3,404,880.

Plaisted, Richard G., to Westinghouse Electric Corp. Workpiece shape and thickness control. 3,404,550, 10–8–68, Cl. 72—8.

Planansky, Agaton: *See*—
Rajnoha, Jaroslav, Ferkl, Planansky, Cerny, and Silar. 3,404,524.

Plumley, Arthur L.: *See*—
Lewis, Everett C., Tallent, and Plumley. 3,404,663.

Plummer, Walter A. Seam operating device. 3,404,437, 10–8–68, Cl. 24—201

Pneumo Dynamics Corp.: *See*—
Brown, Roger W., and Rhodehamel. 3,404,589.

Pohl, Frantisek, V. Skala, and J. Haluza, to Vyzkumny Ustav Pletarsky. Decorative fabric. 3,404,647, 10–8–68, Cl. 112—405.

Polizzano, Fred F., to General Cable Corp. Folded, laminated electrical cable sheath having abutting edges of one lamination unwelded. 3,405,228, 10–8–68, Cl. 174—106.

Poole, Victor D., to Imperial Chemical Industries Ltd. Phthalocyanine dyestuffs. 3,405,133, 10–8–68, Cl. 260—249.5.

Popelak, Alfred: *See*—
Haack, Erich, Popelak, Lettenbauer, Schaumann, and Ritter. 3,405,139.

Popik, Michael J., to Sperry Rand Corp. Fail operational control system for redundant servos with torque signal equalization. 3,405,337, 10–8–68, Cl. 318—18.

Porter, Alvin J., to Product Design & Engineering, Inc. One piece molded closable pour spout cap for a container. 3,404,815, 10–8–68, Cl. 222—517.

Porter, Donald K.: *See*—
Eckenwiler, James W., and Porter. 3,405,023.

Porter, Herbert R., Jr., and P. J. Pittala, to Osmond Johnson, Inc. Glueing attachment for collating machine. 3,404,880, 10–8–68, Cl. 270—58.

Porter, Oswald M.: *See*—
Lachat, Remy J., and Porter. 3,404,420.

Pottharst, John E., Jr. Plate-type heat exchanger. 3,404,733, 10–8–68, Cl. 165—166.

Power Brake Equipment Co.: *See*—
Williams, Norman C., and Everett. 3,404,867.

Power, Dean V.: *See*—
Lombard, David B., and Power. 3,404,559.

Powers, Walter H., and G. M. Neff, to Walker Mfg. Co. Combination tailpipe spout and silencer. 3,404,750, 10–8–68, Cl. 181—48.

Preiss, Lester L.: *See*—
Wollard, Joseph C., Slaney, and Preiss. 3,404,417.

Prenovitz, Melvin B. Hygienic aid. 3,404,469, 10–8–68, Cl. 36—43.

Previati, Augusto: *See*—
Cicognani, Mario, and Previati. 3,404,576.

Price, Charles D.: *See*—
Pastor, Arthur J., Peterson, Price, and Ballard. 3,405,077.

Priest, William F., and S. Simon, to Sovereign Resources, Inc. Ballast for pneumatic vehicle tires. 3,404,719, 10–8–68, Cl. 152—330.

Procter & Gamble Co., The: *See*—
Kooistra, John A., and Troller. 3,404,987.
Schaewe, Arnold E., and Gastright. 3,404,509.
Sisson, James B. 3,405,031.
Strobel, Rudolf G. K. 3,404,985.
Thompson, James E. 3,405,148.

Product Design & Engineering, Inc.: *See*—
Porter, Alvin J. 3,404,815.

Proffitt, George W., Jr. Mirror and shutter mechanism for single lens reflex photographic camera. 3,404,615, 10–8–68, Cl. 95—42.

Proffitt, James R., Jr., to Owens-Illinois, Inc. Offset plate decorating methods and apparatus. 3,404,624, 10–8–68, Cl. 101—40.

Proper, Reuben, and F. Hoffmann, to United States of America, Army. Diels-alder adducts of cyclopentadienes with 1,1-dicyano-2-(phenyl)ethylenes. 3,405,161, 10–8–68, Cl. 260—465.

Pullman Inc.: *See*—
Stern, Eric W., and Spector. 3,405,156.

Punkar, Duane E.: *See*—
Cvetko, Henry J., and Punkar. 3,405,239.

Rader, Robert R., to Wirtz Mfg. Co. Inc. Ladle. 3,404,910, 10–8–68, Cl. 292—257.

Radio Corp. of America: *See*—
Aungst, Stanley E., and Lee. 3,404,442.
Dresner, Joseph. 3,405,298.
Fairbanks, John R., and Melchionni. 3,405,264.
Goedertier, Peter V. 3,405,044.
Hall, William B., and Ernst. 3,405,299.
Jacoby, George V., and Gleitman. 3,405,403.
Rangachar, Hemmige V., and Dillon. 3,405,400.

Radiovisor Parent Ltd.: *See*—
Humber, Edward J., and Ryland. 3,404,568.

Rado, John A., to United States of America, Navy. Direct viewing storage tube. 3,405,310, 10–8–68, Cl. 315—12.

Rakenkamp, Robert A.: *See*—
Castle, William H., Jones, and Rakenkamp. 3,404,766.

Raifsnider, Philip J., and J. S. Levine, to Shell Oil Co. Method of plugging formations by in situ chemical means. 3,404,734, 10–8–68, Cl. 166—32.

Raiti, James. Automotive trucks used by street and highway departments. 3,404,470. 10–8–68, Cl. 37—12.

Rajnoha, Jaroslav, F. Ferkl, A. Planansky, M. Cerny, and Z. Silar, to Vyzkumny Ustav Bavinarsky. Apparatus for regulating the operation of yarn spinning machines. 3,404,524, 10–8–68, Cl. 57—81.

Raley, Charles F., Jr., to The Dow Chemical Co. Magnesium structures for storing and purifying aralkyl halides. 3,405,059, 10–8–68, Cl. 203—86.

Ramsey, Wallace B.: *See*—
Delchert, William G., and Ramsey. 3,404,996.

Ranco Inc.: *See*—
Finebium, Solomon S. 3,404,542.
Rodgers, Gerald L. 3,404,835.

Rand, Walter L., to Electric & Musical Industries Ltd. Envelopes for gramophone records. 3,404,830, 10–8–68, Cl. 229—68.

Rangachar, Hemmige V., and L. Dillon, Jr., to Radio Corp. of America. Nondestructive readout memory. 3,405,400, 10–8–68, Cl. 340—174.

Ranke, Gerhard: *See*—
Kruis, August, Scholz, and Ranke. 3,405,192.

Rantsch, Kurt, A. Weyrauch, O. Trotscher, and O. Ambrosius, to Carl Zeiss-Stiftung, d/b/a C. Zeiss. Correction indicating device for the tilt of a sliding carriage of a tool holder. 3,405,257, 10–8–68. Cl. 235—151.11.

Rapp, Willard E., to Western Electric Co. Inc. Spring deflection tester. 3,404,564, 10–8–68, Cl. 73—161.

Rapp, Willard E., to Western Electric Co., Inc. Quick connect solderless wire conector. 3,405,385, 10–8–68, Cl. 339—97.

Ratz, Alfred G., to Textron Electronics, Inc. Vibration testing system with impedance compensation. 3,404,561, 10–8–68, Cl. 73—71.6.

Rau, Willy, to Maschinenfabrik Rau H.G. Coupling means for towing vehicles. 3,404,901, 10–8–68, Cl. 280—456.

Rausing, Hans A., to Tetra Pak, AB. Liquid filled package with dispensing opening means. 3,404,988, 10–8–68, Cl. 99—171.

Ravas, Richard J.: *See*—
Osial, Thaddeus A., Steinbruegge, and Ravas. 3,405,316.

Ray, Charles L., R. E. Baarson, and E. W. Long, to Armour and Co. Froth flotation with secondary-alkyl primary amines. 3,404,777, 10–8–68, Cl. 209—166.

Ray, Nicolas M. Flare rack assembly. 3,404,782, 10–8–68, Cl. 211—49.

Rebstock, Mildred C., to Parke Davis & Co. Sulfonic acid compound. 3,405,165, 10–8–68, Cl. 260—472.

Reddy, Robert R. Rotary valve with concave seating surface. 3,404,864, 10–8–68, Cl. 251—172.

Redman, Derek H., to Hancock & Co. (Engineers), Ltd. Circular function generator. 3,404,459, 10–8–68, Cl. 33—23.

Reece, Marvin P.: *See*—
Rosán, José, and Reece. 3,404,415.
Rosán, José, and Reece. 3,404,717.

Reed, Donald E.: *See*—
Fairbanks, Edward K., Reed, and Toth. 3,404,455.

Reed, William G., to The Gleason Works. Inertia-applied workpiece driver. 3,404,763, 10–8–68, Cl. 192—103.

Reedy, Terrance A., Jr.: *See*—
Lally, Joseph E., Zale, and Reedy. 3,404,888.

Reid, Allen F.: *See*—
Davey, Ronald L., Piggott, Reid, and Walles. 3,405,186.

Reid, Robert A., to General Electric Co. Electronic dryer control. 3,404,466, 10–8–68, Cl. 34—45.

Rein, Walter, and E. Siggel, to Glanzstoff AG. Process for making impact resistant injection molded polyethylene terephthalate products. 3,405,198, 10–8–68. Cl. 260—873.

Reis, Robert D., to United Electric Controls Co. Heat-treating apparatus and control therefor. 3,404,946, 10–8–68, Cl. 21—94.

Reliance Electric and Engineering Co., Inc., The: *See*—
Williams, Lawrence S. 3,404,744.

Reminiac, Bernard, and M. Tournel, to Renou Dardel. Rotary volumetric pump. 3,404,632, 10–8–68, Cl.103—123.

Renou Dardel: *See*—
Reminiac, Bernard, and Tournel. 3,404,632.
Republic Packaging Corp.: *See*—
Carmody, John M. 3,404,826.
Carmody, John M. 3,404,827.
Research-Cottrell, Inc.: *See*—
Roberts, Lawrence M. 3,404,513.
Reum, Helmut: *See*—
Winter, Gerhard, and Reum. 3,405,302.
Rexall Drug and Chemical Co.: *See*—
Jensen, Warren P., and Besancon. 3,404,651.
Reyes, Zolla, to International Business Machines Corp. Process for preparation of microcapsules. 3,405,070, 10–8–68, Cl. 252—316.
Reyes, Zolla, to International Business Machines Corp. Process of making microcapsules. 3,405,071, 10–8–68, Cl. 252—316.
Reynolds Metals Co.: *See*—
Arfert, Horst F. W. 3,404,800.
Kirby, Thomas E., Jr. 3,404,773.
Mann, Charles. 3,404,771.
Murphy, Alfred M., and Fliak. 3,404,552.
Simpson, Eric, Jr. 3,404,495.
Watts, Richard M. 3,404,912.
Reynolds, R. I., Tobacco Co.: *See*—
Pinkham, Jesse R., McArthur, and Speas. 3,404,688.
Reynolds Research & Mfg. Corp.: *See*—
Smith, Richard D. 3,404,917.
Rheinpreussen Aktiengesellschaft fur Bergbau und Chemie: *See*—
Wollner, Johannes, and Engelhardt. 3,405,178.
Rhodehamel, Robert R.: *See*—
Brown, Roger W., and Rhodehamel. 3,404,589.
Richardson, James A., to Beikin Paper Box Ltd. End loading beverage carton with handle structure. 3,404,806, 10–8–68, Cl. 220—115.
Richardson-Merrell Inc.: *See*—
Bambury, Ronald E., Wychoff, and Tennent. 3,405,163.
Richards, James C., and W. F. Owens, Jr., to Olin Mathieson Chemical Corp. Cigarette paper. 3,404,687, 10–8–68, Cl. 131—15.
Ridge Products, Inc.: *See*—
Johnston, James R. 3,404,426.
Riehs, Richard E., to McGraw-Edison Co. Thermal relay having separate heater means to open or close the relay 3,405,340, 10–8–68, Cl. 337—36.
Riester, William C.: *See*—
Howard, Sheldon J., and Riester. 3,404,423.
Rippetoe, James L. Slalom snow ski. 3,404,900. 10–8–68. Cl. 280—11.13.
Risdon Mfg. Co., The: *See*—
Wakeman, Alfred W. 3,404,814.
Ritter, Klaus: *See*—
Haack, Erich, Popelek, Lettenbauer, Shaumann and Ritter. 3,405,139.
Roach, Stanley G., to Standard Oil Co. Process for preparing propellant grain. 3,405,201, 10–8–68, Cl. 264—3.
Roberts, Arthur H. Impact resistant article and method of manufacture. 3,405,026, 10–8–68, Cl. 161—7.
Roberts, Edward S., and L. J. Christmann, deceased (Louise Christmann, Administratrix of Estate of said L. J. Christmann). Oxiration of alkylnaphthalenes to naphthalene carboxylic acids. 3,405,171, 10–8–68, Cl. 260—524.
Roberts, Lawrence M., to Research-Cottrell, Inc. Mobile electrostatic precipitator. 3,404,513, 10–8–68, Cl. 55—107.
Roche, Martin A., Jr., to Union Carbide Corp. Strengthened arc carbon electrode joints. 3,405,308, 10–8–68, Cl. 313—334.
Rockwell Mfg. Co.: *See*—
Berck, William F. 3,404,567.
Stelljes, Charles R. 3,404,574.
Rodgers, Gerald L., to Ranco Inc. Automobile air temperature control. 3,404,835, 10–8–68, Cl. 236—13.
Roe, Homer D. Pipe couplings. 3,404,904, 10–8–68, Cl. 285—165.
Roehrig, Veit: *See*—
Neunzig, Heinrich, and Roehrig. 3,405,042.
Rogers, Charles E.: *See*—
Tanzman, Daniel P., and Rogers. 3,404,999.
Rogers Corp.: *See*—
Abell, Jerrold J., and Kosa. 3,405,206.
Sayles, Donald A. 3,404,454.
Rohlfing, Raymond G., to Phillips Petroleum Co. Polymerization process. 3,405,109, 10–8–68, Cl. 260—88.2.
Rohm & Haas G.m.b.H.: *See*—
Wenzel, Franz, Uhlig, and Lehmann. 3,405,034.
Rohrer, Kenneth L., to Westinghouse Electric Corp. Glass-to-metal seals and method for making same. 3,404,968, 10–8–68, Cl. 29—195.
Rolph, Edwin J. Trash receptacle and handling means. 3,404,819, 10–8–68, Cl. 224—49.
Romain, William A., to Novo Industrial Corp. Vehicle adjustable warning light. 3,405,389, 10–8–68, Cl. 340—87.
Root, Morris J.: *See*—
Bohac, Stanley, and Root. 3,405,084.
Roper, Daniel W., to Eaton Yale & Towne Inc. Drive mechanism. 3,404,585, 10–8–68, Cl. 74—711.
Rosan Engineering Corp.: *See*—
Rosan, Jose, and Reece. 3,404,415.
Rosan, Jose, and M. P. Reece, to Rosan Engineering Corp. Method of making fastener with snap-on captive locking ring. 3,404,415, 10–8–68, Cl. 10—86.
Rosan, Jose, and M. P. Reece. Locking pin with cap. 3,404,717, 10–8–68, Cl. 151—23.
Rosbottom, Thomas A., to The Metal Box Co. Ltd. Method of securing deformable sheet metal elements. 3,404,648, 10–8–68, Cl. 113—121.
Rosen, Henri E. Moccasin shoe. 3,404,468, 10–8–68, Cl. 36—11.
Rosenbaum, Stanley D.: *See*—
Loro, Alberto, and Rosenbaum. 3,405,329.
Ross, Charles W., to Leeds & Northrup Co. Digital power generation control system. 3,405,279, 10–8–68, Cl. 307—29.
Roth, Harold H.: *See*—
Garrett, Walter L., and Roth. 3,405,216.
Garrett, Walter L., and Roth. 3,405,217.
Rothemich, Earl F.: *See*—
Harris, Lewis P., and Rothemich. 3,404,948.
Rouse, Dorch, to United States of America, Navy. Fluid ycharging valve. 3,404,698, 10–8–68, Cl. 137—68.
Rowe, Gayle L., and J. R. Wilson, to Union Carbide Corp. Method of uniformly heating an annular carbonaceous body. 3,405,205, 10–8–68, Cl. 264—105.
Rowell, Douglas W., to Anaconda American Brass Co. Two-hole extrusion. 3,404,967, 10–8–68, Cl. 29—183.
Rowland, David L. Compactly stackable chair. 3,404,916. 10–8–68, Cl. 297—239.
Rubatex Corp.: *See*—
Baillet, Karl E. 3,404,406.
Rubino, Andrew M.: *See*—
Jones, John L., and Rubino. 3,405,153.
Rudnicki, Richard A.: *See*—
Miller, Ronald M., and Rudnicki. 3,404,749.
Ruhl, Charles A. L., and E. Mayer, to International Harvester Co. Valve with switch for controlling engine, transmission and brake. 3,405,242, 10–8–68, Cl. 200—61.86.
Rumberger, George C., to Brown Co. Carton bundling. 3,404,825, 10–8–68, Cl. 229—6.
Runkle, David E. and E. E. Planar attachment for radial arm saw. 3,404,714, 10–8–68, Cl. 144—117.
Runkle, Elmer E.: *See*—
Runkle, David E. and E. E. 3,404,714.
Rupp, Hans-Dieter, E. Siggel, and G. Meyer, to Vereinigte Glanzstoff-Fabriken AG. Process for the recovery of carbon disulfide from trithiane. 3,404,961, 10–8–68, Cl. 23—206.
Ryan, Charles B. Combination hand axe and shovel. 3,404,412. 10–8–68, Cl. 7—14.55.
Ryder, Francis E., to Illinois Tool Works Inc. Waterproof fastening device. 3,404,596, 10–8–68, Cl. 85—70.
Ryland, John A.: *See*—
Humber, Edward J., and Ryland. 3,404,568.
Ryman, Charles E., Jr.: *See*—
Belcher, Samuel L., and Ryman. 3,404,642.
Saha, Oatto P., to Carrier Corp. Fuel burner ignitor. 3,404,939, 10–8–68, Cl. 431—263.
Saint Andre, Robert E. Devices for the filtration of all liquids. 3,404,781, 10–8–68, Cl. 210—248.
Saint-Denis, René L. Apparatus for compacting sausage casings. 3,404,428, 10–8–68, Cl. 17—42.
St. Pierre, Frederick W.: *See*—
Natschke, Eldred H., and St. Pierre. 3,404,759.
Sakashita, Tatsuo: *See*—
Sakuragi, Taketami, and Sakashita. 3,405,189.
Sakuragi, Taketami, and T. Sakashita, to The Japanese Geon Co., Ltd. Method for inhibiting polymerization of isoprene and/or 1,3-pentadiene. 3,405,189, 10–8–68, Cl. 260—666.5.
Salvatori, Philip L.: *See*—
Bennett, Reuel W., Salvatori, and Black. 3,404,936.
Sambell, Kenneth W., and J. A. De Tore, to Bell Aerospace Corp. Trailing rotor convertiplane. 3,404,852, 10–8–68, Cl. 244—7.
Samelson, Harold: *See*—
Brecher, Charles, Lempicki, and Samelson. 3,405,372.
Sameshima, Yasuro: *See*—
Yasumura, Tomohide, Sameshima, Onodera, Oono, Taniguchi, Maemoto, and Tatsukami. 3,405,200.
Sanborn, Charles E., E. A. Anderson, and H. H. Engel, to Shell Oil Co. Iodinative dehydrogenation and iodine recovery. 3,405,195, 10–8–68, Cl. 260—680.
Sanders, Frederick W., to The Mead Corp. High shear dispersion of pigments. 3,404,993, 10–8–68, Cl. 106—308.
Sandoz Ltd.: *See*—
Ischer, Hans. 3,405,116.
Sano, Tsukasa, to Hitachi, Ltd. Speed ordering devices utilizing comparator and integrator means. 3,405,259, 10–8–68, Cl. 235—183.
Sano, Yasuo: *See*—
Tanabe, Hideo, and Sano. 3,404,951.
Santa Barbara Research Center: *See*—
Stevens, Norman B., and Errett. 3,405,271.
Stevens, Norman B., and Errett. 3,405,272.
Stevens, Norman B., and Colton. 3,405,273.
Sard, Eugene W.: *See*—
Close, Richard N., and Sard. 3,405,260.
Sargent Industries, Inc.: *See*—
Kraus, Peter. 3,404,581.
Valenti, Peter. 3,404,580.
Sarka, Albert J.: *See*—
Felck, Paul A., Helmig, and Sarka. 3,404,607.
Sartori, Mario F., to E. I. du Pont de Nemours and Co. 4-methoxy-6-nitrobenzothiazolylazo disperse dyes. 3,405,118, 10–8–68, Cl. 260—158.
Sasaki, Nobuo, H. Sugahara, T. Maehara, K. Tsutsumi, and Y. Egami, to Toyo Koatsu Industries, Inc. Manufacture of ammonium sulfamate. 3,404,950, 10–8–68, Cl. 23—114.
Sassano, Daniel R.: *See*—
Sprengling, Gerhard R., Sassano, Trapp, and Chang. 3,405,091.
Saunders, Guy L.: *See*—
MacPherson, Arthur R., Saunders, and Meaders. 3,404,846.

Savageau, Robert G., to International Corp. Novel high-gloss ink for lithographic printing. 3,405,082, 10–8–68, Cl. 260—22.
Savole, James E.: *See*—
Cox, Douglas L., and Savole. 3,404,488.
Say, Donald L.: *See*—
Pawlikowski, Stanley L., Say, and Smithgall. 3,405,307.
Sayigh, Adnan A. R.: *See*—
Farrissey, William J., Jr., and Sayigh. 3,405,183.
Sayles, Donald A., to Rogers Corp. Method of making a flat flexible cable termination. 3,404,454, 10–8–68, Cl. 29—629.
Scanley, Clyde S., to American Cyanamid Co. Polymerization of water soluble vinyl monomers in presence of metal salts. 3,405,106, 10–8–68, Cl. 260—80.
Schaafsma, Ype, to Shell Oil Co. Polyepoxide binder compositions and process for preparing same. 3,405,086, 10–8–68, Cl. 260—31.4.
Schaedler, Hugo, F. Steden, and L. Schuster, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Compositions derived from poly-1,2-epoxide compounds and amides of amines including at least 20% tetrahydrotricyclopentadienylene. 3,405,197, 10–8–68, Cl. 260—830.
Schaewe, Arnold E., and E. H. Gastright, to The Procter & Gamble Co. Method and apparatus for loading assembled layers of packages in cases. 3,404,509, 10–8–68, Cl. 53—35.
Schappert, Hans M., and A. Hill, to Koppers Co., Inc. Liquid catalyst injection. 3,405,115, 10–8–68, Cl. 260—94.9.
Schaumann, Wolfgang: *See*—
Haack, Erich, Popelak, Lettenbauer, Shaumann, and Ritter. 3,405,139.
Schimpf, Luther G.: *See*—
Badgley, Robert H., and Schimpf. 3,405,362.
Schindler, Herbert: *See*—
Stein, Karl, and Schindler. 3,404,416.
Schirmer, Henry G., to W. R. Grace & Co. Apparatus for corona treatment of film including a porous sintered metal electrode. 3,405,052, 10–8–68, Cl. 204—312.
Schlitt, Helmut W. E., to Bell Aerospace Corp. Inertial guidance system. 3,404,571, 10–8–68, Cl. 74—5.34.
Schlumberger Technology Corp.: *See*—
Moran, James H. 3,405,349.
Schuster, Nick A. 3,405,351.
Tanguy, Denis R. 3,405,350.
Schmeling, Gerhard, and K. Kleisa, to Bergwerksverband G.m.b.H. Fluidizing-bed plate. 3,404,845, 10–8–68, Cl. 239—556.
Schmidt, Paul: *See*—
Feldman, Klaus, Zschaage, Schmidt, Frank, and Kandler. 3,405,005.
Schmidt, Paul: *See*—
Eichenberger, Kurt, Schmidt, and Wilhelm. 3,405,129.
Schmieding, Warren H. F.: *See*—
Vogel, Arthur E. 3,404,898.
Vogel, Arthur E. 3,404,899.
Scholfield, Richard P., to Wheeldex, Inc. Filing device. 3,404,784, 10–8–68, Cl. 211—164.
Scholl, James E., to United States of America, Navy. Dolly guide for catapult. 3,404,855, 10–8–68, Cl. 244—63.
Scholz, Walter: *See*—
Kruis, August, Scholz, and Ranke. 3,405,192.
Schou & Cie, Gesellschaft mit beschrankter Haftung: *See*—
Stein, Karl, and Schindler. 3,404,416.
Schonfeld, Harald, to Industriewerk Schaeffler OHG. Apparatus for assembly of universal joints independent of the position of the pressure applying means. 3,404,448, 10–8–68, Cl. 29—252.
Schott, Arthur K., to Houdaille Industries, Inc. Positioning mechanism. 3,404,575, 10–8–68, Cl. 74—110.
Schroeder, Manfred R.: *See*—
David, Edward E., Jr., Schroeder, and Sondhi. 3,405,237.
Schubert, Bernhard, to Hauni-Werke Korber & Co., K.G. Apparatus for applying uniting band material to groups of rod-shaped articles. 3,404,689, 10–8–68, Cl. 131—21.
Schuller, James T., W. H. Short, R. D. Stayton, and A. G. Blacklock, to VMC Industries, Inc. Article vendor with display. 3,404,807, 10–8–68, Cl. 221—8.
Schulte, Gerhart: *See*—
Girg, Friedrich, Lorentz, and Schulte. 3,405,085.
Schultz, Harold R. Balance device. 3,404,743, 10–8–68, Cl. 177—190.
Schulz, Helmut W.: *See*—
Hogsett, John N., Khuri, and Schulz. 3,405,130.
Schuster, Ludwig: *See*—
Schaedler, Hugo, Steden, and Schuster. 3,405,197.
Schuster, Nick A., to Schlumberger Technology Corp. Methods and apparatus for averaging well logging measurements. 3,405,351, 10–8–68, Cl. 324—10.
Schütte, Hans-Günther: *See*—
Brückner, Paul, Gremmel, Hartig, Schütte, and Leonhardt. 3,405,325.
Schwanenflugel, Paul J., to Westinghouse Electric Corp. Network protector with static and circuit. 3,405,320, 10–8–68, Cl. 317—47.
Scientific Data Systems, Inc.: *See*—
Mendelson, Myron J., and England. 3,405,396.
Scribner, Thomas L.: *See*—
Hohl, John, and Scribner. 3,404,505.
Sealed Air Corp.: *See*—
Chavannes, Marc A. 3,405,020.
Searle, G. D., & Co.: *See*—
Counsell, Raymond E., and Klimstra. 3,405,147.
Klimstra, Paul D. 3,405,124.
Klimstra, Paul D. 3,405,128.
Pappo, Raphael, and Jung. 3,405,140.
Pappo, Raphael, and Jung. 3,405,141.
Pappo, Raphael, and Jung. 3,405,142.
Seil, Christian A., and G. W. Lively, to McDonnell Douglas Corp. Vacuum bonding process. 3,405,019, 10–8–68, Cl. 156—286.
Sennewald, Kurt, W. Vogt, and H. Baader, to Knapsack Aktiengesellschaft. Process for the manufacture of 2,2,3-trichlorobutane. 3,405,046, 10–8–68, Cl. 204—163.
Senour, Donald A.: *See*—
Gilman, Carl E., Abbondante, and Senour. 3,405,359.
Service d'Exploitation Industrielle des Tabacs et des Allumettes: *See*—
Bonneric, Francis. 3,404,742.
Servomex Controls Ltd.: *See*—
Mudie, Ronald. 3,405,286.
Shaddock, Roland E., to The Myers-Sherman Co. Apparatus for collecting loose materials in a portable collector. 3,404,776, 10–8–68, Cl. 209—135.
Shaler Co., The: *See*—
Smith, Clarence J. 3,404,718.
Sharon Tube Co.: *See*—
Horning, William A. 3,404,449.
Shasby, Patrick J.: *See*—
Kattner, Lionel E., Youmans, and Shasby. 3,405,361.
Shaver, Kenneth J.: *See*—
Kowalski, Xavier, and Shaver. 3,405,168.
Shaw, Philip E., to Sterling Drug Inc. 12,17-Dioxygenated steroids. 3,405,127, 10–8–68, Cl. 260—239.55.
Sheets, Kenneth E.: *See*—
Krut chen, Charles M., and Sheets. 3,404,433.
Shell Oil Co.: *See*—
Bittner, Clarence W. 3,405,055.
Raifsnider, Philip J., and Levine. 3,404,734.
Sanborn, Charles E., Anderson, and Engel. 3,405,195.
Schaafsma, Ype. 3,405,086.
Sherwin-Williams Co., The: *See*—
Harris, Lewis P., and Rothemich. 3,404,948.
Shiba, Hiroshi: *See*—
Yawata, Keisuke, Shiba, and Anazawa. 3,405,224.
Shiiki, Akira, to Honeywell Inc. Process regulating system. 3,404,701, 10–8–68, Cl. 137—81.5.
Shiller, Benjamin P. Fume combustion apparatus. 3,404,965, 10–8–68, Cl. 23—288.
Shooting Equipment, Inc.: *See*—
Dundr, Otto J. 3,404,886.
Short, Hubert I.: *See*—
Fall, Herbert S., Vaughn, and Short. 3,404,931.
Short, William H.: *See*—
Schuller, James T., Short, Stayton, and Blacklock. 3,404,807.
Sierra, Charles, and P. Pince. Trolley for brushing and rubbing-down ships' hulls in dry dock. 3,404,653, 10–8–68, Cl. 114—222.
Sievers, Klaus, to Artos, Dr.-Meier-Windhorst K.G. Apparatus for coating movable lengths of materials. 3,044,660, 10–8–68, Cl. 118—34.
Sigerist, Carl, & Cie: *See*—
Kellerhals, Erwin. 3,404,486.
Siggel, Erhard: *See*—
Rupp, Hans-Dieter, Siggel, and Meyer. 3,404,961.
Siggel, Erhard: *See*—
Rein, Walter, and Siggel. 3,405,198.
Signetics Corp.: *See*—
Kattner, Lionel E., Youmans, and Shasby. 3,405,361.
Suverkropp, Claus P. J. 3,404,712.
Sikkema, Andrew J.: *See*—
Hall, Richard H., Sikkema, Humiston, Foster, and Lamson. 3,405,004.
Silar, Zdenek: *See*—
Rajnoha, Jaroslav, Ferkl, Planansky, Cerny, and Silar. 3,404,524.
Silsby, Stanley D., to United States of America, Army. Semi-automatic grenade launcher. 3,404,478, 10–8–68, Cl. 42—1.
Silsby, Stanley D., to United States of America, Army. Semi-automatic grenade launcher. 3,404,477, 10–8–68, Cl. 42—1.
Silsby, Stanley D., to United States of America, Army. Semi-automatic grenade launcher. 3,404,479, 10–8–68, Cl. 42—1.
Silver, Francis M., to E. C. Fraze. Easy-opening container wall with scoreline vent. 3,404,801, 10–8–68, Cl. 220—54.
Silvera, Roger W.: *See*—
Keatley, William E., and Silvera. 3,404,755.
Simon, Sander: *See*—
Priest, William F., and Simon. 3,404,719.
Simpson, Eric, Jr., to Reynolds Metals Co. Combined flashing and fascia system and method of making same. 3,404,495, 10–8–68, Cl. 52—58.
Sinclair Research, Inc.: *See*—
Bowman, Donald C. 3,405,277.
Surber, John A. 3,404,421.
Singer Co., The: *See*—
Lachat, Remy J., and Porter. 3,404,420.
Laube, Herbert L. 3,404,728.
Mishcon, Sam. 3,404,546.
Singer, Don B.: *See*—
Brewer, Earl J., Jr., Singer, and McKee. 3,404,684.
Sink, Larry W.: *See*—
Barrow, Robert B., and Sink. 3,405,220.
Sisson, James B., to The Procter & Gamble Co. Apparatus and method for trimming and removing the edge of a pulp web. 3,405 031, 10–8–68, Cl. 162—195.
Sivet, Marcel, to Compagnie des Ateliers et Forges de la Loire. Tilt responsive and weight responsive means to protect arc furnace electrodes from accidental breakage. 3,405,219, 10–8–68, Cl. 13—1.
Skala, Hertha: *See*—
Neuzil, Richard W., and Skala. 3,405,057.
Skála Václav: *See*—
Pohl, Frantisek, Skála, and Haluza. 3,404,647.

Skalski, James F., and M. C. Petree, to United States of America, Navy. Insulated gate field effect transistor using lead salt. 3,405,331, 10–8–68, Cl. 317—235.

Skovde Gasbetong Aktiebolag : *See*—
Kjell-Berger, Sven O. K. 3,405,202.

Slagley, William E., to Inland Steel Co. Method of passing cooling medium through a tuyere. 3,404,662, 10–8–68, Cl. 122—6.6.

Slaney, John S. : *See*—
Wollard, Joseph C., Slaney, and Preiss. 3,404,417.

Slay, Reginald A. Motor-driven wheeled vehicles. 3,404,746, 10–8–68, Cl. 180—23.

Slocum, Donald H., to E. I. du Pont de Nemours and Co. Thick, cured polymethyl methacrylate article and process for its preparation. 3,405,088, 10–8–68, Cl. 260—41.

Smieja, Lawrence R. Snow vehicle with side enclosed passenger compartment. 3,404,745, 10–8–68, Cl. 180—5.

Smith, A. O., Corp. : *See*—
Emery, Robert D., and Freese. 3,404,834.

Smith, Clarence J., to The Shaler Co. Studs for tires. 3,404,718, 10–8–68, Cl. 152—210.

Smith, Forrest E. Drop hammer. 3,404,847, 10–8–68, Cl. 241—291.

Smith, Kenneth C., to Dayco Corp. Fiber drafting system. 3,404,434, 10–8–68, Cl. 19—252.

Smith, Peter H., to Microthem Ltd. Preparation of food products. 3,404,620, 10–8–68, Cl. 99—357.

Smith, Richard A., to American Machine & Foundry Co. Bowling pin. 3,404,885, 10–8–68, Cl. 273—82.

Smith, Richard D., to Reynolds Research & Mfg. Corp. Mounting bracket for automobile baby seat. 3,404,917, 10–8–68, Cl. 297—250.

Smith, Sr., & Sons (England) Ltd. : *See*—
Henderson, Cyril, and Barnard. 3,404,485.

Smith, Terence P., and K. M. Lack, to Teledictor Ltd. Magnetic thickness gauge using simultaneous constant and AC magnetization. 3,405,353, 10–8–68, Cl. 324—34.

Smithgall, Harry E. : *See*—
Pawlikowski, Stanley L., Say, and Smithgall. 3,405,307.

Smith-Vaniz, William R., to Wiltek, Inc. Synchronized incremental drive for magnetic tape recorder-reproducer. 3,405,402, 10–8–68, Cl. 340—174.1.

Smoren, Robert. Non-skid braking system for automobiles. 3,404,923, 10–8–68, Cl. 303—61.

Snaplite Displays, Inc. : *See*—
Coad, Terrence M. 3,404,475.

Snedeker, Robert H., to Union Carbide Corp. Flame retarded compositions comprising a thermoplastic polyhyroxyether and a rubber. 3,405,199, 10–8–68, Cl. 260—887.

So, John J., to Fairchild Camera and Instrument Corp. Method of manufacturing semiconductor devices. 3,404,451, 10–8–68, Cl. 29—577.

Societe Anonyme Heurtey : *See*—
Bot-Langlet, Yves. 3,404,541.

Societe Generale Isothermos : *See*—
Valleteau de Moulliac, Guy. 3,404,786.

Societe Industrielle de Brevets et d'Etudes S.I.B.E. : *See*—
Mennesson, Andre L. 3,404,667.

Societe Industrielle Generale de Mecanique Appliquee (S.I.G.M.A.) : *See*—
Leblanc, Jean. 3,404,762.

Societe Lumiere : *See*—
Bonjour, Georges. 3,404,979.

Societe Nationale des Petroles d'Aquitane : *See*—
Gourdon, Bernard. 3,405,181.
Gourdon, Bernard. 3,405,182.

Societe a Responsabilite Limitee Doittau Produits Metallurgie : *See*—
Nouveau, Henry. 3,405,028.

Societe Rhodiaceta : *See*—
Chambion, Jean, and Hilaire. 3,405,096.

Sodergard, Bengt. M., and S. H. Danieli, to Allmanna Svenska Elektriska Aktiebolaget. Threaded control means. 3,404,582, 10–8–68, Cl. 74—424.8.

Sohl, William I. : *See*—
Cafiero, Vincent J., and Sohl. 3,404,930.

Sola Basic Industries, Inc. : *See*—
Biega, Boleslaw C., and Hauck. 3,405,348.

Soltz, Daniel J., to Honeywell Inc. Apparatus for measuring pH with temperature compensating diode means. 3,405,048, 10–8–68, Cl. 204—195.

Someda, Sadamichi, and G. Hamano, to Matsushita Electric Industrial Co., Ltd. Constant output voltage rectifying system. 3,405,345, 10–8–68, Cl. 321—18.

Sommer & Maca Glass Machinery Co. : *See*—
French, Jack W., Heffley, Lewanski, and Modry. 3,404,658.

Sondhi, Man M. : *See*—
David, Edward E., Jr., Schroeder, and Sondhi. 3,405,237.

Sorenson, Bill W., and C. Denhardt, to New American Co., Inc. Balance beam adapter for gymnastic apparatus transporters. 3,404,884, 10–8–68, Cl. 272—60.

Sovereign Resources, Inc. : *See*—
Priest, William F., and Simon. 3,404,719.

Space Components, Inc. : *See*—
Fairbanks, Edward K., Reed, and Toth. 3,404,455.

Sparks, Thomas F., to Armour and Co. Bovine hide removal method. 3,404,429, 10–8–68, Cl. 17—45.

Speas, Herbert L., Jr. : *See*—
Pinkham, Jesse R., McArthur, and Speas. 3,404,688.

Spector, Marshall L. : *See*—
Stern, Eric W., and Spector. 3,405,156.

Speers, Robert L. Goose and duck decoys. 3,404,481, 10–8–68, Cl. 43—3.

Sperry Rand Corp. : *See*—
Choug, Carlos F., and Nelson. 3,405,399.
Dannatt, Hugh St. L. 3,405,254.
Johnson, Wesley R. 3,405,404.
Johnson, William B. 3,405,398.
Mathias, Joseph S., Adomines, Storck, and McNamara. 3,404,661.
Milne, James F., and Zur. 3,405,392.
Poplk, Michael J. 3,405,337.
Weber, Erwin G. 3,405,256.

Spicar, Eric : *See*—
Svedberg, Per, and Spicar. 3,405,332.

Spisak, John A., to General Dynamics Corp. Ultrasonic gauging and control. 3,404,551, 10–8–68, Cl. 72—16.

Sprengling, Gerhard R., D. R. Sassano, O. D. Trapp, and L. S. Chang, to Westinghouse Electric Corp. Methylene diphenyl oxide polymers and methods of preparing them. 3,405,091, 10–8–68, Cl. 260—47.

Spriggs, Reuben S., A. J. Learn, and C. Marinoff, to TRW Inc. Vacuum evaporation source. 3,405,251, 10–8–68, Cl. 219—275.

Springer, Henry A. Biopsy and tissue removing device. 3,404,677, 10–8–68, Cl. 128—2.

Sprow, Frank B., to Esso Research and Engineering Co. Settling of emulsions. 3,405,059, 10–8–68, Cl. 210—40.

Stace, Walter L., and J. S. Allen. Chuck. 3,404,896, 10–8–68, Cl. 279—2.

Stafford, Frederic F. : *See*—
Dobbins, David T., and Stafford. 3,404,796.

Stafiej, Stanley F. : *See*—
Carvalho, Dorothy A., and Stafiej. 3,405,175.

Stamicarbon N.V. : *See*—
Logemann, Johan D., Van der Mon, and Castenmiller. 3,405,190.

Stammbach, Walter : *See*—
Stocker, Emil, Burdeska, and Stammbach. 3,405,119.

Stan, Henry : *See*—
Glass, Marvin I., Stan, and Licitis. 3,404,891.

Standard Oil Co. (Indiana) : *See*—
Arkis, Jerome W., and Carpenter. 3,405,054.
Cropper, Wendell P. 3,405,358.
Roach, Stanley G. 3,405,201.
Walker, Donald C., and Hunt. 3,404,676.
Wolff, William F. 3,405,196.

Standard Oil Co. (Ohio), The : *See*—
Miller, Arthur F., and Keiffer. 3,404,947.
Waters, Robert F. 3,405,007.

Standard Register Co., The : *See*—
Hanson, Jack A., and Buchard. 3,404,462.

Standarwerk Eugen Reis G.m.b.H. : *See*—
Massengill, Cleburne. 3,404,510.

Staples, John P., to United States of America, Navy. Solid state magnetron modulator mismatch protective circuit. 3,405,321, 10–8–68, Cl. 317—33.

Stark, Bernard P. : *See*—
Humphreys, Keith W., Stark, and Webb. 3,405,100.

Stauffer Chemical Co. : *See*—
Herbstman, Sheldon. 3,405,157.

Stayboldt, Gordon R. : *See*—
Alexander, Lester D., and Stayboldt. 3,405,324.

Stayton, Robert D. : *See*—
Schuller, James T., Short, Stayton, and Blacklock. 3,404,807.

Stecher-Traung-Schmidt Corp. : *See*—
Stone, Orison W. 3,404,829.

Steden, Franz : *See*—
Schaedler, Hugo, Steden, and Schuster. 3,405,197.

Stein, Karl, and H. Schindler, to Schon & Cie, Gesellschaft mit beschrankter Haftung. Combined turning and nipping machine for shoe upper. 3,404,416, 10–8–68, Cl. 12—10.5.

Stein, Sam, Associates, Inc. : *See*—
Croston, Donald E. 3,404,659.

Steinbruegge, Keneth B. : *See*—
Osial, Thaddeus A., Steinbruegge, and Ravas. 3,405,316.

Stelljes, Charles R., to Rockwell Mfg. Co. Vibration damping mechanism. 3,404,574, 10–8–68, Cl. 74—50.

Stempel, Arthur : *See*—
Berger, Leo, Stempel, Sternbach, and Wenis. 3,405,122.

Stempel, Arthur, and L. H. Sternbach, to Hoffmann-La Roche Inc. Process for preparing 1,4-benzodiazepin-2-ones. 3,405,123, 10–8–68, Cl. 260—239.3.

Stengel, James J. Vehicle convertible tops. 3,404,914, 10–8–68, Cl. 296—120.

Stephens, Harold C. : *See*—
Halfhill, Martin O., and Stephens. 3,405,391.

Stephens, Hugh. Combination footwear remover and door stop. 3,404,817, 10–8–68, Cl. 223—114.

Sternbach, Leo H. : *See*—
Stempel, Arthur, and Sternbach. 3,405,123.

Sterling Drug Inc. : *See*—
Shaw, Philip E. 3,405,127.

Stern, Eric W., and M. L. Spector, to Pullman Inc. Process for production of isocyanates. 3,405,156, 10–8–68, Cl. 260—453.

Sternbach, Leo H. : *See*—
Berger, Leo, Stempel, Sternbach, and Wenis. 3,405,122.
Stempel, Arthur, and Sternbach. 3,405,123.

Stetson, Bradford R. : *See*—
White, Raymond E., and Stetson. 3,404,626.

Stevens, Norman B., and D. D. Errett, to Santa Barbara Research Center. Detector having radiation collector supported on electrically insulating thermally conducting film. 3,405,271, 10–8–68, Cl. 250—83.3.

Stevens, Norman B., and D. D. Errett, to Santa Barbaba Research Center. Film supported detector with low heat transfer impedance path from cold junctions to thermal sink. 3,405,272, 10–8–68, Cl. 250—83.3.

Stevens, Norman B., and W. J. Colton, to Santa Barbara Research Center. Detector arrangement having a collector with electrically insulating porous material thereon. 3,405,273, 10–8–68, Cl. 250—83.3.

Stevenson, Inc. : *See*—
Koomey, Paul C., and Streb. 3,405,387.

Stewart, C. Jim : *See*—
Koomey, Paul C., and Streb. 3,405,387.

Stilley, Herschel H., and K. S. Kordik, ½ to Warner Electric Brake & Clutch Co., and ½ to said Stilley. Take-up reel for rotatable stator leads. 3,405,296, 10–8–68, Cl. 310—116.

Stocker, Emil, K. E. Burdeska, and W. Stammbach, to J. R. Geigy A.G. Mono-azo pigments. 3,405,119, 10–8–68, Cl. 260—203.

Stockman, Robert J., W. F. Junker, E. E. Hoyt, and A. H. Torongo, Jr., to Union Carbide Corp. Bottle carrying carton and case. 3,404,805, 10–8–68, Cl. 220—102.

Stoll, Reiner G., and H. R. Stucki, to Celanese Corp. of America. Apparatus for making voluminous yarn. 3,404,522, 10–8–68, Cl. 57—34.

Stone, Orison W., to Stecher-Traung-Schmidt Corp. Carton locking cover. 3,404,829, 10–8–68, Cl. 229—44.

Storck, Richard H. : *See*—
Mathias, Joseph S., Adomines, Storck, and McNamara. 3,404,661.

Streb, Alan J. : *See*—
Koomey, Paul C., and Streb. 3,405,387.

Strobel, Albert F., and S. C. Catino, to GAF Corp. Method for protecting organic material against the degradative effects of ultra-violet light radiation. 3,404,992, 10–8–68, Cl. 106—176.

Strobel, Jack R. : *See*—
Barry, David T., Branham, Strobel, Mullins, and Hodge. 3,404,565.

Strobel, Rudolf G. K., to The Procter & Gamble Co. Liquid shortening. 3,404,985, 10–8–68, Cl. 99—92.

Struble, Charles H. : *See*—
Fritsche, Richard K., Moustafa, Brock, and Struble. 3,404,963.

Stucki, Hans R. : *See*—
Stoll Reiner G., and Stucki. 3,404,522.

Studley Paper Co., Inc. : *See*—
Fesco, John J. 3,404,515.

Sugahara, Hideyuki : *See*—
Sasaki, Nobuo, Sugahara, Maehara, Tautsumi, and Egami. 3,404,950.

Sugerman, Gerald, and J. Kollar, to Halcon International Inc. Preparation of hydroxycarboxylic acids and derivatives thereof. 3,405,173, 10–8–68, Cl. 260—531.

Sugerman, Gerald, and J. Kollar, to Halcon International Inc. Preparation of hydroxycarboxylic acids and derivatives thereof. 3,405,174, 10–8–68, Cl. 260—535.

Sulzer Bros. Ltd. : *See*—
Pfarrwaller, Erwin, and Dittrich. 3,404,851.

Sumida, Kunio A. Shower device. 3,404,410, 10–8–68, Cl. 4—145.

Suminoe, Taro : *See*—
Otsuka, Seinosuke, Mori, Suminoe, Imaisumi, and Taketomi. 3,405,112.

Sumitomo Chemical Co., Ltd. : *See*—
Yasumura, Tomohide, Sameshima, Onodera, Oonok, Taniguchi, Maemoto, and Tatsukami. 3,405,200.

Sun Oil Co. : *See*—
Burnett, Richard C. 3,404,911.
Young, Elnar T. 3,404,569.

Superior Concrete Accessories, Inc. : *See*—
Courtois, Peter D., and Eriksson. 3,404,503.

Surber, John A., to Sinclair Research, Inc. Apparatus for launching objects within a pipe line. 3,404,421, 10–8–68, Cl. 15—104.06.

Surty, Robinton J., and J. Taranto, to International Business Machines Corp. Apparatus for cooling electrical components. 3,405,323, 10–8–68, Cl. 317—100.

Susek, John L. : *See*—
Wimmer, Ernest L., and Susek. 3,404,986.

Sussman, Richard J. : *See*—
Wilsker, Jay M., and Sussman. 3,404,471.

Sutaruk, Alex, to Eaton Yale & Towne Inc. Fluid coupling. 3,404,832, 10–8–68, Cl. 230—270.

Suverkropp, Claus P. J., to Signetics Corp. Lead straightening device. 3,404,712, 10–8–68, Cl. 140—147.

Suyama, Tadakazu : *See*—
Kawano, Takehiko, Suyama, Nagai, and Iga. 3,405,120.

Svedberg, Per, and E. Spicar, to Allmanna Svenska Elektriska Aktiebolaget. Semi-conductor device with increased reverse and forward blocking voltages. 3,405,332, 10–8–68, Cl. 317—235.

Svenska Rotor Maskiner Aktiebolag : *See*—
Mock, Karl H. 3,404,727.

Swanstrom, John E., Sr., to Diamond Tool and Horseshoe Co. Hand tool. 3,404,457, 10–8–68, Cl. 30—267.

Sweeny, Allen N., to De Vlieg Machine Co. Axially adjustable tool support. 3,404,590, 10–8–68, Cl. 82—36.

Swift, Harvey C., to Kelsey-Hayes Co. Disk brake. 3,404,756, 10–8–68, Cl. 188—106.

Swift, Thomas E., E. J. Brayley, and R. C. Noddin. Breakerless flywheel magneto ignition system. 3,405,347, 10–8–68, Cl. 322—91.

Sylvania Electric Products Inc. : *See*—
Koury, Frederic, Matheson, and Waymouth. 3,405,303.
Pawlikowski, Stanley L., Say, and Smithgall. 3,405,307.
Weideman, Robert J. 3,404,933.

Szekeley, George, to G.S. International Laboratory Corp. Aerosol apparatus for inhalation therapy. 3,404,843, 10–8–68, Cl. 239—338.

Szepesi, Zoltan, to United States of America, Navy. Image intensifier comprising perforated glass substrate and method of making same. 3,405,276, 10–8–68, Cl. 250—213.

TRW Inc. : *See*—
Bailey, Joseph K. 3,404,925.
Spriggs, Reuben S., Learn, and Marinoff. 3,405,251.

Taber, David, to GAF Corp. Polymerization of pyrrolidone employing halides of Group IV elements as chain initiators. 3,405,099, 10–8–68, Cl. 260—78.

Tabor, John R. Tunneling machine. 3,404,535, 10–8–68, Cl. 61—85.

Tabor, John R. Tunneling machine with shield supported traveling excavator. 3,404,920, 10–8–68, Cl. 299—31.

Takeda Chemical Industries, Ltd. : *See*—
Tanabe, Hideo, and Sano. 3,404,951.

Taketomi, Takanao : *See*—
Otsuka, Seinosuke, Mori, Suminoe, Imaizumi, and Taketomi. 3,405,112.

Tallent, Robert G. : *See*—
Lewis, Everett C., Tallent, and Plumley. 3,404,663.

Tanabe, Hideo, and Y. Sano, to Takeda Chemical Industries, Ltd. Basic copper sulfate. 3,404,951, 10–8–68, Cl. 23—125.

Tanabe, Hisanori : *See*—
Huang, Ching Y., Ueno, Kawamura, Tanabe, and Masawaki. 3,405,079.

Tanaka, Atsushi, Y. Hozumi, S. Endo, and K. Taniguchi, to Dai Cellu Kabushiki Kaisha. Process for stabilizing aldehyde polymers. 3,405,094, 10–8–68, Cl. 260—67.

Tanguy, Denis R., to Schlumberger Technology Corp. Apparatus for combining well logging measurements derived from a plurality of borehole wall-engaging pad members. 3,405,350, 10–8–68, Cl. 324—10.

Taniguchi, Isoji : *See*—
Yasumura, Tomohide, Sameshima, Onodera, Oono, Taniguchi, Maemoto, and Tatsukami. 3,405,200.

Taniguchi, Kotaro : *See*—
Tanaka, Atsushi, Hozumi, Endo, and Taniguchi. 3,405,094.

Tanzman, Daniel P., and C. E. Rogers, to Eutectic Welding Alloys Corp. Welding product. 3,404,999, 10–8–68, Cl. 117—105.

Tappan Co., The : *See*—
Payne, Richard E. 3,404,675.
Tappan, William R., and Meckley. 3,404,673.

Tappan, William R., and D. G. Meckley III, to The Tappan Co. Stove with waist-high broiler. 3,404,673, 10–8–68, Cl. 126—39.

Taranto, Jak : *See*—
Surty, Robinton J., and Taranto. 3,405,323.

Tarbox, George S., to Jacoby-Tarbox Corp. Sight glass illuminator. 3,405,261, 10–8–68, Cl. 240—2.

Tassette, Inc. : *See*—
Waldron, Barbara M. 3,404,682.

Tatsukami, Yoshiharu : *See*—
Yasumura, Tomohide, Sameshima, Onodera, Oono, Taniguchi, Maemoto, and Tatsukami. 3,405,200.

Tauchert, Klaus, to Klemle Apparate G.m.b.H. Selection control circuit for addressing components of a data processing system. 3,405,390, 10–8–68, Cl. 340—146.2.

Taylor, Alfred H., to Air Reduction Co., Inc. Vane for gas cylinder. 3,404,871, 10–8–68, Cl. 259—114.

Taylor, Harry P., and B. A. Pethica, to British Bewold Co. Ltd. Emulsion of fatty acids. 3,404,991, 10–8–68, Cl. 106—132.

Taylor, Raymond H. Cable anchor. 3,404,504, 10–8–68, Cl. 52—711.

Taylor Woodrow Construction Ltd. : *See*—
Burrow, Reginald E. D. 3,404,497.

Teijin Ltd. : *See*—
Manabe, Atsutoki, and Kawasaki. 3,404,441.

Teledictor Ltd. : *See*—
Smith, Terence P., and Lack. 3,405,353.

Telefonaktiebolaget L. M. Ericsson : *See*—
Wallin, Sven-Erik. 3,405,395.

Telford, Carlyle O., to Malsbary Mfg. Co. Liquid fuel supply system. 3,404,702, 10–8–68, Cl. 137—100.

Tennent, David M. : *See*—
Bambury, Ronald E., Wyckoff, and Tennent. 3,405,163.

Tetra Pak, AB : *See*—
Rausing, Hans A. 3,404,988.

Texaco Inc. : *See*—
Eckert, George W. 3,404,970.
Hubby, Laurence M. 3,405,356.

Texas Instruments Inc. : *See*—
Barry, David T., Branham, Strobel, Mullins, and Hodge. 3,404,565.
Charamond, Claude P., Broyles, and Hancock. 3,404,465.

Textron Electronics, Inc. : *See*—
Dolan, James J., and Degenkolb. 3,405,262.
Rats, Alfred G. 3,404,561.

Textron Inc. : *See*—
Cox, Douglas L., and Savoie. 3,404,488.

Thiokol Chemical Corp. : *See*—
Bulbenko, George F., Gobran, and Blommers. 3,405,121.
Green, Joseph, and Mayes. 3,405,076.
Hecht, Alfred H., Hunter, and Martin. 3,404,557.

Thollefsen, Marshall. Printing plate with indented guide rail and text bearing strip. 3,404,629, 10–8–68, Cl. 101—369.

Thomas, Eugene E. Abrasive paper retaining clip. 3,404,493, 10–8–68, Cl. 51—386.

Thomas, Paul M., R. H. Neill, L. W. Wright, E. E. Crile, and R. W. Burge, to Builders Equipment Co. Brick stacking machine. 3,404,788, 10–8–68, Cl. 214—6.

Thomas, Robert A., to Trefileries Leon Bekaert PVBA. Highway safety fence cables. 3,404,526, 10–8–68, Cl. 57—149.

Thompson, Curtis B., to United States of America, Army. Continuity test bridge circuit with silicon controlled rectifier indicator means. 3,405,357, 10–8–68, Cl. 324—51.

Thompson, Henry C., to Metco Inc. Flame spray gun with improved drive mechanism. 3,404,823, 10–8–68, Cl. 226—178.

Thompson, James E., to The Procter & Gamble Co. Acidic lipid alkyl carbonates. 3,405,148, 10–8–68, Cl. 260—404.8.

Thorn, Roy B., and J. L. Gray. Fruit harvesting apparatus. 3,404,521, 10–8–68, Cl. 56—328.
Thorsen, Walter J., and R. Y. Kodani, to United States of America, Agriculture. Shrinkproofing of animal fibers. 3,404,942, 10–8–68, Cl. 8—127.5.
Thuesen, Niel C. Means for controlling the movement of poppet valves. 3,404,666, 10–8–68, Cl. 123—90.
Tichelaar, Gerrit W.: *See*—
Essers, Wilhelmus G., Verhagen, and Tichelaar. 3,405,248.
Tillotson Corp.: *See*—
Tillotson, Neil E., and Consoli. 3,404,409.
Tillotson Mfg. Co., The: *See*—
Nutten, Warren D. 3,404,872.
Tillotson, Neil E., and S. A. Consoli, to Tillotson Corp. Work glove. 3,404,409, 10–8–68, Cl. 2—161.
Tilton, Richard S. Temperature compensating trimmer capacitor for use in crystal oscillator circuits. 3,405,333, 10–8–68, Cl. 317—248.
Tippetts, Earl L., to Lear Siegler, Inc. Signal generator for control systems. 3,404,857, 10–8–68, Cl. 244—77.
Todd, Everett W.: *See*—
Elfes, Lee E., and Todd. 3,404,768.
Tokheim Corp.: *See*—
Daley, Roger J., and Herderhorst. 3,405,295.
Tomany, James P., to Universal Oil Products Co. Cleaning-cooling system for a hot particle laden gas stream. 3,404,512, 10–8–68, Cl. 55—89.
Tompkins, William A., to Imperial Chemical Industries Ltd. Low-torque multifilament compact yarn. 3,404,525, 10–8–68, Cl. 57—140.
Topp, Wilhelm F. Roof ventilator with nozzled domed end. 3,404,619, 10–8–68, Cl. 98—42.
Torongo, Albert H., Jr.: *See*—
Stockman, Robert J., Junker, Hoyt, and Torongo. 3,404,805.
Torrington Co., The: *See*—
Benson, Carl F., and Cowles. 3,404,760.
Horne, Charles E. 3,404,926.
Toth, John L.: *See*—
Fairbanks, Edward K., Reed, and Toth. 3,404,455.
Totty, Kenneth D.: *See*—
Young, Bill M., and Totty. 3,404,735.
Tournel, Marcel: *See*—
Reminiac, Bernard, and Tournel. 3,404,632.
Toyo Boseki Kabushiki Kaisha: *See*—
Yasumura, Tomohide, Sameshima, Onodera, Oono, Taniguchi, Maemoto, and Tatsukami. 3,405,200.
Toyo Koatsu Industries, Inc.: *See*—
Sasaki, Nobuo, Sugahara, Maehara, Tsutsumi, and Egami. 3,404,950.
Toyo Rayon Kabushiki Kaisha: *See*—
Hata, Go, Aoyama, Nishino, and Miyake. 3,405,193.
Iwamoto, Masao, and Yuguchi. 3,405,194.
Trapp, Orlin D.: *See*—
Sprengling, Gerhard R., Sassano, Trapp, and Chang. 3,405,091.
Trautmann, Herbert L. Transmission. 3,404,584, 10–8–68, Cl. 74—687.
Trefileries Leon Bekaert PVBA: *See*—
Thomas, Robert A. 3,404,526.
Trickey, William J., to Mohogany Corp. Pop-up head for sprinkler system. 3,404,840, 10–8–68, Cl. 239—204.
Trickey, William J.: *See*—
Brittain, William I., and Trickey. 3,404,841.
Trico Products Corp.: *See*—
Howard, Sheldon J., and Riester. 3,404,423.
Tridair Industries: *See*—
Cosenza, Frank J. 3,404,716.
Tripet, Jean, and J. Deletraz, to Gruen Industries, Inc. Daynight watch. 3,404,527, 10–8–68, Cl. 58—128.
Tri-State Products, Inc.: *See*—
Butts, Charles H. 3,405,214.
Troller, John A.: *See*—
Koolstra, John A., and Troller. 3,404,987.
Trotscher, Otto: *See*—
Rantsch, Kurt, Weyrauch, Trotscher, and Ambrosius. 3,405,257.
Tsutsumi, Kazuo: *See*—
Sasaki, Nobuo, Sugahara, Maehara, Tsutsumi, and Egami. 3,404,950.
Tucker, Frank K. Identification means. 3,404,473, 10–8–68, Cl. 40—129.
Turnbull, John R., Jr.: *See*—
Walsh, James L., and Turnbull. 3,405,285.
Turner, Vernon D.: *See*—
Leahey, John W., and Turner. 3,404,472.
Ueda, Takeo, to Maruzen Kasei Co. Ltd. Glycyrrhetinic acid esters and the method of preparation thereof. 3,405,152, 10–8–68, Cl. 260—410.
Ueno, Kazuo: *See*—
Huang, Ching Y., Ueno, Kawamura, Tanabe, and Masawaki. 3,405,079.
Ugi, Ivar: *See*—
Eholzer, Ulrich, Fetzer, Ugi, Hammann, and Unterstenhofer. 3,405,160.
Uhlmann, Erich: *See*—
Boksjo, Carl I., and Uhlmann. 3,405,344.
Uhlig, Helmut: *See*—
Wenzel, Franz, Uhlig, and Lehmann. 3,405,034.
Union Carbide Corp.: *See*—
Brady, George W., Jr., and Henry. 3,405,111.
Hogsett, John N., Khuri, and Schulz. 3,405,130.
Hoskins, Raymond H. 3,405,045.
Kordesch, Karl V., and Kronenberg. 3,405,010.
Kuryla, William C. 3,405,162.
Lee, Robert H. 3,405,250.
Union Carbide Corp.: *See*—Continued
McGhee, Kenneth B., and Pitt. 3,405,066.
Pesetsky, Bernard I. 3,404,998.
Roche, Martin A., Jr. 3,405,308.
Rowe, Gayle L., and Wilson. 3,405,205.
Snedeker, Robert H. 3,405,199.
Stockman, Robert J., Junker, Hoyt, and Torongo. 3,404,805.
Welch, Frank J., and Paxton. 3,405,075.
Yeh, Ying L. 3,405,117.
Union Oil Co. of California: *See*—
Vaell, Raoul P., and Peralta. 3,405,056.
Union Special Machine Co.: *See*—
Attwood, John G., and Kosrow. 3,405,024.
Uniroyal, Inc.: *See*—
Matthews, Demetreos N., and Kelly. 3,405,107.
United Aircraft Corp.: *See*—
Barrow, Robert B., and Sink. 3,405,220.
Greiner, Leonard. 3,404,531.
Keder, John A., Jr. 3,404,737.
United-Carr Inc.: *See*—
Arons, Irving J. 3,404,699.
Churchill, Wilmer H., Garcia, Leathem, and Wright. 3,404,530.
McKee, William H. 3,405,386.
United Electric Controls Co.: *See*—
Barter, Francis B., and Machado. 3,404,945.
Reis, Robert D. 3,404,946.
United States of America
Agriculture: *See*—
Maerker, Gerhard, and Haeberer. 3,405,149.
Otey, Felix H., Bennett, and Mehltretter. 3,405,080.
Thorsen, Walter J., and Kodani. 3,404,942.
Air Force: *See*—
Bilek, Andrew G. 3,404,600.
Army: *See*—
Andrew, William H. R., and Mulherin. 3,404,558.
Bloore, Ernest W. 3,404,722.
Close, Richard N., and Sard. 3,405,260.
Dolling, Jens C. 3,404,797.
Engelhardt, Björn H. 3,405,367.
Kelley, Douglas J. 3,405,375.
MacGlashan, William F., Jr., and Cotrill. 3,404,562.
Nix, Andrew B. 3,404,591.
Null, Fay E. 3,404,669.
Olstein, Myron A. 3,404,532.
Silsby, Stanley D. 3,404,477.
Silsby, Stanley D. 3,404,478.
Silsby, Stanley D. 3,404,479.
Atomic Energy Commission: *See*—
Anger, Hal O. 3,405,233.
Barrus, Donald M., and Williams. 3,405,032.
Barton, George W., Jr., and Dupzyk. 3,405,326.
Cole, John L., and Muray. 3,405,327.
Lakin, Roger W. 3,405,274.
Lombard, David B., and Power. 3,404,559.
Defense Supply Agency: *See*—
Gerwig, Earl W. 3,404,645.
Navy: *See*—
Beardell, Anthony J., and Grelecki. 3,404,958.
Davidoff, Dorsey. 3,405,836.
Hebbert, Ralph S. 3,405,355.
Howe, James M. 3,405,368.
Ishima, Hitoshi. 3,404,480.
Proper, Reuben, and Hoffmann. 3,405,161.
Rado, John A. 3,405,310.
Rouse, Dorch. 3,404,698.
Scholl, James E. 3,404,855.
Skalski, James F., and Petree. 3,405,331.
Staples, John P. 3,405,321.
Szepesi, Zoltan. 3,405,276.
Thompson, Curtis B. 3,405,357.
Valihora, Stephan M. 3,404,649.
Universal Oil Products Co.: *See*—
Bloch, Herman S. 3,405,187.
Bloch, Herman S. 3,405,188.
Boyd, David M. 3,405,035.
Boyd, David M. 3,405,036.
Houlihan, William J., and Moore. 3,405,185.
Levy, Joseph, and Walker. 3,405,169.
Levy, Joseph, and Walker. 3,405,170.
Lusskin, Robert M., Backer, and Larson. 3,405,097.
Neuzil, Richard W., and Skala. 3,405,057.
Tomany, James P. 3,404,612.
Universal Railway Devices Co.: *See*—
Natschke, Eldred H., and St. Pierre. 3,404,759.
Unterstenhofer, Gunter: *See*—
Eholzer, Ulrich, Fetzer, Ugi, Hammann, and Unterstenhofer. 3,405,160.
Upson-Walton Co., The: *See*—
Farrissey, William J., Jr., and Sayigh. 3,405,183.
Pike, John E. 3,405,151.
Wright, John B. 3,405,186.
Upson-Walton Co., The: *See*—
Dicus, Emroid A. 3,404,528.
VMC Industries, Inc.: *See*—
Schuller, James T., Short, Stayton, and Blacklock. 3,404,807.
Vaell, Raoul P., and B. Peralta, to Union Oil Co. of California. Hydrocracking process using a modified zeolite catalyst at low H_2S concentrations. 3,405,056, 10–8–68, Cl. 208—111.
Vahldiek, Fred W., and C. T. Lynch. Cyclic high pressure hot-pressing of oxides. 3,405,207, 10–8–68, Cl. 264—120.
Valenti, Peter, to Sargent Industries, Inc. Ball-screw actuator. 3,404,580, 10–8–68, Cl. 74—424.8.

Valentine, Harry M., to Bendix-Westinghouse Automotive Air Brake Co. Brake balancing valve with brake tare compensating means. 3,404,922, 10–8–68, Cl. 303—60.
Valihora, Stephan M., to United States of America, Navy. Ballast configuration and release concept. 3,404,649, 10–8–68, Cl. 114—20.
Valleteau de Moulliac, Guy, to Societe Generale Isothermos. Locking system for automatic couples. 3,404,786, 10–8–68, Cl. 213—100.
Valspar Corp., The: *See*—
Pipkins, David D., and Deposta. 3,404,839.
Van der Geer, William J., to The B. F. Goodrich Co. Sensitizers in foam rubber manufacture. 3,405,078, 10–8–68, Cl. 260—2.5.
Van der Mond, Theodorus J.: *See*—
Logemann, Johan D., Van der Mond, and Castenmiller. 3,405,190.
Van Haaren, Franciscus I. M.: *See*—
Meijs, Jan A., and Van Haaren. 3,405,092.
Van Langermeersch, Andre E., to Esso Standard Societe Anonyme Francaise. Method and apparatus for anodic voltammetry. 3,405,041, 10–8–68, Cl. 204—1.
Van Loo, William J., Jr.: *See*—
De Paolo, George R., Van Loo, and O'Brien. 3,405,003.
Van Ornum, Delbert G.: *See*—
Winzeler, John W., and Van Ornum. 3,405,805.
Van Ornum, Delbert G., J. W. Winzeler, and A. C. Miller, to Giannini Scientific Corp. High-pressure light source having inclined tangential gas supply passages. 3,405,314, 10–8–68, Cl. 315—111.
Van Santen, Aart: *See*—
Widell, Bjorn, Van Santen, and Glandin. 3,405,033.
Van Uitert, L. G.: *See*—
Johnson, Leo F., and Van Uitert. 3,405,371.
Varian Associates: *See*—
Brown, Karl L. 3,405,363.
Varo, Inc.: *See*—
Wilkinson, Bruce L. 3,405,342.
Vaughn, Lawrence M.: *See*—
Fall, Herbert S., Vaughn, and Short. 3,404,931.
Vectron Electro-Physics Ltd.: *See*—
Howard, Ronald L. 3,404,849.
Vereinigte Aluminum-Werke Aktiengesellschaft: *See*—
Neunzig, Heinrich, and Roehrig. 3,405,042.
Vereinigte Glantzstoff-Fabriken AG.: *See*—
Rupp, Hans-Dieter, Siggel, and Meyer. 3,404,961.
Vergales, Melvin, and J. M. Woolard, to American Machine & Foundry Co. Pneumatic transport device for cigarettes or the like. 3,404,921, 10–8–68, Cl. 302—2.
Verhagen, Johannes G.: *See*—
Essers, Wilhelmus G., Verhagen, and Tichelaar. 3,405,248.
Vernon, Murray, to S. E. & M. Vernon, Inc. Ring binder. 3,404,685, 10–8–68, Cl. 129—24.
Vernon, S. E. & M., Inc.: *See*—
Vernon, Murray. 3,404,685.
Vickers Ltd.: *See*—
Addison, Edward, and Jackson. 3,404,603.
Vidts, Julien L. Thermoelectric method and apparatus for rapid determination of silicon in cast iron. 3,404,570, 10–8–68, Cl. 73—341.
Viessmann, Hans. Hot water boiler. 3,404,664, 10–8–68, Cl. 122—32.
Viewlex, Inc.: *See*—
Peirez, Ben, and Mindell. 3,404,937.
Villadsen, Karl J. S., to Aktieselskbet Grindstedvaerket. Preparation of clouding and coloring agent for soft drinks. 3,404,990, 10–8–68, Cl. 99—205.
Vincent-Martin, Pierre-Remey-Alexis, to Alsthom-Savoisienne. High voltage coil with flat disks. 3,405,378, 10–8–68, Cl. 336—70.
Vishay Intertechnology, Inc.: *See*—
Zandman, Felix, and Boyd. 3,405,381.
Vissers, Herbert. Spreading and harrowing implement including means for uniformly spreading granular or pulverulent material on the soil. 3,404,644, 10–8–68, Cl. 111—11.
Vogel, Artbur E., 25% each to said Vogel, R. Dawson, P. Fultz, and W. H. F. Schmieding. Control system for vehicle suspension. 3,404,898, 10–8–68, Cl. 280—6.
Vogel, Arthur E., 25% each to said Vogel, R. Dawson, P. Fultz, and W. H. F. Schmieding. Method and apparatus for controlling vehicle suspension. 3,404,899, 10–8–68, Cl. 280—6.
Vogt, Paul, to Ebauches S.A. Timepiece. 3,405,241, 10–8–68, Cl. 200—38.
Vogt, Wilhelm: *See*—
Sennewald, Kurt, Vogt, and Baader. 3,405,046.
Volt, W. J., Rubber Corp.: *See*—
Way, Jack W. 3,405,018.
Von Ardenne, Manfred. Device for performing an extreme hyperthermia treatment. 3,404,678, 10–8–68, Cl. 128—2.
Von Wedel, Ernst, to Heinz & Schuermann & Co. Holder arrangement. 3,404,501, 10–8–68, Cl. 52—475.
Vrancken, Marcel N., to Gevaert Photo-Producten N.V. Thermographic copying method and apparatus having means for uniformly pre-heating the copy sheet. 3,405,265, 10–8–68, Cl. 250—65.
Vyzkumny Ustav Bavlnarsky: *See*—
Kubovy, Miloslav, Jirasek, Zavadsky, and Stary. 3,404,523.
Rajnoha, Jaroslav, Ferkl, Planansky, Cerny, and Silar. 3,404,524.
Vyzkumny Ustav Pletarsky: *See*—
Pohl, Frantisek, Skála, and Haluza. 3,404,647.
Wagner, Robert A.: *See*—
Arntz, Charles V., Marshall, and Wagner. 3,404,672.
Wagner, Wolf-Helmut: *See*—
Winkelmann, Erhardt, and Wagner. 3,405,164.
Wailes, Peter C.: *See*—
Davey, Ronald L., Piggott, Reid, and Wailes. 3,405,186.
Wakeman, Alfred W., to The Risdon Mfg. Co. Actuator for aerosol valve. 3,404,814, 10–8–68, Cl. 222—402.13.
Wakeman, Reginald L., S. Cohen, and Z. J. Dudzinski, to Millmaster Onyx Corp. Antistatic textile finish and method of applying same. 3,405,104, 10–8–68, Cl. 260—79.3.
Waldron, Barbara M., to Tassette, Inc. Vaginal cup and means for inserting same. 3,404,682, 10–8–68, Cl. 128—285.
Walker, Donald C., and R. A. Hunt, Jr., to Standard Oil Co. Apparatus for flame cultivation. 3,404,676, 10–8–68, Cl. 126—271.2.
Walker, Eddie B., to The Dow Chemical Co. Process for hydrolyzing polyepoxide resins. 3,405,093, 10–8–68, Cl. 260—47.
Walker Mfg. Co.: *See*—
Belongia, Clyde G., and Pikoske. 3,404,868.
Powers, Walter H., and Neff. 3,404,750.
Walker, Melvin F., to Designatronics, Inc. Oldham coupling. 3,404,545, 10–8–68, Cl. 64—31.
Walker, William W.: *See*—
Levy, Joseph, and Walker. 3,405,169.
Levy, Joseph, and Walker. 3,405,170.
Wallin, Sven-Erik, to Telefonaktiebolaget L M Ericsson. Circuit arrangement for activating an electric circuit by means of an instruction word. 3,405,395, 10–8–68, Cl. 340—172.5.
Walsh, Bruce R., to Gulf Research & Development Co. Constant liquid level control apparatus and method. 3,404,697, 10–8–68, Cl. 137—13.
Walsh, Bruce R., to Gulf Research & Development Co. Oil burner combustion head. 3,404,844, 10–8–68, Cl. 239—406.
Walsh, James L., and J. R. Turnbull, Jr., to International Business Machines Corp. Stabilization circuit. 3,405,285, 10–8–68, Cl. 307—239.
Wanless, Graham G., and B. E. Hudson, Jr., to Esso Research and Engineering Co. Dual mass spectrometer ion source comprising field ionization and electron bombardment sources and the method of use. 3,405,263, 10–8–68, Cl. 250—41.9.
Wantuck, Joseph A.: *See*—
Krieger, Kenneth H., Lago, and Wantuck. 3,405,159.
Warden, Fuller: *See*—
Lewis, Eugene W., Warden, Mills, and McNickle. 3,404,723.
Warner, Charles, III. Electrical game apparatus having multiple circuit paths to be selectively completed and interrupted by opposing players. 3,404,889, 10–8–68, Cl. 273—130.
Warner Electric Brake & Clutch Co.: *See*—
Farnum, James G. E. 3,404,767.
Stilley, Herschel H., and Kordik. 3,405,296.
Warner, Rueben B., to The Osborn Mfg. Co. Composite brush. 3,404,422, 10–8–68, Cl. 15—180.
Wasa, Kiyotaka, and S. Hayakawa, to Matsushita Electric Industrial Co., Ltd. Gas filled coaxial type electric switch with magnetic field cut-off. 3,405,300, 10–8–68, Cl. 313—161.
Wasa, Kiyotaka: *See*—
Hayakawa, Shigeru, and Wasa. 3,405,301.
Wasserman, Seymour. Barbecue and disposable members for the grates thereof. 3,404,671, 10–8–68, Cl. 126—25.
Waters, Robert F., to Standard Oil Co. Fuel cell electrode and process for its manufacture. 3,405,007, 10–8–68, Cl. 136—86.
Watkin, Kenneth, to Ferranti, Ltd. Screen printing apparatus. 3,404,623, 10–8–68, Cl. 101—35.
Watts, Richard M., to Reynolds Metals Co. Supporting structure and blanks therefor. 3,404,912, 10–8–68, Cl. 294—87.2.
Watts, Ridley, Jr., and J. F. Berry, to The American Packaging Corp. Apparatus for heat sealing packages. 3,404,511, 10–8–68, Cl. 53—373.
Waxman, Herbert I., to The Marquardt Corp. Tank with metallic bladder. 3,404,813, 10–8–68, Cl. 222—386.5.
Way, Jack W., to W. J. Volt Rubber Corp. Method of making simulated seam reinforcing and rigidizing for air-inflated balls. 3,405,018, 10–8–68, Cl. 156—147.
Waymouth, John F.: *See*—
Koury, Frederic, Matheson, and Waymouth. 3,405,303.
Weather Engineering Corp. of Canada, Ltd.: *See*—
D'Avignon, Jacques. 3,404,821.
Weathers, Leland C., to Ajem Laboratories, Inc. Filter and sludge conveyor. 3,404,779, 10–8–68, Cl. 210—97.
Webb, Jervis B., Co.: *See*—
Kavieff, Sheldon M. 3,404,636.
Webb, Reginald F.: *See*—
Humphreys, Keith W., Stark, and Webb. 3,405,100.
Weber, Erwin G., to Sperry Rand Corp. Laminates for punch card substitutes. 3,405,256, 10–8–68, Cl. 235—61.12.
Weber, John W.: *See*—
MacGregor, Dean J., and Weber. 3,404,613.
Weber, Wolfgang, to Chemische Werke Werner & Mertz G.m.b.H. Pouring means and closure. 3,404,816, 10–8–68, Cl. 222—545.
Weideman, Robert J., to Sylvania Electric Products Inc. Method and apparatus utilized in repairing electron tubes. 3,404,933, 10–8–68, Cl. 316—2.
Weidman, William H.: *See*—
Kastelic, Frank L., and Weidman. 3,404,881.
Weigle, Wayne L.: *See*—
Milberger, Walter E., and Weigle. 3,405,322.
Weinert, Lawrence E.: *See*—
Hartbauer, Ellsworth A., and Weinert. 3,404,609.

Weiss, Charles, and D. H. Linn, to S. S. White Co. Automated dental unit. 3,404,458, 10–8–68, Cl. 32—22.

Weiss, Irving, to Lisnow & Weiss Co. Jewelry attachment. 3,404,440, 10–8–68, Cl. 24—241.

Welch, Frank J., and H. J. Paxton, Jr., to Union Carbide Corp. Nonflammable phosphorus-containing polymers. 3,405,075, 10–8–68, Cl. 260—2.

Wendolkowski, Eugene S., to Computer Devices Corp. Variable delay line. 3,405,373, 10–8–68, Cl. 333—29.

Wenis, Edward: *See*—
Berger, Leo, Stempel, Sternbach, and Wenis. 3,405,122.

Wenzel, Franz, H. Uhlig, and K. Lehmann, to Rohm & Haas G.m.b.H. Aminopeptidase cleaving L-leucinamide, hypertensin, and oxytocin. 3,405,034, 10–8–68, Cl. 195—62.

Werkzeugmaschinenfabrik Gildemeister & Comp., Akt.-Ges.: *See*—
Jacoby, Hans. 3,404,583.

West, Edmund: *See*—
Carter, Earle R., Jr., and West. 3,404,897.

West End Table Co., Inc.: *See*—
Lewis, Richard N. 3,404,499.

West, Lloyd E., to International Business Machines Corp. Tone circuits for control and data signals. 3,405,234, 10–8–68, Cl. 178—66.

Westerlund, Göthe O., to Chemech Engineering Ltd. Process for the preparation of chlorine dioxide. 3,404,952, 10–8–68, Cl. 23—152.

Western Electric Co., Inc.: *See*—
Barnett, Richard D., and Moser. 3,404,461.
Briggs, Thomas H. 3,405,270.
Rapp, Willard E. 3,404,564.
Rapp, Willard E. 3,405,385.

Westinghouse Electric Corp.: *See*—
Ankenman, Earl B., and Morgan. 3,405,340.
Boes, David J., and Dezzutti. 3,405,063.
Couvillon, James B. 3,405,369.
Dobbins, David T., and Stafford. 3,404,796.
Frola, Frank V. 3,405,338.
Gillies, Wallace, and Yamasaki. 3,405,304.
Goetze, Gerhard W., and Boerio. 3,405,309.
Hayter, Stanley G. 3,405,360.
Hickam, William M. 3,404,836.
Hoffmann, Arthur H. 3,405,339.
Johansen, Herman A., and Cleary. 3,405,328.
Karcher, Edmund A. 3,404,450.
Leonard, Merrill G. 3,405,283.
Milberger, Walter E., and Weigle. 3,405,322.
Moreland, William C., II. 3,405,315.
Nixon, Donald R. 3,404,631.
Osial, Thaddeus A., Steinbruegge, and Ravas. 3,405,316.
Payne, Wesley J., and Campagna. 3,405,306.
Plaisted, Richard G. 3,404,550.
Rohrer, Kenneth L. 3,404,968.
Schwanenflugel, Paul J. 3,405,320.
Sprengling, Gerhard R., Sassano, Trapp, and Chang. 3,405,091.

Westwood, William D., and D. C. Lewis, to Northern Electric Co. Ltd. Melting a ferrous ion containing ferrimagnetic oxide in a ferric ion crucible. 3,404,966, 10–8–68, Cl. 23—293.

Weyerhaeuser Co.: *See*—
Brookhyser, Byron B. 3,404,790.
Dedrick, Dallas S. 3,404,464.
Fraser, Richard S., and Jone. 3,405,212.

Weyrauch, Adolf: *See*—
Rantsch, Kurt, Weyrauch, Trotscher, and Ambrosius. 3,405,257.

Wheeldex, Inc.: *See*—
Scholfield, Richard P. 3,404,784.

Wheeler, Donald H.: *See*—
Miller, Sidney E., and Wheeler. 3,405,150.

Whipperman, Ronald L., to Container Corp. of America. Dispensing carton with siftproof pouring arrangement. 3,404,828, 10–8–68, Cl. 229—17.

Whitcomb, John O., to Hickok Mfg. Co. Hole forming mechanism for bookbinding machine. 3,404,587, 10–8–68, Cl. 77—22.

Whitcomb, John O., to Hickok Mfg. Co. Coil forming mechanism. 3,404,711, 10–8–68, Cl. 140—92.3.

White, Arthur R.: *See*—
Beach, John M., Cecil, Oglesbee, White, and Ziegler. 3,404,757.

White, Francis T., O. S. Johnson, and E. T. Lloyd, to Associated Electrical Industries Ltd. Apparatus for making electric cables with extruded insulation. 3,404,432, 10–8–68, Cl. 18—13.

White, Raymond E., to Bemis Co., Inc. Dampening mechanism for rotary planographic printing presses. 3,404,625, 10–8–68, Cl. 101—148.

White, Raymond E., and B. R. Stetson, to Bemis Co., Inc. Rotary printing press. 3,404,626, 10–8–68, Cl. 101—177.

White, S. S., Co.: *See*—
Weiss, Charles, and Linn. 3,404,458.

Whitfield, Carroll J., and W. E. Dorsett, to Lilliston Implement Co. Peanut combine. 3,405,517, 10–8–68, Cl. 56—19.

Whitman, Shepard H., and R. A. Fantsch, to Dynamic Displays, Inc. Wire basket. 3,404,783, 10–8–68, Cl. 211—88.

Widell, Björn, A. Van Santen, and C. Glandin, to Allmänna Svenska Elektriska Aktiebolaget. Spacer for fuel assemblies. 3,405,033, 10–8–68, Cl. 176—78.

Widiger, Alexander H., Jr., and R. L. Johnson, to The Dow Chemical Co. Process for preparing halogenated phenoxyphenols. 3,405,184, 10–8–68, Cl. 260—613.

Wiener Schuachstromwerke Gesellschaft m.b.H.: *See*—
Kapun, Walter. 3,407,725.

Wilder, Dallas R. Connector. 3,404,425, 10–8–68, Cl. 16—30.

Wildi, Bernard S., to Monsanto Co. Pyromellitonitrile/ammonia reaction products. 3,405,101, 10–8–68, Cl. 260—78.4.

Wiley Mfg. Co.: *See*—
Klee, Manfred H. 3,404,484.

Wilhelm, Max: *See*—
Eichenberger, Kurt; Schmidt, and Wilhelm. 3,405,129.

Wilkinson, Bruce L., to Varo, Inc. Voltage regulator for D.C. inverter type power supply. 3,405,342, 10–8–68, Cl. 321—2.

Williams, Ardell C.: *See*—
Barrus, Donald M., and Williams. 3,405,032.

Williams, Leonard E.: *See*—
Nelson, Bobby H., and Williams. 3,404,736.

Williams, Lawrence S., deceased, by A. M. Frease, executor, to The Reliance Electric and Engineering Co., Inc. Disenabling mechanism for lever in ratio balance. 3,404,744, 10–8–68, Cl. 177—200.

Williams, Norman C., and H. F. Everett, to Power Brake Equipment Co. Turbine wheel. 3,404,867, 10–8–68, Cl. 253—2.

Willox, Frank G. Aircraft. 3,405,280, 10–8–68, Cl. 244—46.

Wilsker, Jay M., and R. J. Sussman, to Automatic Steam Products Corp. Attachment for steam irons. 3,404,471, 10–8–68, Cl. 38—97.

Wilson, Charles R.: *See*—
Lipp, Charles E., Wilson, and Betzelberger. 3,404,764.

Wilson, Herbert W., to Bailey, Inc. Reciprocating flexible belt for finishing a concrete surface. 3,404,611, 10–8–68, Cl. 94—45.

Wilson, Joe R.: *See*—
Rowe, Gayle L., and Wilson. 3,405,205.

Wilson, Kenneth R., and K. L. Hill, to FMC Corp. M-(carbamoyloxy)-carbanilates and herbicides. 3,404,975, 10–8–68, Cl. 71—100.

Wilson, Robert F. Rolled carpet handling truck. 3,404,794, 10–8–68, Cl. 214—653.

Wilson, Russell C., to American Machine & Foundry Co. Terminal arrangement for coil bobbin. 3,405,379, 10–8–68, Cl. 336—192.

Wilson, William E., to American Motors Corp. Refrigerator fan motor and lamp control circuit. 3,405,281, 10–8–68, Cl. 307—38.

Wiltek, Inc.: *See*—
Smith-Vaniz, William R. 3,405,402.

Wimmer, Ernest L., and J. L. Susek, to Krause Milling Co. Process for manufacturing corn flour. 3,404,986, 10–8–68, Cl. 99—93.

Winkelmann, Erhardt, and W.-H. Wagner, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucuis & Bruning. 2,5 - Diacylamino - 3,6 - diamino - 1,4 - dihydroxybenzenes. 3,405,164, 10–8–68, Cl. 260—471.

Winter, Arthur B.: *See*—
Davis, Mike, and Winter. 3,404,563.

Winter, Gerhard, and H. Reum, to Robert Bosch, G.m.b.H. Mercury vapor tube with special discharge chamber means separating mercury electrodes. 3,405,302, 10–8–68, Cl. 313—165.

Winzeler, John W., and D. G. Van Ornum, to Giannini Scientific Corp. Vortex-stabilized radiation source with a hollowed out electrode. 3,405,305, 10–8–68, Cl. 313—231.

Winzeler, John W.: *See*—
Van Ornum, Delbert G., Winzeler, and Miller. 3,405,314.

Wiremold Co., The: *See*—
D'Esopo, Francis P. 3,404,706.

Wirtz Mfg. Co. Inc.: *See*—
Rader, Robert R. 3,404,910.

Wittke, Walter P., to Nasco, Inc. Ram-up chill and chaplet studs. 3,404,726, 10–8–68, Cl. 164—357.

Wolcott, John H.: *See*—
Jaeschke, Ralph L., and Wolcott. 3,404,761.

Wolfe, Howard D. Theatre and stage construction. 3,404,494, 10–8–68, Cl. 52—7.

Wolff, William F., to Standard Oil Co. Isomerization of terminal olefins. 3,405,196, 10–8–68, Cl. 260—683.2.

Wollard, Joseph C., J. S. Slaney, and L. L. Preiss, to Wollard Aircraft Equipment, Inc. Conveyance loading apparatus. 3,404,417, 10–8–68, Cl. 14—71.

Wollard Aircraft Equipment, Inc.: *See*—
Wollard, Joseph C., Slaney, and Preiss. 3,404,417.

Wollner, Johannes, and F. Engelhardt, to Rheinpreussen Aktiengesellschaft fur Bergbau und Chemie. Process for the single stage manufacture of methyl isobutyl ketone. 3,405,178, 10–8–68, Cl. 260—593.

Wondra, Richard J., to Allis-Chalmers Mfg. Co. Square wave switching circuit having sharp turn-on and turn-off characteristics. 3,405,352, 10–8–68, Cl. 324—29.5.

Wood Bros. Mfg. Co.: *See*—
Kasper, Henry D. 3,404,518.

Wood, David F., to Honeywell Inc. Radiation pyrometer having focusing means. 3,405,269, 10–8–68, Cl. 250—83.3.

Woodruff, Maurice D., and T. T. Cowhey, to The Bauer Bros., Co. Hydrocyclone. 3,404,778, 10–8–68, Cl. 209—211.

Woolard, James M.: *See*—
Vergales, Melvin, and Woolard. 3,404,921.

Woolf, Cyril: *See*—
Hollander, Jerome, and Woolf. 3,405,166.

Worman, Martin, to Ingersoll-Rand Co. Drilling apparatus having drill steel rotation control. 3,404,739, 10–8–68, Cl. 173—96.

Worthen, Frederic P.: *See*—
Des Ormeaux, John A., and Paradis. 3,404,646.

Worthington Corp.: *See*—
Aronson, David. 3,404,536.

Wowk, Anatole, to M & T Chemicals Inc. Method of preparing arylborane compounds. 3,405,179, 10–8–68, Cl. 260—606.5.

Wright, Alan J., to Beckman Instruments, Inc. Terminal and tap connections for resistance element. 3,405,382, 10–8–68, Cl. 338—323.

Wright, Barry, Corp.: *See*—
Wright, David M., and Dean. 3,404,929.

Wright, David M., and C. J. Dean, to Barry Wright Corp. Interlocking of selected units of a storage system. 3,404,929, 10–8–68, Cl. 312—216.

Wright, John B., to The Upjohn Co. 1-Phenylsulfonyl-2-benzimidazolinones and 1 - phenylsulfonyl - 2 - benzimidazolinethiones. 3,405,136, 10–8–68, Cl. 260—309.2.

Wright, John E.: *See*—
Kane, John J., and Wright. 3,404,907.

Wright, Lawrence W.: *See*—
Thomas, Paul M., Neill, Wright, Crile, and Burge. 3,404,788.

Wright, Malor: *See*—
Churchill, Wilmer H., Garcia, Leathem, and Wright. 3,404,530.

Wueger, Karl W., to Crompton & Knowles Corp. Projectile for guiding and tensioning filling yarn. 3,404,708, 10–8–68, Cl. 139—125.

Wunderlin, Wayne J.: *See*—
Dilworth, Louis R., and Wunderlin. 3,405,008.

Wyckoff, Harold W., to Avisun Corp. Reinforced biaxially oriented film. 3,405,027, 10–8–68, Cl. 161—113.

Wyckoff, Kenneth K.: *See*—
Bambury, Ronald E., Wyckoff, and Tennent. 3,405,163.

Wynne, Peter J., to Lectromelt Corp. Vacuum furnace. 3,404,874, 10–8–68, Cl. 266—3.

Xerox Corp.: *See*—
Fantuzzo, Joseph. 3,404,418.

Yada, Toshio: *See*—
Akita, Yoshio, Maeda, and Yada. 3,404,500.

Yager, Norman J.: *See*—
Gardiner, Roy W., Panich, and Yager. 3,404,604.

Yamasaki, George K.: *See*—
Gillies, Wallace, and Yamasaki. 3,405,304.

Yasumura, Tomohide, Y. Sameshima, K. Onodera, T. Oono, I. Taniguchi, K. Maemoto, and Y. Tatsukami, to Toyo Boseki Kabushiki Kaisha, and Sumitomo Chemical Co., Ltd. Polyolefin composition containing a copolymer of ethylene-acrylamide-ethylenically unsaturated compound. 3,405,200, 10–8–68, Cl. 260—897.

Yates, James E.: *See*—
Lundeen, Allan J., and Yates. 3,405,154.

Yawata, Keisuke, H. Shiba, and S. Anazawa, to Nippon Electric Co. Ltd. Sealed enclosure for electronic device. 3,405,224, 10–8–68, Cl. 174—52.

Yeh, Ying L., to Union Carbide Corp. α-chloro-di-ρ-xylylenes. 3,405,117, 10–8–68, Cl. 260—649.

Yokota, Kingo: *See*—
Hata, Kunio, Yokota, and Hasegawa. 3,405,081.

Youmans, Albert P.: *See*—
Kattner, Lionel E., Youmans, and Shasby. 3,405,361.

Young, Bill M., and K. D. Totty, to Halliburton Co. Sand control method. 3,404,735, 10–8–68, Cl. 166—33.

Young, Einar T., to Sun Oil Co. Flowmeter mounting arrangement. 3,404,569, 10–8–68, Cl. 73—231.

Young, W. J., Machinery Co., Inc.: *See*—
Davis, Charles A. 3,404,824.

Yuguchi, Sadao: *See*—
Iwamoto, Masao, and Yuguchi. 3,405,194.

Zahn, Edward J., to The Gates Rubber Co. Power transmission belt. 3,404,577, 10–8–68, Cl. 74—229.

Zale, Thad F.: *See*—
Lally, Joseph E., Zale, and Reedy. 3,404,888.

Zandman, Felix, and B. A. Boyd, to Vishay Intertechnology, Inc. Thin film resistor. 3,405,381, 10–8–68, Cl. 338—254.

Zangara, Joseph P.: *See*—
Aagaard, Fridtjof, and Zangara. 3,405,209.

Zavody Jana Svermy: *See*—
Koucky, Josef and F. 3,404,480.

Zeiss-Stiftung, Carl: *See*—
Rantsch, Kurt, Weyrauch, Trotscher, and Ambrosius. 3,405,257.

Zenith Radio Corp.: *See*—
Buch, Roman, and Kocsis. 3,405,341.
Gabriel, Melvin E. 3,405,313.
Hathaway, Richard A. 3,404,895.
Zmuda, Edward C. 3,404,657.

Ziegler, George S.: *See*—
Beach, John M., Cecil, Oglesbee, White, and Ziegler. 3,404,757.

Zmuda, Edward C., to Zenith Radio Corp. Concentric knob display arrangement. 3,404,657, 10–8–68, Cl. 116—124.4.

Zopf, Kent B., J. F. Norton, and H. J. Hansen, to The Hansen Mfg. Co. Coupling and valve mechanism. 3,404,705, 10–8–68, Cl. 137—625.25.

Zschaage, Werner: *See*—
Feldmann, Klaus, Zschaage, Schmidt, Frank, and Kandler. 3,405,005.

Zuehlke, Arthur J.: *See*—
Miller, Robert H., and Zuehlke. 3,404,650.

Zur, Shimshon: *See*—
Milne, James F., and Zur. 3,405,392.

Zurn Industries, Inc.: *See*—
Kane, John J., and Wright. 3,404,907.

CLASSIFICATION OF PATENTS

ISSUED OCTOBER 8, 1968

NOTE.—First number, class; second number, subclass; third number, patent number

2— 2.1	3,404,406	34— 45	3,404,465	70—370	3,404,549	99—357	3,404,620	131—235	3,404,693	178— 66	3,405,234
49	3,404,407		3,404,466	71—100	3,404,975	421	3,404,621	132— 40	3,404,694	69	3,405,235
96	3,404,408	56	3,404,467	118	3,404,976	443	RE.26,474	134—135	3,404,695	88	3,405,236
161	3,404,409	35— 10.2	3,405,221	72— 8	3,404,550	100—100	3,404,622	135— 5	3,404,696	179— 1	3,405,237
4—145	3,404,410	36— 11	3,404,468	16	3,404,551	101— 35	3,404,623	136— 86	3,405,007	100.2	3,405,238
251	3,404,411	43	3,404,469	266	3,404,552	40	3,404,624		3,405,008	.41	3,405,239
7— 14.55	3,404,412	37— 12	3,404,470	385	3,404,553	148	3,404,625		3,405,009	180— 5	3,404,745
8— 34	3,404,941	38— 97	3,404,471	386	3,404,554	177	3,404,626	120	3,405,010	23	3,404,746
127.5	3,404,942	40—106.1	3,404,472	445	3,404,555	228	3,404,627		3,405,011	43	3,404,747
137	3,404,943	129	3,404,473	73— 7	3,404,556	291	3,404,628	122	3,405,012	181— 33	3,404,748
9— 8	3,404,413	130	3,404,474		3,404,557	369	3,404,629		3,405,013	40	3,404,749
26	3,404,414		3,404,475	15.6	3,404,558	102— 66	3,404,630	137— 13	3,404,697	48	3,404,750
10— 86	3,404,415	142	3,404,476	35	3,404,559	103— 97	3,404,631	68	3,404,698	182— 46	3,404,751
12— 10.5	3,404,416	42— 1	3,404,477	67.5	3,404,560	123	3,404,632	73	3,404,699	148	3,404,752
13— 1	3,405,219		3,404,478	71.6	3,404,561	136	3,404,633	81.5	3,404,700	187— 52	3,404,753
27	3,405,220		3,404,479	97	3,404,562		3,404,634		3,404,701	188— 47	3,404,754
14— 71	3,404,417	16	3,404,480	151	3,404,563	104— 70	3,404,635	100	3,404,702	73	3,404,755
15— 1.5	3,404,418	43— 3	3,404,481	161	3,404,564	96	3,404,636	390	3,404,703	106	3,404,756
3.13	3,404,419	17.2	3,404,482	170	3,404,565		3,404,637	625.22	3,404,704	112	3,404,757
29	3,404,420	44— 56	3,404,970	189	3,404,566	156	3,404,638	.25	3,404,705	181	3,404,758
104.06	3,404,421	46—135	3,404,483	200	3,404,567	172	3,404,639	138—163	3,404,706	202	3,404,759
180	3,404,422	48—195	3,404,971	209	3,404,568	105—163	3,404,640	139— 1	3,404,707	191— 59.1	3,405,240
250.23	3,404,423	49— 95	3,404,484	231	3,404,569	205	3,404,641	125	3,404,708	192— 18	3,404,767
308	3,404,424	349	3,404,485	341	3,404,570	106—132	3,404,991	346	3,404,709	45	3,404,760
16— 30	3,404,425	386	3,404,486	74— 5.34	3,404,571	176	3,404,992	421	3,404,710	61	3,404,761
51	3,404,426	475	3,404,487	15.84	3,404,572	308	3,404,993	140— 92.3	3,404,711	84	3,404,762
114	3,404,427	51— 58	3,404,489	18	3,404,573	108— 51	3,404,642	147	3,404,712	103	3,404,763
17— 42	3,404,428	165	3,404,490	50	3,404,574	110— 10	3,404,643	141— 67	3,404,713	194— 4	3,404,764
45	3,404,429	229	3,404,491	110	3,404,575	111— 11	3,404,644	144—117	3,404,714	195— 62	3,405,034
	3,404,430	237	3,404,492	229	3,404,576	112— 2	3,404,645	146—192	3,404,715	197— 55	3,404,765
	3,404,431	284	3,404,488		3,404,577	212	3,404,646	148— 6.1	3,405,014	84	3,404,766
18— 13	3,404,432	386	3,404,493	231	3,404,578	405	3,404,647	32	3,405,015	198—128	3,404,768
	3,404,433	52— 7	3,404,494	354	3,404,579	113—121	3,404,648	133	3,405,016	200— 38	3,405,241
19—252	3,404,434	58	3,404,495	424.5	RE.26,476	114— 20	3,404,649	151— 8	3,404,716	61.86	3,405,242
21— 83	3,404,944	64	3,404,496	.8	3,404,580	29	3,404,650	23	3,404,717	67	3,405,243
93	3,404,945	145	3,404,498		3,404,581	66.5	3,404,651	152—210	3,404,718	82	3,405,244
94	3,404,946	213	3,404,499		3,404,582	208	3,404,652	330	3,404,719	144	3,405,245
23— 1	3,404,947	224	3,404,497	665	3,404,583	222	3,404,653	354	3,404,720	181	3,405,246
53	3,404,948	249	3,404,500	687	3,404,584	230	3,404,654	361	3,404,721	202—160	3,405,035
114	3,404,949	475	3,404,501	711	3,404,585	235	3,404,655	156— 17	3,405,017		3,405,036
	3,404,950	615	3,404,502	750	3,404,586	115— 41	3,404,656	73	3,405,024	173	3,405,037
125	3,404,951	701	3,404,503	75—156.5	3,404,977	116—124.4	3,404,657	147	3,405,018	203— 69	3,405,038
152	3,404,952	711	3,404,504	208	3,404,978	117— 1.7	3,404,994	286	3,405,019	86	3,405,039
153	3,404,953	53— 26	3,404,505	77— 22	3,404,587	36.1	3,404,995	306	3,405,020	88	3,405,040
165	3,404,954	29	3,404,506	57	3,404,588	47	3,404,996	361	3,405,021	204— 1	3,405,041
168	3,404,955		3,404,507	82— 3	3,404,589	62	3,404,997	380	3,405,022	58	3,405,042
	3,404,956	34	3,404,508	36	3,404,590		3,404,998	415	3,405,023	60	3,405,043
198	3,404,957	35	3,404,509	83— 4	3,404,591	105	3,404,999	159— 23	3,404,722	130	3,405,044
203	3,404,958	59	3,404,510	16	3,404,592	107.2	3,405,000	161— 4	3,405,025	159.11	3,405,045
204	3,404,959	373	3,404,511	167	3,404,593	121	3,405,001	7	3,405,026	163	3,405,046
206	3,404,961	55— 89	3,404,512	578	3,404,594	125	3,405,002	113	3,405,027	180	3,405,047
209.6	3,404,960	107	3,404,513	84— 1.18	3,405,222	139.5	3,405,003	148	RE.26,473	195	3,405,048
253	3,404,962	295	3,404,514		3,405,223	155	3,405,004	162	3,405,028	217	3,405,049
270	3,404,963	377	3,404,515	312	3,404,595	207	3,405,005	165	3,405,029	240	3,405,050
284	3,404,964	56— 18	3,404,516	85— 70	3,404,596	213	3,405,006	162—161	3,405,030	269	3,405,051
288	3,404,965	19	3,404,517	86— 45	3,404,597	118— 6	3,404,658	195	3,405,031	312	3,405,052
293	3,404,966	25.4	3,404,518	89— 1	3,404,598	24	3,404,659	164— 34	3,404,723	206— 41	3,404,770
24— 66	3,404,435		3,404,519		3,404,599	34	3,404,660	138	3,404,724	45.33	3,404,771
168	3,404,436	256	3,404,520	8	3,404,600	49	3,404,661	156	3,404,725	63.2	RE.26,477
201	3,404,437	328	3,404,521	90— 14	3,404,601	122— 6.6	3,404,662	357	3,404,726	64	3,404,772
	3,404,438	57— 34	3,404,522	58	3,404,602	7	3,404,663	165— 9	3,404,727	65	3,404,773
230	3,404,439	58.89	3,404,523	91— 5	3,404,603	32	3,404,664	22	3,404,728	78	3,404,774
241	3,404,440	81	3,404,524	47	3,404,604	123— 65	3,404,665	29	3,404,729	208— 48	3,405,054
28— 62	3,404,441	140	3,404,525	453	3,404,605	90	3,404,666	32	3,404,730	111	3,405,055
29— 25.14	3,404,442	149	3,404,526	92—169	3,404,606	119	3,404,667	51	3,404,731		3,405,056
90	3,404,443	58—128	3,404,527	93— 36	3,404,607	139	3,404,668		3,404,732	310	3,405,057
150	3,404,444	59— 85	3,404,528	80	3,404,608	124— 6	3,404,669	166	3,404,733	209—111.6	3,404,775
157	3,404,445	60— 6	3,404,529	93	3,404,609	125— 11	3,404,670	166— 32	3,404,734	135	3,404,776
.3	3,404,446	23	3,404,530	94— 1.5	3,404,610	126— 25	3,404,671	33	3,404,735	166	3,404,777
183	3,404,967	207	3,404,531	45	3,404,611		3,404,672	85	3,404,736	211	3,404,778
195	3,404,968	256	3,404,532	95— 11	3,404,612	39	3,404,673	170—135.22	3,404,737	210— 23	3,405,058
196.2	3,404,969	61— 41	3,404,533	31	3,404,613	101	3,404,674	160.23	3,404,738	40	3,405,059
203	3,404,447	48	3,404,534		3,404,614	190	3,404,675	173— 96	3,404,739	58	3,405,060
252	3,404,448	85	3,404,535	42	3,404,615	271.2	3,404,676	111	3,404,740	97	3,404,779
474.3	3,404,449	62— 58	3,404,536	45	3,404,616	128— 2	3,404,677	174— 52	3,405,224	142	3,404,780
577	3,404,450	123	3,404,537	96— 1.8	3,404,979		3,404,678		3,405,225	248	3,404,781
	3,404,451	172	3,404,538	27	3,404,980	71	3,404,679	60	3,405,226	211— 49	3,404,782
604	3,404,452	262	3,404,539	50	3,404,981	94	3,404,680	68.5	3,405,227	88	3,404,783
628	3,404,453	285	3,404,540	99	3,404,982	173	3,404,681	106	3,405,228	164	3,404,784
629	3,404,454	314	3,404,541	98— 32	3,404,617	191	3,404,684	175— 85	3,404,741	183	3,404,785
630	3,404,455	324	3,404,542	33	3,404,618	285	3,404,682	176— 36	3,405,032	213—100	3,404,786
30—155	3,404,456	344	3,404,543	42	3,404,619	322	3,404,683	78	3,405,033	214— 1	3,404,787
267	3,404,457	64— 11	3,404,544	99— 90	3,404,983	129— 24	3,404,685	177— 59	3,404,742	6	3,404,788
32— 22	3,404,458	31	3,404,545	91	3,404,984	130— 5	3,404,686	190	3,404,743	8.5	3,404,789
33— 23	3,404,459	65— 65	3,404,972	92	3,404,985	131— 15	3,404,687	200	3,404,744		3,404,790
125	3,404,460	253	3,404,973	93	3,404,986	20	3,404,688	178— 5.4	3,405,229	38	3,404,791
149	3,404,461	319	3,404,974	150	3,404,987	21	3,404,689		3,405,230	80	3,404,792
34— 1	3,404,462	66— 14	3,404,546	171	3,404,988	140	3,404,690		3,405,231	152	3,404,793
23	3,404,463	70—199	3,404,547	193	3,404,989		3,404,691	6.6	3,405,232	653	3,404,794
26	3,404,464	363	3,404,548	205	3,404,990	170	3,404,692	.8	3,405,233	215—100	3,404,795

219– 76	3,405,247	244– 63	3,404,855	260– 80	3,405,106	260–631	3,405,185	296–120	3,404,914	318– 18	3,405,337
146	3,405,248	77	3,404,856	88.2	3,405,107	649	3,405,117	297– 17	3,404,915	176	3,405,338
	3,405,250		3,404,857		3,405,108	665	3,405,186	239	3,404,916		3,405,339
275	3,405,251	248– 68	3,404,858		3,405,109	666	3,405,187	250	3,404,917	336	3,405,340
333	3,405,249	184	3,404,859	91.3	3,405,110		3,405,188	298– 23	3,404,918	320– 33	3,405,341
399	3,405,252	479	3,404,860	92.8	3,405,111	.5	3,405,189	299– 13	3,404,919	321– 2	3,405,342
413	3,405,253	249–187	3,404,861	93.1	3,405,112	667	3,405,190	31	3,404,920	5	3,405,343
220– 2.3	3,404,769	219	3,404,862	.5	3,405,113	677	3,405,191	302– 2	3,404,921	11	3,405,344
3	3,404,796	250– 41.9	3,405,263	94.3	3,405,114	679	3,405,192	303– 60	3,404,922	18	3,405,345
18	3,404,797	49.5	3,405,264	.9	3,405,115	680	3,405,193	61	3,404,923	45	3,405,346
44	3,404,798	65	3,405,265	145	3,405,116		3,405,194	307– 29	3,405,279	322– 91	3,405,347
54	3,404,799	83	3,405,266	158	3,405,118		3,405,195	38	3,405,281	323– 89	3,405,348
	3,404,800	.3	3,405,267	203	3,405,119	683.2	3,405,196	57	3,405,282	324– 6	3,405,349
	3,404,801		3,405,268	234	3,405,120	830	3,405,197	95	3,405,283	10	3,405,350
85	3,404,802		3,405,269	239	3,405,121	873	3,405,198	235	3,405,284		3,405,351
94	3,404,803		3,405,270	.3	3,405,122	887	3,405,199	239	3,405,285	29.5	3,405,352
97	3,404,804		3,405,271		3,405,123	897	3,405,200	261	3,405,286	34	3,405,353
102	3,404,805		3,405,272	.5	3,405,124	261– 34	3,404,872	268	3,405,287	40	3,405,354
115	3,404,806		3,405,273		3,405,125	141	3,404,873	308– 36.2	3,404,924	46	3,405,355
221– 8	3,404,807	.6	3,405,274	.55	3,405,127	264– 3	3,405,201	184	3,404,925	51	3,405,357
185	3,404,808	84.5	3,405,275		3,405,128	53	3,405,202	213	3,404,926	54	3,405,356
222– 17	3,404,809	213	3,405,276	.6	3,405,126	69	3,405,203	310– 8.4	3,405,288	103	3,405,358
82	3,404,810	219	3,405,277	240	3,405,129	83	3,405,204	.5	3,405,289	131	3,405,359
83	3,404,811	251–170	3,404,863	242	3,405,130	105	3,405,205	10	3,405,290	154	3,405,360
193	3,404,812	172	3,404,864		3,405,131	112	3,405,206		3,405,291	158	3,405,361
386.5	3,404,813	214	3,404,865	247.2	3,405,132	120	3,405,207	11	3,405,292	328–151	3,405,362
402.13	3,404,814	284	3,404,866	249.5	3,405,133	144	3,405,208	74	3,405,293	230	3,405,363
517	3,404,815	252– 8.5	3,405,061	294.3	3,405,134		3,405,209	86	3,405,294	329–122	3,405,364
545	3,404,816	.55	3,405,062	295	3,405,135	176	3,405,210	104	3,405,295	330– 2	3,405,365
223–114	3,404,817	12	3,405,063	309.2	3,405,136	210	3,405,211	116	3,405,296	7	3,405,366
224– 42.42	3,404,818	51.5	3,405,064	329.3	3,405,137	221	3,405,212	258	3,405,297	13	3,405,367
49	3,404,819		3,405,065	340.3	3,405,138	245	3,405,213	312– 45	3,404,927	21	3,405,368
226– 40	3,404,820	63.5	3,405,066	.5	3,405,139	263	3,405,215	72	3,404,928	331– 14	3,405,369
90	3,404,821	75	3,405,067	343.2	3,405,140	269	3,405,214	216	3,404,929	94.5	3,405,370
158	3,404,822	182	3,405,068		3,405,141	321	3,405,216	234.1	3,404,930		3,405,371
178	3,404,823		3,405,069		3,405,142		3,405,217	257	3,404,931		3,405,372
227–140	3,404,824	316	3,405,070	349	3,405,143	266– 3	3,404,874	348	3,404,932	333– 29	3,405,373
229– 6	3,404,825		3,405,071		3,405,144	37	3,404,875	313– 12	3,405,299	30	3,405,374
14	3,404,826	389	3,405,072	380	3,405,145	43	3,404,876	65	3,405,298	31	3,405,375
	3,404,827	400	3,405,073	397.4	3,405,146	267– 1	3,404,877	161	3,405,300	335–138	3,405,376
17	3,404,828	455	3,405,074	.5	3,405,147	269– 91	3,404,878	162	3,405,301	285	3,405,377
44	3,404,829	253– 2	3,404,867	404.8	3,405,148	270– 52	3,404,879	165	3,405,302	336– 70	3,405,378
68	3,404,830	254– 93	3,404,868	405	3,405,149	58	3,404,880	217	3,405,303	192	3,405,379
230–116	3,404,831	259– 4	3,404,869	407	3,405,150	271– 8	3,404,881	218	3,405,304	337– 36	3,405,380
270	3,404,832	43	3,404,870	410	3,405,152	61	3,404,882	231	3,405,305	338–254	3,405,381
233– 20	3,404,833	114	3,404,871	.9	3,405,151	62	3,404,883	239	3,405,306	323	3,405,382
235– 61.11	3,405,254	260– 2	3,405,075	429.3	3,405,153	272– 60	3,404,884	278	3,405,307	339– 7	3,405,383
	3,405,255		3,405,076	448	3,405,154	273– 82	3,404,885	354	3,405,308	18	3,405,384
.12	3,405,256	.5	3,405,077	.2	3,405,155	102.4	3,404,886	315– 11	3,405,309	97	3,405,385
132	3,404,834		3,405,078	453	3,405,156		3,404,887	12	3,405,310	176	3,405,386
151.11	3,405,257	3	3,405,079	455	3,405,157	121	3,404,888	19	3,405,311	340– 5	3,405,387
153	3,405,258	9	3,405,080	456	3,405,158	130	3,404,889	25	3,405,312	29	3,405,388
183	3,405,259	17.2	3,405,053	465	3,405,159		3,404,890	27	3,405,313	87	3,405,389
194	3,405,260	.4	3,405,081		3,405,160	134	3,404,891	111	3,405,314	146.2	3,405,390
236– 13	3,404,835	22	3,405,082		3,405,161	181	3,404,892	166	3,405,315	167	3,405,391
15	3,404,836	23	3,405,083	.6	3,405,162	274– 1	3,404,893	243	3,405,316	172.5	3,405,392
34.5	3,404,837	29.6	3,405,084	469	3,405,163	4	3,404,894	316– 2	3,404,933		3,405,393
239– 79	3,404,838		3,405,085	471	3,405,164	24	3,404,895	317– 15	3,405,317		3,405,394
113	3,404,839	31.4	3,405,086	472	3,405,165	279– 2	3,404,896	22	3,405,318		3,405,395
204	3,404,840	33.6	3,405,087	475	3,405,166	50	3,404,897	23	3,405,319		3,405,396
	3,404,841	41	3,405,088	476	3,405,167	280– 6	3,404,898	27	3,405,320	173	3,405,397
265.37	3,404,842	45.8	3,405,089	501.12	3,405,168		3,404,899	33	3,405,321	174	3,405,398
338	3,404,843	.85	3,405,090	520	3,405,169	11.13	3,404,900	50	3,405,322		3,405,399
406	3,404,844	47	3,405,091		3,405,170	456	3,404,901	100	3,405,323		3,405,400
556	3,404,845		3,405,092	524	3,405,171	285– 14	3,404,902	101	3,405,324		3,405,401
240– 2	3,405,261		3,405,093	530	3,405,172	24	3,404,903	103	3,405,325	.1	3,405,402
20	3,405,262	67	3,405,094	531	3,405,173	165	3,404,904	123	3,405,326		3,405,403
241– 72	3,404,846		3,405,095	535	3,405,174	249	3,404,905	151	3,405,327		3,405,404
291	3,404,847	75	3,405,096	551	3,405,175	286	3,404,906	222	3,405,328		3,405,405
242– 55.12	3,404,849		3,405,097	562	3,405,176	287– 52.05	3,404,907	234	3,405,329	350–198	3,404,934
.13	3,404,848		3,405,098	575	3,405,177	.06	3,404,908	235	3,405,330	303	3,404,935
75.4	3,404,850	78	3,405,099	593	3,405,178	87	3,404,909		3,405,331	351– 6	3,404,936
118.5	3,404,851	.4	3,405,100	606.5	3,405,179	290– 52	3,405,278		3,405,332	352– 29	3,404,937
244– 1	Re.26,475		3,405,101		3,405,180	292–257	3,404,910	248	3,405,333	242	3,404,938
7	3,404,852		3,405,102	609	3,405,181	294– 81	3,404,911	250	3,405,334	424– 92	3,405,218
46	3,405,280		3,405,103		3,405,182	87.2	3,404,912	318– 18	3,405,335	431–263	3,404,939
55	3,404,853	79.3	3,405,104	613	3,405,183	296– 23	3,404,913		3,405,336	264	3,404,940
62	3,404,854		3,405,105		3,405,184						

CLASSIFICATION OF DESIGNS

D 2– 415	212,349	D24– 1	212,360	D34– 4	212,370	D48– 20	212,380	D56– 4	212,390	D83– 12	212,400
D 9– 52	212,350	D26– 1	212,361		212,371		212,381	D57– 1	212,391	D86– 10	212,401
58	212,351	14	212,362	5	212,372	27	212,382		212,392	D87– 1	212,402
220	212,352	15	212,363	15	212,373	31	212,383		212,393		212,403
255	212,353		212,364	D35– 3	212,374	D49– 23	212,384	D61– 1	212,394	D90– 8	212,404
D13– 1	212,354	D29– 1	212,365	D42– 7	212,375	D52– 6	212,385		212,395		212,405
D14– 3	212,355	23	212,366	D44– 26	212,376	10	212,386	D64– 11	212,396	D95– 3	212,406
	212,356	D30– 14	212,367	29	212,377	D54– 12	212,388	D71– 1	212,397	D96– 12	212,407
D16– 1	212,357	D33– 23	212,368		212,378	D56– 1	212,389	D80– 11	212,398		212,408
D22– 19	212,358	26	212,369		212,379	4	212,387		212,399		212,409
D23–145	212,359										

GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

(NOTE.—CODES ARE CHANGED AS OF JANUARY 1, 1967)

Alabama	1	Kentucky	21	Oregon	41
Alaska	2	Louisiana	22	Pennsylvania	42
American Samoa	3	Maine	23	Puerto Rico	43
Arizona	4	Maryland	24	Rhode Island	44
Arkansas	5	Massachusetts	25	South Carolina	45
California	6	Michigan	26	South Dakota	46
Canal Zone	7	Minnesota	27	Tennessee	47
Colorado	8	Mississippi	28	Texas	48
Connecticut	9	Missouri	29	Utah	49
Delaware	10	Montana	30	Vermont	50
District of Columbia	11	Nebraska	31	Virginia	51
Florida	12	Nevada	32	Virgin Islands	52
Georgia	13	New Hampshire	33	Washington	53
Guam	14	New Jersey	34	West Virginia	54
Hawaii	15	New Mexico	35	Wisconsin	55
Idaho	16	New York	36	Wyoming	56
Illinois	17	North Carolina	37	U.S. Air Force	57
Indiana	18	North Dakota	38	U.S. Army	58
Iowa	19	Ohio	39	U.S. Navy	59
Kansas	20	Oklahoma	40		

(First number in listing denotes location according to above key. Refer to patent number in body of the Official Gazette to obtain details as to inventor name, location, etc.)

PATENTS

1 : 3,404,514	6 : 3,404,813	6 : 3,405,382	10 : 3,405,001	17 : 3,404,777	18 : 3,404,456
3,404,557	3,404,857	3,405,386	3,405,067	3,404,783	3,404,549
3,404,591	3,404,858	3,405,391	3,405,088	3,404,789	3,404,595
4 : 3,404,442	3,404,859	3,405,396	3,405,118	3,404,793	3,404,662
3,404,513	3,404,862	8 : 3,404,460	3,405,146	3,404,799	3,404,665
3,404,788	3,404,864	3,404,498	3,405,167	3,404,822	3,404,676
3,404,819	3,404,889	3,404,566	3,405,204	3,404,826	3,404,724
3,405,023	3,404,893	3,404,577	11 : 3,405,238	3,404,827	3,404,876
3,405,227	3,404,906	3,404,734	12 : 3,404,417	3,404,828	3,404,896
3,405,337	3,404,942	3,404,752	3,404,521	3,404,886	3,404,918
5 : 3,404,853	3,404,971	3,404,770	3,404,546	3,404,887	3,404,931
6 : 3,404,410	3,404,989	3,404,848	3,404,600	3,404,888	3,404,969
3,404,411	3,404,997	3,404,914	3,404,669	3,404,891	3,405,007
3,404,415	3,405,011	9 : 3,404,512	3,404,740	3,404,894	3,405,214
3,404,437	3,405,017	3,404,551	3,404,812	3,404,895	3,405,295
3,404,439	3,405,018	3,404,554	3,404,839	3,404,908	3,405,321
3,404,451	3,405,019	3,404,561	3,404,847	3,404,932	3,405,379
3,404,493	3,405,032	3,404,663	3,404,936	3,404,938	19 : 3,404,884
3,404,502	3,405,045	3,404,690	3,405,012	3,405,024	3,405,334
3,404,504	3,405,055	3,404,691	3,405,013	3,405,035	3,405,364
3,404,531	3,405,056	3,404,692	3,405,312	3,405,036	20 : 3,405,201
3,404,533	3,405,058	3,404,706	3,405,367	3,405,053	21 : 3,404,465
3,404,538	3,405,065	3,404,737	13 : 3,404,517	3,405,054	3,404,466
3,404,548	3,405,070	3,404,760	16 : 3,404,695	3,405,057	3,404,594
3,404,555	3,405,071	3,404,809	3,404,794	3,405,072	3,404,766
3,404,559	3,405,195	3,404,814	17 : 3,404,425	3,405,080	3,404,935
3,404,562	3,405,221	3,404,842	3,404,429	3,405,084	3,404,963
3,404,567	3,405,233	3,404,897	3,404,446	3,405,124	3,404,977
3,404,580	3,405,240	3,404,926	3,404,447	3,405,128	3,404,978
3,404,581	3,405,251	3,404,957	3,404,475	3,405,140	3,405,234
3,404,584	3,405,262	3,404,967	3,404,482	3,405,141	3,405,253
3,404,593	3,405,271	3,405,047	3,404,489	3,405,142	22 : 3,404,733
3,404,609	3,405,272	3,405,066	3,404,490	3,405,187	3,404,808
3,404,618	3,405,273	3,405,106	3,404,503	3,405,188	3,405,074
3,404,635	3,405,274	3,405,137	3,404,518	3,405,196	24 : 3,404,433
3,404,638	3,405,293	3,405,143	3,404,543	3,405,229	3,404,450
3,404,649	3,405,305	3,405,144	3,404,547	3,405,230	3,404,455
3,404,666	3,405,310	3,405,175	3,404,596	3,405,231	3,404,484
3,404,679	3,405,314	3,405,183	3,404,601	3,405,242	3,404,542
3,404,683	3,405,323	3,405,206	3,404,616	3,405,243	3,404,556
3,404,693	3,405,324	3,405,220	3,404,627	3,405,252	3,404,598
3,404,702	3,405,326	3,405,254	3,404,657	3,405,296	3,404,722
3,404,712	3,405,327	3,405,349	3,404,658	3,405,313	3,404,810
3,404,716	3,405,330	3,405,402	3,404,686	3,405,317	3,404,994
3,404,717	3,405,342	10 : 3,404,652	3,404,718	3,405,341	3,405,101
3,404,730	3,405,346	3,404,792	3,404,726	3,405,348	3,405,161
3,404,731	3,405,361	3,404,856	3,404,754	3,405,358	3,405,213
3,404,743	3,405,363	3,404,911	3,404,759	3,405,389	3,405,232
3,404,796	3,405,368	3,404,959	3,404,764	3,405,393	3,405,322
3,404,798	3,405,377	3,405,000	3,404,776	18 : 3,404,426	3,405,331

24 : 3,405,355
3,405,369
3,405,383
25 : Re.26,476
3,404,413
3,404,419
3,404,420
3,404,452
3,404,468
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3,404,472
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26 : 3,404,445
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3,405,147
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3,405,184
3,405,216
3,405,217
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3,405,226
3,405,281
27 : 3,404,414
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3,404,625
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3,405,404
29 : 3,404,617
3,404,621
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3,404,983
3,405,060
3,405,168
31 : 3,404,431
3,404,461
33 : 3,404,409
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34 : 3,404,435
3,404,436
3,404,471
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3,404,507
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3,404,564
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3,404,682
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3,405,122
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34 : 3,405,362
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36 : 3,404,407
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3,404,458
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37 : Re.26,477
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3,404,879
3,405,098
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39 : Re.26,474
3,404,422
3,404,449
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3,404,509
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3,404,987
3,404,993
3,405,010
3,405,015
3,405,016
3,405,031
3,405,064
3,405,148
3,405,163
3,405,203
3,405,205
3,405,207
3,405,210
36 : 3,405,258
3,405,260
3,405,261
3,405,276
3,405,284
3,405,285
3,405,304
3,405,306
3,405,307
3,405,309
3,405,354
3,405,372
3,405,373
3,405,388
3,405,392
3,405,394
44 : 3,404,927
45 : Re.26,473
3,405,052
47 : 3,404,960
3,405,090
39 : 3,405,239
3,405,267
3,405,268
3,405,283
3,405,308
3,405,340
3,405,376
40 : 3,404,421
3,404,723
3,404,735
3,404,877
3,404,892
3,404,924
3,405,062
3,405,105
3,405,109
3,405,113
3,405,131
3,405,154
3,405,191
3,405,215
3,405,277
41 : 3,404,412
3,404,791
3,404,867
42 : Re.26,475
3,404,424
3,404,454
3,404,496
3,404,558
3,404,569
3,404,587
3,404,630
3,404,631
3,404,639
3,404,697
3,404,711
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3,404,836
3,404,844
3,404,874
3,404,907
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3,405,027
3,405,048
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3,405,068
3,405,091
3,405,099
3,405,104
3,405,110
3,405,115
3,405,121
3,405,132
3,405,149
3,405,158
3,405,176
3,405,225
3,405,246
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3,405,269
3,405,270
3,405,278
3,405,279
3,405,288
3,405,299
3,405,315
3,405,316
3,405,328
3,405,338
3,405,339
3,405,381
3,405,399
3,405,403
47 : 3,405,145
3,405,211
3,405,397
48 : 3,404,488
3,404,510
3,404,563
3,404,565
3,404,611
3,404,622
3,404,674
3,404,684
3,404,736
3,404,811
3,404,852
3,404,902
3,404,917
3,405,059
3,405,077
3,405,093
3,405,275
3,405,350
3,405,351
3,405,356
3,405,387
49 : 3,404,919
50 : 3,404,589
51 : 3,404,406
3,404,494
3,404,495
3,404,532
3,404,552
3,404,615
3,404,698
3,404,771
3,404,773
3,404,775
3,404,800
3,404,855
3,404,869
3,404,903
3,404,912
3,404,921
3,405,255
3,405,290
3,405,319
53 : 3,404,464
3,404,651
3,404,714
3,404,790
3,405,030
3,405,212
3,405,357
54 : 3,404,998
3,405,040
3,405,075
3,405,111
3,405,130
3,405,162
55 : 3,404,430
3,404,516
3,404,535
3,404,579
3,404,650
3,404,715
3,404,732
3,404,748
3,404,761
3,404,767
3,404,804
3,404,868
3,404,920
3,404,986
3,405,008
3,405,009
3,405,097
3,405,134
3,405,138
3,405,266
3,405,318
3,405,352
3,405,380

Design Patents

6 : 212,368
212,370
212,371
212,391
212,392
212,399
212,402
9 : 212,362
12 : 212,397
13 : 212,358
17 : 212,351
212,354
212,360
212,375
212,376
212,380
212,383
212,387
18 : 212,350
20 : 212,408
24 : 212,357
212,366
212,407
25 : 212,352
212,356
25 : 212,393
212,406
26 : 212,401
27 : 212,367
29 : 212,398
34 : 212,365
212,384
212,389
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54 : 212,353
55 : 212,355

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

October 8, 1968 Volume 855 Number 2

TRADEMARKS

NOTICES

Termination of Daylight Saving Time

Attention is called to the Notice published in 849 O.G. 277, Apr. 9, 1968, as to the operation of the Patent Office on Daylight Saving Time. This operation will terminate on October 27, 1968.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 519,367 (CHRISTIAN DIOR), Societe a Responsabilite Limitee "Comptoir de l'Industrie Cotonnier." Jewelry for personal wear, not including watches—namely, trinkets, necklaces, bracelets, finger rings, ear-rings, brooches and ornamental clips made in whole of, in part of, or plated with precious metals; **Reg. No. 523751**, same, Junior misses', misses' and ladies' coats, dresses, gowns for outerwear, suits, jackets, boleros, evening capes, sport ensembles made up of blouses, vests and skirts; shawls and scarfs; pullovers and sweaters; coats, jackets, capes, stoles, scarfs, muffs and collars all made of fur; under wear; stockings; shoes and hats; **Reg. No. 537,846**, same, Umbrellas; **Reg. No. 540,975**, same, Dressmaker's forms; **Reg. No. 541,088**, same, Comptoir de l'Industrie Cotonniere Societe a Responsabilite Limitee, Gloves made from leather, fabric, or a combination thereof; **Reg. No. 541,089**, same, Yarn made of wool, silk, cotton, rayon and linen; **Reg. No. 541,912**, same, Textile fabrics made of wool, silk, cotton, rayon, and nylon; **Reg. No. 543,994**, same, Handbags and pocketbooks, and belts made from leather for general use in connection with luggage; **Reg. No. 567,077**, same, Societe a Responsabilite Limitee Comptoir de l'Industrie Cotonnier, Leather belts for personal wear; **Reg. No. 569,038**, same, Ladies' stockings; **Reg. No. 573,430**, same, Christian Dior Perfumes Corp., Face and body creams, skin and hair lotions, face and body powders, lipstick, rouge and filled rouge compacts, perfumes, toilet water, bath salts, toothpaste, and mouthwash; **Reg. No. 577,253** (MISS DIOR), same, Perfumes, toilet waters, rouge, face powder, lipstick, face, skin and hand creams and lotions, mascara, eye shadow, brilliantine, and perfume sachet in powder form; **Reg. No. 580,207** (CHRISTIAN DIOR), Comptoir de l'Industrie Cotonniere Societe a Responsabilite Limitee, Jewelry for personal wear, not including watches—namely, trinkets, necklaces, bracelets, finger rings, earrings, brooches, and ornamental clips made in whole of, in part of, or plated with precious metals; **Reg. No. 582,398** (DIOR), same, Junior misses' misses' and ladies' coats, dresses, gowns for outerwear, suits, jackets, boleros, evening capes, sport ensembles made up of blouses, vests, and skirts; shawls and scarfs; neckties, cravats, and bow ties; pullovers and sweaters; coats, jackets, capes, stoles, scarfs, muffs, and collars all made of fur; underwear; stockings, shoes and hats; **Reg. No. 592,225** (CHRISTIAN DIOR), same, Men's and boys' coats, suits, jackets, dressing gowns, evening capes, knitted scarves, sweaters, underwear, anklets, socks, stock-

CONDITION OF TRADEMARK APPLICATIONS AS OF AUGUST 31, 1968

Total number of applications awaiting action [excluding renewals and Sec. 12(c)] 15,629
Date of oldest new application ..... August 1, 1967
Date of oldest amended application (filing date) ..... April 28, 1965

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	1- 9-68	10-27-65
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	11-22-67	6- 6-66
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	11- 6-67	4-28-65
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	8- 1-67	1-17-66
Renewals (All Classes)	7-22-68	----------
Sec. 12(c) Publications (All Classes)	7-29-68	----------

Applications filed during the month of August 1968—2,487

Registrations Issued ..... 324—No. 858,129 to No. 858,452
Renewals Issued 100

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

ings, shoes, slippers, hats, handkerchiefs, T-shirts, ski-suits, swimming trunks, swimming and bathing suits, pants, vests, outer shirts, outer shorts, neckties, bow ties, pajamas, beach coats, bathrobes, gloves made of leather, fabric and combinations thereof; scarves and collars made of fur; **Reg. No. 603,232**, same, Christian Dior, Inc., Cigarettes and filter-tip cigarettes; **Reg. No. 613,598** (DIOR), Comptoir de l'Industrie Cotonnier, Societe a Responsabilite Limitee, Men's and boys' coats, suits, jackets, dressing gowns, evening capes, knitted scarves, sweaters, underwear, anklets, socks, stockings, shoes, slippers, hats, handkerchiefs, T-shirts, ski-suits, swimming and bathing suits, pants, vests, outer shirts, outer shorts, neckties, bow ties, pajamas, beach coats, house robes, bathrobes, gloves made of leather, fabric and combinations thereof; scarves and collars made of fur; **Reg. No. 627,009** (CHRISTIAN DIOR), same, Neckties, cravats, and bow ties; **Reg. No. 639,714**, same, Beach wear and swim suits for men and women; **Reg. No. 658,550** (DIOR), same, **Reg. No. 666,045** (MADEMOISELLE DIOR), same, Misses' and ladies' dresses, suits, coats, gowns, hosiery and belts for personal wear, jackets, boleros, capes, stoles, sports ensembles, pullovers, sweater coats, scarfs, muffs, collars, underwear, hats, shoes; **Reg. No. 667,355** (CHRISTIAN DIOR), same, Dolls; **Reg. No. 703,040** (MONSIEUR CHRISTIAN DIOR), Christian Dior Perfumes Corporation, Men's cologne; **Reg. No. 728,024** (THE HOUSE OF DIOR MAISON DIOR), Comptoir de l'Industrie Cotonniere, Junior misses', and ladies' coats, dresses, gowns for outerwear, suits, jackets, boleros, evening capes, sport ensembles made up of blouses, vests, skirts, shawls, and scarfs; junior misses', misses' and ladies' coats, jackets, capes, stoles, muffs and collars all made of fur; men's, junior misses', misses' and ladies' sweaters, underwear, handkerchiefs, stockings, shoes, and hats; and men's neckties, cravats and bow ties, filed Apr. 30, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68-706-PH, *Christian Dior-New York Inc. and Christian Dior, S.A.R.L. v. Edward Winkler, doing business as "Dior."*

Reg. No. 523,754. (See Reg. No. 519,367.)

Reg. No. 537,754. (See Reg. No. 519,367.)

Reg. No. 540,975. (See Reg. No. 519,367.)

Reg. No. 541,088. (See Reg. No. 519,367.)

Reg. No. 541,089. (See Reg. No. 519,367.)

Reg. No. 541,912. (See Reg. No. 519,367.)

Reg. No. 543,994. (See Reg. No. 519,367.)

Reg. No. 567,077. (See Reg. No. 519,367.)

Reg. No. 569,038. (See Reg. No. 519,367.)

Reg. No. 573,430. (See Reg. No. 519,367.)

Reg. No. 577,253. (See Reg. No. 519,367.)

Reg. No. 580,207. (See Reg. No. 519,367.)

Reg. No. 582,398. (See Reg. No. 519,367.)

Reg. No. 592,225. (See Reg. No. 519,367.)

Reg. No. 603,232. (See Reg. No. 519,367.)

Reg. No. 613,598. (See Reg. No. 519,367.)

Reg. No. 627,009. (See Reg. No. 519,367.)

Reg. No. 639,714. (See Reg. No. 519,367.)

Reg. No. 658,550. (See Reg. No. 519,367.)

Reg. No. 666,045. (See Reg. No. 519,367.)

Reg. No. 667,355. (See Reg. No. 519,367.)

Reg. No. 703,040. (See Reg. No. 519,367.)

Reg. No. 728,024. (See Reg. No. 519,367.)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 264,123. Copperloy Corporation, Cleveland, Ohio. Filed Feb. 7, 1967.

Copperloy

Class 19—Vehicles

For Hand Trucks and Pallet Dollies (Int. Cl. 12).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Wheel Chocks and Mechanical Lifting Devices for Pallets (Int. Cl. 7).

Class 50—Merchandise Not Otherwise Classified

For Portable Bridges, Dockboards, Dock Plates, Ramp-Dockboards, Walkboards, Van Ramps, Wheel Raiser Ramps, Hose Ramps, Pallet Ramps, Pallets, Barrel Skids, Stands for Supporting Workmen Adjacent Machinery, Portable Platform, Mobile Loading Yardramps, Mobile Yardramps, and Flat Car Aprons for Bridging the Space Between Flat Cars (Int. Cl. 20).

First use in or about November 1954.

SN 265,134. Sporting Dog Specialties, Inc., Spencerport, N.Y. Filed Feb. 20, 1967.

PRESERVE GAME USE A TRAINED DOG

Applicant disclaims the words "Preserve Game Use a Trained Dog." apart from the mark as shown.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Animal Equipment—Namely, Dog Training Whistles, Dog Training Dummies, Check Cords, Dog Collars, Training Leads, Training Kits Comprising Training Dummies, Whistles, Check Cords and Bird Scents; Training Leads, Dog Combs, Feeding Dishes, Bird Harnesses, Flushing Whips, Bird Carrying Straps, and Tie-Out Chains (Int. Cl. 18).

First use at least as early as Sept. 12, 1960.

Class 6—Chemicals and Chemical Compositions

For Bird and Animal Scents for Training Dogs for Hunting Purposes, Pet Sprays and Deodorants (Int. Cl. 5).

First use at least as early as Sept. 12, 1960.

Class 8—Smokers' Articles, Not Including Tobacco Products

For Ash Trays (Int. Cl. 34).

First use at least as early as June 12, 1966.

Class 22—Games, Toys, and Sporting Goods

For Bird Calls (Int. Cl. 28).

First use at least as early as Sept. 25, 1962.

Class 33—Glassware

For Beverage Glasses (Int. Cl. 21).

First use at least as early as June 12, 1966.

Class 38—Prints and Publications

For Books Relating to Hunting, Shooting, the Training and Care of Dogs, and the Like (Int. Cl. 16).

First use at least as early as June 27, 1962.

Class 39—Clothing

For Hunting Clothes, Handlers' Jackets, and Hunting Belts (Int. Cl. 25).

First use at least as early as Jan. 29, 1962.

SN 266,382. McQuay, Inc., Minneapolis, Minn. Filed Mar. 10, 1967.

HI-F

Class 31—Filters and Refrigerators

For Heating and Cooling Coils for Refrigeration Equipment (Int. Cl. 11).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Heating and Cooling Coils for Heating and Air Conditioning Equipment (Int. Cl. 11).

First use Mar. 1, 1967.

SN 266,439. Mid-States Steel and Wire Company, Crawfordsville, Ind. Filed Mar. 10, 1967.

SPEED FLO

Owner of Reg. No. 636,108.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Round and Flat Steel Strapping, and Strapping Seals (Int. Cl. 6).

Class 14—Metals and Metal Castings and Forgings

For Stitching Wire and Bookbinders' Wire (Int. Cl. 6).

First use Feb. 1, 1948.

SN 272,328. Carter-Day Company, Minneapolis, Minn. Filed May 25, 1967.



The expression "Since 1881" is disclaimed. Owner of Reg. No. 519,520.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Dust Collectors, Fans, Pneumatic Conveying System, Rotary Air Sealed Feeder and Discharge Valves for Use With Pneumatic Conveyor Systems, and Vibratory Conveyors (Int. Cls. 7 and 11).

Class 31—Filters and Refrigerators

For Dust Filters and Pneumatic Filtration Receivers for Removing Entrained Materials in an Air or Gas Flow System (Int. Cl. 11).

First use 1948.

SN 276,597. General Pools Corporation, Addison, Ill. Filed July 24, 1967.



The drawing is lined for the color blue.

Class 12—Construction Materials

For Swimming Pools and Swimming Pool Diving Boards and Ladders (Int. Cl. 19).

Class 21—Electrical Apparatus, Machines, and Supplies

For Swimming Pool Underwater Electric Lights (Int. Cl. 11).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Swimming Pool Circulating Pumps and Water Filtering Units for Use Therewith (Int. Cls. 7 and 11).

First use Mar. 13, 1967.

SN 277,239. Fairey Hydraulics Limited, Heston, Middlesex, England. Filed Aug. 1, 1967.

FLEXEQUIP

Owner of British Reg. Nos. B885,134 and B885,135, dated Oct. 4, 1965.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Flexible Pipes and Tubes (Int. Cl. 17).

Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires

For Flexible Hoses (Int. Cl. 17).

SN 279,685. Shade Business Forms Inc., Green Bay, Wis. Filed Sept. 5, 1967.

SHADE

Class 2—Receptacles

For Business Form Carriers (Int. Cl. 16).
First use Mar. 13, 1967.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Business Form Separators (Int. Cl. 16).
First use Oct. 24, 1966.

SN 281,416. Shamrock-Neatway Products, Inc., Minneapolis, Minn. Filed Sept. 29, 1967.

Shamrock

Owner of Reg. No. 726,430.

Class 2—Receptacles

For Plastic Household Items—Namely, Shoe Boxes With Covers, Utility Boxes With Covers, Hat Boxes, Compartmented Drawer Dividers, Vanity Trays, Serving Trays, Food Dishes With Covers, Food Crispers With Covers, Bread Containers, Refrigerator Bottles, Tumblers, Pitchers, Cereal Bowls, Mixing Bowls, Dish Pans, Buckets, Dust Pans, and Garbage Cans (Int. Cl. 21).

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Dish Drainers (Int. Cl. 21).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Plastic Knives, Forks, Spoons, Spatulas, and Food Scrapers (Int. Cl. 8).

First use 1960.

SN 283,512. Duro-Dyne Corporation, Farmingdale, N.Y. Filed Oct. 27, 1967.

DURO-ZONE

Class 26—Measuring and Scientific Appliances

For Thermostatic Control Units for Hot and Cold Air Systems (Int. Cl. 9).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Control Mechanism for Hot and Cold Air Systems—Namely, Dampers, Damper Blades, and Motor Driven Damper Connectors (Int. Cl. 9).

First use Sept. 15, 1967.

SN 283,595. The Great Atlantic & Pacific Tea Company, Inc., New York, N.Y. Filed Oct. 30, 1967.



Owner of Reg. Nos. 500,974, 835,312, and others.

Class 2—Receptacles

For Clear Plastic Sandwich Bags, Clear Plastic Utility Bags, and Shopping Bags (Int. Cl. 16).
First use June 1, 1964.

Class 37—Paper and Stationery

For Clear Plastic Wrap (Int. Cl. 16).
First use Aug. 11, 1967.

SN 286,396. The Raymond Corporation, Greene, N.Y. Filed Dec. 8, 1967.



Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Goods—Namely, Electric Motors, Motor Brushes, Armatures, Contactors, Electric Switches, Horns, Relays, Rectifiers, Resistors, Fuses, Plugs, Potentiometers, Transformers, Capacitors, and Connectors (Int. Cls. 7 and 9).

Class 26—Measuring and Scientific Appliances

For Electronic Computers, Electric Hour Meters, and Battery Discharge Indicators (Int. Cl. 9).

First use at least as early as September 1966.

SN 289,740. Clairol Incorporated, New York, N.Y. Filed Jan. 29, 1968.

THE QUIET TOUCH

Owner of Reg. No. 791,227.

Class 51—Cosmetics and Toilet Preparations

For Hair Color Rinse, Hair Conditioner, Hair Setting Lotion, Hair Setting Gel, Hair Lightener, Hair Color Lotion, and Hair Spray (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use Dec. 6, 1967.

SN 295,589. Lincoln Metal Products Corporation, Brooklyn, N.Y. Filed Apr. 15, 1968.

BEAUTYWARE

Owner of Reg. Nos. 673,003 and 837,772.

Class 2—Receptacles

For Houseware—Namely, Bread Boxes, Canister Sets, Paper Dispensers, Waste Baskets, Step-On Cans, Cake Server Trays and Covers Therefor, Salt and Pepper Sets (Int. Cl. 21).

Class 29—Brooms, Brushes, and Dusters

For Broom and Dust Pan Sets (Int. Cl. 21).

First use Dec. 1, 1949.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.
A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 263,014. Canadian Hoechst Limited, Montreal, Quebec, Canada. Filed Jan. 23, 1967.

MOWITAL

Owner of Canadian Reg. No. 105,432, dated Jan. 4, 1957.
For Synthetic Resins (Int. Cl. 1).

SN 273,281. Imperial Chemical Industries Limited, Millbank, London, England. Filed June 7, 1967.

SILCOSET

Priority claimed under Sec. 44(d) on British Reg. No. 908,838, dated May 1, 1967. Owner of British Reg. No. 801,626, dated Feb. 12, 1960.
For Artificial Rubbers for Mould Making, Packing, Coating, Stopping, Encapsulating, Sealing and Insulating All Types of Equipment (Int. Cl. 17).

SN 282,349. Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany. Filed Oct. 12, 1967.

NOVOLEN

Owner of German Reg. No. 821,518, dated Mar. 23, 1966.
For Polypropylene Plastics in Powder, Granular, and Pellet Form for Molding or Extrusion Purposes (Int. Cl. 1).

SN 286,392. Vistron Corporation, Cleveland, Ohio. Filed Dec. 6, 1967.

PROFILE

Owner of Reg. No. 777,872.
For Synthetic Monofilament (Int. Cl. 22).
First use Nov. 3, 1967.

SN 301,975. Sunnyside Nurseries, Inc., Hayward, Calif. Filed July 3, 1968.



For Plants and Flowers (Int. Cl. 31).
First use December 1967.

Class 2 — Receptacles

SN 266,092. Resin-Fab Corporation, Belding, Mich. Filed Mar. 6, 1967.



The lines displayed on the drawing conform to the actual display of lines on the specimens and do not indicate color.
For Bulk Storage Tanks (Int. Cl. 20).
First use on or about Sept. 30, 1963.

SN 274,667. Schmidt'sche Heissdampf-Gesellschaft m.b.H., Kassel-Wilhelmshoehe, Germany. Filed June 23, 1967.



Owner of German Reg. No. 800,358, dated Jan. 11, 1964.
For Conveying and Storage Containers Made From Metal, Synthetics or Ceramics, for Solids, Liquid or Gaseous Materials Suitable for All Pressures and Temperatures (Int. Cls. 6, 20, and 21).

SN 275,551. Riegel Paper Corporation, New York, N.Y. Filed July 7, 1967.



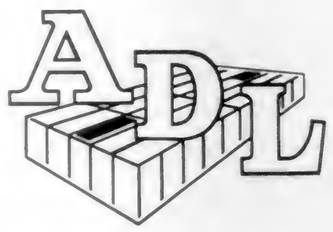
Applicant disclaims exclusive right to the word "Box" from the mark as shown.
For Paperboard Cartons (Int. Cl. 16).
First use May 19, 1967.

SN 277,828. The Fluorocarbon Company, Anaheim, Calif. Filed Aug. 8, 1967.

FLUOROFLO

For Containers for Semi-Conductors Such as Silicone Wafers (Int. Cl. 20).
First use June 8, 1967.

SN 289,734. A.D.L. Cement Products, Inc., Portland, Mich. Filed Jan. 29, 1968.



Applicant disclaims the representation of the goods by itself, except as used in the mark. Owner of Reg. No. 839,798.
For Precast Segment Liquid Storage Tanks, Such as Liquid Manure Storage Pit Tanks and Water Reservoir Tanks (Int. Cl. 19).
First use Sept. 7, 1965.

SN 292,586. The Kroger Co., Cincinnati, Ohio. Filed Mar. 6, 1968.

HOME PRIDE

For Paper Plates (Int. Cl. 21).
First use at least as early as Mar. 31, 1966.

SN 292,941. Lenox, Incorporated, Trenton, N.J. Filed Mar. 11, 1968.

KiDD-i-OS

For Plastic Dinnerware (Int. Cl. 21).
First use Mar. 1, 1968.

SN 294,134. Diamond National Corporation, New York, N.Y. Filed Mar. 26, 1968.

DI-NA-LOOP

For Packaging Card for Receiving, Holding, and Displaying Merchandise for Retail Sale (Int. Cl. 16).
First use Mar. 13, 1968.

SN 298,880. Thermoformed Plastics Corporation, Flushing, N.Y. Filed May 22, 1968.

SOUP T' NUT

For Disposable Plastic Tableware—Namely, Bowls, Plates, and the Like (Int. Cl. 21).
First use on or about Apr. 1, 1968.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 289,578. Eastern Case Co., Inc., Maspeth, N.Y. Filed Jan. 25, 1968.

MILLION MILER

For Luggage (Int. Cl. 18).
First use 1955.

SN 292,114. Lowe's, Inc., Cassopolis, Mich. Filed Feb. 28, 1968.

ROCK-N-CLAW

For Cat Scratching and Exercising Device (Int. Cl. 18).
First use October 1967.

Class 4 — Abrasives and Polishing Materials

SN 270,569. J. Goddard & Sons Limited, Leicester, England. Filed May 3, 1967.

GODDARD'S SHINE KEEPER

The term "Shine Keeper" is disclaimed apart from the mark as a whole. Owner of U.S. Reg. Nos. 260,103, 831,671, and others.
For Polish Containing Tarnish Preventive Preparations (Int. Cl. 3).
First use Mar. 8, 1967; in commerce Mar. 8, 1967.

SN 272,077. Merit Products, Inc., Los Angeles, Calif. Filed May 22, 1967.

MERIT

For Abrasive Articles—Namely, Abrasive Wheels and Abrasive Discs, and Loadings for Such Abrasive Wheels and Abrasive Discs, Abrasive Pads, Cartridge Rolls of Abrasives, Abrasive Belts, and Abrasive Strips (Int. Cl. 7).
First use on or about June 20, 1948.

SN 293,754. The Texas Construction Material Company, Houston, Tex. Filed Mar. 20, 1968.



For Blasting Sand (Int. Cl. 3).
First use on or before July 1, 1959.

SN 302,267. Alberto-Culver Company, Melrose Park, Ill. Filed July 9, 1968.

BLAZE

Owner of Reg. No. 829,616.
For Floor Wax (Int. Cl. 3).
First use Aug. 29, 1967.

Class 5 — Adhesives

SN 271,108. Adchem Corp., Westbury, N.Y. Filed May 10, 1967.



For Double-Coated Adhesive Plastic Films for Use in the Flexographic Printing Industry and Any Other Industry Using Pressure Sensitive, Adhesive Attachments, Which Bond to Both a Rubber Plate and a Cylinder (Int. Cl. 1).
First use approximately Jan. 1, 1967.

SN 285,872. Tire Seal Chemical Corp., North Miami, Fla. Filed Oct. 27, 1967.



Applicant disclaims the word "Tire" and representation of a tire and the letters "eal" combined with the figure of a seal insofar as they represent the word "Seal."
For Liquid Chemical for Use as a Tire Sealant (Int. Cl. 1).
First use Sept. 7, 1967.

SN 288,407. Bigelow-Sanford, Inc., New York, N.Y. Filed Jan. 5, 1968.

Speed-Lok

For Carpet Seaming Adhesive Tape (Int. Cl. 17).
First use Nov. 20, 1967.

Class 6 — Chemicals and Chemical Compositions

SN 285,347. The Pep Boys—Manny, Moe & Jack, d.b.a. Cornell Tire and Rubber Co., Philadelphia, Pa. Filed Nov. 21, 1967.



Owner of Reg. No. 503,440 and others.
For Dressing for Fan Belts To Eliminate Squeaks and Slippage (Int. Cl. 1).
First use Sept. 18, 1967.

SN 287,692. Gevaert-Agfa N.V., Mortsel, Belgium. Filed Dec. 6, 1967.

GEVADEL

Priority claimed under Sec. 44(d) on Belgian Reg. No. 19,955, dated Nov. 20, 1967.
For Chemicals for Use in Photography—Namely, Developers, Fixers, Hardeners, and Replenishers (Int. Cl. 1).

SN 288,623. Kee Lox Manufacturing Company, Rochester, N.Y. Filed Jan. 11, 1968.

KEETONE

For Toner for Use in Copying Machines (Int. Cl. 1).
First use Dec. 11, 1967.

SN 288,774. John F. Brobst, St. Clair Shores, Mich. Filed Jan. 15, 1968.

UNIVERCAL

For Ammonium Carbonate (Int. Cl. 1).
First use November 1967.

SN 289,043. Sun Chemical Corporation, New York, N.Y. Filed Jan. 17, 1968.

PRYM

Owner of Reg. No. 566,626.
For Chemical Compositions Used for Imparting Soil-Releasing Properties to Textile Materials (Int. Cl. 1).
First use Jan. 5, 1968.

SN 289,185. Germain's, Inc., Los Angeles, Calif. Filed Jan. 19, 1968.

"GOOD RIDDANCE"

For Insecticide (Int. Cl. 5).
First use Oct. 3, 1967.

SN 289,186. Germain's, Inc., Los Angeles, Calif. Filed Jan. 19, 1968.

ROSE GUARD

The word "Rose" is disclaimed apart from the mark as shown.
For Combination Insecticide, Herbicide, and Plant Food for Roses (Int. Cl. 5).
First use June 27, 1966.

SN 289,491. Dawson Chemical Company, Houston, Tex. Filed Jan. 24, 1968.

PROPANEX

For Grass and Weed Killer Containing 3',4'-Dichloropropionanilide (Int. Cl. 5).
First use on or about Aug. 15, 1967.

SN 289,516. Mistake Out Company, Dallas, Tex. Filed Jan. 23, 1968.

MISTAKE OUT

Owner of Reg. No. 652,928.
For Correction Fluid for Mistakes Made by Typewriters or Otherwise and Thinner Therefor (Int. Cl. 16).
First use on or about Jan. 4, 1968.

SN 289,888. Geigy Chemical Corporation, Ardsley, N.Y. Filed Jan. 30, 1968.

IRGASOLVENT

Owner of Reg. Nos. 165,426, 783,863, and others.
For Solvents for Dyestuffs (Int. Cl. 1).
First use July 27, 1960.

SN 290,729. Eastman Kodak Company, Rochester, N.Y. Filed Feb. 9, 1968.

KPL

For Photosensitive Lacquer (Int. Cl. 1).
First use Apr. 15, 1965.

SN 290,827. Continental Oil Company, Ponca City, Okla. Filed Feb. 12, 1968.

OFA-6

For Flotation Agent (Int. Cl. 1).
First use Nov. 15, 1967.

SN 291,135. Ciba Limited, Basle, Switzerland. Filed Feb. 15, 1968.



Owner of Swiss Reg. No. 152,461, dated Aug. 26, 1954.
For Chemical Preparations for Killing Weeds and Destroying Vermin, Preparations for Combating Plant Pests, Mordants for Seeds, and Chemical Disinfectants (Int. Cl. 5).

SN 291,136. Ciba Limited, Basle, Switzerland. Filed Feb. 15, 1968.

PREFORAN

Owner of Swiss Reg. No. 223,949, dated Mar. 16, 1967.
For Chemical Preparations for Killing Weeds and Destroying Vermin, and Preparations for Combating Plant Pests (Int. Cl. 5).

SN 292,235. Pennsalt Chemicals Corporation, Philadelphia, Pa. Filed Feb. 16, 1968.

PENSCO

For Laundry Bleach (Int. Cl. 3).
First use Jan. 23, 1968.

SN 297,730. International Dioxcide, Inc., New York, N.Y. Filed May 9, 1968.

CLAUDIUM

For Fungicides (Int. Cl. 5).
First use May 1, 1968.

SN 301,144. Uni-Tech Chemical Manufacturing Company, Sun Valley, Calif. Filed June 24, 1968.

CHOLE-TECH

For Medical Laboratory Kit Containing Reagents and Standards Packed in Bottles for a Procedure for the Determination of Total Cholesterol (Int. Cl. 1).
First use on or before May 9, 1960.

SN 301,145. Uni-Tech Chemical Manufacturing Company, Sun Valley, Calif. Filed June 24, 1968.

URI-PAK

For Medical Laboratory Kit Containing Reagents Packed in Bottles and a Standard for a Colorimetric Method for the Determination of Uric Acid in Serum and Urine (Int. Cl. 1).
First use on or before May 9, 1960.

Class 7 — Cordage

SN 290,489. Frederick C. Halliday, d.b.a. National Cordage Company, Toronto, Ontario, Canada. Filed Feb. 7, 1968.

NATIONAL

Owner of Canadian Reg. No. 118,237, dated May 27, 1960.
For Baler Twine and Binder Twine (Int. Cl. 22).

Class 8 — Smokers' Articles, Not Including Tobacco Products

SN 261,245. Robert F. Winans, Doylestown, Pa. Filed Dec. 21 1966.

KIKO

For Smoking Pipes (Int. Cl. 34).
First use on or about Sept. 18, 1958.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 289,854. Zenith Corporation, Clinton, Mo. Filed Jan. 29, 1968.

BUZZ BOMB

The word "Bomb" is disclaimed apart from the mark as shown. Owner of Reg. No. 439,710.
For Fireworks, More Particularly for Fireworks Consisting of a Projectile Driven Into the Air and Exploding at the Peak of Its Flight (Int. Cl. 13).
First use in or about June 1945.

SN 290,801. Ithaca Gun Company, Incorporated, d.b.a. Ithaca and Ithaca Gun Company, Inc., Ithaca, N.Y. Filed Feb. 12, 1968.

ithacagun

Owner of Reg. Nos. 559,787, 827,454, and others.
For Firearms—Namely, Rifles and Shotguns and Parts Thereof, and Accessories Therefor, Namely, Gun Sights, Recoil Pads, Butt Plates, Gun Cases, Gun Slings, and Carrying Straps (Int. Cl. 13).
First use Dec. 2, 1967, on shotguns and rifles.

SN 302,003. Bangor Punta Operations, Inc., d.b.a. Smith & Wesson, Springfield, Mass. Filed July 5, 1968.

ESCORT

For Automatic Pistols (Int. Cl. 13).
First use June 4, 1968.

Class 10 — Fertilizers

SN 296,389. Agway, Inc., De Witt, N.Y. Filed Apr. 24, 1968.

NITAN

For Chemical Fertilizer (Int. Cl. 1).
First use Feb. 15, 1968.

SN 297,017. Agway, Inc., De Witt, N.Y. Filed May 1, 1968.

U-45

For Chemical Fertilizer (Int. Cl. 1).
First use Oct. 14, 1966.

SN 297,216. Clarence R. Rex, Toledo, Ohio. Filed May 2, 1968.

LYMEBASE

For Combinations of Soil Conditioning and Chemical Ingredients in Powder or Granular Form (Int. Cl. 1).
First use February 1935.

SN 297,359. Agway, Inc., De Witt, N.Y. Filed May 6, 1968.

GREENITE

For Chemical Fertilizer (Int. Cl. 1).
First use Mar. 26, 1968.

Class 12 — Construction Materials

SN 272,837. Lester's, Inc., Lester Prairie, Minn. Filed June 1, 1967.

LESTER'S

For Prefabricated Buildings—Namely, Hog Houses, Dairy Barns, Poultry Houses, Machine and Utility Sheds, Cattle Sheds, and Prefabricated Components of Buildings (Int. Cl. 19).
First use June 1, 1948.

SN 277,889. G. & W. H. Corson, Incorporated, Plymouth Meeting, Pa. Filed Aug. 9, 1967.

CORSON METALSEAL XR 80

Owner of Reg. Nos. 385,860 and 796,250.
For Mortar—Namely, a Finely Ground, Plastic Refractory Material for Use in Laying Refractory Brick (Int. Cl. 19).
First use May 5, 1965.

SN 288,058. Metalex Corporation, Libertyville, Ill. Filed Jan. 4, 1968.

SAF-T-GRATE

For Metallic Floor Grating (Int. Cl. 6).
First use at least as early as Apr. 28, 1967.

SN 295,684. Unicor, Inc., Paramount, Calif. Filed Apr. 15, 1968.

UNICOR

The I-beam design is disclaimed apart from the mark as shown.

For Non-Metallic Core Materials of Plastic, and Structural Shapes Therefor, for Use in Aircraft, Marine, and Other Fields (Int. Cl. 19).

First use Aug. 1, 1964.

SN 296,482. Raymond Rosen & Co., Inc., Philadelphia, Pa. Filed Apr. 16, 1968.



For Highway Safety Stations To Provide School Children Waiting for School Buses Protection Against the Hazards of Weather and Highway Traffic (Int. Cl. 19).

First use February 1961.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 247,936. Albert Lins, Kusnacht, Zurich, Switzerland. Filed June 13, 1966.

temperfix

Priority claimed under Sec. 44(d) on Swiss Reg. No. 216,049, dated Feb. 22, 1966.

For Sanitary and Plumbing Equipment, Especially Temperature-Controlled Mixing Valves for Hot and Cold Water, Filter Inserts for Use With Such Mixing Valves, Seals for Such Mixing Valves, Cocks, Taps, Fittings and Nipples, Temperature-Controlled Safety Valves for Pressurized Vessels, Especially Boilers; and Temperature-Controlled Radiator Valves—Namely, Automatic Regulators for the Radiators of Central Heating Systems (Int. Cl. 9).

SN 286,667. Koch Supplies, Inc., Kansas City, Mo. Filed Mar. 14, 1967.

SUPER 2XN BOWL

The word "Bowl" is disclaimed apart from the mark as a whole.

For Metal Bowls for Food Cutters and Mixers (Int. Cl. 21).

First use on or about Feb. 4, 1967.

SN 279,884. Vance Industries, Inc., Chicago, Ill. Filed Sept. 7, 1967.

VANCE VANVALVE

For Water Faucets for Sinks, Lavatories, Showers, etc. (Int. Cl. 11).

First use June 20, 1967.

Class 14 — Metals and Metal Castings and Forgings

SN 274,397. Bauersche Giesserei, Frankfurt am Main, Germany. Filed June 21, 1967.

IMPRESSUM

For Fonts of Type (Int. Cl. 16).

First use Apr. 18, 1967; in commerce Apr. 18, 1967.

SN 288,491. Bliss & Laughlin Industries Incorporated, Oak Brook, Ill. Filed Jan. 10, 1968.

B&L

Owner of Reg. Nos. 436,537 and 736,665.

For Cold Finished Steel Bars (Int. Cl. 6).

First use Dec. 31, 1929.

SN 295,126. Die Mesh Corp., Pelham, N.Y. Filed Apr. 8, 1968.

ALUMA COMB

For Expanded Aluminum Mesh (Int. Cl. 6).

First use Apr. 1, 1968.

SN 295,923. Detroit Stoker Company, Monroe, Mich. Filed Apr. 18, 1968.

DSC

For Castings and Forgings That Are Used in the Fabrication and Manufacture of Stokers and Parts Therefor (Int. Cl. 6).

First use about Mar. 1, 1932.

SN 302,001. Ametek, Inc., New York, N.Y. Filed July 3, 1968.

AMETEK

The drawing is lined for red. Owner of Reg. Nos. 744,348, 794,058, and others.

For Metal Stampings (Int. Cl. 6).

First use Mar. 21, 1967.

Class 15 — Oils and Greases

SN 283,799. Hess Oil & Chemical Corporation, Perth Amboy, N.J. Filed Oct. 31, 1967.

HESS

Owner of Reg. Nos. 753,201, 823,852, and others.

For Motor Oil (Int. Cl. 4).

First use May 16, 1967.

SN 285,745. R. H. Miller Company, Homer, N.Y. Filed Nov. 28, 1967.

COPPERSKIN

Owner of Reg. No. 187,384.

For Lubricants for Metal Drawing (Int. Cl. 4).

First use September 1959.

SN 291,782. Specialty Products Company, Jersey City, N.J. Filed Feb. 23, 1968.

BIOSOL

For Lubricant Applied to Shears for Cutting Molten Glass (Int. Cl. 4).

First use Jan. 15, 1965.

SN 291,907. Strauss Stores Corporation, Maspeth, N.Y. Filed Feb. 26, 1968.

BELMONT

For Motor Oil (Int. Cl. 4).

First use at least 1929.

Class 16 — Protective and Decorative Coatings

SN 279,179. Dale J. Franklin, d.b.a. The Colored Wax Co., Fort Worth, Tex. Filed Aug. 28, 1967.

CHAMELEON

For Coloring Preparation in Wax Form To Be Used on Automobiles (Int. Cl. 2).

First use May 1, 1967.

SN 279,259. Alpha Metals, Inc., Jersey City, N.J. Filed Aug. 29, 1967.

ETCHCOAT

For Combination Etch-Resistant and Rosin Base Protective Coating for Use in Connection With Printed Circuit Boards (Int. Cl. 2).

First use Sept. 15, 1965.

SN 281,461. Dixon's Paints Limited, Barking, Essex, England. Filed Sept. 29, 1967.

ROGSTONE

Owner of British Reg. No. 820,769, dated May 12, 1961.

For Interior and Exterior Paints (Int. Cl. 2).

SN 286,010. Robert Joseph Herbert, d.b.a. Old Oak Waterproofing, Erie, Pa. Filed Dec. 1, 1967.

OLD OAK

For Waterproofing Wax Which Functions as a Protective Coating for Leather, Metal, Chrome, Tools, and Items of Sporting Goods (Int. Cl. 2).

First use Feb. 18, 1966.

Class 17 — Tobacco Products

SN 282,892. Dixon & Hamilton Tobacco Suppliers, Inc., Kinston, N.C. Filed Oct. 19, 1967.



Applicant disclaims any exclusive rights in the representation of the pipe apart from the mark as shown.

For Pipe Tobacco (Int. Cl. 34).

First use Oct. 2, 1967.

SN 301,322. The American Tobacco Company, New York, N.Y. Filed June 25, 1968.



Owner of Reg. Nos. 92,892 and 163,335.

For Cigars (Int. Cl. 34).

First use May 17, 1968.

SN 301,509. Bayuk Cigars Incorporated, Philadelphia, Pa. Filed June 27, 1968.

OTHELLO

The mark consists of the name of a character in a Shakespeare tragedy.

For Cigars (Int. Cl. 34).

First use Apr. 11, 1968.

SN 302,022. Sutliff Tobacco Company, Richmond, Va. Filed July 5, 1968.

RYO

For Cigarette Tobacco (Int. Cl. 34).
First use June 28, 1968.

SN 302,277. The American Tobacco Company, New York, N.Y. Filed July 9, 1968.

REWARD

For Cigarettes (Int. Cl. 34).
First use July 1, 1968.

Class 18 — Medicines and Pharmaceutical Preparations

SN 277,461. Richardson Merrell S.p.A., Florence, Italy, by merger and change of name from Istituto Chimico Eurosud S.p.A., Rome, Italy. Filed Aug. 3, 1967.



Owner of Italian Reg. No. 179,510, dated July 15, 1966.
For Medicated Lozenges, Tablets, and Caramels, for Use in Alleviating or Eliminating Coughs (Int. Cl. 5).

SN 280,326. Organon Inc., West Orange, N.J. Filed Sept. 14, 1967.

OVOSTAT

For Medicinal Preparation To Inhibit Ovulation (Int. Cl. 5).
First use Aug. 24, 1967.

SN 282,361. Ciba Limited, Basel, Switzerland. Filed Oct. 12, 1967.

ALMICORTEN-V

Priority claimed under Sec. 44(d) on Swiss Reg. No. 226,653, dated Aug. 4, 1967. Owner of U.S. Reg. No. 603,529.
For Cortical Steroid Preparation (Int. Cl. 5).

SN 285,996. Colgate-Palmolive Company, New York, N.Y. Filed Dec. 1, 1967.

IMIBAN

For Nasal Decongestant (Int. Cl. 5).
First use Oct. 31, 1967.

SN 285,997. Colgate-Palmolive Company, New York, N.Y. Filed Dec. 1, 1967.

TRICLOS

For Sedative Hypnotic (Int. Cl. 5).
First use Oct. 31, 1967.

SN 286,087. Bristol-Myers Company, New York, N.Y. Filed Dec. 4, 1967.

ECCOPEN

For Antibiotic (Int. Cl. 5).
First use Sept. 18, 1967.

SN 286,088. Bristol-Myers Company, New York, N.Y. Filed Dec. 4, 1967.

DURACHEM

For Antibiotic (Int. Cl. 5).
First use Sept. 18, 1967.

SN 287,810. Durotex Chemical Company, Weatherford, Okla. Filed Dec. 29, 1967.

STIM-O-STAM

Owner of Reg. No. 716,016.
For Mineral Food Supplement (Int. Cl. 5).
First use June 1, 1957.

SN 288,807. General Nutrition Corporation, d.b.a. Natural Sales Company, Pittsburgh, Pa. Filed Jan. 15, 1968.

C-300

Owner of Reg. No. 741,419.
For Dietary Supplement for Correction or the Prevention of Dietary Deficiencies of Vitamin C (Int. Cl. 5).
First use Feb. 25, 1959.

SN 289,031. Philips Roxane, Inc., New York, N.Y. Filed Jan. 17, 1968.

LYSIGIN

For Veterinary Preparation for Use in Prevention of Mastitis (Int. Cl. 5).
First use Dec. 21, 1967.

Class 19 — Vehicles

SN 278,211. North American Rockwell Corporation, Pittsburgh, Pa., assignee of Hatteras Yacht Company, High Point, N.C. Filed Aug. 14, 1967.

Hatteras

For Motor Yachts (Int. Cl. 12).
First use at least as early as October 1959.

SN 282,811. Monroe-Daniel Inc., Cleveland, Ohio. Filed Oct. 18, 1967.

"THE FLOAT KING"

For Truck and Like Vehicle Seats (Int. Cl. 12).
First use June 1967.

SN 285,546. North American Rockwell Corporation, Pittsburgh, Pa., assignee of Hatteras Yacht Company, High Point, N.C. Filed Nov. 24, 1967.

Hatteras

For Motor Yachts (Int. Cl. 12).
First use at least as early as October 1959.

SN 292,030. Trident Research & Development Corporation Limited, Toronto, Ontario, Canada. Filed Feb. 27, 1968.

SKI-FLEE

Owner of Canadian Reg. No. 137,982, dated Nov. 6, 1964.
For Water Craft—Namely, Motorized Surf Boards (Int. Cl. 12).

SN 292,563. Fenton Manufacturing Corp., Gardena, Calif. Filed Mar. 6, 1968.

HAWK

For Automobile Wheels (Int. Cl. 12).
First use on or about Apr. 1, 1964.

SN 292,564. Fenton Manufacturing Corp., Gardena, Calif. Filed Mar. 6, 1968.

SCORCHER

For Automobile Wheels (Int. Cl. 12).
First use on or about Jan. 1, 1966.

SN 292,565. Fenton Manufacturing Corp., Gardena, Calif. Filed Mar. 6, 1968.

SHARK

For Automobile Wheels (Int. Cl. 12).
First use on or about Mar. 1, 1966.

Class 20 — Linoleum and Oiled Cloth

SN 289,991. Kentile Floors Inc., Brooklyn, N.Y. Filed Jan. 31, 1968.

WEDGE-STONE

For Vinyl Asbestos Tile (Int. Cl. 19).
First use Nov. 20, 1967.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 268,723. General Electric Company, Schenectady, N.Y. Filed Apr. 10, 1967.

Porta Color

The word "Color" is disclaimed apart from the mark as shown.
For Television Receivers, Parts Thereof and Accessories Therefor—Namely, Earphones, Pillow Speakers, and Detachable Glare Reducing Screens (Int. Cl. 9).
First use May 1966.

SN 270,520. Weltronic Company, Southfield, Mich. Filed May 2, 1967.

ALL-COMM

For Electrical Inter-Communication Equipment and Public Address Systems (Int. Cl. 9).
First use Apr. 11, 1967.

SN 273,871. John J. Connolly, New York, N.Y. Filed June 14, 1967.

ToasTreat

For Sandwich Makers, Sandwich Grills, and Waffle Bakers (Int. Cl. 11).
First use September 1965.

SN 274,865. Essex Wire Corporation, Fort Wayne, Ind. Filed June 27, 1967.

BIPIC-2

For Electric Cables (Int. Cl. 9).
First use Aug. 30, 1966.

SN 274,900. Telesis Corporation, Chicago, Ill. Filed June 27, 1967.

TELEMARK

For Equipment Used in Transmitting, Receiving, and Amplifying Radio and Television Signals—Namely, Program Switching Equipment (Int. Cl. 9).
First use Mar. 16, 1967.

SN 274,901. Telesis Corporation, Chicago, Ill. Filed June 27, 1967.



For Equipment Used in Transmitting, Receiving, and Amplifying Radio and Television Signals—Namely, Program Switching Equipment (Int. Cl. 9).
First use Mar. 16, 1967.

SN 275,473. Harold P. Smith, d.b.a. Plains Aluminum Industries, Panhandle, Tex. Filed July 6, 1967.



No claim is made to the representation of a lamp.
For Electric Outdoor Yard Lamps (Int. Cl. 11).
First use June 1, 1967.

SN 278,830. Teledyne, Inc., Mountain View, Calif. Filed Aug. 22, 1967.

MEMA

For Assemblies of Semiconductor Devices, Such as Integrated Circuits, Transistors, Resistors, and Capacitors (Int. Cl. 9).
First use Apr. 24, 1967.

SN 284,896. Dale Electronics, Inc., Columbus, Nebr. Filed Nov. 15, 1967.

GARD

For Electrical Instrument for Testing Resistive Components (Int. Cl. 9).
First use Mar. 22, 1965.

SN 285,328. Hartman Products, Beverly Hills, Calif. Filed Nov. 21, 1967.

Travelite

For Portable Electrically Illuminated Cosmetic Mirror (Int. Cl. 9).
First use Sept. 29, 1967.

SN 288,118. S & A Electronics, Inc., Toledo, Ohio. Filed Jan. 4, 1968.

COLORTONE

For Antennas and Antenna Parts Thereof (Int. Cl. 9).
First use February 1965.

SN 291,164. Klipsch and Associates, Inc., Hope, Ark. Filed Feb. 15, 1968.

LA SCALA

For Loudspeakers (Int. Cl. 9).
First use 1964.

SN 296,732. UID Electronics Corporation, Hollywood, Fla. Filed Apr. 26, 1968.

ULTRA-GLOW

For Electrical Switches (Int. Cl. 9).
First use at least as early as Apr. 3, 1968.

Class 22 — Games, Toys, and Sporting Goods

SN 254,960. Zee International, Inc., Los Angeles, Calif. Filed Sept. 22, 1966.

ZEE

For Toys (Int. Cl. 28).
First use in or about September 1964.

SN 274,346. Rempel Mfg. Co., Inc., West Point, Miss. Filed June 20, 1967.

TROOPER

For Equine Figures Adapted To Be Ridden by Children (Int. Cl. 28).
First use May 4, 1966.

SN 275,615. Blazon, Inc., Akron, Ohio. Filed July 10, 1967.

APACHE

For Equine Figures Adapted To Be Ridden by Children (Int. Cl. 28).
First use Mar. 9, 1967.

SN 282,251. Anchor Hocking Glass Corporation, Lancaster, Ohio. Filed Oct. 11, 1967.



Owner of Reg. Nos. 369,485, 817,381, and others.
For Toy Banks (Int. Cl. 28).
First use about January 1963.

SN 282,255. Anchor Hocking Glass Corporation, Lancaster, Ohio. Filed Oct. 11, 1967.

ANCHOR HOCKING

Owner of Reg. Nos. 756,056, 780,225, and others.
For Toy Banks (Int. Cl. 28).
First use during 1938.

SN 286,421. Lou J. Eppinger Mfg. Co., Dearborn, Mich. Filed Dec. 7, 1967.

KOHO DEVLE

The use of the word "Koho," apart from the mark as shown, is disclaimed. Owner of Reg. No. 805,921.
For Artificial Fish Lures (Int. Cl. 28).
First use on or about Sept. 5, 1967.

SN 292,662. Allied Doll and Toy Corp., Brooklyn, N.Y. Filed Mar. 7, 1968.

PICTURE BOOK TOYS

The word "Toys" is disclaimed apart from the mark as shown.
For Plush Stuffed Toys (Int. Cl. 28).
First use Jan. 23, 1948.

SN 292,873. Wilbur Henry Adams, New York, N.Y. Filed Mar. 11, 1968.

frup

For Collapsible Polygonal Toy (Int. Cl. 28).
First use Mar. 6, 1968.

SN 293,968. What-Cha-Ma-Call-It, Inc., New York, N.Y. Filed Mar. 22, 1968.

MY SON-THE-DOCTOR

For Equipment for Playing a Parlor Type Board Game (Int. Cl. 28).
First use Mar. 13, 1968.

SN 295,187. A. G. Spalding & Bros. Inc., Chicopee, Mass. Filed Apr. 8, 1968.

ENCORE

Owner of Reg. No. 853,131.
For Golf Balls (Int. Cl. 28).
First use Feb. 14, 1968.

SN 295,188. A. G. Spalding & Bros. Inc., Chicopee, Mass. Filed Apr. 8, 1968.

REBEL

For Golf Balls (Int. Cl. 28).
First use Feb. 14, 1968.

SN 295,189. A. G. Spalding & Bros. Inc., Chicopee, Mass. Filed Apr. 8, 1968.

TRU-CHANNEL

For Basketballs (Int. Cl. 28).
First use Dec. 15, 1967.

SN 298,670. ABC Industries, Inc., Milwaukee, Wis. Filed May 21, 1968.

GOLF/MATE

No claim of exclusive right is made to "Golf" for the goods recited.
For Head Covers for Golf Clubs, Golf Bags, Golf Bag Carriers, Bags for Golfing Accessories, and Golf Gloves (Int. Cl. 28).
First use Jan. 29, 1968.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 269,415. Gewerkschaft Eisenhuette Westfalia, Wethmar, near Luenen, Germany. Filed Apr. 18, 1967.

WESTFALIA-*international*

Priority claimed under Sec. 44(d) on German application filed Oct. 22, 1966; Reg. No. 828,864, dated Jan. 23, 1967.
For Mining Machinery and Mining Tools, and Parts Therefor (Int. Cls. 7 and 8).

SN 278,242. Research-Cottrell, Inc., Bound Brook, N.J. Filed Aug. 14, 1967.

INCINO-TRELL

Owner of Reg. No. 647,418.
For Gas Scrubbers for Incinerators (Int. Cl. 7).
First use about June 19, 1967.

SN 278,424. Sears, Roebuck and Co., Chicago, Ill. Filed Aug. 16, 1967.

PERMANEX

For Blow-Molded Plastic Tool Boxes and Cases Containing Hand Tools—Namely, Socket Wrench Sets (Int. Cl. 8).
First use on or about Mar. 2, 1967.

SN 282,340. American Gage & Machine Company, Elkhart, Ind. Filed Oct. 12, 1967.

LaBour pump company

No claim is made to the words "Pump Company" or to the representation of the goods. Owner of Reg. Nos. 521,117 and 525,608.
For Fluid Handling Pumps (Int. Cl. 7).
First use July 15, 1964.

SN 285,212. Duncan Ceramic Products, Inc., Fresno, Calif. Filed Nov. 20, 1967.

Duncan

The representations of a bowl and a vase are disclaimed apart from the mark as shown.
For Ceramic Casting Molds (Int. Cl. 20).
First use Nov. 13, 1967.

SN 289,981. Ferguson Industries, d.b.a. Agricultural Chemical Equipment Division, Dallas, Tex. Filed Jan. 31, 1968.

FERT-O-BATCHER

For Machine for Blending Fertilizer (Int. Cl. 7).
First use Sept. 27, 1967.

SN 290,242. B-M-B Company, Inc., Holton, Kans. Filed Feb. 5, 1968.

TWIN BRUTE

Owner of Reg. No. 716,822.
For Rotary Mowers (Int. Cl. 7).
First use on or about Feb. 4, 1956.

SN 290,962. Liqui-Trol Systems, Inc., Brookfield, Ill. Filed Feb. 13, 1968.

LIQUI-THERM

For Liquid Handling Systems Including Motors, Pumps, Valves, and Piping (Int. Cl. 7).
First use on or before Dec. 15, 1967.

SN 290,963. Liqui-Trol Systems, Inc., Brookfield, Ill. Filed Feb. 13, 1968.

LT

For Liquid Handling Systems Including Motors, Pumps, Valves, and Piping (Int. Cl. 7).
First use on or before Dec. 15, 1967.

SN 290,964. Liqui-Trol Systems, Inc., Brookfield, Ill. Filed Feb. 13, 1968.

UNIPAC

For Liquid Handling Systems Including Motors, Pumps, Valves, and Piping (Int. Cl. 7).
First use on or before Dec. 15, 1967.

SN 290,996. "Automatic" Sprinkler Corportaion of America, d.b.a. Ascoa, Elmira, N.Y. Filed Feb. 14, 1968.

CORONET

For Fire Extinguishers and Parts Thereof (Int. Cl. 9).
First use Apr. 21, 1967.

SN 291,380. General Appliance Manufacturing Co., Omaha, Nebr. Filed Feb. 19, 1968.

TRIM-A-LAWN

For Power Mowers and Garden Tractors (Int. Cls. 7 and 12).
First use Apr. 5, 1966.

SN 292,584. Koinzan Seed & Flying Service, Inc., Elgin, Nebr. Filed Mar. 6, 1968.

Tube-Wick

For Cattle Oilers (Int. Cl. 7).
First use on or about July 1, 1966.

SN 296,850. Liqui-Trol Systems, Inc., Brookfield, Ill. Filed Apr. 29, 1968.

LIQUI-TROL

For Liquid Handling Systems Including Motors, Pumps, Valves, and Piping (Int. Cl. 7).
First use on or before Dec. 15, 1967.

Class 26—Measuring and Scientific Appliances

SN 235,478. AGA Aktiebolag, Stockholm-Lidingo, Sweden. Filed Dec. 29, 1965.

THERMOVISION

Owner of Swedish Reg. No. 111,450, dated Nov. 20, 1964.
For Thermographic Instrument, Consisting of an Infra-Red Sensitive Camera and a Display Screen, for Presenting the Temperature Distribution of an Object as an Image on the Display Screen, and Useful in Medical Diagnosis (Int. Cl. 9).

SN 255,642. Perfect Photo, Inc., Philadelphia, Pa. Filed Oct. 3, 1966.

Perfect

Owner of Reg. No. 741,081.
For Cameras and Flash Guns (Int. Cl. 9).
First use Nov. 1, 1965.

SN 265,232. Winslow Tele-Tronics, Inc., Asbury Park, N.J. Filed Feb. 21, 1967.

LAVAC

For Electronic Laser Atmospheric-Visibility-Contamination Measuring Unit (Int. Cl. 9).
First use Jan. 4, 1967.

SN 268,135. Adret Electronique, Paris, France. Filed Apr. 3, 1967.

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Priority claimed under Sec. 44(d) on French Reg. No. 714,521, dated Oct. 12, 1966.
For Varying Frequency Electronic Generators (Int. Cl. 9).

SN 268,136. Adret Electronique, Paris, France. Filed Apr. 3, 1967.

ADRET ELECTRONIQUE

Priority claimed under Sec. 44(d) on French Reg. No. 714,522, dated Oct. 12, 1966. No claim is made to exclusive rights in the word "Electronique" apart from the mark as shown.
For Varying Frequency Electronic Generators (Int. Cl. 9).

SN 269,341. Oregon Museum of Science & Industry, Portland, Oreg. Filed Apr. 17, 1967.



For Kits Used as Teaching Aids Having Included Therein Some or All of the Following Items: Scales, Rubber Balls, Batteries, Alcohol Burners, Candles, Various Chemicals, Compasses, Modeling Clay, Beakers, Bottles, Styrofoam Cups, Corks, Medicine Droppers, Flints, Funnels, Magnets, Mirrors, Microscope Slides, Paper, Filter Sheets, Protractors, Rulers, Sand, Seeds, Sponges, Stopwatches, Measuring Tapes, Timers, Tongs, Toothpicks, Tweezers, Washers, Wax, Weights, and Wire (Int. Cl. 9).
First use 1958.

SN 273,878. Essoldomatic Limited, London, England. Filed June 14, 1967.

CINEMATION

Owner of British Reg. No. 864,773, dated May 27, 1964.
For Programmed Control Systems for Operating and Controlling Theater Functions Such as Film Projection, Lighting, Heating, Ventilation, and the Like (Int. Cl. 9).

SN 275,716. White Electronic Development Corporation (1966), Limited, Rexdale, Canada. Filed July 10, 1967.

White Electronics

The word "Electronics" is disclaimed apart from the mark as a whole, while reserving all common law rights thereto.
For Language Teaching Machines Utilizing Recorded Instruction and Playback Capacity and Having Visual Input Capacity (Int. Cl. 9).
First use Oct. 1, 1956; in commerce Mar. 2, 1967.

SN 279,185. GAF Corporation, New York, N.Y., by change of name from General Aniline & Film Corporation, New York, N.Y. Filed Aug. 28, 1967.

PLESTAR

Owner of Reg. No. 708,263.
For Sensitized Film and Film Base (Int. Cl. 1).
First use May 18, 1959.

SN 280,152. Glenn H. Dutton, d.b.a. Dutton Mfg. Co., El Cajon, Calif. Filed Sept. 12, 1967.

ROTO-TANK

Applicant disclaims the term "Roto Tank" appearing as part of the mark.
For Electrically Powered Photographic Developer (Int. Cl. 9).
First use Aug. 3, 1967.

SN 285,048. Norman Industries, Inc., Chicago, Ill. Filed Nov. 16, 1967.

SEE-ALL

Owner of Reg. Nos. 682,561 and 707,631.
For Dummy Cameras for Mounting on a Wall or Ceiling for the Purpose of Deterring Shoplifting, Reducing Pilferage Losses and Robberies; and Surveillance Cameras for Mounting on a Wall or Ceiling for Detecting, Among Other Things, Shoplifting, Pilferage and Robbery (Int. Cl. 9).
First use Nov. 30, 1959.

SN 289,171. The Citizen and Southern National Bank, Atlanta, Ga. Filed Jan. 19, 1968.

THE KNOW-IT-ALL

For Sliding Card Scale for Computing Interest (Int. Cl. 9).
First use Dec. 26, 1967.

SN 290,602. Foster Grant Co., Inc., Leominster, Mass. Filed Feb. 8, 1968.

SKINNIES

For Sunglasses (Int. Cl. 9).
First use in or about December 1967.

SN 291,244. Berkeley Scientific Laboratories, Berkeley, Calif. Filed Feb. 16, 1968.

CLINDATA

For Electronic Data Systems for Processing and Analyzing Clinical Laboratory Data (Int. Cl. 9).
First use September 1966.

SN 301,673. N. P. Benson Optical Company, d.b.a. Benson Optical Company, Minneapolis, Minn. Filed July 1, 1968.

ORKON

For Corrected Curve High Quality Lenses as a Component of Prescription Eye Wear (Int. Cl. 9).
First use on or about Jan. 1, 1939.

SN 301,683. The Parker Pen Company, Janesville, Wis. Filed July 1, 1968.

birdwatchers

For Sunglasses (Int. Cl. 9).
First use May 29, 1968.

Class 27 — Horological Instruments

SN 270,234. Merchandisers Association, Inc., Chicago, Ill., assignee of Croton Watch Co. Inc., Croton-on-Hudson, N.Y. Filed Apr. 28, 1967.

PIERRE VALLEE

The name "Pierre Vallee" is fanciful.
For Watches (Int. Cl. 14).
First use on or about Dec. 14, 1966.

SN 275,773. Miravine Importacao Ltda., Sao Paulo, Brazil. Filed July 11, 1967.

MIRVAINE

Owner of Brazilian Reg. No. 351,318, dated Mar. 31, 1967.
For Watches and Clocks (Int. Cl. 14).

SN 285,156. Southwestern Drug Corporation, d.b.a. Raco Products, Dallas, Tex. Filed Nov. 17, 1967.

RĀCO

Owner of Reg. No. 729,523.
For Clocks (Int. Cl. 14).
First use November 1957.

SN 287,448. Movado Watch Agency, Inc., New York, N.Y. Filed Dec. 22, 1967.

KINGMATIC HS 360

Owner of Reg. Nos. 649,695 and 750,850.
For Watches (Int. Cl. 14).
First use Dec. 4, 1967.

Class 28 — Jewelry and Precious-Metal Ware

SN 261,493. The House of Commons, Inc., Kansas City, Mo. Filed Dec. 27, 1966.

Cosmic
THE NAME FOR FINE DIAMOND RINGS

Without relinquishing any of its common law rights therein and without prejudice or affect to its right to use or register the same, applicant disclaims the words "The Name for Fine Diamond Rings" apart from the mark as shown. Owner of Reg. No. 596,395.
For Diamond Rings (Int. Cl. 14).
First use Sept. 3, 1966.

Class 31 — Filters and Refrigerators

SN 254,327. Super Freeze Company, Burbank, Calif. Filed Sept. 12, 1966.

SUPER-FREEZE

For Prefabricated Walk-In Cooler and Freezer Rooms, and Parts Thereof—Namely, Meat Rails, Shelving, Cold Storage Doors and Frames (Int. Cl. 11).
First use July 1, 1948.

SN 263,228. Saint-Gobain Techniques Nouvelles, Courbevoie (Seine), France. Filed Jan. 17, 1967.

SGN

For Filters and Filter Housings for Filtration of Gases, With Particular Relation to the Filtration of Gases From Nuclear Processes, and to Prevention of Air Pollution by Industrial Processes (Int. Cl. 11).
First use on or about Oct. 1, 1965; in commerce on or about Oct. 1, 1965.

SN 266,250. Pall Corporation, Glen Cove, N.Y. Filed Mar. 8, 1967.

MICRO-MAG

For Magnetic Filter Units Primarily for Use in Industrial Liquid Filtration, and Parts Thereof (Int. Cl. 11).
First use Nov. 21, 1966.

SN 266,251. Pall Corporation, Glen Cove, N.Y. Filed Mar. 8, 1967.

WAFLO

For Filter Elements for Liquid and Gas Filtration (Int. Cl. 11).
First use Nov. 21, 1966.

SN 271,768. Chemetron Corporation, Chicago, Ill. Filed May 18, 1967.

ULTRA-FREEZE

For Freezing and/or Cooling Apparatus Employing Liquid and/or Gas Refrigerant Materials (Int. Cl. 11).
First use Oct. 17, 1966.

SN 277,973. Artesian Water Conditioning, Inc., Flint, Mich. Filed Aug. 10, 1967.

Artesian

For Water Treatment Equipment—Namely, Water Softeners, Water Filters, and Water Conditioners for Industrial, Commercial, and Residential Use (Int. Cl. 11).
First use July 20, 1958.

SN 278,893. Liquid Carbonic Corporation, Chicago, Ill. Filed Aug. 23, 1967.

INF

For Liquid Nitrogen Freezing Installations for Freezing Food (Int. Cl. 11).
First use July 7, 1966.

SN 281,679. The Beverator Co., Aurora, Ill. Filed Oct. 3, 1967.

BEVERATOR

For Refrigerated Dispensers for Dairy Products and Fruit Drinks (Int. Cl. 11).
First use Sept. 12, 1967.

SN 282,779. Dole Refrigerating Company, Chicago, Ill. Filed Oct. 18, 1967.

KENCO

For Refrigerator Components—Namely, Components of Molded Fiberglass Reinforced Polyester Resin (Int. Cl. 11).
First use on or about Feb. 5, 1968.

SN 283,822. Space Conditioning, Inc., Harrisonburg, Va. Filed Oct. 31, 1967.

SPACE PAK

For Air Conditioning Units for Domestic Use (Int. Cl. 11).
First use July 29, 1966.

Class 32 — Furniture and Upholstery

SN 268,699. Central Fixture Manufacturing Company, St. Louis, Mo. Filed Apr. 10, 1967.

Showave

For Display Racks for Shoes and Shoe Accessories (Int. Cl. 20).
First use on or about Feb. 28, 1966.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 259,035. Slant/Fin Corporation, Greenvale, N.Y. Filed Nov. 18, 1966.

CLIMATE COMMAND

For Combination Heating, Cooling and Air Conditioning Units Which Are Capable of Individual Use and Use in a Series (Int. Cl. 11).
First use Oct. 19, 1966.

SN 266,396. Compak-O-Matic, Inc., Alsip, Ill., assignee of Acme Welding Supply Co., Chicago, Ill. Filed Mar. 10, 1967.

ROTO-SHIELD

For Welding Apparatus—Namely, a Machine Barrel for an Automatic Welding Head (Int. Cl. 7).
First use May 28, 1965.

SN 272,631. Precision Welder and Flexopress Corp., Cincinnati, Ohio. Filed S.R. May 29, 1967; Am. P.R. Aug. 8, 1968.

PRECISION

Owner of Reg. Nos. 432,196 and 764,682.
For Resistance Welding Machines (Int. Cl. 7).
First use May 8, 1945.

SN 274,248. Sigma Systems Corporation, San Diego, Calif. Filed June 19, 1967.

TAB-GUN

For Hand Held Hot Air Blower (Int. Cl. 11).
First use May 16, 1966.

SN 274,871. Hardwick Stove Company, Cleveland, Tenn. Filed June 27, 1967.

EVERKLEEN

For Electric Cooking Ranges and Gas Cooking Ranges (Int. Cl. 11).
First use May 29, 1967.

SN 276,515. Alpha Metals, Inc., Jersey City, N.J. Filed July 21, 1967.

MILROS

For Soldering Fluxes (Int. Cl. 1).
First use June 1, 1967.

SN 276,516. Alpha Metals, Inc., Jersey City, N.J. Filed July 21, 1967.

ALLROS

For Soldering Flux (Int. Cl. 1).
First use June 1, 1967.

SN 276,517. Alpha Metals, Inc., Jersey City, N.J. Filed July 21, 1967.

RELIACOR

For Solder (Int. Cl. 6).
First use Feb. 23, 1966.

SN 276,518. Alpha Metals, Inc., Jersey City, N.J. Filed July 21, 1967.

RELIAFOAM

For Soldering Flux (Int. Cl. 1).
First use June 1, 1963.

SN 276,519. Alpha Metals, Inc., Jersey City, N.J. Filed July 21, 1967.

RELIAROS

For Soldering Flux (Int. Cl. 1).
First use June 1, 1967.

SN 279,258. Alpha Metals, Inc., Jersey City, N.J. Filed Aug. 29, 1967.

ECONOFLUX

For Soldering Flux (Int. Cl. 1).
First use July 16, 1964.

SN 279,260. Alpha Metals, Inc., Jersey City, N.J. Filed Aug. 29, 1967.

HYDROSOLV

For Soldering Flux (Int. Cl. 1).
First use June 1, 1967.

SN 279,262. Alpha Metals, Inc., Jersey City, N.J. Filed Aug. 29, 1967.

UNI-CORE

For Solder (Int. Cl. 6).
First use Mar. 3, 1948.

SN 279,562. The McKay Company, Pittsburgh, Pa. Filed Sept. 1, 1967.

ToolAlloy

For Welding Electrodes (Int. Cl. 9).
First use Sept. 9, 1963.

SN 285,354. Stanley Kessler & Co., Inc., King of Prussia, Pa. Filed Nov. 21, 1967.

SOFT ARC

The word "Arc" is disclaimed when used apart from the mark as shown.
For Welding Electrodes of Stainless Steel for Welding Stainless Steel (Int. Cl. 9).
First use Jan. 13, 1967.

SN 289,693. Jenn-Air Corporation, Indianapolis, Ind. Filed Jan. 26, 1968.

JENN-AIR

Owner of Reg. No. 599,333.
For Ventilating Equipment—Namely, Air Ventilating and Exhausting Apparatus (Int. Cl. 11).
First use Apr. 2, 1948.

SN 290,100. Jenn-Air Corporation, Indianapolis, Ind. Filed Feb. 1, 1968.



Owner of Reg. No. 837,942.
For Stoves (Int. Cl. 11).
First use Nov. 18, 1966.

SN 290,903. Skuttle Manufacturing Company, Milford, Mich. Filed Feb. 12, 1968.

HUMIDIMATIC

For Air Humidifying Apparatus and Parts Thereof (Int. Cl. 11).
First use February 1961.

SN 291,098. Pullman, Incorporated, Pittsburgh, Pa. Filed Feb. 14, 1968.

ROLL-A-FLOW

For Roller Hearth Kilns (Int. Cl. 11).
First use June 29, 1967.

SN 291,819. Vertibroil Inc., Long Island City, N.Y. Filed Feb. 26, 1968.

Vertibroil 90

For Charcoal Fueled Combination Grill and Stove (Int. Cl. 11).
First use Sept. 1, 1965.

SN 300,775. Caloric Corporation, Topton, Pa. Filed June 19, 1968.

ULTRA-CLEAN

For Self-Cleaning Gas Ranges (Int. Cl. 11).
First use May 3, 1968.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 281,132. Technical Rubber Company, Inc., Johnstown, Ohio. Filed Sept. 25, 1967.

UNI-SEAL

The word "Seal" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 551,038 and 797,217.
For Self-Vulcanizing, Inside Repair for Tubeless Tires, in the Nature of Repair Plugs and Patches (Int. Cl. 12).
First use Aug. 3, 1967.

SN 285,919. Regional Services Corporation, Washington, D.C., assignee of The General Tire & Rubber Company, Akron, Ohio. Filed Nov. 30, 1967.

CLUB

For Tires (Int. Cl. 12).
First use Nov. 10, 1967.

SN 294,004. The Armstrong Rubber Company, West Haven, Conn. Filed Mar. 25, 1968.

HPG

For Pneumatic Tires (Int. Cl. 12).
First use on or about June 6, 1967.

SN 294,047. The Hercules Tire & Rubber Company, Findlay, Ohio. Filed Mar. 25, 1968.

HERCUPREME

For Pneumatic Tires and Tubes (Int. Cl. 12).
First use Feb. 22, 1968, on tires.

SN 297,562. The Hercules Tire & Rubber Company, Findlay, Ohio. Filed May 7, 1968.

POLARPREME

For Pneumatic Tires and Tubes (Int. Cl. 12).
First use Apr. 9, 1968, on tires.

SN 298,725. The Hercules Tire & Rubber Company, Findlay, Ohio. Filed May 21, 1968.

HERCUGRIP

For Pneumatic Tires and Tubes (Int. Cl. 12).
First use Apr. 9, 1968, on tires.

SN 301,305. "Automatic" Sprinkler Corporation of America, d.b.a. Blaze Guard Manufacturing, Cleveland, Ohio. Filed June 25, 1968.

LIFETIME TUBE

Applicant disclaims "Tube" apart from the mark as shown.
For Fire Hose (Int. Cl. 17).
First use at least as early as Sept. 1, 1964.

Class 36 — Musical Instruments and Supplies

SN 223,515. Bible Voice, Inc., Van Nuys, Calif. Filed July 16, 1965.

BIBLE VOICE

Applicant disclaims the word "Voice" apart from the mark as shown.
For Prerecorded Magnetic Tapes, Tape Recorders, Reproducers, Phonograph Records, and Phonographs (Int. Cl. 9).
First use October 1964.

SN 271,905. Atlas Films, Inc., New York, N.Y. Filed May 19, 1967.

PLAZA

For Magnetic Recording Tapes (Int. Cl. 9).
First use Apr. 2, 1962.

SN 285,069. Solo, Inc., Camden, S.C. Filed Nov. 16, 1967.



Applicant disclaims the representation of a phonograph record separate and apart from the mark as shown.
For Phonograph Records (Int. Cl. 9).
First use July 1966.

SN 288,125. Walter E. Smith, Caldwell, Idaho. Filed Jan. 4, 1968.

SKREEM⚡ER

For Guitars (Int. Cl. 15).
First use Dec. 11, 1967.

SN 288,332. M. Lidell, Inc., New York, N.Y. Filed Jan. 8, 1968.

GUITALIA

For Guitars (Int. Cl. 15).
First use Dec. 18, 1967.

SN 297,604. Sanders Associates, Inc., Nashua, N.H. Filed May 7, 1968.



For Tape Recorders (Int. Cl. 9).
First use Apr. 5, 1968.

Class 37 — Paper and Stationery

SN 199,986. H. A. Friend & Company, Inc., Zion, Ill. Filed Aug. 17, 1964.

SECURITY PARCHMENT

For Cotton Fibre Content Bond Writing and Typing Papers (Int. Cl. 16).
First use 1920.

SN 297,210. The Pantasote Company of New York, Inc., New York, N.Y. Filed May 2, 1968.

PANTA-WRAP

For Packaging and Wrapping Films, Sheets, and Strips of Plastic Material, Such as Polyvinyl Chloride, Polystyrene, Polyethylene, and Polypropylene (Int. Cl. 16).
First use November 1967.

Class 38 — Prints and Publications

SN 271,001. Zenith Radio Corporation, Chicago, Ill. Filed May 8, 1967.

ZENITH

Owner of Reg. Nos. 164,341, 828,809, and others.
For Radio and Television Service Manuals, and Replacement Parts and Accessories Manuals (Int. Cl. 16).
First use at least as early as 1931.

SN 272,346. Biograph Pictures, Inc., Oakland, N.J. Filed May 25, 1967.

BIOGRAPH PICTURES

Applicant disclaims the word "Pictures" apart from the mark as shown.
For Motion Picture Films (Int. Cl. 9).
First use December 1948.

SN 275,678. McGraw-Hill, Inc., New York, N.Y. Filed July 10, 1967.

DODGE CONSTRUCTION NEWS

Owner of Reg. Nos. 209,212, 289,435, and 291,900.
For Daily Newsletter (Int. Cl. 16).
First use May 15, 1967; 1946 as to "Dodge"; Jan. 1, 1947, as to "Construction News."

SN 278,377. The Reuben H. Donnelley Corporation, New York, N.Y. Filed Aug. 16, 1967.

TravelAge

For Newspaper for Travel Agencies (Int. Cl. 16).
First use on or before July 7, 1967.

SN 284,235. Photocompositors, Inc., Shawnee Mission, Kans. Filed Nov. 6, 1967.

YOUNG AMERICA TODAY

For Newspaper and Magazine Column (Int. Cl. 16).
First use Feb. 6, 1967.

SN 285,648. Chartcraft Inc., Larchmont, N.Y. Filed Nov. 27, 1967.

CompuStrength

For Printed Technical Stock Analysis and Investment Advisory Reports (Int. Cl. 16).
First use Oct. 5, 1967.

SN 288,358. Leonard M. Sive and Associates, Inc., Cincinnati, Ohio. Filed Jan. 8, 1968.

tradewinds

For Advertising, Marketing, Public Relations Newsletter Published From Time to Time (Int. Cl. 16).
First use Oct. 10, 1963.

SN 294,559. Shields & Company, New York, N.Y. Filed Apr. 1, 1968.

THE COMPUTER STRATEGIST

For Newsletter Dealing With Financial Matters Published From Time to Time (Int. Cl. 16).
First use Oct. 18, 1966.

SN 295,794. Charles T. Evans, d.b.a. Safety Motivations, Newtown, Pa. Filed Apr. 17, 1968.

SAFETY-torials

For Pamphlets, and Feature Columns Published Periodically (Int. Cl. 16).
First use Oct. 20, 1966.

SN 298,664. McGraw-Hill, Inc., New York, N.Y. Filed Apr. 19, 1968.

CTBS

Owner of Reg. No. 835,515.
For Printed Educational Testing Materials—Namely, Instruction Manuals, Test Manuals and Handbooks, Guide Interpretation Manuals Therefor and Testing Score Summaries Therefor (Int. Cl. 16).
First use Feb. 2, 1968.

SN 302,195. McGraw-Hill, Inc., New York, N.Y. Filed July 8, 1968.

NEWSREEL

For Bi-Monthly Magazine (Int. Cl. 16).
First use Jan. 24, 1966.

Class 39—Clothing

SN 272,359. Commonwealth Shoe & Leather Co., Inc., Whitman, Mass. Filed May 25, 1967.

DENNY MURRAY

The name "Denny Murray" is fanciful.
For Men's Shoes (Int. Cl. 25).
First use July 1944.

SN 272,831. Hartly, Inc., Westwood, N.J. Filed June 1, 1967.

Hartly

For Women's Wearing Apparel—Namely, Dresses, Coats and Suits, Skirts, Jackets, Sweaters, Blouses, Bathing Suits, Beach Jackets, Play Dresses, Shorts, and Slacks (Int. Cl. 25).
First use Dec. 1, 1958.

SN 288,196. Ted C. Deutsch, d.b.a. Lane Mate Manufacturing Company, Cincinnati, Ohio. Filed Jan. 5, 1968.

LANE MATE

For Ladies' Bowling Blouses and Shirts; Men's Bowling Blouses and Shirts; and Children's Bowling Blouses and Shirts (Int. Cl. 25).
First use Apr. 16, 1962.

SN 288,247. Wembley, Inc., New Orleans, La. Filed Jan. 5, 1968.

COCOANUT WEAVE

Without waiving any common law rights or rights which have been or may be acquired by way of secondary meaning, the word "Weave" is disclaimed apart from the mark as shown.
For Men's Neckwear (Int. Cl. 25).
First use Nov. 1, 1967.

SN 291,407. Kayser-Roth Corporation, New York, N.Y. Filed Feb. 19, 1968.

KR

For Men's, Women's, Boys', and Girls' Hosiery, Shorts, Slacks, Sweaters, Swimsuits, Robes, Pajamas; Women's Panty Hose, Blouses, Suits, Bed Jackets, Brassieres, Girdles, Shifts, Night Gowns, Gloves; Women's and Girls' Tights, Skirts, Lingerie, Hostess Gowns, Housecoats, Panties; Men's and Women's Slippers, Shirts; Men's and Boys' Belts, Undershirts, Undershorts, Car Coats, and Sports Jackets; and Infants' Sleepwear and Underwear (Int. Cl. 25).
First use Sept. 8, 1958.

SN 291,870. Huntley of York, Ltd., York, S.C. Filed Feb. 26, 1968.

TREND-II

Owner of Reg. No. 693,544.
For Ladies' Wearing Apparel—Namely, Suits, Skirts, Blouses, Shirts, Jackets, Sweaters, Pants, Dresses, and Walk Shorts (Int. Cl. 25).
First use Nov. 10, 1967.

SN 292,954. Palizzio, Inc., New York, N.Y. Filed Mar. 11, 1968.

RAMARIO

For Women's Shoes (Int. Cl. 25).
First use Mar. 4, 1968.

SN 293,896. Apparel, Inc., Mebane, N.C. Filed Mar. 22, 1968.

TUPPENCE

For Ladies' and Girls' Dresses, Suits, Jackets, Blouses, and Skirts (Int. Cl. 25).
First use October 1966.

SN 294,291. Litt-Gluck Co., Inc., New York, N.Y. Filed Mar. 27, 1968.

CRAIG/CRAELY

The names "Craig" and "Craely" are fanciful. Owner of Reg. Nos. 386,293 and 571,641.
For Women's and Misses' Dresses and Women's and Misses' Sportswear—Namely, Dresses and Bathing Suits (Int. Cl. 25).
First use 1965.

SN 294,748. Plymouth Wholesale Corporation, New York, N.Y. Filed Apr. 2, 1968.

WESTVALE

For Jackets and Outer Dress and Sport Shirts for Men, Young Men, and Boys (Int. Cl. 25).
First use Aug. 22, 1967, on outer shirts.

SN 301,032. Berkley Cravats Ltd., New York, N.Y. Filed June 21, 1968.

"KIPPER"

For Men's Ties (Int. Cl. 25).
First use Mar. 7, 1968.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 290,674. Wedgwood Fabrics, New York, N.Y. Filed Feb. 8, 1968.

PATTERN-MAKER

For Fabrics for Manufacture Into Men's or Women's Inner and Outerwear, Including Lingerie, Dresses, Coats, Suits, and the Like (Int. Cl. 24).
First use Aug. 7, 1967.

SN 297,157. Allied Stores Corporation, New York, N.Y. Filed May 2, 1968.

VARDON

For Sheets and Pillow Cases, Mattress Pads and Covers, Tablecloths, Blankets, Comforters, Bed Spreads, and Scatter Rugs (Int. Cls. 24 and 27).
First use November 1962.

Class 44—Dental, Medical, and Surgical Appliances

SN 266,380. Holco Instrument Corporation, New York, N.Y. Filed Mar. 7, 1967.

HOLCO

For Surgical, Dental, Veterinarian and Measuring Instruments—Namely, Micrometers, Calipers, Gauges, Scalpels, Surgical Knives, Surgical Scissors, Dressing Forceps, Tissue Forceps, Suture Needles, Needle Holders, Suturing Apparatus, Scissors Suture, Plaster Shears, Bandage Scissors, Trocars, Surgical Saws, Hemostatic Forceps, Towel Forceps, Orthopedic Implants, Bone Plates, Bone Screws, Chisels, Gouges, Periosteal Elevators, Bone Levers, Biopsy Instruments, Tracheotomy Instruments, Retractors, Bone Holding Forceps, Rongeurs, Stomach Clamps, Intestinal Clamps, Specula, Curettes, Dilators, Obstetrical Forceps, Tooth Extracting Forceps, Dental Speculas, and Dental Pliers (Int. Cls. 9 and 10).
First use January 1966.

SN 269,316. American Hospital Supply Corporation, Evanston, Ill., assignee of Institutional Industries, Inc., Cincinnati, Ohio. Filed Apr. 17, 1967.

iii

For Wheeled Stretchers; Patient Lifting Apparatus; Intensive Care Beds; Wheel Chairs, Walkers, Commodes, Canes, and Crutches, All for Invalids; and Stools, Stands, Tables, Buckets, and Brush Dispensers for Surgical Use (Int. Cls. 10 and 12).
First use in or before November 1962.

SN 273,777. Hospitaline Products, Inc., Inwood, N.Y. Filed June 13, 1967.

STA-CATH

For Catheters, Inflatable Rectal Catheters (Int. Cl. 10).
First use Nov. 28, 1966.

SN 276,374. Vitalograph Limited, London, England. Filed July 19, 1967.

VITALOGRAPH

Owner of British Reg. Nos. 847,253, dated Apr. 2, 1963, and 873,169, dated Dec. 14, 1964.
For Medical Appliances and Instruments—Namely, Spirometers and Charts Used With Such Instruments, Resuscitators, and Vapor Condenser Humidifiers and Accessories Therefor (Int. Cl. 10).

SN 287,567. Med-Science Electronics Inc., St. Louis, Mo. Filed Dec. 26, 1967.

NITRALYZER

For Nitrogen Gas Meters for Application in the Medical Field (Int. Cl. 10).
First use about June 1957.

SN 287,921. Kaz Manufacturing Co., Inc., New York, N.Y. Filed Jan. 2, 1968.

Sinusizer

For Vaporizers and Humidifiers for Medical or Therapeutic Application (Int. Cl. 10).
First use Oct. 12, 1967.

Class 46 — Foods and Ingredients of Foods

SN 271,051. F. Dwight Kinter, d.b.a. The Kinter Company, Emporium, Pa. Filed May 9, 1967.

MINI MEAL

For Concentrated, Nutritionally Complete Food Bars (Int. Cl. 5).
First use May 3, 1967.

SN 272,575. Bush Boake Allen Inc., Emerson, N.J. Filed May 29, 1967.

SEELAROM

For Imitation Food Flavors in Extract Form (Int. Cl. 30).
First use 1924.

SN 272,685. American Home Products Corporation, New York, N.Y. Filed May 31, 1967.

TATER BOATS

Applicant makes no exclusive claim to "Tater" apart from the mark as shown.
For Snack Food Primarily Consisting of Cooked Potato Flour Ready To Be Eaten (Int. Cl. 30).
First use May 12, 1967.

SN 272,686. American Home Products Corporation, New York, N.Y. Filed May 31, 1967.

TATER THINS

Applicant makes no exclusive claim to the word "Tater" apart from the mark as shown.
For Ready To Eat Cooked Snack Food Consisting Primarily of Potato Flour (Int. Cl. 30).
First use May 12, 1967.

SN 300,087. Kellogg Company, Battle Creek, Mich. Filed June 10, 1968.

KELLOGG'S 1005

Owner of Reg. Nos. 415,047 and 756,725.
For Animal Feed for Mink and Other Fur-Bearing Animals (Int. Cl. 31).
First use May 3, 1968.

Class 50 — Merchandise Not Otherwise Classified

SN 274,120. Creative Screen Print Corp., Clarksville, Tenn. Filed June 16, 1967.

BLAZ'R BANNERS

The word "Banners" is disclaimed apart from the mark as shown.
For Cloth Lettered or Printed Banner or Outdoor Sign (Int. Cl. 24).
First use May 22, 1967.

SN 277,232. Roy W. Walholm, Jr., d.b.a. Survival Research Laboratories, Colorado Springs, Colo. Filed July 31, 1967.

TRAIL KIT

The word "Kit" is disclaimed apart from the mark as shown.
For Emergency Survival Kits, Consisting of Matches, All Weather Firestarters, Compass, Chocolate Bars, Fishing Kit, Snare Wire, Cooking Foil, Insect Repellant, Soap Tissues, Signal Whistle, Razor Blade, First Aid Kit, Ground to Air Emergency Signal Code, and Survival Instructions (Int. Cl. 28).
First use Jan. 12, 1967.

Class 51 — Cosmetics and Toilet Preparations

SN 276,334. Arthur Matney, d.b.a. Artmatic, Brooklyn, N.Y. Filed July 19, 1967.

ITALIAN STYLE

For Lipsticks, Perfume, Toilet Water, Rouge, Face Powder, Night Cream, Cold Cream, Foundation Cream, Cleansing Cream, Hand Lotion, Nail Polish Remover, Cake Makeup, Mascara, Deodorant Cream, Deodorant Stick, Deodorant Spray, Eye Shadow, Talcum Powder, and After Shave Lotions (Int. Cls. 3 and 5).
First use Jan. 3, 1966.

SN 284,589. Bristol-Myers Company, New York, N.Y. Filed Nov. 13, 1967.

SUDDEN SET

Applicant disclaims the word "Set" apart from the mark as shown.
For Hair Setting Lotion (Int. Cl. 3).
First use Oct. 4, 1967.

SN 285,045. The Nestle-Le Mur Company, New York, N.Y. Filed Nov. 16, 1967.

CURL-ON

For Hair Spray (Int. Cl. 3).
First use Oct. 30, 1967.

SN 285,113. Clairol Incorporated, New York, N.Y. Filed Nov. 17, 1967.

FONDNESS

For Instant Hair Conditioner (Int. Cl. 3).
First use Nov. 2, 1967.

SN 285,115. Clairol Incorporated, New York, N.Y. Filed Nov. 17, 1967.

GOODNESS

For Instant Hair Conditioner (Int. Cl. 3).
First use Nov. 2, 1967.

SN 285,325. The Gillette Company, d.b.a. The Toni Company, Boston, Mass. Filed Nov. 21, 1967.

BEACH BALL

For Suntan Gel (Int. Cl. 3).
First use Oct. 17, 1967.

SN 292,272. Helene Curtis Industries, Inc., Chicago, Ill. Filed Mar. 1, 1968.

100 LASHES

For Eye Shadow (Int. Cl. 3).
First use on or about Jan. 22, 1968.

SN 297,733. Amrcan, Inc., Chicago, Ill. Filed May 9, 1968.

HOME RUN

For Men's Cologne, Aftershave, Spray Deodorant, Talcum, Electric Pre-Shave Lotion, Hair Spray and Hair Cream (Int Cls. 3 and 5).
First use Apr. 3, 1968.

SN 297,736. Amrcan, Inc., Chicago, Ill. Filed May 9, 1968.

SLAP SHOT

For Men's Cologne, Aftershave, Spray Deodorant, Talcum, Electric Pre-Shave Lotion, Hair Spray and Hair Cream (Int. Cls. 3 and 5).
First use Apr. 3, 1968.

SN 298,293. Helena Rubinstein, Inc., New York, N.Y. Filed May 16, 1968.

EYE WHISKERS

Applicant disclaims the word "Eye" apart from the mark as shown.
For Eye Make Up (Int. Cl. 3).
First use Mar. 11, 1968.

SN 298,904. Menley & James Laboratories, Ltd., Philadelphia, Pa. Filed May 23, 1968.

LOVESTICKS

For Lipstick (Int. Cl. 3).
First use May 20, 1968.

SN 299,914. Lanvin-Charles of the Ritz, Inc., New York, N.Y. Filed June 7, 1968.

FACE SHAPERS

Applicant disclaims the word "Face" apart from the mark as shown. Owner of Reg. No. 819,325.
For Skin Cream (Int. Cl. 3).
First use May 10, 1968.

SN 300,518. Chesebrough-Pond's Inc., New York, N.Y. Filed June 17, 1968.

MILK SILK

Applicant disclaims the word "Milk" apart from the mark as shown.
For Skin Lotion, Bath Oil, and Skin Cream (Int. Cl. 3).
First use May 20, 1968.

Class 52 — Detergents and Soaps

SN 269,639. Color-Tone Mfg. Corp., Lynbrook, N.Y. Filed Apr. 20, 1967.

TILE MAGIC

The word "Tile" is disclaimed apart from the mark as shown.
For Liquid Cleaner Which Prepares Tile Joints for Coloring (Int. Cl. 3).
First use Apr. 7, 1966.

SN 281,511. Hurricane Car Wash Systems, Inc., Phoenix, Ariz. Filed Sept. 7, 1967.

HURRI-KLEEN

For Powder Detergents and Tire Cleaner for Use in Self-Service and Automatic Car Wash Equipment (Int. Cl. 3).
First use June 30, 1967.

SN 285,438. Michigan Hot Rod Association, Centerline, Mich. Filed Nov. 22, 1967.

MHRA

Owner of Reg. No. 845,233.
For Upholstery Cleaner and Vinyl Car Top Cleaner (Int. Cl. 3).
First use Feb. 15, 1966.

291,344. Avon Products, Inc., New York, N.Y. Filed Feb. 19, 1968.

TAM O'SHANTER

For Toilet Soap (Int. Cl. 3).
First use Feb. 2, 1968.

SN 291,533. Standard International Corporation, Andover, Mass. Filed Feb. 20, 1968.

TOP SHELF

For Household Liquid Cleaner (Int. Cl. 3).
First use Feb. 9, 1968.

SN 292,297. Roberts and Porter, Inc., Chicago, Ill. Filed Mar. 1, 1968.

NU-LOOK

For Solution for Cleaning Blankets and Rollers of an Offset Press (Int. Cl. 1).
First use June 30, 1967.

SN 292,300. Roberts and Porter, Inc., Chicago, Ill. Filed Mar. 1, 1968.

GLAZ-A-WAY

For Glaze Remover Concentrate for Press Rollers and Blankets of Printing Presses (Int. Cl. 1).
First use October 1962.

SN 292,945. Madison Chemical Corporation, Maywood, Ill. Filed Mar. 11, 1968.

SHAPE-UP

For Composition for Stripping Non-Permanent Floor Finishes and Sealers (Int. Cl. 3).
First use Aug. 15, 1967.

SN 299,618. American Home Products Corporation, New York, N.Y. Filed June 4, 1968.

CLEARLY GREAT

For Shampoo for the Hair (Int. Cl. 3).
First use Apr. 23, 1968.

SN 301,142. Simoniz Company, Chicago, Ill. Filed June 24, 1968.

PARTY

For Rug Shampoo (Int. Cl. 3).
First use May 10, 1968.

SN 301,309. Lever Brothers Company, New York, N.Y. Filed June 25, 1968.

COMPUTE

For Detergent for General Washing and Cleansing (Int. Cl. 3).
First use June 11, 1968.

SN 302,019. Lever Brothers Company, New York, N.Y. Filed July 5, 1968.

CARESS

Owner of Reg. Nos. 299,190, 842,593, and others.
For Hair Shampoo (Int. Cl. 3).
First use Sept. 29, 1965.

SN 302,180. Alberto-Culver Company, Melrose Park, Ill. Filed July 8, 1968.

FUN TIME

For Dishwashing Detergent (Int. Cl. 3).
First use May 6, 1968.

SERVICE MARKS

Class 100 — Miscellaneous

SN 246,147. Auerbach Electronics Corporation, d.b.a. Auerbach Corporation, Philadelphia, Pa. Filed May 20, 1966.

SEE

For Consulting Services—Namely, Analyzing and Evaluating the Effectiveness of the Performance of Data Processing Systems (Int. Cl. 42).
First use at least as early as Dec. 14, 1964.

SN 251,024. United Press International, Inc., d.b.a. United Press International, New York, N.Y. Filed July 25, 1966.

COMPIX

For Photographic Services—Namely, Providing Photographs and Motion Pictures for Use in Advertising, Sales Training and Documentaries, and the Like, and Factual Reports in Connection Therewith (Int. Cl. 42).
First use Mar. 15, 1965.

SN 252,375. Geo-Engineering Development Company, Mount Vernon, Ill. Filed Aug. 15, 1966.

PHOTO-CORLOG

For Photographic Services—Namely, the Provision of Continuous Strip Photographs to Scale of Elongated Objects (Int. Cl. 42).
First use July 21, 1966.

SN 252,414. Pole Control, Inc., Minneapolis, Minn. Filed Aug. 15, 1966.

POLE CONTROL

For Surveys of Utility Installations (Int. Cl. 42).
First use Sept. 1, 1962.

SN 256,573. Medical Assistance Programs, Inc., Wheaton, Ill. Filed Oct. 17, 1966.



For Providing Medical Supplies and Medical Aid to Needy Areas Overseas (Int. Cl. 42).
First use December 1963.

SN 260,690. United Medical Laboratories, Inc., Portland, Oreg. Filed Dec. 13, 1966.



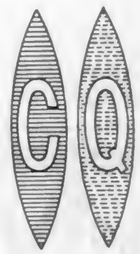
The lining on the drawing represents actual lining on the mark, but is not lining for color.
For Automated Diagnostic Testing Laboratory Services Designed To Serve the Needs of Physicians and Their Patients by Providing a Complete Diagnostic Facility Under One Roof (Int. Cl. 42).
First use Oct. 10, 1958.

SN 267,062. Roommates Unlimited, New York, N.Y. Filed Mar. 17, 1967.

ROOMMATES UNLIMITED

The word "Roommates" is disclaimed apart from the mark.
For Introducing and Qualifying Persons Seeking To Share Living Quarters (Int. Cl. 42).
First use July 1965.

SN 268,946. Crichton Corporation, Milwaukee, Wis. Filed Apr. 12, 1967.



The drawing is lined for the colors blue and gray.
For Consulting and Advisory Services for the Plumbing, Heating, and Air Conditioning Trades (Int. Cl. 42).
First use on or about Mar. 20, 1967.

SN 273,120. Shake 'n' Dog, Inc., Morgantown, W. Va. Filed June 5, 1967.



For Restaurant Service (Int. Cl. 42).
First use May 11, 1955.

SN 275,270. Paul Jones, San Francisco, Calif. Filed July 3, 1967.

DAVY JONES

"Davy Jones" does not identify any living person.
For Tattooing Services on Humans (Int. Cl. 42).
First use Feb. 1, 1963.

SN 283,411. American Hot Rod Association, Incorporated, Kansas City, Mo. Filed Oct. 26, 1967.

AHRA

For Association Services—Namely, the Promotion of Drag Racing and the Promotion of Rules and Regulations Governing the Same (Int. Cl. 42).
First use Oct. 13, 1959.

SN 283,874. Confidential International Detection, Inc., New York, N.Y. Filed Nov. 1, 1967.

CID

For Private Investigation and Detective Agency Services (Int. Cl. 42).
First use at least as early as October 1965.

SN 284,916. International Consumer Credit Association, St. Louis, Mo. Filed Nov. 15, 1967.



Owner of Reg. Nos. 789,483 and 789,484.
For Association Services—Namely, Informational Services on Matters Effecting Consumer Credit, viz, Federal and State Legislation, Business Trends, and Distribution to Its Members of Publications and Works on the Subject Matter of Consumer Credit (Int. Cl. 42).
First use Feb. 5, 1963.

Class 101 — Advertising and Business

SN 276,526. Louis Berger, Inc., Harrisburg, Pa. Filed July 21, 1967.



The drawing is lined for red and a claim is made to said color.
For Architectural, Engineering, and Economic Consultation Services (Int. Cl. 35).
First use Nov. 29, 1953.

SN 284,853. Wallcoverings Council Incorporated, New York, N.Y. Filed Nov. 14, 1967. COLLECTIVE MARK.



Applicant, without waiving its common law rights, disclaims the words "Master Certified Wallcoverings Dealer" apart from the mark as a whole. Owner of Reg. Nos. 723,417 and 799,255.
For Retail Wallcoverings Store Services (Int. Cl. 35).
First use Oct. 18, 1967.

SN 298,384. I & L Knitting Mills, Inc., New York, N.Y. Filed May 17, 1968.

THE SEWING NOOK

The word "Sewing" is disclaimed apart from the mark as shown.
For Retail Store Services Specializing in Textile Remnants (Int. Cl. 35).
First use on or about Jan. 10, 1968.

Class 103 — Construction and Repair

SN 257,717. Lystads, Incorporated, Grand Forks, N. Dak. Filed Nov. 1, 1966.



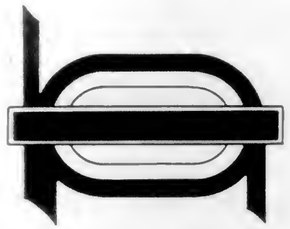
For Pest Control Services (Int. Cl. 37).
First use Jan. 15, 1961.

SN 263,814. The Cessna Aircraft Company, Wichita, Kans. Filed Feb. 2, 1967.



The drawing is lined for the colors red and blue.
For Services Performed on Aircraft—Namely, Repair and Maintenance Services (Int. Cl. 37).
First use Dec. 5, 1958.

SN 277,168. Thomas M. Hamill, d.b.a. Hamill & Company, Kailua, Hawaii. Filed July 31, 1967.



For Custom Manufacture of Sugar Manufacturing Machinery (Int. Cl. 37).
First use Mar. 17, 1967.

SN 281,329. Transworld Drilling Company, Oklahoma City, Okla. Filed Sept. 27, 1967.



For Drilling of Wells for Others (Int. Cl. 37).
First use Apr. 3, 1967.

SN 281,869. Continental Office Trailers, Inc., Baltimore, Md. Filed Oct. 5, 1967.

For Leasing, for Portable Use, Mobile Buildings, Portable Structures, Building Modules, and Trailers (Int. Cl. 37).
First use on or about Nov. 1, 1965.

SN 280,243. Jones Fur Service, Greensboro, N.C. Filed Jan. 22, 1968.

NU GLO

For Cleaning and Renovating Services for Articles of Clothing Made of Natural Fur (Int. Cl. 37).
First use during May 1957.

Class 105 — Transportation and Storage

SN 268,583. Thos. Cook & Son Incorporated, New York, N.Y. Filed Apr. 7, 1967.



For Travel Agency Service—Namely, the Arranging and Conducting of Sightseeing and Other Similar Types of Tours, Travel Information of All Types and Arranging Transportation and Accommodations (Int. Cl. 39).
First use Jan. 2, 1967.

Class 106 — Material Treatment

SN 285,395. Cold Spring Bleachery, Yardley, Pa. Filed Nov. 22, 1967.

Dela-Shape

Owner of Reg. Nos. 575,284, 794,208, and others.
For Durable-Press Finishing of All-Cotton Materials for Others (Int. Cl. 40).
First use Aug. 5, 1966.

SN 286,274. Materials Improvement, Inc., Center Line, Mich. Filed Dec. 5, 1967.

PERM-O-BOND

For Dry Cryogenic Treatment of Materials of Others To Improve Their Strength, Stability, and Resistance to Wear (Int. Cl. 40).
First use on or about June 30, 1967.

Class 107 — Education and Entertainment

SN 270,412. Punjab Folk Dance Troupe of India, San Francisco, Calif. Filed May 1, 1967.

PUNJAB FOLK DANCE TROUPE OF INDIA

No claim of exclusive right is made to "Folk Dance Troupe of India" for the services recited.
For Operation of an Indian Folk Dance Troupe Who Perform Dances Endemic to India (Int. Cl. 41).
First use 1961.

SN 277,577. WBNS-TV, Inc., Columbus, Ohio. Filed Aug. 4, 1967.

NAME DROPPERS

For Entertainment Services in the Form of a Panel-Type Television Show (Int. Cl. 41).
First use June 8, 1967.

SN 283,507. Stephen Bernat, Tucson, Ariz. Filed Oct. 27, 1967.

Town and Country
DANCE CLUB

No claim is made to the words "Dance Club," apart from the mark, without waiving any common law rights therein.
For Dance Instruction (Int. Cl. 41).
First use December 1966.

SN 286,768. Metro-Goldwyn-Mayer Inc., New York, N.Y. Filed Dec. 12, 1967.

THE MUSIC FACTORY

For Entertainment Services—Namely, a Radio Program of the Music and Variety Type (Int. Cl. 41).
First use June 24, 1967.

SN 301,011. I.P.S., Inc., d.b.a. Colorvision Studios, Hollywood, Calif. Filed June 21, 1968.

COLOR VISION
Studios

For Production, Leasing, and Distribution for Others of Films for Motion Pictures and Television (Int. Cl. 41).
First use Oct. 11, 1967.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 279,564. The National Thespian Society, Cincinnati, Ohio. Filed Sept. 1, 1967.



For Indicating Membership in Applicant.
First use April 1929.

SN 284,791. Affiliated Registered Institutional Suppliers, Chicago, Ill. Filed Nov. 14, 1967.



The words "Quality Registered" are disclaimed apart from the mark as shown.
For Indicating Membership in Applicant.
First use Aug. 8, 1967.

SN 284,792. Affiliated Registered Institutional Suppliers, Chicago, Ill. Filed Nov. 14, 1967.

ARIS

For Indicating Membership in Applicant.
First use Aug. 8, 1967.

SN 285,040. The National Federation of Business and Professional Women's Clubs, Inc. of the United States of America, Washington, D.C. Filed Nov. 16, 1967.

THE SAMOTHRACE CLUB

For Indicating Membership in Applicant.
First use July 1966.

SN 285,041. The National Federation of Business and Professional Women's Clubs, Inc. of the United States of America, Washington, D.C. Filed Nov. 16, 1967.

THE NIKE CLUB

For Indicating Membership in Applicant.
First use July 1966.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

858,129. SASSAFRAS. Pamela A. P. Ingram, d.b.a. Sassafras. SN 265,632. Pub. 7-23-68. Filed 2-28-67.

858,130. YIP YORK AND DESIGN. The Budd Company. SN 267,802. Pub. 7-23-68. Filed 3-29-67.

858,131. TROGAMID. Dynamit Nobel Aktiengesellschaft. MULTIPLE CLASS (Classes 1 and 13). SN 274,596. Pub. 7-23-68. Filed 6-23-67.

858,132. MISCELLANEOUS DESIGN. Hastings & Co., Inc. SN 275,264. Pub. 7-23-68. Filed 7-3-67.

858,133. HORSE (INSIGNIA). Gloria Z. Mornard. SN 280,719. Pub. 7-23-68. Filed 9-19-67.

858,134. LILANA. Emba Mink Breeders Association. SN 291,314. Pub. 7-23-68. Filed 2-19-68.

Class 2 — Receptacles

858,135. GO-GO. Aladdin Industries, Incorporated. SN 245,051. Pub. 7-23-68. Filed 5-6-66.

858,136. MISCELLANEOUS DESIGN. Tedruth Plastics Corporation. SN 261,116. Pub. 7-23-68. Filed 12-19-66.

858,137. MISCELLANEOUS DESIGN. Van Leer's Vatenfabrieken N.V. SN 281,143. Pub. 7-23-68. Filed 9-25-67.

858,138. MIRA STAK. American Can Company. SN 282,665. Pub. 7-23-68. Filed 10-17-67.

858,139. MONTICELLO BY WILBERT. Wilbert, Inc. SN 285,870. Pub. 7-23-68. Filed 11-29-67.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

858,140. CHECK CLUTCH AND DESIGN. Robert B. Vance & Associates. SN 260,614. Pub. 7-23-68. Filed 12-12-66.

858,141. LOWE'S. Lowe's, Inc. MULTIPLE CLASS (Classes 3 and 22). SN 274,809. Pub. 7-23-68. Filed 6-26-67.

Class 4 — Abrasives and Polishing Materials

858,142. ALPHA. Maurice H. Simson, d.b.a. Alpha Chemical Company. SN 276,044. Pub. 7-23-68. Filed 7-14-67.

858,143. BRUCE 1 STEP. Armour Grocery Products Company. SN 294,132. Pub. 7-23-68. Filed 3-26-68.

Class 5 — Adhesives

858,144. S AND DESIGN. L. M. Scofield Company. MULTIPLE CLASS (Classes 5, 6, and 12). SN 256,011. Pub. 7-23-68. Filed 10-7-66.

Class 6 — Chemicals and Chemical Compositions

858,144. (See Class 5 for this trademark.)

858,145. HPE. HPE Inc. MULTIPLE CLASS (Classes 6, 13, 23, 26, 31, and 35). SN 212,410. Pub. 1-30-68. Filed 2-19-65.

858,146. AIR BRUSH. S. C. Johnson & Son, Inc. MULTIPLE CLASS (Classes 6 and 52). SN 254,011. Pub. 7-23-68. Filed 9-8-66.

858,147. UVERSEAL. Kewanee Oil Company. SN 271,154. Pub. 7-23-68. Filed 5-10-67.

858,148. MEDI-PAK. General Medical Corporation. SN 274,060. Pub. 7-2-68. Filed 6-16-67.

858,149. C AND MICROSCOPE DESIGN. Cosan Chemical Corporation. SN 278,470. Pub. 7-23-68. Filed 8-17-67.

858,150. SHURFIX. GAF Corporation, by change of name from General Aniline & Film Corporation. SN 279,182. Pub. 7-23-68. Filed 8-28-67.

858,151. WONDERSEAL. Gold Crest Chemical Corporation, Inc. SN 279,548. Pub. 7-23-68. Filed 9-1-67.

858,152. ELAN TIBET. Chas. Pfizer & Co., Inc., assignee of Florasynth, Inc. SN 281,057. Pub. 7-23-68. Filed 9-25-67.

858,153. MITCHELL-BRADFORD. The Mitchell-Bradford Chemical Co. SN 281,302. Pub. 7-23-68. Filed 9-27-67.

858,154. WATCO. Industrial Chemicals, Inc. SN 283,898. Pub. 7-23-68. Filed 11-1-67.

858,155. MICRO-CLEAN. Custom Colorants, Inc. SN 284,351. Pub. 7-23-68. Filed 11-8-67.

858,156. IRGATRON. Geigy Chemical Corporation. SN 284,355. Pub. 7-23-68. Filed 11-8-67.

858,157. SELLAFLOR. Geigy Chemical Corporation. SN 284,356. Pub. 7-23-68. Filed 11-8-67.

858,158. SOLFIX. Geigy Chemical Corporation. SN 284,357. Pub. 7-23-68. Filed 11-8-67.

858,159. BAC-GARD. Holliston Laboratories, Inc. SN 292,323. Pub. 7-23-68. Filed 3-4-68.

858,160. SYNERPENE. Holliston Laboratories, Inc. SN 292,324. Pub. 7-23-68. Filed 3-4-68.

858,161. FITS ALL. The Hilsinger Corporation. SN 295,285. Pub. 7-23-68. Filed 4-10-68.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

858,162. W AND CIRCLE DESIGN. Westinghouse Electric Corporation. MULTIPLE CLASS (Classes 9, 21, 23, 24, 26, 29, 34, 36, and 44). SN 271,571. Pub. 7-23-68. Filed 5-16-67.

858,163. CROSWOOD AND DESIGN. Crosman Arms Company, Inc. SN 282,686. Pub. 7-23-68. Filed 10-17-67.

Class 10 — Fertilizers

858,164. AMEND. Kellogg Supply Co., Inc. SN 275,763. Pub. 7-23-68. Filed 7-11-67.

Class 12 — Construction Materials

858,144. (See Class 5 for this trademark.)

858,165. PRES GLAS. Birma Products Corporation. SN 258,885. Pub. 7-23-68. Filed 11-17-66.

858,166. PRES-SEAL. Pres-Seal Co. SN 264,583. Pub. 7-23-68. Filed 2-13-67.

858,167. KAYLO. Owens-Corning Fiberglas Corporation. SN 286,778. Pub. 7-23-68. Filed 3-15-67.

858,168. JP AND DESIGN. Johnson Plastic Corporation. SN 267,253. Pub. 7-23-68. Filed 3-21-67.

858,169. MISCELLANEOUS DESIGN. Formco, Inc. MULTIPLE CLASS (Classes 12, 13, and 32). SN 282,506. Pub. 7-23-68. Filed 10-16-67.

858,170. JACOBS TIGER PAW AND DESIGN. The Bullard Clark Company. SN 285,988. Pub. 7-23-68. Filed 12-1-67.

858,171. BISON AND DESIGN. Concrete Limited. SN 288,427. Pub. 7-23-68. Filed 1-9-68.

858,172. USS AND DESIGN. United States Steel Corporation. SN 291,125. Pub. 7-23-68. Filed 2-15-68.

858,173. TOWNE HOUSE. U.S. Plywood-Champion Papers Inc. SN 294,240. Pub. 7-23-68. Filed 3-27-68.

858,174. HANSOMETRIC. Baldwin-Ehret-Hill, Incorporated. SN 296,505. Pub. 7-23-68. Filed 4-25-68.

858,175. HANSOBOARD. Baldwin-Ehret-Hill, Incorporated. SN 296,506. Pub. 7-23-68. Filed 4-25-68.

858,176. HANSOGUARD. Baldwin-Ehret-Hill, Incorporated. SN 296,507. Pub. 7-23-68. Filed 4-25-68.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

858,131. (See Class 1 for this trademark.)

858,145. (See Class 6 for this trademark.)

858,169. (See Class 12 for this trademark.)

858,177. DISC-O-SEAL. Worcester Controls Corp. SN 270,833. Pub. 7-23-68. Filed 5-5-67.

858,178. FLUIDRIVE. Peter P. Dean, d.b.a. Payne Dean & Company. SN 271,694. Pub. 7-23-68. Filed 5-17-67.

858,179. SPRAY WAVE. Ashley F. Ward, Inc., d.b.a. The Skinner Irrigation Company. SN 271,976. Pub. 7-23-68. Filed 5-19-67.

858,180. SAMBONET. Sambonet S.p.A. MULTIPLE CLASS (Classes 13 and 28). SN 279,864. Pub. 7-23-68. Filed 9-7-67.

858,181. VARIFORM. Automation Industries, Inc. SN 282,343. Pub. 7-23-68. Filed 10-12-67.

858,182. STATE FAIR. American Home Products Corporation. SN 282,873. Pub. 7-23-68. Filed 10-19-67.

858,183. RICHCO. Richco Plastic Company. SN 283,160. Pub. 7-23-68. Filed 10-23-67.

858,184. TRANS-ACTER. Versa Products Company, Inc. SN 283,179. Pub. 7-23-68. Filed 10-23-67.

858,185. TAK-TRAK. Taylor Industries. SN 292,632. Pub. 7-23-68. Filed 3-6-68.

Class 14 — Metals and Metal Castings and Forgings

858,186. REDI-FINISH. Allegheny Ludlum Steel Corporation. SN 276,401. Pub. 7-23-68. Filed 7-20-67.

Class 15 — Oils and Greases

858,187. ENCO AND DESIGN. Humble Oil & Refining Company. SN 123,719. Pub. 11-14-61. Filed 7-13-61.

858,188. U FILL 'EM. Tenneco Oil Company, assignee of U Fill Em Corporation. MULTIPLE CLASS (Classes 15 and 103). SN 252,222. Pub. 7-23-68. Filed 8-11-66.

858,189. STAUFFER JET II AND DESIGN. Stauffer Chemical Company. SN 295,895. Pub. 7-23-68. Filed 4-18-68.

Class 16 — Protective and Decorative Coatings

858,190. METALLOGAL KALTVERZINKUNG AND DESIGN. Leo Meyer. SN 256,954. Pub. 7-23-68. Filed 10-21-66.

858,191. ELASTACID. Didier-Werke AG. SN 272,816. Pub. 7-23-68. Filed 6-1-67.

858,192. KEEN SHEEN. Evr-Gard Coatings Corporation. SN 275,039. Pub. 7-23-68. Filed 6-29-67.

858,193. SILONE. Steelcote Manufacturing Co. SN 280,346. Pub. 7-23-68. Filed 9-14-67.

858,194. MISCELLANEOUS DESIGN. Textron Industries, Inc. SN 284,972. Pub. 7-23-68. Filed 11-16-67.

858,195. BPS AND DESIGN. Textron Industries, Inc. SN 284,973. Pub. 7-23-68. Filed 11-16-67.

Class 17 — Tobacco Products

858,196. PRINCE OF BLENDS. Skandinavisk Tobakskompagni A/S. SN 266,596. Pub. 7-23-68. Filed 3-13-67.

858,197. AMADOR. Geryl Company, Ltd. SN 279,729. Pub. 7-23-68. Filed 9-6-67.

858,198. LANCELOT. Geryl Company, Ltd. SN 279,730. Pub. 7-23-68. Filed 9-6-67.

858,199. COPAL. Geryl Company, Ltd. SN 279,732. Pub. 7-23-68. Filed 9-6-67.

858,200. PLAYBOY. HMH Publishing Co. Inc. SN 284,471. Pub. 7-23-68. Filed 11-9-67.

858,201. RABBIT HEAD (DESIGN). HMH Publishing Co. Inc. SN 284,472. Pub. 7-23-68. Filed 11-9-67.

Class 18 — Medicines and Pharmaceutical Preparations

858,202. KEY MINERALS M-F (MILK FORMULA) AND DESIGN OF RED KEY. Key Minerals Corporation, by change of name from Jensen-Sandberg, Inc. SN 145,943. Pub. 7-5-66. Filed 6-1-62.

858,203. PONDOSAN. American Pharmaceutical Company. SN 240,632. Pub. 7-2-68. Filed 5-26-66.

858,204. HAIRSEPTIC. Aristocrat, Inc. SN 263,004. Pub. 3-26-68. Filed 1-23-67.

858,205. SUS-PHRINE. Brewer & Company Inc. SN 264,389. Pub. 7-23-68. Filed 2-10-67.

858,206. CYTOSAR. The Upjohn Company. SN 280,989. Pub. 7-23-68. Filed 9-22-67.

858,207. ARACYTIN. The Upjohn Company. SN 280,990. Pub. 7-23-68. Filed 9-22-67.

Class 19 — Vehicles

858,208. MISCELLANEOUS DESIGN. Suzuki Motor Co., Ltd. SN 266,703. Pub. 7-23-68. Filed 3-14-67.

858,209. MISCELLANEOUS DESIGN. Century Cycle Company, Inc. MULTIPLE CLASS (Classes 19 and 22). SN 269,013. Pub. 7-23-68. Filed 4-13-67.

858,210. TRAVELO. Raymond Products Company, Inc. SN 278,030. Pub. 7-23-68. Filed 8-10-67.

858,211. ROTATOTE. Greenville Industries, Inc. SN 282,575. Pub. 7-23-68. Filed 10-16-67.

858,212. BOSS. Yankee Motor Corporation. SN 287,202. Pub. 7-23-68. Filed 12-18-67.

858,213. MIDAS AND DESIGN. Midas, Inc. SN 290,868. Pub. 7-23-68. Filed 2-12-68.

Class 20 — Linoleum and Oiled Cloth

858,214. LA MANCHA. American Biltrite Rubber Co., Inc. SN 282,522. Pub. 7-23-68. Filed 10-16-67.

858,215. GAF AND DESIGN. GAF Corporation, by change of name from General Aniline & Film Corporation. SN 293,433. Pub. 7-23-68. Filed 3-18-68.

Class 21 — Electrical Apparatus, Machines, and Supplies

858,162. (See Class 9 for this trademark.)

858,216. FUEL/TROL AND DESIGN. Research Enterprises Incorporated. SN 271,836. Pub. 7-23-68. Filed 5-18-67.

858,217. CONRAD. David Wexler & Co. SN 283,048. Pub. 7-23-68. Filed 10-20-67.

858,218. DIE HARD. Sears, Roebuck and Co. SN 286,556. Pub. 7-23-68. Filed 12-8-67.

858,219. AD AND DESIGN. Automation Devices, Inc. SN 286,803. Pub. 7-23-68. Filed 12-13-67.

858,220. BINATROL. Tate & Roe Incorporated. SN 287,182. Pub. 7-23-68. Filed 12-18-67.

858,221. DOOR BELL. Unitrode Corporation. SN 288,389. Pub. 7-23-68. Filed 1-8-68.

858,222. AEROSAFE. Aerovox Corporation. SN 288,580. Pub. 7-23-68. Filed 1-11-68.

858,223. LEVEL-LOC. Shure Brothers Incorporated. SN 288,872. Pub. 7-23-68. Filed 1-15-68.

Class 22 — Games, Toys, and Sporting Goods

858,141. (See Class 3 for this trademark.)

858,209. (See Class 19 for this trademark.)

858,224. ADANAC. Vanguard Products Ltd. SN 236,678. Pub. 7-23-68. Filed 1-17-66.

858,225. SPIROGRAPH. Denys Fisher (Spirograph) Limited, by change of name from Denys Fisher (Engineering) Limited. SN 245,700. Pub. 7-23-68. Filed 5-16-66.

858,226. THE AVENGERS. A.B.C. Television Limited. SN 249,191. Pub. 7-4-67. Filed 6-28-66.

858,227. SWING 'N BOUNCE. D & R Development Co. SN 263,225. Pub. 7-23-68. Filed 1-12-67.

858,228. COLLEGIATE. Soccer Sports Supply Company, Inc. SN 266,466. Pub. 7-23-68. Filed 3-10-67.

858,229. MR. BEM. Mr. Bem, Inc. SN 267,340. Pub. 7-23-68. Filed 3-22-67.

858,230. ANT WITH TOP HAT. Cossman & Levine, Inc. SN 268,159. Pub. 7-23-68. Filed 4-3-67.

858,231. COLEMAN VAGABOND. The Coleman Company, Inc. SN 279,374. Pub. 7-23-68. Filed 8-30-67.

858,232. SCORE FOUR. Funtastic, Inc. SN 288,433. Pub. 7-23-68. Filed 1-9-68.

858,233. WOOLIKINS. J. Swedlin, Inc., d.b.a. Gund Mfg. Co. SN 290,032. Pub. 7-23-68. Filed 1-31-68.

858,234. TACKLE TWIN. Flambeau Plastics Corporation. SN 290,087. Pub. 7-23-68. Filed 2-1-68.

858,235. BETTY CROCKER AND SPOON DESIGN. General Mills, Inc. SN 291,003. Pub. 7-23-68. Filed 2-14-68.

858,236. BABY WALK 'N SEE. Mattel, Inc. SN 292,053. Pub. 7-23-68. Filed 2-28-68.

858,237. TOON-A-LOON. James Industries, Inc. SN 295,993. Pub. 7-23-68. Filed 4-19-68.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

858,145. (See Class 6 for this trademark.)

858,162. (See Class 9 for this trademark.)

858,238. SEA TRIM. John M. Jones, Jr. SN 258,815. Pub. 7-23-68. Filed 11-16-66.

858,239. INDUSTRA. Industra Products, Inc. SN 261,081. Pub. 7-23-68. Filed 12-19-66.

858,240. MILLWIDE. Bijur Lubricating Corporation. SN 261,451. Pub. 7-23-68. Filed 12-27-66.

858,241. ROYAL BAROQUE. Imperial Knife Associated Companies, Inc. SN 263,917. Pub. 7-23-68. Filed 2-3-67.

858,242. LIFTRACK. Columbus McKinnon Corporation. SN 267,128. Pub. 7-23-68. Filed 3-20-67.

858,243. MISCELLANEOUS DESIGN. McGraw-Edison Company. SN 269,336. Pub. 7-23-68. Filed 4-17-67.

858,244. DRAGOMATIC. Ellicott Machine Corporation. SN 277,507. Pub. 7-23-68. Filed 8-1-67.

858,245. AUTORODDER AND DESIGN. Carrier Corporation. SN 279,168. Pub. 7-23-68. Filed 8-28-67.

858,246. VISTA. Minneapolis-Moline, Inc. SN 279,208. Pub. 7-23-68. Filed 8-28-67.

858,247. ROCKET. Concrete Transport Mixer Co. SN 282,548. Pub. 7-23-68. Filed 10-16-67.

858,248. CIP. New Plastic Corporation, d.b.a. Nupla Manufacturing Co. SN 283,143. Pub. 7-23-68. Filed 10-23-67.

858,249. RADIAMIC. Thiokol Chemical Corporation. SN 284,250. Pub. 7-23-68. Filed 11-6-67.

858,250. COMPULABELER. Avery Products Corporation. SN 295,593. Pub. 7-23-68. Filed 4-15-68.

Class 24 — Laundry Appliances and Machines

858,162. (See Class 9 for this trademark.)

Class 25 — Locks and Safes

858,251. NITELOC. Rex Tool, Die & Mfg. Co. SN 282,725. Pub. 7-23-68. Filed 10-17-67.

Class 26 — Measuring and Scientific Appliances

858,145. (See Class 6 for this trademark.)

858,162. (See Class 9 for this trademark.)

858,252. DOT-SCOPE AND DESIGN. Dot-Scope Company. SN 246,459. Pub. 7-23-68. Filed 5-24-66.

858,253. VERSALOGIC. Varian Data Machines, assignee of Decision Control, Inc. SN 269,405. Pub. 7-23-68. Filed 4-18-67.

858,254. HELIO 70 CONTRASTOR AND DESIGN. N.V. Optische Industrie "De Oude Delft." SN 275,287. Pub. 7-23-68. Filed 7-3-67.

858,255. PRESENTOR AND DESIGN. Xicom Incorporated. SN 277,248. Pub. 7-23-68. Filed 8-1-67.

Class 28 — Jewelry and Precious-Metal Ware

858,180. (See Class 13 for this trademark.)

858,256. REMEMBRANCE. Jacoby-Bender, Inc. SN 261,125. Pub. 4-4-67. Filed 12-22-66.

858,257. MISCELLANEOUS DESIGN. Marshall Littman, d.b.a. Marshall Littman Mfg. Jeweler. SN 283,135. Pub. 7-23-68. Filed 10-23-67.

858,258. FREDERICKSBURG. General Mills, Inc. SN 290,689. Pub. 7-23-68. Filed 2-9-68.

Class 29 — Brooms, Brushes, and Dusters

858,162. (See Class 9 for this trademark.)

858,259. CLEANEE. Arden Corporation. SN 268,857. Pub. 7-23-68. Filed 4-11-67.

858,260. LIVING. International Playtex Corporation. SN 273,074. Pub. 7-23-68. Filed 6-5-67.

858,261. COLLETTE OF CALIFORNIA. Garrett-Hewitt International, Inc. SN 287,427. Pub. 7-23-68. Filed 12-22-67.

Class 31 — Filters and Refrigerators

858,145. (See Class 6 for this trademark.)

858,262. C AND DESIGN. Chromatospheres Co. SN 248,969. Pub. 7-23-68. Filed 6-27-66.

858,263. CHROMATOSPHERES AND DESIGN. Chromatospheres Co. SN 248,970. Pub. 7-23-68. Filed 6-27-66.

Class 32 — Furniture and Upholstery

858,169. (See Class 12 for this trademark.)

858,264. HALE OF VERMONT. Hale Company, Inc. SN 172,185. Pub. 7-23-68. Filed 7-1-63.

858,265. LATTISHADE. Slick Industrial Company, d.b.a. Illinois Shade Cloth Co. SN 284,050. Pub. 7-23-68. Filed 11-2-67.

858,266. LATTISWEAVE. Slick Industrial Company, d.b.a. Illinois Shade Cloth Co. SN 284,051. Pub. 7-23-68. Filed 11-2-67.

Class 34 — Heating, Lighting, and Ventilating Apparatus

858,162. (See Class 9 for this trademark.)

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

858,145. (See Class 6 for this trademark.)

858,267. LONG DISTANCE RUNNER. The Goodyear Tire & Rubber Company, SN 263,060. Pub. 7-23-68. Filed 1-23-67.

858,268. PYROFLEX. The Goodyear Tire & Rubber Company. SN 288,302. Pub. 7-23-68. Filed 1-8-68.

858,269. GLASGUARD. The Goodyear Tire & Rubber Company. SN 288,303. Pub. 7-23-68. Filed 1-8-68.

858,270. SARATOGA. Broadway Tire & Rubber Co. SN 289,659. Pub. 7-23-68. Filed 1-26-68.

858,271 LABORER. The Goodyear Tire & Rubber Company. SN 289,801. Pub. 7-23-68. Filed 1-29-68.

Class 36 — Musical Instruments and Supplies

858,162. (See Class 9 for this trademark.)

858,272. TONEMASTER. Weber & Colovos Co. SN 253,580. Pub. 7-23-68. Filed 8-31-66.

858,273. VELVETONE. Velvetone Enterprises, Inc. SN 261,258. Pub. 7-23-68. Filed 12-22-66.

858,274. ST. GEORGE. George's Import-Export, Ltd. SN 262,162. Pub. 7-23-68. Filed 1-9-67.

Class 37 — Paper and Stationery

858,275. NOR-LIN, The Northwest Paper Company. SN 266,353. Pub. 7-23-68. Filed 3-9-67.

858,276. TEXTRA. Brown Company. SN 278,865. Pub. 7-23-68. Filed 8-23-67.

Class 38 — Prints and Publications

858,277. INFORMAL GOTHIC. Visual Graphics Corporation. SN 268,813. Pub. 7-23-68. Filed 4-10-67.

858,278. CRAWDADDY! Paul S. Williams, d.b.a. Crawdaddy. SN 270,727. Pub. 7-23-68. Filed 5-4-67.

858,279. HF TV. HF/TV Inc. SN 274,318. Pub. 7-23-68. Filed 6-20-67.

858,280. TIDD-BITS. Edwin B. Tidd. SN 277,575. Pub. 7-23-68. Filed 8-4-67.

858,281. THE PET DEALER. Lathrop M. Aroniss, d.b.a. Commercial Circular Co. SN 277,874. Pub. 7-23-68. Filed 8-9-67.

858,282. REPORTER "YOUR EDITORIAL ASSISTANT." George Dubow, d.b.a. George Dubow Agency. SN 281,973. Pub. 7-23-68. Filed 10-6-67.

858,283. SUPER HANDYMAN. The Hearst Corporation. SN 295,992. Pub. 7-23-68. Filed 4-19-68.

Class 39 — Clothing

858,284. VERABOUT. Scarves by Vera, Inc. SN 268,229. Pub. 7-23-68. Filed 4-3-67.

858,285. NESCO. Nelson Sales Company. SN 274,451. Pub. 7-23-68. Filed 6-21-67.

858,286. WHAT'S UP. Dynamic Industries, Inc. SN 274,594. Pub. 7-23-68. Filed 6-23-67.

858,287. BETTY VERNON. McCallie Shoe Co. SN 278,310. Pub. 7-23-68. Filed 8-15-67.

858,288. AUSTIN SAGE. Diana Stores Corporation. SN 279,935. Pub. 7-23-68. Filed 9-8-67.

858,289. PRESS-RELEASE. Lady Marlene Brassiere Corp. SN 283,258. Pub. 7-23-68. Filed 10-24-67.

858,290. CHESS MAN. Imperial Clothing Company, Inc. SN 284,664. Pub. 7-23-68. Filed 11-13-67.

858,291. SSK AND DESIGN. S. S. Kresge Company. SN 284,672. Pub. 7-23-68. Filed 11-13-67.

858,292. EMANUEL UNGARO. Emanuel Ungaro, Societe a Responsabilite Limitee. SN 284,764. Pub. 7-23-68. Filed 11-13-67.

858,293. MARS DISPOSABLES AND DESIGN. Mars Manufacturing Company of Asheville, N.C. SN 284,927. Pub. 7-23-68. Filed 11-15-67.

858,294. COMBINETT. Molnlycke Aktiebolag. SN 285,139. Pub. 7-23-68. Filed 11-17-67.

858,295. TRIM-EZ. Slim-Ez Suit Company, Inc. SN 285,464. Pub. 7-23-68. Filed 11-22-67.

858,296. RODLAND. Compagnie Generale de la Maille en Abrege Cogema Societe Anonyme. SN 286,100. Pub. 7-23-68. Filed 12-4-67.

858,297. 4 TO GO. Genesco Inc. SN 286,120. Pub. 7-23-68. Filed 12-4-67.

858,298. WANDCRAFT. City Stores Company. SN 286,643. Pub. 7-23-68. Filed 12-11-67.

858,299. HERMES. Hermes, S.A. SN 287,293. Pub. 7-23-68. Filed 12-20-67.

858,300. MISCELLANEOUS DESIGN. Gant Perrin, Ancienne Maison Perrin Freres & Cie Societe Anonyme. MULTIPLE CLASS (Classes 39 and 42). SN 291,544. Pub. 7-23-68. Filed 2-21-68.

858,301. CHRISTOPHER CARLTON. Sakowitz, Inc. SN 291,899. Pub. 7-23-68. Filed 2-26-68.

858,302. MEDAL WINNER. Tip-Top Hosiery Mills, Inc. SN 292,141. Pub. 7-23-68. Filed 2-28-68.

858,303. POLLY-ALLS. Steiner-Lobman Dry Goods Company. SN 292,457. Pub. 7-23-68. Filed 3-5-68.

858,304. ABSOLUTELY. Saba of California. SN 292,616. Pub. 7-23-68. Filed 3-6-68.

858,305. LARCHMONT. Champ Hats, Inc. SN 293,020. Pub. 7-23-68. Filed 3-12-68.

Class 40 — Fancy Goods, Furnishings, and Notions

858,306. WIG CITY AND DESIGN. Propper Enterprises, Inc. SN 273,528. Pub. 7-23-68. Filed 6-9-67.

858,307. VENTAPE. Paul Rapisarda, d.b.a. Ventape Co. SN 276,689. Pub. 7-23-68. Filed 7-24-67.

858,308. COMB-O-LIFT. All-American Brush Mfg. Corp. SN 287,712. Pub. 7-23-68. Filed 12-28-67.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

858,300. (See Class 39 for this trademark.)

858,309. HANSON. Hanson Textile Company. SN 228,033. Pub. 7-23-68. Filed 9-17-65.

858,310. CARO-KNIT. Caro-Knit, Inc. SN 270,548. Pub. 7-23-68. Filed 5-3-67.

858,311. ANGELREST. Fiber Industries, Inc. SN 281,186. Pub. 7-23-68. Filed 9-26-67.

858,312. BEAUTIQUE. Sure-Fit Products Co. SN 285,636. Pub. 7-23-68. Filed 11-27-67.

858,313. MISCELLANEOUS DESIGN. Quaker Fabric Corporation. SN 287,585. Pub. 7-23-68. Filed 12-26-67.

858,314. SWEET DREAMS. West Point-Pepperell, Inc. SN 288,146. Pub. 7-23-68. Filed 1-4-68.

Class 43 — Thread and Yarn

858,315. LINNELLE. Linnelle Yarns Limited. SN 279,741. Pub. 7-23-68. Filed 9-6-67.

858,316. POPPALENI. Glen Raven Mills, Inc. SN 282,571. Pub. 7-23-68. Filed 10-16-67.

858,317. MINI MAGIC. Chadbourn Gotham, Inc. SN 287,722. Pub. 7-23-68. Filed 12-28-67.

Class 44 — Dental, Medical, and Surgical Appliances

858,162. (See Class 9 for this trademark.)

858,318. LILY WHITE. Lily White Sales Co., Inc. SN 256,291. Pub. 7-23-68. Filed 10-12-66.

858,319. MT. The Lawton Company, Inc. SN 259,840. Pub. 7-23-68. Filed 12-1-66.

858,320. SPRAYMATIC AMI. A.M.I. di Trotti Gianluigi S.a.s. SN 275,038. Pub. 7-23-68. Filed 6-29-67.

858,321. M MAICO AND DESIGN. Textron, Inc. SN 280,650. Pub. 7-23-68. Filed 9-18-67.

858,322. PLAS-TIPS. Plastek Industries, Inc. SN 284,238. Pub. 7-23-68. Filed 11-6-67.

858,323. PERMOBIL. Per Edvard Carl Udden. SN 288,557. Pub. 7-23-68. Filed 1-10-68.

858,324. LADY SCHICK. Schick Electric Inc. SN 289,213. Pub. 7-23-68. Filed 1-19-68.

858,325. OSTER. John Oster Manufacturing Co. SN 297,329. Pub. 7-23-68. Filed 5-10-68.

Class 45 — Soft Drinks and Carbonated Waters

858,326. CINDERELLA. J. F. Lazier Manufacturing Co. SN 279,307. Pub. 7-23-68. Filed 8-29-67.

858,327. DODGE CITY. The T.J. Bottling Co., Inc. SN 283,089. Pub. 7-23-68. Filed 10-23-67.

Class 46 — Foods and Ingredients of Foods

858,328. MILK JUG. Ray Moss Farms, Inc. SN 213,694. Pub. 12-27-66. Filed 3-9-65.

858,329. SILO-VAC. Silo-Vac Corporation. SN 238,456. Pub. 7-23-68. Filed 2-9-66.

858,330. BIG BUDDY. Topps Chewing Gum, Incorporated. SN 245,355. Pub. 7-23-68. Filed 5-10-66.

858,331. TAXI. United Biscuits Limited, d.b.a. McVitie & Price, Macfarlane, Lang & Co., William Crawford & Sons, and William Macdonald & Sons (Biscuits). SN 246,501. Pub. 7-23-68. Filed 5-24-66.

858,332. DAIRY QUEEN. American Dairy Queen Corporation. SN 265,593. Pub. 7-23-68. Filed 2-28-67.

858,333. SLING-SHOT SHRIMP. W. R. Grace & Co. SN 267,268. Pub. 7-23-68. Filed 3-21-67.

858,334. ANGEL FROST AND DESIGN. The Gorton Corporation. SN 267,418. Pub. 7-23-68. Filed 3-23-67.

858,335. OLDE TYME FREUND PRODUCTS AND DESIGN. Freund Baking Company. SN 270,370. Pub. 7-23-68. Filed 5-1-67.

858,336. SKI AND DESIGN. Swiss Milk Products Limited. SN 270,820. Pub. 7-23-68. Filed 5-5-67.

858,337. TACO GRANDE. Taco Grande, Inc. SN 273,131. Pub. 7-23-68. Filed 6-5-67.

858,338. DESIGN OF SUN AND CACTUS ETC. Taco Grande, Inc. SN 273,132. Pub. 7-23-68. Filed 6-5-67.

858,339. TASTIC. S. Wainstein & Company (Proprietary) Limited. SN 273,433. Pub. 7-23-68. Filed 6-8-67.

858,340. APPLAUD. Coffee Rich Inc. SN 274,710. Pub. 7-23-68. Filed 6-26-67.

858,341. WAMPUM. Pet Incorporated. SN 275,681. Pub. 7-23-68. Filed 7-10-67.

858,342. STERLING SALT LIK. International Salt Company. SN 279,833. Pub. 7-23-68. Filed 9-7-67.

858,343. MELLO-TOASTED. Basic Vegetable Products, Inc. SN 280,295. Pub. 7-23-68. Filed 9-14-67.

858,344. FAIR LADY. Deltex Industries, Inc. SN 280,771. Pub. 7-23-68. Filed 9-20-67.

858,345. RVF (DESIGN). Raritan Valley Farms, Inc. SN 280,968. Pub. 7-23-68. Filed 9-22-67.

858,346. SUVEL. Penick & Ford, Limited. SN 281,218. Pub. 7-23-68. Filed 9-26-67.

858,347. GAYTIME. Market Confections, Inc., d.b.a. Western Candy Co., and Gaytime Confections. SN 281,749. Pub. 7-23-68. Filed 10-4-67.

858,348. FREIHOFER'S HAPPY BREAD. Charles Freihofer Baking Co., Inc. SN 282,068. Pub. 7-23-68. Filed 10-9-67.

858,349. FESTIVAL. Wilson & Co., Inc. SN 282,411. Pub. 7-23-68. Filed 10-12-67.

858,350. TENDER COOK. Burgie Foods Company. SN 282,538. Pub. 7-23-68. Filed 10-16-67.

858,351. BEAUMONT. Societe Nouvelle des Fromageries Girod. SN 283,074. Pub. 7-23-68. Filed 10-23-67.

858,352. LITTLE FRISKIES. Carnation Company. SN 283,093. Pub. 7-23-68. Filed 10-23-67.

858,353. SOLAR. Ike Griffin & Holder (partnership), d.b.a. Griffin-Holder Company. SN 284,191. Pub. 7-23-68. Filed 11-6-67.

858,354. HOME STYLE COLONIAL. Associated Grocers of Nebraska Cooperative, Inc., d.b.a. Associated Grocers and Associated Grocers of Nebraska. SN 285,188. Pub. 7-23-68. Filed 11-20-67.

858,355. PLENTY NOG. Malt-A-Plenty, Inc. SN 287,749. Pub. 7-23-68. Filed 12-28-67.

858,356. FUNSTERS. General Mills, Inc. SN 288,156. Pub. 7-23-68. Filed 1-5-68.

858,357. MRS. CHANGO. Chango Citrus Association. SN 289,778. Pub. 7-23-68. Filed 1-29-68.

858,358. TABLE KING. Super Food Services, Inc. SN 290,455. Pub. 7-23-68. Filed 2-7-68.

858,359. CABANA AND DESIGN. Standard Fruit and Steamship Company. SN 292,139. Pub. 7-23-68. Filed 2-28-68.

858,360. PROCTER & GAMBLE. The Procter & Gamble Company. SN 294,440. Pub. 7-23-68. Filed 3-29-68.

858,361. PROCTER & GAMBLE AND DESIGN. The Procter & Gamble Company. SN 294,441. Pub. 7-23-68. Filed 3-29-68.

858,362. WF AND DESIGN. World's Finest Chocolate, Inc. SN 295,896. Pub. 7-23-68. Filed 4-18-68.

Class 47 — Wines

858,363. PAARL. Ko-Operatieve Wijnbouwers Vereniging van Zuid-Afrika, Beperkt. SN 269,545. Pub. 7-23-68. Filed 4-19-67.

858,364. PISA. United Vintners, Inc., d.b.a. Italian Swiss Colony. SN 296,084. Pub. 7-23-68. Filed 4-22-68.

Class 50 — Merchandise Not Otherwise Classified

858,365. INSTA-BLOK AND DESIGN. Boerner-Waldorf Corporation. SN 287,820. Pub. 7-23-68. Filed 12-29-67.

858,366. PERMA-TACK. Fred C. Warren. SN 291,654. Pub. 7-23-68. Filed 2-21-68.

858,367. I AM LOVED AND DESIGN. Helzberg's Diamond Shops, Inc. SN 293,689. Pub. 7-23-68. Filed 3-20-68.

858,368. KEM-KROME. Litho Chemical and Supply Co., Inc. SN 293,936. Pub. 7-23-68. Filed 3-22-68.

Class 51 — Cosmetics and Toilet Preparations

858,369. SNOW TAN. Bonne Bell, Inc. SN 267,500. Pub. 7-23-68. Filed 3-24-67.

858,370. ROBERT DENNEY. Frances Denney, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 279,979. Pub. 7-23-68. Filed 9-11-67.

858,371. BEAUTIFUL PEOPLE. Clairol Incorporated. MULTIPLE CLASS (Classes 51 and 52). SN 280,506. Pub. 7-23-68. Filed 9-18-67.

858,372. DIAMOND DUST. John H. Breck, Inc. SN 281,354. Pub. 7-23-68. Filed 9-28-67.

858,373. HURRAY. Clairol Incorporated. SN 282,886. Pub. 7-23-68. Filed 10-19-67.

Class 52 — Detergents and Soaps

858,146. (See Class 6 for this trademark.)

858,370. (See Class 51 for this trademark.)

858,371. (See Class 51 for this trademark.)

858,374. BASIC-R. Shaklee Products. SN 247,262. Pub. 9-12-67. Filed 6-3-66.

858,375. LIVING. International Playtex Corporation. SN 273,073. Pub. 7-23-68. Filed 6-5-67.

858,376. CHEM FLEX AND DESIGN. Chemflex Corporation. SN 275,832. Pub. 7-23-68. Filed 7-12-67.

858,377. SIMPATICO. Les Parfums de Dana, Inc., d.b.a. Dana. SN 278,503. Pub. 4-16-68. Filed 8-17-67.

858,378. P·X. William C. Fawkner, d.b.a. Prestex Products Co. SN 279,466. Pub. 7-23-68. Filed 8-31-67.

858,379. VIVONS. Merle Norman Cosmetics, Inc. SN 283,693. Pub. 7-23-68. Filed 10-30-67.

858,380. CORONET WHITE. Epic Chemicals, Inc. SN 284,300. Pub. 7-23-68. Filed 11-7-67.

858,381. WASH AWAY. Whink Products Company. SN 284,770. Pub. 7-23-68. Filed 11-13-67.

858,382. TAG. The Procter & Gamble Company. SN 290,453. Pub. 7-23-68. Filed 2-7-68.

858,383. T·O·T THE OTHER THING AND DESIGN. Lagar Industries, Inc. SN 291,326. Pub. 7-23-68. Filed 2-19-68.

Service Marks

Class 100 — Miscellaneous

858,384. HASTY HOUSE. Westwood House, Inc., by change of name and mesne assignment from Smaks International, Inc. SN 131,412. Pub. 5-7-63. Filed 11-6-61.

858,385. RB ROAST BEEF SANDWICH ETC. AND DESIGN. Arby's Inc. SN 261,355. Pub. 7-23-68. Filed 12-23-66.

858,386. SPACE STATION. George Blair. SN 265,971. Pub. 7-23-68. Filed 3-6-67.

858,387. D AND DESIGN. Dynalectron Corporation. MULTIPLE CLASS (Classes 100, 101, and 103). SN 270,184. Pub. 7-23-68. Filed 4-28-67.

858,388. FOODMAKER. Foodmaker, Inc. SN 270,360. Pub. 7-23-68. Filed 5-1-67.

858,389. CHAINE DES ROTISSEURS AND DESIGN. Confrérie de la Chaine des Rotisseurs, Ltd. SN 271,590. Pub. 7-23-68. Filed 5-16-67.

858,390. MUFFIN-BURGER. Bickford's Inc. SN 273,471. Pub. 7-23-68. Filed 6-9-67.

858,391. ETC EASTERN TRAVEL CLUB AND DESIGN. Eastern Air Lines, Inc. SN 277,853. Pub. 7-23-68. Filed 8-9-67.

858,392. HERITAGE HOUSE. Heritage House Restaurants, Inc. SN 282,745. Pub. 7-23-68. Filed 10-18-67.

858,393. RSVP AND DESIGN. RSVP Corporation. SN 283,926. Pub. 7-23-68. Filed 11-1-67.

858,394. ROYAL INN "ALWAYS TREATED LIKE A KING" AND DESIGN. Royal Inns of America, Inc. SN 284,109. Pub. 7-23-68. Filed 11-3-67.

858,395. SHANE'S AND COWBOY DESIGN. S & S Food Service, Inc. SN 288,032. Pub. 7-23-68. Filed 1-3-68.

858,396. MMG MCBURGER AND DESIGN. McCrory Corporation. SN 292,399. Pub. 7-23-68. Filed 3-4-68.

858,397. MISCELLANEOUS DESIGN. La Grenouille, Inc. SN 296,486. Pub. 7-23-68. Filed 4-25-68.

Class 101 — Advertising and Business

858,387. (See Class 100 for this trademark.)

858,398. E AND GLOBE DESIGN. The Ealing Corporation. SN 247,787. Pub. 7-23-68. Filed 6-10-66.

858,399. PARAPHERNALIA. Paraphernalia, Inc., assignee of Puritan Fashions Corporation. SN 248,635. Pub. 7-23-68. Filed 6-21-66.

858,400. CHARLEMAGNE. Joseph V. Fisher. SN 262,035. Pub. 7-23-68. Filed 1-6-67.

858,401. COMPAC. Data Graphic, Inc. SN 269,864. Pub. 7-23-68. Filed 4-24-67.

858,402. COFFEE GRAM. E. H. Brown Advertising Agency, Inc. SN 273,476. Pub. 7-23-68. Filed 6-9-67.

858,403. DPI. Dimensional Packaging Inc. SN 288,432. Pub. 7-23-68. Filed 1-9-68.

858,404. COMPUTAFUEL. Computer Services, Inc. SN 290,048. Pub. 7-23-68. Filed 2-1-68.

858,405. SPEC-FAX. McGraw-Hill, Inc. SN 290,803. Pub. 7-23-68. Filed 2-12-68.

858,406. FRIENDLY PERSUASION AND DESIGN. Bryan D. Hardwick, Jr., d.b.a. Bryan Hardwick Associates. SN 296,615. Pub. 7-23-68. Filed 4-26-68.

Class 102 — Insurance and Financial

858,407. EAGLE-COMBINATION (DESIGN). Home Federal Savings and Loan Association. SN 256,667. Pub. 7-23-68. Filed 10-18-66.

858,408. KNIGHT OF THE MONTH. Sheldon R. Songstad, d.b.a. Knight of the Month Club. SN 275,409. Pub. 7-23-68. Filed 6-30-67.

858,409. LITTLE GIANT. Combined Insurance Company of America. SN 281,037. Pub. 7-23-68. Filed 9-25-67.

858,410. FARM CREDICARE. Old Republic Life Insurance Company. SN 287,572. Pub. 7-23-68. Filed 12-26-67.

858,411. MISCELLANEOUS DESIGN. Financial Programs, Inc. SN 289,239. Pub. 7-23-68. Filed 1-22-68.

858,412. LOAN ALONE. The Winters National Bank & Trust Company of Dayton. SN 289,247. Pub. 7-23-68. Filed 1-22-68.

Class 103 — Construction and Repair

858,188. (See Class 15 for this trademark.)

858,387. (See Class 100 for this trademark.)

858,413. REDI-FLO. Hess Oil & Chemical Corporation. SN 234,422. Pub. 9-19-67. Filed 12-13-65.

858,414. SPEED-TAINER. Kaiser Industries Corporation. SN 244,711. Pub. 7-23-68. Filed 5-2-66.

858,415. SIMILUX. The Silicocks-Miller Company. SN 252,596. Pub. 7-23-68. Filed 8-17-66.

858,416. HOLLY HOUSE. Holly House, Inc. SN 253,640. Pub. 7-23-68. Filed 9-1-66.

858,417. A-1 TERMITE CONTROL SERVICE AND DESIGN. A-1 Termite Control Service, Inc. SN 266,491. Pub. 7-23-68. Filed 3-13-67.

858,418. MIC (DESIGN). McCallum Inspection Company. SN 287,656. Pub. 7-23-68. Filed 12-27-67.

858,419. OCTAGONAL DESIGN. Handi-Clean Products, Inc. SN 288,434. Pub. 7-23-68. Filed 1-9-68.

Class 104 — Communication

858,420. MISCELLANEOUS DESIGN. Straus Broadcasting Group, Inc. SN 279,504. Pub. 7-23-68. Filed 8-31-67.

Class 105 — Transportation and Storage

858,421. HAWAIIAN CARNIVAL. AITS, Inc., by change of name from American International Travel Service, Inc. SN 255,761. Pub. 5-16-67. Filed 10-5-66.

858,422. M AND DESIGN. Autoservizi Maggiore S.p.A. SN 257,327. Pub. 7-23-68. Filed 10-13-66.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

SECTION 1

(Combined Certificates)

858,423. Plastics, Inc., St. Paul, Minn. SN 253,676. Filed P.R. 9-1-66; Am. S.R. 10-26-67.

BLISTERPROOF

Class 2—Receptacles

For Food Trays, Serving Plates and Dishes Made of Plastic (Int. Cl. 21).

Class 8—Smokers' Articles, Not Including Tobacco Products

For Ashtrays (Int. Cl. 21).

First use Oct. 25, 1965.

858,424. Eads Manufacturing Corporation, Troutville, Va. SN 267,021. Filed P.R. 3-17-67; Am. S.R. 8-2-68.

BETTER MAID

Class 6—Chemicals and Chemical Compositions

For Fabric Softeners (Int. Cl. 3).

Class 52—Detergents and Soaps

For Liquid Dishwashing Detergent and All Purpose Household Cleaner (Int. Cl. 3).

First use Nov. 30, 1966.

858,428. Julian Holzer, Ltd., New York, N.Y. SN 274,285. Filed P.R. 6-20-67; Am. S.R. 8-6-68.

NEY

Class 27—Horological Instruments

For Watches (Int Cl. 14).

Class 28—Jewelry and Precious-Metal Ware

For Jewelry (Int. Cl. 14).

First use June 14, 1967.

SECTION 2

Class 2 — Receptacles

858,428. See Section 1 (Combined Certificate).

Class 6 — Chemicals and Chemical Compositions

858,428. See Section 1 (Combined Certificate).

Class 8 — Smokers' Articles, Not Including Tobacco Products

858,428. See Section 1 (Combined Certificate).

Class 18 — Medicines and Pharmaceutical Preparations

858,425. Parke, Davis & Company, Detroit, Mich. SN 277,413. Filed P.R. 8-3-67; Am. S.R. 7-19-68.

ROLL-PAK

For Dispensing Packages Containing Drug Products (Int. Cl. 5).

First use on or before May 22, 1967.

Class 22 — Games, Toys, and Sporting Goods

858,426. Mart Upholstery Company, Mart, Tex. SN 248,497. Filed P.R. 6-20-66; Am. S.R. 7-15-68.

TEENAGE RATTLER

For Toy Hoops for Wearing Around the Waist or Hips (Int. Cl. 28).

First use May 14, 1966.

858,427. Fred Bronner Corporation, New York, N.Y. SN 278,576. Filed P.R. 8-18-67; Am. S.R. 7-25-68.

Build A Road

For Toy Road Beds for Miniature Cars (Int. Cl. 28).

First use July 19, 1967.

Class 27 — Horological Instruments

858,428. See Section 1 (Combined Certificate).

Class 28 — Jewelry and Precious-Metal Ware

858,428. See Section 1 (Combined Certificate).

858,429. Diamond Craft of America, Inc., New York, N.Y. SN 278,475. Filed P.R. 8-17-67; Am. S.R. 7-29-68.

DIAMOND CRAFT OF AMERICA

For Diamonds, Diamonds Mounted in Finger Rings, and Finger Rings Without Diamonds (Int. Cl. 14).

First use Oct. 11, 1945.

Class 36 — Musical Instruments and Supplies

858,430. The Harris-Fandel Co., Incorporated, Boston, Mass. SN 270,131. Filed P.R. 4-27-67; Am. S.R. 7-23-68.

FANDEL

For Drums, Guitars, Electric Basses, Organs, Accessories Therefor and Musical Instrument Amplifiers (Int. Cls. 9 and 15).

First use at least as early as Dec. 12, 1966.

Class 37 — Paper and Stationery

858,431. Riverside Paper Corporation, Appleton, Wis. SN 272,214. Filed P.R. 5-23-67; Am. S.R. 7-16-68.

SIZED-RITE

For Bond, Mimeo, Duplicator and Offset Paper (Int. Cl. 16).

First use Apr. 14, 1967.

Class 38 — Prints and Publications

858,432. Professional Communications, Inc., Chicago, Ill. SN 255,229. Filed P.R. 9-27-66; Am. S.R. 8-1-68.

THE PHARMACIST'S MANAGEMENT JOURNAL

For Periodical Publication—Namely, a Magazine (Int. Cl. 16).

First use Sept. 1, 1966.

858,433. Colonel R. E. Lee Masters, Sr., d.b.a. Controversial Publications, Fayetteville, Ark. SN 277,467. Filed P.R. 8-3-67; Am. S.R. 7-31-68.

This is a Controversial Report

For Magazine and News Analysis (Reports) (Int. Cl. 16).

First use July 31, 1967.

858,434. Advertising Publications, Inc., Chicago, Ill. SN 277,870. Filed P.R. 8-9-67; Am. S.R. 7-26-68.

BUSINESS INSURANCE

For Magazine (Int. Cl. 16).

First use about July 10, 1967.

858,435. 16 Magazine, Inc., New York, N.Y. SN 280,802. Filed P.R. 9-20-67; Am. S.R. 7-19-68.

THE LO-DOWN

For Department or Section of a Monthly Magazine (Int. Cl. 16).

First use Dec. 30, 1966.

Class 39 — Clothing

858,436. Discount Boutique, Inc., New York, N.Y. SN 269,752. Filed P.R. 4-21-67; Am. S.R. 7-23-68.

DISCOUNT BOUTIQUE

For Ladies' Dresses, Coats, Suits, Skirts, Rainwear, Slacks, Blouses, Sweaters, Gloves and Scarves (Int. Cl. 25).

First use June 17, 1965.

Class 44 — Dental, Medical, and Surgical Appliances

858,437. Whaledent, Inc., Brooklyn, N.Y. SN 257,544. Filed P.R. 10-28-66; Am. S.R. 7-26-68.

AUTO-KLUTCH DRIVE

For Dental Handpiece and Tool for Driving Dental Screws (Int Cl. 10).

First use Mar. 9, 1966.

858,438. Klehn Products Co., Inc., Glenview, Ill. SN 262,340. Filed P.R. 1-11-67; Am. S.R. 7-25-68.

LIFT WALKER

For Motorized Combined Invalid Walkers and Lift Devices (Int Cl. 10).

First use on or about Nov. 16, 1966.

Class 46 — Foods and Ingredients of Foods

858,439. Jacques Weiner, d.b.a. Etablissements Indar, Enghein-les-Bains, Val d'Oise, France. SN 247,427. Filed P.R. 6-6-66; Am. S.R. 10-26-67.



Owner of French Reg. No. 3,521, dated Sept. 1, 1962 (Pontoise); Natl. Inst. No. 191,607.

For Tea (Int. Cl. 30).

858,440. Costa Ice Cream Company, Woodbridge, N.J. SN 265,807. Filed 7-30-68.



For Ice Cream and Sherbet (Int. Cl. 30).

First use Jan. 10, 1967.

858,441. Costa Ice Cream Company, Woodbridge, N.J. SN 265,808. Filed 7-30-68.



For Ice Cream and Sherbet (Int. Cl. 30).

First use Jan. 10, 1967.

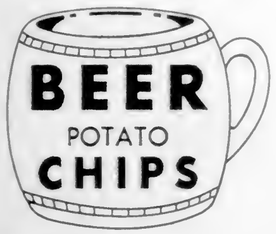
858,442. Costa Ice Cream Company, Woodbridge, N.J. SN 266,006. Filed 7-30-68.



For Ice Cream and Sherbet (Int. Cl. 30).

First use Jan. 10, 1967.

858,443. Dalton F. Russell, d.b.a. Russell's Chip Shop, Indianapolis, Ind. SN 269,382. Filed P.R. 4-18-67; Am. S.R 4-23-68



For Potato Chips (Int. Cl. 29).
First use Mar. 18, 1967.

858,444. Hillside Dairy Company, d.b.a. Flavor-ful Foods Co., Cleveland Heights, Ohio. SN 271,147. Filed P.R. 5-10-67; Am. S.R. 7-29-68.

KREME SOUR

For Non-Dairy Vegetable Sour Dressing (Int. Cl. 29).
First use September 1966.

858,445. Bridgford Foods Corporation, Anaheim, Calif. SN 273,939. Filed P.R. 6-15-67; Am. S.R. 2-29-68.

DEMI-LOAF

For Bakery Goods—Namely, Frozen Prepared Bread Dough (Int. Cl. 30).
First use Nov. 10, 1964.

858,446. Swizzels, Inc., Hoboken, N.J. SN 276,966. Filed P.R. 7-27-67; Am. S.R. 7-29-68.

LONDON TOWN ENGLAND

For Candy (Int. Cl. 30).
First use on or about July 16, 1967.

Class 51 — Cosmetics and Toilet Preparations

858,447. Keystone Laboratories, Inc., d.b.a. Keystone Company, Memphis, Tenn. SN 282,707. Filed P.R. 10-17-67; Am. S.R. 7-22-68.

Smell Sweet

For Personal Deodorant (Int. Cl. 5).
First use Feb. 27, 1951.

858,448. Redken Laboratories, Inc., Van Nuys, Calif. SN 292,862. Filed P.R. 3-11-68; Am. S.R. 7-3-68.

CURL & CONDITION

For Permanent Waving Lotion (Int. Cl. 3).
First use June 28, 1967.

Class 52 — Detergents and Soaps

858,424. See Section 1 (Combined Certificate).

858,449. Fred R. White, Medford, Oreg. SN 276,594. Filed P.R. 7-21-67; Am. S.R. 7-19-68.

KLEAN HED

For Cleaning Kits, Containing Cleaning Fluid and Swabs, for Stereo Tape Players (Int. Cl. 3).
First use May 2, 1967.

Service Marks

Class 101 — Advertising and Business

858,450. Chester B. Stem, Inc., New Albany, Ind. SN 264,768. Filed P.R. 2-15-67; Am. S.R. 7-23-68.

HOUSE OF TEAK

For Lumber Yard Services (Int. Cl. 35).
First use Sept. 10, 1964.

858,451. Maternity Wardrobe, Inc., Pennsauken, N.J. SN 266,434. Filed P.R. 3-10-67; Am. S.R. 8-6-68.

THE MATERNITY WARDROBE

For Women's Apparel Shop Services (Int. Cl. 35).
First use December 1962.

858,452. The Vernon Company, Newton, Iowa. SN 280,277. Filed P.R. 9-13-67; Am. S.R. 7-22-68.

GIFT OF YOUR CHOICE

For Promoting the Sale of Merchandise or Services of Others Through the Use of Gift Certificates, and Brochures (Int. Cl. 35).
First use October 1960.

TRADEMARK REGISTRATIONS RENEWED

32,188. YANKY. Cl. 51 (Int. Cl. 3). 11-29-1898.
70,422. ALPHA. Cl. 12 (Int. Cl. 19). 9-1-08.
71,700. REXALL. Cl. 44 (Int. Cls. 10 and 21). 12-8-08.
71,785. "AE" AND SHIELD DESIGN. Cl. 46 (Int. Cl. 30). 12-15-08.
71,786. AE. Cl. 46 (Int. Cl. 30). 12-15-08.
71,787. REPRESENTATION OF SHIELD. Cl. 46 (Int. Cl. 30). 12-15-08.
72,081. "GLENLIVET" ETC. AND SHIELD DESIGN. Cl. 49 (Int. Cl. 33). 12-29-08.
72,087. "SUNKIST ORANGES" AND DESIGN. Cl. 46 (Int. Cl. 31). 1-5-09.
243,224. ROSEMARY. Cl. 46 (Int. Cl. 29). 6-12-28.
243,246. "NUTREN" AND DESIGN. Cl. 46 (Int. Cl. 31). 6-12-28.
243,378. U.M.K. Cl. 14 (Int. Cl. 6). 6-19-28.
243,527. "ANGELO" AND DIAMOND-SHAPED DESIGN. Cl. 1 (Int. Cl. 2). 6-26-28.
243,528. "ANGELO C PURE" AND DIAMOND SHAPED DESIGN. Cl. 1 (Int. Cl. 2). 6-26-28.
243,530. "ANGELO STIFF" AND DIAMOND SHAPED DESIGN. Cl. 1 (Int. Cl. 2). 6-26-28.
244,022. JEWEL. Cl. 23 (Int. Cl. 8). 7-31-28.
245,267. UPLAND LAKE. Cl. 46 (Int. Cl. 31). 8-7-28.

245,305. HERCOMITE. Cl. 9 (Int. Cl. 13). 8-7-28.
245,772. "LAWNCOMB" AND DESIGN. Cl. 23 (Int. Cl. 8). 8-21-28.
246,722. SUNARC. Cl. 44 (Int. Cl. 10). 9-11-28.
247,098. GRASWIP. Cl. 23 (Int. Cl. 8). 9-18-28.
247,115. "PATSY'S" ETC. Cl. 46 (Int. Cls. 29 and 30). 9-18-28.
247,275. "BOSS JUMBO" AND DESIGN. Cl. 39 (Int. Cl. 25). 9-25-28.
248,144. "CARDINAL" AND REPRESENTATION OF THE CARDINAL BIRD. Cl. 12 (Int. Cl. 19). 10-16-28.
248,211. HYDROSEAL. Cl. 12 (Int. Cl. 19). 10-16-28.
248,415. OSCILLO-MANIPULATOR. Cl. 44 (Int. Cl. 10). 10-23-28.
248,600. ATLANTIC. Cl. 37 (Int. Cl. 16). 10-23-28.
248,610. BESCO. Cl. 37 (Int. Cl. 16). 10-23-28.
248,612. GOTHAM. Cl. 37 (Int. Cl. 16). 10-23-28.
249,085. 24-A. Cl. 21 (Int. Cl. 9). 11-27-28.
250,563. BITUMULS. Cl. 12 (Int. Cl. 19). 12-11-28.
250,755. DERMALINE. Cl. 51 (Int. Cl. 3). 12-18-28.
250,883. "TARANTELLA" AND DESIGN. Cl. 46 (Int. Cl. 20). 12-18-28.
250,950. STYLE-CRAFT SHOE. Cl. 39 (Int. Cl. 25). 12-18-28.
251,436. "GREEN TREE" ETC. AND DESIGN. Cl. 46 (Int. Cl. 29). 1-8-29.
437,601. BEN WADE AND DESIGN. Cl. 8 (Int. Cl. 34). 3-30-48.
438,660. BLUE HERON. Cl. 23 (Int. Cl. 7). 5-11-48.
438,862. CENTURY. Cl. 17 (Int. Cl. 34) 5-11-48.
439,107. PACEMAKER. Cl. 26 (Int. Cl. 9). 6-1-48.
439,417. ACME. Cl. 13 (Int. Cl. 26). 6-22-48.
439,447. EARLY AMERICAN. Cl. 4 (Int. Cl. 3). 6-29-48.
439,764. HEALTH. Cl. 13 (Int. Cl. 21) 7-20-48.
440,064. PAXWAX. Cl. 16 (Int. Cl. 4). 8-10-48.
440,236. CEREX. Cl. 43 (Int. Cl. 23). 8-17-48.
440,337. SPORT. Cl. 23 (Int. Cl. 8). 8-24-48.
440,662. JACKSONS. Cl. 32 (Int. Cl. 20). 9-14-48.
440,931. BOSTON ABDO BRACE. Cl. 39 (Int. Cl. 10). 10-12-48.
441,469. TOP-FLITE. Cl. 51 (Int. Cl. 3). 11-30-48.
441,630. ARKOLUBE. Cl. 6 (Int. Cl. 4). 12-21-48.
441,716. ANTHOMINE. Cl. 6 (Int. Cl. 2). 12-28-48.
500,147. FLEXLINK. Cl. 35 (Int. Cl. 7). 4-27-48.
500,655. SUPERIOR "ALL THE NAME IMPLIES." Cl. 14 (Int. Cl. 6). 6-15-48.
501,168. STROBLITE. Cl. 21 (Int. Cl. 11). 7-27-48.
501,313. ANNULAR BAND (GILT). Cl. 46 (Int. Cl. 30). 8-3-48.
501,390. R AND DESIGN. Cl. 35 (Int. Cl. 17). 8-3-48.
501,391. R. Cl. 35 (Int. Cl. 17). 8-3-48.
501,405. DR. E. L. WELBOURN'S AND DESIGN. Cl. 18 (Int. Cl. 5). 8-3-48.
501,569. MERITENE. Cl. 46 (Int. Cl. 5). 8-17-48.
501,502. REPRESENTATION OF SWAN. Cl. 6 (Int. Cls. 1 and 5). 8-17-48.
501,903. ANNULAR BAND (RED). Cl. 52 (Int. Cl. 3). 8-31-48.
501,904. ARM & HAMMER AND DESIGN. Cl. 52 (Int. Cl. 3). 8-31-48.
501,905. ARM & HAMMER. Cl. 52 (Int. Cl. 3). 8-31-48.
502,070. ARM & HAMMER AND DESIGN. Cl. 52 (Int. Cls. 1 and 3). 9-14-48.
502,093. MARKAIRE. Cl. 39 (Int. Cl. 25). 9-14-48.
502,128. WIMBLEDON. Cl. 42 (Int. Cl. 24). 9-14-48.
502,186. SOMAGEN. Cl. 18 (Int. Cl. 5). 9-14-68.
502,217. PARKER DAM. Cl. 46 (Int. Cl. 31). 9-14-48.
502,268. SULTANA. Cl. 15 (Int. Cls. 2 and 4). 9-21-48.
502,320. GOODYEAR AND DESIGN. Cl. 37 (Int. Cl. 16). 9-21-48.
502,349. STYLING. Cl. 39 (Int. Cl. 25). 9-21-48.
502,525. COOLEEMEE. Cl. 42 (Int. Cl. 24). 9-28-48.
502,899. SABEL'S PLUMB LINE AND DESIGN. Cl. 39 (Int. Cl. 25). 10-12-48.
502,969. SUPER CUSHION AND WINGFOOT DESIGN. Cl. 35 (Int. Cl. 12). 10-12-48.
503,182. MISCELLANEOUS DESIGN. Cl. 21 (Int. Cl. 9). 10-19-48.
503,183. FLOTROL. Cl. 21 (Int. Cl. 9). 10-19-48.
503,184. FLOTROL AND DESIGN. Cl. 21 (Int. Cl. 9). 10-19-48.
503,287. LOZILLES. Cl. 18 (Int. Cl. 5). 10-19-48.
503,604. BRYAN HOSIERY. Cl. 39 (Int. Cl. 25). 11-2-48.
503,837. TRICOTONE. Cl. 39 (Int. Cl. 25). 11-9-48.
503,922. FARMER'S TRADING POST. Cl. 38 (Int. Cl. 16). 11-16-48.
504,015. OILATUM. Cl. 52 (Int. Cl. 3). 11-16-48.
504,105. HYLO-IZED. Cl. 46 (Int. Cl. 29). 11-23-48.
504,277. THREE LEAF AND DESIGN. Cl. 37 (Int. Cl. 16). 11-30-48.
504,309. M-M. Cl. 23 (Int. Cls. 7 and 12). 11-30-48.
504,543. MEADS SERVAMUS FIDEM AND DESIGN. Cl. 46 (Int. Cl. 5). 12-7-48.
504,548. OLD HICKORY. Cl. 49 (Int. Cl. 33). 12-7-48.
504,566. REFINED ALGIN PRODUCTS AND DESIGN. Cl. 16 (Int. Cl. 1). 12-7-48.
504,586. TOUCHDOWN. Cl. 42 (Int. Cl. 24). 12-7-48.
504,596. WAGNER. Cl. 23 (Int. Cl. 21). 12-7-48.
504,644. CREPETTE. Cl. 42 (Int. Cl. 24). 12-7-48.
504,665. KEY-LUX. Cl. 16 (Int. Cl. 2). 12-7-48.
504,751. LONGHORN AND DESIGN. Cl. 46 (Int. Cl. 31). 12-14-48.
504,800. FINCASTLE AND DESIGN. Cl. 42 (Int. Cl. 24). 12-14-48.
504,857. MISCELLANEOUS DESIGN. Cl. 102 (Int. Cl. 36). 12-14-48.
504,916. ALLEN COUNTY. Cl. 17 (Int. Cl. 34). 12-21-48.
504,980. HEYWOOD WAKEFIELD AND DESIGN. Cl. 32 (Int. Cl. 20). 12-21-48.
505,070. CARDINET'S. Cl. 46 (Int. Cl. 30). 12-21-48.
505,117. BARRA'S RUB-MASSAGE. Cl. 18 (Int. Cl. 5). 12-21-48.
505,136. MISCELLANEOUS DESIGN. Cl. 26 (Int. Cl. 9). 12-28-48.
505,198. AMBASSADOR. Cl. 35 (Int. Cl. 12). 12-28-48.
505,583. ENERGY. Cl. 37 (Int. Cl. 16). 1-11-49.

TRADEMARK REGISTRATIONS CANCELED

Section 8

The following registrations issued Aug. 21, 1962

736,208. COMPLEXIFORM. Cl. 1.
736,209. U.S. ROYAL. Cl. 1.
736,210. HARVEY. Cl. 2.
736,211. PRINCETEX. Cl. 2.
736,212. QUEENTEX. Cl. 2.
736,213. ECONO-TRAY. Cl. 2.
736,216. SHOE SPARE. Cl. 3.
736,225. STANDARDETTES. Cl. 6.
736,226. AIRSANIZE. Cl. 6.
736,227. LEFLEX. Cl. 6.
736,228. ULTRA CHEMICAL WORKS AND DESIGN. Cl. 6.
736,229. EASY-AID. Cl. 6.
736,232. MILBAN. Cl. 6.
736,234. SILVERMIST. Cl. 7.
736,239. DURA-DECK. Cl. 12.
736,244. BOND-A-LUM. Cl. 12.
736,249. GARSTONE. Cl. 12.
736,256. HULA BALL. Cl. 13.
736,259. CHROMOVEIL. Cl. 13.
736,261. AUTODIE. Cl. 14.
736,265. LSF AND DESIGN. Cl. 15.
736,266. KM. Cl. 15.
736,276. HAMLET Y OFELIA AND DESIGN. Cl. 17.
736,278. FLAV-OR-AID. Cl. 18.
736,285. TIXOBAR. Cl. 18.
736,289. MINTASE. Cl. 18.
736,292. INOBEX-CAL. Cl. 18.
736,294. KAORESIN. Cl. 18.
736,298. COR-D-TAR. Cl. 18.
736,302. GORHAM ELECTRONICS AND DOT DESIGN. Cl. 21.
736,305. STRONG 35/70 SPECIAL. Cl. 21.
736,306. GRADUALITE. Cl. 21.
736,308. MULTIPOISED. Cl. 21.
736,312. PLANTALITE. Cl. 21.
736,319. BUG BEACON. Cl. 21.
736,321. PERMA-PLUG. Cl. 21.
736,323. COASTOP. Cl. 21.

736,324. BULL-STRENGTH. Cl. 21.
736,326. RAYESCENT. Cl. 21.
736,331. JACK THE KNIFE. Cl. 22.
736,332. BUTTERBALL. Cl. 22.
736,333. ANNIE OAKLEY. Cl. 22.
736,334. CITATION. Cl. 22.
736,338. TANDY TALKS. Cl. 22.
736,339. THE DOCTOR'S PRESCRIPTION R AND FISHING ROD DESIGN. Cl. 22.
736,343. BABY MARIE. Cl. 22.
736,344. LITTLE BABY MARIE. Cl. 22.
736,345. LITLE MISS MARIE. Cl. 22.
736,346. DONNA MARIE. Cl. 22.
736,347. PLASTITE BOTTOM. Cl. 22.
736,349. ROD POD DMC AND DESIGN. Cl. 22.
736,350. MULTIPEG. Cl. 22.
736,352. CALYMBO. Cl. 22.
736,356. POLAR. Cl. 23.
736,358. CHOCOJOY. Cl. 23.
736,362. COM-PANT. Cl. 23.
736,368. BORONIC. Cl. 23.
736,373. VERNIDIAL. Cl. 26.
736,374. ARITHMETIC SYMBOL (DESIGN). Cl. 26.
736,376. BENKA. Cl. 26.
736,377. TOPPER. Cl. 26.
736,379. MAGIC TRI-LOCK. Cl. 26.
736,380. UNI-LUME. Cl. 26.
736,382. SESSIONGLO. Cl. 27.
736,396. ICETTES. Cl. 31.
736,406. FINISHIELD. Cl. 32.
736,409. TIRE-RAMA. Cl. 32.
736,411. ROOM SPAN. Cl. 32.
736,414. LUXLINE. Cl. 32.
736,417. TORSION AUTO-SHIFT. Cl. 32.
736,420. SKOL. Cl. 33.
736,421. PINK HOPE. Cl. 33.
736,422. COPPER-KING AND DESIGN. Cl. 34.
736,429. THUNDERBIRD. Cl. 34.
736,445. DOWGARD SIGNALS. Cl. 38.
736,446. THE COTTON TRADE JOURNAL & AGRICULTURAL REPORTER. Cl. 38.
736,454. FLIGHT EASE. Cl. 39.
736,455. TRICOLANA. Cl. 39.
736,467. BIRDIE. Cl. 39.
736,469. LOCKOUT. Cl. 39.
736,471. TOOKE. Cl. 39.
736,472. AIRGORA-SPUN. Cl. 39.
736,478. LOPA. Cl. 42.
736,492. BUSH AND DESIGN. Cl. 45.
736,499. BUSH IN LOZENGE DESIGN. Cl. 46.
736,500. PEEBLES' TURKEY BLUE AND DESIGN. Cl. 46.
736,439. COLOR-KEYED. Cl. 38.
736,448. KONA. Cl. 38.
736,449. BOATING YEAR ROUND. Cl. 38.
736,450. KULCHUR. Cl. 38.
736,451. THE REGISTERED SHIRT ETC. AND DESIGN. Cl. 39.
736,504. LOLA. Cl. 46.
736,505. TENDER MIX. Cl. 46.
736,506. LE 60/40. Cl. 46.
736,507. CORN CABIN AND DESIGN. Cl. 46.
736,511. HAUSER. Cl. 46.
736,512. EVANGELINE AND DESIGN. Cl. 46.
736,514. KING KRUNCH. Cl. 46.
736,513. DUPSTIK. Cl. 46.
736,521. HAIFA. Cl. 46.
736,533. ELIGERE. Cl. 51.
736,534. LEOMINT. Cl. 51.
736,543. MONOLITE AND DESIGN. Cl. 52.
736,544. CROWN DESIGN WITHIN AN OVAL. Cl. 52.
736,545. EMERTERGE. Cl. 52.
736,547. ELIGERE. Cl. 52.
736,548. ULTRA CHEMICAL WORKS AND DESIGN. Cl. 52.
736,550. KINGDOM POLLED HEREFORD ASSOCIATION AND DESIGN. Cl. 100.
736,552. REPRESENTATION OF TWO FACED HUMAN HEAD (JANUS). Cl. 100.
736,557. SAM THE WINDOW MAN AND DESIGN. Cl. 102.
736,558. SAM THE WINDOW MAN. Cl. 102.
736,562. KM. Cl. 103.
736,565. SUNDAY AT HOME. Cl. 107.
736,570. "CARRY CAKE." Cl. 2.
736,571. COUPON-ON-THE-BAG. Cl. 2.
736,572. SYSTEMATIZED SANITATION. Cl. 4.
736,573. BOTTLE (DESIGN). Cl. 6.
736,574. SYSTEMATIZED SANITATION. Cl. 6.
736,575. CRABGRASS-RID. Cl. 6.
736,577. SYSTEMATIZED SANITATION. Cl. 16.
736,582. "PLASTI-LENS." Cl. 21.
736,586. BOREL. Cl. 27.
736,596. SYSTEMATIZED SANITATION. Cl. 52.
736,597. PROTECTION IN A NEW LIGHT. Cl. 102.

INDEX OF REGISTRANTS

OCTOBER 8, 1968

(Registered ; Renewed ; Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates ; 12c Publications.)

A.B.C. Television Ltd., London, England. 858,226, pub. 7–4–67. Cl. 22.
AITS, Inc., from American International Travel Service, Inc., Chestnut Hill, Mass. 858,421, pub. 5–16–67. Cl. 105.
A.M.I. di Trotti Gianluigi S.A.S., Milan, Italy. 858,320, pub. 7–23–68. Cl. 44.
A-1 Termite Control Service, Inc., Indianapolis, Ind. 858,417, pub. 7–23–68. Cl. 103.
Acme Associates Inc. : *See*—
Ernst Slide Fastener Co., Inc.
Advertising Publications, Inc., Chicago, Ill. 858,434. Cl. 38.
Aerovox Corp., New Bedford, Mass. 858,222, pub. 7–23–68. Cl. 21.
Aktiebolaget Astra, Apotekarnes Kemiska Fabriker, Sobertalje, Sweden. 736,285, canc. Cl. 18.
Aladdin Industries, Inc., Chicago, Ill. 858,135, pub. 7–23–68. Cl. 2.
Alden Mills, The, New Orleans, La., to Wm. G. Leininger Knitting Co., Mohnton, Pa. 502,349, ren. 10–8–68. Cl. 39.
All-American Brush Mfg. Corp., Newark, N.J. 858,308, pub. 7–23–68. Cl. 40.
Allegheny Ludlum Steel Corp., Pittsburgh, Pa. 858,186, pub. 7–23–68. Cl. 14.
Allen & Fisher, Inc. : *See*—
Waitt & Bond, Inc.
Alpha Chemical Co. : *See*—
Simpson, Maurice H.
Alpha Portland Cement Co., to Alpha Portland Cement Co. (1910), Easton, Pa. 70,422, ren. 10–8–68. Cl. 12.
Alscap, Inc., New York, N.Y. 736,478, canc. Cl. 42.
Aluminum Screen & Window Co., Inc., Wichita, Kans. 736,557–8, canc. Cl. 102.
American Biltrite Rubber Co., Inc., Trenton N.J. 858,214, pub. 7–23–68. Cl. 20.
American Can Co., New York, N.Y. 858,138, pub. 7–23–68. Cl. 2.
American Dairy Queen Corp., Minneapolis, Minn. 858,332, pub. 7–23–68. Cl. 46.
American Doll & Toy Corp., Brooklyn, N.Y. 736,332, canc. Cl. 22.
American Foreign Industries, Inc., San Francisco, Calif. 736,347, canc. Cl. 22.
American Home Products Corp., New York, N.Y. 858,182, pub. 7–23–68. Cl. 13.
American International Travel Service, Inc. : *See*—
AITS, Inc.
American Pharmaceutical Co., New York, N.Y. 858,203, pub. 7–2–68. Cl. 18.
American Products Co., The, Cincinnati, Ohio, to Curley Co., Inc., Camden, N.J. 250,755, ren. 10–8–68. Cl. 51.
American Safety Razor Co. : *See*—
American Safety Razor Corp.
Treet Safety Razor Corp.
American Safety Razor Corp., Brooklyn, to Philip Morris Inc., d.b.a. American Safety Razor Co., New York, N.Y. 440,337, ren. 10–8–68. Cl. 23.
Anchor Plastics Co., Inc., Long Island City, N.Y. 736,208, canc. Cl. 1.
Andrews, Cynthia, Inc., Bethpage, N.Y. 736,533, canc. Cl. 51.
Andrews, Cynthia, Inc., Bethpage, N.Y. 736,547, canc Cl. 52.
Angelo Bros. Ltd., Calcutta, India. 243,527–8, ren. 10–8–68. Cl. 1.
Angelo Bros. Ltd., Calcutta, India. 243,530, ren. 10–8–68. Cl. 1.
Arby's Inc., Youngstown, Ohio. 858,385, pub. 7–23–68. Cl. 100.
Arden Corp., Detroit, Mich. 858,259, pub. 7–23–68. Cl. 29.
Aristocrat, Inc., Columbus, Ohio. 858,204, pub. 3–26–68. Cl. 18.
Arkansas Co., Inc., Newark, N.J. 441,639, ren. 10–8–68. Cl. 6.
Arkansas Co., Inc., Newark, N.J. 441,716, ren. 10–8–68. Cl. 6.
Armour & Co., Chicago, Ill. 736,544, canc. Cl. 52.
Armour Grocery Products Co., Chicago, Ill. 858,143, pub. 7–23–68. Cl. 4.
Aroniss, Lathrop M., d.b.a. Commercial Circular Co., New York, N.Y. 858,281, pub. 7–23–68. Cl. 38.
Associated Grocers : *See*—
Associated Grocers of Nebraska Cooperative, Inc.
Associated Grocers of Nebraska : *See*—
Associated Grocers of Nebraska Cooperative, Inc.
Associated Grocers of Nebraska Cooperative, Inc., d.b.a. Associated Grocers and Associated Grocers of Nebraska, Gering, Nebr. 858,354, pub. 7–23–68. Cl. 46.
Automated Products, Inc., Englewood, Colo. 736,358, canc. Cl. 23.
Automation Devices, Inc., Fairview, Pa. 858,219, pub. 7–23–68. Cl. 21.
Automation Industries, Inc., El Segundo, Calif. 858,181, pub. 7–23–68. Cl. 13.
Autoservizi Maggiore S.p.A., Rome, Italy. 858,422, pub. 7–23–68. Cl. 105.
Avery Products Corp., San Marino, Calif. 858,250, pub. 7–23–68. Cl. 23.
Baldwin-Ehret-Hill, Inc., Trenton, N.J. 858,174–6, pub. 7–2–68. Cl. 18.
Ballard, M. C., & Co. : *See*—
Ballard, McKinley C.
Ballard, McKinley C., d.b.a. M. C. Ballard & Co., Livermore, Calif. 736,350, canc. Cl. 22.
Barra, Robert R., Burlington, Vt. 505,117, ren. 10–8–68. Cl. 18.
Barry, R. G., Corp., Columbus, Ohio. 736,216, canc. Cl. 3.
Barton, Brook, Co., Chicago, Ill. 736,226, canc. Cl. 6.
Basic Vegetable Products, Inc., Vacaville, Calif. 858,343, pub. 7–23–68. Cl. 46.
Battle Creek Equipment Co. : *See*—
Sanitarium Equipment Co.
Beautiful Bryans, Inc. : *See*—
Bryan Full Fashioned Mills, Inc.
Benka Sales : *See*—
Kalina, Benjamin F.
Ben-Mar-Enterprises : *See*—
Greer, Bernard J.
Bickford's Inc., Long Island City, N.Y. 858,390, pub. 7–23–68. Cl. 100.
Bijur Lubricating Corp., Rochelle Park, N.J. 858,240, pub. 1–23–68. Cl. 23.
Binney & Smith Co., to Binney & Smith Inc., New York, N.Y. 248,609–10, ren. 10–8–68. Cl. 37.
Binney & Smith Co., to Binney & Smith Inc., New York, N.Y. 248,612, ren. 10–8–68. Cl. 37.
Binney & Smith Inc. : *See*—
Binney & Smith Co.
Birma Products Corp., Sayreville, N.J. 858,165, pub. 7–23–68. Cl. 12.
Bitumuls Corp., to Chevron Asphalt Co., San Francisco, Calif. 250,563, ren. 10–8–68. Cl. 12.
Blair, George, Woodland Hills, Calif. 858,386, pub. 7–23–68. Cl. 100.
Blue Heron Cranes : *See*—
Ormsby, Arwin E.
Blumenthal, Sidney, & Co., Inc., New York, N.Y., to Burlington Industries, Inc., Greensboro, N.C. 504,586, ren. 10–8–68. Cl. 42.
Bonded Homes, Inc., Miami, Fla. 736,244, canc. Cl. 12.
Bonne Bell, Inc., Lakewood, Ohio. 858,369, pub. 7–23–68. Cl. 51.
Bonniers, Inc., New York, N.Y. 736,420, canc. Cl. 33.
Borden Co., The : *See*—
Rosemary Creamery Co., The.
Borel, Ernest, & Cie S.A., Neuchatel, Switzerland. 736,586, canc. Cl. 27.
Boss Mfg. Co. : *See*—
Boss Mfg. Co., The.
Boss Mfg. Co., The, Kewanee, Ill., and Brooklyn, N.Y., to Boss Mfg. Co., Kewanee, Ill. 247,275, ren. 10–8–68. Cl. 39.
Bottling, T. J., Co., Inc., The, Lorain, Ohio. 858,327, pub. 7–23–68. Cl. 45.
Bradley, John H., d.b.a. National Scientific Information Service, Washington, D.C. 736,552, canc. Cl. 100.
Brady, Nelson, Corp., Massillon, Ohio. 736,213, canc. Cl. 2.
Brater Merchandising, Inc., New York, N.Y. 736,259, canc. Cl. 13.
Breck, John H., Inc., Wayne, N.J. 858,372, pub. 7–23–68. Cl. 51.
Brewer & Co. Inc., Worcester, Mass. 858,205, pub. 7–23–68. Cl. 18.
Bridgford Foods Corp., Anaheim, Calif. 858,445. Cl. 46.
Broadway Tire & Rubber Co., North Hackensack, N.J. 858,270, pub. 7–23–68. Cl. 35.
Bronner, Fred, Corp., New York, N.Y. 858,427. Cl. 22.
Brown Co., Holyoke, Mass. 858,276, pub. 7–23–68. Cl. 37.
Brown, E. H., Advertising Agency, Inc., Chicago, Ill. 858,402, pub. 7–23–68. Cl. 101.
Bryan Full Fashioned Mills, Inc., to Beautiful Bryans, Inc., Chattanooga, Tenn. 503,604, ren. 10–8–68. Cl. 39.
Budd Co., The, Philadelphia, Pa. 858,130, pub. 7–23–68. Cl. 1.
Burgie Foods Co., Memphis, Tenn. 858,350, pub. 7–23–68. Cl. 46.
Burlington Industries, Inc. : *See*—
Blumenthal, Sidney, & Co., Inc.
Bush, W. J., & Co., Ltd., London, England. 736,492, canc. Cl. 45.
Bush, W. J., & Co., Ltd., London, England. 736,499, canc. Cl. 46.
California Fruit Growers Exchange, to Sunkist Growers, Inc., Los Angeles, Calif. 72,087, ren. 10–8–68. Cl. 46.
Caloric Appliance Corp. : *See*—
Caloric Corp.
Caloric Corp., from Caloric Appliance Corp., Topton, Pa. 736,239, canc. Cl. 12.
Capilano Timber Co., Ltd., North Vancouver, British Columbia, to Capilano Timber Co., Ltd., New Westminster, British Columbia, Canada. 248,144, ren. 10–8–68. Cl. 12.
Cardinet Candy Co., Inc., Concord, Calif. 505,070, ren. 10–8–68. Cl. 46.
Cargill, Inc. : *See*—
Nutrena Feed Mills, Inc.
Carnation Co., Los Angeles, Calif. 858,352, pub. 7–23–68. Cl. 46.
Caro-Knit, Inc., Jefferson, S.C. 858,310, pub. 7–23–68. Cl. 42.

Carrier Corp., Syracuse, N.Y. 858,245, pub. 7–23–68. Cl. 23.
Century Cycle Co., Inc., New York, N.Y. 858,209, pub. 7–23–68. Multiple Class (Classes 19 and 22).
Chadbourn Gotham, Inc., Charlotte, N.C. 858,317, pub. 7–23–68. Cl. 43.
Champ Hats, Inc., New York, N.Y. 858,305, pub. 7–23–68. Cl. 39.
Chango Citrus Assn., Harlingen, Tex. 858,357, pub. 7–23–68. Cl. 46.
Chemflex Corp., Fort Worth, Tex. 858,376, pub. 7–23–68. Cl. 52.
Chevron Asphalt Co.: *See*—
Bitumuls Corp.
Chromatospheres Co., Palo Alto, Calif. 858,262–3, pub. 7–23–68. Cl. 31.
Church & Dwight Co., Inc., New York, N.Y. 501,313, ren. 10–8–68. Cl. 46.
Church & Dwight Co., Inc., New York, N.Y. 501,592, ren. 10–8–68. Cl. 6.
Church & Dwight Co., Inc., New York, N.Y. 501,903–5, ren. 10–8–68. Cl. 52.
Church & Dwight Co., Inc., New York, N.Y. 502,070, ren. 10–8–68. Cl. 52.
City Stores Co., New York, N.Y. 858,298, pub. 7–23–68. Cl. 39.
Clairol Inc., New York, N.Y. 858,371, pub. 7–23–68. Multiple Class (Classes 51 and 52).
Clairol Inc., New York, N.Y. 858,373, pub. 7–23–68. Cl. 51.
Clark, Bullard, Co., The, Danielson, Conn. 858,170, pub. 7–23–68. Cl. 12.
Coffee Rich Inc., Buffalo, N.Y. 858,340, pub. 7–23–68. Cl. 46.
Coleman Co., Inc., The, Wichita, Kans. 858,231, pub. 7–23–68. Cl. 22.
Colorado River Farms, Inc., to S. L. Eaton Farms, Inc., Blythe, Calif. 502,217, ren. 10–8–68. Cl. 46.
Columbia Tool Steel Co., Chicago Heights, Ill. 736,261, canc. Cl. 14.
Columbus McKinnon Corp., Tonawanda, N.Y. 858,242, pub. 7–23–68. Cl. 23.
Combined Insurance Co. of America, Chicago, Ill. 858,409, pub. 7–23–68. Cl. 102.
Commercial Circular Co.: *See*—
Aroniss, Lathrop M.
Commonwealth Plastics Corp., Leominster, Mass. 736,396, canc. Cl. 31.
Compagnie Generale de la Maille en Abrege Cogema Societe Anonyme, Paris, France. 858,296, pub. 7–23–68. Cl. 39.
Computer Services, Inc., Salem, Mass. 858,404, pub. 7–23–68. Cl. 101.
Concrete Ltd., Middlesex, England. 858,171, pub. 7–23–68. Cl. 12.
Concrete Transport Mixer Co., St. Louis, Mo. 858,247, pub. 7–23–68. Cl. 23.
Confrerie de la Chaine des Rotisseurs, Ltd., New York, N.Y. 858,389, pub. 7–23–68. Cl. 100.
Consolidated Specialties Co., The, Toledo, Ohio. 736,319, canc. Cl. 21.
Continental Distilling Corp., to Old Hickory Distilling Corp., Philadelphia, Pa. 504,548, ren. 10–8–68. Cl. 49.
Continental Fruit Packing Co., Ltd., The, London, England. 250,883, ren. 10–8–68. Cl. 46.
Controversial Publications: *See*—
Masters, Colonel R. E. Lee, Sr.
Corn Cabin Co., South Elgin, Ill. 736,507, canc. Cl. 46.
Corsaw Co.: *See*—
Corsaw, Harry B.
Corsaw, Harry B., d.b.a. Corsaw Co., Palo Alto, Calif. 736,256, canc. Cl. 13.
Cosan Chemical Corp., Clifton, N.J. 858,149, pub. 7–23–68. Cl. 6.
Cosman & Levine, Inc., Los Angeles, Calif. 858,230, pub. 7–23–68. Cl. 22.
Costa Ice Cream Co., Woodbridge, N.J. 858,440–2. Cl. 46.
Cotton Trade Journal, Inc., The, Memphis, Tenn. 736,446, canc. Cl. 38.
Coughlan, G. N., Co., West Orange, N.J. 736,229, canc. Cl. 6.
Crawdaddy: *See*—
Williams, Paul S.
Crawford, William, & Sons: *See*—
United Biscuits Ltd.
Crosman Arms Co., Inc., Fairport, N.Y. 858,163, pub. 7–23–68. Cl. 9.
Curley Co., Inc.: *See*—
American Products Co.
Custom Colorants, Inc., Woonsocket, R.I. 858,155, pub. 7–23–68. Cl. 6.
DMC, Inc., Fresno, Calif. 736,349, canc. Cl. 22.
D & R Development Co., St. Catharines, Ontario, Canada. 858,227, pub. 7–23–68. Cl. 22.
Dan Dee Pretzel & Potato Chip Co., The, Cleveland, Ohio. 504,105, ren. 10–8–68. Cl. 46.
Dana: *See*—
Les Parfums de Dana, Inc.
Data Graphic, Inc., East Rochester, N.Y. 858,401, pub. 7–23–68. Cl. 101.
Dean, Payne, & Co.: *See*—
Dean, Peter P.
Dean, Peter P., d.b.a. Payne Dean & Co., North Canton, Conn. 858,178, pub. 7–23–68. Cl. 13.
Decision Control, Inc.: *See*—
Varian Data Machines.
Dell Publishing Co., Inc., New York, N.Y. 736,448, canc. Cl. 38.
Deltex Industries, Inc., New York, N.Y. 858,344, pub. 7–23–68. Cl. 46.
Denney, Frances, Inc., Philadelphia, Pa. 858,370, pub. 7–23–68. Multiple Class (Classes 51 and 52).
Denys Fisher (Engineering) Ltd.: *See*—
Denys Fisher (Spirograph) Ltd.
Denys Fisher (Spirograph) Ltd., from Denys Fisher (Engineering) Ltd., Yorkshire, England. 858,225, pub. 7–23–68. Cl. 22.
Desitin Chemical Co., Inc., Providence, R.I. 736,298, canc. Cl. 18.
Diamond Craft of America, Inc., New York, N.Y. 858,429. Cl. 28.
Diamond Shamrock Corp.: *See*—
Superior Zinc Corp.
Diana Stores Corp., North Bergen, N.J. 858,288, pub. 7–23–68. Cl. 39.
Didier-Werke AG., Wiesbaden, Germany. 858,191, pub. 7–23–68. Cl. 16.
Dietene Co., The: *See*—
Larx Co. Inc.
Dimensional Packaging Inc., New York, N.Y. 858,403, pub. 7–23–68. Cl. 101.
Discount Boutique, Inc., New York, N.Y. 858,436. Cl. 39.
Dr. Welbourn Medicine Co.: *See*—
Tibbets, Carl F.
Dodge Mfg. Corp., Mishawaka, Ind., to The Reliance Electric & Engineering Co., Euclid, Ohio. 500,147, ren. 10–8–68. Cl. 35.
Donahue, Vincent J., Montgomery, Ala. 736,454, canc. Cl. 39.
Dot-Scope Co., Panama City, Fla. 858,252, pub. 7–23–68. Cl. 26.
Dow Chemical Co., The, Midland, Mich. 736,445, canc. Cl. 38.
Doyle, D. M. Pharmaceutical Co.: *See*—
Larx Co. Inc.
Dubow, George, d.b.a. George Dubow Agency, Los Angeles, Calif. 858,282, pub. 7–23–68. Cl. 38.
Dubow, George, Agency: *See*—
Dubow, George.
Du Pont de Nemours, E. I., & Co., Wilmington, Del. 736,232, canc. Cl. 6.
Dyer, B. W., & Co., New York, N.Y. 504,857, ren. 10–8–68. Cl. 102.
Dynalectron Corp., Washington, D.C. 858,387, pub. 7–23–68. Multiple Class (Classes 100, 101, and 1033).
Dynamic Industries, Inc., Chicago, Ill. 858,286, pub. 7–23–68. Cl. 39.
Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany. 858,131, pub. 7–23–68. Multiple Class (Classes 1 and 13).
Eads Mfg. Corp., Troutville, Va. 858,424. Multiple Class (Classes 6 and 52).
Ealing Corp., The, Cambridge, Mass. 858,398, pub. 7–23–68. Cl. 101.
Early American Wax Co., to Ernest A. La Bardin, d.b.a. Early American Wax Co., New Orleans, La. 439,447, ren. 10–8–68. Cl. 4.
Eastern Air Lines, Inc., New York, N.Y. 858,391, pub. 7–23–68. Cl. 100.
Eastern Tool & Mfg. Co., Belleville, N.J. 245,772, ren. 10–8–68. Cl. 23.
Eaton, S. L., Farms, Inc.: *See*—
Colorado River Farms, Inc.
Electronic's Inc., Vermillion, S. Dak. 736,429, canc. Cl. 34.
Ellicott Machine Corp., Baltimore, Md. 858,244, pub. 7–23–68. Cl. 23.
Emba Mink Breeders Association, Racine, Wis. 858,134, pub. 7–23–68. Cl. 1.
Emerson Shoe Mfg. Co., Rockland, Mass., to Kinney Shoe Corp., New York, N.Y. 250,950, ren. 10–8–68. Cl. 39.
Emery Industries, Inc., Cincinnati, Ohio. 736,545, canc. Cl. 52.
Epic Chemicals, Inc., Brooklyn, N.Y. 858,380, pub. 7–23–68. Cl. 52.
Ernst Slide Fastener Co., Inc., New York, to Acme Associates Inc., Long Island City, N.Y. 439,417, ren. 10–8–68. Cl. 13.
Erwin Cotton Mills Co., to Erwin Mills, Inc., Durham, N.C. 502,525, ren. 10–8–68. Cl. 42.
Erwin Mills, Inc.: *See*—
Erwin Cotton Mills Co.
Etablissements Indar: *See*—
Weiner, Jacques.
Evangeline Pepper & Food Products, Inc., St. Martinville, La. 736,512, canc. Cl. 46.
Everhot All-Copper, Inc., Boston, Mass. 736,422, canc. Cl. 34.
Evr-Gard Coatings Corp., Los Angeles, Calif. 858,192, pub. 7–23–68. Cl. 16.
Faber-Castell, A. W., Pencil Co., Inc.: *See*—
Rosenthal Co., The.
Farm Journal, Inc., Philadelphia, Pa. 503,922, ren. 10–8–68. Cl. 38.
Fawkner, William C., d.b.a. Prestex Products Co., St. Paul, Minn. 858,378, pub. 7–23–68. Cl. 52.
Fiber Industries, Inc., Charlotte, N.C. 858,311, pub. 7–23–68. Cl. 42.
Fibreboard Corp.: *See*—
Paraffine Companies, Inc., The.
Financial Programs, Inc., Denver, Colo. 858,411, pub. 7–23–68. Cl. 102.
Fine Hardwoods Assn., Chicago, Ill. 736,406, canc. Cl. 32.
Fisher, Joseph V., Valencia, Pa. 858,400, pub. 7–23–68. Cl. 101.
Flambeau Plastics Corp., Baraboo, Wis. 858,234, pub. 7–23–68. Cl. 22.
Flannery & Associates, Inc., Pittsburgh, Pa. 736,409, canc. Cl. 32.
Flavor-ful Foods Co.: *See*—
Hillside Dairy Co.
Flex Electric Products, Inc., Long Island City, N.Y. 736,380, canc. Cl. 26.
Florasynth, Inc.: *See*—
Pfizer, Chas., & Co., Inc.

Foodmaker, Inc., San Diego, Calif. 858,388, pub. 7–23–68. Cl. 100.
Formco, Inc., Cincinnati, Ohio. 858,169, pub. 7–23–68. Multiple Class (Classes 12, 13, and 32).
Frethofer, Charles, Baking Co., Inc., Troy, N.Y. 858,348, pub. 7–23–68. Cl. 46.
Freund Baking Co., St. Louis, Mo. 858,335, pub. 7–23–68. Cl. 46.
Frost, George, Co., Shirley, Mass. 440,931, ren. 10–8–68. Cl. 39.
Fuller, D. B., & Co., Inc., to J. P. Stevens & Co., Inc., New York, N.Y. 502,128, ren. 10–8–68. Cl. 42.
Fuller, D. B., & Co., Inc., to J. P. Stevens & Co., Inc., New York, N.Y. 504,644, ren. 10–8–68. Cl. 42.
Funtastic, Inc., Alexandria, Va. 858,232, pub. 7–23–68. Cl. 22.
GAF Corp., from General Aniline & Film Corp., New York, N.Y. 858,150, pub. 7–23–68. Cl. 6.
GAF Corp., from General Aniline & Film Corp., New York, N.Y. 858,215, pub. 7–23–68. Cl. 20.
Gaunt Perrin, Ancienne Maison Perrin Freres & Cie Societe Anonyme, Paris, France. 858,300, pub. 7–23–68. Multiple Class (Classes 39 and 42).
Garaway Corp., The, Van Nuys, Calif. 736,249, canc. Cl. 12.
Garrett-Hewitt International, Inc., Redwood City, Calif. 858,261, pub. 7–23–68. Cl. 29.
Gaytime Confections: *See*—
Market Confections, Inc.
Geigy Chemical Corp., Ardsley, N.Y. 858,156–8, pub. 7–23–68. Cl. 6.
General Aniline & Film Corp.: *See*—
GAF Corp.
General Controls Co., Glendale, Calif. 736,308, canc. Cl. 21.
General Medical Corp., Richmond, Va. 858,148, pub. 7–2–68. Cl. 6.
General Mills, Inc., Minneapolis, Minn. 858,235, pub. 7–23–68. Cl. 22.
General Mills, Inc., Minneapolis, Minn. 858,258, pub. 7–23–68. Cl. 28.
General Mills, Inc., Minneapolis, Minn. 858,356, pub. 7–23–68. Cl. 46.
Genesco Inc., Nashville, Tenn. 736,211–12, canc. Cl. 2.
Genesco Inc., Nashville, Tenn. 858,297, pub. 7–23–68. Cl. 39.
George's Import-Export, Ltd., Hollywood, Calif. 858,274, pub. 7–23–68. Cl. 30.
Geryl Co., Ltd., New York, N.Y. 858,197–9, pub. 7–23–68. Cl. 17.
Gillette Inhibitor Co., Chicago, Ill. 736,575, canc. Cl. 6.
Glen Raven Mills, Inc., Glen Raven, N.C. 858,316, pub. 7–23–68. Cl. 43.
Gold Crest Chemical Corp., Inc., Mendenhall, Pa. 858,151, pub. 7–23–68. Cl. 6.
Goldberger Doll Mfg. Co., Inc., Brooklyn, N.Y. 736,338, canc. Cl. 22.
Golub, Abe, Far Rockaway, N.Y. 736,571, canc. Cl. 2.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 502,969, ren. 10–8–68. Cl. 35.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 858,267–9, pub. 7–23–68. Cl. 35.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 858,271, pub. 7–23–68. Cl. 35.
Gorham Corp., from Gorham Mfg. Co., Providence, R.I. 736,302, canc. Cl. 21.
Gorham Mfg. Co.: *See*—
Gorham Corp.
Gorton Corp., The, Gloucester, Mass. 858,334, pub. 7–23–68. Cl. 46.
Grabill Cabinet Co., Inc., The, Grabill, Ind. 736,414, canc. Cl. 32.
Grace, W. R., & Co., St. Simons Island, Ga. 858,333, pub. 7–23–68. Cl. 46.
Gradualite Corp., Stamford, Conn. 736,306, canc. Cl. 21.
Graflex, Inc., Rochester, N.Y. 439,107, ren. 10–8–68. Cl. 26.
Grant, George S., Inveraven, to George & J. G. Smith Ltd., Glenlivet, Ballindalloch, Scotland. 72,081, ren. 10–8–68. Cl. 49.
Greenebaum, M. H., Inc., to M. H. Greenebaum, Inc., New York, N.Y. 251,436, ren. 10–8–68. Cl. 46.
Greenville Industries, Inc., Wilmington, Del. 858,211, pub. 7–23–68. Cl. 19.
Greer, Bernard J., d.b.a. Ben-Mar-Enterprises, Greenville, S.C. 736,565, canc. Cl. 107.
Griffin Holder, The, d.b.a. Griffin-Holder Co., Rocky Ford, Colo. 858,353, pub. 7–23–68. Cl. 46.
Griffin-Holder Co.: *See*—
Griffin Holder, The.
Gund Mfg. Co.: *See*—
Swedlin, J., Inc.
HF/TV Inc., High Point, N.C. 858,279, pub. 7–23–68. Cl. 38.
HMH Publishing Co. Inc., Chicago, Ill. 858,200–1, pub. 7–23–68. Cl. 17.
HPE Inc., El Monte, Calif. 858,145, pub. 1–30–68. Multiple Class (Classes 6, 13, 23, 26, 31, and 35).
Haines-Fizette Lab., Inc., Clearwater, Fla. 736,225, canc. Cl. 6.
Hale Co., Inc., East Arlington, Vt. 858,264, pub. 7–23–68. Cl. 32.
Hamilton Mfg. Co., Two Rivers, Wis. 736,417, canc. Cl. 32.
Handi-Clean Products, Inc., Greensboro, N.C. 858,419, pub. 7–23–68. Cl. 103.
Hanson Textile Co., Hatfield, Pa. 858,309, pub. 7–23–68. Cl. 42.
Hardwick, Bryan, Associates: *See*—
Hardwick, Bryan D., Jr.
Hardwick, Bryan D., Jr., d.b.a. Bryan Hardwick Associates, Palos Verdes Estates, Calif. 858,406, pub. 7–23–68. Cl. 101.
Harmon, B. G., Service & Equipment Co., Carmi, Ill. 736,362, canc. Cl. 23.
Harris-Fandel Co., Inc., The, Boston, Mass. 858,430. Cl. 36.
Hart's Bakery, Memphis, Tenn. 736,505, canc. Cl. 46.
Hastings & Co., Inc., Philadelphia, Pa. 858,132, pub. 7–23–68. Cl. 1.
Hayes-Sammons Chemical Co., Mission, Tex. 736,543, canc. Cl. 52.
Hearst Corp., The, New York, N.Y. 858,283, pub. 7–23–68. Cl. 38.
Helzberg's Diamond Shops, Inc., Kansas City, Mo. 858,367, pub. 7–23–68. Cl. 50.
Hercules Inc.: *See*—
Hercules Powder Co.
Hercules Powder Co., to Hercules Inc., Wilmington, Del. 245,305, ren. 10–8–68. Cl. 9.
Heritage House Restaurants, Inc., Springfield, Ill. 858,392, pub. 7–23–68. Cl. 100.
Hermes, S.A., Paris, France. 858,299, pub. 7–23–68. Cl. 39.
Hess Oil & Chemical Corp., Perth Amboy, N.J. 858,413, pub. 9–19–67. Cl. 103.
Heywood-Wakefield Co., Gardner, Mass. 504,980, ren. 10–8–68. Cl. 32.
Hillside Dairy Co., d.b.a. Flavor-ful Foods Co., Cleveland Heights, Ohio. 858,444. Cl. 46.
Hilsinger Corp., The, Plainville, Mass. 858,161, pub. 7–23–68. Cl. 6.
Hoerner-Waldorf Corp., St. Paul, Minn. 858,365, pub. 7–23–68. Cl. 50.
Holliston Laboratories, Inc., Boston, Mass. 858,159–60, pub. 7–23–68. Cl. 6.
Holly House, Inc., Orange, Conn. 858,416, pub. 7–23–68. Cl. 103.
Holzer, Julian, Ltd., New York, N.Y. 858,428. Multiple Class (Classes 27 and 28).
Home Federal Savings & Loan Association, Washington, D.C. 858,407, pub. 7–23–68. Cl. 102.
Homestead Turkey Co. Inc., d.b.a. Homestead Turkey Co., Inc., and United Kosher Turkey Co., Philadelphia, Pa. 736,521, canc. Cl. 46.
Honey Toy Industries, Inc., Brooklyn, N.Y. 736,331, canc. Cl. 22.
Howell Instruments, Inc., Fort Worth, Tex. 736,373, canc. Cl. 26.
Hudnut, Richard, New York, N.Y., to Richard Hudnut, Morris Plains, N.J. 32,188, ren. 10–8–68. Cl. 51.
Hudnut, Richard, Morris Plains, N.J. 441,469, ren. 10–8–68. Cl. 51.
Humble Oil & Refining Co., Houston, Tex. 858,187, pub. 11–14–61. Cl. 15.
Illinois Shade Cloth Co.: *See*—
Slick Industrial Co.
Imperial Clothing Co., Inc., Boston, Mass. 858,290, pub. 7–23–68. Cl. 39.
Imperial Knife Associated Companies, Inc., Providence, R.I. 858,241, pub. 7–23–68. Cl. 23.
Industra Products, Inc., Fort Wayne, Ind. 858,239, pub. 7–23–68. Cl. 23.
Industrial Chemicals, Inc., South Bend, Ind. 858,154, pub. 7–23–68. Cl. 6.
Ingram, Pamela A. P., d.b.a. Sassafras, Topanga, Calif. 858,129, pub. 7–23–68. Cl. 1.
International Playtex Corp., Dover, Del. 858,260, pub. 7–23–68. Cl. 29.
International Playtex Corp., Dover, Del. 858,375, pub. 7–23–68. Cl. 52.
International Salt Co., Clarks Summit, Pa. 858,342, pub. 7–23–68. Cl. 46.
Italian Swiss Colony: *See*—
United Vintners, Inc.
Jackson Furniture Co., Oakland, to Pacifica Designs, San Francisco, Calif. 440,662, ren. 10–8–68. Cl. 32.
Jacoby-Bender, Inc., Woodside, N.Y. 858,256, pub. 4–4–67. Cl. 28.
James Industries, Inc., Hollidaysburgh, Pa. 858,237, pub. 7–23–68. Cl. 22.
Jensen-Sandberg, Inc.: *See*—
Key Minerals Corp.
Johnson Plastic Corp., Chagrin Falls, Ohio. 858,168, pub. 7–23–68. Cl. 12.
Johnson, S. C., & Son, Inc., Racine, Wis. 858,146, pub. 7–23–68. Multiple Class (Classes 6 and 52).
Jones, John M., Jr., New Orleans, La. 858,238, pub. 7–23–68. Cl. 23.
KVP Sutherland Paper Co., Kalamazoo, Mich. 736,210, canc. Cl. 2.
Kaiser Industries Corp., Oakland, Calif. 858,414, pub. 7–23–68. Cl. 103.
Kalina, Benjamin F., d.b.a. Benka Sales, Bowman, N. Dak. 736,376, canc. Cl. 26.
Keith, Ben E., d.b.a. Ben E. Keith Co., to Ben E. Keith Co., Fort Worth, Tex. 504,751, ren. 10–8–68. Cl. 46.
Keith, Ben E., Co.: *See*—
Keith, Ben E.
Kelco Co., San Diego, Calif. 504,566, ren. 10–8–68. Cl. 16.
Kellogg Supply Co., Inc., Wilmington, Calif. 858,164, pub. 7–23–68. Cl. 10.
Kerr-McGee Oil Industries, Inc., Oklahoma City, Okla. 736,266, canc. Cl. 15.
Kerr-McGee Oil Industries, Inc., Oklahoma City, Okla. 736,562, canc. Cl. 103.
Key Minerals Corp., from Jensen-Sandberg, Inc., Salt Lake City, Utah. 858,202, pub. 7–5–66. Cl. 18.
Keystone Co.: *See*—
Keystone Laboratories, Inc.
Keystone Laboratories, Inc., d.b.a. Keystone Co., Memphis, Tenn. 858,447. Cl. 51.

Keystone Paint & Varnish Corp.: *See*—
Keystone Varnish Co.
Keystone Varnish Co., to Keystone Paint & Varnish Corp., Brooklyn, N.Y. 504,665, ren. 10–8–68. Cl. 16.
Kewanee Oil Co., Cleveland, Ohio. 858,147, pub. 7–23–68. Cl. 6.
Klein Products, Co., Inc., Glenview, Ill. 858,438. Cl. 44.
Kimberly-Clark Corp.: *See*—
Munising Paper Co., The.
Kingdom Polled Hereford Association, New Bloomfield, Mo. 736,550, canc. Cl. 100.
Kinney Shoe Corp.: *See*—
Emerson Shoe Mfg. Co.
Knight of the Month Club: *See*—
Songstad, Sheldon R.
Ko-Operatieve Wijnbouwers Vereniging Van Zuid-Afrika, Beperkt, Capr Province, Republic of South Africa. 858,363, pub. 7–23–68. Cl. 47.
Kresge, S. S., Co., Detroit, Mich. 858,291, pub. 7–23–68. Cl. 39.
Kutchur Press Inc., New York, N.Y. 736,450, canc. Cl. 38.
La Bardin, Ernest A.: *See*—
Early American Wax Co.
Lady Marlene Brassiere Corp., New York, N.Y. 858,289, pub. 7–23–68. Cl. 39.
Lagar Industries, Inc., Philadelphia, Pa. 858,383, pub. 7–23–68. Cl. 52.
La Grenouille, Inc., New York, N.Y. 858,397, pub. 7–23–68. Cl. 100.
Lane Ltd.: *See*—
Wade, Ben, Ltd.
La Rue, Mervin W., Chicago, Ill. 505,136, ren. 10–8–68. Cl. 16.
Larx Co, Inc., d.b.a. The Dietene Co., to The Dietene Co., d.b.a. D. M. Doyle Pharmaceutical Co., Minneapolis, Minn. 501,569, ren. 10–8–68. Cl. 46.
Lawton Co., Inc., The, New York, N.Y. 858,319, pub. 7–23–68. Cl. 44.
Lasher, J. F., Mfg. Co., St. Louis, Mo. 858,326, pub. 7–23–68. Cl. 45.
Lehigh Chemical Co., Chestertown, Md. 736,227, canc. Cl. 6.
Lehlinger, Wm. G., Knitting Co.: *See*—
Alden Mills, The.
Leo-Werke, G.m.b.H., Frankfurt am Main, Germany. 736,534, canc. Cl. 51.
Les Parfums de Dana, Inc., d.b.a. Dana, New York, N.Y. 858,377, pub. 4–16–68. Cl. 52.
Leslie, Richard A., Co., Brooklyn, N.Y. 736,467, canc. Cl. 39.
Lily White Sales Co., Inc., New York, N.Y. 858,318, pub. 7–23–68. Cl. 44.
Linnelle Yarns Ltd., Manchester, England. 858,315, pub. 7–23–68. Cl. 43.
Litho Chemical & Supply Co., Inc., Lynbrook, N.Y. 858,368, pub. 7–23–68. Cl. 50.
Lithonia Lighting Products Co., Conyers, Ga. 736,582, canc. Cl. 21.
Littman, Marshall, d.b.a. Marshall Littman Mfg. Jeweler, Philadelphia, Pa. 858,257, pub. 7–23–68. Cl. 28.
Littman, Marshall, Mfg. Jeweler: *See*—
Littman, Marshall.
Lola Macaroni Co.: *See*—
Maggiore, Peter.
Lorain Products Corp., Lorain, Ohio. 503,182–4, ren. 10–8–68. Cl. 21.
Lorillard, P., Co., New York, N.Y. 438,862, ren. 10–8–68. Cl. 17.
Louisville Textile Weavers, Inc.: *See*—
Louisville Textiles, Inc.
Louisville Textiles, Inc., to Louisville Textile Weavers, Inc., Louisville, Ky. 504,800, ren. 10–8–68. Cl. 42.
Lowe's, Inc., Cassopolis, Mich. 858,141, pub. 7–23–68. Multiple Class (Classes 3 and 22).
M & R Dietetic Laboratories, Inc., Columbus, Ohio. 736,506, canc. Cl. 46.
MacDonald, William, & Sons (Biscuits): *See*—
United Biscuits Ltd.
MacFarlane, Lang & Co.: *See*—
United Biscuits Ltd.
Maggiore, Peter, d.b.a. Lola Macaroni Co., Cicero, Ill. 736,504. canc. Cl. 46.
Mallett Products Ltd., North Surrey, British Columbia, Canada. 736,513, canc. Cl. 46.
Malt-A-Plenty, Inc., Tulsa, Okla. 858,355, pub. 7–23–68. Cl. 46.
Market Confections, Inc., d.b.a. Western Candy Co., and Gay-time Confections, Los Angeles, Calif. 858,347, pub. 7–23–68. Cl. 46.
Mars Mfg. Co. of Asheville, N.C., Asheville, N.C. 858,293, pub. 7–23–68. Cl. 39.
Mart Upholstery Co., Mart, Tex. 858,426. Cl. 22.
Marx-Haas Clothing Co.: *See*—
Marx & Haas-Korrekt Co.
Marx & Haas-Korrekt Co., to Marx-Haas Clothing Co., St. Louis, Mo. 502,093, ren. 10–8–68. Cl. 39.
Masters, Colonel R. E. Lee, Sr., d.b.a. Controversial Publications, Fayetteville, Ark. 858,433. Cl. 38.
Maternity Wardrobe, Inc., Pennsauken, N.J. 858,451. Cl. 101.
Mattel, Inc., Hawthorne, Calif. 858,236, pub. 7–23–68. Cl. 22.
McCallie Shoe Co., Knoxville, Tenn. 858,287, pub. 7–23–68. Cl. 39.
McCallum Inspection Co., Chesapeake, Va. 858,418, pub. 7–23–68. Cl. 103.
McCrory Corp., New York, N.Y. 858,396, pub. 7–23–68. Cl. 100.
McGraw-Edison Co.: *See*—
Village Blacksmith Folks, The.
McGraw-Edison Co., Elgin, Ill. 858,243, pub. 7–23–68. Cl. 23.
McGraw-Hill, Inc., New York, N.Y. 858,405, pub. 7–23–68. Cl. 101.
McKay Products Corp., The, New York, N.Y. 503,837, ren. 10–8–68. Cl. 39.
McVitie & Price: *See*—
United Biscuits Ltd.
Mead Johnson & Co., to Mead Johnson & Co., Evansville, Ind. 504,543, ren. 10–8–68. Cl. 46.
Meyer, Leo, Buhl, Baden, Germany. 858,190, pub. 7–23–68. Cl. 16.
Midas, Inc., Chicago, Ill. 858,213, pub. 7–23–68. Cl. 19.
Minneapolis-Moline, Inc.: *See*—
Minneapolis-Moline Power Implement Co.
Minneapolis-Moline, Inc., Hopkins, Minn. 858,246, pub. 7–23–68. Cl. 23.
Minneapolis-Moline Power Implement Co., Minneapolis, to Minneapolis-Moline, Inc., Hopkins, Minn. 504,309, ren. 10–8–68. Cl. 23.
Minnesota Mining & Mfg. Co., St. Paul, Minn. 736,234, canc. Cl. 7.
Mintase Co., The, Los Angeles, Calif. 736,289, canc. Cl. 18.
Mr. Bem, Inc., New York, N.Y. 858,229, pub. 7–23–68. Cl. 22.
Mitchell-Bradford Chemical Co., The, Milford, Conn. 858,153, pub. 7–23–68. Cl. 6.
Modern Products, Inc., Milwaukee, Wis. 736,511, canc. Cl. 46.
Molnlycke Aktiebolag, Gothenburg, Sweden. 858,294, pub. 7–23–68. Cl. 39.
Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 440,236, ren. 10–8–68. Cl. 48.
Monsanto Co.: *See*—
Monsanto Chemical Co.
Monumental Life Insurance Co., Baltimore, Md. 736,597, canc. Cl. 102.
Mornard, Gloria Z., Lake Geneva, Wis. 858,133, pub. 7–23–68. Cl. 1.
Morris, Philip, Inc.: *See*—
American Safety Razor Corp.
Treet Safety Razor Corp.
Moss, Ray, Farms, Inc., Chattanooga, Tenn. 858,328, pub. 12–27–66. Cl. 46.
Mueller Electric Co., to Mueller Electric Co., Cleveland, Ohio. 249,985, ren. 10–8–68. Cl. 21.
Munising Paper Co., The, Chicago, Ill., to Kimberly-Clark Corp., Neenah, Wis. 505,583, ren. 10–8–68. Cl. 37.
N.V. Optische Industrie "De Oude Delft," Delft, Netherlands. 858,254, pub. 7–23–68. Cl. 26.
N.V. Triconala, Tilburg, Netherlands. 736,455, canc. Cl. 39.
National Aluminum Mfg. Co., Peoria, Ill. 439,764, ren. 10–8–68. Cl. 13.
National Biscuit Co., New York, N.Y. 71,785–7, ren. 10–8–68. Cl. 46.
National Scientific Information Service: *See*—
Bradley, John H.
National Wax Co., Skokie, Ill. 440,064, ren. 10–8–68. Cl. 16.
Nelson Sales Co., Kansas City, Mo. 858,285, pub. 7–23–68. Cl. 39.
New Plastic Corp., d.b.a. Nupla Mfg. Co., Los Angeles, Calif. 858,248, pub. 7–23–68. Cl. 23.
Niswonger, Howard W.: *See*—
Patsy's Candles, Inc.
Norman, Merle, Cosmetics, Inc., Los Angeles, Calif. 858,379, pub. 7–23–68. Cl. 52.
Northwest Paper Co., The, Cloquet, Minn. 858,275, pub. 7–23–68. Cl. 37.
Nupla Mfg. Co.: *See*—
New Plastic Corp.
Nutrena Feed Mills, Inc., Kansas City, Kans., to Cargill, Inc., Minneapolis, Minn. 243,246, ren. 10–8–68. Cl. 46.
Oakley, Annie, Enterprises, Inc., Los Angeles, Calif. 736,333, canc. Cl. 22.
Old Hickory Distilling Corp.: *See*—
Continental Distilling Corp.
Old Republic Life Insurance Co., Chicago, Ill. 858,410, pub. 7–23–68. Cl. 102.
Olson, Donald K., d.b.a. Walter J. Olson Co., Minneapolis, Minn. 736,265, canc. Cl. 15.
Olson, Walter J., Co.: *See*—
Olson, Donald K.
Ormsby, Arwin E., d.b.a. Blue Heron Cranes, Oakland, Calif. 438,660, ren. 10–8–68. Cl. 23.
Ort Bros. Bakery, Inc., Cumberland, Md. 736,514, canc. Cl. 46.
Oster, John, Mfg. Co., Milwaukee, Wis. 858,325, pub. 7–23–68. Cl. 44.
Outboard Magazines, Inc., Jacksonville, Fla. 736,449, canc. Cl. 38.
Owen, R. C., Co., Gallatin, Tenn. 504,916, ren. 10–8–68. Cl. 17.
Owens-Corning Fiberglas Corp., Toledo, Ohio. 858,167, pub. 7–23–68. Cl. 12.
Pacifica Designs: *See*—
Jackson Furniture Co.
Paraffine Companies, Inc., The, to Fibreboard Corp., San Francisco, Calif. 248,211, ren. 10–8–68. Cl. 12.
Paraphernalia, Inc., from Puritan Fashions Corp., New York, N.Y. 858,399, pub. 7–23–68. Cl. 101.
Parke, Davis & Co., Detroit, Mich. 858,425. Cl. 18.
Patsy's Candies, Inc., to Howard W. Niswonger, Colorado Springs, Colo. 247,115, ren. 10–8–68. Cl. 46.
Peck, Willis S., Maumee, Ohio. 736,339, canc. Cl. 22.
Penick & Ford, Ltd., Cedar Rapids, Iowa. 858,346, pub. 7–23–68. Cl. 46.
Permo-Plastics, Royal Oak, Mich. 736,334, canc. Cl. 22.
Personal Home Products, Inc., Hicksville, N.Y. 736,278, canc. Cl. 18.
Pet Inc., St. Louis, Mo. 858,341, pub. 7–23–68. Cl. 46.
Pfizer, Chas., & Co., Inc., New York, from Florasynth, Inc., Bronx, N.Y. 858,152, pub. 7–23–68. Cl. 6.

Pillsbury Co., The, Minneapolis, Minn. 736,570, canc. Cl. 2.
Plantalite Co., San Diego, Calif. 736,312, canc. Cl. 21.
Plastek Industries, Inc., Greensboro, N.C. 858,322, pub. 7–23–68. Cl. 44.
Plastics, Inc., St. Paul, Minn. 858,423. Multiple Class (Classes 2 and 8).
Popular Motor Specialties Inc., Chicago, Ill. 736,356, canc. Cl. 23.
Pratt, Peter, d.b.a. Peter Pratt Enterprises, Nokomis, Fla. 736,352, canc. Cl. 22.
Pratt, Peter, Enterprises: *See*—
Pratt, Peter.
Pres-Seal Co., Hoboken, N.J. 858,166, pub. 7–23–68. Cl. 12.
Prester Products Co.: *See*—
Fawkner, William C.
Procter & Gamble Co., The, Cincinnati, Ohio. 858,360–1, pub. 7–23–68. Cl. 46.
Procter & Gamble Co., The, Cincinnati, Ohio. 858,382, pub. 7–23–68. Cl. 52.
Professional Communications, Inc., Chicago, Ill. 858,432. Cl. 38.
Propper Enterprises, Inc., Bronx, N.Y. 858,306, pub. 7–23–68. Cl. 40.
Pure Oil Co., The, Chicago, Ill., to Union Oil Co. of California, Los Angeles, Calif. 502,268, ren. 10–8–68. Cl. 15.
Purex Corp., Ltd., South Gate, Calif. 736,573, canc. Cl. 6.
Puritan Fashions Corp.: *See*—
Paraphernalia, Inc.
Quaker Fabric Corp., New York, N.Y. 858,313, pub. 7–23–68. Cl. 42.
RSVP Corp., Galveston, Tex. 858,393, pub. 7–23–68. Cl. 100.
Radiant Mfg. Corp., Morton Grove, Ill. 736,377, canc. Cl. 26.
Radiant Mfg. Corp., Morton Grove, Ill. 736,379, canc. Cl. 26.
Rainfair, Inc., Racine, Wis. 736,469, canc. Cl. 39.
Rapisarda, Paul, d.b.a. Ventape Co., Brooklyn, N.Y. 858,307, pub. 7–23–68. Cl. 40.
Raritan Valley Farms, Inc., Somerville, N.J. 858,345, pub. 7–23–68. Cl. 46.
Raymond Products Co., Inc., Saginaw, Mich. 858,210, pub. 7–23–68. Cl. 19.
Redken Laboratories, Inc., Van Nuys, Calif. 858,448. Cl. 51.
Regan Film Productions, Inc., Detroit, Mich. 736,439, canc. Cl. 38.
Registered Shirt Corp., The: *See*—
Registered Shirt Laundry Assn., Inc., The.
Registered Shirt Laundry Assn., Inc., The, from The Registered Shirt Corp., New York, N.Y. 736,451, canc. Cl. 39.
Reliance Electric & Engineering Co., The: *See*—
Dodge Mfg. Corp.
Research Enterprises Inc., Nutley, N.J. 858,216, pub. 7–23–68. Cl. 21.
Rex Tool, Die & Mfg. Co., Chicago, Ill. 858,251, pub. 7–23–68. Cl. 25.
Rexall Drug & Chemical Co.: *See*—
United Drug Co.
Rexall Drug Co.: *See*—
United Drug Co.
Richardson-Merrell Inc., New York, N.Y. 736,294, canc. Cl. 18.
Richco Plastic Co., Chicago, Ill. 858,183, pub. 7–23–68. Cl. 13.
Riverside Paper Corp., Appleton, Wis. 858,431. Cl. 37.
Rockwell Mfg. Co., Pittsburgh, Pa. 501,390–1, ren. 10–8–68. Cl. 35.
Rose Bros., Inc., New York, N.Y. 736,472, canc. Cl. 39.
Rosemary Creamery Co., The, to The Borden Co., New York, N.Y. 243,224, ren. 10–8–68. Cl. 46.
Rosenthal Co., The, New York, N.Y., to A. W. Faber-Castell Pencil Co., Inc., Newark, N.J. 502,320, ren. 10–8–68. Cl. 37.
Royal Inns of America, Inc., La Mesa, Calif. 858,394, pub. 7–23–68. Cl. 100.
Russell, Dalton F., d.b.a. Russell's Chip Shop, Indianapolis, Ind. 858,443. Cl. 46.
Russell's Chip Shop: *See*—
Russell, Dalton F.
S & S Food Service, Inc., Macon, Ga. 858,395, pub. 7–23–68. Cl. 100.
Saba of California, Los Angeles, Calif. 858,304, pub. 7–23–68. Cl. 39.
Sabel, Eugene J., & Co.: *See*—
Sabel, I., Inc.
Sabel, I., Inc., to Eugene J. Sabel & Co., Philadelphia, Pa. 502,899, ren. 10–8–68. Cl. 39.
Sakowitz, Inc., Houston, Tex. 858,301, pub. 7–23–68. Cl. 39.
Sambonet S.p.A., Vercelli, Italy. 858,180, pub. 7–23–68. Multiple Class (Classes 13 and 28).
Sanitarium Equipment Co., to Battle Creek Equipment Co., Battle Creek, Mich. 246,722, ren. 10–8–68. Cl. 44.
Sanitarium Equipment Co., to Battle Creek Equipment Co., Battle Creek, Mich. 248,415, ren. 10–8–68. Cl. 44.
Sassafras: *See*—
Ingram, Pamela A. P.
Scarves By Vera, Inc., New York, N.Y. 858,284, pub. 7–23–68. Cl. 39.
Schick Electric Inc., Lancaster, Pa. 858,324, pub. 7–23–68. Cl. 44.
Scofield, L. M., Co., Los Angeles, Calif. 858,144, pub. 7–23–68. Multiple Class (Classes 5, 6, and 12).
Sears, Roebuck & Co., Chicago, Ill. 858,218, pub. 7–23–68. Cl. 21.
Sessions Clock Co., The, Forestville, Conn. 736,382, canc. Cl. 27.
Shaklee Products, Hayward, Calif. 858,374, pub. 9–12–67. Cl. 52.
Shure Bros. Inc., Evanston, Ill. 858,223, pub. 7–23–68. Cl. 21.
Silicocks-Miller Co., The, Maplewood, N.J. 858,415, pub. 7–23–68. Cl. 103.
Silo-Vac Corp., Richfield, Minn. 858,329, pub. 7–23–68. Cl. 46.
Simmons Co., New York, N.Y. 736,411, canc. Cl. 32.
Simson, Maurice H., d.b.a. Alph Chemical Co., Baltimore, Md. 858,142, pub. 7–23–68. Cl. 4.
16 Magazine, Inc., New York, N.Y. 858,435. Cl. 38.
Skandinavisk Tobakskompagni A/S, Herlev, near Copenhagen, Denmark. 858,190, pub. 7–23–68. Cl. 17.
Skinner Irrigation Co., The: *See*—
Ward, Ashley F., Inc.
Slick Industrial Co., d.b.a. Illinois Shade Cloth Co., Chicago Heights, Ill. 858,205–6, pub. 7–23–68. Cl. 32.
Slim-Ez Suit Co., Inc., Chattanooga, Tenn. 858,295, pub. 7–23–68. Cl. 39.
Smaks International, Inc.: *See*—
Westwood House, Inc.
Smith, George & J. G., Ltd.: *See*—
Grant, George S.
Soccer Sports Supply Co., Inc., New York, N.Y. 858,228, pub. 7–23–68. Cl. 22.
Societe Genevoise d'Instruments de Physique, Geneva, Switzerland. 736,368, canc. Cl. 23.
Societe Nouvelle des Fromageries Girod, Beaumont, France. 858,351, pub. 7–23–68. Cl. 46.
Songstad, Sheldon R., d.b.a. Knight of the Month Club, Sioux Falls, S. Dak. 858,408, pub. 7–23–68. Cl. 102.
Space Avionics, Inc., Alexandria, Va. 736,323, canc. Cl. 21.
Sperling & Schwartz, Inc., Rockville Centre, N.Y. 736,421, canc. Cl. 33.
Standard Fruit and Steamship Co., New Orleans, La. 858,359, pub. 7–23–68. Cl. 46.
Stauffer Chemical Co., New York, N.Y. 858,189, pub. 7–23–68. Cl. 15.
Steelcote Mfg. Co., St. Louis, Mo. 858,193, pub. 7–23–68. Cl. 16.
Steiner-Lobman Dry Goods Co., Montgomery, Ala. 858,303, pub. 7–23–68. Cl. 39.
Stem, Chester B., Inc., New Albany, Ind. 858,450. Cl. 101.
Stevens, J. P., & Co., Inc.: *See*—
Fuller, D. B., & Co., Inc.
Stewart, Gerson, Corp., The, Cleveland, Ohio. 736,572, canc. Cl. 4.
Stewart, Gerson, Corp., The, Cleveland, Ohio. 736,574, canc. Cl. 6.
Stewart, Gerson, Corp., The, Cleveland, Ohio. 736,577, canc. Cl. 16.
Stewart, Gerson, Corp., The, Cleveland, Ohio. 736,596, canc. Cl. 52.
Stiefel Laboratories, Inc.: *See*—
Stiefel Medicinal Soap Co., Inc.
Stiefel Medicinal Soap Co., Inc., Preston Hollow, to Stiefel Laboratories, Inc., Oak Hill, N.Y. 504,015, ren. 10–8–68. Cl. 52.
Straubel Paper Co., Green Bay, Wis. 504,277, ren. 10–8–68. Cl. 37.
Straus Broadcasting Group, Inc., New York, N.Y. 858,420, pub. 7–23–68. Cl. 104.
Strobl, Alexander, d.b.a. Stroblite Co., to Stroblite Co. Inc., New York, N.Y. 501,168, ren. 10–8–68. Cl. 21.
Stroblite Co.: *See*—
Strobl, Alexander.
Stroblite Co. Inc.: *See*—
Strobl, Alexander.
Strong Electric Corp., The, Toledo, Ohio. 736,305, canc. Cl. 21.
Sunkist Growers, Inc.: *See*—
California Fruit Growers Exchange.
Super Food Services, Inc., Chicago, Ill. 858,358, pub. 7–23–68. Cl. 46.
Superior Zinc Corp., Philadelphia, Pa., to Diamond Shamrock Corp., Cleveland, Ohio. 500,655, ren. 10–8–68. Cl. 14.
Sure-Fit Products Co., Bethlehem, Pa. 858,312, pub. 7–23–68. Cl. 42.
Suzuki Motor Co., Ltd., Shizuoka-ken, Japan. 858,208, pub. 7–23–68. Cl. 19.
Swedlin, J., Inc., d.b.a. Gund Mfg. Co., Brooklyn, N.Y. 858,233, pub. 7–23–68. Cl. 22.
Swiss Milk Products Ltd., London, England. 858,336, pub. 7–23–68. Cl. 46.
Swizzels, Inc., Hoboken, N.J. 858,446. Cl. 46.
Taco Grande, Inc., Wichita, Kans. 858,337–8, pub. 7–23–68. Cl. 46.
Tate & Roe Inc., Dallas, Tex. 858,220, pub. 7–23–68. Cl. 21.
Taylor Industries, City of Industry, Calif. 858,185, pub. 7–23–68. Cl. 13.
Tedruth Plastics Corp., Plainview, N.Y. 858,136, pub. 7–23–68. Cl. 2.
Tenneco Oil Co., Houston, Tex., from U Fill Em Corp., Englewood, Colo. 858,188, pub. 7–23–68. Multiple Class (Classes 15 and 103).
Textron, Inc., Providence, R.I. 858,321, pub. 7–23–68. Cl. 44.
Textron Industries, Inc., New Brunswick, N.J. 858,194–5, pub. 7–23–68. Cl. 16.
Textron Pharmaceuticals, Inc., New Lebanon, N.Y. 736,292, canc. Cl. 18.
Thiokol Chemical Corp., Bristol, Pa. 858,249, pub. 7–23–68. Cl. 23.
Tibbets, Carl F., d.b.a. Dr. Welbourn Medicine Co., Union City, Ind. 501,405, ren. 10–8–68. Cl. 18.
Tidd, Edwin B., Kenilworth, Ill. 858,280, pub. 7–23–68. Cl. 38.
Tip-Top Hosiery Mills, Inc., Asheboro, N.C. 858,302, pub. 7–23–68. Cl. 39.
Tooke Bros. Ltd., Montreal, Quebec, Canada. 736,471, canc. Cl. 39.
Topps Chewing Gum, Inc., Brooklyn, N.Y. 858,330, pub. 7–23–68. Cl. 46.

Treet Safety Razor Corp., Newark, N.J., to Philip Morris Inc., d.b.a. American Safety Razor Co., New York, N.Y. 244,922, ren. 10–8–68. Cl. 23.
Trio Mfg. Co., Griggsville, Ill. 736,324, canc. Cl. 21.
U Fill Em Corp.: *See*—
Tenneco Oil Co.
Udden, Per E. C., Tirma, Sweden. 858,323, pub. 7–23–68. Cl. 44.
Ultra Chemical Works, Inc., Paterson, N.J. 736,228, canc. Cl. 6.
Ultra Chemical Works, Inc., Paterson, N.J. 736,548, canc. Cl. 52.
Ungaro, Emanuel, Societe a Responsabilite Limitee, Paris, France. 858,292, pub. 7–23–68. Cl. 39.
Union Miniere: *See*—
Union Miniere du Haut Katanga.
Union Miniere du Haut Katanga, to Union Miniere, Brussels, Belgium. 243,378, ren. 10–8–68. Cl. 14.
Union Oil Co. of California: *See*—
Pure Oil Co., The.
Uniroyal, Inc.: *See*—
United States Rubber Co.
United Biscuits Ltd., d.b.a. McVitie & Price, Macfarlane, Lang & Co., William Crawford & Sons, and William Macdonald & Sons (Biscuits), Edinburgh, Scotland. 858,331, pub. 7–23–68. Cl. 46.
United Drug Co., Boston, Mass., to Rexall Drug & Chemical Co., d.b.a. Rexall Drug Co., Los Angeles, Calif. 71,700, ren. 10–8–68. Cl. 44.
United Kosher Turkey Co.: *See*—
Homestead Turkey Co. Inc.
U.S. Plywood-Champion Papers Inc., New York, N.Y. 858,173, pub. 7–23–68. Cl. 12.
United States Rubber Co., to Uniroyal, Inc., New York, N.Y. 505,195, ren. 10–8–68. Cl. 35.
U.S. Rubber Co., New York, N.Y. 736,209, canc. Cl. 1.
U.S. Steel Corp., Pittsburgh, Pa. 858,172, pub. 7–23–68. Cl. 12.
United Vintners, Inc., d.b.a. Italian Swiss Colony, San Francisco, Calif. 858,364, pub. 7–23–68. Cl. 47.
Unitrode Corp., Watertown, Mass. 858,221, pub. 7–23–68. Cl. 21.
Upjohn Co., The, to The Upjohn Co., Kalamazoo, Mich. 502,186, ren. 10–8–68. Cl. 18.
Upjohn Co., The, Kalamazoo, Mich. 858,206–7, pub. 7–23–68. Cl. 18.
Upland Lemon Growers Assn., Upland, Calif. 245,267, ren. 10–8–68. Cl. 46.
Van Leer's Vatenfabrieken N.V., Amstelveen, Netherlands. 858,137, pub. 7–23–68. Cl. 2.
Vance, Robert B., & Associates, Atlanta, Ga. 858,140, pub. 7–23–68. Cl. 3.
Vanguard Products Ltd., Vancouver, British Columbia, Canada. 858,224, pub. 7–23–68. Cl. 22.
Varian Data Machines, from Decision Control, Inc., Newport Beach, Calif. 858,253, pub. 7–23–68. Cl. 26.
Velvetone Enterprises, Inc., Lowell, Mass. 858,273, pub. 7–23–68. Cl. 36.
Ventape Co.: *See*—
Rapisarda, Paul.
Vernon Co., The, Newton, Iowa. 858,452. Cl. 101.
Versa Products Co., Inc., Englewood, N.J. 858,184, pub. 7–23–68. Cl. 13.
Victor Adding Machine Co., Chicago, Ill. 736,374, canc. Cl. 26.
Village Blacksmith Folks, The, Watertown, Wis., to McGraw-Edison Co., Elgin, Ill. 247,098, ren. 10–8–68. Cl. 23.
Visual Graphics Corp., New York, N.Y. 858,277, pub. 7–23–68. Cl. 38.
Vocaline Co. of America, Inc., Old Saybrook, Conn. 736,321, canc. Cl. 21.
Wade, Ben, Ltd., Leeds, England, to Lane Ltd., New York, N.Y. 437,601, ren. 10–8–68. Cl. 8.
Wagner, E. R., Mfg. Co., Milwaukee, Wis. 504,596, ren. 10–8–68. Cl. 23.
Walnstein, S., & Co., (Proprietary) Ltd., Industria, Transvaal, Republic of South Africa. 858,339, pub. 7–23–68. Cl. 46.
Waitt & Bond, Inc., Newark, N.J., from Alles & Fisher, Inc., Boston, Mass. 736,276, canc. Cl. 17.
Ward, Ashley F., Inc., d.b.a. The Skinner Irrigation Co., Troy, Ohio. 858,179, pub. 7–23–68. Cl. 13.
Warren, Fred C., Los Angeles, Calif. 858,366, pub. 7–23–68. Cl. 50.
Weber & Colovos Co., Chicago, Ill. 858,272, pub. 7–23–68. Cl. 36.
Weiner, Jacques, d.b.a. Etablissements Indar, (Val d'Oise), France. 858,439. Cl. 46.
West Point-Pepperell, Inc., West Point, Ga. 858,314, pub. 7–23–68. Cl. 42.
Western Candy Co.: *See*—
Market Confections, Inc.
Western Condensing Co., San Francisco, Calif. 736,500, canc. Cl. 46.
Westinghouse Electric Corp., Pittsburgh, Pa. 736,326, canc. Cl. 21.
Westinghouse Electric Corp., Pittsburgh, Pa. 858,162, pub. 7–23–68. Multiple Class (Classes 9, 21, 23, 24, 26, 29, 34, 36, and 44).
Westwood House, Inc., Los Angeles, Calif., from Smaks International, Inc., Prairie Village, Kans. 858,384, pub. 5–7–63. Cl. 100.
Wexler, David, & Co., Chicago, Ill. 858,217, pub. 7–23–68. Cl. 21.
Whaledent, Inc., Brooklyn, N.Y. 858,437. Cl. 44.
Whink Products Co., Eldora, Iowa. 858,381, pub. 7–23–68. Cl. 52.
White, Fred R., Medford, Oreg. 858,449. Cl. 52.
White Laboratories, Inc., Kenilworth, N.J. 303,287, ren. 10–8–68. Cl. 18.
Wilbert, Inc., Forest Park, Ill. 858,139, pub. 7–23–68. Cl. 2.
Williams, Paul S., d.b.a. Crawdaddy, New York, N.Y. 858,278, pub. 7–23–68. Cl. 38.
Wilson & Co., Inc., Chicago, Ill. 858,340, pub. 7–23–68. Cl. 46.
Winters National Bank & Trust Co. of Dayton, The, Dayton, Ohio. 858,412, pub. 7–23–68. Cl. 102.
Woolworth, F. W., Co., New York, N.Y. 736,343–6, canc. Cl. 22.
Worcester Controls Corp., West Boylston, Mass. 858,177, pub. 7–23–68. Cl. 13.
World's Finest Chocolate, Inc., Chicago, Ill. 858,362, pub. 7–23–68. Cl. 46.
Xicom Inc., Tuxedo, N.Y. 858,255, pub. 7–23–68. Cl. 26.
Yankee Motor Corp., Schenectady, N.Y. 858,212, pub. 7–23–68. Cl. 19.

U.S. GOVERNMENT PRINTING OFFICE: 0——1968

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
October 15, 1968 Volume 855 Number 3

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of July 1968

Examiner affirmed	158
Examiner affirmed in part	23
Examiner reversed	37
Total	218

Dedications

3,023,124.—*Wilfred G. Cryderman* and *Arthur R. Marshall*, Birmingham, Mich. METHOD OF MAKING TEXTURED LEATHER-LIKE ARTICLE AND PRODUCT THEREOF. Patent dated Feb. 27, 1962. Dedication filed Sept. 9, 1968, by the assignee, *The Bishop and Babcock Corporation*.

Hereby dedicates to the Public all claims of said patent.

3,383,449.—*Paul Adolf Müller*, Triesenberg, Liechtenstein. METHOD FOR PRODUCING AN ENDLESS FILTER STRING. Patent dated May 14, 1968. Dedication filed May 17, 1968, by the inventor.

Hereby dedicates to the Public the terminal portion of the term of said patent subsequent to Apr. 20, 1982.

Disclaimer

3,381,689.—*Charles M. Sachs*, West Englewood, N.J. BRASSIERE. Patent dated May 7, 1968. Disclaimer filed May 7, 1968, by the assignee, *International Playtex Corporation*.

Hereby disclaims the terminal portion of the term of said patent subsequent to May 30, 1984.

Classification Order No. 395

Classification Order No. 395, dated September 20, 1968, incorporates changes in the following classes:

35, EDUCATION
88, OPTICS
95, PHOTOGRAPHY
352, OPTICS, MOTION PICTURES
353, OPTICS, IMAGE PROJECTORS—Established
355, PHOTOCOPYING—Established
356, OPTICS, MEASURING AND TESTING—Established

All of the above changes will be incorporated in the Manual of Classification replacement pages dated October 1968.

HARRY GAUSS,
Manager, Electrical Documentation Group.

Study of Computer Program Protection

Request for Comments

The President's Commission on the Patent System, established by Executive Order No. 11215 on April 8, 1965, submitted its final report to the President on November 17, 1966. Included among the recommendations of the Commission is the following regarding computer programs:

> A series of instructions which control or condition the operation of a data processing machine, generally referred to as a "program," shall not be considered patentable regardless of whether the program is claimed as: (*a*) an article, (*b*) a process described in terms of the operations performed by a machine pursuant to a program, or (*c*) one or more machine configurations established by a program.

The Patent Reform Act of 1967, S. 1042 and H.R. 5924, included the Commission's recommendation and excluded computer programs from patentable subject matter. After a review of the comments submitted, the Department of Commerce withdrew its support of this provision of the Patent Reform Act for further study and evaluation of the subject.

Because of the significance of the computer programing industry to the economy and the interest evidenced by the public and private sectors in commenting on this provision of the Patent Reform Act, the Patent Office has initiated a comprehensive study of the need for the protection of computer programs. The study is intended to encompass all aspects of the question, including that as to whether there is, or is not, a need for some kind of protection for programs. The study will investigate which of various types of protection would best satisfy any need for protection, including systems based either on originality or novelty. Problems relating to the question of the protection of computer programs will be considered; for example, the nature of the disclosure and other requirements relating to applications for protection, the merits of examination and registration systems, the duration of protection, and the administration and enforcement of the various plans of protection.

The views of interested persons are solicited on the various aspects of the Patent Office study, the recommendation of the President's Commission and any related matters. These views should be submitted in writing to the Commissioner of Patents, Washington, D.C., 20231 by December 15, 1968.

EDWARD J. BRENNER,
Commissioner of Patents.

Sept. 16, 1968.
Approved:
JOHN F. KINCAID,
Assistant Secretary for Science and Technology.

Erratum

In the OFFICIAL GAZETTE of Sept. 17, 1968, vol. 854, p. 563, in the heading of the decision of the U.S. Court of Customs

New Applications Received During July 1968

Patents	7961
Designs	427
Plant Patents	14
Reissues	50
Total	8452

Issue—October 15, 1968

Patents	1000—No. 3,405,406 to No. 3,406,405, incl.
Designs	45—No. 212,410 to No. 212,454, incl.
Plant Patents	1—No. 2,839
Total	1046

and Patent Appeals, line 2, for "In re Guide Dog Foundation for the Blind, Inc." read *Guiding Eyes for the Blind, Inc., Appellant v. Guide Dog Foundation for the Blind, Inc., Appellee.*

Foreign Priority of Continuing Applications

If the Examiner is aware of the fact that the parent of a continuing application has fully complied with the requirements of 35 U.S.C. 119 and is therefore entitled to the benefit of the filing date of an earlier filed foreign application, he should direct it to the applicant's attention in an Office action, as in the following exemplary language:

"Applicant is reminded that in order to be entitled to priority based on papers filed in parent application Serial No. ---------- under 35 U.S.C. 119, a claim for such priority must be made in this application. In making such claim, applicant may simply call attention to the fact that a certified copy of the foreign application is in the parent application (M.P.E.P. 201.14(b))."

Aug. 30, 1968. RICHARD A. WAHL, *Assistant Commissioner.*

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF SEPTEMBER 23, 1968

PATENT EXAMINING OPERATIONS AND GROUPS * Denotes date of oldest application for each Operation.	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	5-09-66	1-23-64
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	5-04-66	*5-24-63
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	7-11-66	2-05-64
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Director Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	*12-20-65	6-03-63
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	4-29-66	3-19-64
ELECTRICAL EXAMINING OPERATION		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—W. S. COLE, Director Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	7-08-66	3-05-64
SECURITY, GROUP 220—S. BOYD, Director Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	5-18-67	3-26-65
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Director Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*8-25-65	*10-10-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	11-22-65	2-25-63
PHYSICS, GROUP 280—R. L. EVANS, Director Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	8-01-66	4-21-65
DESIGNS, GROUP 290—S. BOYD, Director Industrial Arts; Household, Personal and Fine Arts.	1-11-68	4-12-67
MECHANICAL EXAMINING OPERATION		
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	3-14-67	9-21-65
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Director Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	11-09-66	1-06-65
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	10-10-66	6-04-64
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Director Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	9-01-67	10-21-66
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Director Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	5-01-67	1-18-65
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—F. H. BRONAUGH, Director Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	*5-31-66	*5-29-63

Total number of pending applications (excluding Designs)	189,725
Total number of Design applications pending	2,545

Expiration of patents: The patents within the range of numbers indicated below expire during October 1968, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their term curtailed by disclaimer under the provisions of 35 U.S.C. 253.

Patents	Numbers 2,569,436 to 2,573,673, inclusive
Plant Patents	Numbers 1,042 to 1,047, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

AMERICAN BILTRITE RUBBER COMPANY, INC.
v.
THE BARASH COMPANY INC.

No. 7891. Decided February 8, 1968

[55 CCPA —; 390 F.2d 758; 156 USPQ 460]

1. TRADEMARK—OPPOSITION—USE—REASONABLE EXPANSION OF USE.

"The Board concluded that opposer's mark should not be restricted both because the use of opposer's product in footwear is a reasonable expansion of its present uses and because, in any event, the Board could not restrict the mark in an opposition proceeding. Since we agree with the first of these, we find it unnecessary to consider appellant's argument against the second."

2. SAME—CONFUSING SIMILARITY—"VITALON" AND "VINALON" FOR PLASTIC SHEETS OR SOLES.

Appellee's mark ["VITALON"] is for vinyl plastic sheeting, somewhat in the nature of imitation leather, which, at least arguably, may be used in the manufacture of shoes. It is advertised as "tough" and "scuff-resistant." Appellee's product has undeniably been promoted in the shoe industry as a likely replacement for leather. It has been successfully used in slippers. The question is whether, under these circumstances, the use of appellant's very similar trademark ["VINALON"] or vinyl plastic soles in the same industry would result in a likelihood of confusion. The Board thought it would. We agree.

3. SAME—SAME—EVIDENCE—THIRD-PARTY REGISTRATIONS.

"We also agree with the Board that the third-party registrations cited by appellants do not indicate such a lack of distinctiveness in the mark VITALON as a whole that the likelihood of confusion with VINALON is materially reduced. See *In re Helene Curtis Industries, Inc.*, 49 CCPA 1367, 305 F.2d 492, 134 USPQ 501 (1962) on the weight to be accorded third-party registrations.

APPEAL from the Patent Office. Opposition No. 43,079.

AFFIRMED.

Melvin R. Jenney, Kenway, Jenney and Hildreth for appellant.
James M. Heilman, Heilman & Heilman for appellee.

Before WORLEY, *Chief Judge*, RICH, SMITH, and ALMOND, *Associate Judges*

RICH, *J.*, delivered the opinion of the court.

This appeal is from a decision of the Trademark Trial and Appeal Board (148 USPQ 17), sustaining an opposition to appellant's application, Serial No. 124,159, filed July 18, 1961, for the registration of VINALON as a trademark for "Shoe Soles of Molded Plastic Material." Opposition is based on appellee's Registration No. 731,626, of May 15, 1962, on the Principal Register, of VITALON for "flexible plastic sheeting or film (in the general nature of an improvement, equivalent or substitute for leather of varying colors and designs), both unsupported or unlaminated, and also supported or laminated to backings of cloth or fabric made with woven or unwoven, natural or synthetic fiber, or a combination of both, or with saturated paper, for use as upholstery, wall covering, and pocketbooks, on luggage, table tops, footwear and for other industrial uses * * *." Opposer is concededly the prior user.

Since 1955, opposer and its predecessors in title have sold vinyl plastic sheeting under the trademark VITALON. The product has been used primarily in the manufacture of luggage. However, as a "tough" and "scuff-resistant" substitute for leather, it has also found

use in handbags, golf bags, and upholstery. But, despite appellee's considerable efforts since 1960, the VITALON material has not been successfully used in the manufacture of shoes, at least to any commercially significant degree. The difficulty, it seems, has been in the bonding of the VITALON upper to the shoe sole. Conventional adhesives proved inadequate. Appellee, nevertheless, has promoted the use of VITALON among shoe manufacturers, some 15 or 20 of which have made shoes from it for experimental purposes.

Appellee's only success in footwear seems to have been in the manufacture of slippers, the components of which, it seems, are sewn together.

Appellant, since 1961, has sold molded vinyl plastic shoe soles and stock for the manufacture of soles under the trademark VINALON. These products are sold to shoe manufacturers.

Although the products of appellant and appellee are sold only to manufacturers, it is customary for the end products, as they reach the ultimate consumer, to bear some indication of the fact that VITALON or VINALON material has been used.

The Board found likelihood of confusion within the meaning of 15 U.S.C. 1052(d) and sustained the opposition. It disposed of appellant's major points as follows:

> While applicant does not contest that opposer is the prior user of its mark it urges that opposer's mark should be restricted to the fields of trade in which the mark has been used in trade, namely, vinyl sheeting and luggage and handbags made of such sheeting. It is apparent from the record, however, that opposer's mark should not be so restricted, and that opposer's scope of protection for its mark should not only encompass the present uses of its product but also any reasonable uses to which such product might be put. * * * In addition, the goods of opposer's registration cover products for use in making footwear and opposer's rights therein should not be prejudiced because of the fact that it has taken testimony relating to the use of its mark. * * *
>
> * * * * * * *
>
> As to the marks and despite any urgings to the contrary, it is apparent that they closely resemble one another in overall sound and appearance. Considering the close similarity between "VINALON" and "VITALON," together with the fact that the goods of both parties are vinyl plastic materials which might readily be used by shoe manufacturers in the making of shoes, it must be concluded that, when applicant's mark is applied to its goods, there would be a likelihood of confusion, mistake or deception.

Appellant here argues again and at some length that an opposer's registration, under the Lanham Act rightly construed, is subject to restriction in an opposition proceeding. Appellant criticizes our contrary decision in *Contour Chair-Lounge Co.* v. *Englander Co.*, 51 CCPA 833, 324 F.2d 186, 139 USPQ 285 (1964), and asks that it be overruled.

However, we observe that the Board's decision rests on alternative grounds. **[1]** The Board concluded that opposer's mark should not be restricted both because the use of opposer's product in footwear is a reasonable expansion of its present uses and because, in any event, the Board could not restrict the mark in an opposition proceeding. Since we agree with the first of these, we find it unnecessary to consider appellant's argument against the second.

Much of the argument against the first of the Board's reasons is built on appellant's allegation that there has been no trademark usage of VITALON on footwear.[1] Further, in appellant's opinion, the present

[1] Appellee, of course, disputes this analysis of his proof, arguing that the VITALON slippers are clearly footwear.

uses of appellee's mark on luggage, upholstery and golf bags do not warrant an extension to footwear under the expansion of business doctrine.

[2] We think that this argument misapprehends the point of the Board's comments. Appellee's mark is for vinyl plastic sheeting, somewhat in the nature of imitation leather, which, at least arguably, may be used in the manufacture of shoes. It is advertised as "tough" and "scuff-resistant." Appellee's product has undeniably been promoted in the shoe industry as a likely replacement for leather. It has been successfully used in slippers. The question is whether, under these circumstances, the use of appellant's very similar trademark on vinyl plastic soles in the same industry would result in a likelihood of confusion. The Board thought it would. We agree.

[3] We also agree with the Board that the third-party registrations cited by appellants do not indicate such a lack of distinctiveness in the mark VITALON as a whole that the likelihood of confusion with VINALON is materially reduced. See *In re Helene Curtis Industries, Inc.*, 49 CCPA 1367, 305 F.2d 492, 134 USPQ 501 (1962) on the weight to be accorded third-party registrations.

The decision of the Board is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE ARMAND A. LACHANCE AND STANLEY CIBOROWSKI

No. 7911. Decided February 21, 1968

[55 CCPA —; 390 F.2d 990; 156 USPQ 562]

1. PATENTABILITY—COMBINING REFERENCES—OBVIOUSNESS.

"At best, one faced with the problem of providing a rapid and convenient checkout counter system for a supermarket, for example, would be required to economize space by providing nesting type carts and it would require only the ordinary skill in the art to assemble from the prior art the invention which appellants have here claimed. See *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966)."

2. SAME—CLAIMS—FEATURE DISCLOSED BUT NOT CLAIMED.

"At the oral argument, counsel for appellants pointed out that if the Sharaway conveyor belt bottom was placed in the Winokur et al. nesting cart, a triangular open space would occur on each side of the belt. He demonstrated a cart said to embody appellants' invention in which guard members were provided which overlie these spaces and were shaped to the top surface of the belt. While this feature is not disclosed in the prior art, neither is it claimed in the claims on appeal. We can, therefore, give it no weight in deciding the issue before us."

3. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—COMMERCIAL SUCCESS AFTER RECORD MADE IN PATENT OFFICE—35 U.S.C. 144.

"At the oral argument appellants' attorney argued that commercial success of appellants' invention was present, but that it occurred too late to be included in the record before the Patent Office. Under these circumstances, we are unable to consider it. 35 U.S.C. 144."

4. PATENTABILITY—STATUTORY BASIS FOR REJECTION—USE OF "ANTICIPATE"—35 U.S.C. 102 and 103.

"To the extent that the argument in appellants' brief relates to 'anticipation,' that argument is inappropriate to the issue of 'obviousness' here which clearly arises under 35 U.S.C. 103. We think it fair to observe that the Patent Office and patent bar generally use the term 'anticipate' in connection with issues arising under 35 U.S.C. 102. See *In re Hughes*, 52 CCPA 1355, 345 F.2d 184, 145 USPQ 467 (1965)."

5. SAME—PARTICULAR SUBJECT MATTER—"NESTING GROCERY CART HAVING POWER OPERATED MEANS TO DISCHARGE THE CONTENTS."

The refusal of certain claims in an application entitled "Nesting Grocery Cart Having Power Operated Means To Discharge the Contents," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 376,531.

AFFIRMED.

Charles R. Fay for appellants.

Joseph Schimmel (*Joseph F. Nakamura*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, RICH, SMITH, ALMOND, *Associate Judges*, and WILLIAM H. KIRKPATRICK [1]

SMITH, *J.*, delivered the opinion of the court.

The issue here is whether appellants' claimed combination is obvious under 35 U.S.C. 103.

That issue arises in an appeal from the decision of the Board of Appeals,[2] affirming the rejection by the Examiner of claims 1 and 2 of the appellants' application.[3] No claim has been allowed.

The claimed invention relates to a nesting grocery or shopping cart which may be understood by reference to FIGS. 2 and 3 of appellants' application:

FIG. 2

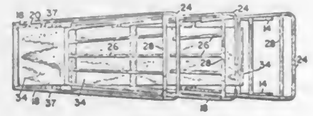
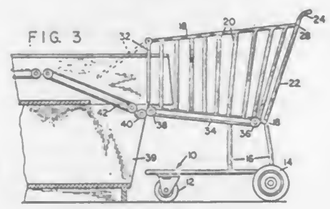


FIG. 3



The nesting cart is adapted to transfer articles automatically from its basket 20 to a checkout counter 39. In the place of a conventional bottom, the basket is provided with an endless, wide-belt conveyor 34, trained over rollers 36 and 38 and mounted at an incline so that the carts may nest as seen in FIG. 2. The front wall 32 is pivoted to swing outwardly from the basket to permit articles to be discharged from the front end of the cart. A power-operated roller 40, on one end of the checkout counter, is mounted to engage the roller 38 at the front end of the cart and thus cause the belt to transfer goods from the cart.

The underframe 10, the basket frame 18, and the side walls of the basket are generally inwardly converging from the rear toward the front of the cart to permit nesting. For the same purpose, the conveyor belt 34 and bottom frame 18 of the basket slope upwardly from the rear of the cart to the front. A swinging gate 26 affords an entrance for the nesting basket.

[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

[2] The board consisted of Messrs. Dracopoulos and Brewrink, Examiners-in-Chief, and Reynolds, Acting Examiner-in-Chief. Mr. Brewrink wrote the opinion of the board.

[3] Serial No. 376,531, filed June 19, 1964, for "Nesting Grocery Cart Having Power Operated Means To Discharge the contents."

Two claims are on appeal. Claim 2 provides:

2. The combination of a checkout counter which includes a conveyor thereon leading from an entrance point for the checkout counter to a checking station, and means to drive the conveyor; with automatically depositing carts of the nesting type each of which comprises a wheeled frame converging from the rear portion toward the front of the cart, means mounting a container on the rear portion of the wheeled frame in raised position with respect thereto, side walls for the container, said walls converging from the rear of the cart toward the front thereof in conformance with the convergence of the wheeled frame, a swinging gate at the rear of the container, means forming a belt conveyor in said container, said belt conveyor forming the bottom of said container and being located on an incline upwardly from the rear to the front of the cart, said conveyor having parallel side edges, an operable front wall for the grocery cart so that the conveyor can discharge goods in the cart toward and through the opening formed thereby, means to drive the conveyor in the container, said means being mounted on said checkout counter and comprising a roll in position to engage and drive the belt in the container when the cart is arranged in proper relationship with respect to said driven roll, so that the goods are discharged from the cart through the opening and onto the conveyor belt at the checkout counter, each cart being nestable with relation to each other cart by reason of the swinging gate, the inclined belt conveyor bottom, and the converging walls of the container.

Claim 1 is directed to the cart itself and is very similar to the cart element as claimed in the combination set forth in claim 2.

The references relied on are:

Winokur et al., 2,743,827, May 1, 1956.
Sharaway, 3,036,722, May 29, 1962.

The Winokur et al. patent discloses a system for handling grocery carts which are nested together. Appellants' brief states that:

* * * The patent to Winokur is ony used to show that the conventional tapering type of nesting grocery cart is old and well known and of course this is clearly a fact, see FIG. 10 of Winokur at R 45. These nesting carts are notoriously old and have been ever since their introduction some ten or fifteen years ago. It is not believed that Winokur is used to show anything [other] than this fact and there are many other references that would show the same thing. [Brackets added.]

The Sharaway patent discloses a grocery cart capable of automatically unloading and transferring groceries from the cart to a checkout counter. The bottom of the basket of the cart is formed by an endless conveyor belt. The basket has a front panel which swings upwardly to permit discharging groceries from the front end of the cart while the conveyor is operated when the cart is positioned at a checkout counter. The cart as shown in Sharaway is generally rectangular and has a cross bar, which would prevent nesting, connecting the upright supports. Similarly, the Sharaway reference shows a rigid rear basket wall which likewise would prevent nesting. Appellants' brief concedes that Sharaway's disclosed merchandise discharge belt, forward gate, and power-driven roller adapted to energize the belt is "similar to the showing in the present case."

The position taken by the Board in affirming the Examiner's rejection was:

The issue for decision concern the rejection by the Examiner under 35 U.S.C. 103 of claims 1 and 2 as unpatentable over Sharaway taken with Winokur et al. It is the Examiner's position that persons of ordinary skill in the art would find it obvious to shape the Sharaway cart to permit nesting as shown in Winokur et al.

We have considered appellants' disclosure and arguments as presented in the briefs and at oral hearing but are not convinced as to error in the Examiner's position. It appears to us that the unloading features of Sharaway and the cart contour needed for nesting as shown by Winokur et al. are so independent in character as to render their use in conjunction no more than an obvious election to have in a single article the advantage of each feature. We see no significant problems of design as requiring alteration of the Sharaway conveyor features when applied to a nestable cart and support the Examiner in his answers to appellants' arguments as presented at page 3 of his answer. * * *

We cannot agree with appellants' argument here that:

If it is so clear and obvious to use the conveyor belt in a nesting cart, i.e., taking a conveyor which is rectangular in form and arranging for it to be placed in the bottom of a basket which has converging sides, as the Board says, it is perfectly clear that Sharaway would have done this. By not doing so he has made his own cart completely useless for the supermarket use for which these carts are normally made. * * *

While it may be true that Sharaway does not disclose a nesting cart, the prior art of record is adequate evidence that *each* of appellants' combined concepts is known to the art. We agree with the Board that the invention, considered as a whole, would have been obvious under 35 U.S.C. 103 at the time it was made.[4] Our review of appellants' application and the prior art cited in support of the rejection seems to us to establish clearly that the combination of the teachings of the prior art of record would have been "obvious" in the sense of section 103.

[1] At best, one faced with the problem of providing a rapid and convenient checkout counter system for a supermarket, for example, would be required to economize space by providing nesting type carts and it would require only the ordinary skill in the art to assemble from the prior art the invention which appellants have here claimed. See *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966).

We have explored the appellants' arguments in some detail and reviewed the authorities cited in their brief.[5] We are not convinced, however, that the Board misapplied the statutory requirement set forth in 35 U.S.C. 103 in sustaining the Examiner's rejection.

[5] Thus, the decision of the Board is affirmed.

AFFIRMED.

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[2] [4] At the oral argument, counsel for appellants pointed out that if the Sharaway conveyor belt bottom was placed in the Winokur et al. nesting cart, a triangular open space would occur on each side of the belt. He demonstrated a cart said to embody appellants' invention in which guard members were provided which overlie these spaces and were shaped to the top surface of the belt. While this feature is not disclosed in the prior art, neither is it claimed in the claims on appeal. We can, therefore, give it no weight in deciding the issue before us.

[3] [5] At the oral argument appellants' attorney argued that commercial success of appellants' invention was present, but that it occurred too late to be included in the record before the Patent Office. Under these circumstances, we are unable to consider it. 35 U.S.C. 144.

[4] To the extent that the argument in appellants' brief relates to "anticipation," that argument is inappropriate to the issue of "obviousness" here which clearly arises under 35 U.S.C. 103. We think it fair to observe that the Patent Office and patent bar generally use the term "anticipate" in connection with issues arising under 35 U.S.C. 102. See *In re Hughes*, 52 CCPA 1355, 345 F.2d 184, 145 USPQ 467 (1965).

In any event, we think that the law stated in the cases cited by appellants in their brief does not require a conclusion that the Board erred.

U.S. Court of Customs and Patent Appeals

IN RE RAYMOND WYNKOOP AND SHIRLEY C. BARTLETT, JR.

No. 7884. Decided February 8, 1968

[55 CCPA —; 390 F.2d 766; 156 USPQ 458]

1. PATENTABILITY—CRITICALITY—NITROGEN CONTENT IN TRANSFORMER OILS.

"We do not see how the references can fairly be read as disclosing the importance of the low nitrogen content specified in the claims, which, as their specification states, appellants appear to have discovered. It seems to us inadequate to assert that oils of the references *probably* had a low enough nitrogen content for their intended uses. In the absence of some showing that very low nitrogen content is recognized by the art as an advantageous quality in

transformer oils, we cannot agree that this record provides a basis for the Patent Office assertion of obviousness."

2. SAME—PARTICULAR SUBJECT MATTER—"TRANSFORMER OIL."

The refusal of certain claims in an application entitled "Transformer Oil," as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 209,345.

REVERSED.

Joseph Rossman for appellants.

Joseph Schimmel (*Fred W. Sherling*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, SMITH, and ALMOND, *Associate Judges*

RICH, *J.*, delivered the opinion of the court.

This appeal is from a decision of the Patent Office Board of Appeals [1] affirming the Examiner's rejection of claims 1–4 in application Serial No. 209,345, filed July 12, 1962, entitled "Transformer Oil." No claim has been allowed.

The invention is a transformer oil with good resistance to oxidation, especially in the presence of metals. It functions satisfactorily without the addition of oxidation inhibitors. These inhibitors are apparently suspect in the industry. The marketability of a transformer oil is, therefore, enhanced if its stability is not dependent on them.

Claim 1 is illustrative:

1. A transformer oil comprising a naphthenic petroleum distillate boiling in the range of 460–775° F. having a viscosity in the range of 50–65 S.U.S. at 100° F., a viscosity-gravity constant in the range of 0.84–0.92 and a nitrogen content less than 4 p.p.m. and, when tested under Doble Oxidation Test conditions in the absence of an added inhibitor, exhibiting the following characteristics: (1) a neutralization number less than 0.25 mg. KOH/g. at 96 hours oxidation time; (2) absence of sludge at 96 hours oxidation time; and (3) power factors during the oxidation period of 0–96 hours consistently less than 2 percent.

The other three claims are dependent, adding limitations.

The following references were relied upon:

Wasson et al., 3,000,807, Sept. 19, 1961.

Schieman, 3,095,366, June 25, 1963 (filed Mar. 3, 1960).

Wasson et al. disclose a transformer oil which is a mixture of an acid-treated naphthenic distillate and a hydro-fined naphtenic distillate. The product assertedly has an oxidation resistance superior to that of either component. Its boiling range and viscosity are similar to that of appellants' transformer oil. Its nitrogen content is not reported. The oils were subjected to the Doble Oxidation Test.[2] The relevant portions of the test data are mentioned below.

Schieman also discloses a blended transformer oil, a mixture of a decanted oil and a naphthenic lubricating oil. It is marked by good oxidation resistance. Schieman's oil also has a boiling range and viscosity comparable to appellants' oil. No data on its nitrogen content are given. Appellants, at the Examiner's suggestion, arranged for a Doble test of the oil used in Schieman's example. Sludge appeared at the end of a 24-hour period; the power factor,[3] initially 0.8%, rose to 2% at 80 hours, and 7% at 180 hours.[4]

The Examiner rejected the claims as "unpatentable over either Schieman or Wasson et al.," because there was "no way" for him to determine whether the reference described oil having the same properties as those of appellants' oil. He stated, apparently referring to the Doble test limitations of the claims:

> • • • it is the Examiner's position that applicants only obtained what is recognized as being desirable in the art and which is due to their improved refining process. In other words it is to be expected that an improved refining process would give a transformer oil more resistant to oxidation.

The Board generally agreed. It also refused to attribute "patentable significance" to the low nitrogen content of the invention.

It seems that the compositions of the references, as nearly as we can tell, do not meet the Doble test specifications of appellants' claims. Wasson et al., for instance, disclose an absence of sludge for only 72 hours. Appellants' tests on the oil of Schieman's example showed an absence of sludge for only 24 hours. There appears to be novelty.

However, the question of obviousness remains. We think that insofar as appellants' claims are couched in terms of results admittedly sought after by the art, they could only with difficulty be adjudged, on those grounds, unobvious variants of the similar transformer oils of the references. We note, however, that the claims are also limited to compositions of less than 4 p.p.m. nitrogen. Appellants' specification states:

> The extremely low nitrogen content obtained by the above-specified treatment also is important in contributing to the outstanding stability of the present oils under the oxidizing conditions of the Doble Test, as it has been found that if the nitrogen content exceeds 4 p.p.m. the oil generally will have a Doble test life of only about 2 days and a pronounced hump in the initial portion of the power factor curve will appear.

The Board dealt with appellants' arguments summarily:

> With respect to appellants' argument regarding the nitrogen content of less than 4 p.p.m., we note that Schieman and Wasson et al. disclose acid treatment which will reduce the nitrogen content of their oils. We must assume that the nitrogen content is sufficiently low for their intended use and in the absence of a comparative showing, we will not attribute patentable significance to this factor.

[1] We do not see how the references can fairly be read as disclosing the importance of the low nitrogen content specified in the claims, which, as their specification states, appellants appear to have discovered. It seems to us inadequate to assert that oils of the references *probably* had a low enough nitrogen content for their intended uses.

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[1] Consisting of Asp and Magil, Examiners-in-Chief, and Vertiz, Acting Examiner-in-Chief. The latter wrote the opinion.

[2] Wasson et al. describe the Doble test:

> In the Doble Oxidation Test an oil heated to 95° C. is blown with air in the presence of coils of copper and iron wire which serve as catalysts. At periodic intervals portions of the oil are withdrawn and examined for neutralization number, sediment formation (after 5:1 naphtha dilution) and interfacial tension. The time required for the formation of visible sludge, for the neutralization number to increase to 0.2 mg. per gram, and for the interfacial tension to decrease below 15 dynes per centimeter is reported. A satisfactory oil must have a life of at least 48 hours before reaching any of these three conditions.

[3] Power factor is defined as: A numerical dimensionless value expressing the ratio of the power dissipated in an insulating material (watts) to the product of the effective voltage and current when tested in a sinusoidal electrical field under prescribed conditions of voltage gradient, frequency, temperature and previous (conditioning) treatment. The power factor numerically is equivalent to the cosine of the dielectric phase angle or the sine of the dielectric loss angle. (Insulating Materials for Design and Engineering Practice, 1962, p. 50.)

[4] The Solicitor did not think the affidavit, reporting these data, should be relied on, arguing:

> Since the affidavit it self-serving, it can be presumed that affiant did not choose the best reference oil. The situation is analogous to affidavits presented by experimenters who have no interest in producing successful reference products, and such affidavits are not accorded great weight.

The Examiner, on the other hand, insisted:

> • • • the burden is on applicants to show that the limitations recited in the claims are not inherent in the references and that these limitations are critical.

The Examiner also apparently suggested the specific oil to be tested. We think, under these circumstances at least, that the affidavit must be given some real weight. And here it is very nearly the only evidence on the point.

The Examiner and Board did criticize the affidavit, apparently because of a misunderstanding of the way in which the power factor was reported. Appellants clarified this matter in their brief. The Solicitor does not refer to it here.

We cannot tell, of course, without a remand, how the clarification would have affected the decision below. Our disposition of the case, however, renders a remand unnecessary.

In the absence of some showing that very low nitrogen content is recognized by the art as an advantageous quality in transformer oils, we cannot agree that this record provides a basis for the Patent Office assertion of obviousness. [2] The decision of the Board is, therefore, reversed.

REVERSED.

ALMOND, *J.*, dissenting.

While I agree with the conclusion of the majority that appellants' claimed oils are novel, I do not believe the majority has basis for deciding that the Board erred in its obviousness rejection, and I believe their conclusion is contrary to the recent decision of this court in *In re Spatz*, 55 CCPA —, — F.2d —, 156 USPQ 39.

In that case, as in this, patentability was urged based upon the presence of a very low maximum amount of an impurity. In that case, as in this, the prior art taught purification techniques suitable to remove at least a portion of the impurity. In that case, as in this, the prior art was silent as to the amount of impurity present in its product. And in that case, as in this, the appellants failed to advance any evidence that the prior art materials differed substantially from their claimed material in the critical element.

In an amendment filed in the prosecution of this application, applicants' attorney stated:

> Applicants have found for a fact that the usual naphthenic charge stock for making transformer oil has a nitrogen content typically in the neighborhood of 50 p.p.m., the oil after acid treatment typically contains nitrogen in amount of 4–8 p.p.m. and the finally treated oil typically contains 1–2 p.p.m. of nitrogen. * * *

Since the references relied upon both provide for acid treatment of their oils, it would appear that their oils *typically* contain 4–8 p.p.m. of nitrogen. To hold that it is unobvious to have a nitrogen content of less than 4 p.p.m. in the claimed oil therefore seems to me to be erroneous.

Had appellants produced evidence showing the specific reference oils to have nitrogen contents above 4 p.p.m., I would agree that they had made out a case for patentability in view of their assertions of criticality of that maximum nitrogen content. But such evidence is not in this record. I would therefore affirm.

U.S. Court of Customs and Patent Appeals

IN RE LIBBEY-OWENS-FORD GLASS COMPANY
v.
THERMOPROOF GLASS COMPANY

No. 7839. Decided February 15, 1968

[55 CCPA —; 390 F.2d 770; 156 USPQ 510]

1. TRADEMARK—CONFUSING SIMILARITY—*Libbey-Owens-Ford Glass Co.* v. *General Aluminum Window Co.* CONSTRUED—"THERMOPANE" AND "THERM-O-PROOF" FOR INSULATING GLASS.

"We have previously considered the likelihood of confusion between Libbey-Owens-Ford's THERMOPANE and a mark quite similar to appellee's, namely, Therm-O-Lite, *Libbey-Owens-Ford Glass Co.* v. *General Aluminum Window Co.*, 47 CCPA 833, 275 F.2d 947, 125 USPQ 229 (1960), wherein we reversed a decision of the Assistant Commissioner of Patents dismissing an opposition to the registration of Therm-O-Lite for aluminum combination screen and storm windows and doors. The Board made no mention of that case. While precedents may not usually be of much value in deciding trademark oppositions, we think we would be highly inconsistent were we to affirm in this case. In the Therm-O-Lite case there was a considerable difference in the goods, insulating double-glass window units sold under the opposer's mark and aluminum-framed storm windows and doors by the applicant. Here the goods are identical. We are in an 'a fortiori' situation insofar as the goods are concerned. So are we as to the marks ['THERMOPANE' and 'THERM-O-PROOF']. The marks here involved resemble each other somewhat more closely than did the marks in the prior case in that here both final syllables begin with 'P.' They therefore both look and sound more alike than the pair of marks we previously considered and found likely to cause confusion."

2. SAME—SAME—EVIDENCE.

"There is some evidence of actual confusion in the record consisting of the story of one homeowner who was confused between THERMOPANE and Therm-O-Proof windows. The story is submitted by appellant not only as evidence of actual confusion but as illustrative of a situation showing how and why confusion is likely. The Board was critical of the evidence on the basis that the homeowner was confused because he was 'an inattentive or a careless purchaser.' Assuming he was, not a few purchasers are and that is how confusion occurs."

3. SAME — SAME — MARKS CONSIDERED AS ENTIRETIES — "THERMOPANE" AND "THERM-O-PROOF" FOR INSULATING GLASS.

"The Board also seems to have harbored the thought that THERMOPANE may be a 'weak' mark because 'thermo' is in the dictionary, descriptive in a sense, and in any event clearly suggestive. We think THERMOPANE is a strong and well-established mark, notwithstanding the fact that 'pane' is also purely descriptive. The Board decided likelihood of confusion by 'considering the nature of the term "Thermo" and that "Pane" and "Proof" are distinctly different in every material respect * * *.' We deem that to have been the wrong approach, the correct one being to consider THERMOPANE and Therm-O-Proof as entireties and whether the purchasing public is likely to confuse them, taking into account the normal fallibility of memory over what may be a considerable period of time. Insulating windows are not something purchasers buy with frequency if they are in the homeowner rather than the builder or dealer category. Homeowners are here an important segment of the purchasers of the goods involved."

APPEAL from the Patent Office. Opposition No. 42,696.

REVERSED.

John A. Blair, Bruce G. Klaas, Harness, Dickey & Pierce for appellant.

William C. McCoy, Jr., McCoy, Greene & Howell for appellee.

Before WORLEY, *Chief Judge*, RICH, SMITH, ALMOND, *Associate Judges*, and WILLIAM H. KIRKPATRICK [1]

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Trademark Trial and Appeal Board, 147 USPQ 109, dismissing the opposition of appellant, since at least 1934 the owner and registrant [2] of the trademark THERMOPANE for various kinds of glass and glazing units including multiple glass sheet thermal glazing units, to the registration on the Principal Register of Therm-O-Proof (in somewhat distinctive script-form type) for "insulating glass," application Serial No. 140,402, filed March 21, 1962, claiming first use February 22, 1962.

The Board found, on the basis of voluminous evidence, that opposer's THERMOPANE mark is well known in the trade and to the public generally as an indication of origin for insulating glass and that opposer possesses a substantial property right therein. It found further that the applicant's market for its Therm-O-Proof insulating glass is the same as opposer's. It found priority of use in opposer.

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[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.
[2] Registration Nos. 318,234, Oct. 16, 1934, and 386,704, April 22, 1941, both renewed.

The sole question in the case is whether the marks of the parties so resemble each other that their concurrent use on identical goods is likely to cause confusion or mistake or to deceive under section (2d) of the Trademark Act, 15 U.S.C. 1052(d). The Board concluded they do not largely on the basis that "thermo" is a descriptive term and that "pane" and "proof" are "distinctly different in every material respect," wherefore the difference between the marks is sufficient to obviate such likelihood. At the same time the Board at least gave lip service to the principle, which we approve, that the case must be decided by comparison of the "unitary designations."

[1] We have previously considered the likelihood of confusion between Libbey-Owens-Ford's THERMOPANE and a mark quite similar to appellee's, namely, Therm-O-Lite, *Libbey-Owens-Ford Glass Co.* v. *General Aluminum Window Co.*, 47 CCPA 833, 275 F.2d 947, 125 USPQ 229 (1960), wherein we reversed a decision of the Assistant Commissioner of Patents dismissing an opposition to the registration of Therm-O-Lite for aluminum combination screen and storm windows and doors. The Board made no mention of that case. While precedents may not usually be of much value in deciding trademark oppositions, we think we would be highly inconsistent were we to affirm in this case. In the Therm-O-Lite case there was a considerable difference in the goods, insulating double-glass window units sold under the opposer's mark and aluminum-framed storm windows and doors by the applicant. Here the goods are identical. We are in an "a fortiori" situation insofar as the goods are concerned. So are we as to the marks. The marks here involved resemble each other somewhat more closely than did the marks in the prior case in that here both final syllables begin with "P." They therefore both look and sound more alike than the pair of marks we previously considered and found likely to cause confusion.

We do not, however, decide this case merely out of a desire to be consistent. We think the merits of the record in this case and the reasoning applied in the former case require a reversal and that the reasoning of the Board herein was in error in certain critical respects.

[2] There is some evidence of actual confusion in the record consisting of the story of one homeowner who was confused between THERMOPANE and Therm-O-Proof windows. The story is submitted by appellant not only as evidence of actual confusion but as illustrative of a situation showing how and why confusion is likely. The Board was critical of the evidence on the basis that the homeowner was confused because he was "an inattentive or a careless purchaser." Assuming he was, not a few purchasers are and that is how confusion occurs.

[3] The Board also seems to have harbored the thought that THERMOPANE may be a "weak" mark because "thermo" is in the dictionary, descriptive in a sense, and in any event clearly suggestive. We think THERMOPANE is a strong and well-established mark, notwithstanding the fact that "pane" is also purely descriptive. The Board decided likelihood of confusion by "considering the nature of the term 'Thermo' and that 'Pane' and 'Proof' are distinctly different in every material respect * * *." We deem that to have been the wrong approach, the correct one being to consider THERMOPANE and Therm-O-Proof as entireties and whether the purchasing public is likely to confuse them, taking into account the normal fallibility of memory over what may be a considerable period of time. Insulating windows are not something purchasers buy with frequency if they are in the homeowner rather than the builder or dealer category. Homeowners are here an important segment of the purchasers of the goods involved.

The decision of the Board is reversed.

REVERSED.

WORLEY, *Chief Judge*, concurs in the result.

KIRKPATRICK, *J.*, took no part in the decision of this case.

U.S. Court of Customs and Patent Appeals

IN RE HENRY J. RYNKIEWICZ AND GILBERT B. AYRES

No. 7894. Decided February 8, 1968

[55 CCPA —; 390 F.2d 742; 156 USPQ 462]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"FORMING OF METALS."

The decision of the Board of Appeals, refusing certain claims on an application entitled "Forming of Metals" as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 197,742.

AFFIRMED.

Samuel Branch Walker, *William P. Spielman* for appellants.

Joseph Schimmel (*S. Wm. Cochran*, of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, SMITH, ALMOND, *Associate Judges*, and WILLIAM H. KIRKPATRICK *

KIRKPATRICK, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Board of Appeals affirming the Examiner's rejection on the prior art of claims 1 through 5 of appellant's application Serial No. 183,371, filed March 29, 1962, entitled "Forming of Metals." No claim has been allowed.

The application relates to a process for producing hollow metal shapes by the explosive forming of centrifugal and static metal castings to control wall thickness and physical properties. Appellant discloses casting a tubular steel article to its approximate desired shape, allowing it to cool sufficiently to hold its shape, and then placing it in a correspondingly shaped die which has an inside diameter somewhat greater than the outside diameter of the casting. With the casting closed at both ends and filled with water or other pressure transmitting liquid, a shock pulse is generated in the liquid. That is done either by detonating an explosive material which has been placed at substantially the center of the casting or by causing a high intensity electric spark discharge between electrodes placed within the casting. The shock is propagated through the liquid to the inner surface of the casting, causing it to be expanded substantially instantly to fill the die. An example is described in which the casting is deformed from an original thickness of ¼ inch to about 3/16 inch and the grain structure is changed from "as cast" to "cold worked" form having a smooth surface.

Claims 1 and 5 are representative:

1. The method of making high-strength hollow metal articles which comprises the steps of casting the desired hollow article, solidifying the casting to a degree sufficient to hold the form of the article and subjecting the article to an internal expanding shock pulse of high energy transmitted through a confined incompressible fluid filling the interior of the article.

* Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

5. The method of cold working the structure of metal castings comprising subjecting one surface thereof to a high intensity shock pulse imparted by an incompressible fluid medium and retaining the opposite surface of the casting by a rigid wall having the contour of the external surface of the metal casting.

Claim 2 adds to claim 1 the recitation that the casting "is contained in a die recess larger than the as-cast external dimensions of the casting and the cross section of the metal wall is reduced by expansion filling the die recess." It is stated in claim 3 that the method of claim 1 is carried out with the hollow article filled with a liquid and that the shock pulse is generated by detonating an explosive charge. Claim 4 differs from claim 3 in that the pulse is described as generated "by discharge of one high intensity electrical spark submerged in * * * [the] liquid."

The references are:

Samuels, "Hydroforging—a New Fabricating Technique for Tubing," Metal Progress, vol. 77, No. 2, February 1960, pages 69–74.

Roth, "The Forming of Metals by Explosives," The Explosives Engineer, March-April, 1959, pages 52–55.

Cox et al., "Explosive Forming," S.A.E. Reprint T39, April 1960, pages 1–3 and FIGS. 1–6.

The Tool and Manufacturing Engineer, January 1962, pages 61–68.

Samuels discloses a process in which a cast hollow cylinder is expanded inside a die by hydraulic pressure. The cast cylinder, which has been allowed to cool, is capped at the ends and the hydraulic pressure applied internally. It is a purpose of the process to refine the grain of the casting to produce a material equivalent to a wrought product in grain size and strength.

The Roth article reviews the work done in forming metals by explosives, stating that much of that work has been carried out in a water medium and referring specifically to the use of explosive forming for expanding and swaging tubing.

Cox states that cylindrical parts seem to be most adaptable to explosive forming and refers to a technique "whereby media other than water is used for transmitting the explosive energy to the material to be formed."

The article in The Tool and Manufacturing Engineer points out that only a female die is required in explosive forming and states that the explosive energy is transmitted through a water medium, acting as a punch. It further discloses that the energy may be derived from explosives or from an electrical discharge.

The Examiner and the Board considered the claims unpatentable over Samuels in view of Cox, Roth or Tool and Manufacturing Engineer, "each of the auxiliary references taken individually." Thus the issue is whether the claimed invention would have been obvious to a person of ordinary skill in the art from Samuels taken in view of any of the three auxiliary references. See 35 U.S.C. 103.

Appellant points out that Samuels, who caps the ends of his cast cylinder and applies hydraulic pressure to it internally, does not use a rapidly expanding shock wave as the working force. However, the secondary references, which relate to similar metal working techniques do use explosive force and teach working cylindrical or hollow articles. They also each disclose that water may be the force-transmitting medium. We are satisfied that those references make it obvious to use explosive means in the Samuels process. The Tool and Manufacturing Engineer additionally makes obvious the use of an electrical spark for producing a shock pulse.

Appellant's argument is directed largely to pointing out that each reference lacks a disclosure of some limitation of the appealed claims. However, the Examiner and Board recognized that, when they grounded the rejection on the combination with Samuels of the secondary references taken individually. Although appellant also appears to question the propriety of the combination, we are convinced that it is proper for the reasons already set forth. Since we find no feature of the claimed invention lacking when the references are considered in combination, it is apparent that there is no reversible error in the Board's decision.

[1] The decision is affirmed.

AFFIRMED.

SMITH, *J.*, concurs in the result.

U.S. Court of Customs and Patent Appeals

IN RE DAN RIVER MILLS, INCORPORATED
v.
THE YORKE SHIRT CORPORATION

No. 7903. Decided February 1, 1968

[55 CCPA—; 390 F.2d 734; 156 USPQ 401]

1. TRADEMARK—CONFUSING SIMILARITY—"DANTE" AND "DANTWILL" ETC. FOR SHIRTS OR FABRICS.

"Appellee considers our decision in *In re General Electric Co.*, 49 CCPA 1186, 304 F.2d 688, 134 USPQ 190 (1962), pertinent here and so do we. In that case we reversed the refusal to register VULKENE based on the prior registration of VULCAN for similar goods, one of the persuasive considerations being that VULCAN is a well-known name and therefore not likely to be confused with the arbitrary mark VULKENE. We think 'Dante' [as compared with DANTWILL, DANTWEED, DANTOFF, DANTONE or DANDEEN] is in the same category."

APPEAL from the Patent Office. Opposition No. 43,709.

AFFIRMED.

Eugene Sabol, Fisher, Christen, Sabol & Caldwell for appellant.
S. Stephen Baker for appellee.

Before WORLEY, *Chief Judge*, RICH, SMITH, ALMOND, *Associate Judges*, and WILLIAM H. KIRKPATRICK [1]

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Trademark Trial and Appeal Board, 148 USPQ 236 (1965), dismissing an opposition by Dan River Mills, Incorporated, to the registration of "Dante" [2] on the Principal Register for men's outer shirts, application Serial No. 165,554, filed March 27, 1963, by The Yorke Shirt Corporation.

Opposer is admittedly the prior user of the registered marks upon which it relies which are, principally, DANTWILL, DANTWEED, DANTOFF, DANTONE, AND DANDEEN.[3] The goods for which

[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.
[2] The application drawing shows the mark as "Dante" in ordinary type, the specimen shows the mark as "Dante" in script with the accent over the "e." The Board decision was rendered as to the trademark "with or without the diacritical mark." we will treat it in the same way and write the word herein without said diacritical mark.
[3] The registration numbers will be found in the published Board opinion.

it holds the registrations are fabrics and the testimony is that some of the fabrics made by Dan River Mills have long been sold to shirt-makers to make shirts. Opposer, in connection with sale of its fabrics, supplies users with hang-tags and sew-in labels on which its fabric marks may be displayed in finished garments as indicative of the source of the fabrics.

Recognizing all of these facts and the obvious similarities between "Dante" and opposer's marks, the Board unanimously [4] found that "Opposer has always used its principal trademark 'Dan River' on all of its goods," in addition to the individual marks compounded of DAN and some other word or symbol such as those above exemplified. The Board's conclusion was:

> "Dante," with or without the diacritical mark, is the name of the famous Italian poet and would be so recognized by the average purchaser of applicant's goods. Accordingly, it is our opinion that "Dante" is of such nature and character that it creates a commercial impression distinctly different from "Dan," per se, or any of opposer's pleaded marks. It is therefore concluded that purchasers familiar with opposer's fabrics or with shirts made therefrom bearing opposer's house mark "Dan River" and/or its product marks are not likely to be confused as to the origin of applicant's "Dante" shirts.

[1] We are of the same view after careful consideration of appellant's brief. Appellee considers our decision in *In re General Electric Co.*, 49 CCPA 1186, 304 F.2d 688, 134 USPQ 190 (1962), pertinent here and so do we. In that case we reversed the refusal to register VULKENE based on the prior registration of VULCAN for similar goods, one of the persuasive considerations being that VULCAN is a well-known name and therefore not likely to be confused with the arbitrary mark VULKENE. We think "Dante" is in the same category. See also *Warner-Hudnut, Inc.* v. *Wander Co.*, 47 CCPA 1172, 280 F.2d 435, 126 USPQ 411 (1960), where based on an opinion by Judge Kirkpatrick, we affirmed a holding that confusion was not likely between "Wander" and "Warner." The opinion says:

> It did not require evidence to enable the Assistant Commissioner to conclude that Wander is a common word and unlikely to create a surname impression and that Warner, although having a common meaning, albeit one seldom met with [one who warns], creates the impression of being a surname.

"Warner," "Vulcan," and "Dante" have in common the name connotation and the marks relied on by opposer-appellant do not.

The decision of the Board is affirmed.

AFFIRMED.

[4] We state that the Board decision and opinion were unanimous by way of answer to the repeated reference in appellant's brief to the view of the Board "majority." It was not in this case that there was a dissent. *Cf. Dan River Mills, Inc.* v. *Preben Mikael Arendal Mikkelsen*, 145 USPQ 295 (1965), involving DANSK FORM, in which there was a dissent.

In the United States Patent Office
Before the Board of Appeals

EX PARTE GORDON HENRY COOK AND PETER ARNOLD MERIOGOLD

Appeal No. 791—96. Decided January 2, 1968

1. APPLICATION—DISCLOSURE—SUFFICIENCY OF DISCLOSURE—LENS SYSTEM—35 U.S.C. 112.

"The design of a proper zoom lens appears to us from the record to be an extremely complex empirical operation requiring a high degree of precision in each of its many different parameters. This is apparent from the more than 100 parameters listed on page 12 of the specification for the single lens corresponding to appellants' Example I. None of these parameters requires less than four significant digits and most require more, thereby indicating the tremendous number of possible sets of parameters to be investigated to obtain each lens design that is to be tested by essentially cut and dry computational methods to arrive at a satisfactory lens design. Appellants seek to excuse their not presenting variations of their design showing the validity of the disclosed ranges because 'very few men indeed are so gifted' as to develop a general concept and all possible variations. We are not convinced by this that the instant disclosure is adequate to direct a routineer as to the design of any reasonable number of lenses coming within the broad sweep of the claims on appeal. Appellants cannot have it both ways as being too complex for them to disclose a reasonable number of examples showing the scope of their invention and at the same time as being mere routine computation."

2. CLAIM—BROADER THAN DISCLOSURE—LENS SYSTEM—35 U.S.C. 112.

"We consider the reasons which prompt the denial of broad claims to a chemical compound or a chemical process that is based on a single disclosed example are more than applicable here since few chemical processes or compounds involve as many parameters or as high a degree of precision as are evidenced in the case of the design of a complex lens and the predictability of securing the wanted results are much less than would be present in most chemical reactions."

3. APPLICATION—DISCLOSURE—SUFFICIENCY OF DISCLOSURE—LENS SYSTEM—35 U.S.C. 112 (1ST PAR.).

"We find the suggested ranges for the lens parameters in the instant specification to be inadequate under 35 U.S.C. 112, first paragraph, to inform the routineer how to practice the invention in the manner set out by the appealed claims, without undue experimentation."

4. CLAIM—BROADER THAN DISCLOSURE—LENS SYSTEM—35 U.S.C. 112 (2ND PAR.).

"Nor do we find that the appealed claims distinctly point out the invention disclosed in the tabulated lens data portion of the specification. On the basis of what we consider to be essentially a disclosure of a single lens design, with only the additional minor variations not critical to the basic design and not exemplary of the range of values of the parameters set out in the claims, the grant of a patent of the scope sought instead of promoting the progress of the useful arts would merely spread a net to preempt the field against anyone seeking to design other zoom lenses, presently unknown to appellants, but in which as high or higher maximum to minimum focal ratios are achieved. The claimed ranges merely direct the person of ordinary skill into a field for conducting further experimentation and do not point with any certainty or predictability to any path already blazed by appellants' specification. We find the instant claims fail to point out and distinctly claim under 35 U.S.C. 112, second paragraph, the invention disclosed in appellants' specification."

5. APPEAL TO THE BOARD OF APPEALS—MATTER BEFORE BOARD.

"Attached to appellants' petition is a memorandum which is asserted to describe "How a Zoom Objective Is Designed." Since this memorandum does not appear from the record to have been before the Examiner, we will not consider the same on reconsideration."

6. CLAIM—BROADER THAN DISCLOSURE—*In re Garvin* NOTED.

"We note the recent 'non-chemical' case of *In re Garvin*, 157 USPQ 190, in which the Court of Customs and Patent Appeals found claims to be 'broader than the disclosure' where only a specified amount of corona discharge was disclosed as improving the ink receptivity of sheet material but the claims were so broad as to embrace any amount of corona discharge, irrespective of whether it would achieve good printability."

APPEAL from the Examiner (John Corbin) of Group 250. Serial No. 309,208.

DENIED.

Holcombe, Wetherill & Brisebois for appellant.

Before KEELY, ANDREWS and STRADER, *Examiners-in-Chief*

ANDREWS, *Examiner-in-Chief*.

This is an appeal from the final rejection of claims 1 through 27. No claim has been allowed.

No reference is relied upon by the Examiner.

Claims 1 through 27 stand rejected under 35 U.S.C. 112 as failing to particularly point out the invention and, presumably, as based on an insufficient disclosure as is stated in detail in the final rejection, Paper No. 8, and a prior rejection, Paper No. 3.

The basic issues presented in this appeal is whether claiming a broad range of values for parameters of components of appellants' lens system, inherently critical to the attainment of the objects of the invention, distinctly points out the invention disclosed.

Appellants disclose the parameters of their lens system in the specification in two different ways. One is by a series of six examples in which every parameter of the lens is completely identified in numerical terms to no less than four significant digits and most often in terms of five or six significant digits. Fundamentally, these six examples reflect but a single basic lens design since the second and third members of the lens system in each example are acknowledged to be the most critical in design, being movable along the optical axis, and these in each of the six examples are disclosed as being either identical or merely scaled-up versions thereof to produce lenses of different effective apertures. Thus the tabular disclosure of the application reflects but a single basic set of design parameters.

Appellants' specification discloses a second mode for the design of their zoom lens, which is alleged, as in the first, to provide a range of maximum to minimum focal lengths greatly extended over the prior art. This second mode of disclosure purports to identify the critical parameters of the various members, and components of the members, of appellants' lens system in terms of ranges of certain characteristic ratios. In general these ratios are quite large being in some instances two to one or even more but are inclusive of the parameters of the tabular examples.

Appellants by their brief and reply brief view the Examiner's rejection as based alternatively, on an insufficient specification or on claims which fail to point out the invention, disclosed in the specification. We likewise shall so consider the Examiner's rejection because of the dual nature of appellants' disclosure in the specification.

We find no challenge by the Examiner that the tabular examples in the specification are not adequate to enable a person skilled in the lens art to make a zoom lens having a ratio of maximum to minimum focal lengths as great as ten to one. As to this portion of the disclosure it is the Examiner's position that the claims on appeal do not point out distinctly that which is necessary to achieve the sought-for results, i.e., 35 U.S.C. 112, paragraph 2.

On the other hand, the Examiner has criticized that portion of the specification which discloses the lens in terms of relatively wide ranges of parameters because these parameters cannot be independently or arbitrarily varied and that much experimentation and computation by a skilled lens designer would be necessary to arrive, if at all, at any other suitable set of lens parameters. Claims based only on this aspect of the disclosure are considered unpatentable for lack of a definitive disclosure, i.e., 35 U.S.C. 112, paragraph 1.

Appellants assert in their reply brief that a single disclosed embodiment of their invention is all that the statute requires of them since few men are so gifted that they can develop not only a new general concept and an embodiment thereof but a complete road map to all possible variations embodying that concept and that the requirements of disclosure in chemical cases should not apply here because of the complexity of chemical reactions. On the other hand, appellants contend that anyone skilled in the art on the basis of their disclosure could design by routine computation other different lenses securing the benefits of their invention.

We have reviewed the rejection in the light of the stated positions of appellants and the Examiner and we find no reversible error in the rejection by the Examiner for substantially the reasons stated by the Examiner in his answer and in the actions incorporated therein by reference.

[1] The design of a proper zoom lens appears to us from the record to be an extremely complex empirical operation requiring a high degree of precision in each of its many different parameters. This is apparent from the more than 100 parameters listed on page 12 of the specification for the single lens corresponding to appellants' Example I. None of these parameters requires less than four significant digits and most require more, thereby indicating the tremendous number of possible sets of parameters to be investigated to obtain each lens design that is to be tested by essentially cut and dry computational methods to arrive at a satisfactory lens design. Appellants seek to excuse their not presenting variations of their design showing the validity of the disclosed ranges because "very few men indeed are so gifted" as to develop a general concept and all possible variations. We are not convinced by this that the instant disclosure is adequate to direct a routineer as to the design of any reasonable number of lenses coming within the broad sweep of the claims on appeal. Appellants cannot have it both ways as being too complex for them to disclose a reasonable number of examples showing the scope of their invention and at the same time as being mere routine computation.

[2] We consider the reasons which prompt the denial of broad claims to a chemical compound or a chemical process that is based on a single disclosed example are more than applicable here since few chemical processes or compounds involve as many parameters or as high a degree of precision as are evidenced in the case of the design of a complex lens and the predictability of securing the wanted results are much less than would be present in most chemical reactions.

[3] We find the suggested ranges for the lens parameters in the instant specification to be inadequate under 35 U.S.C. 112, first paragraph, to inform the routineer how to practice the invention in the manner set out by the appealed claims, without undue experimentation.

[4] Nor do we find that the appealed claims distinctly point out the invention disclosed in the tabulated lens data portion of the specification. On the basis of what we consider to be essentially a disclosure of a single lens design, with only the additional minor variations not critical to the basic design and not exemplary of the range of values of the parameters set out in the claims, the grant of a patent of the scope sought instead of promoting the progress of the useful arts would merely spread a net to preempt the field against anyone seeking to design other zoom lenses, presently unknown to appellants, but in which as high or higher maximum to minimum focal ratios are achieved. The claimed ranges merely direct the person of ordinary skill into a field for conducting further experimentation and do not point with any certainty or predictability to any path already blazed by appellants' specification.

We find the instant claims fail to point out and distinctly claim under 35 U.S.C. 112, second paragraph, the invention disclosed in appellants' specification.

The rejection of claims 1 through 27 is sustained.

The decision of the Examiner is affirmed.

AFFIRMED.

ON PETITION FOR RECONSIDERATION

Appellants' petition for reconsideration of our decision of January 2, 1968 in which we sustained the rejection of the appealed claims by the Examiner.

[5] Attached to appellants' petition is a memorandum which is asserted to describe "How a Zoom Objective Is Designed." Since this memorandum does not appear from the record to have been before the Examiner, we will not consider the same on reconsideration.

We have reviewed our decision in the light of appellants' further arguments as contained in their petition but we are not convinced of any error in that decision.

On the contrary, appellants' assertion, on page 2 of their petition, that the application by a lens designer of known laws to the limits as set by the parameters of the instant disclosure would enable him to deduce only the ranges for other parameters in which "experimentation is most likely to be successful," further indicates to us the unpredictability of attaining the sought-for results for one seeking to avail himself of appellants' disclosed ranges of parameters.

Appellants' contention on pages 2 and 3 of their petition that, instead of requiring 100 parameters to define their lens, a lesser number are involved because of duplications, as are found in the indices of refraction and thickness values, is not convincing to us. The selection of each of a plurality of identical values for different parameters of the lens does not in our view reduce the total complexity, for each parameter, whether duplicated elsewhere in the lens or not, would afford the same possibility for variation as though the values for all of appellants' parameters had turned out to be different.

Appellants appear to acknowledge on page 4 of their petition that it might take a competent lens designer a "few months" to come up with a "slightly different" lens specification to that disclosed, provided he had access to a "computer." We still are not convinced that this would constitute a reasonable disclosure of such other lens specifications.

We are not convinced of our error by appellants' arguments for the equity of allowing claims broader than the disclosed invention based on the correctness of the ultimate decision on adjudication. The deterrent to scientific progress posed by a patent that is too broad can not be nullified, in our opinion, by an ultimate holding of invalidity because the period during which the patent by law must be presumed to be valid already would have had its deterrent effects by the time such holding could be made.

We are not persuaded that we were in error in our application of the statutes by our decision through appellants' allegation on page 5 of their petition that we have applied rules of "chemical cases" to the present "optical case." The same section of the statute, section 112, applies to both cases. Where problems arising from the nature of the subject matter involved would require a particular application of the

statute, the statute must be similarly applied wherever these same problems arise although considering specifically different subject matter. Categorizing the subject matter as being either "chemical" or "optical" has no statutory basis. We have pointed out in our opinion why we considered the instant claims to pertain to subject matter that carries a greater degree of unpredictability than in the "chemical" cases where the claims frequently are held to be broader than the disclosure. The fact that appellants recognize that *months* of effort of a lens designer having access to an electronic computer would be needed to arrive at another lens design but *slightly different* from appellants' lens would seem to substantiate the existence of the reasons underlying our position that the instant claims are broader than the invention disclosed or, in the alternative, that the specification is insufficient to support the breadth of appellants' claims. Appellants seem to have confused the complexity of which we are here concerned, the complicated interrelationships of the parameters of a lens system that lead to unpredictability when modifications are attempted, with the complexity of large numbers of components, such as are to be found in an electronic computer, where the predictability is always precise as to the effectiveness of a modification to carry out a computational algorithm.

[6] We note the recent "non-chemical" case of *In re Garvin*, 157 USPQ 190, in which the Court of Customs and Patent Appeals found claims to be "broader than the disclosure" where only a specified amount of corona discharge was disclosed as improving the ink receptivity of sheet matrial but the claims were so broad as to embrace any amount of corona discharge, irrespective of whether it would achieve good printability.

We have reconsidered our decision as requested by appellants' petition but, for the reasons set forth above, we deny the petition in so far as it requests any modification of our decision.

DENIED.

U.S. Court of Customs and Patent Appeals

CLUETT, PEABODY & CO., INC.
v.
J. H. BONCK COMPANY, INC.

No. 7899. Decided February 1, 1968

[55 CCPA —; 390 F.2d 754; 156 USPQ 400]

1. TRADEMARK—CONFUSING SIMILARITY—"TTM" AND "T.M.T." FOR SHIRTS.

"Cluett, Peabody seeks registration of 'TTM' and certain ancillary design matter for 'Boys' Shirts.' The Bonck Co., relying on prior use and registration of 'T.M.T' on shirts and pants, opposes, alleging that applicant's 'TTM' so resembles 'T.M.T.' as to be likely to cause confusion or mistake or to deceive. The Trademark Trial and Appeal Board sustained opposer's position, both initially and on reconsideration. We agree."

APPEAL from the Patent Office. Opposition No. 43,479.

AFFIRMED.

Robert J. Dockery, Leo Fornero for appellant.

Before RICH, *Acting Chief Judge*, SMITH, ALMOND, *Associate Judges*, and WILLIAM H. KIRKPATRICK *

KIRKPATRICK, *J.*, delivered the opinion of the court.

* Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

[1] Cluett, Peabody seeks registration of "TTM" and certain ancillary design matter for "Boys' Shirts." The Bonck Co., relying on prior use and registration of "T.M.T." on shirts and pants, opposes, alleging that applicant's "TTM" so resembles "T.M.T." as to be likely to cause confusion or mistake or to deceive. The Trademark Trial and Appeal Board sustained opposer's position, both initially and on reconsideration. We agree.

In its consideration, the Board stated:

> The marks "TTM" and "T.M.T." comprise arbitrary arrangements of identical letters, and considering the difficulty of retaining such marks in mind over an appreciable period of time, we are clearly of the opinion that their use for identical goods would be likely to cause confusion or mistake or to deceive. Cf. *Vitamin Corporation of America* v. *American Home Products Corporation* [35 CCPA 952, 166 F.2d 203] 76 USPQ 611 * * *; and *Crystal Corporation, formerly The Crystal Chemical Company, Incorporated* v. *Manhattan Chemical Manufacturing Company, Inc. (Anna T. Fox, assignee, substituted)* [22 CCPA 1027, 75 F.2d 506] 25 USPQ 5 * * *. As stated by the court in the last cited case
>
> > We think it is well known that it is more difficult to remember a series of arbitrarily arranged letters than it is to remember figures, syllables or phrases. The difficulty of remembering such lettered marks makes confusion between such marks, when similar, more likely.

We have also reviewed, in light of appellant's arguments, the testimony of its witnesses, together with the documents and third party registrations submitted, but are not persuaded that the Board erred.

The decision is affirmed.

AFFIRMED.

SMITH, *J.*, concurs in the result.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,324,655, W. H. Lannert, SEWAGE TREATMENT SYSTEM, **filed** June 24, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c1007, *Food Machinery and Chemical Corporation, doing business as Chicago Pump, Hydrodynamics Division at Chicago* v. *Walker Process Equipment, Inc.* Order granting plaintiffs motion to dismiss defendants second amended counterclaim. Counterclaim dismissed without leave to amend and with prejudice, Oct. 3, 1963. Copy of order and opinion from Supreme Court of the United States; judgment of USCA reversed with costs and cause remanded to U.S. District Court for further proceedings in conformity with the opinion of this Court, Jan. 6, 1966. By agreement cause dismissed with prejudice, Mar. 6, 1968. On motion of defendant order cause reinstated and order of dismissal vacated, May 14, 1968.

2,611,813, Sharpless and Eichert, Jr., MAGNETIC DATA STORAGE SYSTEM, **filed** May 22, 1968, D.C. Md. (Baltimore), Doc. 19515–C, *Technitrol, Inc.* v. *Scientific Data Systems, Inc.*

2,616,386, E. C. Kiekhaefer, WATER COOLING SYSTEM FOR OUTBOARD MOTORS; **2,718,792**, same, REVERSIBLE LOWER GEAR UNIT FOR OUTBOARD MOTORS; **2,916,007**, same, RESILIENT MOUNTING FOR AN OUTBOARD MOTOR; **2,948,252**, C. F. Alexander, Jr., PROPELLER HUB EXHAUST SYSTEM; **3,310,022**, D. K. Kollman, EXHAUST SYSTEM FOR OUTBOARD MOTORS; **3,350,879**, Boda and Kollman, INSULATED OUTBOARD MOTOR HOUSING, **filed** Apr. 11, 1968, D.C., E.D. Wis. (Milwaukee), Doc. 68–C–100, *Brunswick Corp.* v. *Outboard Marine Corporation.*

2,619,420, T. H. Jukes, ANIMAL AND POULTRY FEED CONTAINING AUREOMYCIN MASH, **filed** May 10, 1968, D.C., N.D. Ga. (Atlanta), Doc. 11810, *American Cyanamid Company* v. *Specialita Integrativi Razionali (SIR), S.p.A.*

2,631,358, E. D. Hill, INK CARRIERS AND METHOD OF MAKING, **filed** Jan. 18, 1967, D.C.N.J. (Newark), Doc. C–61–67, *Jomac Inc.* v. *United Roller Co., Inc. et al.* Consent judgment dismissing action, May 10, 1968.

2,639,699, E. C. Kiekhaefer, TWO-CYCLE ENGINE AND IMPROVED CRANKCASE INDUCTION MEANS THEREFOR, **filed** Apr. 11, 1968, D.C., E.D. Wis. (Milwaukee), Doc. 68–C–101, *Elmer Carl Keikhaefer* v. *Outboard Marine Corporation.*

2,641,390, F. Y. Sherbondy, GARMENT FORM RETAINER, **filed** Oct. 5, 1966, D.C.N.J. (Newark), Doc. 992–66, *Frank Y. Sherbondy* v. *Time Savers, Inc.* Consent, order of dismissal, May 17, 1968.

2,642,679, F. J. Zamboni, ICE RINK RESURFACING MACHINE, **filed** May 15, 1968, D.C., S.D.N.Y., Doc. 68–C–1998, *Frank J. Zamboni* v. *Eugene V. Capalbo, also known as Gene Parker.*

2,647,590, C. A. Anderson, HYDRAULIC ELEVATOR, **filed** May 13, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c865, *Advanced Hydraulics, Inc.* v. *Clark Equipment Company.*

2,690,518, Fyler and Rowe, COLOR PICTURE TUBE, **filed** Mar. 8, 1968, D.C., S.D.N.Y., Doc. 68–C–990, *Zenith Radio Corp.* v. *Columbia Broadcasting System, Inc.* Notice of dismissal, May 21, 1968.

2,698,031, T. Primich, PROGRESSIVE LOCK SEAM FOR SHEET METAL PIPES, **filed** May 28, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68–901–HP, *Products Research and Development Corporation* v. *Pacific Industries, Inc., doing business as Reliable Steel Supply Co.*

2,699,192, P. T. Poutinen, COMBINED KEY AND FLASHLIGHT HOLDER, **filed** July 20, 1967, D.C., S.D.N.Y., Doc. 67–C–2789, *Apex Products Corporation* v. *Dan-Dee Imports, Inc.* Consent judgment, defendant Dan-Dee Imports, Inc. enjoined and restrained from directly or indirectly infringing patent, May 21, 1968.

2,703,277, Spendelow, Jr., and Crafts, NICKEL-BASE ALLOY FOR HIGH TEMPERATURE SERVICE, **filed** Apr. 21, 1967, D.C., S.D.N.Y., Doc. 67–C–1594, *Cameron Iron Works, Inc.* v. *Union Carbide Corporation.* Stipulation and order of dismissal with prejudice, May 13, 1968.

2,718,792. (See 2,616,386.)

2,742,462, G. Gever, NEW N-(5-NITRO-2-FURFURYLIDENE)-3-AMINO-2-OXAZOLIDONES, **filed** May 28, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68–904–WPG, *The Norwich Pharmacal Company* v. *E & W Biological Co.*

2,916,007. (See 2,616,386.)

2,949,882, G. L. Thomas, Jr., LIVE FISH PACKAGE, **filed** Aug. 20, 1965, D.C., S.D. Fla. (Miami), Doc. 65–619–C, *T.F.H. Publications, Inc.* v. *Morris W. Perch, Morris W. Perch Tropical Fish, South Miami Tropical Fish Hatcheries, Inc.* Consent judgment, the plaintiff owner of patent, which is valid. Defendant has infringed, South Miami Tropical Fish Hatcheries, Inc., and is hereby permanently enjoined. Counterclaim dismissed with prejudice, Apr. 4, 1968.

2,948,252. (See 2,616,386.)

2,995,335, S. G. Raftis, COLLAPSIBLE VALVE APPARATUS, **filed** May 1, 1968, D.C.N.J. (Camden), Doc. 607–65, *Spiros G. Raftis* v. *RKL Controls, Inc. and Robert K. Little.* Stipulation of dismissal of the complaint and counterclaim, May 1, 1968.

3,024,518, R. B. Newton, METHODS OF MAKING PILE FABRICS, **filed** Apr. 17, 1967, D.C., W.D. Va. (Lynchburg), Doc. 67–C–16–H, *Deering Milliken Research Corporation* v. *E. I. du Pont de Nemours and Company, Inc.* Dismissed by agreement of parties, May 22, 1968.

3,045,829, Rule and Schmeller, CLEANING AND AERATING CIRCULATORY SYSTEM FOR SWIMMING POOLS, **filed** Nov. 15, 1965, C–5791 Phx., *Rule Pool Company* v. *Paddock Pool Construction Co.* Stipulation and order for dismissal without prejudice, Apr. 5, 1968.

3,073,235, Smith and Randall, ROOF VENTILATORS, **filed** May 13, 1968, D.C., S.D. Ill. (Peoria), Doc. P–2985, *Lester L. Smith* v. *Howard M. Iber, Conrad C. Iber, and Robert W. Iber, doing business as Builders Products Company.*

3,074,653, J. B. Schorsch, METHOD OF SEPARATING WIRE AND ITS CASING, **filed** Apr. 4, 1968, D.C., E.D. Mo. (St. Louis), Doc. 68C162(2), *The Metal Bank of America, Inc.* v. *Eastern Diversified Metals Corp.*

3,098,748, Nozuick and Tatter, WHIPPING AND POWDERED SHORTENING COMPOSITIONS, **filed** May 17, 1968, D.C.N.J. (Newark), Doc. 485–68, *National Dairy Products Corporation* v. *Beatrice Foods Co.*

3,310,022. (See 2,616,386.)

3,350,879. (See 2,616,386.)

PLANT PATENTS

GRANTED OCTOBER 15, 1968

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,839

NECTARINE TREE

Anthony C. Curcio and Nunzio C. Curcio, Hammonton, N.J., assignors to Edgar H. Kemp and Homer S. Kemp, co-partners, trading as Bountiful Ridge Nurseries, Princess Anne, Md.

Filed Feb. 2, 1967, Ser. No. 613,689

1 Claim. (Cl. Plt.—41)

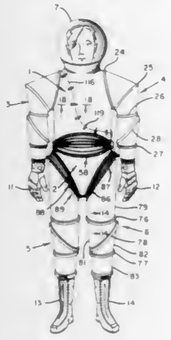
1. A new and distinct variety of nectarine tree of the Yellow fleshed freestone fruit bearing class, substantially as therein shown and described, characterized as to novelty by the unique combination of a thrifty and productive tree habit, a large fruit size, an attractive high coloring of the fruit skin when mature, with bright Red being the dominant color and merging with bright Yellow on the remainder of the skin, an excellent fruit flavor, and good fruit keeping qualities and resistance to bruises.

PATENTS

GRANTED OCTOBER 15, 1968

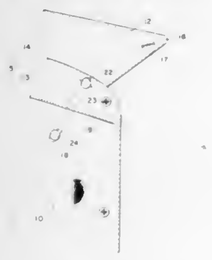
GENERAL AND MECHANICAL

3,405,406
HARD SPACE SUIT
Hubert C. Vykukal, Sunnyvale, Calif., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed July 19, 1966, Ser. No. 566,397
16 Claims. (Cl. 2—2.1)



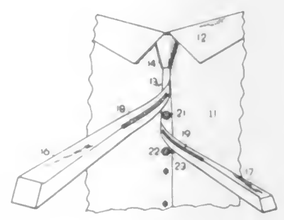
A space suit of rigid material providing the wearer with extreme mobility and protection from the environment. The suit comprises an upper body covering portion made of rigid material, a pelvic covering portion of rigid material, arm covering portions of rigid material, and leg covering portions of rigid material. The pelvic covering portion is connected to the upper body portion by generally circular metal waist bellows. Each of the leg covering portions is connected to the pelvic portion by means of circular metal thigh bellows. Each of the arm and leg portions is articulated by means of specially arranged circular bearings. Each arm covering portion is coupled to the upper body covering portion by means of two inclined circular bearings. Life support fluids pass through the covering portions.

3,405,407
SHIRT WITH COLLAR POINT HOLD-DOWN DEVICE
George W. Ruane, 1009 Vine St., Cincinnati, Ohio 45202
Filed Oct. 10, 1966, Ser. No. 585,624
1 Claim. (Cl. 2—132)



A shirt having a body, an attached collar, an elongated stiff flat member having buttons mounted adjacent ends thereof, there being a buttonhole in the collar adjacent a fold line thereof receiving one button, a buttonhole in the body under the collar point and a buttonhole adjacent the collar point, the other button being received in the last two buttonholes.

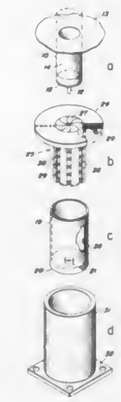
3,405,408
TIE HOLDER
James H. Baker, 665 Canyon Drive, Solana Beach, Calif. 92075
Filed Dec. 20, 1965, Ser. No. 524,665
2 Claims. (Cl. 2—145)

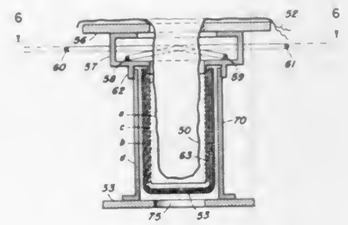


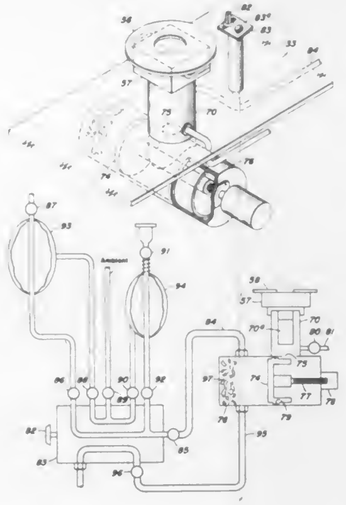
1. A tie holder for holding a cravat tie comprising:
a cravat tie having a front section with front and back sides and a back section with front and back sides;
an elongated strip of re-usable fastening tape attached to the backside of said front section;
a re-usable fastening tape attached to the front side of said back section in cooperating relationship with the re-usable fastening tape attached to the backside of said front section;
an elongated strip of re-usable fastening tape attached to the backside of said back section; and
means adapted to attach a re-usable fastening tape to the front of a wearer's shirt in cooperating relationship with said re-usable fastening tape attached to the backside of said back section.

3,405,409
METHOD AND APPARATUS FOR DISPOSAL OF WASTE LIQUID AND SOLID MATERIAL
Floyd M. Bennett, Brooklyn, N.Y., assignor to Lundy Electronics & Systems, Inc., Glen Head, N.Y.
Filed Jan. 24, 1966, Ser. No. 522,499
14 Claims. (Cl. 4—142)

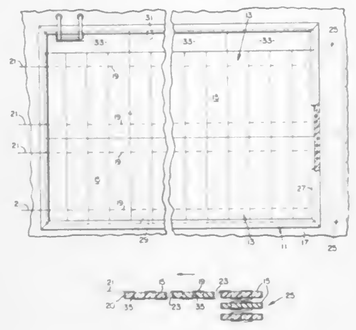
A method and apparatus of managing the disposal of waste liquids and solid material accumulated aboard a vehicle on a mission in space is provided. In accordance with one aspect of the inventive concept a heated chamber having piston means movable therein is utilized for continuously desiccating waste materials and a hollow stand is utilized for accumulating said material in a package, wherein said piston means blocks a first opening in said chamber during the packaging of said material and said piston means unblocks said first opening in said chamber for storage of said packaged material therein.





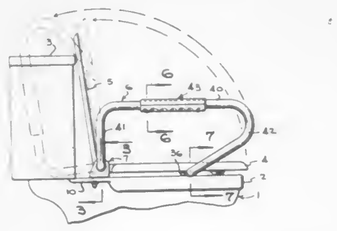


3,405,410
INSULATED LIGHTWEIGHT COVER FOR POOLS OF WATER
James Y. Oldshue, 141 Tyringham Road, Rochester, N.Y. 14617
Filed Dec. 13, 1965, Ser. No. 524,633
4 Claims. (Cl. 4—172)



A cover which floats on a pool of fluid consisting of one or more sections, each section consisting of several rigid buoyant pieces flexibly laced together such that each of the pieces may be removed individually from the pool.

3,405,411
ARM AND SEAT ASSEMBLY
William O. Brown, Columbus, Miss., assignor to Beneke Corporation, Columbus, Miss., a corporation of Mississippi
Filed Sept. 1, 1966, Ser. No. 576,603
12 Claims. (Cl. 4—254)

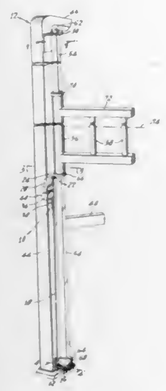


A closet seat having one or two arms mounted for pivotal movement with the seat. The arms have front ends attached to the seat, and rear ends inturned into axial alignment with one another and mounted in spaced bearings on the closet bowl. The seat is mounted on a pivot rod axially aligned with the rear ends of the arms, with the rod ends carried within the aligned arm ends. The seat and arms can be mounted on supports other than closet bowls. Where there is no flush box, the arms carry stops to limit seat cover movement.

3,405,412
CRIB ATTACHMENT
Clyde E. Mixon, Jacksonville, Fla., assignor to Pedicraft, Inc., Jacksonville, Fla., a corporation of Florida
Filed June 5, 1967, Ser. No. 643,424
14 Claims. (Cl. 5—100)

A selectively releasable safety attachment for a sliding side gate crib having an end post and a guide rod attached

thereto, including an L-shaped member having an elongated generally vertical leg and a generally horizontal leg and being adapted and arranged to be positioned between the end post and the guide rod of the crib. The horizontal leg being adapted to be mounted to the guide rod adjacent its lower end, and the vertical leg being positionable between the guide rod and the end post and extending upwardly from the horizontal leg and being engageable with the lower edge of the sliding side gate.



The attachment further including a leaf spring attached to the vertical leg for biasing the upper end of the vertical leg into engagement with the guide rod. The safety attachment being adapted and arranged to releasably maintain the sliding side gate in a predetermined position intermediately between its upper closed position and its lower opened position.

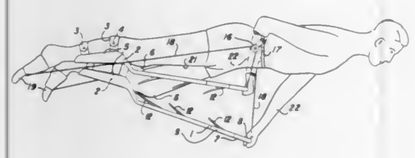
3,405,413

SWIM FIN

John R. Manis, 418 Millburn Ave., Millburn, N.J. 07041

Filed Mar. 1, 1967, Ser. No. 619,703

10 Claims. (Cl. 9—309)



A pair of swim fins each connectable to one of a swimmer's legs and aligned with either the shin or thigh so that each fin is articulable independently of the other by a normal walking action of the swimmer. The fins have distal portions and resilient blade members organized to push water. The distal portions can extend above the knees and can be provided with handles for coaction of the swimmer's hands. Alternately distal portions may project below the knees with or without pulley mounted cords arranged to harness kicking of the swimmer's feet in moving the fins.

3,405,414

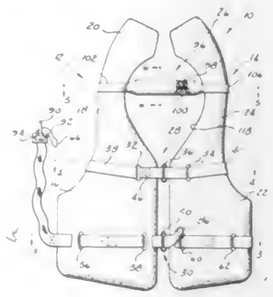
READILY REVERSIBLE BUOYANT JACKET

Leonard Peter Frieder, Jr., Clarks Green, Pa., assignor to Gentex Corporation, New York, N.Y., a corporation of Delaware

Filed June 2, 1966, Ser. No. 554,769

15 Claims. (Cl. 9—338)

In general my invention contemplates the provision of a readily reversible buoyant jacket in which distinct side sections of molded buoyant unicellular material, each having a body portion, a shoulder portion and a head rest portion, are connected at points above the shoulder portions by a core extending between the sections and carrying a sausage-like body of molded unicellular buoyant material forming the top of the neck opening of the jacket. Spaced, freely flexible hinges join the sections at a point



adjacent the top of the body to close the neck opening and at a point slightly above the bottom of the body portions. A hook, adjustably carried by a belt secured to the jacket at one edge thereof and adapted to be passed around the wearer's waist, is engaged with one of two hooks on the respective sides of the jacket depending upon which way the jacket has been donned.

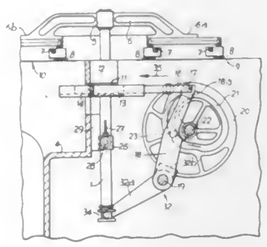
3,405,415

BOOK COVERS MANUFACTURING MACHINE

Lorenzo Depetris and Giovanni Depetris, Milan, Italy, assignors to Smyth Europea S.p.A., Milan, Italy

Continuation-in-part of application Ser. No. 334,866, Dec. 31, 1963. This application Feb. 16, 1967, Ser. No. 616,567

4 Claims. (Cl. 11—2)



The vertically movable shaft carrying two or more suction heads is roated always in the same sense by a reciprocating rack through a gear which is intermittently coupled with the shaft. To this end the gear is rotatably mounted on the said shaft and has provided therein two diametrically opposed holes. The shaft carries a crossmember provided with an upstanding pin which engages one of said holes when the shaft is in a fully lifted position and which is kept free of said gear to enable it to rotate freely when the shaft is in a fully lowered position.

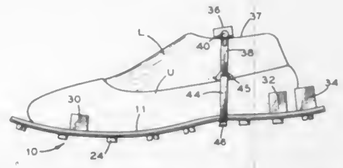
3,405,416

SHOE UPPER ROUGHENING TEMPLET

Norbert Winig, Gloversville, N.Y., assignor to Winig Slipper Corporation, Gloversville, N.Y., a corporation of New York

Filed Jan. 16, 1967, Ser. No. 609,513

4 Claims. (Cl. 12—103)



A rigid templet for association with a lasted shoe to precisely define on the turned over portion of the upper, a marginal portion which is to be roughened or abraded.

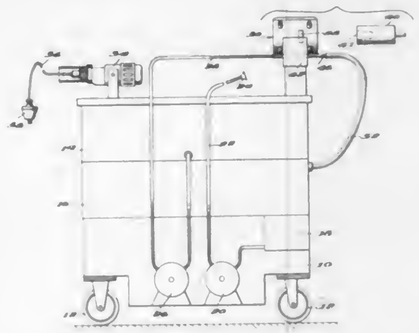
3,405,417

CLEANING APPARATUS

Otha Allen Hitt, Richmond, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 24, 1967, Ser. No. 633,142

4 Claims. (Cl. 15—21)



The apparatus has brushes mounted on the interior of a sleeve which fits over a processing roll. Conduits communicate with the sleeve interior through upper and lower rows of perforations for supplying and draining off rinse water. Before positioning the sleeve, a cleaning fluid is first sprayed onto the roll. After the sleeve is positioned, a flexible drive shaft is coupled to the roll and drives it at a relatively low speed during the cleaning operation. Although portable, the sleeve is normally transported on a buggy to which the conduits and drive shaft are operably connected.

3,405,418

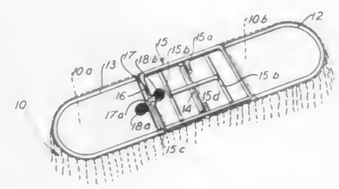
COLLAPSIBLE MOP FRAME

Harry T. Carter and Donald J. Hicks, both % Fibrac, Inc., 219 W. 4th St., Chanute, Kans. 66720

Filed Apr. 7, 1967, Ser. No. 629,173

8 Claims. (Cl. 15—147)

A collapsible mop frame having two winged sections may be selectively locked to form an integrated mop support rigidly held in a common plane or unlocked and collapsed to pivot one wing section relative to the other, thereby facilitating the removal and/or mounting of mop fabric thereon. A locking mechanism is mounted on one wing section and contains a frame engaging structure that is pivotally and selectively movable into and out of



engagement with a reinforcing structure that is fixedly welded to the opposite wing section.

3,405,419

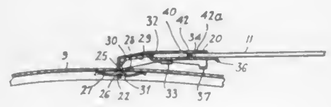
WINDSCREEN WIPERS

Arthur T. Charlton, Osterley, Middlesex, England, assignor to Magnatex Limited, Harlington, Middlesex, England, a British company

Filed Dec. 20, 1965, Ser. No. 515,130

Claims priority, application Great Britain, Dec. 24, 1964, 52,509/64

2 Claims. (Cl. 15—250.32)



The invention relates to means for connecting a windscreen wiper blade to its operating wiper arm. The end of the arm, which is of rectangular strip form, is provided with notches at its edges and a projecting dimple on its top surface, adapted to interengage respectively with detents struck up from a leaf spring in the connector housing and an aperture in the top wall of the connector housing into which the dimple is urged by the leaf spring. The aperture is in the form of a closed slot.

3,405,420

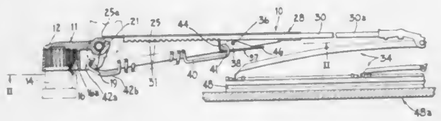
WIPER ARMS

Phillip Geoffrey Kent Smithers, Cranford, and Peter Mower, Whitton, Twickenham, England, assignors to Trico Products Corporation, Buffalo, N.Y., a corporation of New York

Filed July 26, 1966, Ser. No. 567,896

Claims priority, application Great Britain, July 27, 1965, 32,070/65

3 Claims. (Cl. 15—250.35)



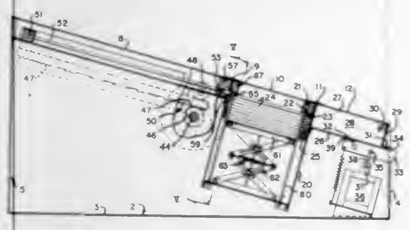
A windshield wiper arm adjustable in length in which an outer arm section is telescopically received within an inner arm portion. A pivoted spring biased latching detent mounted on the inner arm section engages notches provided on the outer arm section to retain the inner and outer arm sections in their adjusted position. The spring for biasing the latch also serves as the biasing spring to urge the arm against the windshield.

3,405,421
WINDSCREEN WIPERS
Robert Derrick Tomlin, Hampton Hill, England, assignor to Magnatex Limited, Harlington, Middlesex, England, a British company
Filed Sept. 15, 1965, Ser. No. 487,423
Claims priority, application Great Britain, Sept. 15, 1964, 37,711/64; Nov. 30, 1964, 48,634/64
8 Claims. (Cl. 15—250.42)



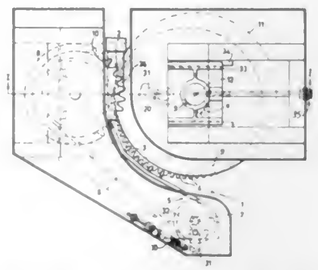
The present invention relates to windscreen wipers, particularly for wiping curved windscreens and, more particularly of the kind having a squeegee element provided with at least one flexible member which allows the element to flex to conform with the curvature of the windscreen but restrains transverse flexing thereof, said squeegee element being mounted in a pressure distributing superstructure comprising at least one yoke. In accordance with the invention, this at least one yoke is constituted by one or more substantially rigid strips arranged edgewise to the back of the squeegee and perpendicular to the windscreen. This construction prevents lifting of the squeegee element from the screen under wind pressures acting on the blade and coupled with the back pressure created between the screen and the yoke of the superstructure, specifically when the vehicle to which the windscreen wiper is attached is travelling at high speeds, thus creating such high wind pressures.

3,405,422
FOOD SKEWERING MACHINE
Carmen Sico, Indiana Township, Allegheny County, and Anthony C. Sico, Pittsburgh, Pa. (both of 4705 Liberty Ave., Pittsburgh, Pa. 15224)
Filed Jan. 10, 1966, Ser. No. 519,712
11 Claims. (Cl. 17—1)



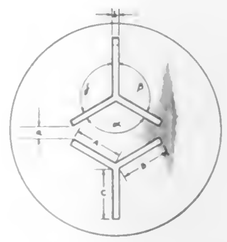
A food skewering machine has a downwardly inclined food compartment and a wall member at the upper end of the compartment provided with a plurality of guide slots. A plurality of skewer magazines supply the guide slots with a skewer, then the skewer is engaged by a push rod to force it into food in the compartment.

3,405,423
DEVICE FOR SEVERING THE ANKLE JOINT OF A LEG OF A BIRD
Jacobus Gerardus Vertegaal, Boxmeer, Netherlands, assignor to Gebroeders Stork & Co's Apparatenfabriek N.V., Boorstraat, Amsterdam, Netherlands, a limited-liability company
Filed Dec. 6, 1965, Ser. No. 511,785
Claims priority, application Netherlands, Dec. 15, 1964, 6414616
3 Claims. (Cl. 17—11)



A poultry processing apparatus for cutting the ankle joint of a leg of a bird suspended by the foot thereof with the leg being advanced along a curved feeding path between a flexible endless belt and a recess in the periphery of a driven disc to the cutting member.

3,405,424
DEVICE AND PROCESS FOR THE MANUFACTURE OF HOLLOW SYNTHETIC FIBERS
Ulrich Imobersteg and Walter-Joachim Schulze, Chur, Switzerland, assignors to Inventa A.G. fur Forschung und Patentverwertung, Zurich, Switzerland
Filed Oct. 27, 1966, Ser. No. 589,979
8 Claims. (Cl. 18—8)

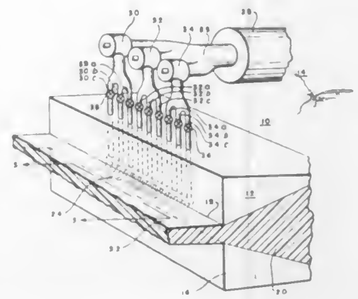


A spinneret for the manufacture of hollow synthetic fibers which has at least one bore group with at least two opposing openings which are star-shaped. Different star configurations are feasible, such as X and Y shapes whose respective slits must be at given angles and locations relative to each other and to opposing bore openings, respectively.

3,405,425
APPARATUS FOR PRODUCING PARTIALLY PIGMENTED PLASTIC SHEETS
Francis T. Buckley, Hampden, Mass., and William Hing, New Hartford, N.Y., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Sept. 18, 1964, Ser. No. 397,507
4 Claims. (Cl. 18—13)

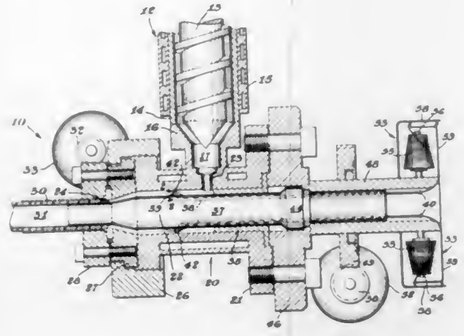
Disclosed herein is an apparatus for producing interlayers for use in laminated panels wherein the interlayer used to bond the laminate contains pigmented particles which are distributed uniformly in individual, parallel

and adjacent bands which extend longitudinally along the interlayer. The pigment concentration of these bands



are uniformly reduced between adjacent bands to provide a color gradient.

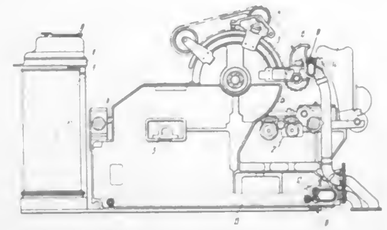
3,405,426
APPARATUS FOR THE PREPARATION OF REINFORCED TUBES
Harold Jack Donald, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Sept. 28, 1964, Ser. No. 399,653
7 Claims. (Cl. 18—13)



Oriented filament reinforced pipe is prepared by extrusion employing at least a rotating mandrel to orient the thermoplastic material. As it is extruded, cooling filaments are fed through the mandrel and helically disposed within the thermoplastic melt prior to discharge from the extruder.

3,405,427
CARD
Alexandr Sergeevich Vinogradov, Ulitsa Krasnykh Zor 400 kvart. dom, kv. 311; Jury Mikhailovich Kapustin, Ulitsa Proletarskaya 2, kv. 91; Ilya Nikolaevich Maxjutenko, Ulitsa 2 Lagernaya 50, kv. 35; Vladimir Nikolaevich Kiselnikov, Ulitsa Malaya Khutorovskaya 5, kv. 20; Igor Sergeevich Borisov, Ulitsa 2 Lagernaya 42, kv. 3; and Ivan Mikhailovich Mazalov, Sosnevo, 7 proezd 57, kv. 8, all of Ivanovo, U.S.S.R.
Filed Nov. 9, 1966, Ser. No. 593,054
4 Claims. (Cl. 19—107)

A card in which waste and flat strips are fed to respective intake members constituted by pairs of rollers rotating in opposite directions which feed the strips and waste to respective adjacent ducts connected to a shut-off mechanism which periodically opens the ducts simultaneously for the separate elimination of the flat strips and waste without their intermixing.

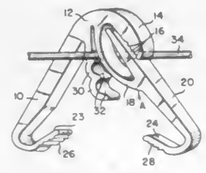


3,405,428
PROTECTIVE GUARD FOR JEWELRY
Henry A. Spalding, 662 Broadway St., Hazard, Ky. 41701
Filed May 9, 1967, Ser. No. 637,287
1 Claim. (Cl. 24—90.5)



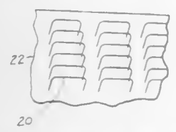
A protective guard for jewelry, particularly cufflinks, comprising a chain having a fastener on one end to be affixed to the jewelry and a snap fastener on the other end to be affixed to the jewelry by looping the chain around part of an article of apparel associated therewith.

3,405,429
FASTENING AND LOCKING DEVICE
Francisco B. Vazquez, 7815 Lewinsville Road, McLean, Va. 22101
Filed June 16, 1967, Ser. No. 646,554
15 Claims. (Cl. 24—137)



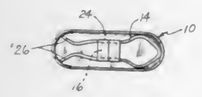
A fastening and locking device including a base member, one terminal of the base member being disposed at an angle to the main body portion of the base member and having locking notches in one face thereof, a locking member, one end of which is adapted for selective engagement with the notches of the base member, a combination spring and pivot connecting member to permit relative movement therebetween and jaws extending from the free terminals of the base and locking member, the jaws being urged against an object interposed therebetween to retain the same when the locking member is engaged in one of the base member notches.

3,405,430
CLOSURES
Abraham Sidelman, Spring Valley, N.Y., assignor to H. Goodman & Sons, Inc., New York, N.Y., a corporation of Delaware
Filed July 29, 1966, Ser. No. 568,820
9 Claims. (Cl. 24—204)



The novel two-part fastening device employs numerous upstanding hooks distributed over an area of one part of the fastening device and numerous loops, especially of monofilaments, whose sides are secured to a base member and extend for most of the length thereof laterally along but spaced from the base member so that most of the length of the strands included in the loops are favorably disposed for being hooked.

3,405,431
TURN FOR HANDBAG CLOSURE
Joseph Polon, 210 Birch Drive, New Hyde Park, N.Y. 11040
Filed Apr. 13, 1966, Ser. No. 542,254
7 Claims. (Cl. 24—221)



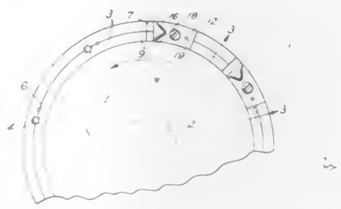
A turn such as is commonly used for securing the flap of a lady's handbag, including a knob and a shell, the knob having a locking position and a release position separated by a quarter-turn. The knob has a squared shank that is gripped between the legs of a generally hairpin-shaped spring that is confined in the shell. The extremities of the legs are confined against spreading when the turn is indexed between its locking and released positions. The spring provides firm pressure against the shank for gripping the knob securely in either its locked or leased positions, without resort to a heavy or bulky spring.

3,405,432
TUBE CLAMPING DEVICE
Angelo Scaravelli, Viale Restelli 7, Milan, Italy
Filed Mar. 15, 1967, Ser. No. 623,316
Claims priority, application Italy, May 27, 1966, 18,372
2 Claims. (Cl. 24—274)



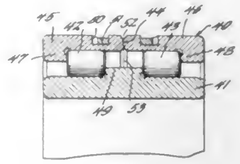
A hose clamp for clamping a flexible hose to a rigid tube. The clamping device is of the worm type and is secured to a perforated flexible band to tighten the latter about a hose. The device has a housing of arcuate configuration providing a seat for the worm having spirally arranged teeth for engaging selected perforations in an end portion of the band. This housing has a generally flat portion opposite the arcuate portion over which an end of the band passes and drawn thereagainst during tightening of the clamp. The flat portion has an outwardly turned portion disposed oppositely thereto and defining therewith a generally U-shaped cross section forming a recess to slide onto a desired end of the perforated band. This recess has teeth extending into the same from the outwardly turned portion to engage certain perforations so as to rigidly secure the housing to the selected band end.

3,405,433
ROTARY MACHINING TOOL
Thurston V. Williams, Wilton, N.H., assignor to The O.K. Tool Company, Inc., Milford, N.H., a corporation of New Hampshire
Filed Sept. 6, 1966, Ser. No. 577,430
15 Claims. (Cl. 29—105)



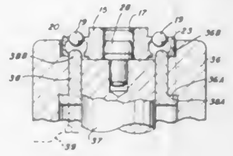
1. A rotary tool comprising
a rotary carrier with an annular groove concentric with the carrier axis,
a working element having a working portion, an opposed portion seating in said groove, and an intermediate portion,
a holder fitting in said groove and having means engaging the intermediate portion of said element,
and means for securing the holder in the groove thereby to clamp the working element therein.

3,405,434
MULTI-ROW CYLINDRICAL ROLLER BEARINGS
Walter Hoffman, Herzogenaurach, near Nurnberg, and Werner Jacob, Frankfurt am Main, Germany, assignors to Industriewerk Schaeffler O.H.G., Herzogenaurach, near Nurnberg, Germany
Application May 22, 1964, Ser. No. 369,444, now Patent No. 3,302,987, dated Feb. 7, 1967, which is a continuation-in-part of abandoned application Ser. No. 79,657, dated Dec. 30, 1960. Divided and this application Oct. 11, 1966, Ser. No. 585,865
Claims priority, application Germany, Jan. 4, 1960, I 17,483
5 Claims. (Cl. 29—148.4)



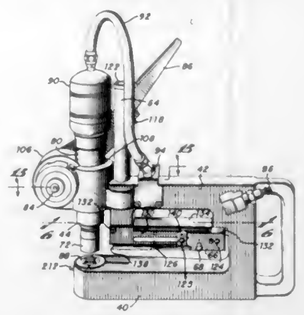
1. A method of manufacturing a multi-row cylindrical roller bearing having rollers guided between rims on raceways and one of the raceways having lateral edge rims along the rollers to be guided between the edge rims and the other raceway having a rim between adjacent rows of rollers, comprising making both raceways each in one piece, prizing the one of the raceways which has the lateral edge rims into two parts by breaking the parts apart at a weakened section extending perpendicularly to the axis of the bearing at a parting joint, placing the rollers in rows on one of the raceways with the rim between and then placing the two prized raceways together on the rollers, and finally securely clamping the two parts of the prized raceways together at the prized parting joint.

3,405,435
PROCESS FOR MAKING BEARING DEVICES
Walter S. Sutowski, 6976 Crestview Drive, Brecksville, Ohio 44141
Application Mar. 13, 1967, Ser. No. 622,719, now Patent No. 3,374,520, dated Mar. 26, 1968, which is a division of application Ser. No. 431,852, Feb. 11, 1965, now Patent No. 3,337,937, dated Aug. 29, 1967. Divided and this application Sept. 26, 1967, Ser. No. 670,722
5 Claims. (Cl. 29—148.4)

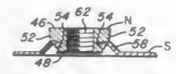


Process of assembling a ball bearing device in which the outer resilient split race member is held expanded and open against its resilient bias concentrically about the inner race member to provide an annular gap between the race members, a circle of balls are positioned in the gap and enter the opposed raceways of the race members, and the outer race member is allowed to contract about the circle of balls as the balls are positioned within the opposed raceways.

3,405,436
METHOD OF AND APPARATUS FOR SECURING FASTENER MEANS
Albert C. Koett, 2112 Glenside Ave., Cincinnati, Ohio 45212
Filed Nov. 13, 1964, Ser. No. 411,026
19 Claims. (Cl. 29—432.1)

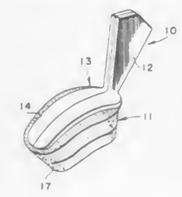


The device is a light-weight portable hand tool to be taken to a job, including forming dies arranged for driving a nut or fastener intermittently through a metallic sheet with displacement of a slug, by means of high frequency vibratory impulses which, in the same single operation, effect intermittent forming and impacting of the



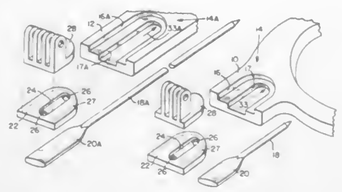
material of the sheet about and against the nut or fastener, to produce a permanent mounting thereof upon said sheet.

3,405,437
METHOD OF MAKING AN ORAL CLEANSER
Myles N. Murray, Chagrin Falls, Ohio, assignor to Industrial Electronic Rubber Company, Twinburg, Ohio
Original application Nov. 10, 1964, Ser. No. 410,075, now Patent No. 3,242,519, dated Mar. 29, 1966. Divided and this application Sept. 17, 1965, Ser. No. 488,016
5 Claims. (Cl. 29—450)



Molding a rubber holder having a handle part and a curved support extension of general H-shape in cross-section, with the ends of the web of the latter outwardly converging. Cutting a slitted resilient body of general trapezoidal shape by placing one pad of sponge material on another, compressing the pads, and forcing an outer shaping blade and a slitting blade normally through the compressed pads, so that the body blanks when released and the slits as well assume the trapezoidal form. Applying a resilient body to the holder by stretching its slit portion over the outer wall of the support extension and about the web of the same.

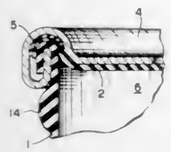
3,405,438
METHOD OF MAKING A SPECTACLE HINGE
Francis B. Neary, Rochester, N.Y., assignor to Art-Craft Optical Company, Inc., Rochester, N.Y., a corporation of New York
Filed Sept. 4, 1964, Ser. No. 394,518
18 Claims. (Cl. 29—471.9)



A method of making a spectacle hinge for either a frame or a temple member which includes (1) forming an

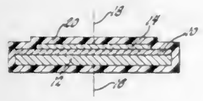
integral hinge assembly comprising an elongated reinforcing core, a flange and a hinge, (2) embedding the core axially into the frame or temple member such that the flange cuts its own channel or fits into a precut channel and then (3) overlying the flange with a portion of the surrounding plastic to lock the hinge assembly in place.

3,405,439
METHOD OF MAKING SYNTHETIC RESIN RECEPTACLES
Sozaburo Uemura, Otaru-shi, Japan, assignor to Hokkai Seikan Kabushiki Kaisha, Tokyo, Japan
Filed Dec. 16, 1963, Ser. No. 352,703
Claims priority, application Japan, Dec. 18, 1962, 37/76,000; Dec. 21, 1962, 37/78,141; Apr. 11, 1963, 38/17,774, 38/17,775
6 Claims. (Cl. 29—509)



1. A method for making synthetic resin receptacles, comprising the steps of:
(a) forming a tubular section from synthetic resin,
(b) cutting said tubular section to a predetermined length,
(c) applying pressure to the upper and lower edges of said section to form a flexible outwardly flared knife edge peripheral rib thereon at each end of the section,
(d) forming a pair of lids from synthetic resin for said section with a flexible outwardly flared knife edge lip thereon, the diameter of said lids being substantially equal to the diameter of the tubular section,
(e) positioning one of said lids on each end of said tubular section with said ribs in contacting engagement,
(f) positioning a metallic reinforcing ring atop both of said ribs, the diameter of said ring being greater than the diameter of said tubular section and extending beyond the edges of said tubular section, and
(g) bending the extending portion of said ring over both of said flexible ribs and into engagement with the exterior surface of said tubular section.

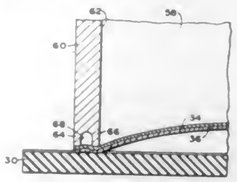
3,405,440
FERROELECTRIC MATERIAL AND METHOD OF MAKING IT
James P. Nolta, Warren, and Norman W. Schubring, Birmingham, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 26, 1963, Ser. No. 311,878
13 Claims. (Cl. 29—604)



13. The method of making a ferroelectric device which comprises forming from a ferroelectric material selected from the group consisting of potassium nitrate and sodium nitrate, a thin fused film having a thickness less than about 0.02 inch and having its ferroelectric axis at right angles to the major surface of the film, and applying electrical contacts to opposite major surfaces of said film.

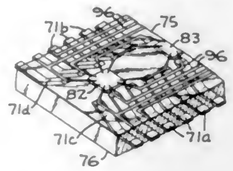
3,405,441
METHOD OF ENCLOSING AN ELECTRICAL DEVICE
John W. Asher, Elmira, and Francis W. Martin and Walter H. Tarcza, Painted Post, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Aug. 10, 1965, Ser. No. 478,690
5 Claims. (Cl. 29—627)

A method of forming a hermetic seal about a thin film microcircuit without deleteriously affecting the circuit components is disclosed. A thin flexible sheet of material having an adherent film of vitreous material on one side thereof is disposed over a flat dielectric substrate on which an electrical device is disposed. Heat and pressure are



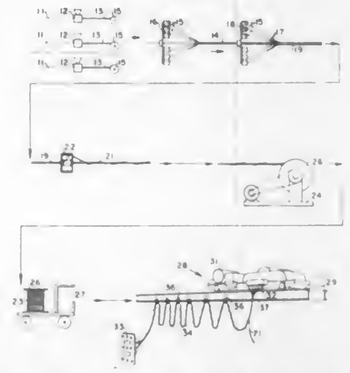
applied to the assembly about the peripheral edge of the sheet to fuse the vitreous film to the substrate, thereby hermetically enclosing the device. The resulting small sized hermetically sealed enclosure is economically and easily manufactured.

3,405,442
METHOD OF PACKAGING MICROELECTRONIC DEVICES
Edward A. Caracciolo, Santa Clara, Calif., assignor to General Micro-Electronics Inc., a corporation of Delaware
Original application Feb. 13, 1964, Ser. No. 344,741, now Patent No. 3,262,022, dated July 19, 1966. Divided and this application Feb. 18, 1966, Ser. No. 547,106
9 Claims. (Cl. 29—627)



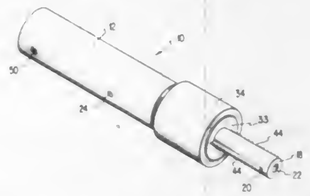
A method for packaging microelectronic devices includes the steps of disposing a bed of insulating material in a cavity of an insulating body provided with a conductor lead fixed therein and having an exposed portion in the vicinity of the cavity. The bed is united with the insulating body and an electronic device is placed in the bed and embedded therein. A mask is then placed in contact with the bed and the insulating body, which mask has an interconnecting conductor lead array pattern extending between the exposed portion of the lead and the electronic device. Electrically conductive material is deposited within the conductor lead array pattern to form a conductor lead array between the exposed portion of the lead and the electronic device. The mask is then removed to leave the above described array adherent to the exposed portion of the lead and the electronic device thereby establishing an electrical connection therebetween.

3,405,443
METHOD OF ELECTRICALLY CONNECTING MOBILE APPARATUS
Olav E. Jore and Steve Bunish, Marion, Ind., assignors to Anaconda Wire and Cable Company, a corporation of Delaware
Filed Dec. 8, 1965, Ser. No. 512,295
4 Claims. (Cl. 29—628)



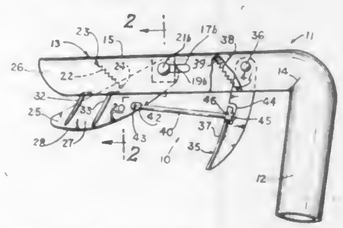
Electric cables for use on mobile apparatus such as overhead cranes, are not jacketed but are coiled and shipped with binder tapes that are removed after the cables have been installed.

3,405,444
INTERNAL RIDGING TOOL
Jerry F. Richmond, Knightdale, Jerry S. Boone, Garner, and Lawrence W. Langley, Raleigh, N.C., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Feb. 1, 1967, Ser. No. 613,198
4 Claims. (Cl. 30—106)



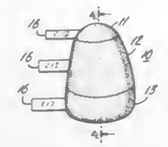
A tool for cutting ridges or grooves in the internal surface of a cylindrical bore hole.

3,405,445
CARVING KNIFE FOR A ONE-ARMED PERSON
Claude Canion, 91 Tidwell Road, Houston, Tex. 77022
Filed Aug. 22, 1967, Ser. No. 662,417
10 Claims. (Cl. 30—148)



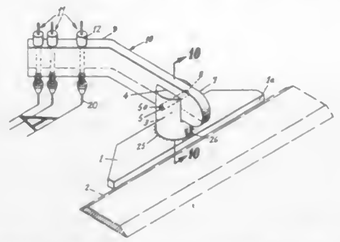
The invention relates to a knife with frame providing a handle and a support member at substantially right angles thereto. A trigger is pivotally supported adjacent the handle, and the support pivotally, slidably mounts a knife forwardly of the handle. A connection arm has its respective ends pivotally connected to trigger and knife. Fork prongs extend from the support downwardly on each side of the knife. The trigger pull is yieldably resisted by springs anchored upwardly in the support and downwardly respectively to knife and trigger. Successively the trigger can be pulled rearwardly, released, and pulled again.

3,405,446
TOOTH COLOR MATCHING APPARATUS
William Wiener, 9411 Shore Road, Brooklyn, N.Y. 11209
Filed Sept. 17, 1965, Ser. No. 488,002
8 Claims. (Cl. 32—1)



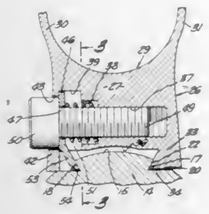
A tooth color classifying system includes a mounting web having the outline of a tooth and a pressure-sensitive adhesive face. Three series of hue elements are provided, the hue elements in each set being of the outline of a particular section of the tooth and of different hues and bearing indicia identifying the respective hue. The dentist selects a hue element from each series matching that of a corresponding section of a patient's tooth and adheres them to the mounting web to form a representation of the tooth. The assembled tooth representation may be further matched to the tooth by the use of colored panels.

3,405,447
DRAFTING INSTRUMENT
John Pfeffer, 659 Airport Road, Erlanger, Ky. 41018
Filed May 19, 1966, Ser. No. 551,258
3 Claims. (Cl. 33—41)



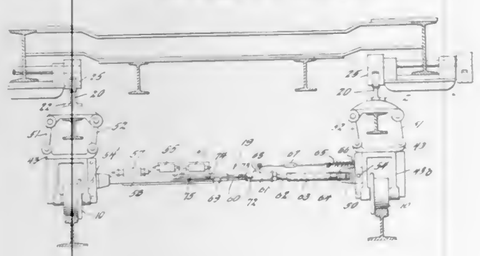
1. A drafting instrument comprising a base member having an edge adapted to slide along a stationary straight edge, a pivot member mounted for rotation on said base member, a movable arm pivotally attached adjacent one end thereof to said pivot member for swingable movement in a vertical plane, a plurality of line drawing means attached along said movable arm adjacent the other end thereof in spaced apart relation to each other, each said line drawing means comprising a stick lead, a tube surrounding said stick lead, first clamping means threadably engaging the top of said tube and clamping the periphery thereof around said lead, second clamping means threadably engaging the bottom of said tube and clamping the periphery thereof around said lead, whereby to hold said lead in a selected position of adjustment, and biasing means comprising a resilient element urging one of said clamping means toward a drawing surface.

3,405,448
DOVETAIL TYPE SCOPE MOUNT
Roy E. Weatherby, Downey, Calif., assignor to Weatherby, Inc.
Filed May 3, 1965, Ser. No. 452,818
3 Claims. (Cl. 33—50)



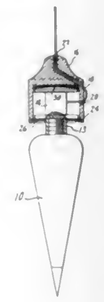
The invention is an improved mounting for telescopic sights. The mounting is in the form of one or more pillars or brackets preferably integrally secured to the telescopic sight. Each bracket or pillar has a lower part including an integral depending leg or foot part with a lip engageable with one of the grooves on the upper side of the firearm for sightmounting. The bracket on the other side has a similar appearing external configuration. An internal recess is provided just inside of the outer surface of the other side and provided in this recess is a clamping member having a lip at the lower end engageable with the opposite longitudinal groove on the firearm. The clamping member has an opening through it registering with a similar and larger opening in the adjacent depending part of the bracket. An adjusting screw is provided having a head received in the larger opening and having a shank extending through the opening in the clamping member and threaded into a transverse bore in the bracket. Positioned around the shank of the screw is a coil spring positioned in the recess in the bracket and normally urging the clamping member against the head of the screw. Thus, by adjusting the screw the clamping member can be caused to apply adjustable clamping force to clamp the bracket to the elongated grooves on the firearm the screw acting against the force of the spring in the recess.

3,405,449
RAIL TRACK GAUGE
Carl F. Kantola, Dumont, N.J., assignor to The New York Central Railroad Company, a corporation of Delaware
Filed Jan. 17, 1967, Ser. No. 609,819
11 Claims. (Cl. 33—145)



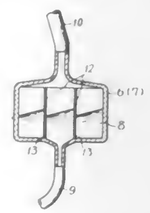
The disclosure comprises a railway track gauge particularly adapted for use on the test carriage of a rail test car. A telescoping assembly has its respective inner and outer telescoping members operatively connected to the supports for the opposite gauge wheels to measure their spacing. A spring means which is independent of the telescoping assembly urges the wheels of the test carriage against the track rails. The apparatus is constructed to provide a maximum of clearance above the track rails. Narrow and wide gauge limit signals are provided and also a remote, continuous indication of rail spacing.

3,405,450
PLUMB BOB
Reginald T. Peacock, 5561 Lower Wyandotte Road, Oroville, Calif. 95965
Filed July 18, 1966, Ser. No. 565,949
3 Claims. (Cl. 33—217)



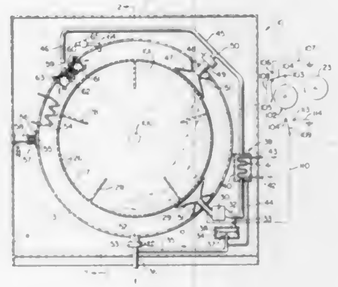
A plumb bob comprising a spool within a cap for winding the plumb line thereon. The plumb body is secured to the cap by a ring positioned under the spool. Bias means are provided between the upper surface of the spool and the cap to maintain a desired resistance to unwinding of the spool.

3,405,451
LIQUID BALLISTIC FOR GYROCOMPASSES
Michio Fukano, Yokohama-shi, and Takeshi Hojo, Tokyo, Japan, assignors to Kabushikikaisha Tokyo Keiki Seizosho (Tokyo Keiki Seizosho Co., Ltd.), Ohta-ku, Tokyo, Japan, a corporation of Japan
Filed Sept. 10, 1965, Ser. No. 486,464
Claims priority, application Japan, Sept. 14, 1964, 39/52,731
4 Claims. (Cl. 33—226)



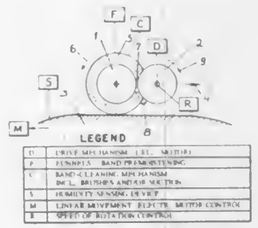
Rolling or pitching errors in gyrocompasses due to the deviation of the center of gravity of the liquid containers used in the gyrocompasses are eliminated or avoided by dividing the liquid containers into a north-south series of intercommunicating compartments. Flow of the liquid between the compartments is controlled, however, by apertures whose size is determined in accordance with design criteria based on the particular liquid used and the expected movement of the gyro.

3,405,452
LAUNDRY DRYING APPARATUS OR THE LIKE USING ELECTROSTATIC METHOD AND MEANS
Robert R. Candor, Miami Township, Ohio (5940 Munger Road, Dayton, Ohio 45459), and James T. Candor, Washington Township, Ohio (5440 Cynthia Lane, Dayton, Ohio 45429)
Continuation-in-part of application Ser. No. 532,266, Mar. 7, 1966, which is a continuation-in-part of application Ser. No. 219,587, Aug. 27, 1962. This application May 18, 1967, Ser. No. 639,354
16 Claims. (Cl. 34—1)



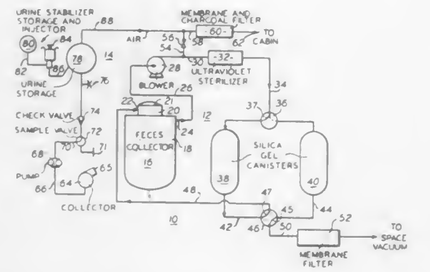
This disclosure relates to a laundry apparatus or the like wherein the moisture in the wet laundry disposed therein is removed by an electrostatic means that provides a differential in the potential of the moisture in the laundry and an electrode means for the moisture to tend to cause the moisture to leave the laundry and move toward the electrode means. Such electrode means can comprise a suction nozzle which tends to draw a large volume of air through the laundry adjacent thereto to also tend to direct the moisture from the laundry toward the electrode means.

3,405,453
METHOD AND APPARATUS FOR DRYING OBJECTS SUCH AS CARS
Gottfried Ries, Kriegsstr. 236, Karlsruhe, Germany
Filed Oct. 21, 1965, Ser. No. 499,953
22 Claims. (Cl. 34—9)



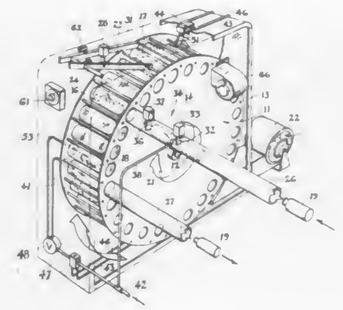
Independent portions of absorbent material follow laterally displaced, varyingly contoured parts of a wet vehicle in wiping engagement with its surfaces. The absorbent material portions are subsequently dehydrated by a squeezing roll and the removed water is prevented from spilling back onto the vehicle by a trough situated below the contact between the squeezing roll and the material

3,405,454
WASTE MANAGEMENT SYSTEM
Jack D. Zeff, Spring Valley, N.Y., assignor to Arde, Inc., Paramus, N.J., a corporation of Delaware
Filed Dec. 6, 1965, Ser. No. 511,862
23 Claims. (Cl. 34—10)



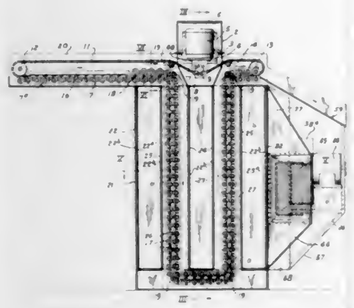
A system for the management of human waste, capable of collecting, treating and storing urine and feces under weightless conditions and consuming a minimum of power and air is described. The feces collector employs a vortex of dried air at ambient temperature to direct the feces into the storage canister and then to dehydrate the waste stored therein.

3,405,455
FLUID DRIVEN PROCESSING MACHINE
Bernard Strong, Beverly Hills, Calif., assignor to Strong Plastics Inc., Inglewood, Calif., a corporation of California
Filed July 27, 1966, Ser. No. 568,309
14 Claims. (Cl. 34—20)



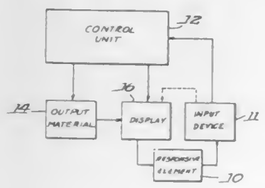
A carrier is freely rotatable on a shaft. Spaced around the circumference are sockets for receiving articles to be cooled, such as freshly molded plastic containers. A stream of cool air is directed tangentially against the articles held in the sockets, simultaneously causing the carrier to rotate, while cooling the hot articles. Means are provided for loading the containers into the sockets at one station and removing them at another station.

3,405,456
FILM DRYER
Max Alvin Shepherd, Dallas, Tex., assignor to Taylor Publishing Company, Dallas, Tex., a corporation of Texas
Filed June 16, 1967, Ser. No. 646,703
8 Claims. (Cl. 34—155)



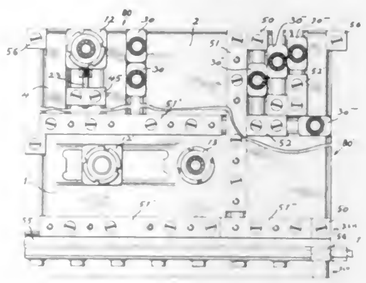
An apparatus for drying photographic film which includes a housing through which the film is moved as warm air is circulated thereover to dry same. The housing includes a plenum having vertical film conveyor passages spaced apart and connected at the lower end. Ribbed resilient rollers are rotatably disposed in parallel relationship in the film conveyor passages and are arranged to grippingly engage the film therebetween so that as the rollers rotate the film will be conveyed through the housing and deposited on the outlet side. A continuous air flow circuit is provided in the housing and the plenum to circulate heated air about the film as it is passed therethrough. The film conveyor rollers have spaced annular ribs thereon, and the ribs on opposed parallel conveyor rollers are spaced longitudinally and slightly overlap so as to grippingly engage the film passed therebetween, to allow circulation of air between the ribs and to contact both surfaces of the film. The conveyor rollers are rotated by a continuous chain passing through the conveyor passages which chain engages sprockets on the conveyor rollers to rotate same.

3,405,457
VERSATILE DISPLAY TEACHING SYSTEM
Donald L. Bitzer, Urbana, Ill., assignor to University of Illinois Foundation, Urbana, Ill., a corporation of Illinois
Filed Oct. 23, 1965, Ser. No. 502,887
16 Claims. (Cl. 35—9)



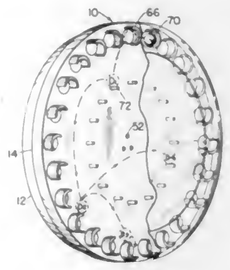
A flexible computer controlled display system for displaying various material, such as teaching information, to a display station or a group of such stations. When used for teaching a plurality of students, in accordance with a predetermined teaching logic, each student is individually processed through the teaching material at his own pace with a high degree of cooperation between the students and the computer control. Provision is also made in the system for varying the teaching logic.

3,405,458
BUILDING SETS
Mark Christopher Sylwan, 7 Domargrand, Hagersten, Sweden
Filed Aug. 24, 1965, Ser. No. 482,191
Claims priority, application Sweden, Aug. 31, 1964, 10,442/64; June 11, 1965, 7,680/65
10 Claims. (Cl. 35—16)



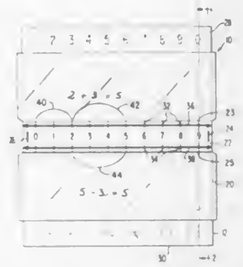
This invention relates to a mechanical component system for building structures mainly for performing mechanical processes, even if structures as afforded by the invention may also be employed for arranging stationary parts of different kinds.

3,405,459
ANIMATED EDUCATIONAL AND AMUSEMENT DEVICE
Paul Belokin, Jr., Berwyn, Ill., assignor to Schenley Industries, Incorporated, New York, N.Y., a corporation of Delaware
Filed May 6, 1966, Ser. No. 548,235
13 Claims. (Cl. 35—31)



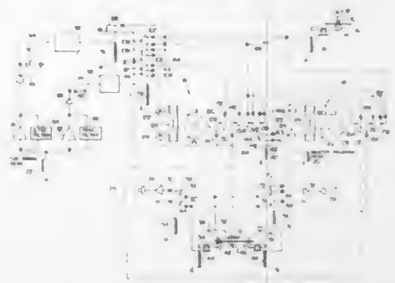
An animated device having a disc rotating in a vertical plane within a housing, said disc having a plurality of indicia-bearing receptacles affixed to and spaced circumferentially around the periphery of one side of said disc and a plurality of spaced pins disposed between said receptacles and the center of rotation of said disc and extending therefrom. Each of said receptacles, while disposed substantially between the bottom and top of the arc of rotation thereof, is adapted to receive a free generally spherical resilient play-piece, carry said play piece upwardly, and release said play-piece in free-fall through said labyrinth at about the top of the arc of rotation.

3,405,460
MATHEMATICS TEACHING DEVICE
Sylvia Michaelson, 3402 Glen Ave., Baltimore, Md. 21215
Continuation-in-part of application Ser. No. 529,708, Feb. 24, 1966. This application May 17, 1966, Ser. No. 560,028
7 Claims. (Cl. 35—31)



A mathematics teaching device includes a number-line separating a pair of erasable surfaces, which are of the "Magic Slate" type. Sheets of the "Magic Slate" are individually pivotable at will about edges of the number-line. Different number-lines can be inserted at will by providing a transparent sleeve. A pair of devices are pivoted together, according to one embodiment.

3,405,461
RECORDING-PLAYBACK SYSTEM AND CONTROL THEREFOR
David L. Joslow, Chester, Conn., assignor to Chester Electronic Laboratories, Inc., Chester, Conn., a corporation of Connecticut
Filed Nov. 26, 1965, Ser. No. 509,947
13 Claims. (Cl. 35—35)



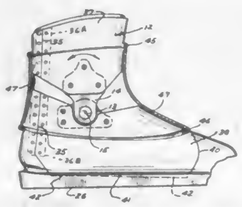
In an audio-teaching system or the like a student recorder is controlled by cue signals recorded, along with master program segments, on a master record played on a master recorder which may be used to simultaneously feed and control a number of student recorders and associated equipment. In one (testing) mode of operation the master program segments are separated by gaps filled with continuous cue signals, and the master recorder runs continuously. When a cue signal is reached the student recorder is turned on to record the student's response to the preceding program segment, and when this cue signal ends the student recorder is turned off and remains off during the playing of the following program segment. In another (record-review) mode of operation the master program segments are also separated by gaps filled with continuous cue signals. When a cue signal is reached, the student recorder is turned on to record the student's response to the preceding program segment, and when the cue signal ends the master recorder is stopped and the student recorder is then returned, through the action of a timer, to the beginning of the response period and the response is replayed before the master recorder is restarted to play the following program segment.

3,405,462
DISPLAY DEVICE
George M. Belva and Richard F. Kilburn, Vestal, N.Y., and Anibal J. da Silva, Houston, Tex., assignors to General Precision Systems Inc., a corporation of Delaware
Filed June 21, 1966, Ser. No. 559,167
1 Claim. (Cl. 35—46)



It is often necessary to support a sphere for controlled movement so that any selected point on its surface can be brought to a prescribed location. In the past, the spheres have been supported for rotation by external frameworks which obscured some portions of the spherical surface and which obliterated other portions. In the device of this invention a sphere is supported on wheels which can be driven to frictionally drive the sphere. Control of the direction of rotation is achieved in one embodiment by the use of a caged weight which tends to maintain the rotation along a particular circumference. The sphere is rotatively driven along a horizontal axis by the wheels and is rotated about a vertical axis by the rotation of the supporting platform. In a second embodiment, the sphere is frictionally driven in rotation by a pair of supporting wheels and the direction of rotation is determined by a controllable steering wheel upon which the sphere rests.

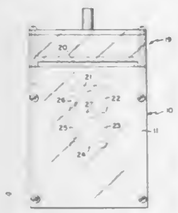
3,405,463
SKI BOOT HAVING A HINGED DOOR
Frank D. Werner, Bloomington, Minn., assignor to Rosemount Engineering Company, Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 8, 1965, Ser. No. 494,432
4 Claims. (Cl. 36—2.5)



A ski boot made of a substantially rigid material having a lower portion and a hinged ankle cuff portion with an access door comprising a substantial side portion of the lower part of the boot and a section of the ankle cuff portion wherein the door is attached to the main part of the

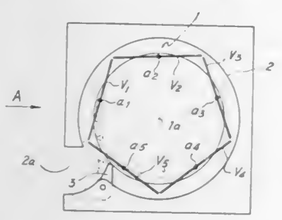
boot with a hinge that has an axis extending in upright direction, and which has a section on the cuff and a section on the lower part of the boot.

3,405,464
DISPLAY DEVICE
Anton K. Simson, Glenolden, Pa., assignor to John P. Glass, trading as Cava Industries, Essington, Pa.
Filed May 17, 1966, Ser. No. 550,853
9 Claims. (Cl. 40—28)



A display device including a body having a light transmitting display member, and a plurality of individual passages in the body with each of the passages having a display portion, each of the passages being formed in the shape of a manometer column containing colored fluid with one end of each passage being connected to a reservoir for the colored fluid, with the reservoir of a passage being elevated from the display portion of that passage. The display portions are arranged in three levels, and a separate reservoir is provided for each level.

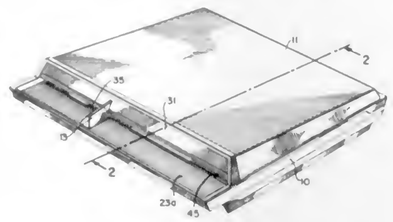
3,405,465
DISPLAY DEVICES
Edouard Victor Dietsch, Paris, France, assignor to Societe Anonyme des Etablissements Leon Hatot, Paris, France, a company of France
Filed Mar. 4, 1966, Ser. No. 531,694
Claims priority, application France, Mar. 9, 1965, 8,473
3 Claims. (Cl. 40—68)



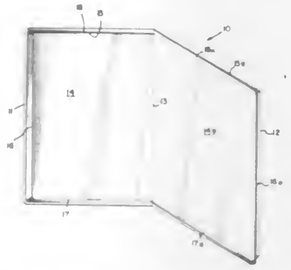
Device comprises a drum rotatable on a central axis and defined by a plurality of display elements each being rotatable about an axis parallel to central axis. Each display element has plurality of display-bearing faces, and each element is rotated during each full rotation of drum to bring new faces into view. Second drum arranged beside first, and two drums are mounted on mutually coaxial shafts. Shafts rotated in stepwise fashion, one being rotated one step for each whole number of complete revolutions of the other.

3,405,466
DESK INDEXING DEVICE
Richard McFadyen, Essex Fells, and James H. Giltzow, Roseland, N.J., assignors to Ketcham & McDougall, Inc., Roseland, N.J., a corporation of New Jersey
Filed Aug. 18, 1966, Ser. No. 573,391
3 Claims. (Cl. 40—104)

A desk indexing device for displaying a set of cards having a depressible latching member on the lower housing section. A magnet is located at each end of the depressible latching member and the indexing lever is located therebetween.

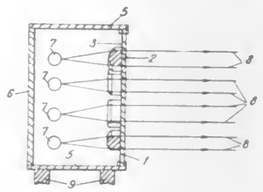


3,405,467
POSTCARD
Hart Preston, Amenonville, Rond Point, Duboys d'Angiers, Cannes, France, and Harold Barnett, 1 Blvd. Beaumarchais, Paris 4, France
Continuation of application Ser. No. 475,407, July 28, 1965. This application Nov. 16, 1967, Ser. No. 684,070
7 Claims. (Cl. 40—124.1)



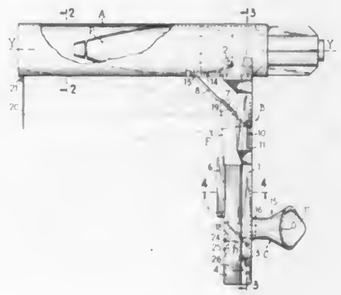
A card is made of two similar sections connected by an integrally formed hinge with each section having a generally dish-like configuration whereby in its unfolded state the card may be used as a greeting card and when closed, the device is usable as mailing piece and container.

3,405,468
SIGNS
Donald Arthur Richardson, St. Helens, and John Robert Waters, Ormskirk, England, assignors to Pilkington Brothers Limited, Liverpool, England, a corporation of Great Britain
Filed Mar. 28, 1966, Ser. No. 537,955
Claims priority, application Great Britain, Mar. 30, 1965, 13,515/65
7 Claims. (Cl. 40—130)



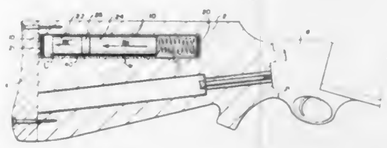
An illuminated warning sign providing a controlled bright and clear pattern of light-delineating areas formed by an illuminating means individual to each of a plurality of plano-convex lenses.

3,405,469
COLUMN-MOUNTED PORTABLE FIREARM FOR A PROJECTILE
Marcel Francois, Chatenay-Malabry, France, assignor to Compagnie Francaise Thomson Houston-Hotchkiss Brandt, Paris, France, a French body corporate
Filed Dec. 9, 1966, Ser. No. 600,414
Claims priority, application France, Dec. 15, 1965, 42,325
5 Claims. (Cl. 42—1)



A portable firearm for launching a projectile in which the launching tube has a throughway passageway defining the bore for the projectile so that the tube has substantially no recoil, the tube being pivoted to the upper end of a column so as to be capable of being folded substantially alongside the column for storage and transportation, the firearm including a periscope sight and grip means at the lower part of the column.

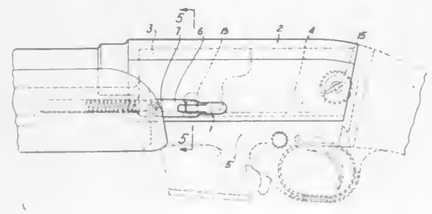
3,405,470
PNEUMATIC RECOIL BUFFER ATTACHMENT FOR A FIREARM
Fred Wesemann, P.O. Box 1066, Sterling, Colo. 80751
Filed Aug. 7, 1967, Ser. No. 663,187
5 Claims. (Cl. 42—74)



A pneumatic recoil buffer attachment for a firearm which comprises an air-tight, cylindrical, elongated tube unit, having one or more slidable pistons therein. The pistons are adapted to be slidably moved by the force of the weapons' recoil against a cushion of compressed air in the cylinder, thereby counteracting or absorbing the sudden shock of the recoil.

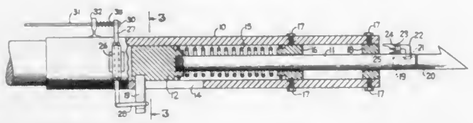
3,405,471
FIREARM HAVING DISCONNECTABLE SECTIONS
Josef Koucky and Frantisek Koucky, Prague, Czechoslovakia, assignors to Zavody Jana Svermy, narodni podnik, Brno, Czechoslovakia, a corporation
Filed May 23, 1967, Ser. No. 640,699
Claims priority, application Czechoslovakia, May 24, 1966, 3,486/66
3 Claims. (Cl. 42—75)

A firearm which has a forward barrel and receiver section and a rear trigger and stock section which are capable of being removably connected to each other. The forward barrel and receiver section has a rear receivar housing in which a breech bolt assembly is movably located. A side wall of the receiver housing is formed with an opening which is aligned with a recess which is formed in a side surface of the breech bolt assembly, and a catch lever is rockably supported by an exterior side surface of the receiver housing and has a catch projection which extends through the opening in the side wall of the receiver housing into the recess of the breech bolt assembly to maintain the latter assembled with the receiver when the sections of the firearm are disconnected from each other. A spring urges the lever to turn in a direction which displaces its catch lug into the recess of the breech bolt assembly, and the rockable lever has, when the sections are disconnected,



an elongated arm extending angularly from an exterior side surface of the receiver housing. The operator can at any time press this elongated arm of the lever to displace the catch lug out of the recess of the breech bolt assembly so that the breech bolt assembly can be disassembled from the receiver housing whenever desired. The trigger and stock assembly has a forward trigger portion which when it is assembled with the barrel and receiver section engages the lever and displaces it in opposition to the spring to a position where its catch lug is situated out of the recess of the breech bolt assembly so that the latter is free to move with respect to the receiver housing in which it is located.

3,405,472
SELF-PROPELLED FISHING GIG
Bernard Guidry, 2927 Ruby Drive, Groves, Tex. 77619
Filed Feb. 8, 1965, Ser. No. 430,916
2 Claims. (Cl. 43—6)

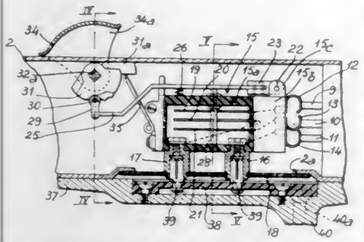


A hollow elongated member partly housing a spring loaded mechanism which includes a shaft extending outward through one end of the member and a barbed end removably secured to the outer end of the shaft. The elongated member having an elongated opening for slidable receiving an arm secured to the spring loaded mechanism. A trigger mechanism secured to the outside of the elongated member is provided with a pivotally connected straight portion and bent end portions for holding and releasing the arm.

3,405,473
FISHING RODS
Louis Henri Armand Boussageon, Le Pereol, Boite Postale No. 3, Chabeuil, Drome, France
Filed Jan. 11, 1965, Ser. No. 424,761
Claims priority, application France, Feb. 3, 1964, 661; Mar. 9, 1964, 663
8 Claims. (Cl. 43—21)

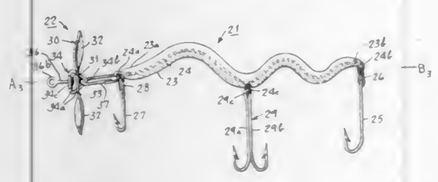
A fishing rod having an electric driving motor; an

electric cell with two end terminals and an intermediate terminal; and a two-way, cam operated switch to connect



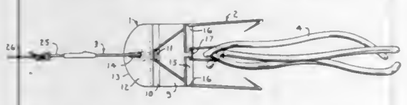
the motor either across the two end terminals of the cell or across one end terminal and the intermediate terminal.

3,405,474
FISH LURE AND ACTUATOR
Robert B. Lewis, R.D. 1, Sussex, N.J. 07461
Filed Dec. 10, 1965, Ser. No. 513,027
4 Claims. (Cl. 43—26.2)



An actuator mechanism for driving a fish lure involving a propeller blade which is slotted and through which a link passes which turns with the blade. One end of the link is adapted to be attached to the lure and the other end of the link is adapted to be attached to a swivel connection.

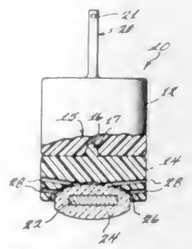
3,405,475
FISH LURE
Stephen A. Ross, 3920 Indiana, Fort Wayne, Ind. 46807
Filed Sept. 1, 1965, Ser. No. 484,288
15 Claims. (Cl. 43—42.08)



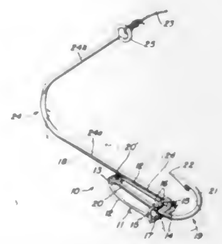
A fish lure formed substantially of channel shape and adapted for disposition transverse to the direction of movement in water, comprising a bottom portion, an upturned front wall provided with a forward extension, and an upturned rear wall, the front wall and the forward extension each being provided with an aperture, the rear wall being provided with retaining means for a hook, and a hook having its shank engaged with the rear wall retaining means and its eye extended through the front wall aperture and positioned relative to the aperture in the forward extension to receive a line attaching device through both the eye and the aperture in the forward extension.

3,405,476
DISINTEGRATING SINKER
Joseph A. Pumilio, 1193 Albany St., Utica, N.Y. 13501
Filed July 29, 1966, Ser. No. 568,910
7 Claims. (Cl. 43—43.12)

1. An attachment for use with a fishing line comprising: a permanent part for attachment to a fishing line, said permanent part including a body and means for securing said body to a fishing line; a sinker-retaining part including a body adapted to support a sinker which is releasable upon entry of the attachment into water; mechanical means for releasably connecting together said permanent part and said sinker-retaining part, said connecting means including two cooperating coupling elements, one of which is carried by said permanent part and the other of which is carried by said sinker-retaining part; a weight carried by said sinker-retaining part; and water soluble release means connecting said weight to said sinker-retaining part for releasing said weight upon entry of the attachment into water.



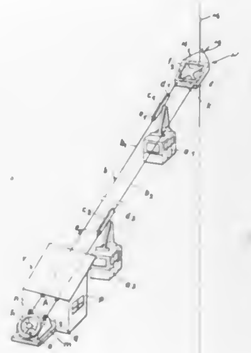
3,405,477
FISHHOOK WITH LIVE BAIT HOLDING MEANS
Theodore Polsfut, Benedict, N. Dak. 58716
Filed Apr. 26, 1966, Ser. No. 545,351
8 Claims. (Cl. 43—44.6)



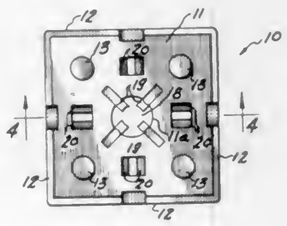
A clamp for live bait having a pair of arms joined by a coil spring which biases the arms together. The arms are angulated to cross each other and terminate in a pair of jaws normally abutting each other but which can be spread apart to allow the insertion of live bait therebetween with the jaws entering the gills of the bait, such as a minnow. Accordingly, the minnow or other bait is merely hitched to the clamp and, being uninjured, can swim along with the clamp attached. One end of the shank of a movable fishhook is operatively fastened to the coil spring and the barbed hook assumes an unobstructed position close to but in front of the jaws. A V-shaped rod provides for attachment of the line and one limb thereof is juxtaposed and joined to one of the arms of the clamp.

3,405,478
TOY CABLE CAR DEVICE
Wolfgang Richter, Nurnberg, Germany, assignor to Ernst Paul Lehmann, Patentwerk, Nurnberg, Germany, a firm of Germany
Filed Sept. 22, 1965, Ser. No. 489,203
Claims priority, application Germany, Mar. 5, 1965, R 30,171
13 Claims. (Cl. 46—1)

There is disclosed a cable car game in which two cars travel alternately between a valley station and a mountain station. Each car is suspended by means of a carrier from a stretched rope which also serves as pull rope for the respective car. Guidance of the ropes for the cars is effected by pulleys at the valley station and the mountain station. The axes of the pulleys are slanted to effect a corresponding slant of the ropes supporting the cars and the driving force is applied to the pulley at the valley station.



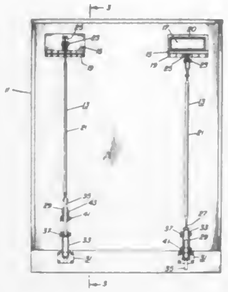
3,405,479
TOY BUILDING BLOCK
Nils I. Paulson, Chicago, Ill., assignor to Playskool Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Apr. 1, 1966, Ser. No. 545,786
11 Claims. (Cl. 46—25)



1. In a toy building block, the combination which comprises a main body portion, a plurality of engaging elements extending outwardly from a first face of said main body portion, a plurality of element receiving formations on said main body portion and adapted to receive and releasably engage the elements from another building block to secure the blocks together, and means including at least one socket intermediate said element receiving formations for supporting at least one shaft in desired angular relationship with the main body portion.

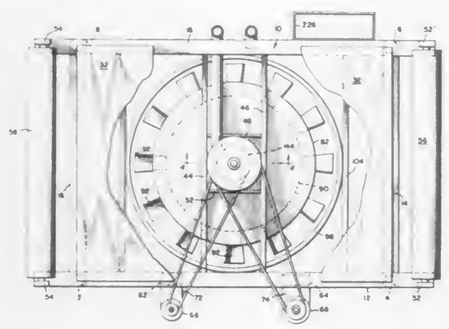
3,405,480
VAN VENTILATING DOOR
Robert L. Herrell, 1709 Frankfort St., San Diego, Calif. 92110
Filed Aug. 1, 1966, Ser. No. 569,195
1 Claim. (Cl. 49—293)

A van having a door opening near the top of the van and a hinged door for the opening. A connecting rod is connected to the door. A handle is connected to the rod for manipulating the latter. A locking pin is biased to hold the handle in locked position, but can be released.



The axis of the handle is parallel with the axis of the door hinge.

3,405,481
SURFACE MODIFICATION APPARATUS
James E. Harper, Rosecroft Park, Md. (6040 Haverhill St., Oxon Hill, Md. 20022)
Filed June 22, 1966, Ser. No. 559,493
11 Claims. (Cl. 51—9)

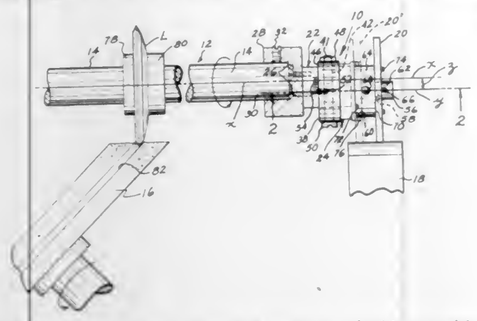


The device is designed to produce uniform matte finishes on materials, primarily sheet metal, in a continuous process and comprises a novel abrasive feeding and application arrangement formed of a co-axial slowly rotating flat diffuser disc and a multi-bladed impeller disposed in vertically spaced planes, the impeller blades being angled downwardly and also having a pitch angle designed to cooperate with a surrounding blast ring to sweep abrasive across the surface of the material being treated to produce a uniform matte finish on the surface.

3,405,482
PATTERN HOLDER FOR EDGING MACHINES
Milo O. Brandt, Sturbridge, Mass., assignor, by mesne assignments, to American Optical Company, Southbridge, Mass., a corporation of Delaware
Filed Nov. 24, 1965, Ser. No. 509,592
5 Claims. (Cl. 51—101)

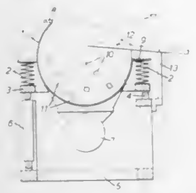
The combination in a lens edge grinding machine of a lens holding arbor having a pattern holder at one of its ends. The pattern holder is adjustable to settings of geometrical concentricity and eccentricity with the axis of the arbor for effecting desired amounts of displacement

of the geometrical center from the optical center of lenses ground by the machine when the lenses are held



by the arbor with one of said centers in coincidence with the axis of said arbor.

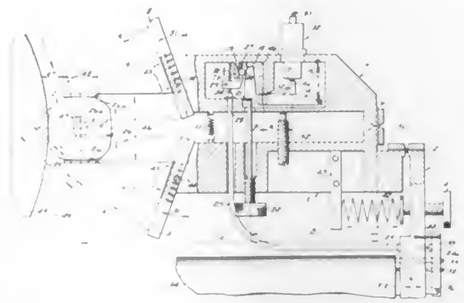
3,405,483
VIBRATORY FINISHING MACHINE WITH SCREEN DISCHARGE
Frederick George Boniface, Hemel Hempstead, England, assignor to Roto-Finish Limited
Filed Sept. 14, 1966, Ser. No. 579,339
Claims priority, application Great Britain, Sept. 15, 1965, 39,486/65
5 Claims. (Cl. 51—163)



1. A finishing machine comprising a stationary frame, a tilting frame supported on said stationary frame for upward and downward movement about a horizontal pivot axis between a lowered position and a raised position, an open-topped tub for receiving a mixture of parts to be finished and finishing media, said tub being supported for vibration on said tilting frame in a position to one side of said pivot axis, a rotary vibrator secured to said tub and adapted to subject said tub and its contents to vibration to cause finishing of said parts and circulation of said mixture about a horizontal axis parallel to said pivot axis, and a separating screen having openings of a size to permit passage of said media but not of said parts to be finished, said screen being fixedly supported on said stationary frame in a position extending from above said pivot axis to within the open top of said tub, said screen extending into the path of the mixture circulating in the tub when said tilting frame is in its raised position and said screen being clear of said mixture when said tilting frame is in its lowered position.

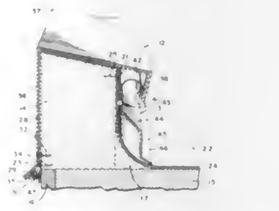
3,405,484
CONTROL APPARATUS FOR GRINDING MACHINES AND THE LIKE
Georg Koppenwallner, Stuttgart-Botnang, Germany, assignor to Fortuna-Werke Spezialmaschinenfabrik AG., Stuttgart-Bad Cannstatt, Germany
Filed Mar. 10, 1966, Ser. No. 533,323
Claims priority, application Germany, Mar. 11, 1965, F 45,480
16 Claims. (Cl. 51—165)

The operation of a machine wherein a tool rotating about an axis which travels along an elliptical path removes material from a revolving workpiece whose surface to be treated has a minimum and a maximum diameter is controlled by an apparatus which comprises a measuring unit serving to determine the extent to which



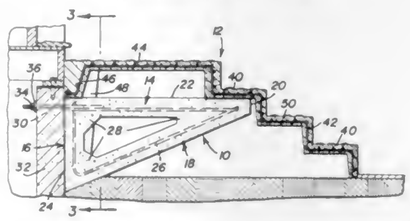
the tool removes material from the surface of the workpiece and a signal generating unit which transmits signals to the machine to terminate the removal of material when the dimensions of the workpiece approximate or equal the dimensions of a pattern.

3,405,485
FLASHING SYSTEM FOR FLAT ROOFS
Harlan H. Edwards, 900 University St., Seattle, Wash. 98101
Filed June 7, 1967, Ser. No. 644,172
9 Claims. (Cl. 52—60)



A roof flashing system for flat roofs in which the roofing material is extended over an upstanding peripheral nailer and a cap is snapped into place over devices fastened to the nailer and is provided with a counterflashing.

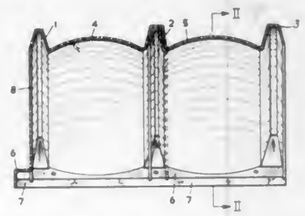
3,405,486
SUPPORT BRACKET FOR CONCRETE STRUCTURES
James R. Fagenstrom, P.O. Box 2623, Great Falls, Mont. 59401
Filed Feb. 7, 1966, Ser. No. 525,722
9 Claims. (Cl. 52—190)



A precast concrete bracket mountable directly on a building wall in a manner so as to have a horizontal leg of

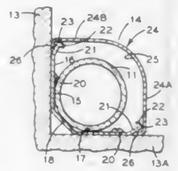
the bracket project perpendicularly outward from the wall for the support of a stair unit or the like thereon. The bracket is of a triangular configuration, including a horizontal leg directly receiving the stair unit, a vertical leg bolted to the wall, and a diagonal leg extending between the outer ends of the vertical and horizontal legs.

3,405,487
ARCHED SKYLIGHT WITH ATTACHMENT FLANGES
Dirk van de Kerke, Epe, Netherlands, assignor to N.V. W. J. van de Kerke & Zoon, Kampen, Netherlands, a Dutch corporation
Filed Jan. 20, 1966, Ser. No. 521,990
1 Claim. (Cl. 52—200)



A skylight of translucent synthetic material such as glass fiber impregnated with polyester resin consists of a plurality of juxtaposed arched elements resting on their ends and each having integral hollow ribs along their side edges that overlap the hollow ribs of adjacent elements. Between the ribs, the elements are downwardly concave in both directions. Each arch element terminates in flanges at its opposite ends with vertically downturned outer edges. The elements at opposite ends of the skylight have integral end walls that are also flanged and that extend downwardly from the end hollow ribs.

3,405,488
HOUSING FOR COVERING EXPOSED PIPE LENGTHS
Elliot S. Nelson, Westbury, N.Y., assignor to Embassy Industry, Inc., Farmingdale, N.Y., a corporation of New York
Filed July 16, 1965, Ser. No. 472,601
1 Claim. (Cl. 52—287)



1. A housing assembly for covering an exposed section of a pipe that runs along a corner portion defined by adjacent wall surfaces comprising:

a plurality of brackets connected to said corner defining wall surfaces at spaced intervals along the length of an exposed pipe extending along the corner portion defined by said adjacent wall surfaces,

each of said brackets including an angular member having a vertical leg portion, a horizontal leg portion, an inclined web portion interconnecting said vertical and horizontal leg portions at the junction thereof whereby the section of said pipe to be covered is disposed in the angle defined by said bracket leg portions.

each of said vertical and horizontal leg portions and the interconnected inclined web portion each being disposed substantially tangent to the circumference of the pipe disposed in the angle of said bracket so that the sizing of a particular bracket may be readily determined by the circumference of the pipe adapted to be cradled therein,

said vertical and horizontal leg portions each having their respective free end portions bent inwardly to define an acute angle with respect to the adjacent wall surface, said free ends of each leg portion being reversely bent to define a longitudinally extending rounded edge,

and an extended cover adapted to snap over the rounded edges of said plurality of brackets,

said cover including a member having angularly disposed leg portions adapted to shield said pipe section,

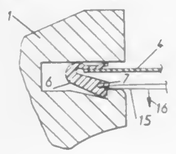
the respective leg portions of said cover having their respective free end portions inwardly bent to snap over the rounded edges of said brackets,

said brackets and cover being formed of complementary resilient material whereby said cover is frictionally snapped into positive engagement on said bracket,

said cover being coextensive in length to the length of said exposed pipe section,

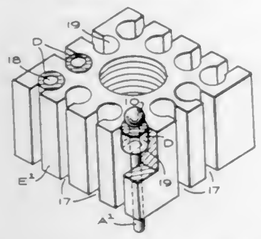
and fastening means for securing the respective vertical and horizontal leg portion of said brackets to the adjacent wall surfaces.

3,405,489
FALSE CEILINGS
Karl Per Frisk, Gamleby, Sweden, assignor to Ernst O. V. Ekman, Bjorn Brundin, and Carl O. A. Ekman, partners, trading as Licentia, Ekman & Brundin, Stockholm, Sweden, a Swedish firm
Filed Apr. 8, 1966, Ser. No. 541,239
Claims priority, application Sweden, Apr. 12, 1965, 4,744/65
1 Claim. (Cl. 52—222)



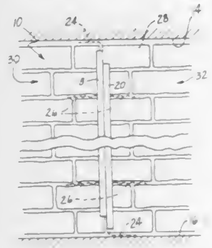
1. In a false ceiling supported from the permanent structure of a room and comprising a surrounding frame, means securing said frame to said permanent structure, a sheet of plastic foil, and coupling means adapted to hold the edges of said plastic foil to said frame with said foil stretched within said frame; the improved coupling means which comprises upper and lower wall parts of said frame defining a channel therein facing into said room, a shoulder on said lower wall part facing back into said channel, a resilient plastic border of U-shaped cross-section removably located within said channel and extending around the edge of said sheet, said U including a base, a first upper thinner flange, and a second lower thicker flange which diverges from said base toward a free edge, means securing said first flange to said edge of said sheet with said base innermost within said channel, and the free edge of said second flange engaging behind said shoulder whereby said base is held against said upper wall part and said second flange is wedged in said channel in abutment with said shoulder under the tension in said sheet, the thickness of said free edge being greater than the height of said shoulder, whereby said second flange may be disengaged from said shoulder by applying an upward force to said free edge.

3,405,490
ANCHOR STRUCTURE FOR POST-TENSIONED TENDONS
Robert R. La Marr, Redwood City, Calif. (3665 Haven Ave., Menlo Park, Calif. 94025)
Filed Jan. 10, 1967, Ser. No. 608,328
3 Claims. (Cl. 52—223)



An anchor structure for post-tensioned button headed tendons having an anchor member fashioned with at least one slot in its periphery dimensioned to receive a tendon that extends through a concrete member to reinforce the latter, the anchor member having a socket to accommodate a bushing that is slidable on the tendon, the bushing preventing accidental dislodgment of the tendon from the anchor member.

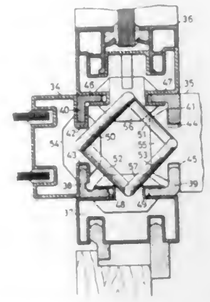
3,405,491
MASONRY WALLS AND STRENGTHENER
Thomas M. Hays, Pleasantville, N.Y., assignor to Shure Shaft Company, Pleasantville, N.Y., a partnership
Filed Apr. 12, 1967, Ser. No. 630,267
7 Claims. (Cl. 52—236)



A stiffened masonry wall construction effective for resisting frontal pressure, especially where the wall forms part of an elevator shaft in a tall building and is exposed to bursts of air-pressure produced by various patterns of multiple elevators arriving at the common level of the wall concurrently. The wall integrates two wall sections and a light-weight vertical and vertically adjustable stiffener of two back-to-back sheet-metal channels secured to the building at top and bottom of the wall. Ties extending from the webs of the channels are anchored in the wall sections received between the flanges of the back-to-back channels.

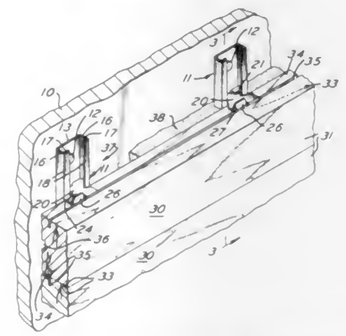
3,405,492
DISMANTLEABLE WALL ASSEMBLY
Ernst Koller, 64 Paradiesstrasse, 4102 Binningen, Basel-Land, Switzerland
Filed Mar. 11, 1966, Ser. No. 533,562
Claims priority, application Switzerland, Apr. 30, 1965, 6,037/65
1 Claim. (Cl. 52—281)

A dismantleable wall assembly composed of a plurality of separate wall elements each having two vertical sides, top edge and bottom edge with vertical ends. Continuous grooves form pockets on each side of the wall element and each groove has a base with two flanks with each flank being nearer the end of the wall element and shorter than the distance of the base of the groove from the respective side of the wall element. Also continuous connecting members are releasably held together ad-



jacent the wall elements and each connecting member comprises two limbs with one limb engaging in the groove of the wall element and the other engaging in the groove of another wall element.

3,405,493
WALL CONSTRUCTION PARTICULARLY FOR PLAYING COURTS
Ray E. Omholt, Berwyn, Pa. (% Powerlock Floors, Inc., 2028 Chancellor St., Philadelphia, Pa. 19103)
Filed Mar. 22, 1966, Ser. No. 536,321
8 Claims. (Cl. 52—480)

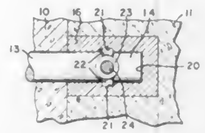


A wall construction for playing courts which comprises, attached to a supporting wall, a plurality of parallel supporting elements for a wooden lining in non-yielding engagement therewith and the spaces between the wooden lining and the supporting wall having a moisture resisting cohesive compression resisting material therein in adherent engagement with the supporting wall and in adherent and supporting engagement with the wooden lining between the supporting elements, the wooden lining preferably being parallel wooden boards, the wooden lining providing an impact receiving playing surface.

3,405,494
PRE-FAB WALL OF PRE-CAST CONCRETE CONSTRUCTION
James L. White, Bellevue, Wash., assignor of one-third interest to John W. Rumsey, Jr., Seattle, Wash.
Filed Oct. 3, 1967, Ser. No. 672,472
7 Claims. (Cl. 52—495)

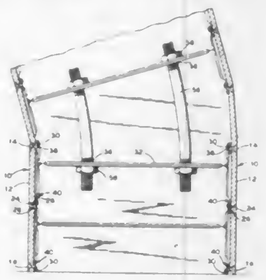
A pre-fab wall of pre-cast concrete construction comprised of interfitting posts and panels with the interfit provided by dowels extending from the posts and lodging

in pockets provided in the side edges of the panels, the dowels being locked in place by clamping set screws



insertable in the pockets and taking a purchase from slots formed in opposite walls of the pockets.

3,405,495
BUILDING WALL CONSTRUCTION WITH LATERALLY SPACED PANEL MEMBERS
Edmund C. Barbera, 55 Hillandale Road, Port Chester, N.Y. 10573
Filed Aug. 4, 1967, Ser. No. 658,533
5 Claims. (Cl. 52—562)



A building wall construction that includes a plurality of pairs of laterally spaced panel members arranged in vertically staggered and longitudinally end abutting relation. Each panel member is provided with a connector member extending along and secured to a longitudinal edge thereof. The connector members cooperate in association with spacing members to support pairs of panel members in spaced apart relation.

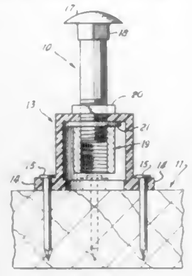
3,405,496
PANEL STRUCTURAL COMPONENTS FOR BUILDING CONSTRUCTION
Wybe J. van der Meer, Albuquerque, N. Mex., assignor to Intermountain Lumber Company, Missoula, Mont., a corporation of Montana
Filed Oct. 20, 1965, Ser. No. 498,390
4 Claims. (Cl. 52—615)



The structural building panel of the present invention comprising a first skin and a second skin orientated in spaced relation, and a plurality of separate spacers secured to and spacing said skins, said panel being characterized in that none of the spacers is a continuous load-bearing member, said skins alone taking all stresses.

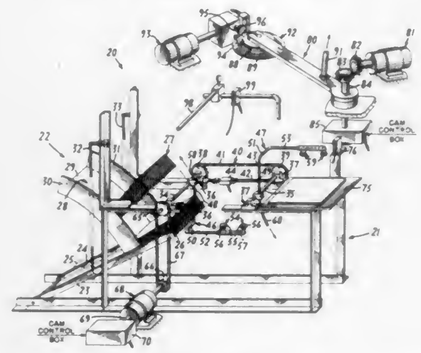
3,405,497
SUSPENSION DEVICE FOR CEILINGS AND FIXTURES
Lloyd L. McNair, Rte. 1, Box 278, De Soto, Tex. 75115
Filed Aug. 8, 1966, Ser. No. 570,841
2 Claims. (Cl. 52—699)

An anchor adapted to be imbedded in concrete roofs or ceilings for the suspension of false ceiling panels, or for supporting conduit, pipe, lighting fixtures, and the like, comprising a receptacle, preferably of a plastic material, open at its lower exposed end, and having a bolt concentrically thereof and extending through the closed



end of the receptacle and secured thereto by nuts, one of which comprises an internally threaded coupling, the head of the bolt providing an anchorage for the receptacle when embedded in concrete.

3,405,498
PACKAGING METHOD AND APPARATUS
William S. Bachman, Southport, Conn., assignor to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York
Filed Dec. 1, 1965, Ser. No. 510,756
21 Claims. (Cl. 53—29)

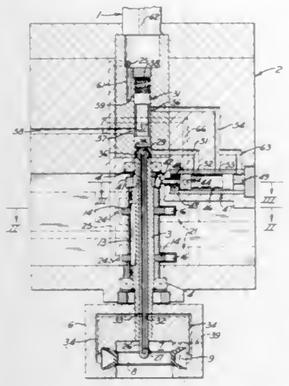


A packaging system for inserting an object into a container by releasably holding the object in a release position, feeding the container to a loading position beneath the release position, dropping the object into the container, and transferring the container containing the object from the loading position to an output station.

3,405,499
TORQUE LIMITING APPARATUS
Robert G. Dexter, Lunenburg, Mass., assignor, by mesne assignments, to Horix Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 23, 1966, Ser. No. 574,325
8 Claims. (Cl. 53—331.5)

1. Apparatus for applying a screw cap to a container, comprising a spindle rotatable about a vertical axis, a downwardly opening chuck depending from the lower end of the spindle, a gripper mounted inside the chuck, actuating means operable in response to the insertion of a cap in the chuck from below to cause the gripper to grip the cap and operable in response to angular movement of the chuck relative to the spindle to cause the gripper to release the cap, and torque limiting means operable in response to a predetermined fluid pressure

for normally holding the chuck in fixed angular relation to the spindle for screwing the cap on the container by rotation of the spindle but permitting angular movement



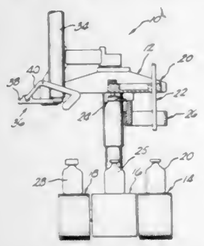
of the chuck relative to the spindle upon the application of a predetermined torque to the chuck sufficient to overcome said fluid pressure.

3,405,500

METHOD AND APPARATUS FOR FILLING LIQUIDS INTO BOTTLES AND FOR CAPPING THE SAME

Samuel J. Rupert, Ann Arbor, Mich., assignor to Hoover Ball and Bearing Company, Saline, Mich., a corporation of Michigan

Filed Oct. 24, 1966, Ser. No. 588,965
13 Claims. (Cl. 53—37)



9. A method of filling and capping bottles in sequence comprising the steps of moving an empty first bottle to a receiving station, initiating filling of said bottle at said receiving station and while said bottle is being filled, moving the same to a capping station where the filling is completed, moving an empty second bottle to the receiving station and repeating the filling cycle of the first bottle and as an incident to filling of the second bottle applying a cap at the capping station to the filled first bottle, and continuously repeating the filling and capping cycles with other empty bottles.

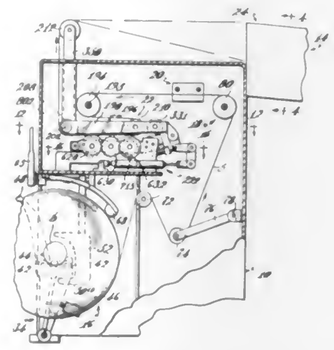
3,405,501

PACKAGING MACHINE

Alan K. Edelberg, Chelmsford, Robert B. Dunlap, Medway, and Allen C. Harriman, Brockton, Mass., assignors to International Shoe Machine Corporation, Boston, Mass., a corporation of Massachusetts

Filed May 19, 1964, Ser. No. 368,618
22 Claims. (Cl. 53—51)

22. A mechanism for forming indicia on a strip comprising: feeding means for feeding the strip through a prescribed path; an indicia forming tool positioned alongside said path; drive means actuable to cause the tool to form indicia on the strip; an adjustable counter, that comprises a coil that activates the counter in response to a predetermined number of energizations, operatively connected to the indicia forming means to actuate the drive means in response to activation of the counter; a hub operatively connected to the strip feeding means so as to rotate in unison with the operation of the strip feeding means; a



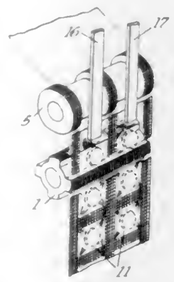
switch located adjacent the hub; at least one switch actuator mounted on the hub for momentarily actuating the switch during each revolution of the hub; and means interconnecting the switch and the counter to momentarily energize the coil each time the switch is actuated; whereby the extent of said predetermined increments is dependent on the adjustment of the counter to set the number of energizations of the coil needed to activate the counter.

3,405,502

APPARATUS FOR FORMING COMMODITY BEARING SACHETS FROM PRESSURE SENSITIVE OR HEAT SEALABLE MATERIAL

Peter Thomas Badder, Slough, England, assignor to Aspro-Nicholas Limited, London, England, a British company

Filed Aug. 7, 1964, Ser. No. 388,068
Claims priority, application Great Britain, Aug. 13, 1963, 31,957
12 Claims. (Cl. 53—51)



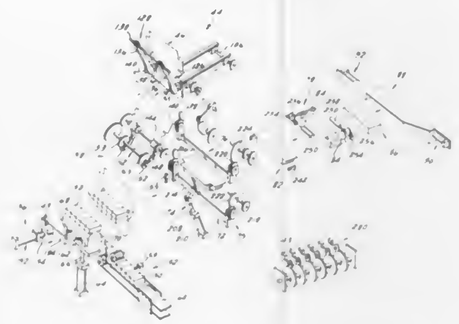
A machine for producing packages from thermoplastic film which continually feeds the film in web form through margin crimp rolls to form a tube and hence through transverse crimp rolls which divide the tube into a series of closed pockets, each containing a commodity previously fed in through a feed tube, the transverse crimp rolls being driven by constant speed drive and the margin crimp rolls having a variable speed drive in parallel with the drive to the transverse crimp rollers for print registration control purposes.

3,405,503

CARTONER

Adrian C. Mizelle and Robert D. Gillespie, Petersburg, Va., assignors to Brown and Williamson Tobacco Corporation, Louisville, Ky., a corporation of Delaware

Filed Dec. 8, 1965, Ser. No. 512,382
13 Claims. (Cl. 53—53)



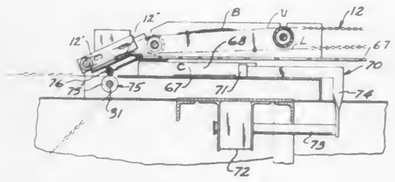
A cartoning machine is provided for enclosing two rows of five packages of cigarettes each in a carton blank. A hopper on the machine chassis supports a plurality of substantially flat carton blanks in stacked relationship. A blank feeder serves to feed one blank at a time from the hopper to a location at which packages of cigarettes are adapted to be assembled therewith. A support is provided at this location for supporting the blank until the selected number of packages are collected for assembly therewith. A feeding mechanism for wrapped cigarette packages serves to collect the selected number of packages for assembly with the blank. An elevator operates to arrange the packages in superimposed rows at an elevated position; and a support cooperates in supporting the elevated rows of packages. A plunger mechanism moves the top two rows of the packages into engagement with the supported carton blank; and moves the blank and two rows of packages horizontally to a first station at which the blank is partially enclosed about the packages. A folding mechanism cooperates with the blank moving from the initial assembly location to the first station such that the blank has a leading panel over the forward end of the two rows of packages and top and bottom panels over the respective top face of the top row and the bottom face of the bottom row together with bottom end flaps over part of the ends of the two rows. At the first station, the blank will have extending trailing top and bottom flaps and top end flaps. A pasting means is so located as to apply a pattern of paste to one of the trailing flaps prior to the folding of these flaps. A flap-folding means serves to fold these trailing flaps with the pattern of paste therebetween. This folding mechanism includes a pair of vertically reciprocal folding plates shiftable in a linear path away from the extending trailing flaps into engagement therewith to fold the flaps upon one another. These plates are adapted to remain in engagement with the folded flaps until another carton blank with partially enclosed packages are moved by the plunger from the initial assembly location to the first station. When this occurs, the plates are reciprocated away from the folded trailing flaps to permit the flaps to be engaged directly by the leading panel of the subsequent blank. The end flaps then have paste applied thereto following which a folding mechanism completes the folding of the carton by securing the end flaps to one another. The blanks and enclosed packages are directed along a substantially linear path from the initial assembly location to the discharge end of the cartoning machine.

3,405,504

TRANSFERRING SYSTEM

Robert H. Marshall, Hinsdale, and Bernard T. Hensgen, Highland Park, Ill., assignors to Chemetron Corporation, Chicago, Ill., a corporation of Delaware

Filed Oct. 21, 1965, Ser. No. 499,966
13 Claims. (Cl. 53—74)



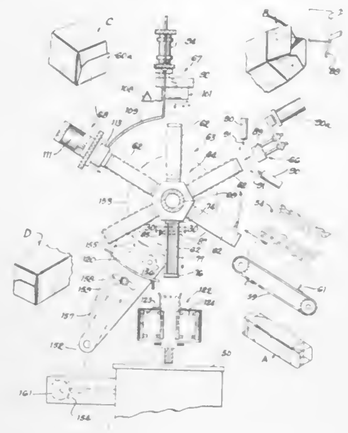
Apparatus having adjacent conveyors for moving individual units of product, a magazine for containing a supply of cards, and a card feeder positioned to move a card below each unit of product being transferred between conveyors.

3,405,505

MACHINE FOR AUTOMATICALLY FORMING, FILLING, CLOSING AND SEALING CARTONS

Robert J. Mistarz, Northbrook, Ill., assignor to Illinois Creamery Supply Co., Chicago, Ill., a corporation of Illinois

Filed Nov. 9, 1964, Ser. No. 409,911
9 Claims. (Cl. 53—183)



3. A machine for forming cartons of paperboard or the like from blanks having a thermoplastic moisture-proof coating on their inner and outer surfaces and score lines therein defining top and bottom closure parts, said machine comprising in combination a magazine adapted to hold a supply of said blanks, a mandrel assembly rotatably driven with a step by step indexing motion, means for feeding blanks successively from said magazine to said mandrel assembly and for erecting said blanks into open ended tubular form as an incident to such feeding, means defining a plurality of stations with which said mandrel assembly is adapted to register for breaking the folds of the bottom closure parts, heating the same for activating the thermoplastic thereon and closing and sealing said bottom closure parts, conveyor means comprising a pair of endless chain assemblies arranged in spaced

parallel relation, said chain assemblies being adjustable laterally to accommodate cartons of different base sizes between the inner reaches of said assemblies, means for stripping cartons successively from said mandrel assembly in upright position and transferring said cartons to said conveyer means, said conveyer means being adapted for moving said blanks as partially formed cartons linearly with a step by step indexing motion successively into registration with top breaker means, filler means, heating means for heating the top closure parts of the carton blanks to adhesively activate the thermoplastic coating and top closure means, and delivery means for discharging the filled and sealed cartons from the machine.

3,405,506
PROTECTIVE DEVICE FOR THE LEG OF A HORSE
Robert E. Kostur, 11 Brighten Lane, Oak Brook, Ill. 60521
Filed Sept. 8, 1966, Ser. No. 577,853
5 Claims. (Cl. 54—82)



1. A protective device for the leg of a horse comprising:

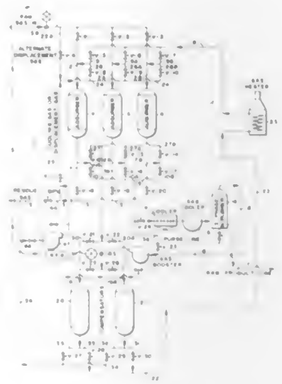
an elongated substantially U-shaped member formed of plastic having a plurality of parallel spaced-apart longitudinally extending laterally disposed ribs integrally formed thereon for absorbing and uniformly distributing external impacts, and having upper and lower outwardly extending flange portions oppositely disposed and integrally connected at each end of said U-shaped member;

resilient backing means secured to the inner surface of said U-shaped member to form a compressible inner lining for said U-shaped member, the lined U-shaped member having a plurality of apertures extending through both the plastic member and said resilient backing means for ventilation purposes; and

attaching means connected to said U-shaped member for detachably holding said U-shaped member to the sides and rear portions of the leg of a horse, said backing means conforming to the contour of said leg, said upper flange portion embracing the back portion of the knee of said leg and said lower flange portion embracing the rear portion of said leg at the fetlock.

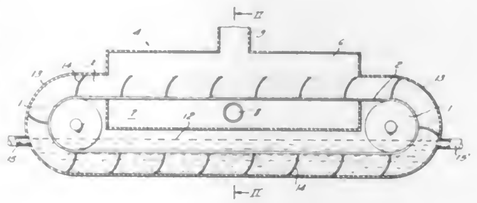
3,405,507
VOLUME COMPENSATION IN VAPOR SORPTION SYSTEMS
John R. Spencer, James H. Cheek, and Walton D. Greathouse, Houston, Tex., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Continuation-in-part of application Ser. No. 412,799, Nov. 20, 1964. This application Feb. 23, 1967, Ser. No. 618,192
46 Claims. (Cl. 55—62)

Method and apparatus for removing condensables from gases comprising three adsorber beds coupled with two volume-temperature compensators (regenerative heat exchangers). Adsorber beds are sequentially switched to a sorption, heating, and cooling circuit. Correspondingly, a volume-temperature compensator is switched into the flow path of cooling gas from the bed being cooled and a second compensator in the flow path of gas to the bed being heated. Condensing and liquid collection apparatus are included in the heating circuit to remove vaporized condensables in a heated gas flowing through the bed in the heating phase. Prior to switching the hot regenerated bed and associated compensator into the cooling circuit, the



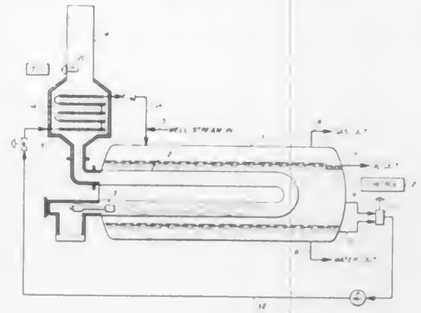
gas therein is displaced into the spent bed next to be heated. Volume-pressure variations of gas in the heating circuit are minimized. Additional apparatus and method are provided, if desired, to further accommodate volume-temperature changes in the heating circuit.

3,405,508
METHOD AND APPARATUS FOR PURIFYING GASES
Werner Peters, Wattenscheid, and Harald Juntgen, Essen-Heisingen, Germany, assignors to Firma Bergwerksverband G.m.b.H., Essen, Germany
Filed Oct. 10, 1966, Ser. No. 585,570
Claims priority, application Germany, Oct. 8, 1965, 84,027
23 Claims. (Cl. 55—73)



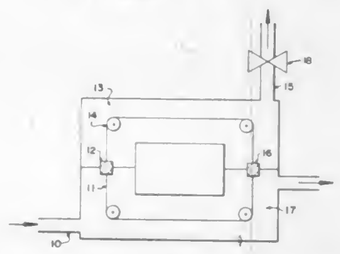
Sulfur oxides are removed from gases such as industrial waste gases by passing the gases in a contact zone through a moving layer of particulate adsorption material. The charged moving layer is introduced downstream of the contact zone into an aqueous desorption liquid to remove the adsorbed sulfur oxides. The desorption liquid dissolves the adsorbed sulfur oxides and prevents escape of free gas from the adsorption material.

3,405,509
MEANS FOR CONSERVING HEAT AND REGULATING TEMPERATURE IN A STACK
Robert W. Coggins, Tulsa, Okla., assignor to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 8, 1966, Ser. No. 592,826
6 Claims. (Cl. 55—160)



Heat normally exhausted from a firetube is recovered by employing a heat exchanger in the vent stack of the firetube to recover the heat. Selected liquid from a vessel is passed through the heat exchanger to recover the heat. Temperature control is employed to control the amount of liquid withdrawn from the vessel and passed through the heat exchanger.

3,405,510
APPARATUS FOR TRANSPORTING HYDROGEN
Michael Seal, Leonardo, N.J., assignor to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
Filed Mar. 17, 1967, Ser. No. 623,861
8 Claims. (Cl. 55—208)



This disclosure relates to a means for purifying hydrogen by use of palladium and palladium alloys. These metals are used in transportation and purification of hydrogen by virtue of their ability to absorb and desorb the gas. The pure hydrogen gases are normally obtained from a mixture of gases containing hydrogen by contacting said mixture with the palladium or palladium alloy. Absorption then takes place followed by desorption of the hydrogen into a site different from the one in which the hydrogen was initially absorbed.

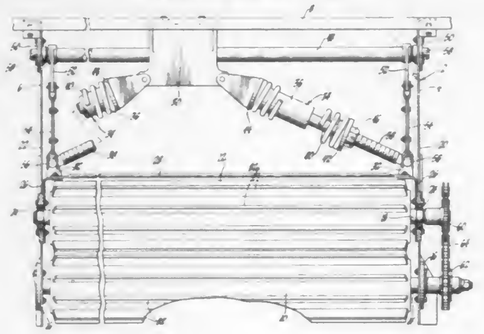
3,405,511
VANE TYPE SEPARATOR
Edmund J. Halter, Irving, and Calvin L. Chance, Leander, Tex., assignors to Burgess-Manning Company, Dallas, Tex., a corporation of Illinois
Filed May 16, 1966, Ser. No. 550,379
1 Claim. (Cl. 55—440)

A vane-type separator assembly for the inertial separation of entrained liquid particles from a stream of flowing gases comprises a stack of vane subassemblies establishing zig-zag passageways which are unobstructed and of uniform widths throughout their flow lengths, each



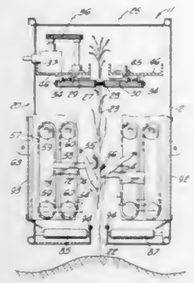
subassembly providing vertical drainage channels into which particles may pass through slots.

3,405,512
HAY CONDITIONER
Peter T. Hubenaar, Toronto, Ontario, Canada, assignor to Massey-Ferguson Industries Limited, Toronto, Ontario, Canada
Filed Oct. 1, 1965, Ser. No. 492,176
6 Claims. (Cl. 56—1)



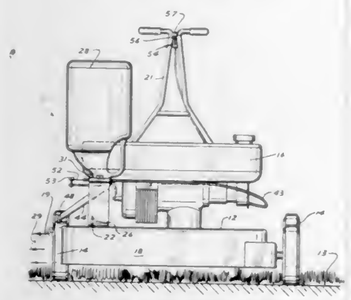
1. In a hay conditioner including a frame having a pair of spaced side members, a pair of opposed conditioning rolls rotatably mounted between the side members for relative movement toward and away from each other, means biasing the rolls toward each other, and means for constraining said rolls to remain in parallel relationship in all positions of the rolls with respect to each other characterized in that said constraining means comprises; a carrier slideably supported on and extending between said side members, one of said rolls being rotatably mounted on said carrier and the other of said rolls being supported for rotation about a fixed axis relative to said side member, a torque bar rotatably mounted between said side members, and linkage means connecting opposite ends of one of said rolls with said torque bar operative to cause said torque bar to rotate in response to relative movement between adjacent ends of said rolls and simultaneuosly move the other ends of said rolls relative to each other a corresponding distance, said linkage means comprising a pair of spaced, parallel levers fixed to and projecting radially from said torque bar, and a pair of links, each pivotally connected between one of said levers and said carrier at spaced points on said carrier.

3,405,513
CORN HARVESTER
Don Suverkrop, Bakersfield, Calif., assignor to Hopper Machine Works, Inc., Bakersfield, Calif., a corporation of California
Continuation of application Ser. No. 404,984, Oct. 19, 1964. This application July 27, 1967, Ser. No. 656,602
10 Claims. (Cl. 56—15)



A machine for harvesting ears of corn from cornstalks growing in the field employs a mobile frame having stripper bars extending in the direction of travel and movable downward in a vertical path in contact with the cornstalks to separate ears of corn from the cornstalks. A pair of endless horizontal belts on the mobile frame have parallel reaches extending in the direction of travel for clamping the upper portion of the cornstalks between them to support the cornstalks at an elevation while the stripper bars remove the ears of corn.

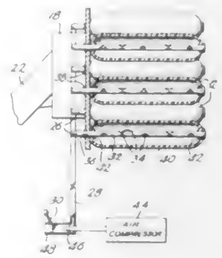
3,405,514
MATERIAL DISPENSING APPARATUS
Earl J. Pulrang, 6504 39th Ave. S., Seattle, Wash. 68118
Filed Oct. 21, 1965, Ser. No. 499,220
8 Claims. (Cl. 56—25.4)



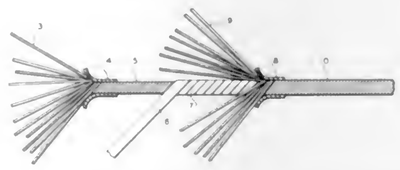
A fertilizing dispensing apparatus mounted on a rotary lawn mower. The apparatus has an upright hopper attached to a U-shaped frame mounted on the lawn mower housing. The frame carries a valve which regulate the flow of fertilizer from the hopper into a downwardly inclined discharge trough which guides the fertilizer into the air stream moving away from the lawn mower housing.

3,405,515
FRUIT HARVESTER
Theodore Dittmer, 817 Hayden Lane, Orlando, Fla. 32804
Filed May 24, 1962, Ser. No. 197,515
2 Claims. (Cl. 56—328)

1. A fruit picking apparatus comprising: a plurality of elongated rigid tubular elements each having an open end and an opposite closed end; mounting means connected to said elements near the open ends thereof for supporting said elements in fixed longitudinal relation to each other and to said mounting means and in fixed substantially parallel relation at the intersection of at least three mutually intersecting planes to define fruit receiving spaces therebetween predetermined in maximum dimensions, said spaces being unobstructed at the ends thereof adjacent the closed ends of said elements; elongated transversely expansible fingers mounted individually on said elements, each of said fingers having an annular transverse cross-section and being sealed in concentric relation about said elements to define an annular inflating chamber in each finger, said tubular elements being ported to the chambers of their respective fingers; and controlled pneumatic means connected to the open ends of said elements for corresponding inflation and deflection of the fingers, said fingers expanding into said spaces upon inflation to grasp fruit positioned therein after said mounting means has been moved to advance said elements and said fingers longitudinally into a fruit tree.



3,405,516
YARN, CORDAGE, ROPES, AND THE LIKE
Remo J. Laureti, Moorestown, N.J., assignor to Wall Industries, Inc., a corporation of Delaware
Filed Aug. 22, 1966, Ser. No. 574,039
10 Claims. (Cl. 57—144)



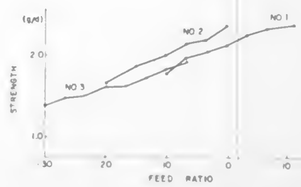
A strand is formed from both resinous polyester and propylene polymer which have been made mutually compatible by foaming and/or fibrillating the propylene polymer.

3,405,517
PRODUCTION OF CRIMPED YARNS
Meiji Anahara, Kyoto, Tadao Ezaki, Osaka, Kazumi Nakagawa, Saidaiji, Nobuhiro Tsutsui, Okayama, and Takeshi Okazaki, Nishinomiya, Japan, assignors to Japan, Exlan Company Limited, and Toyo Boseki Kabushiki Kaisha, both of Osaka, Japan
Filed June 30, 1966, Ser. No. 561,974
Claims priority, application Japan, July 1, 1965, 40/39,484
1 Claim. (Cl. 57—157)

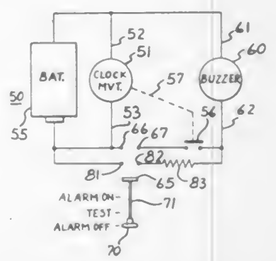
A method for manufacturing crimped acrylonitrile continuous filament yarn comprising forwarding a continuous filament acrylonitrile yarn to a false twisting apparatus, subjecting the yarn to a false twisting operation and withdrawing the yarn from the false twisting apparatus, the improvement according to which the acrylonitrile filament is treated at the feed ratio (R%) represented by the formula

$$X(\%)-35(\%)\leqq R(\%)\leqq X(\%)-20(\%)$$

wherein X is the residual shrinkage of said filament yarn in a saturated steam at 125° C.



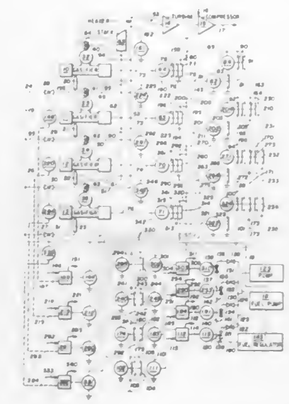
3,405,518
TEST ARRANGEMENT FOR BATTERY-POWERED ALARM CLOCKS
Alan E. Patrick and Ralph C. Robinson, Athens, Ga., assignors to General Time Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 12, 1965, Ser. No. 495,216
12 Claims. (Cl. 58—20)



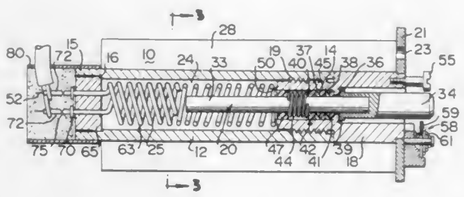
A battery operated alarm clock having an electric alarm device including an alarm circuit, a manually settable control member for enabling and disabling the alarm device, and means for closing the alarm circuit at a preset time. For the purpose of determining whether the battery has sufficient power to sound the alarm at the preset time, when the manual control member is set, an auxiliary test circuit is included with a test switch coupled to the manual control member so as to momentarily connect the alarm circuit to the battery as the manual control member is moved between its limit positions. The auxiliary circuit is preferably designed to subject the battery to a load requirement greater than that imposed by the alarm device alone to insure that the battery will have sufficient power to sound the alarm at the preset time.

3,405,519
METHOD AND SYSTEM FOR OPERATION OF A POWERPLANT
William C. Spencer and Arthur V. Barnett, Bakersfield, Calif., assignors to Mobil Oil Corporation, a corporation of New York
Filed Aug. 18, 1966, Ser. No. 573,383
9 Claims. (Cl. 60—13)

This specification discloses a method and system for operation of a powerplant having a plurality of power generators supplying a heated gas under pressure. Upon stoppage of any one of the power generators, the fuel supply to the remaining power generators is increased to increase their power output. Upon stoppage, a signal is created which operates a switch. The switch, in turn, operates valves to increase the output of a fuel pump supplying fuel to the generators. Simultaneously, the supply of fuel to the generator which stopped is discontinued. Additionally, in response to the signal, the gas from the generators remaining in operation is prevented from flowing back to the generator which has stopped.



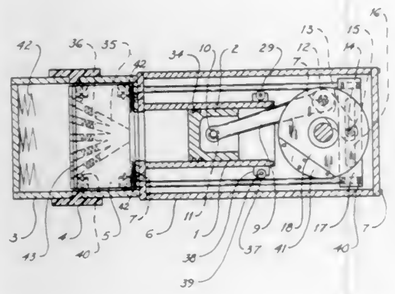
3,405,520
PRESSURE SEAL
William E. Baker, Weston, Mass., assignor to Baker Research & Development Corporation, Waltham, Mass., a corporation of Delaware
Filed Nov. 3, 1966, Ser. No. 591,800
3 Claims. (Cl. 60—23)



In an electrothermal actuator of the type wherein a reciprocable piston is moved inwardly and outwardly of a chamber in response to heating and cooling of thermally expansive material within the chamber, a multilayer seal is provided to inhibit leakage of the thermally expansive material from the chamber. The centrally disposed layer of the seal is made from an elastomeric material and the layers on either side thereof are made from materials of progressively greater rigidity. The seal is axially loaded so as to radially expand the elastomeric layer against confronting surfaces of the piston and chamber. A heater for the thermally expansible material extends into the chamber and includes an electrical heating element encased by and electrically insulated from a thermally conductive sheath, the sheath being solder sealed to the chamber at the points of extension of the heater into the chamber.

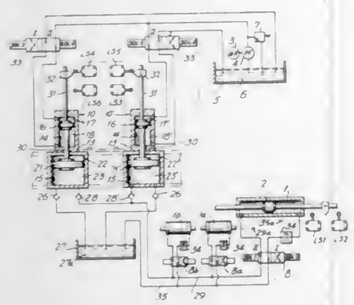
3,405,521
HIGH PRESSURE STIRLING CYCLE ENGINES
Donald A. Kelly, New York, N.Y.
(5806 69th Place, Maspeth, N.Y. 11378)
Filed Aug. 12, 1966, Ser. No. 572,130
6 Claims. (Cl. 60—24)

The invention consists of a Stirling Cycle engine having dual coaxial pistons housed in separate in-line cylinders. The box-type displacer piston may be of variable size and provided with multiple ball bearings for low friction operation. The box displacer piston is fabricated with multiple sloped regeneration bores which are fitted with



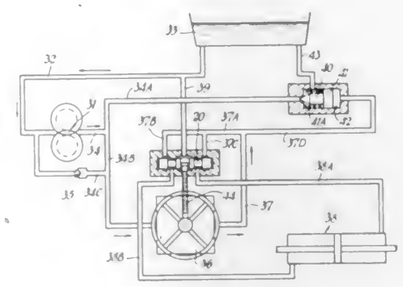
fine mesh filament. The displacer housing is constructed in three separate sections for thermal isolation and internally provided with multiple bellows-like metal strips for thermal saturation.

3,405,522
HYDRAULIC MOTOR CONTROL CIRCUIT
Tamaki Tomita, Okazaki, Japan, assignor to Toyoda Machine Works Ltd., Aichi Prefecture, Japan
Filed Nov. 23, 1965, Ser. No. 509,393
Claims priority, application Japan, Nov. 25, 1964, 39/66,335; Aug. 9, 1965, 40/48,349
6 Claims. (Cl. 60—52)



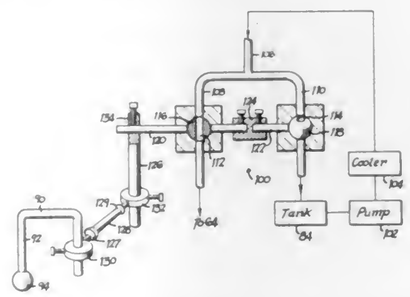
A hydraulic motor control circuit having at least two oil pressure convertors including a pressure operated device and a pressure oil feeding device directly driven by the pressure operated device. The pressure operated device is supplied from a pressure fluid source provided with a relief valve, the pressure oil feeding device being operated to feed at least one hydraulic motor with cold pressure oil pumped from a separate heat insulated reservoir, the pressure of said cold oil being established only by the pressure of the pressure fluid for the pressure operated device. The pressure operated device works alternately without interruption and constantly drives at least one of the pressure oil feeding devices in order to supply a necessary quantity of cold pressure oil in response to the requirement of the hydraulic motor.

3,405,523
POWER STEERING AND LIKE SYSTEMS
Frederick John Adams, Campton, near Shefford, England, assignor to Cam Gears (Luton) Limited, a company of Great Britain
Filed Aug. 4, 1966, Ser. No. 570,250
Claims priority, application Great Britain, Aug. 6, 1965, 33,747/65
8 Claims. (Cl. 60—52)



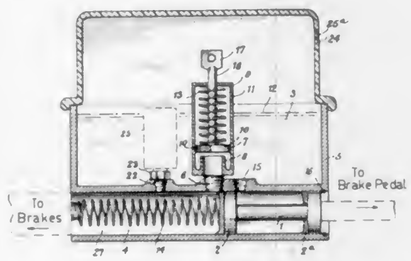
A servo-control for power steering systems having a double acting servomotor, a power driven pump receiving fluid from a source, a unidirectional manually driven pump receiving fluid from the power driven pump or from said source, a valve controlling flow from the manually driven pump to the servomotor, means responsive to torque from the manually driven pump for shifting said valve for selectively controlling flow of fluid to the opposite sides of the servomotor and a valve closed by pressure from the manually driven pump controlling recirculation of fluid between the power driven pump and the source. The torque responsive means may be a mechanical linkage between the manually driven pump and the valve and the manually driven pump may be a radial piston displacement pump.

3,405,524
LIQUID LEVEL SENSING AND CONTROL MEANS FOR FLUID DRIVES
Richard Marine Nelden, Southfield, Mich., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 13, 1967, Ser. No. 615,450
11 Claims. (Cl. 60—54)



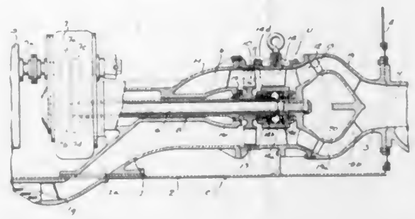
A fluid drive or fluid coupling is provided with a liquid level sensing device and a flow regulating valve to automatically regulate circuit oil flow to match heat load conditions. The fluid coupling is of the type wherein there is a work chamber defined by opposed impeller and runner shells and a control chamber in free liquid communication with the work chamber. The level of oil in the control chamber is varied to thereby vary the amount of oil in the work chamber. The amount of oil supplied from a cooler to the working circuit is varied to correspond with cooling needs, and this is accomplished by sensing the level of oil in the control chamber and opening or closing a valve in the oil supply circuit in response to the liquid level sensor to regulate the oil flow to match the heat load.

3,405,525
HYDRAULIC BRAKE SYSTEM
Edward M. Thomas, 29 Drumgoole Blvd., Staten Island, N.Y. 10312
Filed Jan. 21, 1966, Ser. No. 522,196
4 Claims. (Cl. 60—54.6)



A hydraulic brake system particularly adapted for automotive vehicles and which includes a valve assembly inserted in the system which serves to maintain a required residual fluid pressure uniformly in the brake system including the master cylinder bore when the brake pedal is in a released position. The arrangement includes means by which a reduction in or decrease of residual pressure is detectable so that the deficiency in the brake system can be corrected.

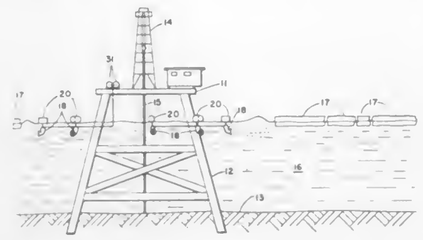
3,405,526
MULTIPLE STAGE, HYDRAULIC JET PROPULSION APPARATUS FOR WATER CRAFT
George R. Aschauer, Racine, Wis., assignor to Twin Disc, Incorporated, Racine, Wis., a corporation of Wisconsin
Filed Mar. 1, 1967, Ser. No. 619,763
6 Claims. (Cl. 60—221)



Hydraulic jet propulsion apparatus for waterborne craft having multiple stages of different type pumps operating at different speeds.

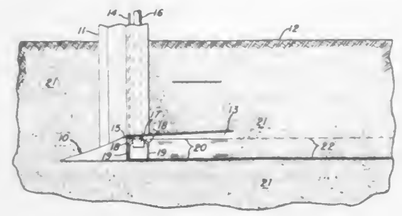
3,405,527
PROTECTING MARINE STRUCTURES FROM FLOATING OBJECTS
John B. Farr and David E. Powley, Tulsa, Okla., assignors to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Jan. 25, 1965, Ser. No. 427,625
3 Claims. (Cl. 61—1)

Marine structures suffer from possibility of destruction, in whole or in part, due to impacts of floating objects. While it is possible to protect against boats and similar floating objects, it is a much more difficult task to prevent impingement of floating logs, ice, etc. This invention provides protection against floating objects by repeatedly producing explosions at a number of points near but below the surface of the water to set up a standing wave pattern near the structure. This standing wave pattern in-



herently produces a component of force radially outward acting on any floating objects near the structure and, accordingly, tends to cause such objects to drift away from the structure. Preferably, the standing wave pattern is caused by uniform detonation of explosive at a plurality of points at an approximately uniform distance from the marine structure to be protected.

3,405,528
METHOD OF FORMING A SUBTERRANEAN MOISTURE BARRIER
Clarence M. Hansen, East Lansing, Mich., and Thomas L. Speer, Homewood, Ill.; said Hansen assignor to Board of Trustees, a constitutional corporation operating Michigan State University of Agriculture and Applied Science, and said Speer assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Aug. 25, 1966, Ser. No. 575,098
4 Claims. (Cl. 61—1)

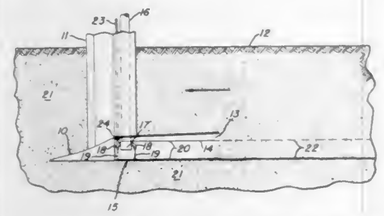


A continuous subterranean asphalt moisture barrier is provided by the separate formation in situ at a preselected depth beneath the soil surface of a plurality of barriers.

3,405,529
PREPARATION OF UNDERGROUND WATER BARRIERS
Clarence M. Hansen, East Lansing, Mich., and Louis E. Ott, St. John, Ind.; said Hansen assignor to Board of Trustees, a constitutional corporation operating Michigan State University of Agriculture and Applied Science, and said Ott assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Continuation-in-part of application Ser. No. 575,150, Aug. 25, 1966. This application Apr. 4, 1967, Ser. No. 628,346
10 Claims. (Cl. 61—1)

A continuous flexible subsurface water barrier of congealed thermoplastic material is provided by the separate

formation in situ at preselected depth beneath the soil surface of a plurality of barriers wherein a lateral edge of



one barrier engages the lower surface of an adjoining barrier.

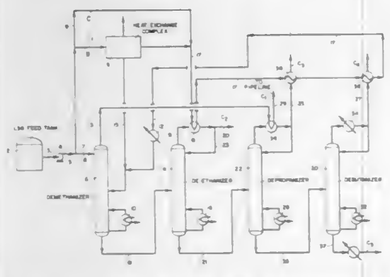
ERRATUM

For Class 61—72.6 see:
Patent No. 3,405,533

3,405,530
REGASIFICATION AND SEPARATION OF LIQUEFIED NATURAL GAS

Richard A. Denahan, Basking Ridge, Douglas A. Farmer, Summit, Prabhakar K. Pal, Morristown, and David S. Rehaut, Newark, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Sept. 23, 1966, Ser. No. 581,550
6 Claims. (Cl. 62—28)

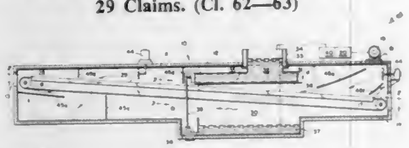


A method for regasification and fractionation of liquefied natural gas in which a portion of the liquefied natural gas enters the top section of a fractionating column while a second portion of cold liquefied natural gas provides refrigeration for other process streams before being introduced into a middle section of the fractionating column.

3,405,531
METHOD AND APPARATUS OF REFRIGERATION USING CRYOGENIC LIQUID

Harold E. Davis, Jr., Andover, Mass. (610 Wisconsin Ave., Beloit, Wis. 53511), and Robert J. Powers, Winchester, Mass. (4 Palmer Ave., Swampscott, Mass. 01907)

Filed Nov. 29, 1966, Ser. No. 597,674
29 Claims. (Cl. 62—63)

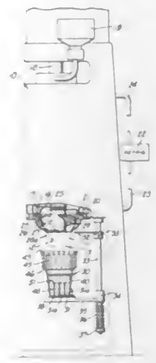


A method and an appartus for refrigerating a product wherein the product is passed through a housing on a foraminous conveyor in close proximity to a stationary slide member. A shower of cryogenic liquid deposited on the product collects as a pool in the spaces of the foraminous belt contacting both the product and the slide to form a conductive heat transfer path therebetween. Means are also provided for capturing the refrigerating capacity of the gases evaporated from the shower by directing the same along the bottom of the slide member to cool the same and passing the refrigerant capacity onto the product by conduction to precool the product.

3,405,532
PROCESS FOR MAKING A PARTIALLY FROZEN CONFECTION

Ernest E. Lindsey, 4114 Leimert Blvd., Los Angeles, Calif. 90008

Original application Feb. 8, 1963, Ser. No. 257,247, now Patent No. 3,331,691, dated July 18, 1967. Divided and this application July 10, 1967, Ser. No. 652,147
11 Claims. (Cl. 62—66)

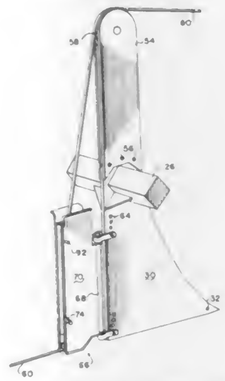


A process for making a cup-retained confection in which an annular mass of frozen material is forced into a cup containing unfrozen material to cause the latter to rise in a core space of the frozen material, forming a confection having a core of unfrozen material surrounded by a sheath of frozen material.

3,405,533
CABLE LAYER

Donald L. Fries, Perryton, Tex., assignor of one-half to Lubbock Manufacturing Company, Lubbock, Tex., and one-half to Perrytex Machinery Company, Perryton, Tex., both corporations of Texas

Filed Oct. 26, 1964, Ser. No. 406,282
5 Claims. (Cl. 61—72.6)

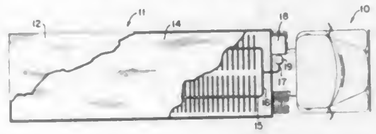


A plow-type cable layer has a rotating eccentric weight vibrator. Apparatus to lead the cable to the bottom of the furrow made by the plow includes an outer case pivoted to the back of the plow by two vertical pintles. An inner case with pulleys to guide the cable is held in the outer case by pins.

3,405,534
METHOD FOR UNLOADING A TRUCK USING AN ICED SURFACE

Norman D. Sullivan, San Jose, Calif., assignor to Jack L. Bohan, San Jose, Calif.

Filed Feb. 14, 1966, Ser. No. 538,507
10 Claims. (Cl. 62—74)

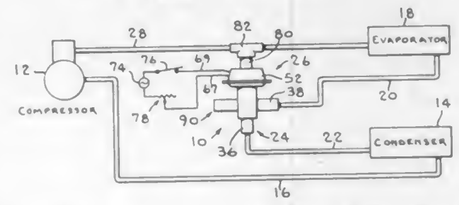


A truck or other freight conveyance where a portion of the bed is provided with a layer of ice by a refrigeration system to facilitate the movement of freight. Another portion of the bed provides a region of slip-free traction.

3,405,535
TEMPERATURE CONTROLLED FLOW CONTROL DEVICE AND REFRIGERATION SYSTEM INCLUDING SUCH DEVICE

Alan A. Matthies, Milwaukee, Wis., assignor, by mesne assignments, to Controls Company of America, Melrose Park, Ill., a corporation of Delaware, organized in 1966

Filed Feb. 10, 1966, Ser. No. 536,495
13 Claims. (Cl. 62—202)



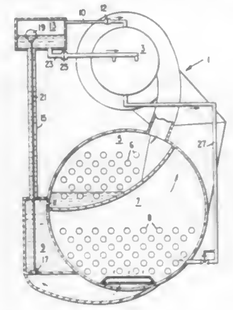
An expansion valve is provided with a temperature controlled operator which determines the flow through the valve on the basis of heat transfer between the operator and its ambient, the ambient of the operator being determined by the condition of refrigerant flowing in the system. Communication between the operator and the refrigerant system is achieved through a single passage which provides both an inlet to and an outlet from the operator. In its more specific aspects, a fine mesh wire screen is provided in the single passage to retard flow of liquid to the operator so that the operator is somewhat isolated from momentary abnormal conditions which might occur in the evaporator. Also, an auxiliary passage is provided between the main flow passage of the valve and the operator. The auxiliary passage is controlled by a valve which responds to the pressure in the system and will open the auxiliary passage in the event of an abnormal pressure condition in the system and by so doing diverts liquid refrigerant directly to the operator to cool the operator and shut the valve.

3,405,536
REFRIGERANT CONTROL TO MAINTAIN MINIMUM HEAD

James W. Endress, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

Filed Oct. 28, 1966, Ser. No. 590,301
3 Claims. (Cl. 62—218)

A refrigerant flow control for regulating the passage of refrigerant from the high side of a refrigeration system to the low side of the system in response to the height of a column of liquid refrigerant. The control provides a minimum pressure differential between the high and

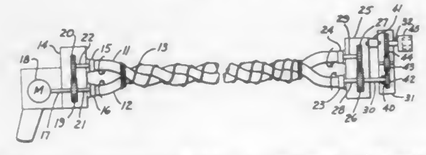


low pressure sides of the system proportional to the height of the refrigerant column sufficient to assure a supply of liquid refrigerant to the refrigeration system compressor-motor to prevent the motor from overheating.

3,405,537
FLEXIBLE TRANSMISSION SHAFT

Frederick G. Thearle, Lomita, Calif., assignor to Hi-Shear Corporation, Torrance, Calif., a corporation of California

Filed Oct. 20, 1966, Ser. No. 588,132
12 Claims. (Cl. 64—2)

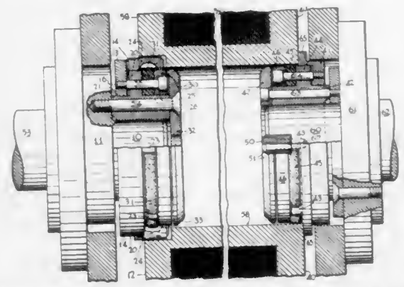


A flexible transmission shaft according to the present disclosure comprises a pair of flexible shafts, each contained within a sheath and twisted around each other and around a nominal axis. Securing means is provided for securing the sheaths together. Transmission means is provided for rotating one end of each shaft in opposite directions, and receiving means is provided for recombining the rotational energy from each shaft.

3,405,538
TEXTILE BEAM DRIVING APPARATUS HAVING EXPANDABLE GUDGEONS

Charles B. Graham and Robert A. Mutter, Monroe, N.C., assignors to Cocker Machine & Foundry Company, Gastonia, N.C., a corporation of North Carolina

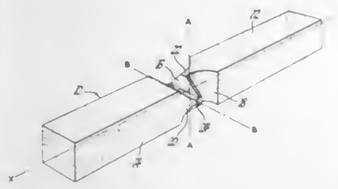
Filed Mar. 29, 1966, Ser. No. 538,394
3 Claims. (Cl. 64—5)



An automatically operated gudgeon arrangement capable of entering into driving engagement with a warp beam

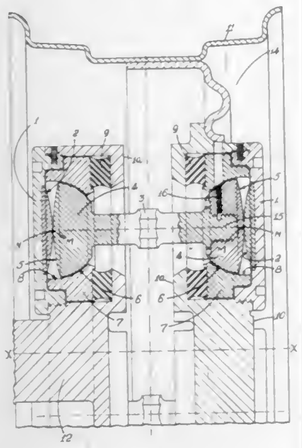
which is characterized in that it produces a substantially perfectly concentric and smooth running condition and in that it can be readily disconnected after the beaming operation has been completed.

3,405,539
FLEXIBLE ROTARY JOINT
Akira Tanaka, Southfield, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 13, 1966, Ser. No. 557,107
6 Claims. (Cl. 64—11)



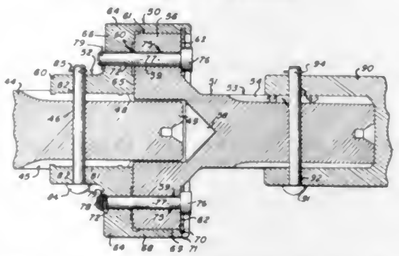
A flexible rotary joint is of unitary polymeric plastic construction. The joint includes driving and driven end segments which are connected to a rectangular intermediate segment by tapered thin portions that define mutually perpendicular bending axes adjacent the intermediate portion.

3,405,540
COUPLINGS
Edmond Eric Johnson, 19 13th St. (P.O. Box 545), Chingola, Zambia
Filed May 11, 1966, Ser. No. 549,369
Claims priority, application Republic of South Africa, May 11, 1965, 65/2,462
5 Claims. (Cl. 64—19)



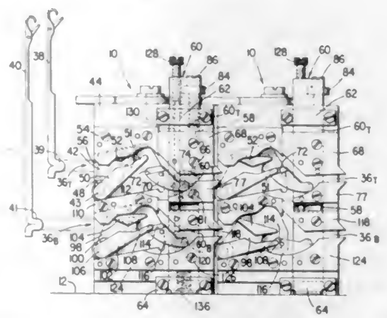
A resilient, self-centering coupling, particularly suitable for vehicle suspensions, which is biased toward a normal central position and which is arranged to maintain a pair of coupled members in fixed spaced relationship. A connecting link is disposed between a pair of spaced-apart convex outer bearing surfaces and presents at each end a convex inner bearing surface engaging the outer bearing surface at that end. The inner and outer bearing surfaces are resiliently urged into contact with each other and are relatively movable in contacting relationship to permit relative movement of the outer bearing surfaces in substantially parallel planes located transversely to the connecting link with the spacing between the planes remaining substantially constant. The outer bearing surfaces are resiliently biased toward a normal position in which the connecting link is located substantially at right angles to the parallel planes in which the outer bearing surfaces are movable. Upon displacement of the outer bearing surfaces from their normal position, the connecting link is displaced from a right angular relationship to the parallel planes without the spacing of the outer bearing surfaces being substantially changed.

3,405,541
SHEAR PIN COUPLING
Carroll J. Whitfield, Albany, Ga., and Verle M. Tharpe, Auburn, Ind., assignors to Lilliston Implement Company, Albany, Ga., a corporation of Georgia
Filed June 22, 1966, Ser. No. 559,444
3 Claims. (Cl. 64—28)



A shear pin coupling for limiting the torque transmitted between two rotatable elements comprising a first shaft connectable to the driving member and including a radially outwardly extending flange, a second shaft extending in coaxial relationship with the first shaft and including a radially outwardly extending flange in juxtaposition with the other flange, and a shroud connected to one of the flanges and extending axially beyond the other flange. The shroud defines an inwardly facing annular groove, and an expandable retaining ring is positioned in the groove to retain the other flange within the confines of the shroud. Each flange defines alignable apertures, and shear pins are insertable through the apertures.

3,405,542
CAM APPARATUS FOR INDEPENDENT NEEDLE KNITTING MACHINES
Leonard A. Beckenstein, Farmingdale, N.Y., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 8, 1965, Ser. No. 512,496
5 Claims. (Cl. 66—38)



Knitting machine cam apparatus is disclosed as providing a virtually continuous cam track channel where-

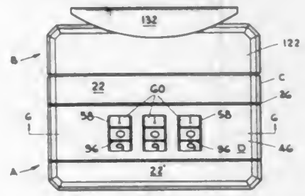
in the butts of the machine's needles are adapted to ride. The needles ride upwardly to draw yarn, and are thereafter lowered to form stitches without their respective butts ever leaving the channel in question, and such cam apparatus is arranged to be adjustable for providing knit, tuck and welt knitting conditions without effectively destroying the continuity of the cam track channel.

3,405,543
KNOCK-OVER BLADE STRUCTURE FOR WARP KNITTING MACHINES
Walter L. Diehl, Gastonia, N.C., assignor to Cocker Machine & Foundry Company, a corporation of North Carolina
Filed June 14, 1966, Ser. No. 557,550
1 Claim. (Cl. 66—86)



An immovable thin knock-over band suitable for the production of closely knit fabric made on high speed warp knitting machines.

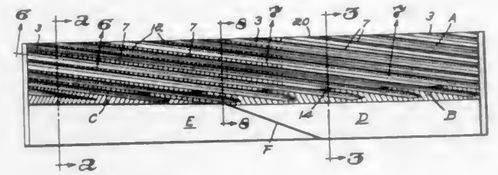
3,405,544
COMBINATION LOCK
Charles S. Gehrie, Montclair, N.J., assignor to Presto Lock Co., Inc., Garfield, N.J., a corporation of New York
Filed Nov. 9, 1966, Ser. No. 593,095
2 Claims. (Cl. 70—74)



A combination lock of the type having a manipulatable latching slide member which supports the dials and associated means for movement therewith wherein the slide member is supported for movement in a guideway provided by a plate member, the slide member having means extending from a side thereof for cooperation with a hasp which enters the side of the plate member beneath the plate member's upper surface.

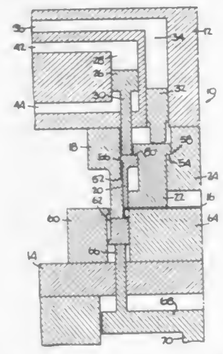
3,405,545
ROLLED THREAD DIE WITH TRACTION NOTCHES
Roger W. Orlomoski, Paxton, Mass., assignor to Reed Rolled Thread Die Co., Holden, Mass., a corporation of Massachusetts
Filed July 14, 1966, Ser. No. 565,232
9 Claims. (Cl. 72—88)

1. In a die of a pair of cooperating dies for rolling threads in a cylindrical work piece and on which dies are a plurality of parallel thread forming grooves separated by lands, means for insuring rotation of said work piece as the dies are moved relative to each other with the work piece squeezed therebetween, said means comprising a plurality of rows of notches crossing said lands, the edges of the notches extending transversely beyond the walls of the said grooves to form ears, said ears being formed of metal integral with said die which metal has



been displaced from its original position in said die as said notches were formed, said ears adapted to grip and rotate each said work piece during the thread forming operation, the rows of said notches terminating at a position sufficiently far from the finishing end of said die to permit the dies, during the last rotations of said work piece, to remove any surface irregularities in the work piece caused by said ears.

3,405,546
METHOD AND APPARATUS FOR PRODUCING BULGED SHAPES
Bernard L. Hoffman, Trenton, and Lincoln C. Reed, Finesville, N.J., assignors to Frederick A. Krause Associates, Inc., Frenchtown, N.J., a corporation of New Jersey
Filed Sept. 27, 1965, Ser. No. 490,222
9 Claims. (Cl. 72—348)

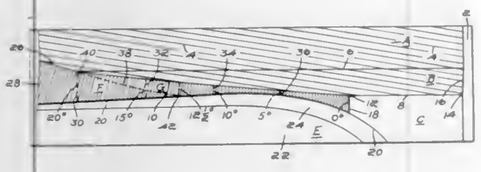


Press arrangements for producing bulged container shaped objects wherein a retractable forming ring first forms the container shaped object by passing over a central mandrel, and is then retracted to define an annular bulging region at a given location.

3,405,547
THREAD ROLLING DIE WITH TWISTED SLUG FORMING AND REMOVAL SURFACE
Roger W. Orlomoski, Paxton, Mass., assignor to Reed Rolled Thread Die Co., Holden, Mass., a corporation of Massachusetts
Filed Sept. 27, 1966, Ser. No. 582,343
6 Claims. (Cl. 72—469)

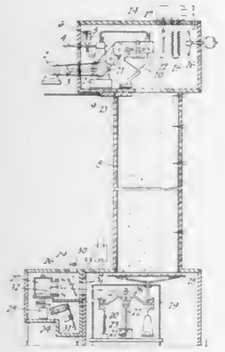
1. A pair of dies for producing gimlet pointed screws from a blank by the rolled thread process, each die of said pair being of identical configuration and comprising a vertical plane grooved surface for creating the thread on the

body of the screw, a sloping plane surface having therein continuations of said grooves and extending away from said vertical grooved surface for creating the threaded pointed portion of said screw, the line of intersection of said vertical grooved surface and said sloping grooved surface forming a straight heel line, the said sloping grooved surface having a diagonal lower edge commencing at and extending downwardly away from said heel line at a small angle thereto, said sloping grooved surface also having another lower edge commencing at the end



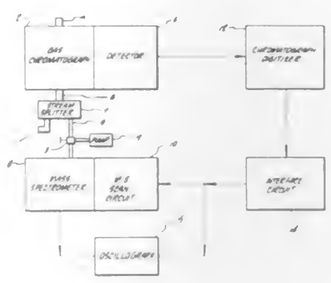
of said diagonal lower edge and being parallel to said heel line, said diagonal lower edge of said sloping grooved surface forming the upper edge of a reversely sloping slug forming and removal surface, said slug forming surface being a twisted surface that forms a minimum included angle of intersection with said sloping grooved surface at the narrow end of the latter, the included angle of intersection between said sloping grooved surface and said twisted surface increasing along the length of said diagonal edge.

3,405,548
APPARATUS AND METHOD FOR ANALYSING LIQUID SPRAYS
Costas George Samartzopoulos, 9 Hillside Court, Harvey Road, Guildford, Surrey, England
Filed Jan. 18, 1966, Ser. No. 521,285
Claims priority, application Great Britain, Jan. 19, 1965, 2,260/65
5 Claims. (Cl. 73—1)



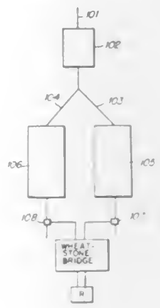
Apparatus and method for analysing a liquid spray which includes introducing into the top of the tower the liquid spray for a relatively short period of time, and recording the rate of accumulation of the weight of the drops reaching the bottom of the tower, the tower being relatively high so that the effect of the drops falling initially at less than their terminal velocities may be neglected, calibration being effected by introducing into the tower a spray of molten wax having the same physical characteristics as the liquid.

3,405,549
ANALYTICAL SYSTEM
Charles M. Finley, Arcadia, Calif., assignor to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed Nov. 2, 1964, Ser. No. 408,133
6 Claims. (Cl. 73—23.1)



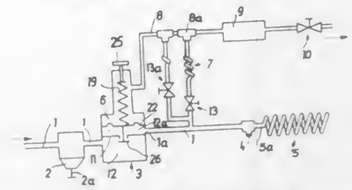
An analytical instrument combining a chromatographic column, a mass analyzer and an interface circuit. The mass analyzer is arranged to receive and analyze various fractions as they are eluted from the chromatographic column. The interface circuit controls the scanning operation of the mass analyzer responsive to the elution of a fraction from the column.

3,405,550
CHROMATOGRAPHIC METHOD AND APPARATUS FOR DETERMINING TRACE CONCENTRATIONS OF WATER
Morton G. Bloch, Woodbury, N.J., assignor to Mobil Oil Corporation, a corporation of New York
Filed Dec. 31, 1964, Ser. No. 422,858
15 Claims. (Cl. 73—23.1)



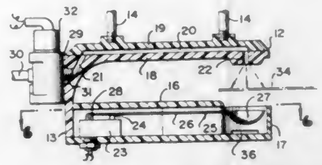
The water content in a hydrocarbon stream is determined by passing the stream through a chromatographic column to absorb a sample of the stream therein. By gas elution the sample is passed from the chromatographic column, split into two paths, and simultaneously passed through a pair of chromatographic columns. Each of the pair of chromatographic columns contains a different concentration of water-absorbing material which delays primarily the passage of water through each of the pair of columns for a different length of time. Thermistors forming opposing arms of a Wheatstone bridge monitor the exit ends of the pair of columns whereby the effect of hydrocarbon background is nulled and a composite signal indicative of water content is provided.

3,405,551
PRESSURE PROGRAM DEVICE FOR CHROMATOGRAPHIC COLUMN
Istvan Halasz, Wolfsgangstrasse 121, Frankfurt am Main, Germany
Filed Sept. 7, 1965, Ser. No. 485,516
Claims priority, application Germany, Sept. 8, 1964, H 53,729
20 Claims. (Cl. 73—23.1)



A control apparatus for automatically adjusting the inlet gas pressure of a chromatographic column, comprising in addition to a reducing valve and control valve in the gas lines supplying the chromatographic columns, an automatic pressure-responsive regulator tending to maintain a constant gas pressure at the supply to the column, and an auxiliary control means which alters the constant-pressure characteristic of the automatic regulator by applying a control gas pressure thereto whereby the control valve responds to pressure changes in the supplied gas. Such arrangement enables a timed pressure program to be had, as distinguished from operation where the gas pressure at the chromatographic column is held practically constant.

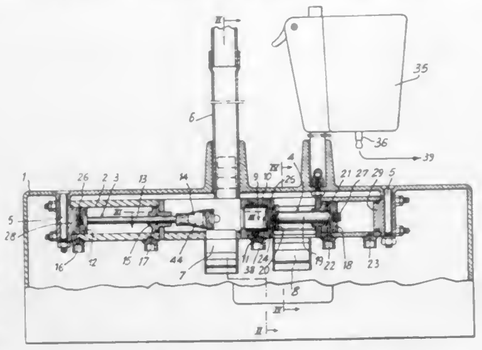
3,405,552
AIR DETECTOR FOR WEBS
Thomas J. Luckett, Suitland, Md. (7901 Pennsylvania Ave. SE., Washington, D.C. 20028)
Filed Mar. 29, 1966, Ser. No. 538,367
7 Claims. (Cl. 73—37.7)



This disclosure has to do with a detector particularly adapted for use in an atmosphere laden with dust and other minute foreign matter, including printing material mist and wherein the detector is particularly adapted for detecting ruptures and voids in a moving web. The detector includes a bracket having means for mounting the same on a web supporting apparatus and includes a fluid nozzle to be disposed on one side of a web and a direct action control member hingedly carried by the bracket on the opposite side of a web and having a reaction portion in opposite alignment with the fluid nozzle for direct actuation of the control member by fluid from the fluid nozzle only in the absence of an intermediate web portion.

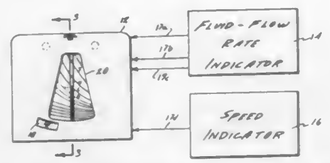
3,405,553
PROCESS AND APPARATUS FOR DETERMINING THE PERMEABILITY OF SOLIDS
Pierre Boisard, Pau, and Jean Lamazou, Buros, France, assignors to Societe Nationale des Petroles d'Aquitaine, Paris, France
Filed Nov. 2, 1964, Ser. No. 408,032
Claims priority, application France, Nov. 4, 1963, 952,606
15 Claims. (Cl. 73—38)

1. An apparatus for determining the permeability of cylindrical samples of solid material, which comprises in combination: in a first housing, a master cylinder provided with two pistons and means for making fluid-tight the lateral face of a cylindrical solid sample of the material, means for introducing the samples into and discharging them from the master cylinder, means for displacing the said samples in the said master cylinder and



means for bringing one of the faces of the sample in contact with a gaseous flow of fluid under pressure; and in a second housing, control means for controlling said pistons and means, and means for measuring and recording the time taken for a given volume of gas to pass through the sample.

3,405,554
INTEGRATED METER SYSTEM
Edward V. Gauthier, 2205 San Anseline, Apt. 3, Long Beach, Calif. 90815
Filed July 6, 1965, Ser. No. 469,494
11 Claims. (Cl. 73—114)



A fuel rate-of-consumption instrument is disclosed, as for use on a vehicle. Measurements of speed and fuel flow are integrated by a rotary two-dimension dial (conical and cylindrical are disclosed) which is displaced in relation to speed to establish one coordinate and a line indicator (fluid column or mask and curve) then designates the other coordinate in relation to fuel flow. Specific fuel-flow measuring apparatus is disclosed, including a unit that compares dynamic and static pressure to formulate a pressure signal to displace a fluid column accordingly.

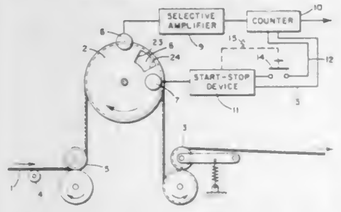
3,405,555
METHOD AND APPARATUS FOR TESTING PAPER
Robert R. Wissinger, Des Moines, and Gerry H. Ehrhardt, West Des Moines, Iowa, assignors to Pacific Industries, Inc., San Francisco, Calif., a corporation of California
Filed Oct. 14, 1965, Ser. No. 495,953
6 Claims. (Cl. 73—159)



Multi-lamina test package and method of testing paper stock for fiber disposition, continuity and coatability by

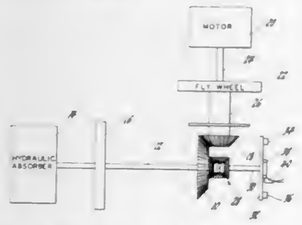
selectively directed induced transfer of thermo-reactive coating material to and through an interposed test specimen onto an underlying test pattern sheet.

3,405,556
APPARATUS FOR MEASURING THE TWIST OF A CORD
Victor E. Gonsalves and Onno T. De Vries, Arnhem, Netherlands, assignors to Algemene Kunstzijde Unie N.V., Arnhem, Netherlands, a corporation of the Netherlands
Filed July 18, 1966, Ser. No. 566,137
Claims priority, application Netherlands, Aug. 13, 1965, 6510579
6 Claims. (Cl. 73—160)



1. An apparatus for measuring the twist of a cord which comprises twist pickup means for observing the humps in the cord to be tested, counting means for counting the humps of the cord observed by the pickup means, a rotatably supported disk over which the cord is passed, guide means for guiding the cord whereby the cord travels at a speed which is equal to the circumferential speed of the disk at the point where said disk is in contact with the cord, and control means for insuring that the counting means is in operation only during the time the disk makes a given angular displacement.

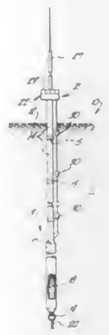
3,405,557
GEAR TOOTH MESH PROFILE MEASURING SYSTEM
Robert A. Sinke, Jr., Brighton, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 29, 1966, Ser. No. 546,349
5 Claims. (Cl. 73—162)



A method and apparatus for dynamically detecting gear tooth profile errors by rotating a drive gear at a fixed angular velocity, meshing the drive gear with a test gear and sensing angular accelerations of the test gear when rotated by the drive gear.

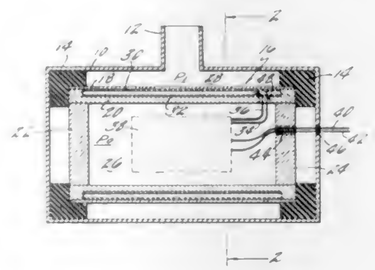
3,405,558
OCEANOGRAPHIC INSTRUMENTATION
Nick Koot, South Laguna, Calif., assignor to Global Marine Inc., Los Angeles, Calif., a corporation of Delaware
Filed May 9, 1966, Ser. No. 548,611
9 Claims. (Cl. 73—170)

An oceanographic instrumentation long spar buoy of a length which is many times greater than its maximum transverse dimension. Elongate guides extend along a portion of the length of the buoy and movably mount a carrier to the buoy. A transducer is secured to the carrier



and is operatively coupled with a transmitter. The carrier is connected with a messenger line for moving it along the buoy to a desired position of the transducer along the length of the buoy.

3,405,559
PRESSURE TRANSDUCER
Elbert Marston Moffatt, Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Nov. 7, 1966, Ser. No. 592,455
6 Claims. (Cl. 73—398)



This invention relates to a capacitive pressure transducer in which the measuring components, particularly a pressure-deformable diaphragm, are constructed from a brittle material to take advantage of low hysteresis and creep factors and a low thermal coefficient of expansion. In order to overcome the undesirably low tensile strength of the brittle material, the diaphragm is specially shaped and positioned within the transducer so that it will experience primarily uniform compressive stress which the material can more easily sustain.

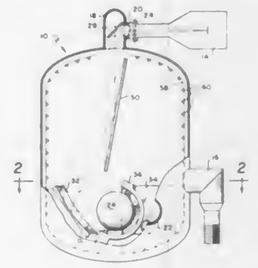
3,405,560
MANOMETER AND SUPPORTING DEVICE
Johannes Sorteberg, 80 Delafield Island Road, Darien, Conn. 06820
Filed June 20, 1966, Ser. No. 558,837
5 Claims. (Cl. 73—401)

A manometer assembly including a group of liquid filled U-tube manometers mounted on a support structure. The support structure comprises a mechanism having a counterbalancing device for effecting the vertical



adjustment of the group of manometers to an eye level reading position.

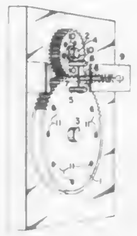
3,405,561
FLIGHT SIMULATOR
Marcel J. P. Bogart, London, England, assignor to The Lummus Company, New York, N.Y., a corporation of Delaware
Filed Sept. 29, 1964, Ser. No. 400,007
9 Claims. (Cl. 73—432)



The present invention relates to a testing facility for studying the effects of direct and reflected solar radiation on a satellite orbiting the earth. More specifically, this disclosure is directed to a testing facility having solar radiation and earth-shine simulator sources mounted outside a refrigerated testing chamber. The testing chamber has windows therethrough for receiving rays from the simulator sources, a satellite model rotatably mounted therein, and a system of mirrors mounted therein for directing the simulated solar and earth-shine rays at the satellite model.

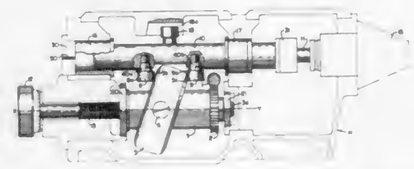
3,405,562
STOP MECHANISM FOR ROTATING MEMBERS
Edison R. Brandt, Cohasset, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Dec. 2, 1966, Ser. No. 598,799
3 Claims. (Cl. 74—10.2)

Each of two meshing gears has a pin in one of a plurality of selectable positions. A rocker member on a fixed axis has a pair of arms, each engageable with a pin. When



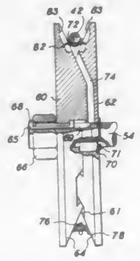
both arms simultaneously engage the pins rotation of the gears is arrested.

3,405,563
VARIABLE STROKE MECHANISM
William O. Whisner, Fairless Hills, Pa., assignor to William Hagen Co. Inc., Palmyra, N.J., a corporation of Pennsylvania
Filed Oct. 24, 1966, Ser. No. 588,962
11 Claims. (Cl. 74—56)



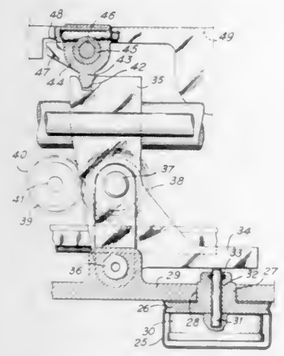
The present invention is concerned with an improved stroke adjustment device as such device relates to reciprocating pumps of the controlled volume type, and more particularly to an improved stroke adjustment device capable of providing an essentially linear flow rate.

3,405,564
PULLEY
Robert H. Liva, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 13, 1966, Ser. No. 586,490
8 Claims. (Cl. 74—230.18)



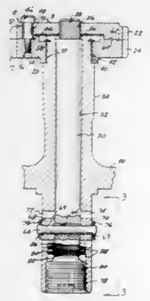
An adjustable pulley with a variable effective radius having two mating interrelated pulley sides over which a continuous, expandable, circular member rides and a cable is passed. One side of the pulley is axially movable relative to the other and both have inclined inner surfaces. As the sides are moved relative to each other the effective inside radius of the pulley is changed. The expandable, circular member is placed around the effective circumference of the pulley and a cable or the like is fastened on the member. The driving or driven pulley is rotated at a velocity related by a factor of its effective radius to the linear velocity of the cable placed on the expandable circular member.

3,405,565
AUTOMATIC RELEASE DEVICES, MORE PARTICULARLY FOR MACHINE TOOLS
Pierre François de Valliere, 14 Ave. de Bretteville, Neuilly-sur-Seine, France
Filed Feb. 13, 1967, Ser. No. 615,601
Claims priority, application France, Feb. 17, 1966, 50,002; Jan. 6, 1967, 90,143
12 Claims. (Cl. 74—405)



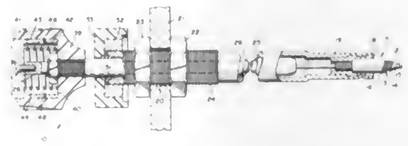
An automatic release device for two drivingly coupled members mounted on displaceable supports, in which an adjustable magnetic coupling is formed between the supports to hold the members in driving relation with a predetermined force.

3,405,566
ANTIBACKLASH GEARING
Lawrence R. Kiehart, Detroit, Larry D. Doyle, Roseville, and James H. Walmsley, Warren, Mich., assignors to Bauer Ordnance Company, Warren, Mich., a corporation of Michigan
Filed May 15, 1967, Ser. No. 638,455
9 Claims. (Cl. 74—440)



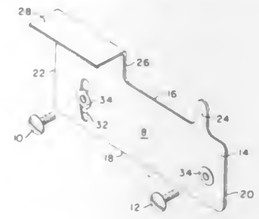
An antibacklash arrangement for a gear drive having a split gear forming two gear portions having a common axis and angularly positionable one with respect to the other so as to provide a controlled amount of angular separation between the teeth of one gear portion and the teeth of the other gear portion, such that a toothed member meshing with the split gear has both the leading and trailing faces of each of its teeth engaged by both the leading and trailing faces of each tooth of the gear. A spring bias provides the teeth separation in one direction, and wedge means are provided for preventing the controlled amount of separation from being decreased by relative angular motion of the gear portions under the action of reverse loads.

3,405,567
SELECTIVE VERNIER CONTROL
Richard D. Houk, Stow, Ohio, assignor to Morse Controls Inc., Hudson, Ohio, a corporation of Ohio
Filed Mar. 1, 1967, Ser. No. 619,863
3 Claims. (Cl. 74—502)



A control device for moving the core of a push-pull control cable with respect to the casing thereof in gross amounts and, selectively, in accurately fine, or vernier, increments. The control device has a primary and secondary knob means, the secondary knob movable between, and selectively retainable in, a first and second position so that the device will accommodate either gross or fine control upon actuation of the primary knob means.

3,405,568
JAM RELEASE LEVER
Howard W. Aubrey, Westwood, Mass., assignor to Nashua Corporation, Nashua, N.H., a corporation of Delaware
Filed Mar. 25, 1966, Ser. No. 537,515
4 Claims. (Cl. 74—522.5)

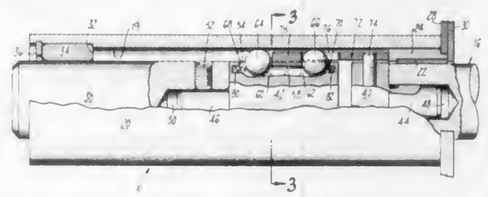


This invention is a lever that may be attached to copying machines of the type which use a drive roll working against a spring-biased slave roll for driving paper through the machine. The lever is a plate having an outwardly extending projection for enabling the plate to be manipulated, a finger lying in the plane of the plate and extending outwardly therefrom which is insertable between the slave roll and the drive roll, and a pivot hole for pivoting the plate on the copying machine. The pivot hole is in such position that when the plate is pivoted thereon by means of said projection, the finger will force the slave roll away from the drive roll, thus relieving pressure between the rolls, to facilitate removal of papers jammed therebetween.

3,405,569
CONTROL APPARATUS FOR AXIALLY SHIFTABLE SHAFT
Francis Norman Wroble, Wethersfield, Conn., assignor to Skinner Precision Industries, Inc., New Britain, Conn., a corporation of Connecticut
Filed May 20, 1966, Ser. No. 551,804
10 Claims. (Cl. 74—527)

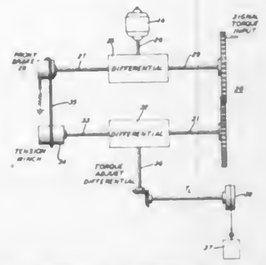
Apparatus comprising a housing, coaxial input and output shafts having adjacent end portions received in the housing for reciprocating rectilinear movement therein between first and second limit positions, and a driving connection between said shafts including a linear movement clutch permitting unrestricted axial shifting of said

output shaft while providing positive locking thereof in an infinite number of positions between said stroke limit



positions upon stopping the input shaft at any point along its path of travel.

3,405,570
MECHANICAL AMPLIFIER
Harold Seidel, Fanwood, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 23, 1965, Ser. No. 503,587
2 Claims. (Cl. 74—661)



The present invention is based upon the recognition that a mechanical differential, of the type commonly used in an automobile, is a reactive mixer. As such the principle of parametric interaction can be applied to the mechanical differential to produce a mechanical parametric amplifier in which a relatively small, externally applied torque, is amplified and used to overcome a significantly larger load torque.

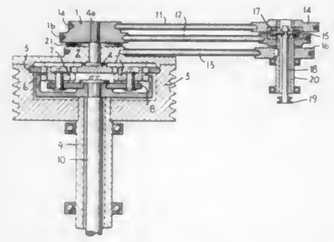
In one embodiment of the invention, "pump" power, in the form of rotational energy, is applied to one shaft of a three shaft differential. A second shaft, constituting the "signal" shaft is coupled to an output load. This load produces a torque T_L on the signal shaft. The third shaft, constituting the "idler" shaft, is loaded by means of a friction brake.

An input signal, in the form of an externally applied torque, is applied to the signal shaft. The amount of signal torque, T, required to overcome the load torque T_L is equal to $T_L - T_1$, where T_1 is the idler shaft torque provided by the friction brake.

In a second embodiment of the invention, a second differential is utilized to automatically vary the idler torque so as to maintain a constant signal torque, regardless of variations in the load torque.

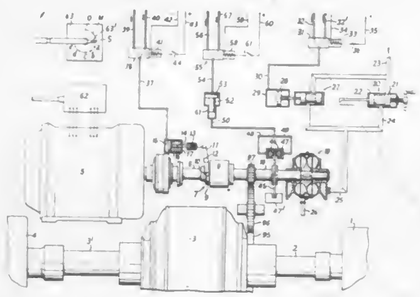
3,405,571
PHASE DISPLACEMENT DEVICE OF TWO SHAFTS
Georges Mersch, 18 Rue Frans Liszt, Luxembourg, Luxembourg
Filed Nov. 17, 1965, Ser. No. 508,311
Claims priority, application Luxembourg, Nov. 24, 1964, 47,431; Oct. 7, 1965, 49,600
14 Claims. (Cl. 74—674)

Apparatus having two shafts which normally rotate at the same speed comprises means for changing the phase relation between the shafts while rotating. The drive of the two shafts comprises a pulley or other driving member affixed to one of the shafts and means for coupling the second shaft with the drive means so that it normally rotates at the same speed but can temporarily be rotated slightly faster or slightly slower so as to change the phase relation between the two shafts. The mains for coupling the second shaft to the drive member includes torque limiting clutch means for causing the two shafts normally to rotate together and speed modifier means for temporarily accelerating or decelerating the second shaft relative to the first shaft. The phase modifying means includes a rotatable phase shifting member concentric with the shafts and means for temporarily and selectively rotating



the phase shifting member at a speed higher or lower than the speed of the drive member. Power for rotating the phase shifting member is derived either from the main drive member through a suitable variable speed drive or is provided by a separate power source, for example an electric motor. Speed reducing means between the phase shifting member and the second shaft may be in the form of a planetary gear system or a differential screw system. Means is also preferably provided for indicating the phase relationship between the two shafts. The phase indicating means is disclosed as comprising an electric circuit with a variable resistance photocell and means for varying the illumination of the cell in accordance with the phase angle betwen the two shafts.

3,405,572
POWER TRANSMISSION SYSTEM
Harold Sinclair, Kensington, London, England, assignor to S.S.S. Patents Limited, Acton Town, London, England
Filed June 8, 1966, Ser. No. 556,047
Claims priority, application Great Britain, June 11, 1965, 24,868/65; July 5, 1965, 28,403/65; Aug. 10, 1965, 34,226/65
9 Claims. (Cl. 74—675)

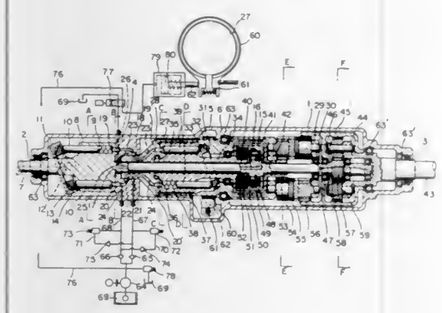


In a power transmission system wherein a main driving machine is coupled to the input member of epicyclic gearing and a driven machine is coupled to the output member of the gearing, a reversible electric motor which is preferably a multi-speed induction motor is provided

for driving the reaction member of the gearing to give a range of closely spaced speeds of the driven machine, including the normal rotational speed obtained when the reaction member is held stationary by a friction brake. In order to provide for off-load starting of the driving machine and for smooth take-up of the drive of the driven machine, a hydrodynamic brake of controllable type is coupled to the reaction member. The presence of the controllable hydrodynamic brake further enables a range of speeds of the driven machine to be obtained which is below the above-mentioned range of closely spaced speeds, and further enables a braking torque to be exerted on the reaction member sufficient to bring the driven machine to a speed such that it is practicable to switch on the electric motor to give the lowest of the said closely spaced speeds of the driven machine.

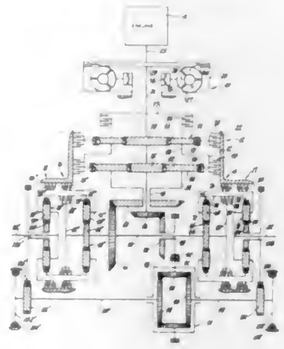
In order to avoid overspeeding of the electric motor in reverse rotation during starting of the system, an overrunning clutch is provided between the electric motor and the reaction member, in an arrangement such that the clutch tends to disengage when the main driving machine is rotating with the hydrodynamic brake released and the reaction member is rotating backwards. The clutch includes control means for locking it in the engaged condition to enable the electric motor to drive the reaction member in the forward direction to increase the speed of the driven machine, and a control is provided for unlocking the clutch to prevent over speeding of the electric motor in reverse rotation if it becomes deenergized while the clutch is locked in engagement.

3,405,573
VARIABLE SPEED MECHANICAL HYDRAULIC TRANSMISSION MECHANISM ESPECIALLY SUITABLE FOR HEAVY VEHICLES
Toshio Takekawa, 17 Hamashinkai, 41-chome, Higashicho, Mizuho-ku, Nagoya, Japan
Filed Apr. 1, 1966, Ser. No. 539,540
Claims priority, application Japan, Aug. 26, 1965, 40/52,074
7 Claims. (Cl. 74—687)



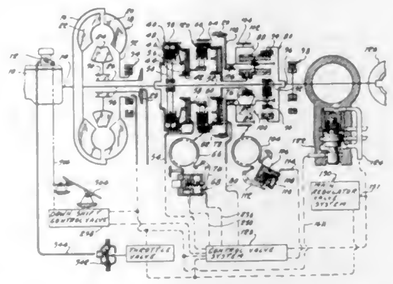
A variable capacity fluid pressure pump is driven by an input shaft and either a rotary member formed as an integral part of a variable capacity fluid pressure motor, driven by the pump, or a rotary member, driven by the motor at a variable speed in the same or opposite direction to that of the input shaft rotation, is either restrained from or engaged with the input shaft by two sets of clutch means (one being an internal friction clutch and the other an external brake band) capable of alternately actuating said rotary members and interlocked speed change gears are provided between the output shafts of the two rotary members and an output shaft, so that a low speed and high torque power is obtained in a stepless variable transmission especially suitable for heavy vehicles.

3,405,574
POWER TRAIN
William G. Livezey, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 18, 1966, Ser. No. 565,821
8 Claims. (Cl. 74—720.5)



A power train for use in tracklaying vehicles is disclosed. In the preferred embodiment the power train comprises a hydrodynamic torque converter driven multispeed range unit drivingly connected by a pair of like forward and reverse drive units to a pair of like output combining units respectively. A second input to each output combining unit is through a converter driven differential drive unit. The pairs of forward and reverse drives are combined with the differential drive to provide two forward and reverse output drives for straight, forward-reverse drive propulsion. The forward and reverse drive units are also operable to establish differential output speed in each propulsion drive range for a main steer bias with braking of the differential drives providing additional steer bias.

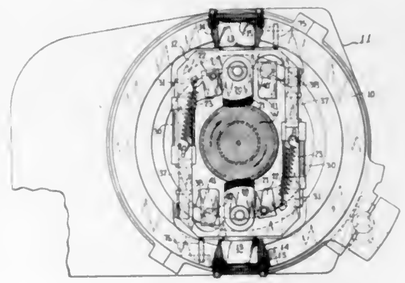
3,405,575
AUTOMATIC CONTROL VALVE SYSTEM FOR A MULTIPLE RATIO POWER TRANSMISSION MECHANISM
John J. Searles, Northville, and Richard B. Ruokolainen, Livonia, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed May 9, 1967, Ser. No. 637,129
15 Claims. (Cl. 74—868)



This application describes a control valve circuit for a multiple-ratio, power transmission mechanism for use in automotive vehicle drivelines. The circuit includes both semi-automatic and fully automatic performance characteristics as it establishes any one of several forward driving speed ranges. The fully automatic functions of the control circuit can be overruled by the vehicle operator by imposing selected control requirements on the automatic valve elements which replace the requirements imposed by the control pressure signals normally associated with the automatic drive range.

During acceleration of the vehicle the ratio upshifting tendencies are controlled by one valve subcircuit and the ratio downshifting tendencies are controlled by a separate and independent valve subcircuit so that the calibration of one will not influence adversely the calibration of the other.

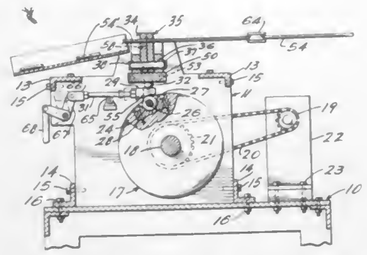
3,405,576
DISENGAGING MEANS FOR WORK DRIVING DOGS
William E. Happel, Waynesboro, Pa., assignor to Landis Tool Company, Waynesboro, Pa.
Filed Mar. 23, 1966, Ser. No. 536,909
2 Claims. (Cl. 82—40)



The apparatus of this disclosure consists of more or less conventional work driving dogs pivotally mounted on a driving member which is resiliently supported so as to permit a slight radial movement to accommodate irregularities in the portion of the workpiece engaged by said driving dogs. Each driving dog is urged into work gripping position by a spring-operated cam or equivalent device. Rotation of the face plate causes the driving dogs to grip the workpiece firmly. At the end of a machining operation, fluid pressure is conducted through a suitable coupling to piston and cylinder devices mounted on the face plate to rotate cam members against said driving dogs in a direction opposite to said spring-operated cam members to shift said driving dogs out of gripping engagement with the workpiece. The fluid pressure-operated piston and cylinder devices may also be used directly on the driving dogs without intervening cam members. Means for shifting the driving dogs out of gripping engagement with a workpiece, is operable whether the face plate is rotating or at rest.

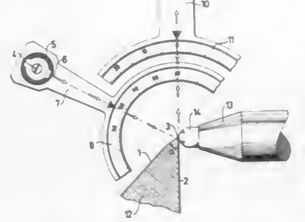
3,405,577
APPARATUS FOR CUTTING OFF ELONGATED MATERIALS
Walter F. Cousino, Toledo, Ohio, assignor to Champion Spark Plug Company, Toledo, Ohio, a corporation of Delaware
Filed Nov. 14, 1966, Ser. No. 593,993
8 Claims. (Cl. 83—1)

1. Apparatus for cutting off elongated stock comprising in combination, a pair of offset, opposed, bell crank impact hammers pivotally mounted on a common axis and movable along a common path, said hammers having recesses therein extending perpendicularly to said path and having surfaces complementary to opposite sides of said stock, said surfaces terminating in a common plane normal to the longitudinal axis of said stock, a rotatable drum having protruding elements for delivering simultaneous impacts to said hammers when said drum is rotated resulting in inwardly directed and opposite components of force, thereby engaging said recesses with said stock, means for rotating said drum, means for restraining movement of said hammers to substantially less than



one quarter the distance between opposite sides of said stock and means for substantially instantaneously thereafter disengaging said surfaces of said hammers from said stock.

3,405,578
METHOD FOR MEASURING THE TRUE CUTTING EDGE ANGLE OF A KNIFE FOR A MICROTOME
Algy Persson, Stockholm, Sweden, assignor to LKB-Produkter Aktiebolag, Bromma, Sweden, a company of Sweden
Filed Apr. 4, 1966, Ser. No. 544,058
Claims priority, application Sweden, Apr. 7, 1965, 4,527/65
7 Claims. (Cl. 83—13)



The true edge angle of a knife for a microtome is determined by directing a ray of light through a narrow slot towards the knife surface adjacent the cutting edge, observing the direction of the light ray reflected by the knife's surface, and calculating the orientation of the knife's surface from the directions of the incident and reflected light rays respectively.

3,405,579
APPARATUS FOR FEEDING ROD-LIKE ARTICLES
William Charles London, Deptford, England, assignor to Molins Machine Company Limited, London, England, a corporation of Great Britain
Filed Mar. 21, 1967, Ser. No. 624,835
Claims priority, application Great Britain, Mar. 31, 1966, 14,381/66
12 Claims. (Cl. 83—102)

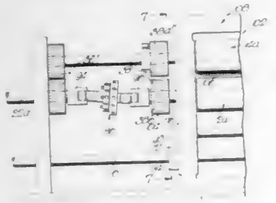
Multiple length mouthpiece rods fed transversely of their axes in succession are subdivided to produce successive groups each containing a number of axially aligned double length mouthpiece plugs. The groups are delivered between a stationary countersurface and the peripheral surface of a rotating drum-like member having flutes spaced from each other in the direction of feed and

at positions offset from each other in the transverse direction, to roll the plugs of each group into the flutes.



Convergent guides align the plugs, thus arranged in spaced succession, one behind another.

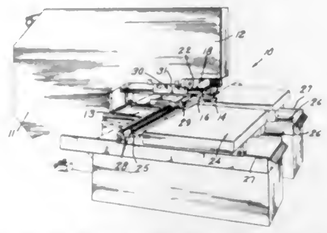
3,405,580
ROTARY SHEAR DRIVE
Karl W. Hallden, Thomaston, Conn., assignor to The Hallden Machine Company, Thomaston, Conn., a corporation of Connecticut
Filed May 24, 1966, Ser. No. 552,621
5 Claims. (Cl. 83—305)



In a rotary shear the shear drums are carried by driving and driven shafts, respectively, and provided are two pairs of gears of which the gears of each pair are mounted on the respective shafts and the gear pairs are spaced from each other. One of these shafts is formed in separate aligned sections of which each section has mounted thereon one of the gears on the one shaft, and these shaft sections carry betwen the gear pairs the companion elements of an angularly adjustable coupling.

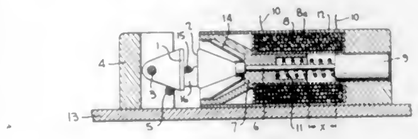
3,405,581
HEAVY DUTY PUNCHING MACHINE WITH CARRIAGE MEANS TO SUPPORT AND MOVE TOOL HOLDER TRANSVERSELY OF MACHINE
Alexander Krynytzky, West Seneca, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed Oct. 24, 1966, Ser. No. 589,019
11 Claims. (Cl. 83—563)

1. A punching machine, comprising in combination:
(a) a C-shaped frame including an upper arm extending in a horizontal direction, and overlying a lower arm having means for supporting a die;
(b) a driven ram carried by said upper arm for vertical reciprocation;
(c) a tool support holder releasably fixedly secured to said upper arm and arranged to support a reciprocable punch in an operating position to be driven by said ram for cooperation with said die; and
(d) a carriage assembly supported by said upper arm for movement in said horizontal direction, said carriage assembly including means for temporarily supporting said tool support holder, by which said holder



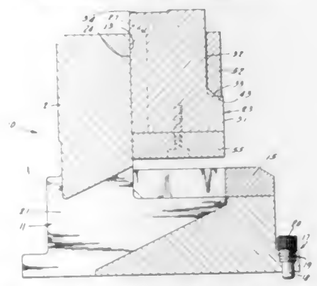
may be moved horizontally to and from said operating position.

3,405,582
CUTTING MECHANISM FOR THIN, ELONGATE STRUCTURES
Werner Eichenberger, Zurich, Switzerland, assignor to Aktiengesellschaft Gebruder Loepfe, Zurich, Switzerland, a corporation of Switzerland
Filed Mar. 29, 1966, Ser. No. 538,320
Claims priority, application Switzerland, Apr. 16, 1965, 4,748/65
10 Claims. (Cl. 83—568)



A quick-operating cutting device for yarns, wires and the like, especially for use in yarn cleaners, wherein the cutting device comprises a knife having a dull cutting edge, a flat movable countersurface for the knife and a quick-operating drive means for the flat movable countersurface. The knife is pivotally mounted such that the dull cutting edge faces the flat countersurface. The quick-operating drive means for the flat countersurface preferably comprises an electromagnetic mechanism and serves to move the flat countersurface in a direction perpendicular to the surface thereof and towards the cutting edge of the knife. The knife, due to its pivotal mounting, adjusts itself upon contact with the countersurface to the momentary position of the countersurface thereby ensuring a proper cut and long life of the elements.

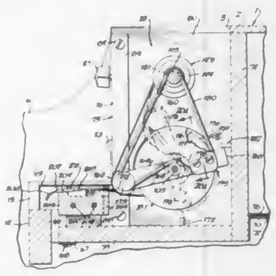
3,405,583
NOTCHING UNIT
John H. Herzog, Clarence, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y. a corporation of Michigan
Filed Dec. 19, 1966, Ser. No. 602,825
8 Claims. (Cl. 83—588)



A corner and edge notching unit having a reciprocable punch body with projecting gibs guided by a standard and

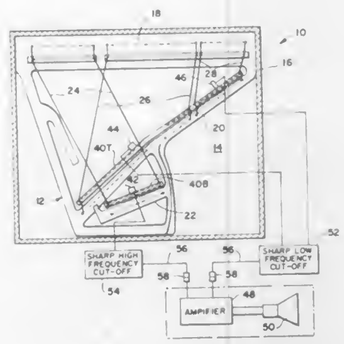
cheek plates, and a tie member which joins the free ends of the cheek plates and extends through a punch body recess leaving the front of the punch tip exposed to reach up to an angular surface on a workpiece.

3,405,584
APPARATUS FOR ELECTRICALLY ACTUATING A MUSICAL INSTRUMENT
Lee L. Von Gunten, Buffalo, N.Y., assignor, by mesne assignments, to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 18, 1964, Ser. No. 352,813
16 Claims. (Cl. 84—147)



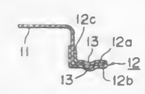
An apparatus for automatically producing music in accordance with a predetermined pattern of apertures in a movable music roll is illustrated. The perforation containing music roll is passed between sensing brushes and an electrically conducting contact roller. As the sensing brushes pass through perforations in the music roll, they engage the contact roller and complete a circuit to produce an electrical control signal. The electrical control signal determines the musical note to be played. An expression control feature is obtained by means of an additional set of perforations in the music roll and a corresponding sensing and control circuit.

3,405,585
APPARATUS FOR THE PRODUCTION OF MUSIC
Ernest Vaglas, 265 Prospect St., Baden, Pa. 15005
Continuation-in-part of application Ser. No. 456,602, Apr. 27, 1965. This application Oct. 20, 1965, Ser. No. 498,336
7 Claims. (Cl. 84—187)



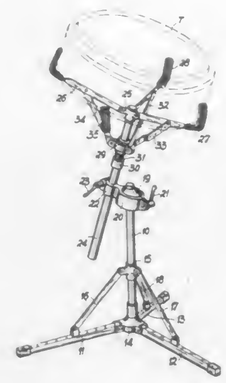
A musical instrument having tuned vibrators, a sounding board and bridge means rigidly affixed to the sounding board and engaged by the tuned vibrators for transmitting the vibrations of the tuned vibrators to the sounding board. Audible musical sounds are radiated from both faces of the sounding board. The vibrations of the tuned vibrators are converted into electric audio sounds by means connected solely to the bridge means and spaced-apart from the tuned vibrators. The electric audio signals are applied to speaker means and thereby converted to audible musical sounds heard in concert with the sounds radiated from the sounding board to produce an ensemble effect.

3,405,586
MOUNTING MEANS FOR MOUNTING A SHEET ON A MUSICAL INSTRUMENT
Yoshiyuki Koishikawa, 2365 Kawaradacho, Mie Prefecture, Yokkaichi, Japan
Continuation-in-part of application Ser. No. 601,085, Dec. 12, 1966. This application Oct. 25, 1967, Ser. No. 695,811
Claims priority, application Japan, Oct. 28, 1966, 41/99,402, 41/99,403
7 Claims. (Cl. 84—414)



A combination sheet and mounting means for mounting on a musical instrument, comprising a sheet for forming part of the musical instrument and an annular peripheral frame having a U-shaped cross sectional configuration, the outer peripheral edge of said sheet being positioned between and tightly held by the leg portions of the peripheral frame, both the front and back leg portions of said peripheral frame and said sheet positioned therebetween having concave depressions at predetermined intervals in the circumferential direction of said peripheral frame, whereby said sheet is tightly fixed to said peripheral frame.

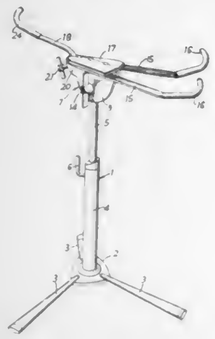
3,405,587
SUPPORTS, PARTICULARLY FOR DRUMS AND THE LIKE, WITH ARRANGEMENTS ADMITTING THE SWING MOTION OF THE INSTRUMENT OVER A WIDE ANGULATION RANGE AND ITS QUICK LOCKING AND RELEASE, AND RELATED IMPROVED SUPPORTS
Remo Meazzi, Via Piatti 6; Franco Caldironi, Via Bolzano 24; and Attilio Olivieri, Via A. Sforza 81, all of Milan, Italy
Filed May 15, 1967, Ser. No. 638,514
1 Claim. (Cl. 84—421)



A support for drums and the like, comprising a central column maintained in vertical position by three folding

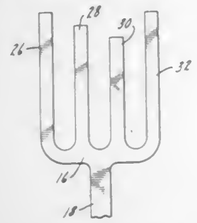
feet, an upper rod having arms adapted to clamp the drum, and connecting means comprising a ball and adjustable clamp means to connect said column to said rod for adjusting the position of the drum in respect with said column.

3,405,588
SNARE DRUM STANDS
Clifford Della-Porta, Evington, England, assignor to The Premier Drum Company Limited, London, England, a British company
Filed May 17, 1967, Ser. No. 639,088
Claims priority, application Great Britain, May 20, 1966, 22,503/66
4 Claims. (Cl. 84—421)



A stand for a snare or like drum in which the drum support includes three arms of which two pivot in a common plane and the third hinges in a plane at right-angles to this. The support may be carried by a mounting on the stem of the stand which caters for infinitely-variable angular adjustment.

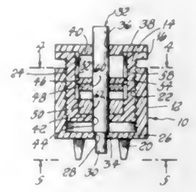
3,405,589
TUNING FORK
Thomas E. Myers, Rte. 1, Box 560, St. Charles, Ill. 60174
Filed Dec. 14, 1966, Ser. No. 601,607
5 Claims. (Cl. 84—457)



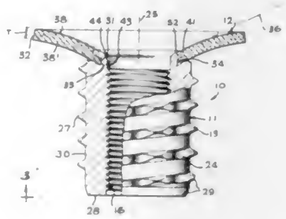
A tuning fork for producing a musical sound having a combination of notes of different frequencies. At least a pair of tines proportioned and sized to vibrate at a fundamental frequency are symmetrically disposed about at least one additional tine proportioned and sized to vibrate at a second frequency.

3,405,590
TUNER FOR STRINGED MUSICAL INSTRUMENTS
John W. Pease, Mamaroneck, N.Y. (1730 Winchester Drive, Winter Park, Fla. 32789)
Filed July 16, 1965, Ser. No. 472,597
12 Claims. (Cl. 84—458)

A housing positionable with respect to a tensioned string on a stringed musical instrument is provided with presettable means for exerting a predetermined deflecting force on a string and means for indicating when this deflecting force is less than an opposing force developed in the string by increasing tension, whereby the string may be tuned to a predetermined pitch.

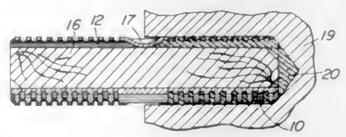


3,405,591
THREADED ELEMENTS HAVING DEFORMABLE SPACERS
Robert Neuschotz, 1162 Angelo Drive, Beverly Hills, Calif. 90210
Continuation-in-part of application Ser. No. 577,209, Sept. 6, 1966. This application Nov. 28, 1966, Ser. No. 597,455
13 Claims. (Cl. 85—9)



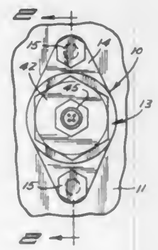
A fastener assembly to be connected into a recess in a carrier part, and including a fastener element having external threads to be screwed into the recess and having an additional set of threads accessible from the axially outer end of the fastener element for connection thereto of a coacting threaded part. The fastener element carries at a location axially outwardly beyond the external threads a deformable washer element which is receivable axially between the carrier part and a member secured thereto by the fastener element and the coacting threaded part, to space apart the member and carrier part.

3,405,592
DOWEL STRUCTURE
Leif Blodee, 19 Circle Drive, Poland, Ohio 44514
Filed Dec. 12, 1966, Ser. No. 600,927
9 Claims. (Cl. 85—14)



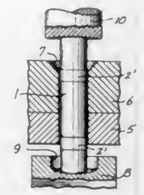
A tubular dowel provided with internal axial channels and peripheral openings communicating therewith, and a plug occupying the central opening of the tubular dowel, but leaving the channels unobstructed from the opposite ends to a position adjacent the center thereof for the flow of adhesive.

3,405,593
SEPARATION DEVICE
Marshall Sidney Kriesel, St. Paul, Minn., assignor to Aerospace Systems Company, Minneapolis, Minn., a corporation of California
Filed Apr. 18, 1966, Ser. No. 543,279
3 Claims. (Cl. 85—33)



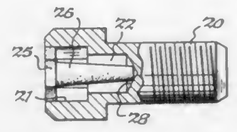
An explosively actuated releasable fastening assembly comprising a housing that has an interior chamber in which a sleeve type piston is mounted. A nut or similar fastening device is mounted inside the piston and is comprised of several sections that are normally held together by a frangible member. When the nut is held together, a bolt can be threaded into it and the nut will retain the bolt from axial movement. When the bolt is to be released, a charge is detonated which causes the piston to move from a normal position to a second position wherein a boss on the piston will break the frangible member permitting the nut to separate into segments, and tapered ramp surfaces on the piston and on the housing will force the nut to move radially outwardly causing the threads on the nut to disengage the threads on the bolt and thereby releasing the bolt.

3,405,594
RIVET JOINING METHOD, PIN THEREFOR AND PIN MANUFACTURING METHOD
Joseph G. Falcioni, Tacoma, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Dec. 11, 1964, Ser. No. 417,661
20 Claims. (Cl. 85—37)



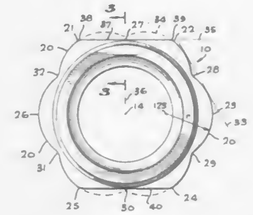
The shank of a rivet to be driven cold is reduced in size or hardened over the portion of its length adjacent to its end to be upset within and slightly outward from the end of the rivet-receiving hole. Mushrooming of the rivet into engagement with the hole end is thus deterred and delayed to enable the portion of the rivet shank within the central portion of the hole to be shortened under impact and swell to press substantially uniformly against the hole wall throughout its length.

3,405,595
DEVICES FOR CLOSING WRENCH SOCKETS
Anders Adolf Peterson, Elmira, N.Y., assignor to Hardinge Brothers, Inc., Elmira, N.Y.
Filed Oct. 27, 1966, Ser. No. 589,925
2 Claims. (Cl. 85—45)



The disclosure relates to a simple and inexpensive means for closing wrench sockets formed in the outer ends of screws, bolts or the like, to exclude foreign matter from such sockets.

3,405,596
SELF-TAPPING THREADED PART
Robert Neuschotz, 1162 Angelo Drive, Beverly Hills, Calif. 90210
Filed Nov. 28, 1966, Ser. No. 597,327
8 Claims. (Cl. 85—47)

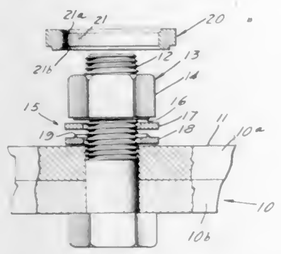


A self-tapping and self-locking element having external threads to be schewed into a carrier member, with the threads having radially outer surfaces defining radially outwardly projecting circularly spaced peaks and circularly intermediate minimum radius regions. Different ones of the minimum radius regions are formed differently, so that preferably some of these regions are recessed radially inwardly beyond planes drawn to just touch their two adjacent peaks, while two other minimum radius regions, at two diametrically opposite locations, preferably form flat surfaces which are unrecessed with respect to and extend along such planes drawn to just touch their two adjacent peaks.

3,405,597
TENSION INDICATOR FOR FASTENING MEANS
Edwin C. Elsner, Tujunga, Floyd G. Hahn, Lakeview Terrace, and Hugh W. Littlebury, Sr., Woodland Hills, Calif., assignors of fifty-one percent to Edwin C. Elsner, twenty-nine percent to Max Fink, ten percent each to Floyd G. Hahn and Hugh W. Littlebury, Sr., all of Los Angeles County, California
Filed Apr. 25, 1966, Ser. No. 544,767
2 Claims. (Cl. 85—62)

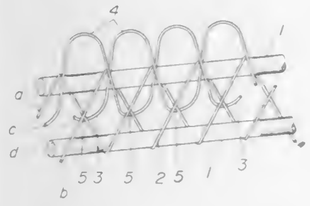
Tension indicator and measuring means for fastening devices of the bolt and nut type, which comprises a pair of cooperable superposed washer members to be placed under the nut of the fastening device, one of the washers being of harder material than the other and provided with a confronting concentric circular wedge projection adapted under nut tightening forces to be forced into the confronting face of the other washer and place its periph-

eral margin under "hoop tension forces" resulting in radial expansion of the washer. This expansion is sensed and measured by a ring gauge coordinated to indicate



the radial expansion of the washer concomitant with the creation of a predetermined required residual tension force in the bolt.

3,405,598
CORD FOR PILED RUG
Yasuaki Iwai, 29–1 Rokkodai-cho, Nada-ku, Kobe, Japan
Filed Jan. 24, 1967, Ser. No. 611,371
Claims priority, application Japan, Feb. 2, 1966, 41/6,340
8 Claims. (Cl. 87—7)



A cord for a pile rug which has two core members positioned side by side and extending parallel to each other. A plurality of wrapping materials are wrapped spirally around the core members, and a plurality of pile forming materials are interwoven with said wrapping materials between said core members. The pile forming materials extend upwardly from between said core members to form piles which may be either cut piles or loop piles.

3,405,599
WEAPON STABILIZATION SYSTEM
Roland J. Barlow, Fraser, Jack M. Brandstadter, Royal Oak, John E. Taylor, Utica, and Arthur J. Wroble, Grosse Pointe, Mich., assignors to Cadillac Gage Company, Warren, Mich.
Filed Dec. 2, 1964, Ser. No. 415,342
6 Claims. (Cl. 89—41)

1. In a stabilizing system for stabilizing an object, on an unstable body, in inertial space with respect to a first inertial reference axis, and a second inertial reference axis, the combination comprising:

(a) first gyro sensor means affixed to said object to detect angular velocity variations of said object from said first inertial reference axis and to yield electrical output signals correlative to said angular velocity variations;

(b) second gyro sensor means affixed to said object to detect angular velocity variations of said object from said second inertial reference axis and to yield electrical output signals correlative to said angular velocity variations;

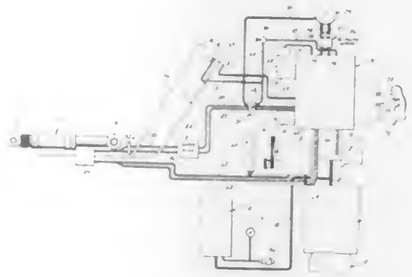
(c) third gyro sensor means affixed to said unstable body to detect angular velocity variations of said unstable body from said first inertial reference axis and to yield electrical output signals correlative to said angular velocity variations for summation with the output signals of said first gyro sensor means;

(d) fourth gyro sensor means affixed to said unstable body to detect angular velocity variations of said unstable body from said second reference axis and to yield electrical output signals correlative to said angular velocity variations for summation with the output signals of said second gyro sensor means;

(e) means for deriving the first integral of said electrical output signal of said first gyro sensor means to yield a signal correlative of position error of said object relative to said first inertial reference axis;

(f) means for deriving the first integral of said electrical output signal of said second gyro sensor means to yield a signal correlative of position error of said object relative to said second inertial reference axis;

(g) means for deriving the first derivative of said electrical output signal of said first gyro sensor means to yield a signal correlative to the acceleration of said object with respect to said inertial space;



(h) means for deriving the first derivative of said electrical output signal of said second gyro sensor means to yield a signal correlative to the acceleration of said object with respect to said inertial space;

(i) means for summation and amplification of said velocity signals, said position signal, and said acceleration signal of said first and third gyro sensor means with respect to said first inertial reference axis to result in a first composite control signal;

(j) means for controlling fluid flow correlative to said first composite control signal;

(k) prime mover means for displacement of said object relative to said unstable body with respect to said first inertial reference axis as a function of said fluid flow of said first composite control signal;

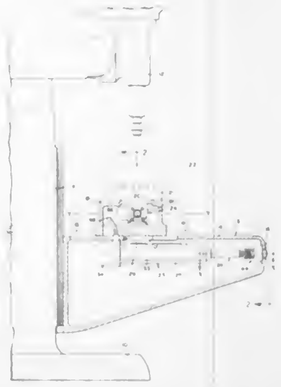
(l) means for summation and amplification of said velocity signals, said position signal, and said acceleration signal of said second and fourth gyro sensor means with respect to said second inertial reference axis to result in a second composite control signal;

(m) means for controlling fluid flow correlative to said second composite control signal; and

(n) prime mover means for displacement of said object relative to said unstable body with respect to said first inertial reference axis as a function of said fluid flow of said second composite control signal;

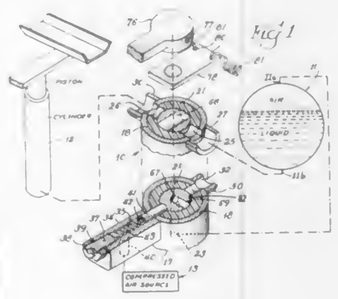
whereby stabilization of a weapon mounted on a military vehicle moving over uneven terrain is effected in at least two axes substantially normal thereto.

3,405,600
NUMERICAL CONTROL POSITIONING APPARATUS
John S. Ballard, East Aurora, and Kenneth D. Garnjost, Buffalo, N.Y., Robert Z. Hague, Oradell, N.J., William C. Moog, Jr., East Aurora, N.Y., and Conrad C. Treff, Ramsey, N.J., assignors to Moog Inc., East Aurora, N.Y., a corporation of New York
Filed Feb. 9, 1966, Ser. No. 526,270
11 Claims. (Cl. 90—21.5)



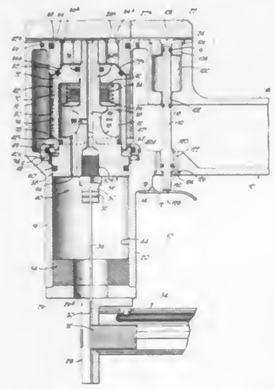
A machine tool has two numerical control positioning means for moving saddle and table members severally along different axes, each such means including a cylinder which is fixedly mounted on the saddle member and a piston rod the exposed end of which has a lost motion connection to the machine tool bed in the case of one positioning means and to the table member in the case of the other positioning means, preferably at least one of such connections including zero adjustment mechanism.

3,405,601
SINGLE ROTARY VALVE FOR HYDRAULIC FLUID AND AIR
Jesse E. Clarke, Hinsdale, Ill., assignor to Autoquip Corporation, Chicago, Ill., a corporation of Illinois
Filed Mar. 23, 1966, Ser. No. 536,788
7 Claims. (Cl. 91—4)



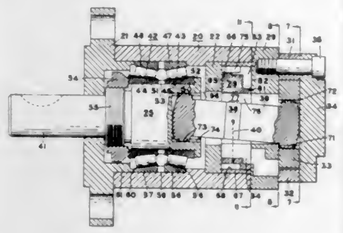
A unitary two-part control valve is provided for an air-hydraulic system for operating a hydraulic cylinder. The valve comprises a cylindrical valve rotor in a valve body. The valve rotor is biased to an intermediate position and is movable 90 degrees in either direction from the intermediate position to two end positions respectively. At one position along the axis of the rotor there is a hydraulic fluid passage diametrically therethrough. At the same longitudinal position the valve body has diametrically opposed ports, one port being adapted to be connected to the hydraulic cylinder and the other port adapted to be connected to the hydraulic reservoir below the level of the hydraulic fluid therein. At one end of the rotor an air passage extends from the end of the rotor into the interior of the rotor and then radially through the side of the rotor at a second position along the longitudinal axis thereof. At said second position the valve body has two diametrically opposed ports, one being the exhaust port and the second being adapted to be connected to the source of compressed air. At said end of the rotor, the valve body has an air port adapted to be connected to the hydraulic reservoir above the level of the liquid therein. Extending from the radial end of the air passage in the rotor is a small bleed passage about the periphery of the rotor which, when the rotor is in the intermediate position, communicates with the exhaust port. With the rotor in the intermediate position the communication between the cylinder port and reservoir hydraulic port is shut off as is communication between the compressed air port and the air passage in the rotor. When the rotor is moved to one end position the cylinder and the hydraulic reservoir ports are in communication and the air passage of the rotor is in communication with the compressed air port. At the other end position of the rotor the cylinder and the hydraulic reservoir ports are in communication and the air passage of the rotor communicates with the exhaust port.

3,405,602
FLUID MOTOR HAVING A SUPPLY-AND-EXHAUST VALVE CARRIED BY THE PISTON
Edward J. Novak, Franklin Park, Ill., assignor to Fastener Corporation, Franklin Park, Ill., a corporation of Illinois
Filed Dec. 17, 1965, Ser. No. 514,502
22 Claims. (Cl. 91—28)



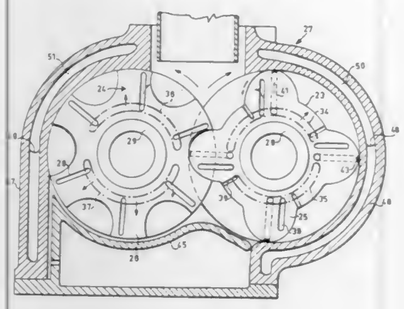
A single stroke pneumatic motor for a fastener driving tool comprising a housing defining a reservoir for pressurized fluid, a cylinder in the housing, and piston means slidably mounted in the cylinder including a piston valve means and a valve seat thereon. The piston valve means are movable bodily with the piston means and are movable against the seat for normally closing the communication between the reservoir and one end of the cylinder. Means are provided for moving the piston valve means away from the seat to place the reservoir in communication with the cylinder, thereby admitting pressurized fluid for driving the piston means.

3,405,603
FLUID PRESSURE DEVICE AND VALVE SYSTEM THEREFOR WITH IMPROVED VALVE DRIVE MECHANISM
George V. Woodling, 22077 W. Lake Road, Rocky River, Ohio 44116
Continuation-in-part of applications Ser. No. 571,915, Aug. 11, 1966, and Ser. No. 603,508, Dec. 21, 1966. This application May 10, 1967, Ser. No. 637,382
25 Claims. (Cl. 91—56)



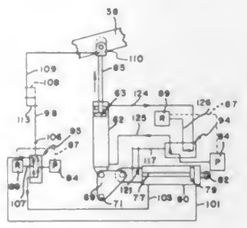
A fluid pressure device having a stator element and a rotor element defining a stator-rotor mechanism with the rotor element operatively connected to a main shaft by a wobble shaft and including a rotary valve disposed to control the entrance of fluid to and the exit of fluid from the stator-rotor mechanism. The stator element has a fixed axis and the rotor element has a movable axis. The rotor element has a rotational movement about its own axis and an orbital movement about the fixed axis. The rotary valve has internal wall means defining an enlarged opening through which the wobble shaft extends. Universal torque-transmitting means is mounted between the rotary valve and the intermediate portion of the wobble shaft which extends through the enlarged opening thereof. The universal torque-transmitting means provides for rotating the valve once for each rotation of the rotor element. The main shaft is supported by tapered, roller bearings in combination with means to accommodate for axial tolerances in fixing the position of the bearings in the bore of the housing.

3,405,604
METHOD OF DRIVING A SCREW ENGINE POWER UNIT AND A POWER UNIT TO BE DRIVEN ACCORDING TO SUCH METHOD
Alf Lysholm, Karlaplan 43, Stockholm, Sweden
Filed May 11, 1966, Ser. 549,250
Claims priority, application Sweden, May 14, 1965, 6377/65
13 Claims. (Cl. 91—84)



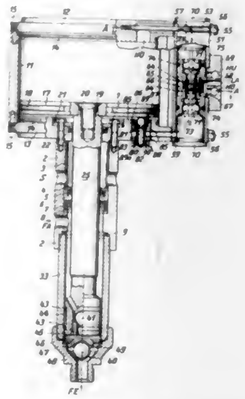
A method and apparatus for cooling a screw turbine is disclosed, and the cooling is sufficient to enable the screw turbine to receive and utilize a high temperature (above 1200° C.) motive fluid from a compressor. The method and apparatus provide for a cooling of the screw turbine by a combination of air and liquid cooling. Liquid is circulated for cooling the casing of the screw turbine and the central portions of its rotors; and air is supplied to the screw turbine to form a combined veil, boundary layer and blocking air cooling which insulates the rotors from the high temperature motive fluid.

3,405,605
HYDRAULIC PUMP JACK MEANS
Milburn M. Ross, 631 N. Bluff, Wichita, Kans. 67208
Filed June 14, 1966, Ser. No. 557,535
10 Claims. (Cl. 91—173)



This invention relates to a pump jack means and, more particularly, to a hydraulically operated pump jack means used to pump oil wells and the like having a walking beam actuated by a dual acting piston and cylinder means. Still more specifically, this invention relates to a hydraulic pump jack means having a new and novel control means operable to uniquely regulate the oscillatory movement of an interconnected walking beam. Additionally, this invention relates to a hydraulic pump jack means; a frame means; a walking beam connected to the frame means; a power means connected to the beam to impart oscillatory movement thereto; and a control means connected to the power means operable to provide rapid control deceleration of the walking beam under a force of fluid compression prior to movement of the walking beam in an opposite direction thereby prolonging the life of the equipment and providing shock absorbing, quiet operation.

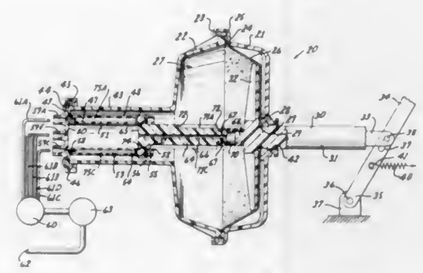
3,405,606
CONTROL OF DOUBLE-ACTING PRESSURE MEDIUM ENERGIZED SERVO-MOTORS
Harry Scheffer, Hamburg-Lokstedt, Germany, assignor to Harry Kruger G.m.b.H., Hamburg-Lokstedt, Germany
Filed May 2, 1966, Ser. No. 546,736
7 Claims. (Cl. 91—306)



A pressurized fluid control for expansible reversing motors capable of permitting a reciprocating operation

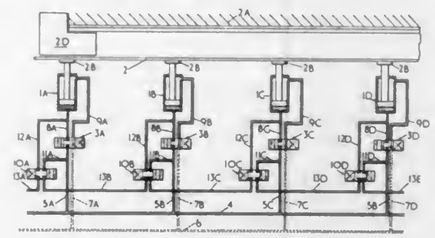
of the expansible motor solely under the control of a pressure operated valve, eliminating the need for guide rods or the like.

3,405,607
MULTI-POSITION FLUIDIC CONTROLLED ACTUATOR
Harald E. Vollbehr, Irwin, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed June 8, 1966, Ser. No. 556,150
16 Claims. (Cl. 91—357)



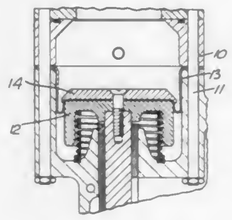
This disclosure relates to a pneumatically operated, multi-position actuator that has a plurality of passage means adapted to selectively lead from a pneumatic source to the actuating chamber of the actuator that is defined in part by a movable diaphragm, the movable diaphragm carrying a cam member that moves in unison with the diaphragm and cam movable means of each of the passage means between their passage opening positions and their passage closing positions whereby the cam member will cause the movable means of a respective passage means to close that respective passage means when the cam member reaches a predetermined position thereof relative to the passage means to terminate the pneumatic signals being imposed thereby in the actuating chamber so that the cam member will remain in its predetermined position until the fluid signal in the actuating chamber is changed.

3,405,608
CONTROL OF UNDERGROUND MINING MACHINES
Ronald Teale, Sunbury-on-Thames, England, assignor to Coal Industry (Patents) Limited, London, England, a company of Great Britain
Filed Jan. 23, 1967, Ser. No. 610,951
Claims priority, application Great Britain, Jan. 28, 1966, 3,966/66
5 Claims. (Cl. 91—412)



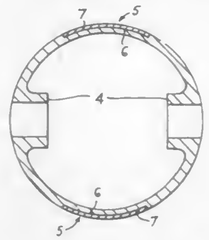
A control system for a snakable mine face conveyor advanced by rams spaced at intervals along the conveyor in which a plurality of control means each controlling operation of at least one ram are each interconnected with two other of the control means whereby actuation of any control means simultaneously initiates operation of the rams associated with one of the control means interconnected therewith, and conditions each ram associated with itself for initiation by subsequent operation of the other control means interconnected therewith.

3,405,609
DIAPHRAGM SEALS
Denis Ernest Lee, Acocks Green, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed Nov. 23, 1965, Ser. No. 509,335
1 Claim. (Cl. 92—99)



A resilient rolling diaphragm has its outer periphery attached to a cylinder wall. The inner periphery is attached to a piston in the cylinder. The diaphragm wall in cross section has a uniformly diminishing thickness from the outer periphery to the inner peripheral portion.

3,405,610
PISTON HAVING SPRAY COATED INLAY
Harold Taylor Hill, Brockenhurst, and Clarence F. Nossiter, Lymington, England, assignors to Wellworthy, Limited, Radial Works, Lymington, Hampshire, England, a British company
Filed July 11, 1966, Ser. No. 564,107
Claims priority, application Great Britain, July 14, 1965, 29,929/65
7 Claims. (Cl. 92—223)

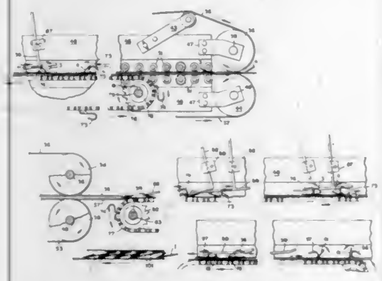


This invention relates to a light alloy piston in which the opposed thrust faces of the piston side wall are formed by spray coated inlays of a material possessing bearing characteristics superior to those of the alloy of the piston.

3,405,611
ARTICLE HANDLING METHOD AND APPARATUS
Thomas L. Millich, San Francisco, Calif., assignor of one-half to Paperbox Corporation, Oakland, Calif., a corporation of California
Filed Oct. 24, 1965, Ser. No. 504,703
12 Claims. (Cl. 93—49)

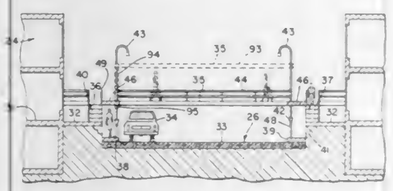
A carton blank folding apparatus and method in which carton blanks are moved at a predetermined continuous speed past a folding station at which endless moving parallel chains are provided, each of which has a folding lug

projecting therefrom. The lugs are positioned on the respective chains in spaced relationship so that a carton may be positioned therebetween at the folding station. Cam operated drive mechanism is provided in conjunction with the respective chains for selectively increasing and decreasing the speeds of travel of the chains as the lugs



move past the station so that the lugs sequentially are brought closer together and moved farther apart to effect folding of predetermined portions of the carton. Similar folding mechanisms are provided at a second station for performing folding operations on other foldable portions of the carton blank.

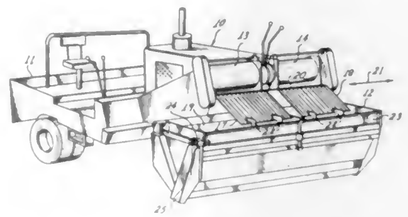
3,405,612
METHOD AND APPARATUS FOR HANDLING URBAN SHOPPER TRAFFIC
John H. Pearson, 62 Fairmount St., Lowell, Mass. 01852
Continuation of application Ser. No. 337,886, Jan. 15, 1964. This application Nov. 25, 1966, Ser. No. 597,172
19 Claims. (Cl. 94—1)



Urban pedestrian and vehicle traffic is handled by barring all vehicles, of greater than passenger automobile height, from the streets during shopping hours, by lowering street levels about three or four feet so that only the windowed portions of the passenger automobiles are above normal sidewalk level and by providing a multiplicity of pedestrian bridges over the streets, at just above the level of the tops of the windowed portions of the automobiles. No loss of parking spaces occurs but shoppers may easily cross from sidewalk to sidewalk, by ascending three or four steps to a bridge, without waiting for traffic to stop. The bridges are movable to pass fire engines at any time, or to pass trucks at desired times.

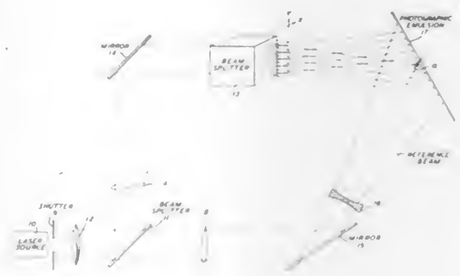
3,405,613
ROAD-PAVING MACHINE
Beauford L. Gustafson, 1700 E. Campbell, Phoenix, Ariz. 85016
Filed Apr. 20, 1967, Ser. No. 632,360
3 Claims. (Cl. 94—44)

An improved road paving machine having a receiving hopper to accept paving aggregate, a discharge hopper to dispense and spread the aggregate upon the surface to be paved, and an aggregate conveyor communicating between the receiving hopper and the discharge hopper. The machine is provided with an inclined screen intercepting the flow of aggregate to separate oversized material and an expulsion conveyor to receive the rejected



material and expel it at a point remote from the surface to be paved.

3,405,614
APPARATUS FOR PRODUCING A FLY'S EYE LENS
Lawrence H. Lin, Plainfield, and Erich O. Schulz-Du Bois, Oldwick, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 1, 1965, Ser. No. 510,776
4 Claims. (Cl. 95—1)

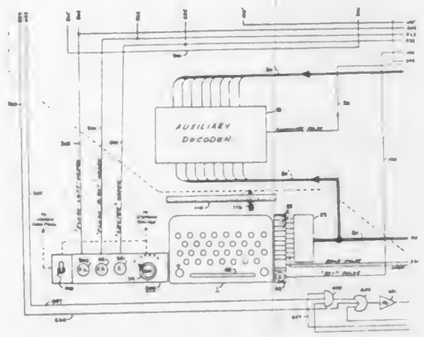


1. Apparatus for producing a fly's eye lens by means of holography comprising:
a substantialy monochromatic light source;
a beam-splitter for dividing light emitted by said source into two beams;
means for forming one of said beams into a plurality of point sources lying in a common plane;
a photographic emulsion positioned to intercept the light emitted by said plurality of sources;
means for directing the other of said two beams onto said emulsion;
and means for simultaneously exposing said photographic emulsion to said plurality of sources and said other beam.

3,405,615
AUTOMATICALLY JUSTIFYING PHOTOTYPOGRAPHIC APPARATUS
Allen H. Carmack and Jon W. De Frees, both of 352 Mt. Pleasant Drive, Woodbridge, Va. 22191
Filed Jan. 31, 1964, Ser. No. 341,567
6 Claims. (Cl. 95—4.5)

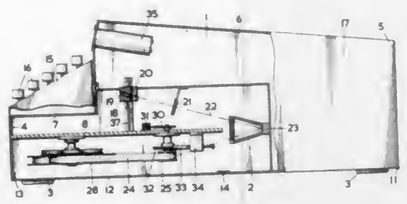
1. In a phototypographic apparatus adapted for automatically compiling justified composition of selectable printing characters, in line by line fashion on a medium using voltage magnitudes to represent spacing units, the combination comprising a potentiometer adapted to be connected across a source of voltage and comprising a tap movable therealong in accordance with the spacing

units of each character selected and the nominal between-word-spacings; a plurality of selectable equal value resistors connected in series with the number of selected resistors being used to represent the number of nominal between-word-spacings and the voltage magnitude across one of said resistors representing the spacing to be added to the nominal between-word-spacing for justification; means for selecting from said series of registers a number of resistors equal to the number of between-word-spacings in the line being compiled; means including said tap for connecting the selected resistors across the differ-



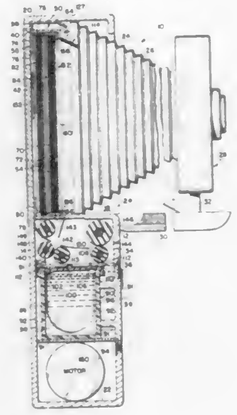
ence in potential between the desired line length and the compiled unjustified line length; means for utilizing the quotient from the division of said difference voltage by the number of selected resistors to augment the nominal between-word-spacing of the first between-word-spacing; means for reducing the number of selected resistors by one resistor for each augmentation and reducing the difference voltage substantially by the magnitude of voltage across one resistor to provide succeeding quotients for augmentating successively the nominal between-word-spacings to justify the line.

3,405,616
PHOTOGRAPHIC COMPOSING MACHINE
Edward Bernard Plooij, Willem III Straat 16, Zevenbergen, Netherlands
Filed Dec. 3, 1964, Ser. No. 415,687
Claims priority, application Netherlands, Dec. 5, 1963, 301,401
3 Claims. (Cl. 95—4.5)



1. A photographic composing machine comprising a set of type carriers, light means associated with said type carriers for lighting each type carrier, means energizing said light means to transmit light rays forwardly from any selected type carrier, a substantially spherical mirror common to all types of the set of type carriers positioned forwardly of said type carriers for receiving the light rays from any selected type carrier, a plane mirror for each type carrier positioned rearwardly of said type carriers for receiving the light rays from the corresponding type carrier projected rearwardly from said spherical mirror, a light sensitive film positioned forwardly of said plane mirrors for receiving projected light rays from said plane mirrors, said type carriers and said spherical mirror being positioned so that the images of the types made by the spherical mirror would lie on a circle through the exposed part of the film if the plane mirrors were absent, each plane mirror being perpendicular to and midway of a chord of said circle, said chord extending from the exposed part of said film to the image on said circle of the corresponding type formed if the plane mirrors were absent.

3,405,617
PHOTOGRAPHIC APPARATUS, PRODUCT AND PROCESSES
Edwin H. Land, Cambridge, and Albert J. Bachelder, Lexington, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Nov. 26, 1965, Ser. No. 509,713
18 Claims. (Cl. 95—13)

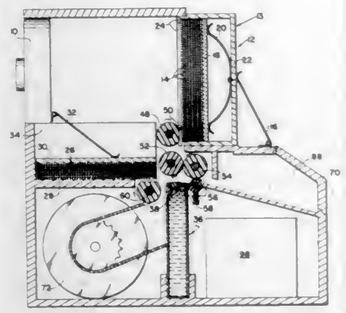


A self-developing camera incorporating a processing system including apparatus for advancing an exposed photosensitive sheet from exposure position into a container of processing liquid until the leading end of the sheet extends from the container. A second sheet advances outside of the container into engagement with the leading end of the photosensitive sheet extending from the container to move both sheets into the bite of a pair of pressure rollers. The rollers are rotated to withdraw the photosensitive sheet from the liquid and press the sheets together.

3,405,618
PHOTOGRAPHIC APPARATUS AND PROCESSES
Edwin H. Land, Cambridge, and Vaito K. Eloranta, Needham, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Nov. 26, 1965, Ser. No. 509,957
27 Claims. (Cl. 95—13)

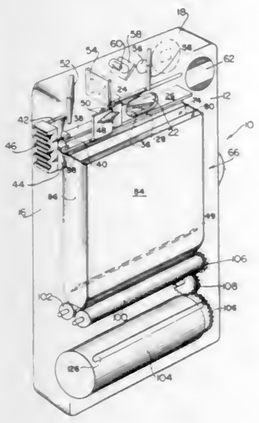
Photographic apparatus in the form of a camera, and a process in which a photosensitive sheet is exposed, is immersed in a body of processing liquid, and is pressed into superposition with a second sheet after processing has advanced to a predetermined extent. The photosensitive sheet is moved into the container until an end section extends therefrom to one side of a pair of pressure rolls and the second sheet is moved outside of the container toward the pressure rolls so as to engage and move

the end section of the photosensitive sheet into the bite of the pressure rolls which are rotated to withdraw the



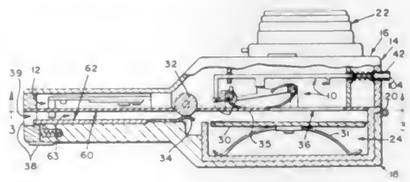
photosensitive sheet from the processing liquid and superpose the two sheets.

3,405,619
CAMERA AND FILM USEFUL THEREIN
Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed May 13, 1966, Ser. No. 549,961
34 Claims. (Cl. 95—13)



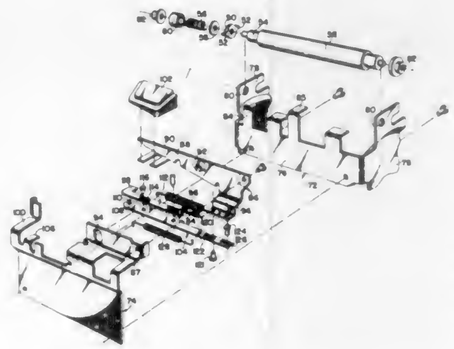
1. A compact camera comprising in combination:
means for holding a photosensitive sheet in an initial position substantially in a flat plane;
means near one end of said sheet for directing light along an optical path generally parallel with said sheet toward the opposite end thereof and forming an image in an exposure plane near said opposite end;
means for moving said sheet from said initial position relative to said exposure plane;
means adjacent said exposure plane for causing said light path and the path of movement of said sheet to intersect at said exposure plane to expose said sheet during movement thereof; and
means for moving said image relative to said exposure plane during exposure to maintain said image and said sheet relatively stationary.

3,405,620
CAMERA APPARATUS
Melvin Friedman, Arlington, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Apr. 27, 1966, Ser. No. 545,738
10 Claims. (Cl. 95—13)



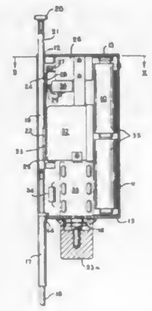
1. Photographic apparatus for incorporation with a camera of a type adapted to expose and compressively treat a partially-mounted film assembly embodying a releasable processing liquid which assembly is advanced within and withdrawn from said camera to produce a fully-mounted photographic print suitable for direct viewing or projection, said apparatus providing a correct control of the exposure and processing of said film assembly and comprising first apparatus control means, located adjacent to the focal plane of said camera and including, respectively, rotatable detent means having a surface adapted to be selectively engaged and disengaged by given portions of each said film assembly, spring means biasing said detent means for rotation in a given direction, an elongated shaft mounted for linear movement having a plurality of integral dependent engaging portions and an actuating button at one extremity extending through an aperture formed in the housing of said camera, spring means biasing said shaft and actuating button for movement in a given direction, a first limit stop means for establishing the limit of said movement, lever means including integral contacting and locking portions mounted for rotation intermediate of and adapted to contact components of both said rotatable detent means and said shaft, spring means biasing said lever means for rotation in a direction opposite to that of said detent means, said first apparatus control means determining the positioning, holding and release of said film assembly relative to said focal plane and the exposure of said film assembly through the actuation and release of said actuating button accompanied by movement of said dependent engaging portions of said shaft with respect to said detent means, said lever means, and shutter release means of said camera, respectively, and complementary second apparatus control means located adjacent to an exit aperture of said camera for assuming control of said film assembly during its advancement for processing purposes upon relinquishment thereof by said first apparatus control means and including, respectively, translationally movable detent means having a surface adapted to be engaged and disengaged by given portions of said film assembly, supporting plate-like means integral with said detent means mounted for translational movement in a given plane and including a variably positionable pin member, an extension spring biasing said supporting plate means in at least one given direction, ramp and guide means underlying said pin member for defining translational movement of said pin member and of said plate and detent means as a unit, a second limit stop means for determining the maximum translational movement of said detent means in a given direction under propulsion by said film assembly, said detent means, when reaching said second limit stop means and by reason of the applied bias of said extension spring to said supporting plate-like means, being caused to move to a location at one side of said film assembly thereby permitting unimpeded removal of said film assembly through an exit aperture of the camera, and third limit stop means adapted to contact said supporting plate member and determine the position of said translationally movable detent means after removal of said film assembly.

3,405,621
FILM METERING DEVICE WITH TWO LOCKING MEMBERS
Patrick L. Finelli, Sudbury, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Feb. 11, 1966, Ser. No. 526,752
7 Claims. (Cl. 95—31)



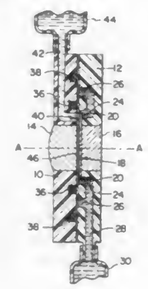
1. In photographic apparatus including an engagement member for engaging successive portions of a photographic sheet to arrest movement of said sheet through said apparatus, said engagement member including a projecting section movable along a predetermined path in response to movement of said sheet in engagement with said member, means for controlling the movement of said engagement member comprising, in combination:
a first resilient, elongated arresting member mounted in an initial position with an end section of said member extending across said path of movement of said projecting section of said engagement member, said end section of said first arresting member being deformable in the direction of movement of said projecting section by and in response to engagement with said projecting section;
means for limiting deformation of said end section to arrest movement of said engagement member;
said end section including a recessed portion;
release means for moving said arresting member lengthwise from said initial position to align said recessed portion with said projecting section and disengage said arresting member from said projecting section permitting said end section of said arresting member to return to its initial position;
a second arresting member mounted on said arresting member for limited movement relative to and lengthwise of said first arresting member, said second arresting member including an intermediate portion located out of said path of movement of said projecting section and an end section normally disposed in a first position overlying said recessed portion of said first arresting member and movable therewith into said path of movement; and
means for biasing said second arresting member relative to said first arresting member into said first position of said second arresting member.

3,405,622
ELECTRONIC PHOTOGRAPHIC EXPOSURE TIMER
Stanley Jerome Anhouse, Kew Gardens, and Georges André Buon, Whitestone, N.Y., assignors to J. A. Maurer, Inc., Long Island City, N.Y. a corporation of New York
Filed Oct. 15, 1964, Ser. No. 404,095
7 Claims. (Cl. 95—53)



A camera shutter timing circuit controlling a shutter timing interval and including two capacitors which begin to charge when the shutter is opened to start the timing interval and one capacitor responsive to a predetermined voltage charge fires a unijunction transistor and thereafter discharges therethrough to produce a gating voltage for firing a silicon control rectifier through which the other capacitor discharges to stop the two capacitor charging and to close the camera shutter whereby the starting and stopping of the two capacitor charging determines the overall shutter timing interval.

3,405,623
PHOTOGRAPHIC EXPOSURE CONTROL APPARATUS
Vernon E. Ford, South Hanover, and Robert P. Forsyth, Boston, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Dec. 27, 1965, Ser. No. 516,644
9 Claims. (Cl. 95—53)



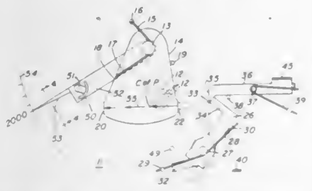
1. Photographic exposure control apparatus comprising, in combination;
transparent means defining a chamber extending transversely across an optical axis;
an opaque fluid arranged within said chamber to block passage of light along said optical axis;
means including a flexible, transparent membrane for evacuating at least a portion of said opaque fluid from said chamber, said flexible transparent membrane extending across said chamber on one side of said opaque fluid, said opaque fluid being arranged between said membrane and one wall of said chamber; and

hydraulic means for controllably producing a substantially uniform pressure on the surface of said membrane opposite the surface thereof adjacent said opaque fluid to move said membrane toward said one wall to force at least a portion of said opaque fluid out of said chamber, thereby unblocking said passage of light.

3,405,624
PHOTOGRAPHIC SHUTTER

Dean McCormack Peterson, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed May 18, 1966, Ser. No. 551,053
5 Claims. (Cl. 95—59)



1. A shutter for a photographic device having an exposure aperture; and comprising, a shutter blade pivotally mounted to oscillate from a normal closed position covering said exposure aperture to at least one open position, where it uncovers said aperture, said blade having a center of gravity spaced a distance $\bar{r}$ radially from its pivot point; means including an impact member for applying a sharp impact to said shutter blade to impart a rotary motion thereto and move it from said normal closed position; and a rebound stop member positioned in the path of movement of said blade at a point arcuately spaced from said normal position to be engaged by said shutter blade for applying a reversing impulse thereto to return it to said normal position; said impact member and said rebound member being so mounted as to engage said shutter blade for only a small portion of the total travel thereof and at points spaced radially from the pivot point of said blade by a distance d substantially equal to

$$\frac{(K_{ar})^2}{\bar{r}} \text{ or } \frac{I_g}{M\bar{r}}+\bar{r}$$

where:

K_{ar}=radius of gyration of the blade about its axis of rotation,

L_g=moment of inertia of the blade about its center of gravity,

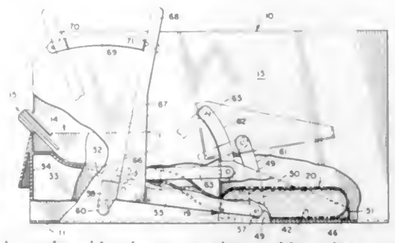
M=mass of the blade.

3,405,625
PHOTOCOPY MACHINE WITH FLUID BATH AND LIQUID RESERVOIR PACKAGE ELEVATOR

John W. Carlson, Evanston, Ill., assignor to Speed-O-Print Business Machines Corporation, Chicago, Ill., a corporation of Illinois

Filed Apr. 28, 1966, Ser. No. 545,991
4 Claims. (Cl. 95—89)

1. In a photocopy machine embodying a tray adapted to hold a liquid bath used in producing an image on a copy sheet passed through said bath and means for introducing and conveying said sheet through said bath, the improvement comprising a vertically movable, substantially horizontal platform contiguous to one side of said tray, a liquid reservoir package on said platform, tube means connecting the bottom of said tray and said package, pivot arms connected near swinging ends thereof to said platform, fulcrum means spaced from said ends providing a horizontal pivot axis for said arms, manually movable handle means for raising and lowering said platform and package thereon in concert with vertical pivoting of said arms between a lower position wherein said package is enough below the bottom of said tray to permit said tray to empty by gravity flow of liquid from said

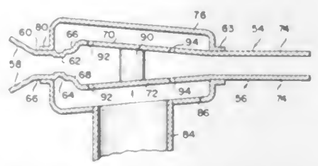


tray through said tube means into said package and an elevated position wherein said package is enough elevated relative to said tray to cause gravity flow of liquid from said package through said tube means into said tray, and means for holding said platform in said elevated position.

3,405,626
APPARATUS FOR PROCESSING PHOTOGRAPHIC MATERIAL AND THE LIKE

Marvin B. Fleisher, Wantagh, and Philip E. Hixon, Jericho, N.Y., assignors, by mesne assignments, to Itek Corporation, Lexington, Mass., a corporation of Delaware

Filed June 11, 1965, Ser. No. 463,309
10 Claims. (Cl. 95—94)

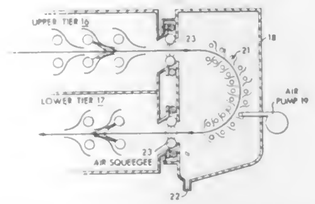


A fluid applicator for applying a liquid bed of processing fluid to web or sheet material passing through the applicator in a straight line, the web or sheet material being driven by at least one pair of rollers positioned adjacent the applicator. The applicator is made up of a pair of symmetrical plate members that are spaced apart from each other to form a channel therebetween through which the web material is passed. The plate members have a plurality of inlet ports for feeding liquid solution to the interior of the channel and inwardly extending ribs, transverse to the line of travel of the web material, to properly regulate the flow of processing solution from the inlet ports.

3,405,627
FILM PROCESSOR

Kenneth Howard Day, Sudbury, and Lloyd Clifford Sanford, West Acton, Mass., assignors to Itek Corporation, Lexington, Mass., a corporation of Delaware

Filed Aug. 17, 1965, Ser. No. 480,450
31 Claims. (Cl. 95—94)



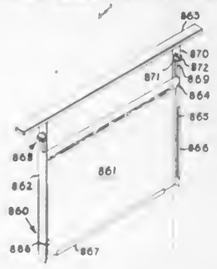
A rollerless film processor wherein a portion of the processing fluid emanating from a number of distributors

on either side of the film is directed in a liquid wedge at an angle solely within spaced intervals along the film in such a manner as to both support and propel the film through a narrow film channel. Another quantity of the fluid from the distributors impinges upon a baffle structure which redirects the processing liquid in a path substantially perpendicular to the film plane.

3,405,628
CARRIER FOR PHOTOGRAPHIC MATERIALS

Werner W. Buechner, 4407 Gladding Court, Midland, Mich. 48640

Continuation of application Ser. No. 342,028, Feb. 3, 1964, which is a continuation-in-part of application Ser. No. 52,524, Aug. 29, 1960. This application June 26, 1967, Ser. No. 649,059
16 Claims. (Cl. 95—100)

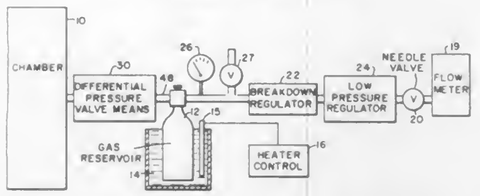


A carrier for photographic material in limp form for developing. The carrier is formed of a backrest provided with vertical grooves at both vertical ends of the backrest. Horizontal grooves are also provided at the bottom of the backrest. An agitation support device is used to support the carrier during the agitation process.

3,405,629
AUTOMATIC DECOMPRESSION SYSTEM

Alan R. Krasberg, Crownsville, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 22, 1966, Ser. No. 559,432
12 Claims. (Cl. 98—1.5)



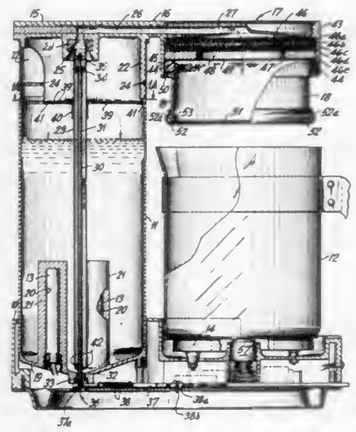
A temperature controlled compressed gas reservoir is decompressed in accordance with a desired decompression pattern. A chamber to undergo decompression is coupled to the gas reservoir by means of a differential pressure valve which accordingly relieves the pressure within the chamber at the same rate as the decompression of the gas reservoir.

3,405,630
COFFEE MAKER

Robert L. Weber III, New Canaan, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut

Filed Nov. 28, 1966, Ser. No. 597,265
19 Claims. (Cl. 99—282)

A coffee maker is provided comprising a water-heating vessel and a coffee infusion chamber associated therewith, the water-heating vessel having heating means disposed in heat-transfer relationship therewith. A water flow-through tube is provided within the vessel extending from the bottom thereof to the coffee infusion chamber, the lower portion of the said flow-through tube having an opening communicating with the interior of the vessel. A venting

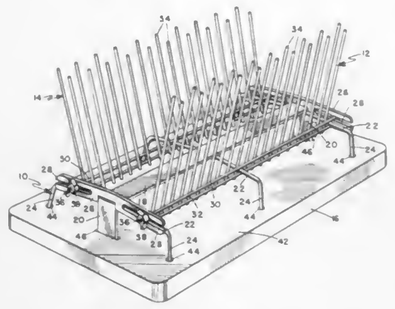


means is provided for venting the upper part of the vessel, a temperature-responsive actuating means being employed for closing the venting means, whereby the space above the water in the vessel is sealed off so that pressure build-up therein during heating causes water at a predetermined temperature to flow through the tube and into the coffee infusion chamber.

3,405,631
ROASTING AND SLICING RACK WITH SERVING PLATTER

James P. Thomas, Jr., 8200 Parkway Drive, La Mesa, Calif. 92041

Filed May 17, 1965, Ser. No. 456,201
8 Claims. (Cl. 99—426)



1. A roasting and slicing rack, comprising:

a base frame having a plurality of rigid rod-like transverse supporting members having downwardly extending terminal portions constituting substantially vertical legs;

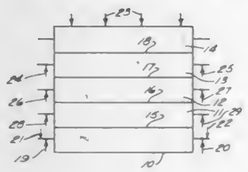
a substantially central longitudinal spine fixed to and interconnecting said members in spaced relation;

a pair of grilles slidably adjustably mounted on said members on opposite sides of said spine, said grilles having upwardly extending, parallel elongated elements regularly spaced longitudinally of said spine; and

said grilles having clamp bars extending longitudinally above and below said members therebetween;

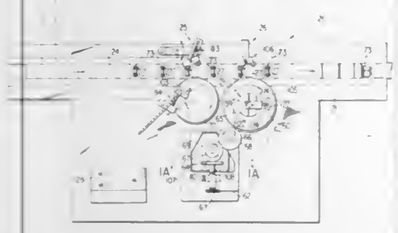
means for positively securing said grilles at selected positions.

3,405,632
CALENDER LOADING MECHANISM
Elmer E. Crist and Edward D. Beachler, Beloit, Wis., assignors to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Sept. 3, 1965, Ser. No. 485,057
6 Claims. (Cl. 100—41)



A calender roll stack having roll bending means on the top and bottom roll and a means for applying upward forces to the bearings and rolls of the intermediate rolls for obtaining the same nip pressure for each nip of the calender and for obtaining uniform pressure along the nips.

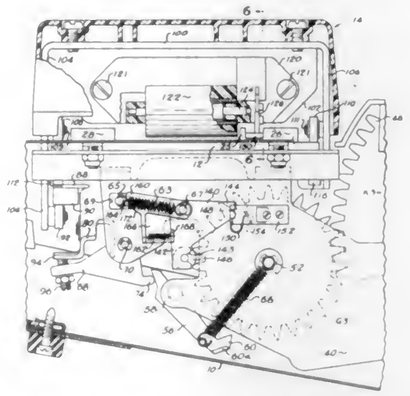
3,405,633
VERTICAL CAN PRINTER MACHINE
Lewis C. Price, Jr. and Thomas J. Benichasa, Yonkers, N.Y., assignors to Control Print Corporation, North Arlington, N.J., a corporation of New Jersey
Filed Oct. 28, 1966, Ser. No. 590,239
6 Claims. (Cl. 101—37)



A machine for imprinting material on a certain section of a container is disclosed. The machine includes a conveyor mechanism which conveys the containers through the machine imprinting means. Astride the conveyor are positioning means which can sense a mark on the container and rotate the container to a predetermined position, so material can be imprinted on the proper surface portion of the container. The positioning means include a rotating wheel and a photoelectric scanner, the former pushes the container into abutting relation with the rotating wheel to rotate the container to the proper position.

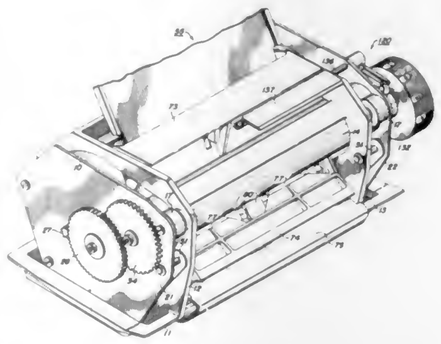
3,405,634
SETTABLE WHEEL CONTROL MEANS IN BED AND CYLINDER CREATING MACHINES
John A. Maul, Lyndhurst, James T. Zofchak, Mentor, and David D. Anderson, Richmond Heights, Ohio assignors to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Sept. 12, 1966, Ser. No. 579,458
10 Claims. (Cl. 101—45)

A data recorder for imprinting forms with fixed data from an embossed printing plate and variable data from manually settable print wheels. The machine is provided with a bed for retaining the printing elements and the form, and includes a platen carriage adapted to be moved in a path from a home position to an actuated position and back to home position to perform a printing cycle. Gear wheels and gear segments of thin sheet metal stampings are provided for positioning the print wheels, and a blocking means controllingly associated with a stop means



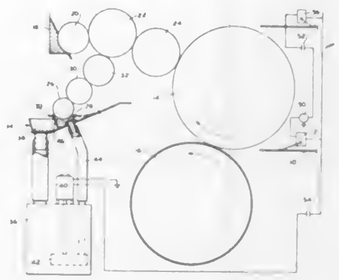
is provided to prevent movement of the platen carriage to the actuated position in all instances wherein at least one of the variable data print wheels has not been reset following a preceding printing operation. Movement of only a single print wheel is effective to unlock the printing mechanism to thereby permit operation of the platen carriage.

3,405,635
PAPER SUPPORT TRAY FOR REPRODUCTION MACHINES
Robert H. Liva, Henrietta, and Rodney J. Jendrick, Fairport, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 30, 1965, Ser. No. 491,559
3 Claims. (Cl. 101—132)



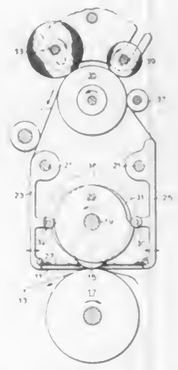
A reproduction apparatus of the pressure-transfer type incorporating a three-way roller bearing support for the rotatable copy drum and driving pressure roll, toggle type force generating means for holding the pressure roll in pressure contact with the copy drum, a foldable paper tray, automatic gripping means for attaching the transfer sheet to the copy drum, means for separating copies from the transfer sheet, and programming control means adapted at the last copy programmed to release the gripping means whereby the transfer sheet is expelled with the last copy.

3,405,636
LITHOGRAPHIC MOISTURE SUPPLY
Raymond J. Schmidlin, Lyndhurst, Ohio, assignor to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware
Filed June 27, 1966, Ser. No. 560,697
2 Claims. (Cl. 101—148)



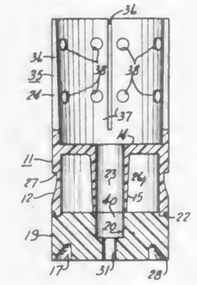
The novel aspect of this invention resides in the concept of a supply fountain which is filled only during the time that the master cylinder is provided with a master to absorb the moisture supply. The moisture composition employed for wetting the master is subject to evaporation and deterioration, and to depositing of crystalline residue on the surface of the reservoir if the reservoir is merely filled from time to time as in a permanent trough reservoir. Hence, this invention contemplates avoiding the build-up of incrustation by this concept of filling the supply fountain only as needed.

3,405,637
ROTARY RIBBON PRINTER
Richard H. Colwill, Victor, N.Y., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 30, 1966, Ser. No. 538,645
4 Claims. (Cl. 101—244)



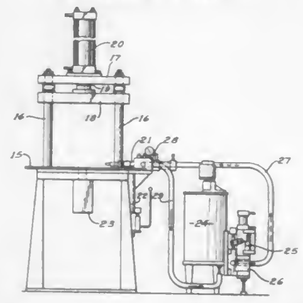
1. A rotary ribbon printer comprising a rotary print member and a rotary platen cooperating therewith, a pin-connected frame of more than three sides having two corners of said frame fixed with respect tosaid print member, one side of said frame lying substantially along the line of contact between said print member and said platen, means to oscillate said one side of said frame in the direction of movement of said print member for a short distance corresponding to a desired amount of printing and to return said frame said short distance, and a transfer ribbon guided about said pin-connected frame and under slight tension, whereby said transfer ribbon moves together with said frame, and means to advance said transfer ribbon continuously and smoothly around said frame.

3,405,638
TRACER VEHICLE WAD STRUCTURE
James A. Stoner, Jr., 1670 Broadhead St., Pittsburgh, Pa. 15206
Continuation-in-part of application Ser. No. 536,865, Mar. 23, 1966. This application Jan. 22, 1968, Ser. No. 699,394
16 Claims. (Cl. 102—87)



A wad structure to carry a tracer projectile in a shotshell consisting of a resiliently yieldable cylindrical sleeve having a yieldable tube coaxially mounted therein to provide an axial tracer projectile guidance bore and mounted on an over powder wad which has a central projectile seat exposed by the bore and an axial ignition passage which passes through the over powder wad and communicates with the seat. A bullet shaped tracer projectile is positioned on the seat and extends into the bore in tight engagement. When the shotshell is fired the pyrotechnic mixture in the trailing end of the projectile is ignited via the passage and the cylindrical sleeve is axially compressed to eject the projectile under resilient resistance from the bore in a trajectory central of the shot cloud.

3,405,639
WAX INJECTION MACHINE
Virgil Stanciu, Rocky River, Ohio, assignor to Tempcraft Tool & Mold, Inc., Cleveland, Ohio, a corporation of Ohio
Filed June 9, 1966, Ser. No. 556,429
4 Claims. (Cl. 103—5)



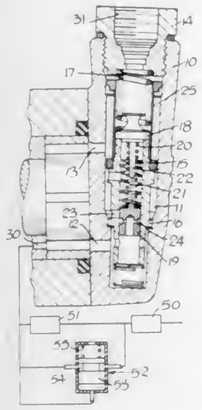
In a wax injection machine, a reservoir filled with hot wax is continually agitated by a slowly rotating helical agitator and is connected by supply and return lines with an injection nozzle. The nozzle has an advanced injecting position and a retracted idle position. Automatic valving in the nozzle by-passes hot wax directly from the supply line to the return line in the idle position of the nozzle and connects the supply line to discharge hot wax at the nozzle in the advanced position thereof. A double-acting

reciprocating pump transfers hot wax from the reservoir to the nozzle. In order to maintain a constant flow of hot wax during injection, a booster chamber is provided which is filled with hot wax during a power stroke of the piston of the reciprocating pump through a check valve preventing reverse flow which moves a floating piston in the booster chamber as the chamber is filled. As the pump piston approaches the end of its stroke, hydraulic fluid pressure is supplied to the opposite face of the floating piston so as to force the booster wax directly into the hot wax discharge line independently of the pump cylinder.

3,405,640
FLUID PRESSURE REGULATING VALVES

Kenneth Albert Walters Kemp, Ealing, England, assignor to C.A.V. Limited, London, England, a British Company

Filed Feb. 16, 1967, Ser. No. 616,557
Claims priority, application Great Britain, Mar. 14, 1966, 11,020/66
4 Claims. (Cl. 103—5)



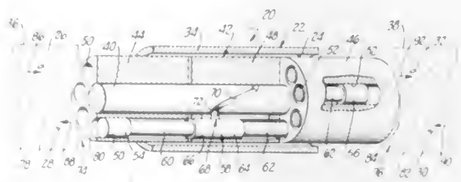
A fuel pumping system comprising an injection pump and a charge pump in series and having a fluid pressure regulating valve comprising a piston movable within a cylinder by the action of fluid pressure from the outlet of said charge pump and against the action of resilient means, a port which can be uncovered to a drain either by a groove on the piston or by the end of the piston as the latter is moved by the fluid pressure. Said piston moving progressively with increasing pressure against the action of said resilient means to first open, then close, then re-open said port.

3,405,641
ROTARY, FLUID OPERATED, AXIAL PLUNGER PUMP

Clarence J. Coberly, San Marino, Calif., assignor to Kobe, Inc., Huntington Park, Calif., a corporation of California

Continuation-in-part of application Ser. No. 485,345, Sept. 7, 1965. This application May 25, 1967, Ser. No. 641,359
17 Claims. (Cl. 103—49)

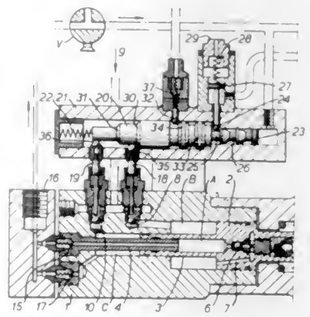
A rotary, fluid operated, axial plunger pump including a housing containing a rotor on a spindle, circumferentially spaced, axial engine and pump cylinders in the respective ends of the rotor, interconnected engine and pump pistons in the respective engine and pump cylinders, engine valves responsive to rotation of the rotor for sequentially connecting the engine cylinders to an operating fluid intake and exhaust alternately, pump valves responsive to rotation of the rotor for sequentially connecting the pump cylinders to a pumped fluid inlet and outlet alternately, a cam on the spindle intermediate the ends of the rotor, and cam followers connected to the respective engine and pump piston assemblies and engaging the cam for rotating the rotor on the spindle in response to reciprocatory movement of the engine and pump piston assemblies. A sectional rotor construction comprising an engine end section carrying the engine pistons, a pump end section carrying the pump pistons and a central section guiding the cam followers and transmitting rotation to the end sections.



3,405,642
APPARATUS FOR RAISING THE PRESSURE OF A FLUID

Alan J. M. Freeman, Durham, England, assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Nov. 28, 1966, Ser. No. 597,458
Claims priority, application Great Britain, Nov. 29, 1965, 50,614/65
17 Claims. (Cl. 103—50)



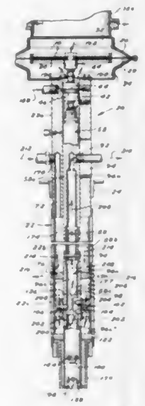
A multi-chambered pump for delivering a fluid to a pressurized environment, a motor for operating the pump, and control means operable to lower the volume of fluid pumped to the pressurized environment upon attainment of a pre-determined load on the motor.

3,405,643
DEVICE FOR PUMPING VISCOUS LIQUIDS THROUGH A BUNGHOLE OF A DRUM

Myron S. Berman, Minneapolis, Minn., assignor to Raleigh Industries, Inc., Minneapolis, Minn., a corporation of Minnesota

Filed Apr. 24, 1967, Ser. No. 633,162
9 Claims. (Cl. 103—50)

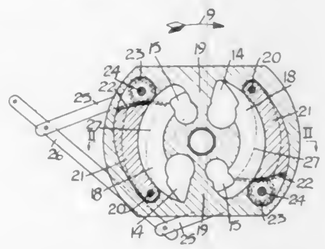
A vertical shaft extends downwardly into a drum from which liquid is to be removed and is reciprocated up and down by alternatingly directing air under pressure to the upper and lower sides of a diaphragm connected to the uppermost end of the shaft. A slidable spool serves as a valve for directing the air, there being a pair of springs that are successively compressed, but not completely, before the spool is shifted from one position to another. A piston is reciprocably and slidably disposed between a tubular casing and the lower portion of the shaft. The shaft actuates the piston upwardly and downwardly to produce the requisite pumping action, the liquid being pumped then being forced upwardly through the shaft itself and out at an elevation above the top of the drum. Provision is made for bypassing some or all of the liquid back into the drum. An agitator is oscillated by the shaft as the shaft reciprocates vertically so as to stir the liquid in the drum. Also, means are provided for diverting some of the air as it is exhausted in a direction so that the liquid being pumped does not congeal or harden around the shaft where it is otherwise likely to congeal or harden.



3,405,644
LIQUID DISPLACEMENT PUMPS

Robert Thomas John Skinner, Kenilworth, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company

Filed June 8, 1966, Ser. No. 556,235
4 Claims. (Cl. 103—97)

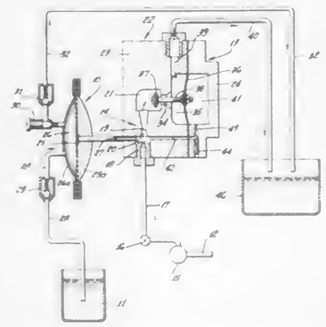


A liquid displacement pump in which a bladed rotor is mounted within a cavity in a pump body having an inlet and outlet at angularly spaced positions around the rotor periphery. The body has a part-annular recess in the cavity wall extending around the periphery at least between the position of the inlet and that of the outlet. A spoiler is mounted within the body and is capable of movement into the cavity for preventing or reducing continuity of liquid flow between the inlet and outlet through the recess and the spaces between adjacent rotor blades.

3,405,645
DUAL FLUID PUMPING SYSTEM

Clark E. Jackson, Rolling Hills, Calif., assignor to Purex Corporation, Ltd., Lakewood, Calif., a corporation of California

Filed Aug. 22, 1966, Ser. No. 573,943
12 Claims. (Cl. 103—152)

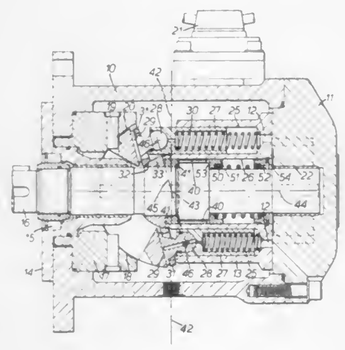


A fluid pumping system including a reciprocally displaceable pumping element operable within a chamber in response to fluid pressure exerted thereon and oscillator means for varying the fluid pressure acting on the pumping element including a valve operating in response to pressure changes in the fluid.

3,405,646
HYDRAULIC PUMPS OR MOTORS

Oswald H. Thoma, Cheltenham, England, assignor to Unipat A.G., Glarus, Switzerland, a Swiss company

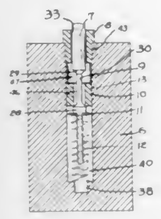
Filed Sept. 6, 1966, Ser. No. 577,493
Claims priority, application Great Britain, July 6, 1966, 30,249/66
9 Claims. (Cl. 103—162)



An axial piston hydraulic pump or motor including a rotary cylinder block mounted on a rotary shaft and having a number of pistons connected through ball joints to slippers sliding on an inclined cam, the cylinder block being connected to the shaft by means of a soft bronze ring mounted at the position where the plane through the centers of the ball joints intersects the shafts, and a direct spline coupling between the cylinder block and

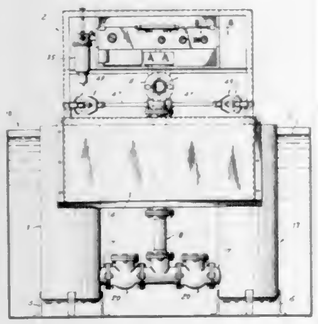
shaft, immediately adjacent the bronze ring, and the spline teeth lying wholly within the axial projection of the ring.

3,405,647
FLOW VALVES
Thomas E. Bryan, 1808 Aden Road, Fort Worth, Tex. 76116
Filed Nov. 9, 1966, Ser. No. 593,118
4 Claims. (Cl. 103—232)



An air lift valve means for use in cased oil wells. The valve means has activating surfaces exposed constantly to tubing pressure and casing pressure respectively. The valve is urged to open responsive to the combined forces of tubing fluid and a coil spring and is urged to close by casing pressure. The air lift valve means further comprises check valve means which prevents fluid flow from the tubing to the casing.

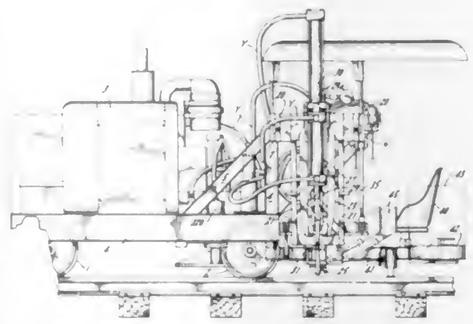
3,405,648
FLUID PUMP
Dan R. Long, 1204 Westcrest Drive, Arlington, Tex. 76010
Filed Sept. 8, 1966, Ser. No. 577,965
2 Claims. (Cl. 103—238)



A pneumatic pump for pumping fluids having a pair of vertically positioned cylinders in spaced relationship, each cylinder having a fluid inlet opening in its lower end and valve means for closing the same. A fluid outlet opening near the lower end of each cylinder connected to a common flow pipe, each outlet opening having a check valve therein.

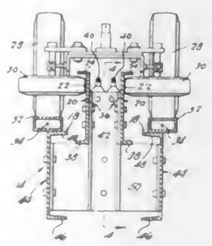
Means for injecting compressed air into each cylinder at the upper end thereof to displace liquids entering the cylinders from the bottoms thereof, and valved means for controlling the air pressure injected into each cylinder, in alternate sequence, and automatic means for alternate operation of the valved means whereby to effect a continuous and uninterrupted fluid flow.

3,405,649
SPIKE DRIVER
Robert J. Foxx, Metuchen, N.J., and Edward H. Krause, Jr., New Berlin, Wis., assignors to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Original application June 28, 1965, Ser. No. 467,500. Divided and this application Jan. 25, 1967, Ser. No. 634,782
2 Claims. (Cl. 104—17)



A method of driving spikes in railroad track which involves positioning spikes, one at a time, over spike holes in selected tie plates and providing a downthrust on the spikes to drive them into the spike holes. The spikes are sequentially presented to an offset location with a cross transfer to the spike thrusting location. An upthrust is provided from below the ties so that the ties and tie plates are brought up flush against the bottom of the rails.

3,405,650
MONORAIL TRAIN
Alan B. Hawes, 8504 Seaview Ave., Wildwood Crest, N.J. 08260
Filed Jan. 14, 1966, Ser. No. 520,583
9 Claims. (Cl. 104—119)



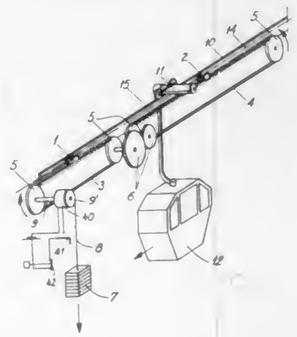
The invention provides a combination of a monorail and a passenger train car mounted thereon, said monorail comprising an upstanding elongated metal base fixedly supported upon a plurality of spaced transverse standards, said base having a pair of horizontal surfaces in the same plane adapted for rolling engagement with a pair of vertical drive wheels of said car, a pair of laterally spaced upright members rising from said base and extending above said horizontal surface, said members having opposed vertical surfaces which are adapted for rolling engagement with horizontal guide wheels of said car and which have upper horizontal flanges projecting from the top thereof, transverse metal members terminating below said horizontal flanges and secured to and fixing said horizontal surfaces and upright members together to form a unitary monorail and defining a protection channel between the upright members, a pair of electric power conductors insulatedly mounted in said channel and extending longitudinally thereof, said passenger train car having a pair of spaced horizontal guide wheels cooperatively disposed with respect to a pair of laterally spaced vertical drive wheels, said guide wheels being adapted to engage said vertical surfaces and being retained in rolling engagement therewith by said outwardly projecting flanges thereon.

3,405,651
METHOD AND APPARATUS FOR TOWING SKIERS AND THE LIKE
James V. Harmon, 227 Emerald Ave., New Brighton, Minn. 55112
Continuation-in-part of application Ser. No. 453,936, May 7, 1965. This application July 16, 1965, Ser. No. 472,572
12 Claims. (Cl. 104—173)



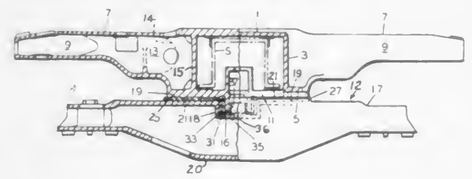
Ski tow apparatus composed of a stationary elevated cable or rope secured at each end to an elevated support (typically metal tubes secured together at their upward ends) and a tow motor supported upon the cable for movement along it. The motor is provided with a driving wheel or belt that is engaged with the cable at times to propel the motor and a skier holding a handle that extends from the motor toward one end of the cable. Release of the handle disengages the driving wheel from the cable so that the motor can return to the lower end of the cable by gravity.

3,405,652
DEVICE FOR STARTING, CLAMPING AND CHECKING THE CLAMPING OF VEHICLES ON A ROPE
Zoltan Meszaros, Genossenweg 5, Bern, Switzerland
Filed Dec. 14, 1964, Ser. No. 418,046
Claims priority, application Switzerland, Dec. 27, 1963, 15,997/63, 15,998/63
5 Claims. (Cl. 104—204)



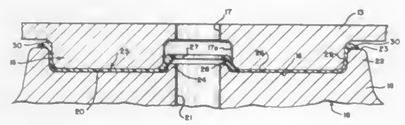
1. A device for clamping vehicles to the rope of an aerial cableway, comprising two pairs of clamping members spaced from each other and accommodated in the casing portions pivotable relatively to each other round horizontal axes, each of said casing portions having a nose extending in the direction of the rope, adjacent ends of such noses being interconnected by means of an elastic member, for instance an elastic rod, each of said clamping members being loaded by a separate independent pile of cup springs accommodated each in one of two horizontal casings, this pile of cup springs allowing substantial opening of the clamping members at a little stroke of the pile of cup springs but the stroke of each pile of cup springs being dimensioned for producing sufficient clamping force when the other pile of cup springs is broken.

3,405,653
RAILWAY VEHICLE CENTER BEARING
James B. Cunningham, Northwoods, Mo., assignor to General Steel Industries, Inc., Granite City, Ill., a corporation of Delaware
Filed May 18, 1966, Ser. No. 551,016
8 Claims. (Cl. 105—199)



A center bearing for supporting railway vehicle underframes, particularly of the floating center sill type, or swivel trucks comprising mating vertical axis pivot surfaces on the truck bolster and the underframe at the intersection of the body bolster and fixed center sill and wholly between the longitudinal side walls of the latter. For supporting vertical loads without loading the unsupported bottom wall of the underframe across the fixed center sill, at both sides of the pivot forming members the truck and body bolster are provided with opposing upwardly and downwardly facing horizontal bearing surfaces respectively, which are symmetrically disposed transversely with respect to the side wall of the fixed center sill. The opposing surfaces are normally symmetrical with each other longitudinally of the vehicle and the downwardly facing surfaces are longer than the upwardly facing surfaces and are preferably trapezoidal in plan so as to engage the upwardly facing surfaces throughout the range of truck swivel.

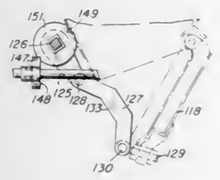
3,405,654
RESILIENT RAILWAY TRUCK CENTER PLATE
Walter C. Dilg, Glen Ellyn, Ill., assignor to Waugh Equipment Company, Salisbury, Md., a corporation of Maryland
Filed Oct. 7, 1966, Ser. No. 585,128
7 Claims. (Cl. 105—199)



A railway car swivel connection wherein a truck bolster is rotatable with respect to a frame bolster, one bolster having a center plate and the other bolster having a bowl

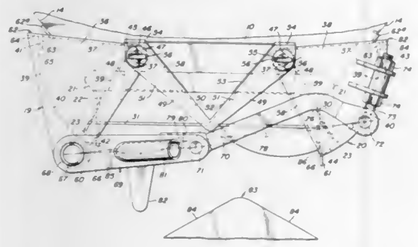
secured thereto, and portion of the center plate and the bowl defining opposed bearing surfaces, an improved liner of tough, flexible and stretchable material interposed between and in contact with the bearing surfaces, the liner including a disk having a central opening defined by an upstanding frusto-conical flange, and a cylindrical flange extending from the outer periphery of the disk and having at one end an outwardly extending annular sealing portion.

3,405,655
RAILWAY HOPPER CAR DOOR OPERATING MECHANISM LOCK
George B. Dorey, Westmont, Quebec, Canada, assignor to Continental Transport Appliances Limited, Montreal, Quebec, Canada, a corporation of Canada
Filed Nov. 22, 1966, Ser. No. 596,280
4 Claims. (Cl. 105—250)



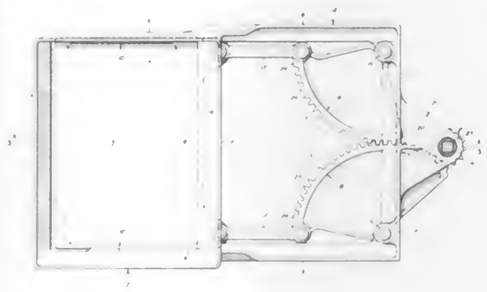
An arrangement for locking the discharge door mechanisms of railway cars, in particular those having worm and gear operating means which can be actuated from either side of the car. More particularly the arrangement is applicable to cars having pivotally mounted, longitudinally extending doors. Essentially, the locking arrangement comprises a rotatable segmental detent on a transverse locking shaft which cooperates with a slotted disk on a longitudinal door-supporting shaft to lock the door operating mechanism when the doors are closed. Two modifications of the mode of applying the device are disclosed.

3,405,656
OPPOSITELY SWINGING RAILWAY HOPPER VALVES
George B. Dorey, Westmount, Quebec, Canada, assignor to Continental Transport Appliances Limited, Montreal, Quebec, Canada, a corporation of Canada
Filed May 9, 1966, Ser. No. 548,809
6 Claims. (Cl. 105—253)



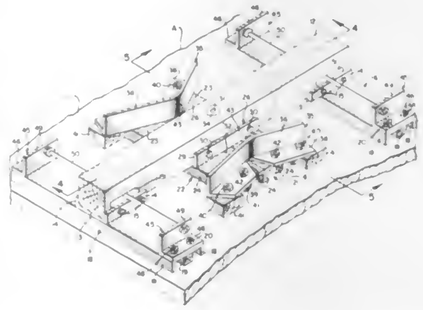
Oppositely swinging doors or valves for a railway car hopper with operating means comprising an operative shaft on one door by which an over center toggle mechanism interconnecting the doors is extended and jackknifed to open and close the doors. The toggle is overcenter in both open and closed position to lock the doors in each position. When the toggle is tripped in the open position the doors close by gravity whereby they may be closed while the car is in motion.

3,405,657
GEAR TRAIN GATE OPERATING MECHANISM
Walter L. Floehr, Toledo, Ohio, assignor to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 9, 1966, Ser. No. 526,212
7 Claims. (Cl. 105—282)



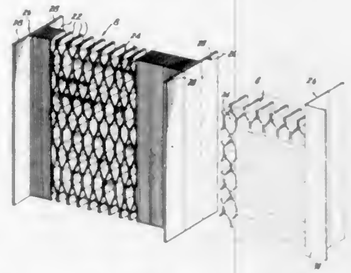
A gear train operating mechanism for a railway hopper car slide gate mounted in a frame for movement between open and closed positions and so moved by a pair of intermeshing sector gears mounted on an extension of the frame and linked to a front end of the gate, the sector gears being driven by a driving gear meshing with one of them.

3,405,658
DOUBLE SWIVEL MOUNT FOR TRANSPORTING LONG LOADS
Frank J. Kozub, 3433 S. Creek, Hamburg, N.Y. 14075
Filed June 10, 1966, Ser. No. 556,681
8 Claims. (Cl. 105—367)



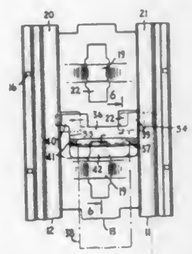
Each of two vertical swivel mounts for transporting long loads on tandem vehicles includes a load supporting cross beam slidable along longitudinal side plates spaced on each side of a longitudinal center plate. The cross beam is secured to the center plate for horizontal movement relative thereto both about a vertical swivel axis and also lengthwise of the line of vehicular travel to transmit sideway forces of the load to the side plates which permit supported movement of the ends of each cross beam for maintaining alinement of the two beams transversely of the load when rounding curves and for permitting change in the position of the two vertical swivel axes relative to the vehicle in rounding curves. The cross beam also is attached to the end plates to permit handling of each swivel mount as a unitary structure composed of coupled parts.

3,405,659
HONEYCOMB LOAD SPACER
Ronald D. Hees, Plymouth, Mich., assignor to Narad, Inc., Wayne, Mich., a corporation of Michigan
Filed Dec. 30, 1966, Ser. No. 606,229
2 Claims. (Cl. 105—369)



A spacer for filling spaces, in a freight shipping vehicle or container, not occupied by articles of freight, and being in the form of a lightweight expandable honeycomb structure.

3,405,660
LOAD CONTROL SYSTEMS
George H. Jantzen, New York, N.Y., assignor to M. Steinthal and Company Incorporated, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 489,096, Sept. 1, 1965. This application July 28, 1967, Ser. No. 656,806
6 Claims. (Cl. 105—369)

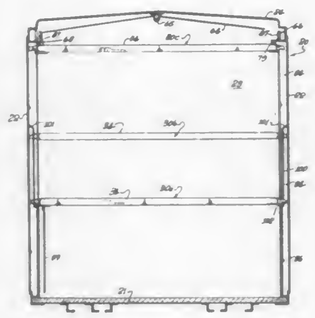


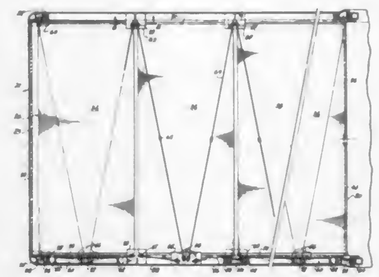
The connector attaches a flexible strap to a channelled track mounted along the inside walls of a truck trailer and allows cargo to be placed against the track directly in front of the connector.

The connector has oppositely disposed tongues of unequal length which fit into oppositely disposed apertures in the track and is jogged where the strap attaches to it.

3,405,661
ADJUSTABLE SECOND DECK FOR TRANSPORT VEHICLES
John W. Erickson, Huntington Beach, Marion G. Konrad, Hacienda Heights, and James McCloud, Torrance, Calif., assignors to Preco Incorporated, Los Angeles, Calif., a corporation of California
Filed July 26, 1966, Ser. No. 567,972
13 Claims. (Cl. 105—371)

The present adjustable second deck structure for railway freight cars and the like comprises closely adjacent panels or deck sections each maintained level during vertical adjustment by cables that connect all four of its corners to a single counterweight that is slidably guided in a car wall. The cables are directly connected to a bracket, to which the counterweight is coupled by a spring, prestressed to stretch only in response to a force at least about 1.1 times the weight. That weight is less than the weight of a loaded panel, but exceeds that of the unloaded panel, facilitating storage of unused panels at the car ceiling. Locking pins are movably mounted on each panel and enter apertures formed at selected elevations in the



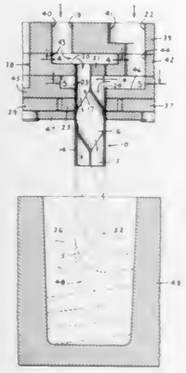


car wall. Those apertures are preferably formed in longitudinal cross webs in vertical channel members which are typically part of the primary car structure. When in released position, the locking pins extend into the channels short of the webs and guide the vertical movement of the panels. The web is omitted above the highest desired panel working position. For safety a positive stop limits downward movement of the panel regardless of the pin position. The locking pins have downward projections at their ends, which hook to the web when the panel is loaded, preventing accidental release.

3,405,662
APPARATUS FOR MAKING CONFECTIONARY PRODUCTS
Edwin J. Otken, North Brunswick, N.J., assignor to Good Humor Corporation, Brooklyn, N.Y., a corporation of Delaware
Original application Oct. 31, 1963, Ser. No. 320,459. Divided and this application Jan. 11, 1967, Ser. No. 608,666
8 Claims. (Cl. 107—1)

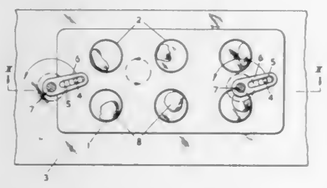
This invention relates to a depositor for making frozen

confections and including a rotary nozzle having a pair of passages therein for discharging differently colored



and/or flavored confections in a plastic state into a mold in the form of generally helical layers.

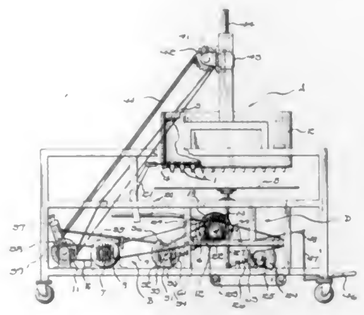
3,405,663
ROUNDING MACHINE
Pieter Johannes Benier, Voorburg, Netherlands, assignor to N.V. Nederlandsche Fabriek van Bakkerijwerktuigen v/h G.J. Benier, The Hague, Netherlands, a corporation of Netherlands
Filed Aug. 22, 1966, Ser. No. 574,034
Claims priority, application Netherlands, Sept. 2, 1965, 6511480
7 Claims. (Cl. 107—9)



A dough molding machine having a molding surface with a plurality of molding cylinders at right angles to such surface. The molding cylinders and the molding surface are moved relative to one another in a circular path. The crank drive mechanism for moving such elements relative to one another is automatically set dependent upon the forces exerted by the dough to be molded during the molding operation.

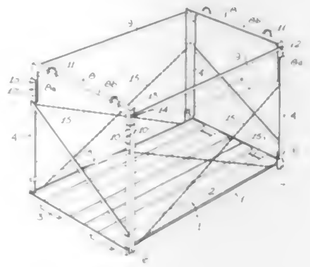
3,405,664
CAKE STOCK DISPENSING APPARATUS
Tadahiro Kajitani, Higashi 4–3, Hannon-cho, Abeno-ku, Osaka, Japan
Filed July 5, 1966, Ser. No. 562,890
2 Claims. (Cl. 107—27)

A cake stock dispensing apparatus in which a depressing plate is provided in a cake stock container which has a number of restricted openings in the bottom thereof, which openings are controlled by a transversely movable shutter. The apparatus further has a liftable receiving plate below the restricted openings for receiving lumps of the cake stock extruded through the restricted openings. A driving system is coupled to the shutter shifting mechanism, the depressing plate raising and lowering mechanism and the receiving plate raising and lowering mechanism, which driving system is driven from a single shaft



which is rotated by a motor through a one-revolution clutch device, so that the single operation of actuating the clutch device carries through an entire cycle of operation of the apparatus.

3,405,665
SHIPPING PALLET
David M. Slonim, 22 Pente Pigadia St., Nicosia, Cyprus
Filed May 22, 1967, Ser. No. 640,306
Claims priority, application France, June 16, 1966, 65,716
7 Claims. (Cl. 108—55)

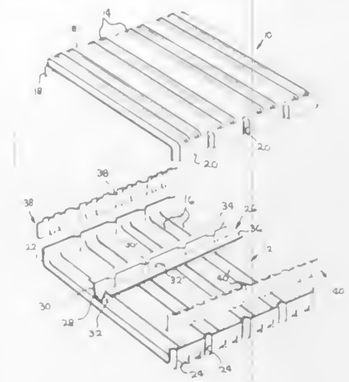


A shipping pallet is described including a load-carrying bottom wall, a pair of end walls each including a pair of corner bars pivotably mounted to opposite ends of the bottom wall, and a rigid member for retaining the end walls in an upright position. The retaining member includes a four-sided frame having four depending legs each removably attached at different vertical positions to the upper ends of the end walls. Two sides of the frame are pivotably mounted at one end to a third side thereof and are removably attached at the opposite end to the fourth side thereof. Chains are connected between the end walls and form a pair of side walls over the bottom wall.

3,405,666
PALLET ASSEMBLY
Richard J. Miller, Toledo, Ohio, assignor to Sheller-Globe Corporation, Toledo, Ohio, a corporation of Ohio
Filed Feb. 10, 1967, Ser. No. 615,252
7 Claims. (Cl. 108—58)

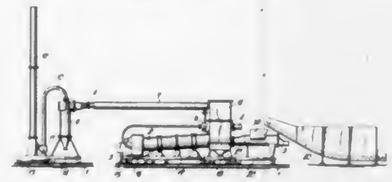
A plastic pallet having identical upper and lower deck

members with depending terminal ends which cooperate in the assembled form such that the edges of the terminal



ends are in direct alignment so that the load imposed on the deck members places the ends in compression.

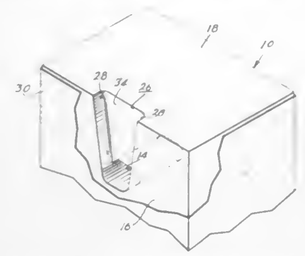
3,405,667
REFUSE BURNING INSTALLATIONS
Fritz Becker, Ewaldstrasse 6, and Friedhelm Brinkmann, Mont-Genis-Strasse 129, both of Herne, Germany
Filed Dec. 15, 1966, Ser. No. 602,066
Claims priority, application Germany, Dec. 29, 1965, B 64,630
7 Claims. (Cl. 110—14)



A refuse burning plant has a rotary kiln to one end of which refuse is charged, and, at the opposite end, ash is removed. A burner supplies heat to the kiln, and flue means connected to the kiln preheats air required for burning the refuse. Means are provided for removing dust from the kiln flue gas. Separate vehicles support various components and these are separably connected. The vehicles can thus be separated for inspection or repair and can be transported by means of low loaders.

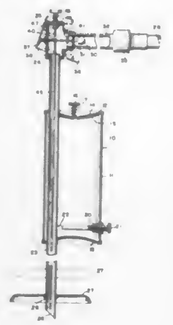
3,405,668
REFRACTORY BRICK SUSPENSION ARRANGEMENT
Joseph L. Stein, Cherry Hill, N.J., assignor to General Refractories Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 10, 1965, Ser. No. 512,850
6 Claims. (Cl. 110—99)

A refractory brick suspension arrangement including a loop-shaped metal rod hanger, the leg portions of the hanger having parallel perpendicular foot portions, the foot portions of the hanger being received within a single socket in a side face of a refractory brick upon compression of the leg portions of the hanger, the socket in the brick being substantially parallel to and spaced from the cold face of the brick. A recess is provided in the side wall of the brick to receive the leg portions of the hanger, the side walls of the recess being inclined parallel with the hanger leg portions to permit the seating of the leg portions thereagainst. The described arrangement permits the flush mounting of a thin metal casing over the side wall



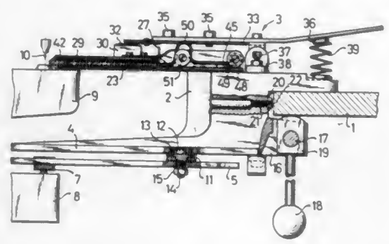
of the brick covering the recessed legs of the hanger and the hanger socket.

3,405,669
FERTILIZER-APPLYING IRRIGATION DEVICE
Harold C. Nimrick, 29219 Military Road, Federal Way, Wash. 98002
Filed Oct. 17, 1966, Ser. No. 587,235
9 Claims. (Cl. 111—7.2)



This invention relates to a device for irrigating and fertilizing plant roots beneath the surface of the soil, and pertains more especially to a device in which a pressure stream of water which performs the irrigating function picks up and carries the fertilizer to the plant roots.

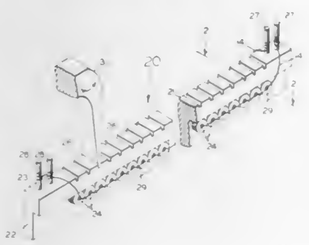
3,405,670
DEVICE FOR SEWING INSTALLATIONS FOR CLAMPING WORKPIECES
Hans Scholl, 13 Am Tolenkamp, and Hubert Jünemann, 68B Sudbrackstrasse, both of 48 Bielefeld, Germany
Filed Nov. 22, 1966, Ser. No. 596,166
Claims priority, application Germany, Nov. 27, 1965, K 57,762
9 Claims. (Cl. 112—2)



A device for clamping workpieces consisting of two or more layers, in a sewing installation. The device in-

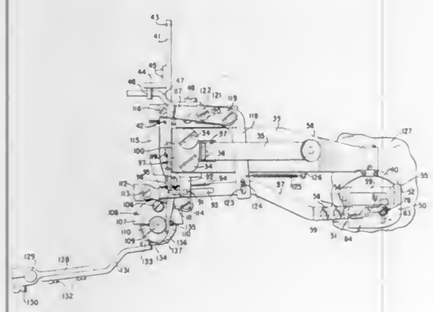
cludes a carrier for a workpiece, a clamp holder formed by a pair of plates articulated to one another, a template which determines the course of the seam and/or the shape of the workpiece and a device for lengthening one or more material layers relative to one another.

3,405,671
APPARATUS FOR THREADING A STRAND THROUGH A SUCCESSION OF APERTURES IN AN ARTICLE
Joseph C. McAlexander, Jr., Center Valley, and Jack J. Monahan, Allentown, Pa.; said McAlexander assignor to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York, and said Monahan assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed May 20, 1966, Ser. No. 551,764
7 Claims. (Cl. 112—173)



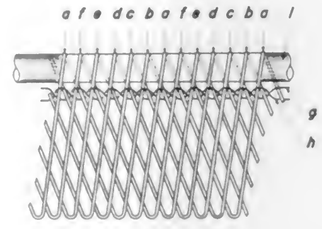
An indexable article having spaced apertures therethrough is threaded by passing a needle having a tensioned strand connected to the trailing end thereof back and forth through successive apertures. A first reciprocable shuttle passes the needle part-way through an aperture to a second reciprocable shuttle. The second shuttle then pulls the needle completely through the aperture whereupon the next successive aperture is indexed into position. A rotatable member then removes the needle from the second shuttle, rotates its leading end toward the article, and replaces it in the shuttle for the next successive pass.

3,405,672
NEEDLE THREAD CUTTERS AND THREAD END CLAMPS
Roger J. Ross, Dover, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 2, 1967, Ser. No. 657,848
5 Claims. (Cl. 112—252)



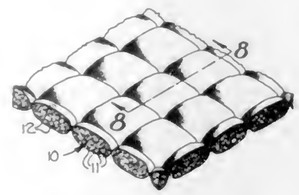
A control cam having two cam tracks is connected to the free end of a buttonhole clamp on a buttonhole sewing machine. The cam tracks act upon cam followers on two thread cutter blades on the free end of a shiftable thread cutter arm for cutting and clamping needle thread. The thread cutter arm has a ratchet and pawl at the end opposite from the thread cutter blades.

3,405,673
TUFTED CORD FOR RUGS
Yasuaki Iwai, 29–1 Rokkodal-cho, Nada-ku, Kobe, Japan
Filed May 3, 1966, Ser. No. 547,231
Claims priority, application Japan, Nov. 24, 1965, 40/72,321
4 Claims. (Cl. 112—412)



A tufted cord rug made up of a plurality of lengths of core material. The core material has a plurality of wrapping or covering materials wrapped spirally around the lengths of core material with the materials around at least the outermost of said lengths at the edge of the rug extending outwardly from the core material as looped tufts forming a fringe for the rug. A plurality of bracing threads or yarns is interlaced at and around the root portions of the tufts where the tufts depart from the core, the bracing threads or yarns being interwoven with the tufted threads at predetermined regular intervals.

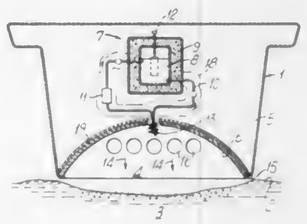
3,405,674
METHOD OF PRODUCING A QUILTED NON-WOVEN TEXTILE PRODUCT
Herbert W. Coates, Joseph F. Baigas, Jr., Milon J. Hamilton, and John T. Haynes, Jr., Charlotte, N.C., assignors to Kem-Wove Industries, Inc., a corporation of North Carolina
Filed Mar. 15, 1965, Ser. No. 439,663
5 Claims. (Cl. 112—420)



A method of producing a covered, quilted, non-woven textile product including the steps of compacting a non-woven textile fabric formed from thermoplastic fibers bonded together with thermoactive resinous bonding material to a less open, self-sustaining, compacted state, superimposing cover sheets of material onto said compacted non-woven fabric, securing the superimposed compacted non-woven fabric and cover sheets together at spaced locations to form a predetermined pattern and restoring

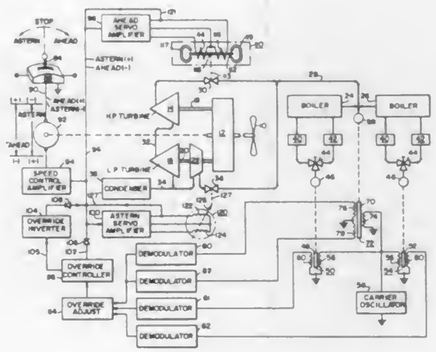
the compacted non-woven fabric to the original open state thereof so that the non-woven fabric will expand and fill the spaces between securing locations and between the cover sheets to mold the quilted product.

3,405,675
WATER-BORNE GAS-CUSHION VEHICLES
Christopher Sydney Cockerell, Bassett, Southampton, Herbert Willoughby Grace, Northwood, and John Anthony Boutland, Hythe, Southampton, England, assignors to Hovercraft Development Limited, London, England, a British company
Filed Apr. 6, 1966, Ser. No. 540,718
Claims priority, application Great Britain, Apr. 6, 1965, 14,615/65
15 Claims. (Cl. 114—67)



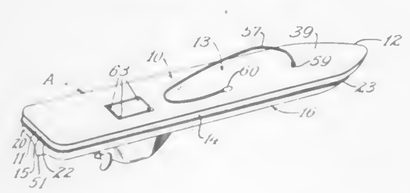
A gas-cushion vehicle for travelling over the surface of water produces a vehicle-supporting cushion of steam by evaporating water directly from the surface over which the vehicle travels, without taking the water into the body of the vehicle. Evaporation is effected either by radiating heat onto the surface of the water beneath the cushion space, or by direct heat exchange from heating elements carried by the vehicle and immersed in the water. The coolant circuit of a nuclear reactor may be used as the source of heat.

3,405,676
STEAM PROPULSION CONTROL SYSTEM
Milton M. Hobbs, Marple Springfield, Pa., and Leaman B. Podolsky, Wilmington, Del., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 6, 1966, Ser. No. 540,556
14 Claims. (Cl. 115—.5)



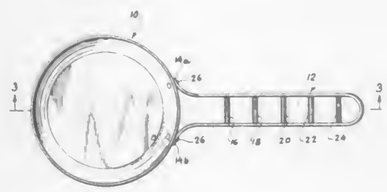
Apparatus disclosed includes a steam turbine driven reversible ship propulsion system having respective ahead and astern control valves driven by separate servo systems, which are in turn selectively driven by a proportional plus integral operational amplifier whose input responds to a summation of signals representing actual and desired propeller speeds. Apparatus responsive to off-normal conditions, such as low boiler pressure, produce "off-normal" signals which modify the speed control signals applied to the servo systems in a manner to limit the valve openings so that the capability of the system cannot be exceeded. Means is also provided to restrict the integrating capability of the operational amplifier so that it integrates only when the desired speed signal dominates the actual speed signal.

3,405,677
MOTORIZED SURFBOARD
Robert C. Smith, Oakwood Manor, Moorhead, Minn. 56560
Filed Dec. 1, 1966, Ser. No. 598,326
6 Claims. (Cl. 115—70)



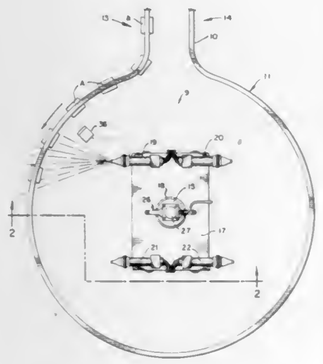
The device comprises a motorized surfboard which is relatively inexpensive and light in weight. The float body is preferably largely filled with foam plastic for buoyancy. A hollow fin extends downwardly from the body centrally thereof forming a cockpit to enclose a battery and electric motor. The motor drive shaft extends longitudinally through the rear of the fin to drive a propeller. A cover acts as a seal for the cockpit. A control cable extends through the top of the float body near the forward end and serves as a means of controlling the motor and stabilizing the rider when in a standing position.

3,405,678
COOKING UTENSIL WITH TEMPERATURE INDICATING MEANS
Richard E. Frenkel, 201 E. 77th St., and Herbert M. Frenkel, 205 E. 78th St., both of New York, N.Y. 10021
Filed Dec. 30, 1966, Ser. No. 606,253
8 Claims. (Cl. 116—114)



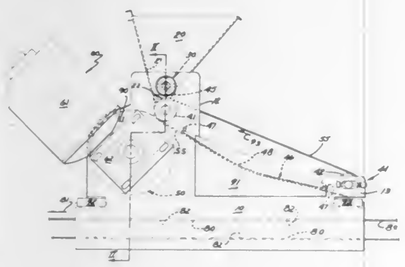
1. A cooking utensil with temperature indicating means, said temperature indicating means comprising a handle secured to said cooking utensil, a series of heat sensitive elements on said handle sequentially spaced with respect to said cooking utensil.

3,405,679
SPRAY UNIT FOR USE WITH ARCUATE CONVEYOR PATHS
Edward O. Norris, Westport, and Richard F. Wiggins, Fairfield, Conn. (both % The Gyromat Corporation, P.O. Box 4157, Bridgeport, Conn. 06607)
Filed Nov. 16, 1966, Ser. No. 594,808
7 Claims. (Cl. 118—2)



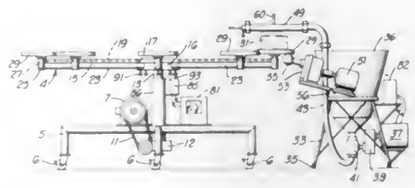
The present disclosure relates to industrial spray installations and is directed particularly to new arrangements for consecutively applying coatings to articles traveling along a curved conveyor loop.

3,405,680
DUSTING MACHINE
Bruce W. Brunson, Grand Rapids, Mich., assignor to Werner Machinery Company, Grand Rapids, Mich., a corporation of Michigan
Filed Aug. 15, 1966, Ser. No. 572,575
3 Claims. (Cl. 118—24)



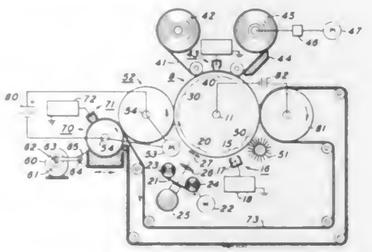
A dusting apparatus for articles being carried on a conveyor, such apparatus including means for supplying dusting material onto an endless belt which carries the material downwardly onto a rotatable brush which is rotating to scatter or distribute the dusting material in a direction underneath the return portion of the endless belt which serves as a shroud positioned over the conveyor means. This arrangement provides for a continuously moving shroud which is cleaned off by the rotating brush and thus eliminates caked dusting material from accumulating on the shroud and eventually falling on the articles on the conveyor.

3,405,681
CAKE ICING MACHINE
Victor F. Gugler, 8920 Helen Ave., Sun Valley, Calif. 91352
Filed Aug. 31, 1965, Ser. No. 483,930
2 Claims. (Cl. 118—25)



A cake icing machine comprising a rotatable carrier, circumferentially spaced turntables removably mounted on the carrier, a friction drive engageable with the lower side of each turntable to rotate same when it is in an icing station, and an icing dispenser for depositing icing on a cake on the turntable being rotated in the icing station.

3,405,682
XEROGRAPHIC DEVELOPMENT APPARATUS WITH WEB LOADING MEANS TO REMOVE RESIDUAL DEVELOPER
Paul F. King, Webster, and Daniel J. Donalies, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed June 8, 1964, Ser. No. 373,376
7 Claims. (Cl. 118—637)

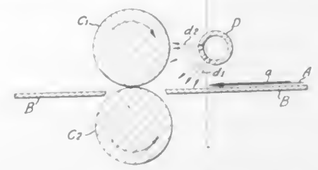


Apparatus and method for development of a latent electrostatic image formed on or in a photoreceptive surface wherein a loading member is uniformly coated with fluidized developer powder, electrostatically charged by a corona-emissive apparatus, transferred to a donor member biased to a charge greater than that of the loading member and of a polarity opposite to that of the developer powder, and thereafter applied to the photoreceptive surface to render the latent image visible. The developed image may be transferred to a support surface and the loading member utilized to clean the residual image from the photoreceptor.

3,405,683
APPARATUS FOR THE DEVELOPMENT OF LATENT ELECTROSTATIC IMAGES
Kurt Jons, Wiesbaden-Biebrich, and Gerhard Marx, Mainz-Kastel, Germany, assignors, by mesne assignments, to Azoplate Corporation, Murray Hill, N.J.
Filed June 19, 1964, Ser. No. 376,392
Claims priority, application Germany, June 22, 1963, K 50,036
4 Claims. (Cl. 118—637)

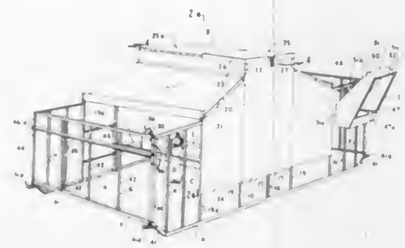
This invention relates to an apparatus for the development of latent electrostatic images on an electrophotographic material with a liquid developer which includes

means to feed the electrophotographic material thru a pair of rotatable nip rolls and nozzle means adapted to



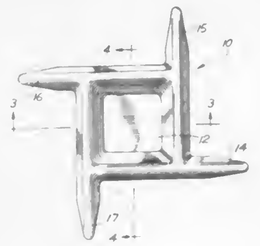
simultaneously spray the electrostatic image and the nip roll which contacts the latent image.

3,405,684
CREEP FEEDER
Furman E. Ott, Rte. 3, Laurens, S.C. 29360
Filed July 12, 1965, Ser. No. 471,335
6 Claims. (Cl. 119—53)



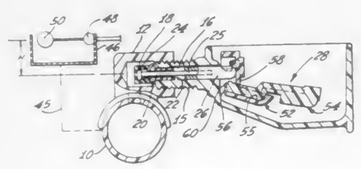
1. A creep feeder for calves including, spaced longitudinal skids having an upturned portion on an end of each of the skids; a transversely disposed feed dispensing hopper carried by said skids; a feed trough carried by said hopper also extending transversely of the skids receiving feed from the hopper; a bar extending between the free ends of the upturned portions of said skids; a first frame carried above said bar having spaces therein sufficiently to prevent passage of cows therethrough while permitting passage of calves therethrough, and a second frame extending from said first frame in substantial alignment with said skids to said hopper forming an enclosure for calves while they are feeding from said hoppers, said bar, said second frame and said hopper defining an inner opening permitting the calves to stand on the ground while feeding, whereby said bar serves as a brace for said upturned portions of said skids and prevents passage of cows into the enclosures, whereby the width of the feeder may be minimized while affording adequate room for feeding calves; said hopper further including a base portion connected to the trough; upright end walls attached to said base portion; an inwardly inclined panel carried between said upright end walls in substantially perpendicular relationship to said inclined base portion; a brace carried in said trough having an upper portion connecting said trough to said inclined panel; said brace having an inner surface, the lower end of which is adjacent said inclined base portion and which extends upwardly and outwardly in parallel spaced relation with said inclined panel defining a space therebetween; an adjustable damper positioned in said space between said inclined panel and the inner surface of said brace; said damper having a flat main body portion that is substantially perpendicular to said inclined base portion, a flange connected to the lower portion of said main body portion forming an acute angle therewith, the outer edge of said flange being in contact with the inner surface of said brace holding the lower end of the main body portion away from said inner surface of said brace and adding rigidity to said damper; whereby said damper can be raised and lowered to control the flow of feed into the trough with a minimum amount of friction between the damper and the brace and with a minimum amount of feed being trapped between the damper and the inclined base.

3,405,685
TIP RESISTANT ANIMAL FEEDER
John W. Harrell, P.O. Box 1416, Dade City, Fla. 33525
Filed Oct. 6, 1966, Ser. No. 584,776
5 Claims. (Cl. 119—61)



1. A watering and feeding device for animals comprising a central bowl which is polygonal in shape and having a leg extending in a horizontal outwardly continuation of one side, at each of the corners of said polygonal shape, said leg being in alignment with said side.

3,405,686
WATERING SYSTEM FOR NEWLY HATCHED FOWLS
Harold W. Hart, Glendale, Calif., assignor to H. W. Hart Mfg. Co., Glendale, Calif., a corporation of California
Filed Sept. 16, 1966, Ser. No. 579,810
11 Claims. (Cl. 119—75)



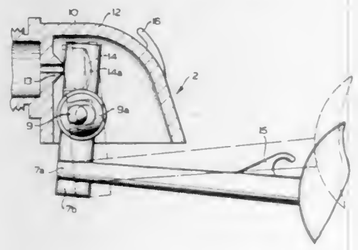
5. An apparatus for supplying water to newly hatched fowls, including:
- conduit means supplied with water under pressure and having several distributed outlets;
- water cups at the respective outlets to receive water for the newly hatched fowls;
- valve means at each outlet to control the admission of water to the corresponding cup, said valve means being urged to closed position by the water pressure in the conduit means; and
- fowl actuated control means for each valve including a trigger inside the cup to open the valve in response to a peck by a fowl, the trigger having a lower specific gravity than water and having sufficient weight in the absence of water to open the valve in opposition to the water pressure whereby the trigger serves as a float to maintain a given minimum water level in the cup automatically;

said trigger being highly sensitive to admit water in response to a light impact by the beak of a baby fowl;

said trigger extending across a substantial portion of the inside area of the cup to increase the probability of impact against the trigger by random pecks;

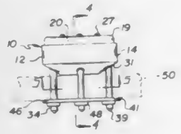
said trigger having a detachable portion constituting a means for decreasing its size and sensitivity when needed by baby fowl as their age increases.

3,405,687
ADJUSTABLE FLOAT CONTROL VALVE
Hans Rüter, Breitendyk 109, Krefeld, Germany
Filed Dec. 27, 1966, Ser. No. 605,018
Claims priority, application Germany, Feb. 18, 1966, R 42,637
6 Claims. (Cl. 119—78)



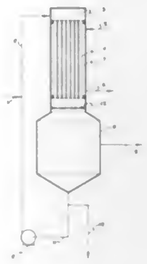
1. A device for supplying water to animals, which includes a supply tank, means for supplying drinking water to the said tank, a valve connected to regulate the delivery of water to the said tank, float means positioned within said tank, a lever mounted on a pivot and connecting said float to said valve whereby the valve is closed when the water in the tank reaches a predetermined level, and adjustable eccentric mounting means for said lever pivot whereby the position of the pivot may be adjusted with consequent variation of the said predetermined level.

3,405,688
LIVESTOCK PROTECTOR AND ANIMAL REPELLER
Thomas Edward Gerhardi, P.O. Box 17, Fort Fraser, British Columbia, Canada
Filed Aug. 30, 1966, Ser. No. 576,114
9 Claims. (Cl. 119—156)



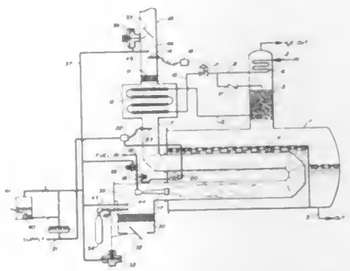
1. A livestock protector comprising a hollow base member having a base surface, a cup-like cover for closing said hollow base member, said member and cover forming a receptacle to hold an odoriferous material that repels predatory animals, said receptacle having opening means therein through which fumes from the odoriferous material can escape, a plurality of prongs projecting outwardly from the base surface of the base member and adapted to pass through a part of the livestock to be protected, and a clamping plate formed with holes therein into which said prongs fit after passing through said livestock part, said prongs gripping the plate to retain the latter in position thereon.

3,405,689
APPARATUS FOR BOILING LIQUIDS BY FALLING FILM HEATING
Alfred W. Petersen, Salt Lake City, Utah, assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
Filed May 29, 1967, Ser. No. 642,109
4 Claims. (Cl. 122—39)



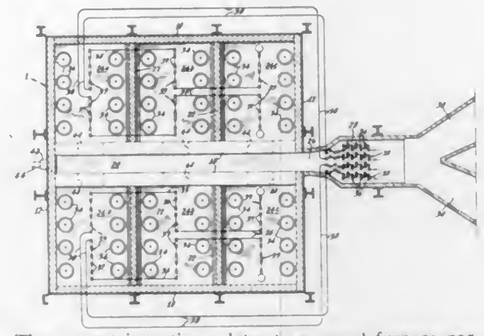
An improved falling film evaporator for boiling a liquid having a plurality of substantially vertically disposed tubular passageways, a liquid distributor means connected to said tubular passageways at the entrance ends thereof, means for heating the tubular passageways, a separation chamber situated in open connection with the exit ends of the tubular passageways, the improvement being a plate having a plurality of holes which is mounted in the separation chamber below the exit ends of the tubular passageways. The surface area of the plate is selected so that the liquid falling down the tubular passageways does not boil but will sub-cool boil and a portion of the liquid that has passed through the holes of the plate into the separation chamber boils.

3,405,690
METHOD OF AND MEANS FOR OPERATING FIRED PROCESSING EQUIPMENT
Bill S. Burrus, Ernest C. Hill, and Robert W. Coggins, Tulsa, Okla., and Don R. Boling, New Orleans, La., assignors to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 15, 1966, Ser. No. 594,481
4 Claims. (Cl. 122—136)



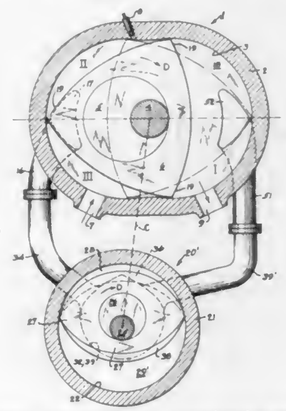
The drawings show a vessel in which liquid desiccant is heated to boil water from the desiccant so it can be reused to dry natural gas. The heat comes from a firetube down which a burner directs products of combustion. Foraminous structures are placed across the firetube, the burner between them. Also dampers are mounted to block the firetube on each side of the burner. Linkage is actuated by excessive temperature inside the firetube to close the dampers, release fire-extinguishing fluid into the tube and shut off the fuel to the burner.

3,405,691
ZONED FURNACE
Bruce A. Wallace, White Plains, and Martin O. Fankhanel, Cambria Heights, N.Y., and Walter Leitner, Penns Neck, N.J., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Aug. 26, 1966, Ser. No. 575,422
8 Claims. (Cl. 122—240)



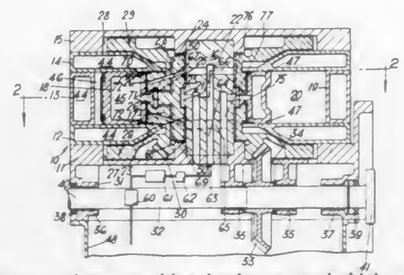
The present invention relates to a zoned furnace particularly adapted to heat fluids, especially hydrocarbons, to temperatures at which chemical reactions of the fluid will occur, such as, for example, the pyrolysis of hydrocarbons to yield ethylene and other products. The invention includes a furnace provided with a series of thermally isolated, independently fired radiant heating zones, and multiple passes of process fluid tubing, each pass of which is passed in sequence through the series of zones. Each pass of tubing is geometrically situated in relation to the heat sources in a manner identical to that of every other pass, thereby insuring thermal equivalence between the multiple passes in a common heating zone. The zones of the furnace are isolated to provide completely independent heating of the several zones and to eliminate significant heat transfer between the zones.

3,405,692
SUPERCHARGED ROTARY INTERNAL COMBUSTION ENGINE
Hanns-Dieter Paschke, Neckarsulm, Germany, assignor to NSU Motorenwerke Aktiengesellschaft, Neckarsulm, and Wankel G.m.b.H., Landau (Bodensee), Germany
Filed July 15, 1966, Ser. No. 565,511
Claims priority, application Germany, July 31, 1965, N 27,114
16 Claims. (Cl. 123—8)



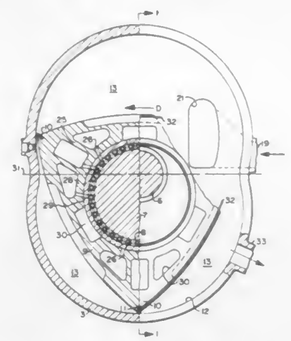
A trochoidal rotary engine in combination with a supercharging device which intakes an air charge through the primary engine and refluxes it back thereto.

3,405,693
ROTARY PISTON MACHINE
Alan W. Sparrow, Peterborough, England, assignor to Perkins Engines Limited, London, England
Filed Sept. 1, 1966, Ser. No. 576,647
Claims priority, application Great Britain, Sept. 10, 1965, 38,837/65
18 Claims. (Cl. 123—8)



A rotary piston machine having a trochoidal cavity housing, a fixed shaft extending through the housing having teeth thereon, a power transmitting member carried on and surrounding the stationary shaft arranged to transmit power into or out of the machine, a piston member rotatably carried on an eccentric portion of the power transmitting member and having internal teeth that mesh with the teeth on the stationary shaft. Various combinations of multiple piston engines are also disclosed.

3,405,694
ROTARY COMBUSTION ENGINE
Hans-Georg Zimmermann, Heilsbronn, and Ulrich Schaller, Mainz-Mombach, Germany, assignors to NSU Motorenwerke Aktiengesellschaft, Neckarsulm, Germany, and Wankel G.m.b.H., Lindau (Bodensee), Germany, both corporations
Filed Dec. 9, 1966, Ser. No. 600,575
2 Claims. (Cl. 123—8)

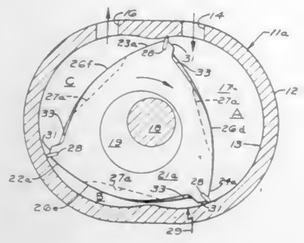


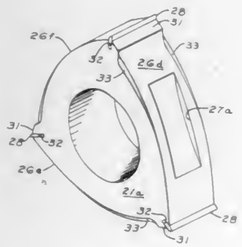
In a rotary combustion engine the rotor is cooled and the bearings lubricated by double intakes for fuel-air-oil mixture, part of the fresh gas mixture passing over the rotor working faces and part into the hollow interior of the rotor.

3,405,695
ROTARY COMBUSTION ENGINE AND ROTOR THEREFOR
Charles Jones, Hillsdale, and Marshall W. Galliers, Glen Rock, N.J., assignors to Curtiss-Wright Corporation, a corporation of Delaware
Filed Dec. 12, 1966, Ser. No. 600,964
8 Claims. (Cl. 123—8)

A rotary engine of epitrochoidal type, in which the radial extent of the polygonal rotor is progressively re-

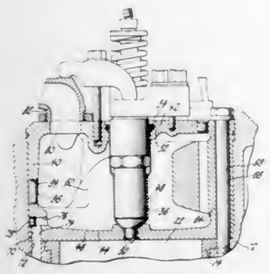
duced from the leading portion of each working face to its trailing portion, in order to alter the proportions of





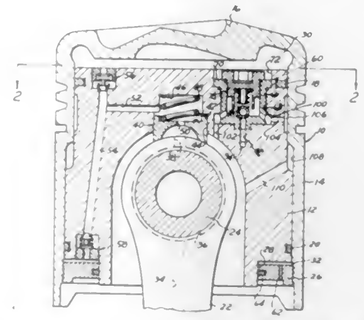
the trailing end of the combustion chamber and reduce the quenching action of the chamber walls.

3,405,696
INDIVIDUAL CYLINDER HEAD FOR INTERNAL COMBUSTION ENGINE
Karl Zaruba, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 1, 1966, Ser. No. 554,445
1 Claim. (Cl. 123—41.82)



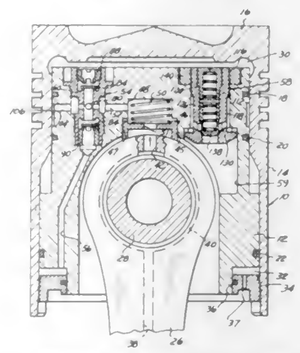
A cylindrical cylinder head for a uniflow scavenged diesel engine is arranged to be received within a cylindrical opening of an engine cylinder block and includes four annularly spaced exhaust valves controlling an equal number of ports feeding a pair of exhaust passages which open through a peripheral wall of the cylinder head. A separately formed copper injector tube is centrally located between the exhaust ports to receive a fuel injector. A plurality of coolant openings, peripherally spaced on the lower wall, receive coolant and direct it inwardly to cool the lower wall, exhaust passages and injector tube. A coolant outlet opening is provided in the head upper wall.

3,405,697
HOLLOW VALVE CONSTRUCTION FOR VARIABLE COMPRESSION RATIO PISTON
William C. Marchand, Detroit, Mich., assignor to Continental Aviation and Engineering Corporation, Detroit, Mich., a corporation of Virginia
Filed Dec. 8, 1967, Ser. No. 689,196
7 Claims. (Cl. 123—78)



A two-part variable compression ratio piston assembly having an outer part movable relative to an inner part to vary the compression ratio of an internal combustion engine and a hydraulic system utilizing oil from the lubrication system of the engine for automatically controlling relative movement of the parts to maintain a predetermined maximum combustion chamber pressure. A hydraulic circuit includes an upper and a lower chamber which expands and contracts conversely upon relative movement of the piston parts and a system for supplying and discharging the oil to and from these chambers in a manner which gradually increases the compression ratio of the engine until a predetermined maximum combustion chamber pressure has been achieved and which tends to maintain the maximum combustion chamber pressure after it has been achieved. The hydraulic circuit includes a pressure responsive relief valve preset to discharge oil from the upper chamber to the crankcase of the engine upon a predetermined pressure increase being produced in that chamber and a hollow spherical construction for the valve member of the discharge valve assembly.

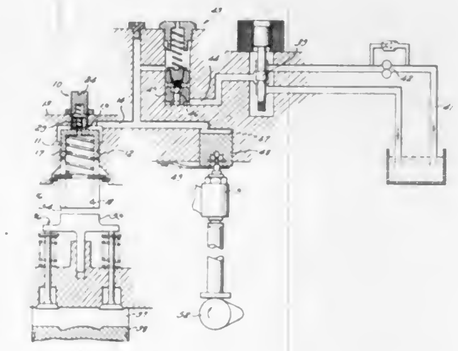
3,405,698
VALVE RETAINING MEANS FOR VARIABLE COMPRESSION RATIO PISTONS
Edward Saarinen, Detroit, and John Basiletti, Royal Oak, Mich., assignors to Continental Aviation & Engineering Corporation, Detroit, Mich., a corporation of Virginia
Filed Dec. 8, 1967, Ser. No. 689,203
9 Claims. (Cl. 123—78)



A two-part variable compression ratio piston assembly having an inner and an outer member movable relative to

one another and chambers which expand and contract with movement of the members. The relative movement of the members and thus the compression ratio of the engine is controlled by regulating the flow of a hydraulic fluid such as engine lubrication oil to and from these chambers. The hydraulic system includes a supply valve assembly and a discharge valve assembly each constructed to utilize the heat generated in the vicinity of the combustion chamber to aid in retaining the assemblies in place.

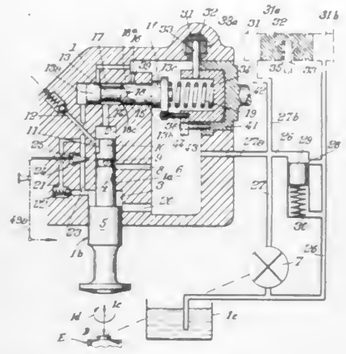
3,405,699
ENGINE BRAKING SYSTEM WITH TRIP VALVE CONTROLLED PISTON
Eugene D. Laas, South Glastonbury, Conn., assignor to The Jacobs Manufacturing Company, West Hartford, Conn., a corporation of New Jersey
Filed June 17, 1966, Ser. No. 558,341
2 Claims. (Cl. 123—97)



A work piston that is movable under hydraulic pressure applied to its head so as to move over a prescribed range to operate an associated device and is returnable by a spring, is controlled in its movement by means of a trip valve. The piston has a spill hole in its head normally closed by a spring loaded trip valve which follows the reciprocating movement of the piston. The trip valve is limited in the extent of its follower movement so that, should the work piston malfunction on a work stroke and move slightly beyond its normal range, it will separate from the trip valve causing the fluid acting upon the piston to dump through the spill hole and thereby prevent further work stroke movement of the piston. A tubular screw housing the trip valve is adjustable to regulate the extent of trip valve movement. The device is disclosed as applied to an engine braking system of the compression relief type. It enables the work piston to cause the exhaust valve of the engine to open at a time other than the normal time in the engine cycle, and insures that the work piston will not become hydraulically locked in a work stroke condition.

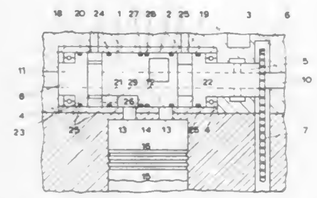
3,405,700
FUEL INJECTION PUMP
Gerald Hoefer, Stuttgart, Germany, assignor to Robert Bosch, G.m.b.H., Stuttgart, Germany
Filed June 1, 1966, Ser. No. 554,486
Claims priority, application France, June 1, 1965, 19,127
6 Claims. (Cl. 123—140)

A fuel injection pump for internal combustion engines in which injection of fuel to the cylinders of the engine is interrupted at least after the engine has reached its maximum speed by a regulating valve reciprocatable in axial direction and turnable about its axis and which is provided with a peripheral controlling face extending in part inclined to its axis and controlling, depending on the axial and angular position of the valve, a relief channel communicating with the working chamber of the pump, in which the valve is moved in one direction by



fuel displaced by an auxiliary pump operating in synchronism with the piston of the injection pump and in the opposite direction by elastic means, and including means operatively connected to the valve for changing the angular position of the latter as a function of the rotational speed of the engine.

3,405,701
ROTARY VALVE FOR ENGINES
Thomas E. Mealin and Douglas Greaves, both of 25 Kerk St., Standerton, Transvaal, Republic of South Africa
Filed Sept. 6, 1966, Ser. No. 577,248
Claims priority, application Republic of South Africa, Sept. 14, 1965, 4,979/65
3 Claims. (Cl. 123—190)

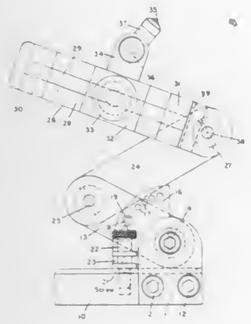


A sleeve enclosed hollow, cylindrical, rotary spool valve has an axial bore for the circulation of a liquid cooling medium. It further has a pair of spaced apart annular recesses in the outer surface thereof. Between the recesses are a pair of pockets, one communicating with each recess by an undercut passage. The sleeve has openings into the recess and other openings into the combustion chamber of the engine which latter openings are in line radially with the pockets respectively. The pockets are in the surface of the cylinder and each extend only part way around the periphery thereof.

3,405,702
DRESSING GRINDING WHEELS AND THE LIKE
Walter E. Pasowicz, 2342 N. Kenneth Ave., Chicago, Ill. 60639
Filed Dec. 13, 1966, Ser. No. 601,496
6 Claims. (Cl. 125—11)

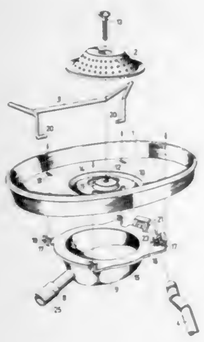
A tool intended particularly for the use of machinists and others engaged in fine and accurate grinding wheel

operations; enabling the user of such tool to produce desired engagement of the dressing tool with the work body, from numerous angles of the tool with respect to such work body. The tool is provided with several end con-



nected links for support of a tool carrying element, by which such tool carrying element may be brought to a wide range of positions with respect to the work body; provision being made for locking the parts in adjusted position.

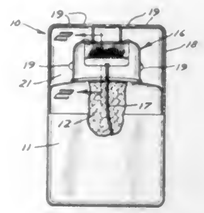
3,405,703
PORTABLE STOVE
Sten Sune Axelsson, Solna, and Klas Joel Vilhelm Svensson, Flen, Sweden, assignors to AB Bahco, Stockholm, Sweden, a corporation of Sweden
Filed Oct. 24, 1966, Ser. No. 588,892
Claims priority, application Sweden, Oct. 25, 1965, 13,777/65
2 Claims. (Cl. 126—38)



A portable stove having a burner cup, a stove plate mounted on the burner cup, and having pivotable legs and utensil supports. The legs and utensil supports are connected to the burner cup by attachments integrally formed with the cup.

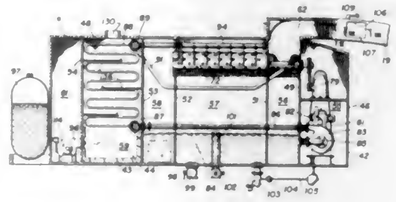
3,405,704
BURNER FOR HAND WARMER
Donald E. Wintz, St. Paul, Minn., assignor to Aladdin Manufacturing Company, Minneapolis, Minn., a corporation of Minnesota
Filed Aug. 28, 1967, Ser. No. 663,786
12 Claims. (Cl. 126—208)

A hand warmer equipped with a removable burner having a single fibrous catalytic combustion promoting member located within a housing removably attached to a body enclosing fuel impregnated absorbent material. The combustion promoting member is made of a plurality of woven



strands of glass fibers entwined with cords of asbestos located in a two-directional diagonal ribbed pattern.

3,405,705
SNOW MELTER
James E. Devlin and Alderico J. Eramo, Worcester, and Dominic Eramo and Harry V. O'Connor, Millbury, Mass., assignors to Doe Corporation, Millbury, Mass., a corporation of Massachusetts
Original application Sept. 13, 1963, Ser. No. 308,762, now Patent No. 3,309,798, dated Mar. 21, 1967. Divided and this application Mar. 21, 1967, Ser. No. 624,855
4 Claims. (Cl. 126—343.5)

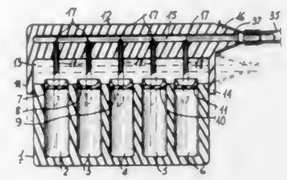


1. A snow melter, comprising
(a) a housing having a number of compartments including a main melting chamber and a combustion chamber,
(b) a horizontal row of large, parallel, perforated tubes extending through the upper portion of the main melting chamber,
(c) a driven conveyor screw extending through each perforated tube, and
(d) a horizontal row of parallel headers receiving water which is heated in the combustion chamber and extending through the main melting chamber, each header overlying a perforated tube, each header having a plurality of laterally-extending branch pipes bent around a substantial portion of the periphery of the respective perforated tube, each pipe having a series of spray apertures directed toward the outer surface of the tube.

3,405,706
ARRANGEMENT FOR TAKING BLOOD
Paul Cinqualbre, 20 Rue de la Ravinelle, Nancy, France
Filed Apr. 21, 1966, Ser. No. 544,258
Claims priority, application France, Apr. 22, 1965, 14,130
8 Claims. (Cl. 128—2)

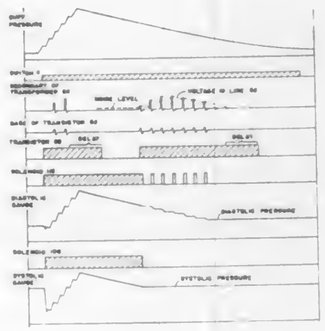
A blood-taking arrangement comprises a body divided into several separate compartment that are sealed and evacuated and that contain separate products to be added to the received blood. A cover caps the body and is provided with a main channel adapted to be connected with the channel of a blood-taking needle and by auxiliary channels with each compartment. Means are provided

for establishing and breaking communication between each compartment and a separate auxiliary channel



thereby to maintain the blood samples in the individual compartments separate from each other.

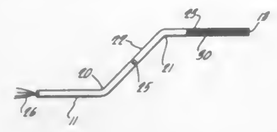
3,405,707
APPARATUS FOR MEASURING BLOOD PRESSURE
William C. Edwards, Plandome Manor, N.Y., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
Filed June 23, 1965, Ser. No. 466,351
15 Claims. (Cl. 128—2.05)



A blood pressure measuring apparatus includes a microphone delivering electrical signals corresponding to Korotkoff sounds through a filter, which passes successively higher frequencies more readily, and thence to a control circuit. The control circuit causes arrest of a systolic pressure gauge when a first Korotkoff sound is detected, and momentarily releases a diastolic gauge upon the detection of each Korotkoff sound. An integrator receives the output of the filter, and aids the filter in distinguishing between electrical signals which do not correspond to Korotkoff sounds. The detecting means is desensitized automatically following a predetermined interval after the detecting means ceases to receive Korotkoff sounds.

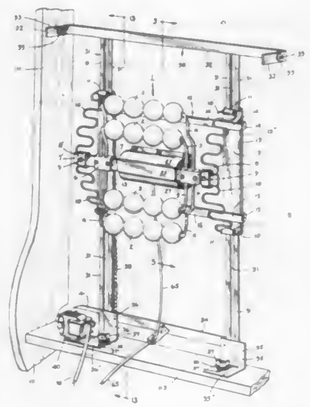
3,405,708
BLOOD FLOW MEASURING APPARATUS
Wilton W. Webster, Jr., 1388 Crest Drive, Altadena, Calif. 91001
Filed July 15, 1965, Ser. No. 472,240
7 Claims. (Cl. 128—2.05)

This invention describes a probe for measuring the rate of flow of blood in a blood vessel. The end of the probe is relatively flexible and resilient and is formed into an essentially S-shaped reversely curved form. A thermistor is disposed at about the midpoint of the S-shaped curvature. The curvature of the end of the probe assures that the thermistor is centered along the axis of the vessel rather than being disposed adjacent to a wall of the vessel,



with the result that the flow characteristics of blood past the thermistor are predictable and the total rate of flow of blood through the blood vessel may be determined with accuracy.

3,405,709
RECIPROCATING GYRATORY MASSAGE ASSEMBLY
Kenneth R. Mathers, Fredonia, N.Y., assignor to Niagara Therapy Manufacturing Corporation, Adamsville, Pa., a corporation of Delaware
Continuation-in-part of application Ser. No. 541,605, Apr. 11, 1966. This application Oct. 11, 1967, Ser. No. 674,401
15 Claims. (Cl. 128—33)

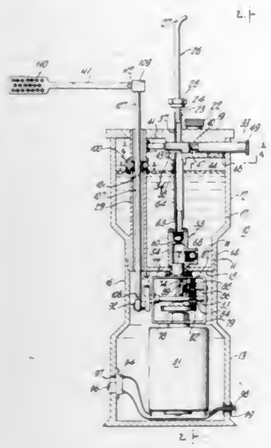


An amproved reciprocating gyratory massage assembly designed for association with a cushioned body supporting surface, and operative to apply therapeutic massage over a selected area and length of the cushion supported body, featuring: an improved roller supporting massage carriage which will flexibly adjust to body pressure and insure controlled uniformity in the massage intensity applied to the cushion supported body; together with a carriage supporting track assembly and associated drive which smoothly and silently reciprocates the massage carriage along a predetermined length of the cushion supported body.

3,405,710
CLEANING AND MASSAGING DEVICE
Leslie J. Kovach, 100 W. 57th St., New York, N.Y. 10019
Filed July 14, 1966, Ser. No. 565,260
11 Claims. (Cl. 128—66)

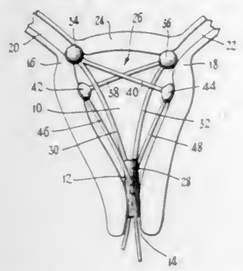
1. A dental treating device comprising a hollow handle member provided with a liquid reservoir, a nozzle mounted on said handle member, a pump housed in said handle member and including an inlet connected to said reservoir

and an outlet, an electric motor housed in said handle and connected to said pump, and means for selectively con-



necting said pump outlet to said nozzle and to said reservoir.

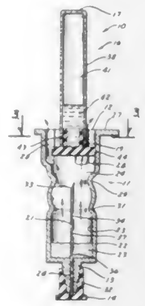
3,405,711
INTRAUTERINE CONTRACEPTIVE DEVICE
Maurice I. Bakunin, 881 Lafayette St., Bridgeport, Conn. 06603
Filed July 22, 1966, Ser. No. 567,181
7 Claims. (Cl. 128—130)



Intrauterine contraceptive device which is roughly V-shaped and comprises a central stem having a pair of slender divergent arms formed with bulbous extremities which are engageable with the Fallopian region of the uterus when the stem is in the os, thereby to position and retain the device in the uterus.

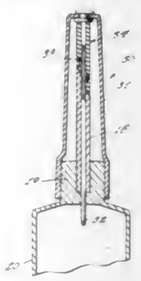
3,405,712
DESICCATIVE SYRINGE
Richard L. Pierick, 2800 Tiffin, Des Moines, Iowa 50317
Filed Feb. 7, 1966, Ser. No. 525,479
3 Claims. (Cl. 128—218)

The invention is embodied in a single device usable both as a desiccator for a powdered medicament, and as a transporter of the powdered medicament under vacuum in conjunction with a liquid medicament physically separated therefrom, until at the point of use the device is operable to mix the medicaments prior to ejection therefrom by means of a hypodermic needle affixed thereto. The arrangement includes forming one end of the powdered medicament-holding casing with at least one flute formed on its interior, which flute enables an evacuation of moisture from the powdered medicament held within the interior of the casing, past a portion of a tube inserted into the casing prior to the desiccation process, which tube holds the liquid medicament. At the end of the desiccation process, the tube is forced past the flute and further into the casing such that the relative positions of the tube and the casing effect a sealing relationship between the powdered medicament, now under a vacuum, and the liquid medicament. At the point of use, due to the provision of a cannula tube held within the casing,



and which tube has a trio of longitudinally spaced portions formed therein, one of which is at the pointed end of the tube, and the other two of which are not in fluid communication within the tube, coaction between the tube and the casing effects first a mixing of the medicaments together, and secondly an ejection therefrom, said ejection being transmitted by a hypodermic-type needle which has been affixed to the casing.

3,405,713
COMBINATION HYPODERMIC NEEDLE BLOCKER AND NEEDLE SHEATH
Ida Solowey, P.O. Box 34, Fresh Meadow Station, Flushing, N.Y. 11365
Filed Oct. 24, 1966, Ser. No. 588,970
1 Claim. (Cl. 128—221)

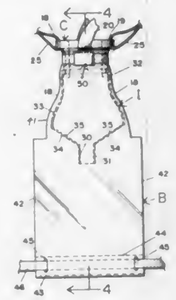


A blocking device and sheath for a hypodermic needle which is inserted into the needle opening, sealing the opening from leaking and enclosing the needle from contact with the external environment to maintain the needle in a sterile condition.

3,405,714
DISPOSABLE URINAL
David H. Moss, Miami Beach, Fla. (10295 N. Collins Ave., Bal Harbour, Fla. 33154)
Filed July 1, 1966, Ser. No. 562,261
3 Claims. (Cl. 128—295)

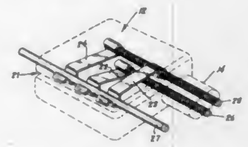
1. A disposable urinal for male persons comprising a collar having a substantially axially disposed opening, a flange portion mounted at one end of said collar, said flange portion having a plurality of slots, strap means engaging said slots and encircling a person's waist and his

legs for securing said collar in position adjacent said person's crotch, said collar having a plurality of substantially peripherally disposed grooves, an inner bag of substantially waterproof pliable material having a throat portion at one end telescopically positioned on said collar, resilient strap means encircling said throat portion at one of said peripheral grooves securing said inner bag, flutter valve means at the other end of said inner bag permitting



flow of urine solely in an outward direction, an outer urine collection bag of waterproof pliable material, said bag having a chamber and a throat portion at one end telescopically positioned on said collar, removable clamp means removably securing said throat portion to said collar at the other of said peripheral grooves and elongated strap means engaging the other end of said outer urine collection bag and securing said bag to the leg of a person.

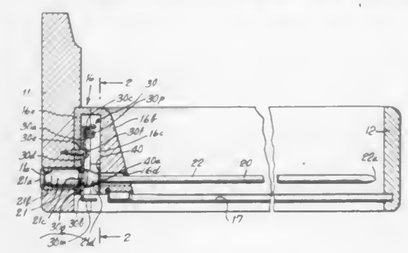
3,405,715
IMPLANTABLE ELECTRODE
Norman R. Hagfors, Minneapolis, Minn., assignor to Medtronic, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 20, 1966, Ser. No. 588,015
6 Claims. (Cl. 128—418)



Electrode apparatus for stimulating an animal nerve, there being at least three electrodes, one of which is disposed betwen the other two, and the electrical connection being such that the two outside electrodes are in current guarding relation to the inner electrode, all to prevent stray current from stimulating adjacent nerves. The electrodes are embedded in a substance substantially inert to body fluids and tissue.

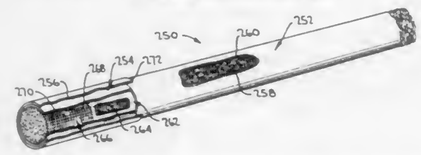
3,405,716
GUIDE ROD LATCH FOR CARD FILE DRAWER
Vincent J. Cafiero, Irvington, and William I. Sohl, Chappaqua, N.Y., assignors to Knoll Associates, Inc., New York, N.Y., a corporation of New York
Filed July 3, 1967, Ser. No. 651,032
8 Claims. (Cl. 129—16)

A card file drawer of the type including a guide rod running from the front to the rear of the drawer at the lower portion thereof for the purpose of extending through apertures near the lower mutual edges of a plurality of cards filed in the drawer, wherein a latch is provided between the drawer front and the head of the guide rod, such that when the guide rod is latched the foremost portion of the head thereof lies essentially flush with the forward surface of the drawer front, the latch mechanism including a keeper groove on the guide rod head and a latch member comprising a rigid plate member extending in first and second opposed directions relative to said front panel aperture, the plane of said plate being essentially perpendicular to the axis of said guide rod when the latter is latched thereto, the plate portion adjacent said front panel aperture including a plate aperture larger in said first and second directions than any transverse dimension of said head adjacent said keeper groove, and including a location where the plate aperture



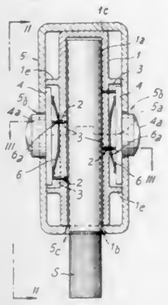
is additionally larger in all other dimensions than any transverse dimension of aid head adjacent said keeper groove, the plate portion extending in said first direction including the portion of the run of said plate aperture which enters said keeper groove, and the plate portion extending in said second direction including a finger button located adjacent said bottom panel; means defining an opening in said bottom panel adjacent to and rearward of said front panel, for access to said finger button; means biasing said latch member in said second direction; and means biasing said guide rod head forwardly toward the forward face of said front panel.

3,405,717
METHOD OF ASSOCIATING A FILTER SECTION WITH A TOBACCO SECTION OR WITH ONE OR MORE ADDITIONAL FILTER SECTIONS
Richard M. Berger and Reavis C. Sproull, Richmond, Va., assignors to American Filtrona Corporation, Richmond, Va., a corporation of New York
Continuation-in-part of application Ser. No. 502,261, Oct. 22, 1965, now Patent No. 3,313,306. This application Nov. 15, 1966, Ser. No. 594,515
9 Claims. (Cl. 131—94)



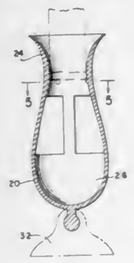
1. The method of associating a filter section with a wrapped tobacco section comprising the steps of locating a filter section including at least one non-wrapped, self-supporting filter unit in juxtaposition with said wrapped tobacco section and axially aligned therewith, said filter unit being resilient and of a circumference larger than the circumference of said wrapped tobacco section, locating a wrapper so that one end of said wrapper is aligned with one end of the filter section and the other end of said wrapper extends a substantial distance beyond the junction at which said filter section and said wrapped tobacco section are in juxtaposition, wrapping said wrapper about said filter section and the end of said wrapper tobacco section juxtaposed to said filter section so that said resilient filter unit is compressed to a circumference equivalent to that of said wrapped tobacco section, and sealing said wrapper.

3,405,718
CIGARETTE SHEATH PERFORATOR
Elio Grassi, Via Gelli 45, Florence, Italy
Filed June 24, 1966, Ser. No. 560,270
Claims priority, application Italy, July 8, 1965, 15,724/65
7 Claims. (Cl. 131—170)



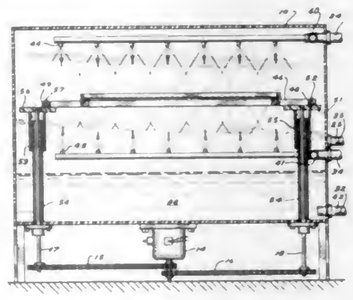
A device for preforating the paper wrapper of a cigarette is formed of a longtiudinally extending tubular support member arranged to receive and hold at least a major portion of the length of a cigarette. Diametrically opposed longitudinally extending rows of apertures are provided in the support member. Enclosing the support member is a housing which contains a pair of plate members located along the oppositely disposed lines of apertures. Each plate member contains a number of rods aligned with the apertures through the support member. Normally, the plate members are spring biased in a position spaced outwardly from the support member. Buttons or projections are formed on the outer surface of the plate members and extend through openings in the housing so that the projections are accessible from the exterior of the housing. When the projections are depressed inwardly the plate members move toward the support member and their rod members pass through the apertures in the support member for perforating a cigarette disposed within the member. Accordingly, in a single mechanical operation perforations are formed in the paper wrapper of a cigarette disposed within the support member. Preferably the apertures through the support member are offset in the longitudinal direction on opposite sides of the support member.

3,405,719
DEVICE FOR SAFELY RETAINING A LIGHTED CIGARETTE
Samuel Lustbader, 2815 W. 30th St., Brooklyn, N.Y. 11224
Filed Oct. 12, 1966, Ser. No. 586,066
6 Claims. (Cl. 131—235)



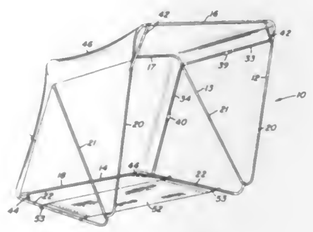
A portable cigarette retaining and holding device is provided of a tubular member having a lower portion, a middle portion and an upper portion. The lower portion is capable of receiving and holding ash, the middle portion, having apertures passing therethrough permits the cigarette to burn while the lighted portion is in the area of the apertures, and the upper portion, having cigarette retaining protuberances therein, extinguishes the cigarette when the lighted portion of the cigarette is in the upper portion.

3,405,720
MOVABLE WORK ETCHER
Keith L. Carlson, Minneapolis, Minn., assignor to Seelye Plastic-Fab, Inc., Minneapolis, Minn., a corporation of Minnesota
Continuation of application Ser. No. 459,683, May 28, 1965. This application July 27, 1967, Ser. No. 656,598
12 Claims. (Cl. 134—140)



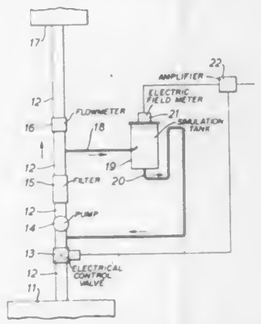
Spray etching and chemical milling apparatus in which a horizontal carriage, intended to carry work pieces to be etched, is connected at at least one end to a cam which imparts to the carriage a non-rotary, continuous four quadrature motion.

3,405,721
COLLAPSIBLE AND PORTABLE CABANA
James E. Crosier, Rochester, Jon A. Blanchette, Fairport, and Robert F. Romanowski, Rochester, N.Y., assignors, by mesne assignments, to R. J. Sporting Inc., Rochester, N.Y., a corporation of New York
Filed Sept. 26, 1966, Ser. No. 582,043
6 Claims. (Cl. 135—7.1)



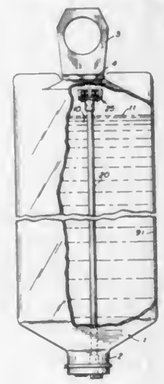
The cabana comprises U-shaped frame members whose legs are connected at their extremities to pivot about a common axis between a collapsed position, and an erected position in which the two outer members are angularly spaced about said axis slightly greater than 90° from one another. The two legs of each frame member are foldable about spaced axes that extend at right angles to the first-named axis; and two collapsible links extend between the legs of adjacent frame members rigidly to hold the members in their erected positions.

3,405,722
METHOD FOR MONITORING THE GENERATION OF STATIC ELECTRICITY IN FLUID TRANSFER SYSTEMS
John Alastair Carruthers and Leon James Stephen Prince, Sunbury-on-Thames, England, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation
Continuation of application Ser. No. 452,441, Apr. 15, 1965, which is a continuation of application Ser. No. 213,920, Aug. 1, 1962. This application Aug. 2, 1966, Ser. No. 569,752
Claims priority, application Great Britain, Aug. 16, 1961, 29,544/61
7 Claims. (Cl. 137—2)



A method of detecting the value of electrostatic conditions in a storage tank. A portion of the fluid flow in the supply line to the storage tank is diverted to a simulation tank through a bleed-off line. The electrostatic properties of the bleed-off line are related to the electrostatic properties of the supply line between the bleed-off point and the storage tank. An electrostatic property within the simulation tank is then measured as an indication of conditions in the storage tank.

3,405,723
PARENTERAL LIQUID CONTAINER WITH AIR TUBE
David A. Jellies, Glendale, Calif., assignor, by mesne assignments, to American Hospital Supply Corporation, a corporation of Illinois
Filed June 13, 1966, Ser. No. 557,238
4 Claims. (Cl. 137—43)

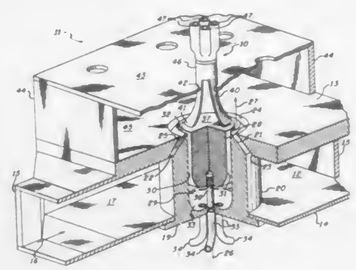


1. In a parenteral liquid container having liquid therein with a mouth thereof sealed by a closure that has an air entrance port means, the improvement of:

(a) an elongated air tube having one end connected with the air entrance port means of the closure, said air tube extending inside the container to an opposite end of the air tube; and

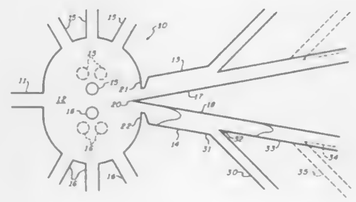
(b) a float valve affixed to said opposite end of the air tube, said float valve extending above the liquid level in the container when the container is in a mouth-downward position, said float valve permitting air to enter the container but preventing parenteral liquid from exiting through the air tube, said float valve body having a floating valve member that is buoyed upwardly to close the float valve when the container is in a mouth-upwardly position and the float valve is submerged in the liquid.

3,405,724
PURE FLUID CONTROL DEVICE
Fabio R. Goldschmied, Salt Lake City, Utah, assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Mar. 4, 1964, Ser. No. 349,278
3 Claims. (Cl. 137—81.5)



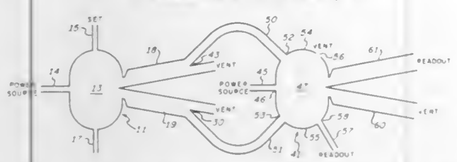
An axisymmetrical pure fluid logic device having a power stream tending to converge in a conical pattern with respect to an axis of symmetry and a coaxial control stream for deflecting the power stream with the annular opening which defines the power stream being formed at least partially by a member having a flat surface to which the power stream tends to adhere for focussing the power stream.

3,405,725
FLUID FLOW DIVIDING MEANS FOR FLUID CONTROL DEVICES
Harold L. Fox, Salt Lake City, Utah, assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Mar. 24, 1964, Ser. No. 354,348
2 Claims. (Cl. 137—81.5)



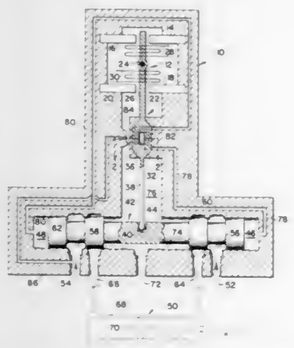
Apparatus for enhancing the low velocity portion of the flow velocity profile in a fluid logic device for dividing fluid flow without causing undesirable side effects.

3,405,726
PURE FLUID LOGIC MEMORY DEVICE
Orin L. Wood, Salt Lake City, Utah, assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Oct. 27, 1964, Ser. No. 406,849
1 Claim. (Cl. 137—81.5)



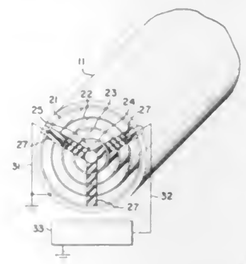
A pure fluid non-destructive readout memory device having a bistable fluid logic amplifier coupled to a monostable pure fluid logic amplifier.

3,405,727
FLUID CONTROL VALVE WITH FEEDBACK
Frank E. Hill, Kalamazoo, Mich., assignor to Pneumo Dynamics Corporation, Cleveland, Ohio, a corporation of Delaware
Filed June 29, 1964, Ser. No. 378,526
6 Claims. (Cl. 137—83)



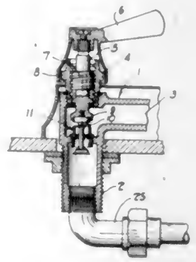
1. A fluid control valve comprising a valve housing, a valve spool mounted in said valve housing for regulating fluid flow to an external mechanism, the opposite ends of said valve spool defining with said valve housing a pair of chambers adapted to receive fluid under pressure for controlling the position of said valve spool, a fluid diverter member movably mounted adjacent one end in said housing, control means associated with said one end of said diverter for moving said diverter responsive to a control signal, said diverter having an integral, opposite end portion operatively connected to said valve spool for movement therewith, said diverter being formed with an opening for receiving fluid and directing the same in a direction generally normal to the plane of motion of said diverter, a supply passage formed in said housing for supplying fluid under pressure to said opening in said diverter, a pair of receiving passages formed in said housing generally opposite from said diverter opening, each of said passages being equidistantly spaced from said opening in said diverter during the null position of the latter, each of said receiving passages communicating with a respective chamber for delivering fluid under pressure thereto, said control means varying the position of said diverter for supplying variable amounts of fluid under pressure to said receiving passages and associated chambers for controlling the position of said valve spool, movement of said valve spool producing movement of the lower end of said diverter thereby effecting a repositioning of said diverter relative to said receiving passages for maintaining the valve spool in its adjusted position.

3,405,728
ELECTRO-VISCOUS FLUID VALVE
Edwin M. Dexter, Silver Spring, Md., assignor to General Electric Company, a corporation of New York
Filed June 3, 1963, Ser. No. 285,133
10 Claims. (Cl. 137—251)



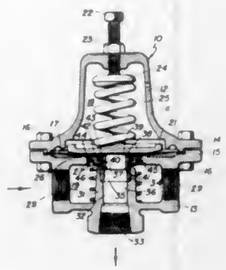
1. An electro-viscous fluid valve comprising: a passage for supporting the flow of electro-viscous fluid, said fluid consisting of a dielectric fluid which tends to undergo an effective change in viscosity when subjected to an electrostatic field; a multiplicity of electrodes, substantially longitudinally coextensive, disposed in said passage through which said fluid is constrained to pass; and means to control the viscosity and therefore the rate of flow of said fluid comprising means for energizing each of said electrodes at a different voltage from its next adjacent electrode.

3,405,729
VALVE WITH TWO-WAY SHUT-OFF
Stephen A. Young, Monticello, Ind. (% Stephen A. Young Corporation, Flora, Ind. 46929), and Gerald E. Christiansen, Flora, Ind.; said Christiansen assignor to said Young
Filed Oct. 1, 1965, Ser. No. 492,066
1 Claim. (Cl. 137—329.2)



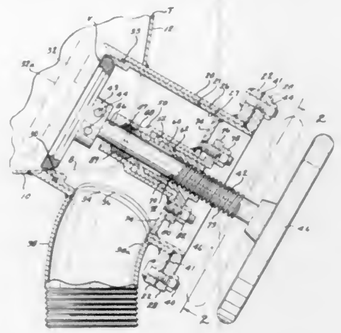
This invention relates to valve construction for use in domestic plumbing systems, wherein said valves are occasionally in need of replacement of the seat washer therein, there being provided by this invention a form of additional shut off means which is operative when the valve control means is removed so as to shut off incoming water and thereby enable replacement of the seat washer without shutting off the main supply or an adjacent shut off valve separate from that being repaired. The concept of the invention involves the use of dual shut off areas to absolutely prevent any leakage whatsoever since shut off areas are provided which both act to positively seal and prevent leakage.

3,405,730
PRESSURE RELIEF VALVE HAVING TUBULAR PLUG
Hans D. Baumann, Decatur, Ill., assignor to A. W. Cash Company, Decatur, Ill., a corporation of Illinois
Filed Dec. 20, 1965, Ser. No. 514,875
1 Claim. (Cl. 137—510)



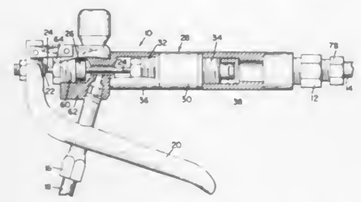
A pressure relief valve is provided wherein tubular members are employed as both head and seat elements. The tubular head element being positioned against an imperforate diaphragm actuator by a spring and sealed thereto by an O-ring. Such construction provides self-alignment and pressure balancing of the head element with respect to the seat or relief port.

3,405,731
CONTROL VALVE FOR AN OUTLET PORT IN A FLUID STORAGE TANK
Joseph H. De Frees, Warren, Pa., assignor to June De Frees Heelan, Moorestown, N.J.
Filed Dec. 20, 1965, Ser. No. 514,927
5 Claims. (Cl. 137—561)



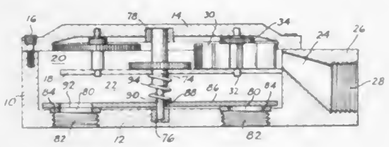
A fluid discharge control valve for an outlet port in a fluid storage tank having a valve disc opening inwardly of the tank to penetrate the stored fluid. The valve is detachably secured in a valve body sleeve disposed in the tank floor to permit removal of the valve exteriorly of the tank. A valve stem is secured to the disc and extends outwardly of the tank, such stem being retained in position by a stem retaining means in the form of a three-section telescopic-nested structure including an outer gland housing, an intermediate gland telescoped into the gland housing, and a threaded flange nut telescoped into the gland and threadedly retaining the stem. The gland and flange nut are detachably secured to the gland housing enabling quick removal exteriorly of the tank for cleaning and repair purposes, such "gland-flange nut" structure effecting a substantially reduced overall length of the valve.

3,405,732
REPLACEABLE VALVE AND VALVE SEAT UNITS FOR CONTROL VALVES
Edmund A. Dow, 18 Indian Lake Parkway, Worcester, Mass. 01608
Filed Oct. 22, 1965, Ser. No. 501,039
4 Claims. (Cl. 137—614.19)



A gun type lubricating device having a two-part handle with a combined valve and valve seat assembly which is removable as a unit from between two parts of the handle and itself forms a part of the handle separating the aforesaid two parts of the handle.

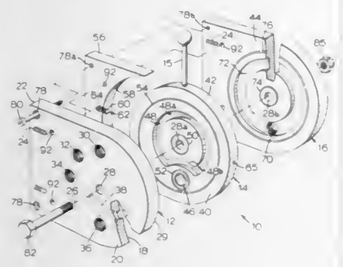
3,405,733
FLUID DISTRIBUTOR VALVE
Kay W. Hansen, 4907 River Road N., Salem, Oreg. 97303
Continuation-in-part of application Ser. No. 489,302, Sept. 22, 1965. This application June 17, 1966, Ser. No. 562,064
10 Claims. (Cl. 137—624.14)



1. A fluid distributor valve, comprising:
(a) a hollow body having a peripheral wall and end walls defining a chamber therebetween,
(b) a bearing plate member in the chamber between the end walls of the body dividing the chamber into an infeed compartment and an outfeed compartment, said compartments communicating with each other for the passage of fluid,
(c) a rotary drive shaft extending through the bearing plate member,
(d) a plurality of outlet ports in the end wall of the body defining the outfeed compartment spaced circumferentially about the axis of the drive shaft,
(e) valve means in the outfeed compartment registering with the outlet ports for opening and closing the latter,
(f) valve actuator means engaging the drive shaft and arranged upon rotation of the latter to actuate the valve means to open and close the outlet ports sequentially,
(g) an inlet port in the body for admitting fluid under pressure into the infeed compartment,
(h) an impeller member mounted for rotation in the infeed compartment and having impeller vanes disposed adjacent the inlet port for impingement of infeed fluid thereagainst, and

(i) a plurality of interengaging reduction gears mounted for rotation in the infeed compartment on said bearing plate member, the first of said gears engaging the impeller member and the last of said gears engaging the drive shaft.

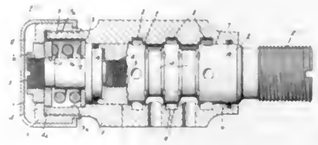
3,405,734
SELF-DRAINING VALVE
Gerrit Hendrik Smit and John R. Skinner, London, Ontario, Canada, assignors to London Concrete Machinery Company, a division of Hodgson Machine & Equipment Limited, London, Ontario, Canada, a corporation of Canada
Filed Dec. 1, 1966, Ser. No. 598,397
6 Claims. (Cl. 137—625.46)



This invention relates to valves. In particular the invention relates to a valve which has a plurality of output passages which are adapted to drain through the valve when they are not in use. Preferably the valve body consists of three plates arranged in a face-to-face relationship. One of the plates has an input opening which is connected to a source of supply of liquid. The input opening opens into an annular channel formed on the inner face of the first plate. The second plate is mounted for rotation about a central axis and has a through passage formed therein adapted to communicate with the annular channel formed in the first plate. The second plate has a drainage channel formed in the face which is disposed towards the third plate. The third plate has a plurality of output passages one of which is a drainage passage. All of the output passages formed in the third plate are adapted to communicate with either the through passage which is formed in the second plate or the drainage channel which is formed in the second plate depending upon the rotational position of the second plate. The structure of the valve is such that all of the output passages formed in the third plate are in communiction with the drainage passage formed in the third plate by way of the drainage channel except for the output passage which is in communication with the through passage formed in the second plate. This structure ensures that all of the output lines are drained back into the valve when they are not in use.

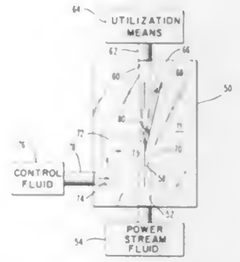
3,405,735
SPOOL VALVE WITH ADJUSTABLE SPRING LOADING
Frederick John Adams, Campton, England, assignor to Cam Gears (Luton) Limited, a British company
Filed Sept. 9, 1966, Ser. No. 578,253
Claims priority, application Great Britain, Sept. 10, 1965, 38,700/65
1 Claim. (Cl. 137—625.69)

A spool valve with an axially shiftable spool that is spring-loaded against axial movement from a central neutral position. The spring load is adjustable by varying the compression on the spring and an adjustable cap is provided to bottom the preloading means for the spring. The spool may be provided with an adjustable extension



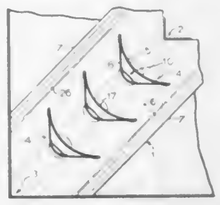
to control the position of the spool relative to the ports in the housing.

3,405,736
PURE FLUID LOGIC ELEMENT
Trevor D. Reader, King of Prussia, and Edwin R. Phillips, Rosemont, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 13, 1964, Ser. No. 403,586
3 Claims. (Cl. 137—81.5)



1. A fluid inverter comprising; a body member having a fluid interaction chamber disposed therein, said interaction chamber having an end wall in which a fluid power nozzle is disposed, said fluid power nozzle being adapted when subjected to fluid input pressure to project a power jet through the interaction chamber, an output duct positioned to receive the undeflected power jet, said output duct comprising first and second spaced apart wall members located down stream from the power nozzle and on opposite sides of the axis of the power nozzle, a control signal chamber having an input duct at one end thereof for receiving control fluid input signals and a mouth portion at the other end thereof which opens into the interaction chamber on the same side of the power nozzle as the first wall member of the output duct, the said mouth portion extending from the power nozzle to a point at least one third the length of the interaction chamber downstream from the power nozzle, said control signal chamber being operative so that when a control fluid is applied thereto a static pressure signal will exist at said mouth portion thereby to deflect the power jet away from said output duct, a vent for said interaction chamber comprising the area between the said end wall and the second of said wall members comprising said output duct, and a divider block located in the said vent dividing said vent into two unloaded vent channels the first vent channel of which is defined by a first surface of said divider block and the said end wall and the second vent channel of which is defined by a second surface of said divider block and the second of said wall members of said output duct; the second vent channel providing an exhaust path for the power jet when it is deflected by a suitable pressure applied to the control chamber, said second surface of said divider block forming an acute angle with the axis of the power jet and being positioned and dimensioned to provide a boundary layer attraction force for the power jet only when said power jet is in its deflected position, and said first vent acting to reduce the boundary layer attraction force of the second surface of said divider block so that it is insufficient to maintain said power jet in its deflected position in the absence of a suitable control pressure applied to said control orifice.

3,405,737
DUCT DEVICE
Laffie Harper, 1192 Montgomery Ave., San Bruno, Calif. 94066
Filed May 3, 1965, Ser. No. 452,678
6 Claims. (Cl. 138—39)



A rail of sheet metal having a single central row of spaced pairs of projections bent therefrom to one side thereof each formed with a slot to respectively receive one of the ends of the blades of a double air turning vane, and a bridge on each vane between the slots of each pair to project into the space between the blades for bending over the vane along a slot of each pair to secure the vane to each blade.

3,405,738
PIPES WITH BENT PORTION FOR TRANSPORTING POWDER OR GRAINS BY AIR POWER
Shozo Oka, 35 Otakimachi, Nakana-ku, Tokyo, Japan
Filed June 14, 1965, Ser. No. 463,590
Claims priority, application Japan, June 19, 1964, 39/47,740
1 Claim. (Cl. 138—39)

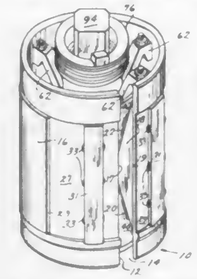


As the grain feed direction within the pipe changes from the vertical gradually to a descending inclined direction, the cross section of the pipe grows continuously larger throughout the change of direction. The cross section of the pipe in the descending incline grows continuously smaller to a discharge in a receiving vessel.

3,405,739
RETRACTABLE STEEL WEDGE STOPPER AND METHOD OF USING THE SAME
John J. Smith, Decatur, Ill., assignor to Mueller Co., Decatur, Ill., a corporation of Illinois
Filed June 27, 1966, Ser. No. 560,585
8 Claims. (Cl. 138—97)

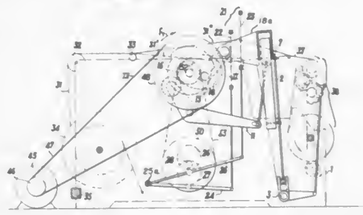
1. In a cylindrical pipe stopper assembly for insertion into and having a minimum outer diameter less than a transverse circular opening through a pipe line, and adapted to be expanded into sealing engagement with the edges of the opening, an improvement in an expandable and retractable longitudinally split cylindrical sleeve comprising a flexible cover of gasket material on a portion of the outer surface of the cylindrical sleeve and circumferentially covering at least half of but less than all of the periphery of said sleeve, and protector means on another portion of the outer surface of said cylindrical sleeve for protecting said flexible cover of gasket material when the longitudinally split cylindrical sleeve is inserted into and removed from the opening of said pipe line.

8. A method of by-passing a section of pipe to be replaced or repaired without interruption of service, the method utilizing a pair of stopping machines attached to the pipe line upstream and downstream of the section and having built-in bypass means with a bypass line extending therebetween, and each stopping machine further having an expandable and retractable longitudinally split



wedge stopper with a flexible gasket material covering at least a portion of the surface thereof for insertion into transverse opening in the pipe line, at least one of the stoppers having wear strips on its outer surface adjacent to the longitudinal split thereof, the steps of: inserting the longitudinally split wedge stopper having the wear strips into the transverse opening in the pipe line downstream of the section with the longitudinal split facing downstream and with the stopper retracted so as to provide partial blockage of flow in the pipe line upstream of the stopper; then inserting the second longitudinally spilt stopper into the transverse opening upstream of the section while the stopper is in the retracted position with its longitudinal split facing upstream; and then expanding the stoppers into sealing engagement with the edges of the respective openings to completely block off flow to the section while by-passing the flow through the bypass line around the section.

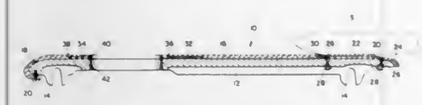
3,405,740
DRIVE AND CONTROL SYSTEM FOR LOOMS
Yves Juillard, Mulhouse, Haut-Rhin, France, assignor to Societe Alsacienne de Constructions Mecaniques, Mulhouse, Haut-Rhin, France, a company of France
Continuation of application Ser. No. 396,611, Sept. 15, 1964. This application Aug. 19, 1966, Ser. No. 573,723
Claims priority, application France, Sept. 20, 1963, 948,110
9 Claims. (Cl. 139—1)



A shuttleless loom wherein the heddles may be operated independently of the batten and the weft needles.

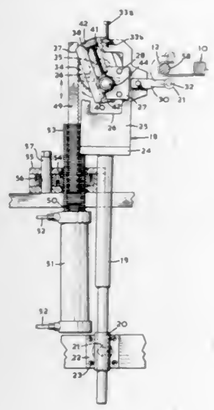
The independent operation is by forward or reverse jogging of the loom motor with the pattern control mechanism, if any, operating along with the heddles. Connection and disconnection of the batten mechanism is limited to certain relative angular positions of the coupling mechanism.

3,405,741
FRONT FOR LOOM SHUTTLE BOX
Clinton W. Hampson, South Hadley, Mass., assignor to Clinton Silk Mill, Inc., Holyoke, Mass.
Filed Sept. 9, 1966, Ser. No. 578,330
1 Claim. (Cl. 139—183)



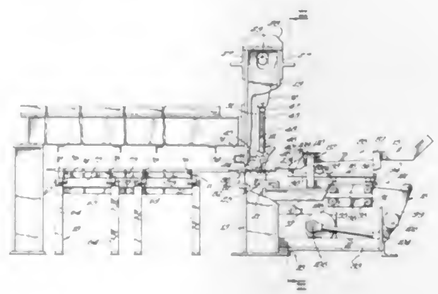
A binder for a shuttle box of a loom of the flying shuttle type comprising: a main body portion having a curved heel portion and a curved nose portion; a frictional covering layer of leather fixed to said heel portion and to said main body portion and terminating at said nose portion; a combination wear resistant and cushioning means disposed exteriorly of and fixed to the curve of said nose portion for absorping the impact of the flying shuttle on the binder; said combination wear resistant and cushioning means comprising an epoxy layer fixed to said nose portion and a metal wear plate fixed to said epoxy layer and said nose portion; reinforcing strips spaced along the upper surface of said covering layer; and said reinforcing strips being epoxy and being disposed at an angle to the longitudinal axis of the binder.

3,405,742
WIRE BENDING APPARATUS
Arthur William Edward Guenther, Burlington, Ontario, Canada, assignor to Egon Hildebrandt, Burlington, Ontario, Canada
Filed July 7, 1965, Ser. No. 470,176
15 Claims. (Cl. 140—103)



An apparatus for bending a wire to form a hook, in which a follower describes an arcuate path about an arbor. The follower is mounted on a head which is coupled eccentrically with a drive shaft. The coupling enables adjustment of the angular orientation, radius and location of the arcuate path.

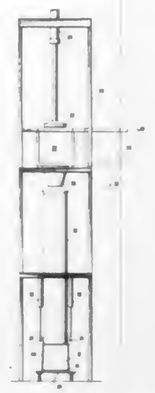
3,405,743
REINFORCING MAT FABRICATING APPARATUS
Charles V. Robinson, Sterling, Ill., assignor to Northwestern Steel and Wire Company, Sterling, Ill., a corporation of Illinois
Filed Sept. 29, 1965, Ser. No. 491,336
14 Claims. (Cl. 140—112)



Machine for fabricating reinforcing mats made from large diameter rods. The machine has a central section having a plurality of stationary welding blocks corresponding to the line wires of the mat and a ram carrying individual welding units guided for vertical movement toward and from the welding blocks. At least two line wire tables are mounted in side-by-side relation in advance of the welding blocks for movement transversely of the welding blocks. Each table has parallel jigs for the line wires extending therealong. One jig may be loaded while the other jig is supplying line wires to the welding blocks. A stay wire table is on the opposite side of the welding section from the line wire tables and has a sloping discharge end facing the welding blocks to discharge stay wires onto the line wires beneath the welding units. Magnetic stops limit movement of the stay wires into position beneath the welding blocks. Guide and clamping members form continuations of the sloping discharge end of the stay wire support table and guide and impel the stay wires to the welding blocks and clamp the stay wires in position against the magnetic stops, for welding. The welded stay wires and cross wires are advanced by pull arms engaging a welded stay wire and advancing the mat a distance equal to the required spacing of the stay wires on the line wires after each welding operation.

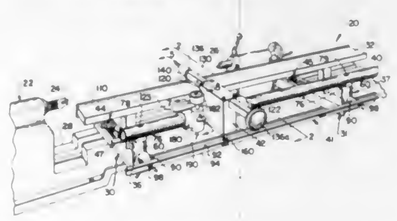
3,405,744
METHOD AND APPARATUS FOR PACKING MATERIAL INTO CONTAINERS
Benjamin P. Bowman, 26 Maple Crescent, Asheville, N.C. 28806
Filed Feb. 8, 1967, Ser. No. 614,636
8 Claims. (Cl. 141—12)

Method and apparatus for packing loose compactible material into a container wherein a packing sleeve is first introduced into the container in close proximity to the side walls of the container, the material is then introduced into the sleeve and compacted by a plunger, and then the sleeve is removed while maintaining the plunger pressure on the material which thus fills the void left by the sleeve. Finally the plunger is removed from the container. To facilitate removal from the container after the material is packed, the side walls of the sleeve are tapered. In one embodiment, the sleeve is fixed to the lower end of a



charger to be movable vertically with the charger between upper and lower positions.

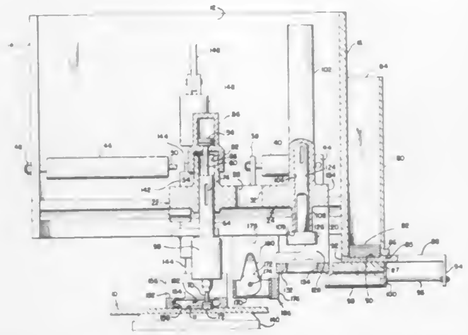
3,405,745
WOOD TURNING DUPLICATOR
Francis B. Schoonover, Lewiston, N.Y., and Edward J. Niehaus, Pittsburgh, Pa., assignors to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 3, 1965, Ser. No. 511,541
15 Claims. (Cl. 142—1)



A duplicator attachment for use with wood cutting lathes and comprising a pair of brackets detachably mounted on the lathe ways for supporting a pair of tool slide guide rails and a template-supporting table. The template-supporting table is mounted in the region between the sub-assembly of the guide rails and the nearest lathe way to the operator and is at an elevation which is higher than the lathe ways and the guide rails. A tool slide, supporting a tool bar, is slidable along the guide rails. The tool bar is manually displaceable toward and away from a work piece mounted in the lathe, and a stylus depends from the tool bar for arresting engagement with the preformed edge of the template on the table.

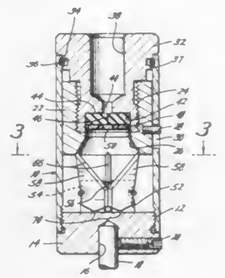
3,405,746
PLYWOOD PANEL PATCHING APPARATUS
Per O. Skoog, Olympia, Wash., assignor to The Coe Manufacturing Company, Painesville, Ohio, a corporation of Ohio
Filed May 27, 1966, Ser. No. 553,417
12 Claims. (Cl. 144—2)

1. A patching apparatus for wood panels, comprising:
(a) a substantially immovable supporting frame;
(b) carriage guide means on said frame;
(c) first and second horizontally movable, independent, interconnected and coacting carriages at least said second carriage being supported on said guide means, said first carriage including a vertically movable router and router cutter supported thereon, said second carriage including a vertically movable vacuum patch pickup and placement foot means supported thereon, said second carriage also including a patch holding element having a holding cavity in vertical alignment with and through which passes said foot means, said holding element being supported by and in spaced relation to said second carriage to define a patch receiving area over said holding element;



(d) a patch supply magazine supported on said frame including a feed mechanism for feeding individual patches from said magazine to said area over said holding element, said foot means being movable downwardly to pick up a patch from said feed mechanism which is then withdrawn to allow said foot means to descend into said holding cavity;
(e) a first actuating means interconnecting said first carriage and said second carriage for moving said first carriage and said router a predetermined distance relative to said second carriage;
(f) a second actuating means secured to said supporting frame and connected to said second carriage for moving both carriages; and
(g) actuating means on said carriages for raising and lowering said router and said vacuum foot means.

3,405,747
PENCIL LEAD SHARPENER
Carroll R. Dennison, 5426 Bataan St., Houston, Tex. 77033
Filed Apr. 25, 1966, Ser. No. 544,758
5 Claims. (Cl. 145—3.8)



1. In a pencil lead sharpening device a hollow housing having an opening at one end a plug rotatably mounted in said opening and having a passageway through which a pencil lead may be inserted endwise, a plurality of blades pivotally mounted in the housing for radial move-

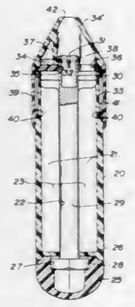
ment therein in planes parallel to the axis of said opening and having longitudinally extending cutting edges converging toward a point on said axis, blade positioning means movably disposed in the housing for longitudinal movement therein and thread means operatively connecting said plug and said blade positioning means whereby rotation of said plug in one direction imparts longitudinal movement to said positioning means in one direction to vary the angle of said cutting edges relative to said axis.

3,405,748
TORSION TUBE SCREW DRIVER
Johannes Sorteberg, 80 Delafield Island Road, Darien, Conn. 06820
Filed June 29, 1966, Ser. No. 561,599
3 Claims. (Cl. 145—50)



1. A screw driver comprising a tubular shank having a diametrical partition joined to the shank and extending the full length thereof, said partition being rectangular in cross-section, one end of said tubular shank having arcuate recesses formed on opposite sides of said partition, said recesses extending the full width of said partition whereby the forward end of said partition is exposed so as to define a bit.

3,405,749
MULTI-CHAMBERED TOOL HOLDER
Richard G. Butler, Gimli, Manitoba, Canada, assignor to Kendor Distributors Ltd., Winnipeg, Manitoba, Canada
Filed Mar. 6, 1967, Ser. No. 620,707
4 Claims. (Cl. 145—63)



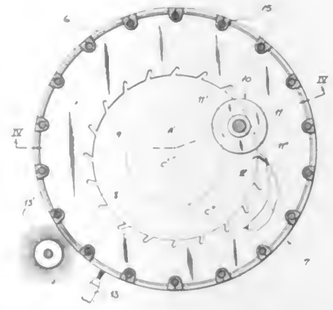
A multi-bit screwdriver having various bits stored in a plurality of tool compartments formed in a hollow handle and having an indexing device which enables the selected bit to be fed into the chuck from the inside of the handle and to be returned for storage in the handle after use.

3,405,750
APPARATUS FOR THE TREATMENT OF BEANS AND THE LIKE
Bruno Weirauch, Braunschweig, Germany, assignor to Maschinenfabrik August Herbort K.G., Braunschweig, Germany, a corporation of Germany
Filed Sept. 6, 1966, Ser. No. 578,202
Claims priority, application Germany, Sept. 15, 1965, M 66,639
10 Claims. (Cl. 146—1)

1. In a destemming apparatus for removing stems from pod vegetables or separating vegetable pods having a branched connection, the improvement which comprises:

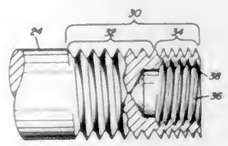
a pod-tumbling drum rotatable about an axis for receiving the pods;

a plurality of axially spaced arrays of coplanar slots provided on the interior of said drum and opening inwardly thereof in the direction of rotation of said drum, said slots having widths approximately equal to the thicknesses of the stems of said pods for engaging said stems and entraining them along an arcuate path; and



separating-comb means in the interior of said drum along said path and interleaved with said arrays for breaking the stems entrained in said slots upon rotation of said drum and the displacement of the entrained pods past said separating-comb means.

3,405,751
ELEMENT HAVING CONTINUOUS THREAD, PORTION OF THREAD BEING LONGITUDINALLY VARIABLE IN LENGTH
Edward L. Parr, El Cajon, Calif., assignor to Wendell L. Thompson, Burbank, Calif.
Filed July 15, 1966, Ser. No. 565,424
4 Claims. (Cl. 151—14)

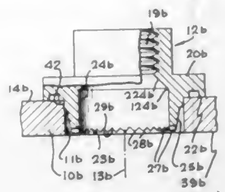


A threaded element such as a screw, nut, bushing, or plug including two longitudinally adjoining and integral portions, one of which is threaded externally and internally with like number of thread per equal length to thereby form that portion into an axially yieldable, variable length, bellows-like portion, the thread on the other portion being a continuation of either the external or internal threads of the first mentioned portion, but the number of turns of the thread on the second mentioned portion being different, per equal length, than those of the first mentioned portion of which it is a continuation.

3,405,752
STRUCTURE AND INSTALLATION OF THREADED ELEMENTS HAVING SERRATED LOCKING PORTION
Robert Neuschotz, 1162 Angelo Drive, Beverly Hills, Calif. 90210
Filed Feb. 1, 1966, Ser. No. 524,085
4 Claims. (Cl. 151—41.72)

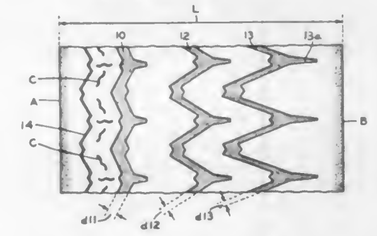
Structure and installation of threaded elements having a flange engageable with a carrier part about an opening, and having a locking portion projecting into the opening

and terminating in an edge having serrations which are deformed radially outwardly and axially toward the flange



into locking engagement with the material of the carrier part.

3,405,753
PNEUMATIC TIRE TREADS
Henri Verdier, Beauregard-l'Eveque, France, assignor to Compagnie Generale des Etablissements Michelin, raison sociale Michelin & Cie, Clermont-Ferrand, Puy-de-Dome, France
Filed July 21, 1966, Ser. No. 566,868
Claims priority, application France, July 24, 1965, 25,939
10 Claims. (Cl. 152—209)



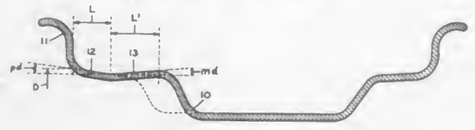
An asymmetrical tire tread is formed with a plurality of circumferentially extending wavy grooves. The wavy shapes of successive grooves from the outer edge of the tread toward the inner edge of the tread increase in amplitude.

3,405,754
TIRES CONTAINING ETHYLENE-PROPYLENE-DIENE RUBBER AND PROCESS OF MANUFACTURE
Louis W. Georges and Ronald L. Denecour, Akron, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Apr. 27, 1964, Ser. No. 362,709
23 Claims. (Cl. 152—330)



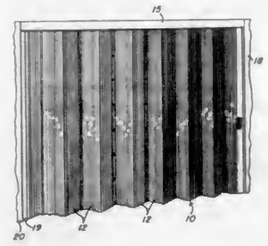
A novel tire cord dip composition including a phenol and an aldehyde in resin-forming proportions, a latex of terpolymer of ethylene, propylene and a diene is provided. Also provided are composite reinforcing cords for rubber articles comprising a fibrous cord substrate having coated thereon the novel dip composition hereof and rubber articles reinforced therewith such as rubber tires.

3,405,755
VEHICLE WHEELS
Henri Verdier, Beauregard-L'Eveque, Puy-de-Dome, France, assignor to Compagnie Generale des Etablissements Michelin, raison sociale Michelin & Cie, Clermont-Ferrand, Puy-de-Dome, France
Filed July 5, 1966, Ser. No. 562,807
Claims priority, application France, July 5, 1965, 23,556
8 Claims. (Cl. 152—381)



A vehicle wheel rim which is shaped so as to enhance the air tightness between the rim and the tire. The tightness is principally assured by compression of the rubber at the base of bead which is slightly smaller in diameter than the seat of the rim. The rim includes a prolongation of a bead seat which runs, at least in part, in a countersloped relation with the axial width of the bead seat portion.

3,405,756
FOLDING DOOR
Donald S. Harris, New Castle, Ind., assignor to New Castle Products, Inc., New Castle, Ind., a corporation of Indiana
Filed May 17, 1966, Ser. No. 550,864
7 Claims. (Cl. 160—229)

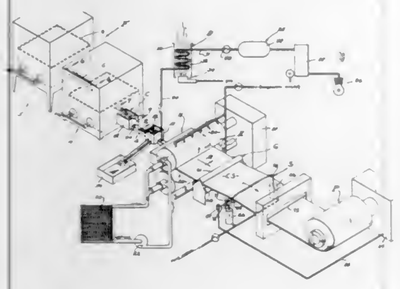


A metal security folding series of panels in which extruded panel sections are formed with pairs of flanges along each vertical edge, individual tubular hinge sections are formed with mating flanges which are interfitted within the panel flanges and which form a substantial continuous hinge when interfitted with corresponding hinge sections of an adjacent panel, camming set screws received within the panel flanges and wedging in hinge relation to the flanges for retaining the hinge sections on the panels, and shouldered symmetrical hinge pins received in adjacent tubular hinge sections.

3,405,757
METHOD AND APPARATUS FOR CONTINUOUS CASTING OF METAL BETWEEN OPPOSITELY ROTATABLE COOLING ROLLS SET GENERALLY ONE ABOVE THE OTHER
Leo M. Harvey, Los Angeles, Herbert Harvey, Palos Verdes Estates, Homer M. Harvey, Los Angeles, and Linden C. Hill, Rolling Hills, Calif., assignors to Harvey Aluminum (Incorporated)
Continuation-in-part of application Ser. No. 416,093 Dec. 4, 1964. This application Apr. 12, 1967, Ser. No. 633,668
16 Claims. (Cl. 164—87)

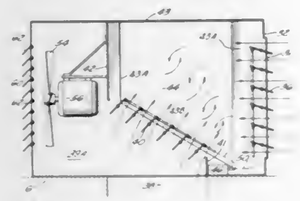
In the present invention metal sheet and plate substantially free of entrapped gases is cast between a pair of opposed cooling rolls disposed with the line between

their centers inclined no more than about 23° from the vertical, the rolls preferably being one above the other. The molten metal to be cast is charged into a plenum chamber between the rolls through a nozzle spaced there-



from and complete solidification of molten metal is effected at a point within the chamber wherein the spacing between the rolls is from about 12 to 50 percent greater than the spacing at the roll nip.

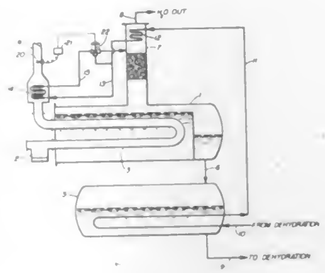
3,405,758
AIR MIXING APPARATUS WITH AUXILIARY AIR OUTLET
Wythe F. Walker, Long Beach, and Charles W. Demarest, Gardena, Calif., assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Mar. 16, 1966, Ser. No. 534,803
3 Claims. (Cl. 165—16)



A system for controlling the flow of fresh air and return air into and out of a duct. Air is drawn from a fresh air inlet inlet and from a return air outlet by a blower. Dampers adjust the inlet and outlet openings. An auxiliary return air outlet is covered by a gravity operated damper. Thus, when the return air inlet damper is closed, fresh air may be circulated throughout the system and exhausted. Otherwise, fresh air and return air may be mixed in varying proportions, and little or no return air may be exhausted, if desired. Further, when the fresh air inlet is closed, return air may be circulated exclusively in the system.

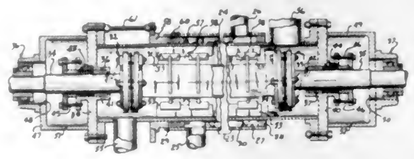
3,405,759
METHOD OF AND MEANS FOR CONTROLLING THE EXTERNAL TEMPERATURES OF FIRED PROCESSING EQUIPMENT
Bill S. Burrus, Ernest C. Hill and Robert W. Coggins, Tulsa, Okla., and Don R. Boling, New Orleans, La., assignors to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 8, 1966, Ser. No. 592,919
3 Claims. (Cl. 165—39)

A heat exchanger is mounted in the exhaust stack of fired oil field equipment with a temperature element placed in the stack and connected to control a flow of fluids through the exchanger to regulate the temperature of the fluids exhausted from the stack to below the



ignition temperature of hazardous fluids external the equipment.

3,405,760
HEAT EXCHANGE APPARATUS AND METHOD OF MAKING SAME
Robert L. Smith, Louisville, Ky., assignor to Chemetron Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 17, 1966, Ser. No. 535,090
2 Claims. (Cl. 165—94)



Apparatus having a treatment tube in which a scraper-carrying shaft is mounted at its ends to flexible members and about which a spirally mounted baffle arrangement provides a helical channel for a flowable heat exchange medium.

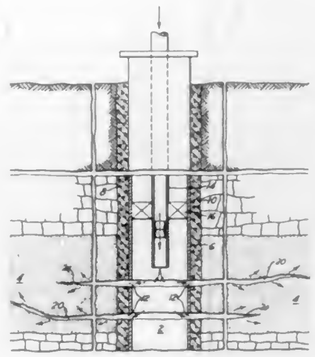
3,405,761
STEAM FLOODING OIL-BEARING LIMESTONE STRATA
Harry W. Parker, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed May 12, 1967, Ser. No. 637,920
9 Claims. (Cl. 166—11)

Oil-bearing limestone strata are treated with steam and carbon dioxide sequentially injected thru a common tubing string or simultaneously or separately injected thru dual strings to effect mixing of CO_2 and condensate principally in the stratum to effect dissolving of limestone to enhance oil production without corrosion problems in the well equipment.

3,405,762
WELL STIMULATION BY SOLVENT INJECTION
Paul L. Terwilliger, Oakmont, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed July 14, 1966, Ser. No. 565,314
5 Claims. (Cl. 166—42)

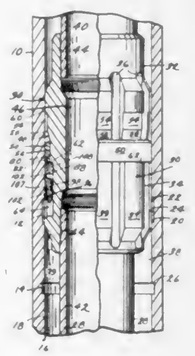
A method for increasing the production of a viscous oil from a subsurface formation penetrated by a well in which a liquid solvent of low viscosity is injected into

the formation at a rate high enough to cause fracturing of the formation. Injection of the solvent is continued to extend the fracture and cause the solvent to move through the formation for a substantial distance from the well.



After injection of the solvent the well is shut in for a period of at least a day, and thereafter formation fluids are produced through the well through which the solvent was injected.

3,405,763
WELL COMPLETION APPARATUS AND METHOD
William A. Pitts, Robert L. Crain, and Elwood K. Pierce, Houston, Tex.; said Crain and said Pierce assignors to Gray Tool Company, Houston, Tex., a corporation of Texas
Filed Feb. 18, 1966, Ser. No. 539,242
(Filed under Rule 47(b) and 35 U.S.C. 118)
38 Claims. (Cl. 166—46)



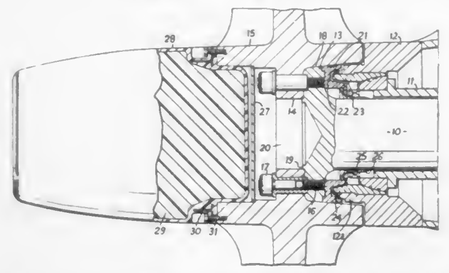
1. In well completion apparatus, a down-hole casing hanger assembly including: a generally tubular casing hanger body; an elastic hard metal support ring mounted on said hanger body; surface means on each said support ring and said hanger body, said surface means being engageable to support said hanger body on said support ring; said support ring being split so as to have two adjacent ends; means on said casing hanger body disengageably engageable with said support ring near said ends to radially constrict said support ring when engaged therewith to thereby impart self-expansibility to said support ring, said support ring being thereby arranged to expand upon disengagement of said engageable means from said support ring; and securement means on said casing hanger body adjacent the ends thereof for securably interposing said casing hanger body in a casing string intermediate the ends of the casing string.

3,405,764
MULTIPLE PURPOSE WELL TOOLS
Benjamin P. Nutter, Houston, Tex., assignor, by mesne assignments, to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Continuation of application Ser. No. 775,002, Nov. 19, 1958. This application July 18, 1962, Ser. No. 213,565
39 Claims. (Cl. 166—145)



13. A well tool comprising: a tubular housing having a lower end arranged for connection with a packing means; a tubular full-opening mandrel slidably received within said housing and having an upper end arranged for connection with a string of tubing; a retrievable inner mandrel assembly disposed within said full-opening mandrel; means to releasably secure said inner mandrel assembly to said full-opening mandrel including a plurality of detent means interlocking said inner mandrel assembly and said full-opening mandrel; and means to release said detent means from a locking position by relative rotation between said full-opening mandrel and said tubular housing.

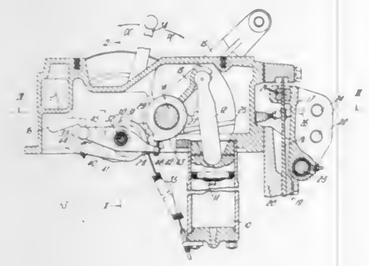
3,405,765
SHIP'S PROPELLER MOUNTING
Colin Wray Herbert, Marske-by-the-Sea, England, assignor to The Glacier Metal Company Limited, Middlesex, England
Filed Feb. 21, 1967, Ser. No. 617,540
Claims priority, application Great Britain, Feb. 22, 1966, 7,827/66
9 Claims. (Cl. 170—173)



A marine propeller mounting in which the propeller has integral fixed blades on a hollow cylindrical boss

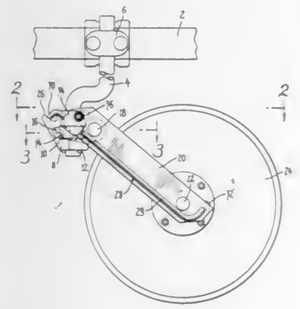
with an internal integral flange disposed centrally under the roots of the blades and the flange of the boss is bolted to a radially-extending end flange on the shaft whereby the overhang of the weight of the propeller with respect to the shaft bearing is minimized.

3,405,766
TRACTOR HYDRAULIC CONTROL SYSTEM
Eugenio Todeschini, Como, Italy, assignor to Landini S.p.a., Reggio Emilia, Italy, a company of Italy
Filed Feb. 11, 1965, Ser. No. 431,880
Claims priority, application Great Britain, Feb. 11, 1964, 5,573/64
7 Claims. (Cl. 172—10)



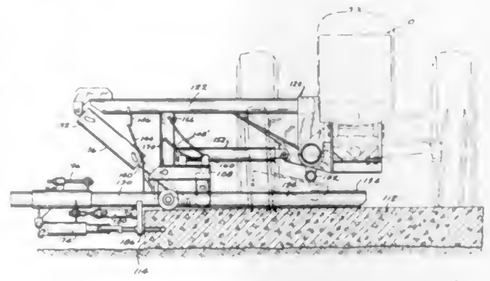
A hydraulic power lift control mechanism including a valve having raise, neutral and lowering positions and being operable automatically and selectively in response to changes in position of the tractor draft links, to changes in force upon the draft links or to changes in pressure in the lift cylinder caused by changes in draft force. Further, the selections between the types and/or degree control may be made manually.

3,405,767
TORSION BAR MOUNTING FOR COULTER DISCS
Howard G. Thompson, Livonia, Mich., assignor to Massey-Ferguson Inc., Detroit, Mich.
Filed Sept. 9, 1965, Ser. No. 486,138
2 Claims. (Cl. 172—572)



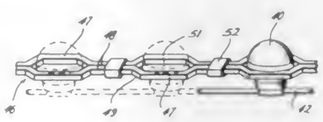
A coulter assembly including a coulter disc mounted on one end of an arm member pivotally supported on a bracket. The coulter is biased to a working position by a torsion bar clamped between its ends to the arm member and having one end abutting the bracket and its other end engaged in an aperture in the arm member.

3,405,768
DRILL RIG
Jacob E. Feucht, Sidney, Ohio, assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Aug. 8, 1967, Ser. No. 659,228
18 Claims. (Cl. 173—52)



A rig adapted for mounting on a tractor or similar carrier vehicle and operable to drill anchor bolt or tie rod holes along the side edge of an existing concrete strip or the like for facilitating anchorage of an adjacent strip.

3,405,769
WELL PERFORATING APPARATUS
James B. Shore, Friendswood, and William T. Bell, Houston, Tex., assignors to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Filed Feb. 28, 1967, Ser. No. 619,393
6 Claims. (Cl. 175—4.53)

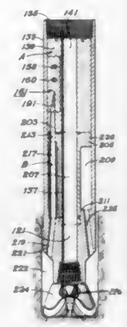


A perforating gun is provided for through the flow line operations wherein bends in the flow line require tools that are flexible in all planes. The perforating gun includes a wire shaped charge carrier which has a low cross sectional moment of inertia in the planes of its major and minor axis to provide such flexibility. The shaped charges are made of wear resistant material and are arranged within the carrier to prevent their inadvertent loss within the flow line.

3,405,770
DRILLING METHOD AND APPARATUS EMPLOYING PRESSURE VARIATIONS IN A DRILLING FLUID
Edward M. Galle and Henry B. Woods, Houston, Tex., assignors to Hughes Tool Company, Houston, Tex.
Continuation-in-part of application Ser. No. 379,257, June 30, 1964. This application May 25, 1966, Ser. No. 552,788
33 Claims. (Cl. 175—56)

Following is disclosed improved means of drilling bore holes in the earth by effecting elastic vibrations in the drilling fluid surrounding a rotating drill bit. In preferred means fluid pressure at the bore hole bottom is cyclically decreased, while simultaneously jet velocity and bit load are cyclically increased. In addition, means in preferred fluidic forms (i.e., no moving mechanical structure) in-

cludes a bistable oscillator, a coupler and resonators which cooperate to provide large fluid pressure fluctua-



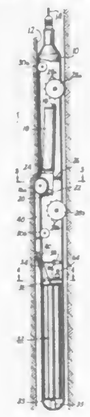
tions near the bore hole bottom while minimizing acoustic energy transfer upward through the drilling fluid.

3,405,771
DEEP WELL MOTOR IMPACT TOOL AND DRILLING APPARATUS
Charles J. Carr, Anaheim, and Marion Dudley Hughes, Long Beach, Calif. (both % Mr. Dudley Hughes, 1111 Security Bldg., Long Beach, Calif. 90802)
Filed Apr. 12, 1966, Ser. No. 542,159
11 Claims. (Cl. 175—73)



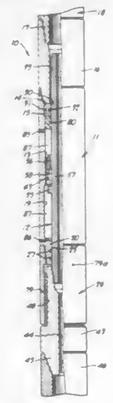
A combination rotor and percussion deep well drilling tool including, an elongate vertical barrel with fluid conducting means at its upper end to connect with a drill collar at the lower end of a drilling string, an elongate, tubular, fluid conducting column slidably engaged in the barrel and having a lower end depending therefrom, said column having means at its lower end to connect with a rotary bit, an elongate longitudinally extending radially outwardly opening helical groove, and sealing means at its upper end to seal between the column and the barrel, and drive means between the column and the barrel, and drive means between the barrel and the column to rotate the column relative to the barrel upon downward shifting of the barrel relative to the column and including a drive sleeve adjacent the lower end of the barrel surrounding the column, a cam lug on the sleeve and engaged in the groove, and releasable clutch means between the barrel and the sleeve to establish driving engagement between the sleeve and the barrel upon downward shifting of the barrel relative to the column.

3,405,772
SAMPLING DEVICE
John D. Wisenbaker and Robert W. Stuart, Dallas, Tex., assignors of one-half each to American Coldset Corporation, Teterboro, N.J., a corporation of Texas, and Core Laboratories, Inc., Dallas, Tex.
Filed Sept. 28, 1966, Ser. No. 582,688
16 Claims. (Cl. 175—77)



A sidewall coring tool having a housing movable bodily lengthwise of the borehole by drive means engaging the sidewall and motor driven cutting blades arranged in a V with its apex located outwardly of the housing to cut a generally prism-shaped sample from the side wall as the housing is thus moved. A multi-chambered sample collecting chamber, rotatable to bring its several chambers successively in sample-receiving position beneath the cutting blades, may be provided to increase the length of the sample which can be stored in the tool.

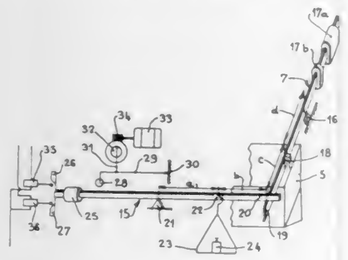
3,405,773
SLEEVE VALVE AND OIL WELL TOOL EMBODYING THE SAME
Wayne N. Sutliff and Jim L. Downen, both of 2931 Pierce Road, Bakersfield, Calif. 93308
Filed Aug. 5, 1966, Ser. No. 570,564
9 Claims. (Cl. 175—297)



Telescopically related inner and outer tubular mandrels between which axially spaced O-rings confine a body of light oil retardant, an annular sealing shoulder and an annular stop shoulder being provided on said inner mandrel between which shoulders a valve sleeve has free end-play, said valve sleeve having spring legs fric-

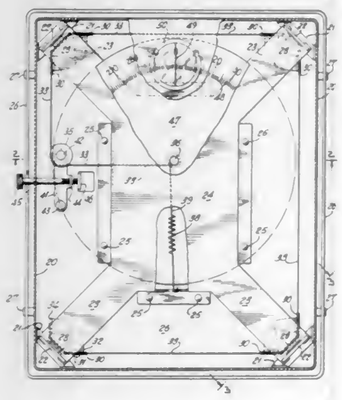
tionally engaging said outer mandrel causing said valve sleeve to be positively opened (separated from said sealing shoulder) when telescopic contraction of said mandrels starts and positively closed (shifted against said sealing shoulder) when telescopic extension of said mandrels starts.

3,405,774
WEIGH FEED MECHANISM
Robert Laroche, Cours, France
Filed Mar. 20, 1967, Ser. No. 624,333
Claims priority, application France, Mar. 25, 1966, 47,099
7 Claims. (Cl. 177—46)



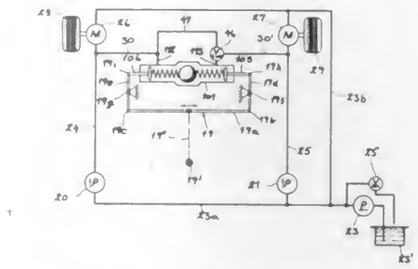
A weigh feed mechanism for textile fibers having a first pivoted beam carrying a weigh pan and a second beam loaded by a weight periodically engaging the first beam so that the resulting load on the first beam is equal to the proposed weight of the fibers in the weigh pan. A pair of micro-switches are adapted to be engaged by stops carried by the beam system to alert the operator of faulty calibration.

3,405,775
WEIGHING MECHANISM
Charles B. Grady, Jr., West Orange, N.J., and Nathaniel B. Wales, Jr., New York, N.Y., assignors to The Metrodynamics Corporation, Red Bank, N.J., a corporation of New Jersey
Filed Aug. 19, 1965, Ser. No. 480,872
3 Claims. (Cl. 177—229)



A weighing platform is supported at points near its edges by a plurality of springs preferably cantilever beams stamped from a single plate. The sum of the deflections of these springs is mechanically derived by a pulley circuit threaded by a tape or cable which serially spans each spring deflection path, and indicates this total weighing deflection on a rotary display dial to which the cable is coupled under spring tension.

3,405,776
HYDRAULIC-DRIVE SYSTEM AND CONTROL DEVICE THEREFOR
Siegfried Hertell, Kelsterbach am Main, Germany, assignor to Alfred Teves KG, Frankfurt am Main, Germany, a corporation of Germany
Filed Mar. 7, 1966, Ser. No. 532,462
Claims priority, application Germany, Mar. 5, 1965, T 28,108
10 Claims. (Cl. 180—6.3)



Vehicular drive wherein a pair of wheels on opposite sides of the vehicle are individually driven by two hydrostatic motors supplied with hydraulic liquid by respective fluid pumps over conduits which are bridged by a shunt path to equalize relatively small pressure differentials between the two conduits, larger pressure differentials causing a valve in the shunt path to shift into an off-normal position in which passage of fluid through the shunt path is blocked or at least severely throttled. The steering post of the vehicle controls a linkage which, during sharp turns, prevents excessive throttling by increasing a biasing force which opposes displacement of the valve or by blocking a passage for hydraulic fluid tending to cause such displacement.

3,405,777
DRAGGING OR PULLING DEVICE ESPECIALLY FOR SKIERS
Miklos von Kemenczky, 326 Curtis Ave., Point Pleasant, N.J. 08742
Filed June 13, 1966, Ser. No. 557,168
1 Claim. (Cl. 180—7)

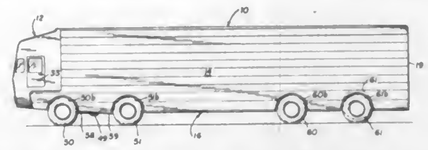


The invention relates to a motor driven towing device especially for skiers in which the traction is provided by a pair of cylinders with spiral ribs, the device being provided with a steering structure which enables the skier to control the device from a distance behind the traction cylinders.

3,405,778
INTEGRATED TRACTOR AND TRAILER
Emmet L. Martin, Littleton, Colo., assignor to The American-Coleman Company, Littleton, Colo., a corporation of Nebraska
Filed May 16, 1966, Ser. No. 550,394
10 Claims. (Cl. 180—24)

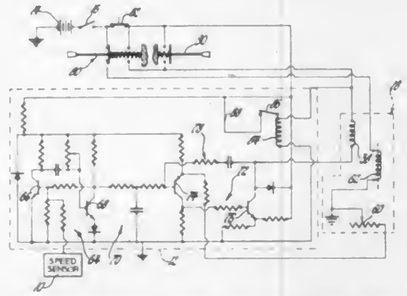
An integrated tractor and trailer unit of high capacity, including a cab-over-engine and integral goods carrying body, has two or more sets of steerable drive wheels at the front of the vehicle and two or more sets of follow wheels at the rear. One set of rear wheels is steerable at low speeds, and locks in following position at higher speeds. The other set of rear wheels are retractable for

use in steering the steerable rear wheels. At a predetermined capacity of goods holding body, the vehicle has a much shorter length than a conventional tractor and trailer, and eliminates jackknifing common with tractor-



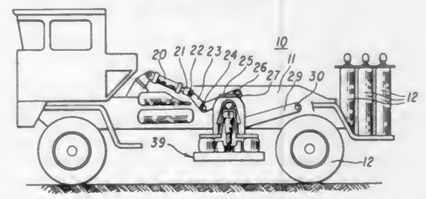
trailer units. The integrated tractor-trailer unit provides a high measure of safety for highway travel, greater economy in the movement of goods, and a higher maneuverability than is possible with conventional tractor-trailer units.

3,405,779
VEHICLE SPEED CONTROL SYSTEM
Ralph H. Johnston, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 9, 1966, Ser. No. 600,493
5 Claims. (Cl. 180—108)



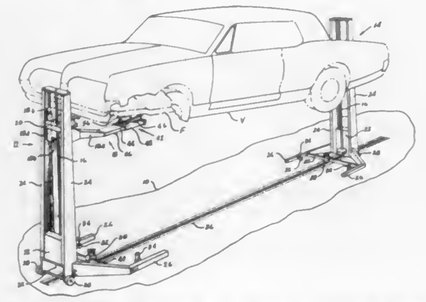
1. A vehicle speed control actuator comprising fluid pressure control means, first fluid pressure responsive means for controlling the position of a vehicle throttle, variable resistor means, second fluid pressure responsive means for adjusting the resistance of said resistor means to a value corresponding to a prevailing vehicle speed in response to operation of said fluid pressure control means, means for maintaining said resistor means at the adjusted value independent of said second fluid pressure responsive means.

3,405,780
CARRIER AND POSITIONING MECHANISM FOR A SEISMIC ENERGY SOURCE
Herbert Dightman Coburn, Dallas, Tex., and Edward Phillip Shear and Carl Edmond Steele, Tulsa, Okla., assignors of one-half each to Champion Carriers Incorporated, Tulsa, Okla., and Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed May 12, 1967, Ser. No. 637,956
2 Claims. (Cl. 181—.5)



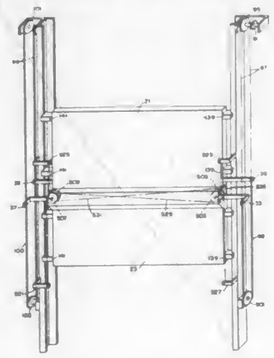
Disclosed is an apparatus for positioning a seismic energy source used in combination with a mobile vehicle so that when a hydraulic mechanism actuates lever arms the energy source is lowered to the surface of the earth raising the end of the vehicle to cause the weight of the vehicle to be applied in holding the energy source against the surface of the earth.

3,405,781
VEHICLE LIFTING APPARATUS
Charles H. Brown, Dayton, Ohio, assignor, by direct and mesne assignments, to The Joyce-Cridland Company, Dayton, Ohio
Filed Apr. 5, 1967, Ser. No. 628,653
8 Claims. (Cl. 187—8.41)



At least one lifting carriage of a pair of vehicle jacks has slides mounted on rollers between a pair of stops on each of a pair of support rails. Therefore, the slides can move on the rails when engaged with a vehicle should the vertical travel of the two carriages be unequal. Freedom of each slide to move toward either of its associated stops after the slides are engaged with a vehicle is assured by springs which center each slide between its stops under no-load conditions. Vehicle engaging pads on the slides are designed to receive various types of sliding and rotating adapters.

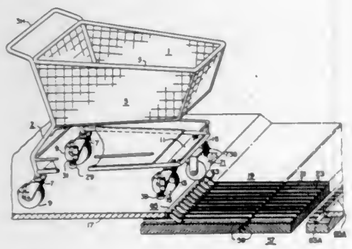
3,405,782
ELEVATOR SYSTEM
Harry Berkovitz, Glen Rock, and Lennius R. Rissler, Newark, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 25, 1966, Ser. No. 597,049
12 Claims. (Cl. 187—58)



Vertically opening double-panel elevator hatchway doors are driven by a master door operator through a chain and sprocket drive means connected to one edge of each panel. One panel is maintained in a horizontal attitude while being driven vertically by means of a cable and pulley reeving scheme. Relating cables connected be-

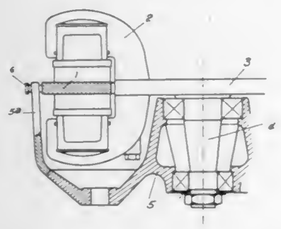
tween the two panels on both sides provide positive means to maintain the second panel in a horizontal attitude during vertical travel in both directions and prevent movement of the panels in either direction when the sprocket wheel drive is locked up.

3,405,783
RELEASABLE BRAKE CONSTRUCTIONS FOR VEHICLES
Myron A. Clark, West Orange, and Philip L. Fosburg, Westfield, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 10, 1966, Ser. No. 556,620
8 Claims. (Cl. 188—5)



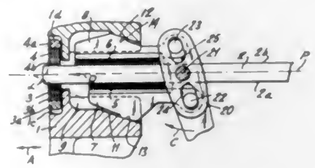
A shopping cart has cleated wheels proportioned to mesh with the cleats of a moving walk. Brakes on the shopping cart clear a plane supporting surface but engage the moving walk due to the meshing of the cleats. One or more wheels are located at one end of the cart slightly above the supporting surface. The cart may be tilted onto the last-named wheels to facilitate movement of the cart relative to the walk.

3,405,784
DISC AND SUPPORT MEANS THEREFOR
Edmond Henry-Biabaud, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France, a company of France
Filed Apr. 25, 1966, Ser. No. 545,084
Claims priority, application France, Apr. 30, 1965, 3,206
3 Claims. (Cl. 188—18)



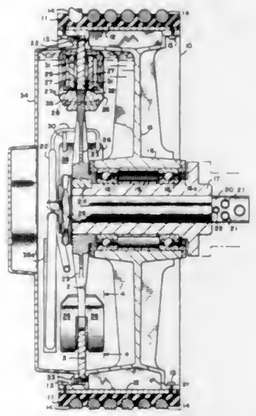
A disk brake wherein a generally crown-shaped disk support is rotatable about an axis and has a generally cylindrical axially extending rim secured to the outer periphery of an annular disk lying in a plane perpendicular to the axis within the rim, the brake yoke being mounted upon a nonrotatable support and having brake pads or shoes at least partly received in the region surrounded by the rim for engagement with the disk, while radially extending bolts angularly spaced about the rim and the disk join the latter to the former so as to prevent axial displacement of the disk but permit relative radial movements of the disk and the crown.

3,405,785
SELF-ENERGIZING, SPOT-TYPE DISK BRAKE
Leopold Franz Schmid, Stuttgart, Germany, assignor to Alfred Teves Maschinen- und Armaturenfabrik KG, Frankfurt am Main, Germany, a corporation of Germany
Filed June 8, 1967, Ser. No. 644,679
Claims priority, application Germany, June 18, 1966, T 31,388
11 Claims. (Cl. 188—73)



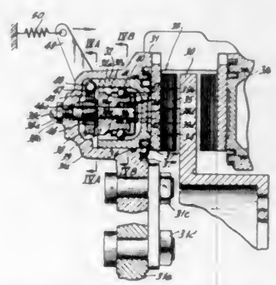
Disk-brake system wherein a brake disk is rotatable relatively to a brake support or yoke disposed along the periphery of the disk; a pair of hydraulic main brakeshoes is mounted on the support on opposite side of the disk. The mechanically operable hand brake system includes a pair of auxiliary brakeshoes mounted on the support and confrontingly juxtaposed with one another on opposite sides of the disk, guide means on the support co-operating with the auxiliary brakeshoes for urging one of them against said disk upon its entrainment in a self-tightening action; the other brakeshoe is urged against said disk in a direction counter to the self-tightening force of the first brakeshoe, thereby preventing distortion of the disk upon application of the auxiliary brake system.

3,405,786
FLUID PRESSURE CONTROL FOR BRAKE MECHANISM WITH COOLING MEANS
Robert W. Goode, Rte. 1, Box 112A, Morgan Hill, Calif. 95037
Filed June 9, 1967, Ser. No. 644,916
7 Claims. (Cl. 188—264)



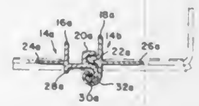
A brake mechanism provided with a caliper supporting spider attached to a stationary shaft which also supports the rotatable wheel to which braking is to be applied. The wheel is provided with a grooved disk attached thereto and positioned to be rotatable between the brake caliper supported by the arms of the spider. A housing is provided around the brake mechanism to contain a quantity of oil which receives the heat generated by the braking action by the calipers on the grooved disk. Fluid pressure connections are provided to the calipers for pressing the brake linings thereof against the disk. A heat exchange unit is provided in the housing in contact with the oil contained in the housing to cool this fluid.

3,405,787
HYDRAULIC BRAKE SYSTEM WITH LOCKING MEANS
Ernst Meier, Frankfurt am Main, Sindlingen, and Hermann Seip, Bad Vilbel, Germany, assignors to Alfred Teves KG., Frankfurt am Main, Germany, a corporation of Germany
Filed Mar. 20, 1967, Ser. No. 624,458
Claims priority, application Germany, May 7, 1966, T 31,125
12 Claims. (Cl. 188—265)



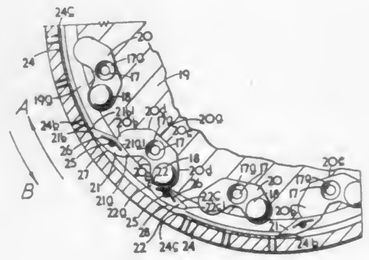
Hydraulically operated brake system with lockable disk or internal-expansion brakes having a hydraulic cylinder with an axially shiftable piston and a locking member shiftable by a lever and a worm and/or threaded-spindle mechanism to follow the movement of the piston and lock it in an advanced position to retain the brake in the engaged condition for emergency and parking purposes. Dual-brake system wherein a pair of front-wheel brakes and a pair of rear-wheel brakes are coupled to a tandem master cylinder via a pair of hydraulic networks, the mechanical locking device being operable from the driver's seat of the vehicle upon hydraulic actuation of the brake to arrest one or more of the pistons of the hydraulic brakes. A respective locking device is provided for at least one brake of each hydraulic network.

3,405,788
HINGED FRAME CONSTRUCTION FOR LUGGAGE
Robert McKim Alford, Port Moody, British Columbia, Canada, assignor to Henry L. Kotkins, Seattle, Wash.
Filed May 25, 1966, Ser. No. 552,770
3 Claims. (Cl. 190—49)



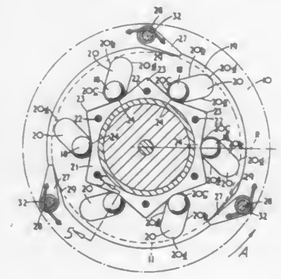
A luggage device comprising two closable sections adapted to be pivotally close together with peripheral edges in face to face adjacency is provided with peripheral metal frame closures peripherally enclosing and attached to the adjacent edges of the two luggage device closable sections. Each metal frame closure is provided with a longitudinal outer reinforcing rib extending outward from the frame closure flange that attaches the frame closure to the respective luggage device closable section. Along one end of the luggage device the longitudinal outer reinforcing rib of each metal frame closure is arcuately extended and hingeably interlocked with the other to pivotally hinge the two closable sections together, such interlock being effected by sliding one arcuately formed outer reinforcing rib section into the other until the two closable sections are aligned.

3,405,789
OVERLOAD CLUTCHES
Olaf John Barclay Orwin, Birmingham, Derek Lawrence Gold, Cirencester, and David John Fortune, Bath, England, assignors to Fisholow Products Limited, Erdington, Birmingham, England, a British company
Filed Nov. 30, 1966, Ser. No. 598,105
Claims priority, application Great Britain, Dec. 2, 1965, 51,123/65; Jan. 11, 1966, 1,207/66
8 Claims. (Cl. 192—56)



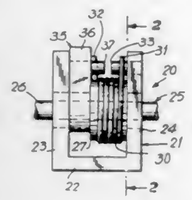
In an overload, clutch, the ball cage is releasably locked to one of the two clutch members. A spring loaded release disassociates the cage from the one clutch member by the pressure of a ball against the release, the release projecting into the path of a ball moving in an associated slot in the cage, thus permitting the cage to rotate in a disengaging direction relative to the one clutch member. The ball cage and the one clutch member are connectable so as to restrain them from relative rotation when they turn opposite to the disengaging direction.

3,405,790
LOCKING DEVICE FOR AN OVERLOAD CLUTCH
Olaf J. B. Orwin, Quinton, Birmingham, Warwick, and David J. Fortune, Weston, Bath, Somerset, England, assignors to Fisholow Products Limited, Tipton, England, a British company
Filed Jan. 5, 1967, Ser. No. 607,519
Claims priority, application Great Britain, Jan. 11, 1966, 1,206/66
7 Claims. (Cl. 192—56)



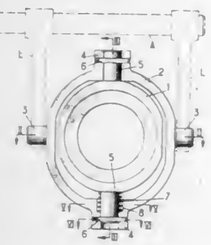
Overload clutches comprising resiliently urged together torque transmitting driving and driven members, and a free-wheel locking device which after overload facilitates an easier clutch re-engagement.

3,405,791
VARIABLE-TORQUE SLIP DEVICE
Joseph Kaplan, 39 Fair Lane, Jericho, N.Y. 11753
Filed Aug. 25, 1966, Ser. No. 575,063
12 Claims. (Cl. 192—81)



This invention relates essentially to a variable torque slip device for use as a drag brake or other similar devices requiring a controlled torque, comprising a rotary member having a helical spring circumposed thereabout and in frictional engagement therewith, whereby in operation a force is applied to the spring in an unwinding direction, thus reducing the interference torque about the said rotary member.

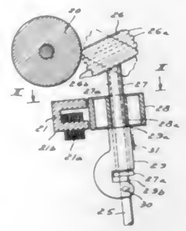
3,405,792
CLUTCH RELEASE BEARINGS
Albert Borgella, 33 Rue Francois Vincent Raspail, Arcueil, France, and Pierre de Raveton, 42 Rue de Dantzig, Paris, France
Filed Sept. 29, 1966, Ser. No. 582,845
Claims priority, application France, Oct. 1, 1965, 33,430
4 Claims. (Cl. 192—98)



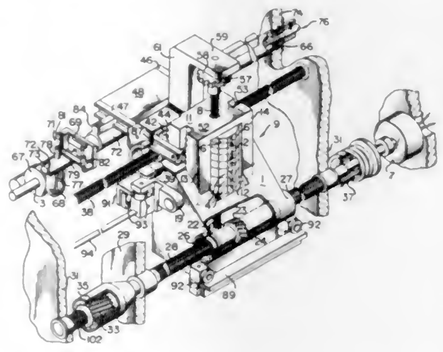
An annular clutch release bearing adapted to surround a shaft and carried on an inner cage which is pivoted to an outer cage by pivot pins which permits the inner cage to slide radially with respect to the outer cage. The outer cage is pivoted to a yoke on pivot means having an axis perpendicular to the axis of said pins. Spring means urge the inner cage to slide to a predetermined position relative to the outer cage.

3,405,793
MAGNETIC TYPE HEAD ACTUATING ARRANGEMENT
Walter Stuiber, Nurnberg, and Georg Mueller, Schwalbach, Germany, assignors to Max Grundig, Furth, Bavaria, Germany
Original application Mar. 21, 1966, Ser. No. 535,989, now Patent No. 3,349,885, dated Oct. 31, 1967. Divided and this application Aug. 9, 1967, Ser. No. 659,477
Claims priority, application Germany, Mar. 20, 1965, G 43,130
5 Claims. (Cl. 197—16)

The shaft of a rotary type head carries an armature which is attracted by an electromagnet when a selected type face of the type head is located opposite an impression area so that the force of the electromagnet presses the type face against the impression area. The armature has different armature portions influencing the actuating pressure in accordance with the area of the respective type face.

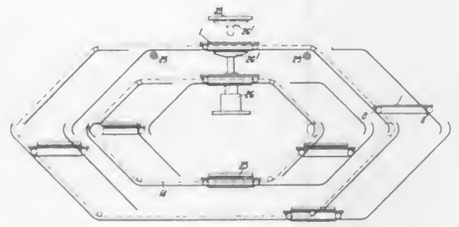


3,405,794
PRINTER WITH DETENT MEANS ON THE PRINT MOTION PRODUCING MEANS
Ralph P. Means, Melbourne, Fla., assignor to Soroban Engineering, Inc., Melbourne, Fla., a corporation of Florida
Filed Oct. 22, 1965, Ser. No. 501,060
22 Claims. (Cl. 197—55)



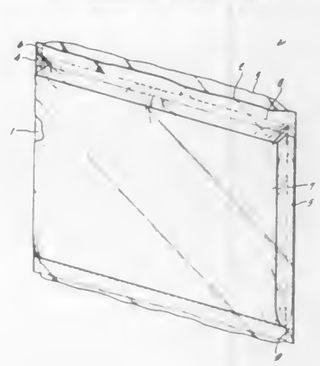
1. A printing mechanism comprising a carriage, means for mounting said carriage for translatory movement along a predetermined path, a yoke pivotally mounted in said carriage for oscillation about an axis parallel to said predetermined path, a first splined shaft secured to said yoke and having an axis extending perpendicular to the oscillatory axis of said yoke, a type font slidable along said first splined shaft and having internal splines mating with the splines of said first splined shaft, a second splined shaft extending parallel to said predetermined path and passing through said carriage, an internally splined shaft disposed about said second splined shaft and positioned within said housing, means constraining said internally splined shaft to translate with said carriage, the splines of said second and internally splined shafts constraining said internally splined shaft to rotate with said second splined shaft, a first gear secured to said internally splined shaft, a second gear mating with said first gear and secured to said first splined shaft whereby rotation of said second splined shaft produces rotation of said first splined shaft, selection means for rotating said second shaft through a prescribed arc and multiples thereof, said gears being located on one side of the axis of rotation of said yoke, means for rotating said yoke in a direction so as to partially disengage said gears and means for detenting said first splined shaft upon rotation of said yoke.

3,405,795
APPARATUS FOR STOWING AND CONVEYING ARTICLES
Carlo Mascherpa, Corso Sempione 11, Milan, Italy
Filed June 13, 1966, Ser. No. 557,212
Claims priority, application Italy, June 12, 1965, 5,751/65
8 Claims. (Cl. 198—138)



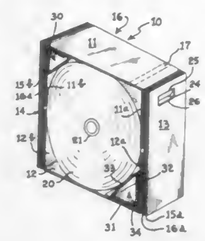
Apparatus for the parking of automobiles comprising at least one plurality of carriages having two axles and four wheels, said carriages being interconnected by chain means causing their forward movement in a continuously horizontal position along a loop-shaped runway determined by fixed tracks, the wheels constantly rolling and bearing on said tracks.

3,405,796
PACKAGED NEWSPAPER
Albert V. Misik, Los Angeles, Calif., assignor to Belco Engineering, Inc., Pasadena, Calif., a corporation of California
Filed June 29, 1967, Ser. No. 649,904
3 Claims. (Cl. 206—46)



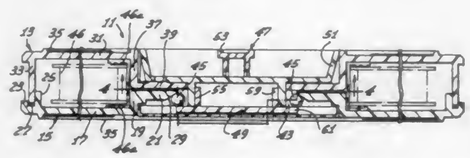
A protective package covers a newspaper that is spread out substantially flat. The package fits loosely around the newspaper although conforming to its shape. Most advantageously, the package comprises two pieces of waterproof film, such as polyethylene, covering the top and bottom of the newspaper. The pieces of film are sealed together on all four sides of the newspaper. On the sides parallel to the grain of the film, a double seal is formed, one seal being at the edges of the two pieces of film and the other seal being set back slightly from the one seal. On the sides perpendicular to the film grain, the seal is set back substantially from the edges of the film to form a grip for handling the packaged newspaper. The outside surface of the package is treated to receive print and printed matter is placed thereon.

3,405,797
ROLL PACKAGE
Richard J. Dwyer, Jr., Bellbrook, Ohio, assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed June 20, 1967, Ser. No. 647,353
4 Claims. (Cl. 206—52)



An improved package for shipping and handling a roll of paper of the type suitable for use with modified office-size printing and copying machines. The package consists of a paper roll contained in a snug-fitting rectangular shipping container of corrugated board. The two end walls of the container consists of three thicknesses of board for improved structural strength. Partially die-cut openings are provided near the top end of each of these end walls to serve as hand-grips. Triangular wedges of folded corrugated board are disposed in two opposing corners of the container to block the roll in position and add further structural strength. A circumferential tear strip disposed adjacent one of the reinforced ends provides means for easy opening.

3,405,798
REEL CONTAINER
Jack E. Peterson, Marina Del Rey, Calif., assignor to Comdata Corp., Los Angeles, Calif., a corporation of California
Filed Nov. 9, 1967, Ser. No. 681,629
11 Claims. (Cl. 206—52)

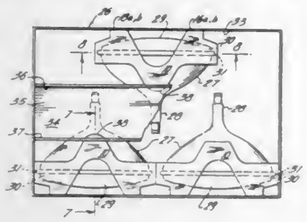


This disclosure describes a container for a reel which includes first and second complementary container sections. One of the container sections defines a locking surface and the other of the container sections carries a movable detent engageable with the locking surface to tightly hold the container sections together. The detent is movable generally radially and axially of the case sections into engagement with the locking surface to interlock the two container sections.

3,405,799
SHOCK MOUNT FOR SHIPPING TELEVISION TUBES
John J. Weller, Emmaus, and Ronald A. Weaver, Macungie, Pa., assignors to Cryo-Therm, Inc., Fogelsville, Pa., a corporation of Delaware
Filed May 29, 1967, Ser. No. 641,996
18 Claims. (Cl. 206—65)

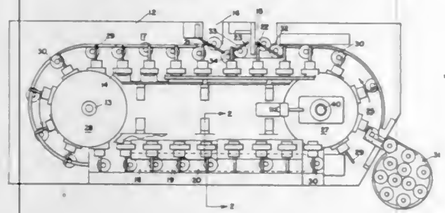
A shock mount for shipping glass envelopes of conoidal shape, e.g. television tubes, is disclosed. The mount may have the shape of a yoke of shock-resistant material, e.g. expanded plastic, the yoke having a pair of

wings joined to a centrally offset foot section. Each of the wings has a pocket for receiving in shock-mounting relationship a portion of the peripheral edge of the envelope, the foot having an envelope-contacting face shaped to bear against a conical portion of the envelope.



The glass envelope is supported in shipment by a pair of the yokes located diametrically opposite each other so that peripheral edge portions of the glass envelope are confined within the wing pockets and so that the foot section of each yoke rests against a tapered portion of the envelope.

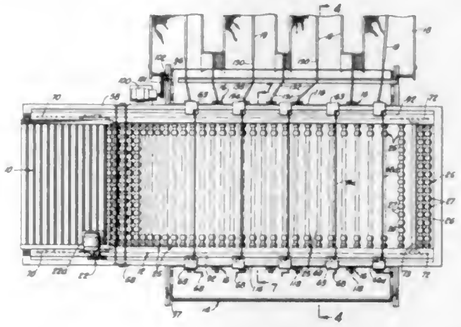
3,405,800
INSPECTION MACHINE FOR FLARES
James W. Lewis, Erie, Pa., assignor to Swanson-Erie Corporation, Erie, Pa., a corporation of Pennsylvania
Filed Oct. 7, 1965, Ser. No. 493,718
4 Claims. (Cl. 209—75)



The machine disclosed herein is intended to inspect the large end of the funnel shaped flare to make sure that it is between a maximum and a minimum tolerance and, also, to inspect the flare to make sure that the over-all length is between a maximum and a minimum tolerance. The machine further rotates the flares during inspection and in so doing insures that they are within tolerance limits of concentricity. The flares having an over-all length greater than tolerance are deflected laterally by a baffle, those within tolerance pass under this baffle, and are deflected by a baffle that is supported above the track at a distance equal to the minimum tolerance. The flares, having a length less than the minimum tolerance, pass on below this second deflector. The flares below a minimum diameter fall through a slot in the bottom of the track adjacent the inclined portion of the track.

3,405,801
FRUIT SIZING MACHINE
Wayne E. Zwiacher, Ontario, and Louis D. Kaser and Maurice V. Johnson, Jr., Upland, Calif., assignors to Sunkist Growers, Inc., Los Angeles, Calif., a corporation of California
Continuation of application Ser. No. 317,245, Oct. 18, 1963. This application June 15, 1967, Ser. No. 666,222
18 Claims. (Cl. 209—84)

A conveyor surface for sizing fruit is formed by transverse sizing rolls which are connected at their opposite ends to linkages which are incorporated in two parallel sprocket chains which pass around corresponding sprockets at the two ends of the conveyor. The linkages engage pairs of cam tracks on opposite sides of the conveyor for the purpose of controlling the spacing of the transverse sizing rolls, the cam tracks of each pair spreading apart to act on the linkages to spread apart the transverse sizing rolls as the sizing rolls traverse the tail half of the conveyor to cause the fruit to drop through different zones of the conveyor according to fruit size. The linkages make pressure engagement with the pairs of cam tracks in response to tension in the sprocket chains, such pressure engagement creating wear as well as resistance to conveyor operation. Towards the head end of the upper run of the



conveyor the head end sprockets place the sprocket chains under longitudinal compression and thus minimize the pressure of the linkages on the pairs of cam tracks, but towards the tail end of the upper flight, the tail end sprockets place the sprocket chains under tension to cause the linkages to make pressure engagement with the pairs of cam tracks as required for controlled spacing of the transverse sizing rolls. Thus, the wear and resistance created by pressure engagement with the cam tracks by the linkages is limited substantially to the tail half of the upper run of the conveyor.

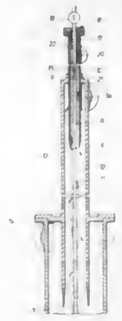
3,405,802
FLOTATION OF APATITE
Gustav Schoeman Preller, Phalaborwa, Transvaal, and Barend Jacobus de Klerk Schoeman, Kempton Park, Transvaal, Republic of South Africa, assignors to Phosphate Development Corporation Limited, Phalaborwa, Transvaal, Republic of South Africa, a limited-liability company of the Republic of South Africa
No Drawing. Filed July 8, 1965, Ser. No. 470,574
Claims priority, application Republic of South Africa, July 20, 1964, 643,405
4 Claims. (Cl. 209—166)

Apatite is floated from apatite-bearing rock by pulping the ground rock in ordinary hard water at ordinary room temperature using a reagent combination consisting of a fatty acid reagent, an alkyl aryl sulphonate reagent and a sulphated fatty acid reagent, conditioning the pulp with this reagent combination, aerating it, removing the apatite as a floating constituent and removing the non-float as tailing.

3,405,803
VORTEX SEPARATOR
Theodore Bähr and Wilhelm Müller-Rid, Heidenheim, Germany, assignors to J. M. Voith G.m.b.H., Heidenheim, Germany
Filed Aug. 24, 1964, Ser. No. 391,455
Claims priority, application Austria, Aug. 26, 1963, A 6,812/63
7 Claims. (Cl. 209—211)

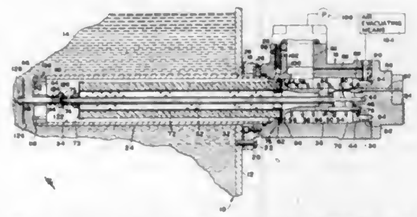
1. A vortex separator for clarifying a suspension containing particles both heavier and lighter than the particles to be retained in the clarified suspension comprising; a generally tubular vortex chamber, a tangential inlet

opening for the suspension to be clarified at one end of the vortex chamber, a discharge opening for the heavier particles separated out from the suspension and located at the other end of the vortex chamber, said vortex chamber including a central gas core when the suspension is passing through the vortex chamber, a first discharge tube for the clarified suspension extending axially into the vortex chamber from the inlet end thereof so as to have its inlet opening at a point beyond the inlet opening of the vortex chamber and having a discharge opening in its outer end, a second discharge tube extending axially into the first discharge tube from the outer end of the first discharge tube but terminating short of the innermost end of said first discharge tube so as to have its inlet opening at a point beyond the discharge opening of the first discharge tube, the inlet end of said sec-



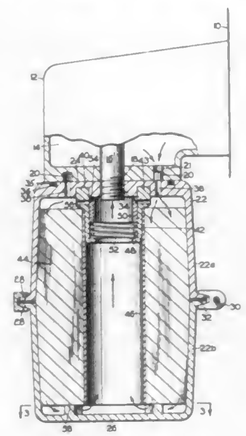
ond discharge tube being spaced from the inlet end of said first discharge tube towards its discharge end a distance which is at least twice the inlet diameter of said first discharge tube, a third discharge tube extending into said second discharge tube from its outer end and terminating short of the inner end of said second discharge tube, said third discharge tube having a diameter substantially smaller than the diameter of said second discharge tube, and the inlet end of said third discharge tube being spaced from the inlet end of said second discharge tube towards its discharge end a distance which is at least twice the inside diameter of said second discharge tube, the inlet end of said second discharge tube being spaced from the discharge opening of said first discharge tube a distance equal to at least twice the diameter of said second discharge tube.

3,405,804
HORIZONTALLY MOUNTED BAYONET FILTER DEVICE
Nils O. Rosaen, Bloomfield Hills, Mich., assignor to The Rosaen Filter Company, Hazel Park, Mich., a corporation of Michigan
Continuation of application Ser. No. 411,246, Nov. 16, 1964. This application Dec. 29, 1967, Ser. No. 701,519
8 Claims. (Cl. 210—90)



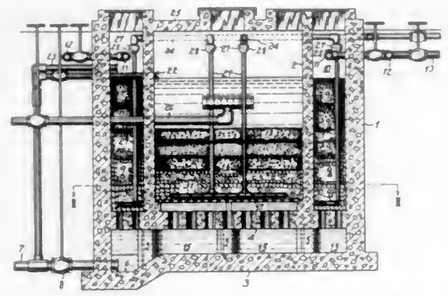
A filter horizontally mounted on the sidewall of a reservoir and including valve means which closes automatically upon removal of the filter element from the reservoir.

3,405,805
FILTER
Robert F. Hatter, Box 464, St. Helens, Oreg. 97051
Filed Dec. 19, 1966, Ser. No. 603,008
2 Claims. (Cl. 210—130)



The oil filter of the invention has a cylindrical body portion for receiving a toilet tissue roll as the filtering media. The body portion has end walls one of which has inlet and outlet openings. This latter end wall has a hollow valve housing secured thereto, and such housing is adapted to be frictionally fitted inside one end of the impervious core of the toilet tissue roll. A tubular open-ended, spring-pressed insert is slidable in the housing and has a beveled end portion arranged to uncover by-pass ports in the housing should the filter become plugged.

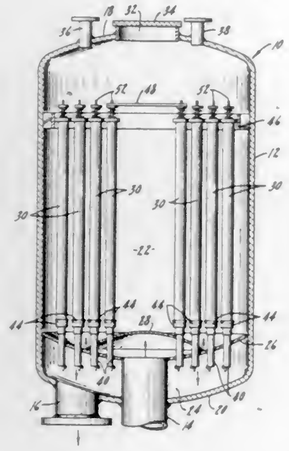
3,405,806
WATER FILTRATION PLANT
Tamotsu Okada, 9 Umegae-cho 1, Gifu, Japan
Filed May 13, 1966, Ser. No. 550,052
12 Claims. (Cl. 210—203)



A water filtration plant having an aeration chamber, a first filter bed, a sedimentation chamber and a second filter bed. Raw water is supplied and discharged as an upward spray of water into the aeration chamber. The aerated water passes downwardly through the first filter bed to the sedimentation chamber where the precipitate by the aeration of water and other heavier impurities settle to the bottom of the chamber. The effluent from the sedimentation chamber passes upwardly through the second filter bed by the static pressure head of water in the plant. The filtered pure water is removed from the top of the second filter bed. The first and second filter beds

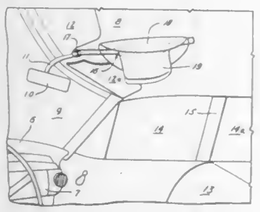
are provided with injectors for supplying clear water containing bubbles of air to the lowermost layers of the filter beds for washing and cleaning the filter beds by the upward flow of air and water.

3,405,807
FILTER CARTRIDGE SEALING MEANS
Kenneth J. Burkhardt, Basking Ridge, N.J., assignor to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey
Filed June 8, 1967, Ser. No. 644,710
11 Claims. (Cl. 210—232)



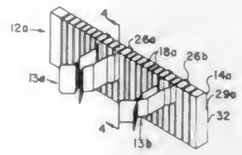
Improved apparatus for holding an annular filter cartridge in a filter tank. The cartridge is supported by a tubular seat means which is mounted in a partition in the tank. A fastening means extends through the cartridge and has a spring-loaded cartridge-gripping means at one end and a seat-engaging stop means at the other end. A sealing means is provided to seal the junction between the cartridge and the seat means. The sealing means may include an elastomeric gasket interposed between the cartridge and the seat means, or a cylindrical sleeve positioned within the seat means and partially embedded in the filter cartridge. The sealing means may also include a tubular shield embracing the junction between the cartridge and seat means.

3,405,808
PROTECTIVE HAT RACK
Ralph L. Thompson, 1047 Sally Anne Drive, Rosenberg, Tex. 77471
Filed Jan. 7, 1966, Ser. No. 519,392
2 Claims. (Cl. 211—31)



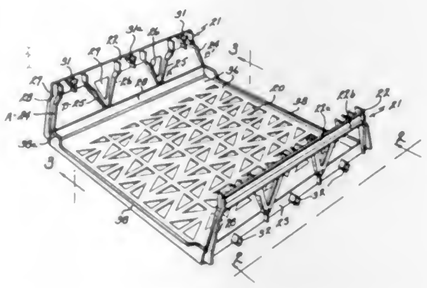
A hat rack for carrying a hat, particularly a western style hat, against the ceiling of an automobile. The rack is formed of a pair of generally parallel wires forming an intermediate loop in which the hat crown is received, one end of both wires being pivotally secured to a bracket attached to the ceiling while the other end is upturned providing protective clearance between the loop and the roof ceiling.

3,405,809
ADJUSTABLE CLAMP RACK
Peter M. Schatz, 8440 Evergreen Ave., Indianapolis, Ind. 46240
Filed Sept. 2, 1966, Ser. No. 577,063
3 Claims. (Cl. 211—87)



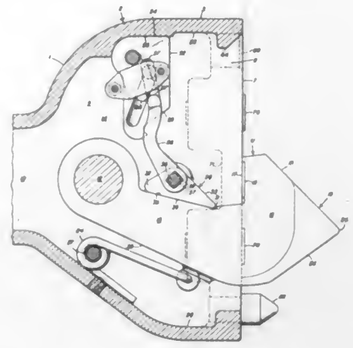
An article support rack with clamps for clamping articles of varying sizes. Each clamp comprises a pair of independent clips which may be positioned in different grooves in the rack to adjust the clamping capability of the clamp.

3,405,810
TIERABLE AND NESTABLE RECEPTACLE
Joseph A. Rogus, Willowick, Ohio, assignor to Mid-West Metallic Products, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Sept. 22, 1966, Ser. No. 581,317
19 Claims. (Cl. 211—126)



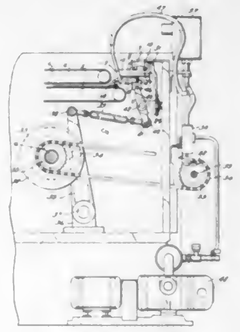
A tiering and nesting receptable is made of plastic, or the like, with a bottom and two generally parallel side walls; the side walls having vertically registering tiering support members at the top, on the inside, and at the bottom, on the outside. These support members interlock when two receptacles are stacked. In one embodiment a generally horizontal slide is inclined toward each upper tiering support member to guide the coacting lower support member into engagement. The side walls are reinforced at the end by inclined end flanges, and at intermediate points by V-shape flanges opening upwardly. A clearway is provided between each upper tiering support member and an adjacent V-shape flange permitting an upper receptacle to pass downwardly to a nested position in a lower receptacle and insuring that like V-shape flanges on the two receptacles interengage to guide the upper receptacle to registering alignment in the lower one. In one embodiment a unitary bottom is joined along parallel edges to two unitary side walls.

3,405,811
AUTOMATIC HOOK TYPE COUPLER
Geoffrey W. Cope, Williamsville, N.Y., assignor to Symington Wayne Corporation, Salisbury, Md., a corporation of New York
Filed Oct. 6, 1965, Ser. No. 493,383
17 Claims. (Cl. 213—100)



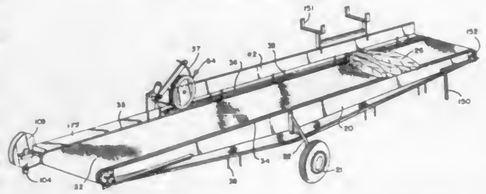
A pair of automatic hook type railway couplers each having pivotally mounted in its head an unlocking cam and a lock, the cam in uncoupling acting on both hooks for swinging them to uncoupling position and the lock on coupling locking the hook of the mating coupler in coupling position, an uncoupling lever on each head actuatable manually or automatically for swinging both hooks to uncoupling position through the unlocking cam while releasing the hook of the mating coupler from the lock, and an operative connection between the levers when the couplers are coupled for enabling actuation of one to actuate both in unison, the operative connection permitting the swing of the hooks to be so restricted that the couplers cannot be uncoupled unless both hooks are swung to uncoupling position.

3,405,812
BOOK-CASE MAKING MACHINES
Walter Kolbus, Post Rahden in Westfalen, Germany, assignor to Rahdener Maschinenfabrik Aug. Kolbus, Rahden in Westfalen, Germany, a firm
Filed Nov. 1, 1966, Ser. No. 591,318
Claims priority, application Germany, Nov. 4, 1965, R 41,905
12 Claims. (Cl. 214—1)



An apparatus for transposing flat book cases from one station to another in a book-case making machine, which includes a gripping member having suction means for positively connecting the gripping member to a book-case which is to be transposed. The gripping member is arranged on a double slide so as to be movable thereon to and fro in one and the same plane in a direction transverse and parallel to the folded rear edges of the bock-case as well as by means of a lifting element operatively mounted on the double slide and adapted to lift and lower the book-case vertically to the plane thereof. The double slide includes an upper slide rectilinearly movable along a stationary guide transversely to the folded rear edges of the book-case and a lower slide guidingly mounted on the upper slide and independently movable parallel to folded rear edges of the book-case. A fulcrum bracket is arranged on the lower slide and forms the lifting element for the gripping member. The upper slide member is provided with cam means for controlling the lifting movement of the fulcrum bracket.

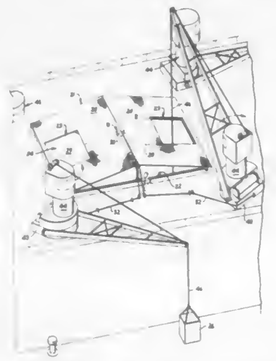
3,405,813
CONVEYOR FOR TOBACCO STITCHER AND LOOPER MECHANISM
William E. Davis and Charles M. Davis, both of Seven Springs, N.C. 28578
Original application Aug. 13, 1963, Ser. No. 301,862, now Patent No. 3,263,826, dated Aug. 2, 1966. Divided and this application Oct. 24, 1965, Ser. No. 510,440
5 Claims. (Cl. 214—5.5)



. The specification discloses a tobacco stitching and looping mechanism adapted to loop tobacco leaves by means of a stout string and form the tobacco into bundles of leaves.

In particular, the specification discloses a mechanism for intermittently advancing the leaf conveyor to allow for the operation of the stitching mechanism during the dwell periods of the intermittently advancing conveyor.

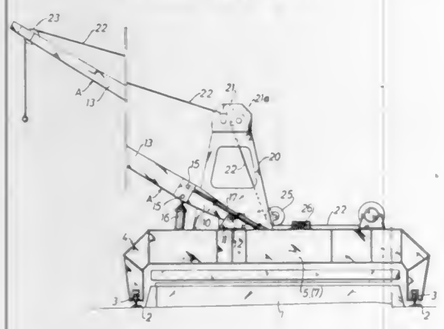
3,405,814
WEATHER TENT FOR CARGO HATCHES
Harold H. Yanow, 528 15th Ave., San Francisco, Calif. 94118
Filed May 19, 1965, Ser. No. 456,932
15 Claims. (Cl. 214—15)



1. In combination with cargo moving apparatus, a hatch tent, comprising a framework adapted for remov-

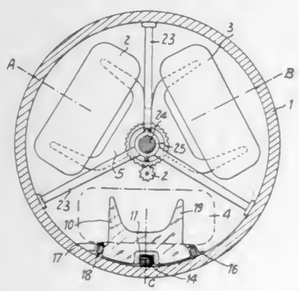
able mounting over a ship's hatch, a flexible cover supported on said framework for keeping rain out of said hatch and having an opening therethrough for loading and unloading cargo, and door means normally closing off said opening, said door means having a door actuating mechanism operatively connected to said cargo moving apparatus for automatic opening and closing in accordance with the position of the cargo so as to permit such cargo to pass therethrough.

3,405,815
DEVICE FOR LOADING AND UNLOADING SHIPS
Carl Ivar Wadefelt, 9B Hvitfeldtsplatsen, Goteborg, Sweden
Filed May 11, 1966, Ser. No. 549,283
Claims priority, application Sweden, May 19, 1965, 6,506/65
3 Claims. (Cl. 214—15)



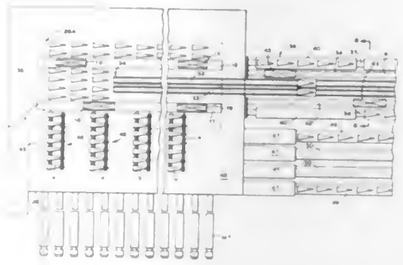
The present device is for loading and unloading cargo on ships and has a carrier movable longitudinally of the ship over hatch-ways thereof and a boom which can extend beyond the sides of the ship or over the ship hatch-ways with a cable supported from the end of the boom for carrying the cargo to lower or raise the same from a dock or through the ship's hatch-way and the carrier of the device.

3,405,816
VEHICLE GARAGE
Christian Beau, 31 Ave. de Louvois, Chaville, Hauts-de-Seine, France, and Gérard Beau, 17 Rue de l'Ancienne Comedie, Paris 6eme, France
Filed July 29, 1965, Ser. No. 475,835
Claims priority, application France, July 29, 1964, 983,383
8 Claims. (Cl. 214—16.1)



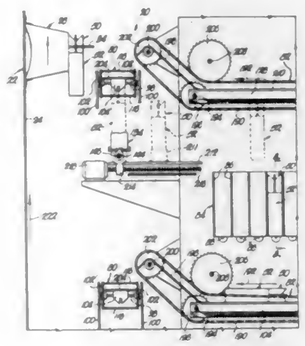
A parking garage comprises a cylindrical casing sunk in the ground and having a coaxial central column about which brackets are individually rotatable at each of a plurality of levels. Each bracket is provided with space for two automobiles, 120° apart, with the third space empty. An upright elevator is secured to a side wall of the casing and moves in that empty space to position automobiles to enter or leave each of the levels.

3,405,817
WAREHOUSE FACILITY
Mihai Alimanestianu, Nyack, N.Y., assignor to Speed-Park, Inc., New York, N.Y., a corporation of New York
Filed Feb. 1, 1966, Ser. No. 524,151
6 Claims. (Cl. 214—16.1)



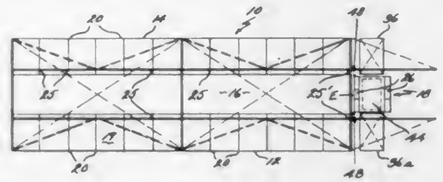
A warehouse facility for storing and retrieving items having tiers of stalls with passageways between the tiers of stalls and transfer means moving in the passageways, together with conveyors related to the transfer means for bringing items to the transfer means and for removing items from the transfer means, the conveyors having a construction particularly cooperative with elements of the transfer means.

3,405,818
ARTICLE STORAGE AND RETRIEVAL SYSTEM
Stan Humenuk, Lawrence, Kans. (317 Elmwood Drive, Champaign, Ill. 61820)
Filed Jan. 4, 1965, Ser. No. 422,914
14 Claims. (Cl. 214—16.4)



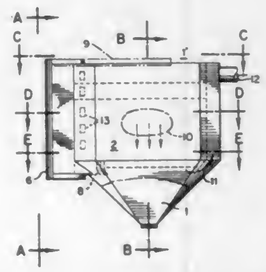
A system and apparatus for conveying, storing and retrieving articles including a vertical conveyor belt having pin means for releasably securing an article container thereto to move the container into a position adjacent a second conveyor. Solenoid means carried by the vertical conveyor discharges the container into a position where the container is advanced to the second conveyor for movement toward a plurality of receptacles at a storage unit. Indexing means including a longitudinal beam having a plurality of grooves therein adapted to cooperate with matrix means including projections engageable with the grooves support the container until the latter reaches a particular discontinuity in the grooves whereupon the container is released from the conveyor. Secondary conveyors, also provided with indexing means, guide the container to its predetermined location in the storage unit. Latch means operable from a control center initiates retrieval of the article whereupon the article is returned to a predetermined location by said conveyors.

3,405,819
GUARD AGAINST OBSTRUCTING LOAD IN AN AUTOMATIC WAREHOUSING SYSTEM
Wayne G. Atwater, Willoughby, Ohio, assignor to The Triax Company, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 25, 1966, Ser. No. 530,012
9 Claims. (Cl. 214—16.4)



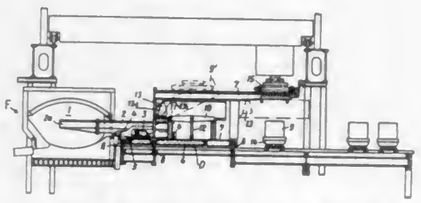
A guard against an obstructing load in an automatic warehousing system wherein a powered load carrier is movable from a pick-up and discharge station through an entranceway into a travel zone running alongside a storage frame, with the load carrier being adapted to place loads into the storage frame and to remove loads therefrom. The guard comprises a load detecting mechanism for sensing a load projecting laterally from the load carrier as the carrier moves from the pick-up and discharge station toward the travel zone, with the detecting mechanism comprising elongated generally vertically oriented movable means disposed ahead of the entranceway in general alignment with the running clearance between the load carrier and the respective storage frame section, and control means, such as a switch, operatively coupled to the movable means and to the motor means for driving the load carrier, for de-energizing the load carrier upon predetermined movement of the movable means as occasioned by a load projecting laterally of the load carrier.

3,405,820
DUST-PROOF HOPPER
Tsunezo Mori, Tokyo-to, Japan, assignor to Ishikawajima-Harima Jukogyo Kabushiki Kaisha, Tokyo-to, Japan, a company of Japan
Filed Sept. 26, 1966, Ser. No. 581,798
Claims priority, application Japan, Apr. 21, 1966, 41/25,475; May 11, 1966, 41/43,959, 41/43,960
8 Claims. (Cl. 214—17)



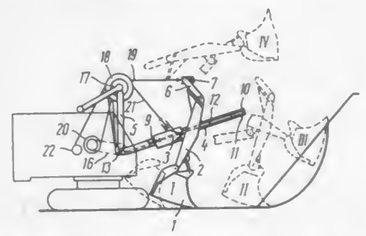
A hopper for containing a material which tends to create dust when loaded into the hopper. The hopper includes a lower material-containing portion terminating in a top edge. A shrouding is fixed to the lower material-containing portion of the hopper and extends from the top edge thereof upwardly through a distance sufficient to extend around a bucket or the like from which material is emptied into the material-containing portion of the hopper. This shrouding is open at its top and at its front so that the bucket or the like can have free access to the interior of the shrouding. While this shrouding will in itself greatly contribute to escape of dust, escape of dust is further prevented by providing the structure with suitable reversing baffles which direct dust back down into the material containing portion of the hopper.

3,405,821
METHOD OF AND APPARATUS FOR CHARGING FURNACES
Alfred Siesaczek, Kusnacht, Switzerland, and Ludwig Blinn, Spiesen (Saar), Germany, assignors to Maerz Ofenbau AG., Zurich, Switzerland, and Pohlig-Heckel-Bleichert Vereinigte Maschinenfabriken AG., Saarbrucken, Germany
Filed Nov. 22, 1965, Ser. No. 508,899
7 Claims. (Cl. 214—26)



A method and apparatus for scrap-charging a steel smelting furnace by means of a conveyor trough in which the conveyor trough is introduced bit by bit into the interior of the furnace and then slowly removed during which process scrap is continually discharged from the conveyor trough. The conveyor trough is maintained in a substantially horizontal plane and is oscillated throughout the inward and outward movement of same in the furnace so as to cause the scrap to leave the discharge end of the conveyor trough and fall into the furnace interior. The conveyor trough is heat-protected throughout its journey within the furnace interior by the layer of scrap upon the conveyor trough as well as by the newly discharged layer of scrap beneath the conveyor trough within the furnace interior.

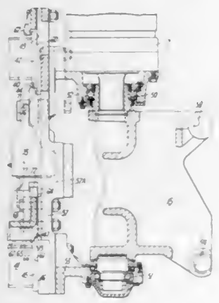
3,405,822
WORKING EQUIPMENT OF THE STRAIGHT SHOVEL TYPE
Rostislav Igorevich Voitsekhovsky, Prospekt Nischinskogo 10, kv. 32; Gennady Grigorievich Malik, Tsitadelnaya ulitsa 5/9, kv. 62; and Georgy Viktorovich Rodionov, Pechersky spusk 18, kv. 51, Kiev, U.S.S.R.
Filed Sept. 16, 1966, Ser. No. 580,015
2 Claims. (Cl. 214—134)



A straight shovel excavator having a boom pivotably connected at one end to the excavator platform, and a car-

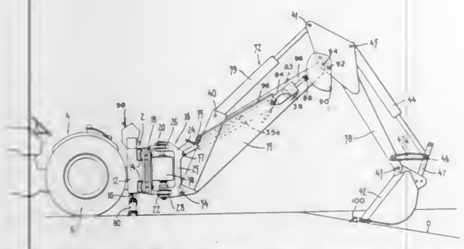
riage slidably mounted on the boom and pivotably supporting an arm which carries a bucket. A thrust drum is installed at the base of the boom for moving the carriage and the carriage is connected to the upper end of the boom via the thrust mechanism and to an upright on the platform via a pulley block of a suspension mechanism. Additional drums are rigidly connected to the thrust drum and the ends of ropes of the hoisting and suspension mechanism are secured thereto.

3,405,823
HYDRAULIC LOCKING MEANS FOR SHIFTABLE BACKHOE
Derrick Geoffrey Williams, Coventry, England, assignor to Massey-Ferguson Services N.V., Curacao, Netherlands Antilles
Filed Jan. 11, 1966, Ser. No. 519,919
Claims priority, application Great Britain, Jan. 20, 1965, 2,584/65, 2,586/65
13 Claims. (Cl. 214—138)



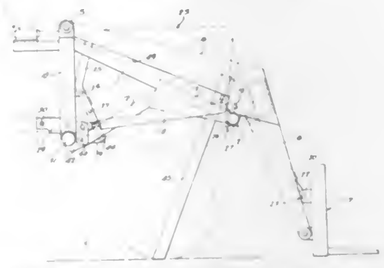
A backhoe boom support assembly in which a boom supporting bracket is slideably mounted on a tractor supported frame, and including hydraulic locking apparatus for securing the bracket against movement at any selected position along the frame. A control system is provided for the hydraulic locking means and boom actuators that operates to increase the pressure in the hydraulic locking means as the pressure in the boom actuators increases under load to prevent undesired shifting of the boom on the frame.

3,405,824
MOUNTING FOR MATERIAL HANDLING MASTS
Ralph L. Tweedale, Southfield, Mich., assignor to Massey-Ferguson Inc., Detroit, Mich.
Filed Nov. 8, 1966, Ser. No. 592,935
8 Claims. (Cl. 214—138)



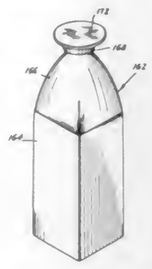
The disclosure is concerned with excavators particularly of the type commonly known as "backhoes" wherein a material handling boom is mounted on a tractor mounted supporting frame. The boom carries a dipper stick with an excavating bucket mounted on the end of the dipper stick. The dipper stick is pivotally mounted on the boom, and the boom is mounted on the supporting frame for pivotal movement in an upward and downward direction as well as from side to side. The boom, dipper stick and bucket are operated hydraulically. The entire boom assembly is mounted for angular adjustment on the supporting frame about a fore and aft axis.

3,405,825
IMPLEMENT ATTACHING MEANS
Paul F. Billenstein, R.F.D. 1, La Rue, Ohio 43332
Filed July 22, 1966, Ser. No. 567,203
7 Claims. (Cl. 214—778)



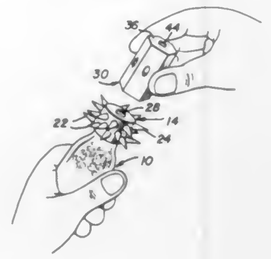
An implement support intended to be attached to a tractor. The implement support consists of a frame with a boom structure pivoted thereto. The tractor has a cross-rod on which the support frame engages and the support frame has toggle-actuated clamps for securing the support frame rotatably on the cross-shaft. The frame has a front cross-arm received in a transverse forwardly facing substantially channeled bracket provided on the front of the tractor. Fluid pressure cylinders connected between the boom structure and the frame are employed to rotate the boom structure relative to the frame. Similar fluid pressure cylinders are provided for adjusting the position of an implement pivotally attached to the end of the boom structure. Parking legs are slidably and pivotally attached to the boom structure to support the device when detached from a tractor. The parking leg can be latched to the boom structure in an inoperative position when the device is in use.

3,405,826
THERMOPLASTIC BOTTLE
Fulton W. Hallowell, Jr., Levittown, Pa., assignor to R. E. Hartung Company, Inc., a corporation of New Jersey
Original application May 29, 1963, Ser. No. 284,261, now Patent No. 3,309,836, dated Mar. 21, 1967. Divided and this application Jan. 20, 1967, Ser. No. 636,556
6 Claims. (Cl. 215—1)



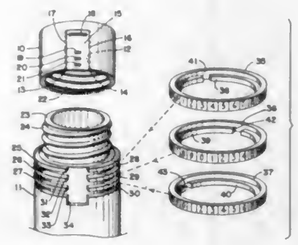
A thermoplastic bottle distinguished by an upwardly and outwardly extending upper neck portion and a laterally outwardly extending annular flange at its upper end useful for supporting the bottle while filling and closing it.

3,405,827
CAUTION CAP AND KEY THEREFOR
Kenneth S. Garden, Box 248
Highland, Calif. 92346
Filed Aug. 4, 1966, Ser. No. 570,318
11 Claims. (Cl. 215—9)



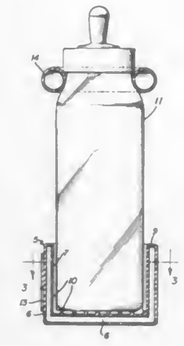
A caution cap for the threaded neck of a bottle, the cap having internal threads adapted to screw on the bottle neck, sharpened closely spaced thorn-like elements radiating from the periphery of the cap, and a key for removable engagement with the cap to provide a hand grip therefor for tightening the cap to make it impractical to remove the same with the bare hand and to provide a tool for loosening the cap and removing the same without injury to the hand.

3,405,828
BOTTLE CAP LOCK STRUCTURE
Robert St. Pierre, 248 Bernard Ave., Venice, Calif. 90291
Filed Mar. 6, 1967, Ser. No. 620,719
5 Claims. (Cl. 215—9)



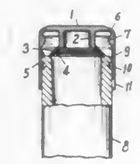
Locking caps for medicine bottles are provided in the form of a combination lock. The cap has a slide member which can move up or down between two positions. The slide member in turn includes projections arranged to cooperate with combination rings revolvably mounted to surround the slide member when the cap is threaded on the bottle. The various rings each include an internal inwardly directed flange which overlies the respective projections of the slide member and blocks movement of the slide member from a lowermost position to an up position. Each of these flanges includes a notch such that revolving of the various combination rings to given positions will align the notches, the notches being dimensioned to pass the projections. The slide member is then free to be moved upwardly. The lower end of the slide member is arranged to abut or lock into a notch in the bottle or to cam against the bottle neck in such a manner that the cap is prevented from unthreading when the slide member is in its lowermost position. It is necessary to align the notches of the combination rings to permit upward sliding of the slide member before the cap can be removed.

3,405,829
BOTTLE PROTECTOR AND TOY
Ronald J. Siravo, North Providence, R.I. (440 George Waterman Road, Johnston, R.I. 02919)
Filed July 12, 1966, Ser. No. 564,561
1 Claim. (Cl. 215—13)



A baby's milk bottle, a holder of pliable material in which the bottle is placed, and a ring of pliable material is placed around the neck of the bottle, the holder having a plurality of equally spaced and parallel integrally formed strengthening ribs against which the outside surface of the bottle rests.

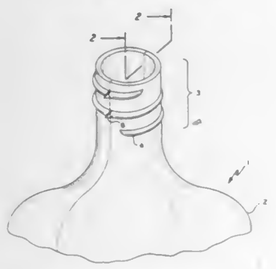
3,405,830
BOTTLE-STOPPER
Kouichi Hayashida, 651 Kayano, Kohryo-machi, Kitakatsuragi-gun, Nara-ken, Japan
Filed May 5, 1966, Ser. No. 547,809
Claims priority, application Japan, Oct. 23, 1965, 40/86,424
4 Claims. (Cl. 215—40)



A bottle-stopped molded integrally from flexible and resilient material to provide a cover portion and a stopper portion. The cover portion includes a disc, from the lower surface of which the stopper portion depends concentrically. The stopper portion includes an upper cylindrical member of lesser diameter than the disc and terminates in an outwardly flared skirt member. The transition between cylindrical member and skirt member is marked by an abrupt change in wall thickness that establishes a circumferential line of bend on which the skirt member bends backwardly when the bottle-stopped is applied to a bottle in a manner such that the skirt member bears against the bottle margin surrounding the bottle opening as the bottle-stopper is pushed into place. Bending back of the skirt member enables the stopper portion to be pushed tightly into a bottle opening, with the skirt member thereof becoming an outer cylindrical member concentric with and close to but slightly spaced from the upper cylindrical member, so as to tightly seal the

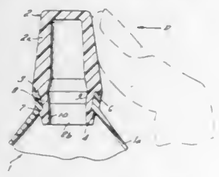
opening of the bottle against pressure exerted from within or from outside the bottle.

3,405,831
CONTAINER
Jimmie E. Hudson, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Sept. 19, 1966, Ser. No. 580,304
8 Claims. (Cl. 215—43)



A plastic bottle is formed with flexible protrusions extending radially outward from the thread section which cooperate with a smooth surface on a cap so as to form a reusable locking device. These flexible protrusions may take the form of a plurality of tabs projecting outwardly from the ridges of the threads or may take the form of a web extending across the threads.

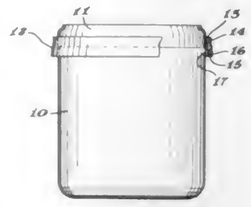
3,405,832
STOPPER FOR BOTTLES OR THE LIKE
Heinz Lukesch, Hamburg-Sasel, and Hans Krakowsky, Hamburg, Germany, assignors to Hans Schwarzkopf, Hamburg-Altona, Germany
Filed July 6, 1966, Ser. No. 563,273
Claims priority, application Germany, July 8, 1965, Sch 37,348
10 Claims. (Cl. 215—47)



A receptacle has an open end portion. A stopper has a handgrip portion extending outwardly at the open end portion and the sealing portion abut one another in portion. Cooperating sealing surfaces on the open end portion and the sealing portion abut one another in sealing relationship when cooperating biasing surfaces also provided on the open end portion and the sealing portion engage one another in response to introduction of the sealing portion in the open end portion and serves to bias the sealing portion deeper into the open end portion.

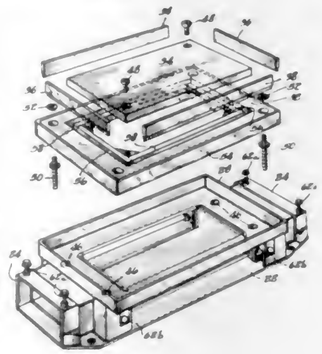
3,405,833
BIAXIALLY ORIENTED ALKENYL AROMATIC RESINOUS TAPE HAVING A PRESSURE SENSITIVE ADHESIVE THEREON
Carl B. Salzinger, Mayfield Heights, and Harold G. Ahlich, Fairview Park, Ohio, assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed June 10, 1963, Ser. No. 286,504
5 Claims. (Cl. 215—96)

1. A pressure sensitive film consisting essentially of a biaxially oriented alkenyl aromatic resinous film having disposed on at least a portion of one major surface thereof a pressure sensitive adhesive.



5. A heat shrinkable secondary closure comprising the film of claim 1 in circumferential engagement with a container and the primary closure of the container.

3,405,834
CONVERTIBLE JUNCTION BOX FOR UNDERFLOOR WIRING DUCT
De Forest D. Butler, Lexington, Ky., and Robert C. Zimmerman, San Jose, Calif., assignors to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed May 15, 1967, Ser. No. 638,442
11 Claims. (Cl. 220—3.4)

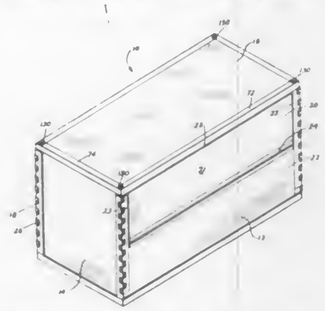


A junction box for underfloor wiring duct, certain parts being usable in both single-level and two-level junction boxes. A cover ring, tile trim, and cover plate assembly of the junction box includes a four-piece tile trim usable in two ways alternatively to provide two different thicknesses of tile trim, or in a third way when no tile trim is desired.

3,405,835
ALUMINUM KNOCK-DOWN COLLAPSIBLE CONTAINER
Charles M. Eby, Easthampton, N.Y.
(P.O. Box 142, Montauk Point, N.Y. 11954)
Continuation-in-part of application Ser. No. 787,569, Jan. 19, 1959. This application Feb. 11, 1964, Ser. No. 345,060
4 Claims. (Cl. 220—4)

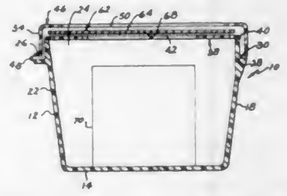
1. A collapsible container comprising a plurality of upright wall panels, a bottom panel including an upwardly facing channel extending around the outer peripheral edges there of receiving the bottom edges of said wall panels; a top panel for said container including a downwardly facing channel extending around the peripheral edges thereof receiving the bottom edges of said wall a plurality of hinge structures secured to the vertical edges of said wall panels, said hinges being shorter in height than the adjacent upright edges of said wall panels, substantially rigid tension means extending through said channels and connected between said top and bottom panels

and extending through said hinge structures to interconnect said wall panels, said tension means including tension rods shorter in length than the height of said wall panels and connecting means for connecting said tension rods



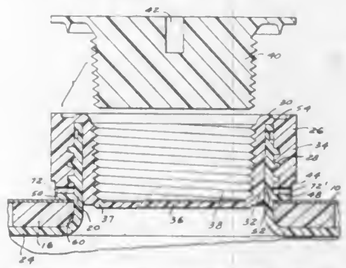
to said top and bottom panels, said connecting means being operable to stress said tension rods to reinforce the corners of said container and draw said top and bottom panels together to effect columnar compression along the entirety of said wall and top and bottom panels.

3,405,836
MAILING PACKAGE
Leo Stanley Regis, Jr., Sturbridge, Mass., assignor, by mesne assignments, to American Optical Corporation, a corporation of Delaware
Filed Aug. 19, 1966, Ser. No. 573,673
11 Claims. (Cl. 220—23)



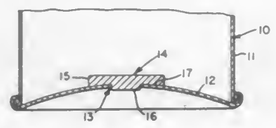
A one-piece resilient plastic mailing package with a top and a flap integrally and hingedly molded to opposite side walls of the receptacle. The device provides an economical package for mailing spectacles between optometrists and optical laboratories that may be continuously remailed without damage to the package or its contents.

3,405,837
RATCHET TYPE CAP
Herbert L. Carpenter, Jr., Babylon, N.Y., assignor to The Greif Bros. Cooperage Corporation, Delaware, Ohio, a corporation of Delaware
Filed Apr. 26, 1967, Ser. No. 633,951
10 Claims. (Cl. 220—27)



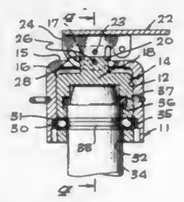
An improved tamper-proof plastic or plastic lined container including a body member having a neck defining an opening into the interior of the container and a closure. The neck and closure are provided with complementary ratchets capable of engaging and interlocking with each other thus preventing the disengagement of the neck and closure without causing a visible deformation to one or both members.

3,405,838
PRESSURE VESSEL VENTING MEANS
Edward S. Preisendanz, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 12, 1967, Ser. No. 667,255
7 Claims. (Cl. 220—44)



The invention provides a pressure vessel (e.g., an aerosol dispenser) equipped with a safety-valve which opens when the pressure in the vessel reaches a certain excessive level below that which would burst the vessel; when a bendable wall of the vessel bends outward at said excessive pressure, the bending causes a plug portion of a valve body to be pulled from an orifice in said wall to form a vent; the invention also provides a safety-valve which is useful not only in pressure vessels but also in vacuum vessels.

3,405,839
QUICK-DISCONNECT CAP
Myrl J. Saarem, Los Angeles, Calif., assignor to Roylyn Incorporated, Glendale, Calif., a corporation of California
Filed Nov. 3, 1966, Ser. No. 592,689
5 Claims. (Cl. 220—46)

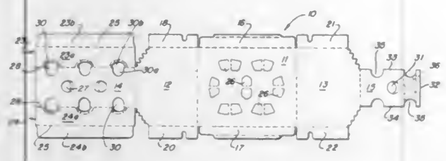


The application discloses a cap for the open end of a tube or nipple. The cap includes inner and outer telescoping members connected by a lever-and-cam mechanism for effecting relative axial movement of the members which serves to cause locking members carried by the inner member to engage or be released from engagement with the tube.

3,405,840
BOTTLE CARRIER
Charles L. Champlin, Rittman, Ohio, assignor to Packaging Corporation of America, Evanston, Ill., a corporation of Delaware
Filed Nov. 10, 1966, Ser. No. 593,430
6 Claims. (Cl. 220—114)

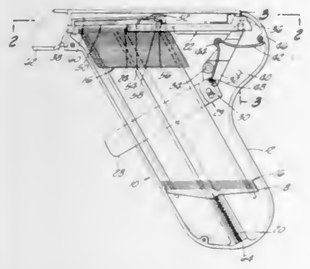
A foldable bottle carrier for accommodating a plurality of bottles arranged side-by-side in two parallel rows. The carrier includes a bottom, side wall, end wall and top panels which cooperate to form a compartment for the rows of bottles. The top panel is formed in two sections, one section of which subtends the other and is secured

thereto in overlapped relation. The top panel sections include means for engaging and retaining the upper por-



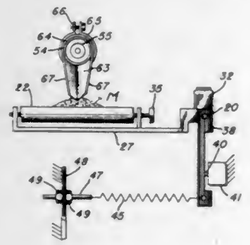
tions of the accommodated bottles in predetermined relative positions.

3,405,841
NEEDLE DISPENSER
Courtland H. Barr, Sr. and James W. Lucas, Los Angeles, Calif., assignors to Courtland Laboratories, Los Angeles, Calif., a corporation of California
Filed Dec. 30, 1966, Ser. No. 606,440
8 Claims. (Cl. 221—24)



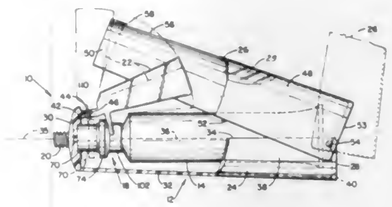
The present patent describes a novel needle dispenser apparatus having a closure capable of containing a plurality of needles stacked therein, an opening in said closure through which said needles may be individually dispensed, slide means within the closure slidable toward said opening and adapted to engage an intermediate portion of each needle individually, a pusher in said closure for carrying said plurality of needles and urging said needles toward said slide means, and trigger means projecting from said closure and being operably connected to said slide means whereby said slide means may be made to individually dispense the needles through the opening.

3,405,842
GRAVIMETRIC BELT FEEDER
Eugene A. Wahl, 294 Forest Ave., Glen Ridge, N.J. 07028, and Arnold M. Lawner, Rutherford, and Ralph J. Winters, Nutley, N.J., said Lawner and said Winters assignors to said Wahl
Filed Jan. 4, 1967, Ser. No. 607,207
21 Claims. (Cl. 222—55)



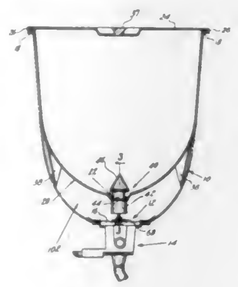
Gravimetric feeder apparatus for use with particulated materials. A primary feeder, such as a feeder having an auger driven by a variable speed motor, delivers material onto an endless belt moving at a constant speed and mounted for pivotal displacement about a horizontal axis. A transducer responds to pivotal displacements of the belt and effects operation of control elements for automatically adjusting the speed of rotation of the auger to maintain a constant discharge of the material from an end of the belt at a preset rate.

3,405,843
CONTAINER-DISPENSER FOR COLLAPSIBLE TUBES
Cornelius B. Watson, Jr., P.O. Box 832, Madison, Conn. 06443
Continuation-in-part of application Ser. No. 576,118, Aug. 30, 1966. This application Nov. 23, 1966, Ser. No. 611,190
18 Claims. (Cl. 222—95)



A container-dispenser for a collapsible tube containing fluent material has a case containing a manually operable suction pump at its forward end. The pump includes a resilient collapsible pump chamber which is collapsed by the manual operation of an oscillatable handle pivotally supported on the case to dispense a quantity of fluent material from the tube.

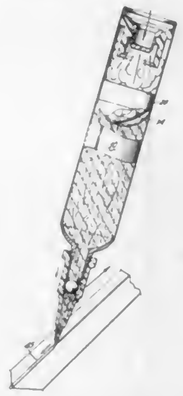
3,405,844
CARTRIDGE DISPENSER
James E. Lenz and Kenneth J. Mohr, Early, Iowa, assignors to Lenco Inc. of Early, Early, Iowa, a corporation of Iowa
Filed June 6, 1966, Ser. No. 555,485
8 Claims. (Cl. 222—162)



1. A cartridge dispenser apparatus comprising:
an enclosed container having a top and a bottom and provided with an opening in said bottom,
a normally closed valve assembly carried by said container,
said valve assembly including:
a valve seat disposed in said opening,
a valve seated on said valve seat,
a spring loaded slidable plunger rod assembly connected to said valve and having a member depending below the bottom of said container,

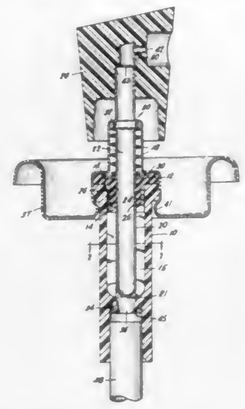
the placement of said container on a supporting surface causing said depending member to engage said supporting surface whereby said member is retracted to unseat said valve,
upon the removal of said depending member from said supporting surface, said plunger rod assembly acts to automatically re-seat said valve,
a sleeve secured to the bottom of said container so as to encase said plunger rod assembly,
said plunger rod assembly including:
a fixed rod member secured at one end to said valve,
a lock block secured to the other end of said fixed rod member and movable therewith and recessed within said sleeve,
a movable rod member pivotally attached at one end to said other end of said fixed rod member,
means on said lock block locking said movable rod member in axial alignment with said fixed rod member whereby the other end of said movable rod member projects downwardly from said sleeve for engagement with said supporting surface,
means on said lock block affording movement of said movable rod member out of axial alignment with said first rod member to an inoperable position above the plane of the bottom of said sleeve and out of contact position with said supporting surface, and
said last mentioned means also serving to lock said movable member in inoperable position.

3,405,845
GAS GENERATING DISPENSER
Ralph J. Cook, Torrance, and Joseph M. Schumann, Inglewood, Calif., assignors to Products Research and Chemical Corporation, Burbank, Calif., a corporation of California
Filed Dec. 23, 1966, Ser. No. 604,419
15 Claims. (Cl. 222—387)



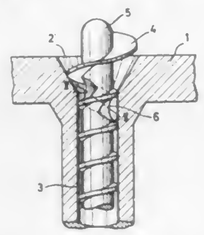
A disposable dispenser for a fluent material has a piston-like wall for extrusion of the material through a dispensing nozzle. A first wall capable of opening in response to pressure cooperates with the piston and shell to form a first chamber to contain a first ingredient. A second wall cooperates with the shell and the first wall to form a second chamber which is substantially filled with a second liquid ingredient. A plunger extends into the second chamber for manual operation to contract the second chamber and thereby place the liquid ingredient under pressure to cause said first wall to open for intermixture of the two ingredients, the two ingredients cooperating on contact to generate a gas to press against said piston-like wall to extrude the fluent material.

3,405,846
AEROSOL VALVE
Godfrey H. Klun, Parma, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed June 24, 1966, Ser. No. 560,162
3 Claims. (Cl. 222—402.20)



A resilient diaphragm is provided for a pressurized metering aerosol valve which comprises a thin sleeve portion surrounding the valve stem of said aerosol valve to cover a valve stem opening therein and control flow of aerosol formulation from the metering chamber through the valve stem opening. The sleeve-like configuration of the diaphragm permits pressure within the metering chamber to compress the diaphragm about the valve stem at the opening thereby enhancing sealing and preventing leakage.

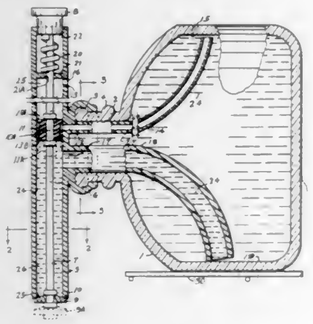
3,405,847
SCREW CONVEYOR
Olaf Jacobey, Dornigheim (Main), Germany, assignor to Vickers-Zimmer Aktiengesellschaft Planung und Bau von Industrieanlagen, a corporation of Germany
Filed Sept. 7, 1967, Ser. No. 666,072
Claims priority, application Germany, Sept. 10, 1966, V 31,912
10 Claims. (Cl. 222—412)



The specification discloses an improved conveyer worm or screw that is provided with a reduced diameter portion of about one spiral turn length of the shaft. The axis of the reduced diameter portion is off-center or eccentric with respect to the main axis of the shaft. The shaft is disposed within a housing of the type having an enlarged or conical inlet or feed zone and a straight bore such that the reduced diameter portion is positioned in the region communicating between the feed zone and bore, this region being termed a draw-in zone. Various modifications of the worm are disclosed in which the reduced diameter portion is formed by a single or a plurality of grooves having flat or arcuate (concave) bottoms or having edges between flats. The screw is particularly useful

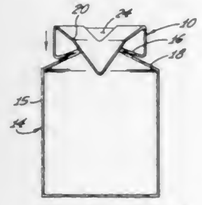
for conveying high viscosity plastic melts such as "Dacron" from vacuum vessels without break-off of material flow. As well as continuous flow, the worm permits high pressure conveying, better mixing and kneading action, damming-up of leakage flow, and is an overall shorter device simpler to construct than prior art tapered worm devices.

3,405,848
LIQUID DISPENSER
Robert L. Damrel, Beaumont, Tex., assignor to Haskon, Inc., Warsaw, Ind., a corporation of Delaware
Continuation-in-part of application Ser. No. 417,126, Dec. 9, 1964. This application Nov. 25, 1966, Ser. No. 596,979
9 Claims. (Cl. 222—481.5)



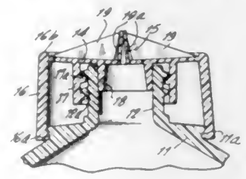
This invention relates to a manually operable device for dispensing liquid from a container, such as a plastic jug of substantial size. Specifically, the dispenser has an elongated, hollow cylinder, open at the opposite ends thereof, and cap means connected to said barrel for attaching same to the pouring spout of the jug and, at the same time, closing the spout. A pair of passages extend through the cap means and the side wall of the cylinder for communication between the interior of the cylinder and the interior of the jug through the pouring spout thereof. The central axis of the cylinder is transverse of the opening in the pouring spout so that liquid can flow from the jug through one of the passages and thence downwardly through the open end of the cylinder when the jug is resting on its side.

3,405,849
SELF-CLOSING CONTAINER
Thomas W. Kellogg, Newport Beach, Calif., assignor to Design Properties, Inc., Los Angeles, Calif., a corporation of California
Filed Jan. 12, 1967, Ser. No. 608,891
20 Claims. (Cl. 222—498)



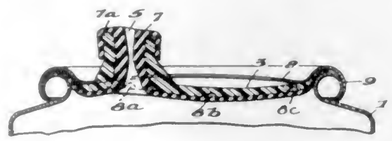
The invention relates to a self-closing container of the type in which upper and lower sections of the container are interconnected by a bistable joint which may be either manually expanded or manually contracted with a snap action, two portions of the container cooperating to close the container in response to the contraction of the joint. The snap-action joint comprises two conical circumferential walls of the container which are interconnected either by their larger diameter ends or by their smaller diameter ends, at least one of the two conical walls being reversible with a snap action.

3,405,850
SCREW ACTUATED TOGGLE VALVE DISPENSING CAP
Vincent J. Esposito, Jr., 31 Jackson Ave., Wayne, N.J. 07470
Filed June 1, 1967, Ser. No. 642,926
8 Claims. (Cl. 222—498)



A molded plastic dispensing cap having an integral valve actuated by diaphragmic deformation of a top wall. A skirt extends from the periphery of the top wall engaging the container for retention of the cap against axial displacement. An interior sleeve integral with the top wall is in threaded interengagement with the bottle neck deforming the top wall for said valve actuation on rotation of the cap.

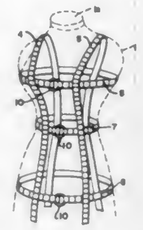
3,405,851
AEROSOL VALVE
Arthur Frederick Barker, Newark, Del., and Nathaniel Convers Wyeth, Rosedale, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 31, 1966, Ser. No. 553,774
3 Claims. (Cl. 222—505)



A self-sealing aerosol valve comprising a plastic strip running across the diameter of the top of the aerosol container and a resilient lining attached to the underside of the plastic strip. Both the strip and the liner are shaped to form a spout-like projection. The plastic strip is channeled with several channels across its width so that the internal pressure of the container forces it to assume a convex configuration. Upon the application of external pressure which forces the strip to a concave configuration, the spout-like projection opens.

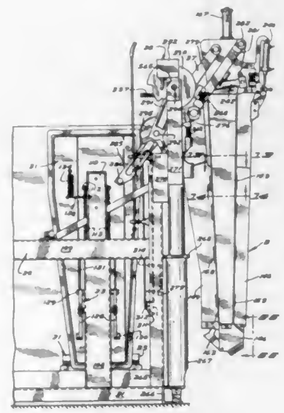
A self-sealing aerosol valve comprising a tubular valve housing fitted into the orifice of the aerosol container, and having a portion thereof projecting beyond the tubular section itself. A tubular elastomeric liner is fitted inside said tubular housing and is constructed to abut in its portions which extend along the projecting portion of said tubular section. A toggle lever, activated by a plunger or activating lever, is attached to the portion of said liner which extends along the projecting portion of said tubular section.

3,405,852
INFLATED DRESS FORM MEASUREMENT HARNESS
Ruby K. Fox, 2732 Mountainview Drive, Waco, Tex. 76710
Filed Sept. 25, 1967, Ser. No. 674,693
11 Claims. (Cl. 223—67)



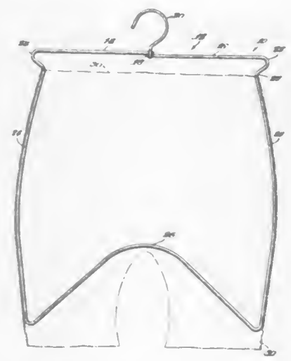
In combination, a hollow inflatable dress form of plastic material resembling when inflated a human torso; means in the neck of the dress form for inflating and deflating the form; means at the bottom of the form forming an annular chamber receiving ballast material for steadying the form upright when inflated upon a support; the bottom portion of the form having a series of spaced horizontal lines extending therearound for determining skirt hem length; and a measurement harness placed over and upon the partly inflated dress form and consisting of two shoulder straps, an adjustable bust strap, an adjustable waist strap, and an adjustable hip strap; said straps serving as pinning areas, and confining the dress form in the bust, waist and hip areas when fully inflated.

3,405,853
PANTS PRESS
Virgil R. Carpenter, Roseville, and James E. Jennings, Minneapolis, Minn., assignors to The Unipress Company, Incorporated, Minneapolis, Minn., a corporation of Minnesota
Filed Dec. 27, 1966, Ser. No. 604,996
55 Claims. (Cl. 223—74)



1. Pants pressing apparatus having a pressing station, an operator station and a longitudinal axis extending through said stations for pressing a garment having tubular portions, comprising a frame, a vertically elongated stationary presser head having a first set of pressing surfaces on one transverse side of said axis and a second set of pressing surfaces on the opposite transverse side of said axis, at least some of the aforementioned pressing surfaces of each set being inclined upwardly in a direction toward said axis, said stationary presser head having at least two of its surfaces for abutting against a substantial area of the torso portion of a pair of pants, a pants buck assembly having a pair of vertically elongated members extendable into torso portion and the tubular portions of the pants, means on said elongated members for drawing the tubular portions taut and retaining pants on said members, and first means for mounting said members in depending relationship relative thereto, transfer means on the frame and connected to the first means for moving the first means between a position at the operator station and a position at the pressing station that the elongated member extends along opposite sets of pressing surfaces, a movable presser head on either transverse side of said stationary presser head, and means on the frame and connected to the movable presser heads for moving each movable presser head from a datum position transversely spaced from the respective set of pressing surfaces and a position adjacent thereto, and control means for operating the pants retaining means to retain pants on said elongated members, then the transfer means transferring the buck assembly from the operator station to the pressing station, and thereafter the movable presser heads from their datum positions to positions adjacent the stationary presser head in cooperation with the stationary presser head to press the tubular portions and a torso portion of the pants dressed on said elongated members.

3,405,854
HANGER FOR GIRDLES, PANTY GIRDLES, AND THE LIKE
Ronald L. Blair, 2650 W. Belden Ave., Chicago, Ill. 60647
Filed Feb. 16, 1966, Ser. No. 527,915
3 Claims. (Cl. 223—85)



1. An undergarment hanger comprising, a body formed of a single wire member having a substantially horizontally extending top member, spaced side members each outwardly bowed and a bottom member interconnecting said side members so that when the undergarment is slipped on said hanger the spaced side members will engage the undergarment and retain it on the hanger, a shoulder formed in the upper portion of each side member below the top member, said shoulder adapted to be engaged by the upper end of the undergarment, and a hook extending upwardly of the top member so that the hanger may be hung on a support, said top member being formed from

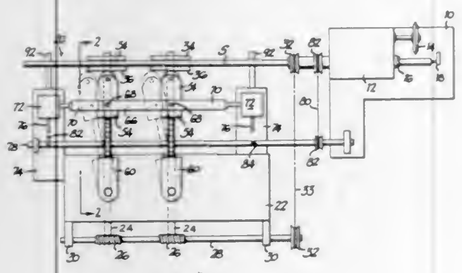
the opposite ends of said wire member which are secured to each other.

3,405,855
PAPER GUIDE AND DRIVE ROLL ASSEMBLIES
David A. Daly, Exton, and Henry R. Patterson, Jr., West Chester, Pa., assignors to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Continuation-in-part of application Ser. No. 533,658, Mar. 11, 1966. This application Jan. 24, 1967, Ser. No. 611,426
27 Claims. (Cl. 226—1)



A high speed traveling web traction and guide apparatus having peripheral venting grooves and supporting land areas to vent air carried by the underside of the traveling web and prevent marking of the web. Various groove configurations are provided for specific purposes and this apparatus is usable as a guide roll, winder drum and similar apparatus. The sole purpose of the abstract is to enable the general public to quickly determine from a cursory inspection, the nature and gist of the disclosure, and the abstract shall not be used to limit or interpret the scope of the claims.

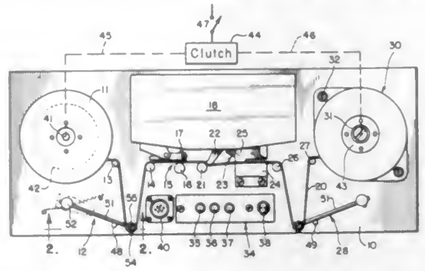
3,405,856
STOCK FEEDER
Bruce W. Mogolis, 7313 Jonathon Ave., Dearborn, Mich. 48126
Filed Aug. 11, 1966, Ser. No. 571,855
10 Claims. (Cl. 226—154)



Feeding apparatus for advancing rod-like stock to a machine and which includes rotatable discs disposed on opposite sides of the stock with at least one disc biased to a position spaced from the stock. Means are provided for intermittently moving the latter disc into engagement with the stock causing the rotation of the discs to advance the stock along a predetermined path.

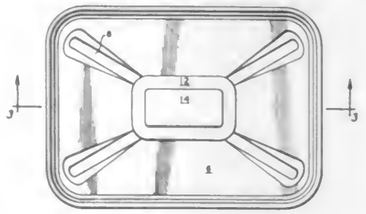
3,405,857
COMBINED READER-REELER WITH VARIABLE TENSION WEB CONTROL
Otto J. Albrecht, Trenton, N.J., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed May 18, 1966, Ser. No. 551,140
6 Claims. (Cl. 226—195)

In a reader-reeler a buffer arm has one end engaging the material strand and its other end coupled to a pivot shaft. A pair of tension regulating springs have their body portions encircling the pivot shaft to apply tension forces at two different levels over the buffer arm to the strand



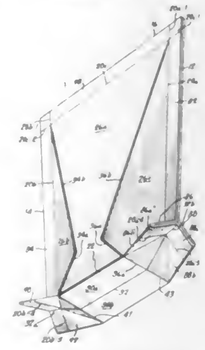
as the buffer arm is moved through two different arcuate zones of movement.

3,405,858
ARTICLE PACKAGE CONVERTIBLE TO A CONTAINER
Stafford D. Collie, Kansas City, Mo., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 4, 1966, Ser. No. 592,158
10 Claims. (Cl. 229—2.5)



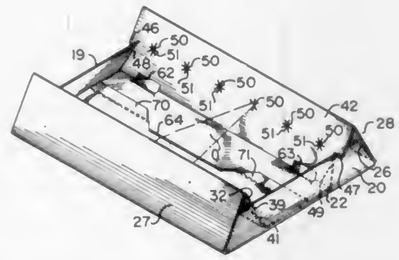
In a cup-shaped package having a substantially continuous side wall and a bottom wall, the bottom wall comprises a central diaphragm portion, at least one sloping wall section extending from the side wall to the central diaphragm portion, and a plurality of spaced triangularly shaped channel-like members extending from the side wall to the central diaphragm portion. The diaphragm portion and the channel-like members are shaped to permit the vertical displacement of the sloping wall section and the diaphragm portion.

3,405,859
PACKAGE AND BLANK THEREFOR
Floyd L. Phillips, Jr., Winston-Salem, N.C., assignor, by mesne assignments, to Archer Products, Incorporated, Winston-Salem, N.C., a corporation of Delaware
Filed July 26, 1966, Ser. No. 567,898
13 Claims. (Cl. 229—22)



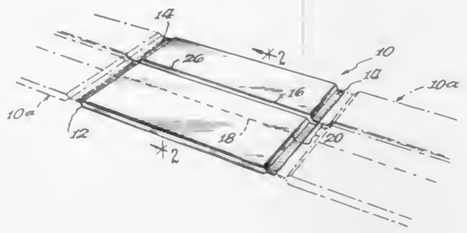
A wedge shaped container formed from a blank of stiff, bendable paperboard coated with thermoplastic film or wax to provide a heat sealable coating on the inner surface of the container. The container has a base and fin seals on three edges of the container.

3,405,860
REUSABLE DISPLAY CARTON FOR RELATIVELY SMALL OBJECTS
Guelfo A. Manizza, Blauvelt, N.Y., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Mar. 25, 1966, Ser. No. 537,507
19 Claims. (Cl. 229—34)



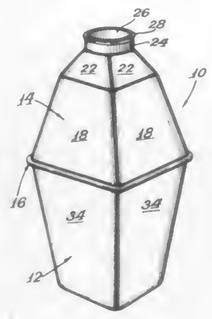
This disclosure relates to a carton which includes a base panel having apertures and to each side of the base panel is successively provided a side panel, a support panel and a latch panel having latch tabs with the latch tabs being engaged in the latch openings and facing in opposite directions away from the base panel, and the latch panels further including interlocked tabs for securing the panels to each other whereupon articles can be supported between aligned apertures in the support panels.

3,405,861
SEALED PACKAGE
Robert G. Bush, Green Bay, Wis., assignor to L. D. Schreiber Cheese Company, Inc., a corporation of Wisconsin
Filed Apr. 3, 1967, Ser. No. 627,807
10 Claims. (Cl. 229—51)



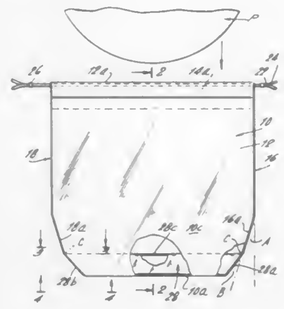
A sealed package, at least in part comprised of a flexible plastic wrapper having a lap joint formed from outer and inner overlapping end portions with the outer end portion constituting a manually grippable flap, and a separator structure interposed between the overlapping end portions and positioned adjacent to and along the free edge of the upper end portion for spacing the free edge of the upper end portion away from the lower end portion and for identifying the location of the free edge so the free edge may be readily gripped for peeling the flap from the lower end portion to open the package.

3,405,862
PLASTIC CONTAINER
Rudolf A. Spyra, % Burghof Engineering & Manufacturing Co., 1720 W. Diversey, Chicago, Ill. 60614
Filed Sept. 27, 1966, Ser. No. 582,434
4 Claims. (Cl. 229—5.6)



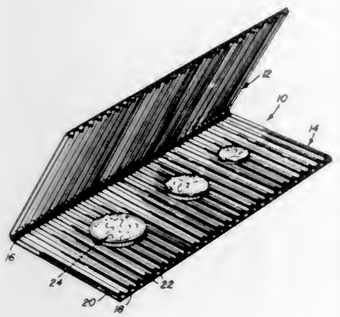
A plastic container comprising a first container portion and a second container portion. The first container portion has a wall tapered to permit stacking of a plurality of said first portions and a peripheral flange is provided on the first container portion. The flange has a mating surface portion and an edge. The second container portion has a peripheral flange also having a mating surface portion and an edge. The edges of each of the flanges are in adjoining and aligned relationship and the mating surfaces are also in adjoining relationship. A seal is formed only at the juncture between the adjoining aligned edges and the mating surfaces to rigidly and sealably join the first container portion to the second container portion.

3,405,863
PLASTIC BAG FOR ROUND-SHAPED OBJECT
Robert J. Kugler, East Meadow, N.Y., assignor to Action Packaging Corporation, Brooklyn, N.Y., a corporation of New York
Filed Sept. 6, 1967, Ser. No. 665,818
2 Claims. (Cl. 229—57)



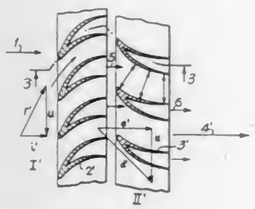
A plastic bag having a bottom construction which neatly fits about the curved edge of a round-shaped object, such as a plate, this bottom construction being formed with an economically produced gusset having, in the flat, a horizontally oriented bottom edge, but unfolding into a shape having a curved bottom edge. This unfolded curved edge cooperates with inwardly tapered adjacent length segments in the sides of the bag to provide the bag with a desired appropriately curved bottom edge that conforms in shape to the adjacent curved edge of the plate without unsightly "dog ears."

3,405,864
PROTECTIVE MAILER
Samuel M. Sloat, 59 High Point Road, Westport, Conn. 06880
Filed Dec. 6, 1966, Ser. No. 599,490
10 Claims. (Cl. 229—92.9)



A protective mailer defined by two overlapping panel sections which receive coins, small machine parts, electronic components or the like therebetween. The inner faces of the two overlying panels are defined by corrugated sheets which are coated with a pressure sensitive adhesive of the type which will only adhere to itself and not to a received item. Upon a closing of the two panels over a coin or the like the coin will depress the opposed corrugations and the panels will be secured to each other completely about the coin.

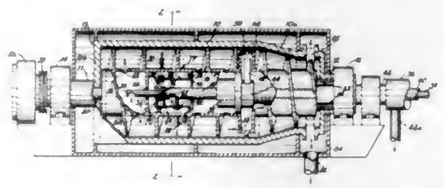
3,405,865
TURBOFAN BLADINGS
Ernest Lagelbauer, 410 E. 13th St., New York, N.Y. 10009
Filed Oct. 18, 1966, Ser. No. 591,388
2 Claims. (Cl. 230—120)



The blading efficiency of an axial-flow fan or compressor is improved by configuration of the blades constant flow area of the passages across the blading and filling the dead space in the rear of the consequently widened blades by an auxiliary flow of fluid. This concept could be applied also for centrifugal type fans and compressors.

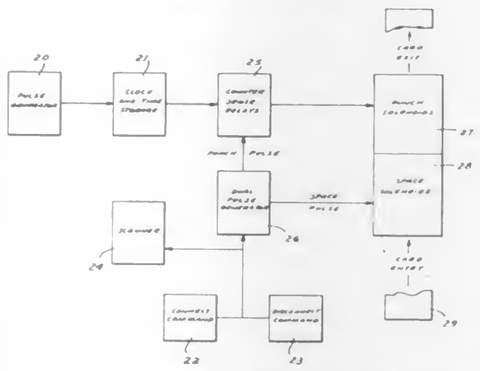
3,405,866
CENTRIFUGE
Clifford Leonard Amero, East Walpole, Mass., assignor to Bird Machine Company, South Walpole, Mass., a corporation of Massachusetts
Filed Nov. 9, 1966, Ser. No. 593,163
8 Claims. (Cl. 233—14)

The disclosure concerns a centrifuge of the rotary bowl type wherein the slurry and another fluid such as a flocculant are separately fed into one end of the bowl by feed means which discharge the respective fluids into separate compartments from which they are fed into the bowl. The compartments are rotatable about the feed means and are separated longitudinally of the bowl axis by a splash baffle which has a clearance from the feed means through which slurry fed to one compartment may splash into the other. To eliminate fouling of the other fluid and its outlet to the bowl by such splashing slurry there is disclosed a chamber located within the compartment for the other fluid which receives such fluid and discharges it to the bowl through one or more conduits removably attached to the chamber and extending through the compartment



wall. The chamber is spaced axially of the bowl from the splash baffle and radially of the bowl from its compartment outer wall to provide space to receive splashing slurry which is discharged therefrom to the bowl. The chamber is removably mounted on an end wall of its compartment and has a frusto-conical end facing the baffle with its base closest to the baffle, with a central sleeve surrounding the feed means.

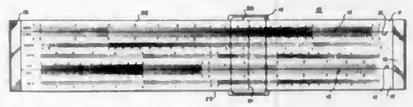
3,405,867
TIME INTERVAL MEASURING AND RECORDING DEVICE
Alfred W. Stewart, Mountain Lakes, N.J., assignor to Datron Systems, Inc., Mountain Lakes, N.J., a corporation of New Jersey
Filed Oct. 21, 1965, Ser. No. 499,379
15 Claims. (Cl. 234—58)



A time clock punch for recording the start and termination of intervals on tabulating cards by punching indicia therein utilizing a plurality of punch solenoids so that one punch solenoid is utilized for each punch allowing for multiple punching up to the maximum number of holes per column. Spacing means are provided for moving the tabulating card to present a different zone to the recording means or punches in accordance with a control signal.

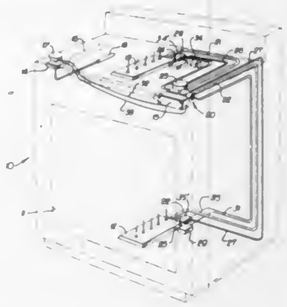
3,405,868
SLIDE RULE
Paul H. C. Yin, 305 Riverside Drive, New York, N.Y. 10025
Filed Apr. 10, 1967, Ser. No. 629,805
4 Claims. (Cl. 235—70)

Slide rule and other types of calculating and measuring instruments which provide a numerical reading by the relative position of two slidable elements corresponding to the result of the calculation or to the measurement, are equipped with improved scales capable of giving more precise reading with a cursor. The scale for the slide rule comprises a conventional logarithmic scale with straight line markings and a plural series of dots with variable color intensities. Each series of dots occupies the space



between two straight line markings and the dots are plotted in accordance with the logarithmic relationship so that a line passing through all the dots within the series intersects with a horizontal line along which the log scale is marked, to form an acute angle. The reading is provided by the relative position of the hair line of the cursor with respect to the dots.

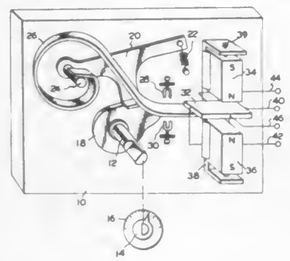
3,405,869
RANGE CONTROL SYSTEM
Richard D. Grayson, Arcadia, and Le Roy Newton, Sherman Oaks, Calif., assignors to International Telephone and Telegraph Corporation, a corporation of Delaware
Filed Mar. 30, 1967, Ser. No. 627,018
7 Claims. (Cl. 236—15)



A gas range oven, having separate main and broiler burners, is provided a single selection control apparatus operating downstream of the thermostatically controlled gas valve. The apparatus is manually settable to interconnect fuel gas from the thermostatically controlled valve to the desired burner and associated pilots. By the same setting manipulation, electrical connection is made between the valve and the pilot generator of the selected pilot (to prevent fuel to the burner unless the pilot is lighted), and a momentary electric signal is provided for igniting the selected pilot.

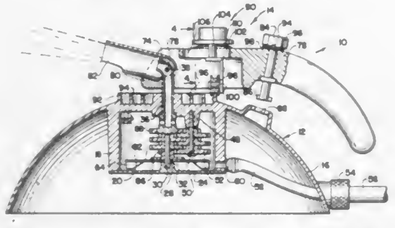
3,405,870
THERMOSTATIC CONTROL DEVICE USING A HALL PLATE
Wesley Verne De Forest, Long Beach, Calif., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Continuation-in-part of application Ser. No. 434,789, Feb. 24, 1965. This application June 23, 1967, Ser. No. 648,351
9 Claims. (Cl. 236—78)

A condition responsive control device for controlling temperature or the like has condition sensing means adapted for movement in response to condition variations, a Hall effect plate disposed in a magnetic field, and an operative connection between the Hall effect plate and the sensing means to move the Hall effect plate in the mag-



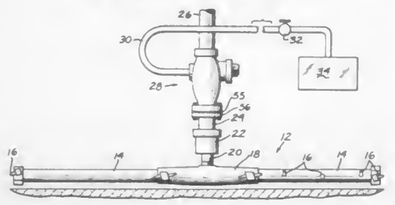
netic field whereby its output signal varies in accordance with sensed condition variations.

3,405,871
CAM CONTROL SPRINKLER
Joseph A. Mullan, 7031 Wolff St., Westminster, Colo. 80030
Filed Sept. 8, 1966, Ser. No. 577,871
10 Claims. (Cl. 239—236)



This invention relates to a lawn sprinkler of the rotating nozzle type wherein the nozzle carries a cam follower and the base is provided with one or more concentric undulating cam surfaces selectively engageable by the cam follower to provide various water distribution patterns. The nozzle is turned by a water-driven impeller which drives a gear reducer that includes a novel friction clutch that permits the nozzle to be locked in fixed position without damaging the drive train. One version of the unit includes a single adjustable cam surface while another has a butterfly valve in the discharge tube leading to the nozzle that is operatively linked to the latter so as to vary the flow in response to changes in nozzle elevation brought about as said nozzle travels along the cam surface.

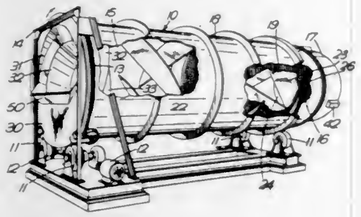
3,405,872
WASHER AGITATOR FOR FILTER BEDS
Fred E. Stuart, Sr., 523 N. Grandview Ave., Daytona Beach, Fla. 32018
Filed Aug. 17, 1966, Ser. No. 573,044
6 Claims. (Cl. 239—254)



Rotary agitator arrangement for filter beds in which a supply of water under pressure is delivered to the agitator to cause rotation of the agitator while jets of water emerge from the agitator to scour the material

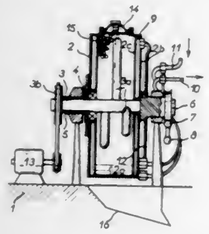
of the filter bed and; wherein, the supply pipe leading to the agitator is provided with an aspirator having a suction port which is connected to a source of treatment liquid whereby simultaneously with the supply of the first mentioned fluid to the agitator there is also a controlled supply of treatment liquid to the agitator.

3,405,873
REFUSE TREATING APPARATUS
Sydney Averill Gothard, St. Saviour, Jersey, Channel Islands, and Donald Frank Rees, Wentworth, Surrey, and Laurence Parker Brunt, London, England, assignors to Vickers Seerdrum Limited, London, England, a British company
Filed Dec. 6, 1965, Ser. No. 511,909
Claims priority, application Great Britain, Dec. 7, 1964, 49,604/64
10 Claims. (Cl. 241—38)



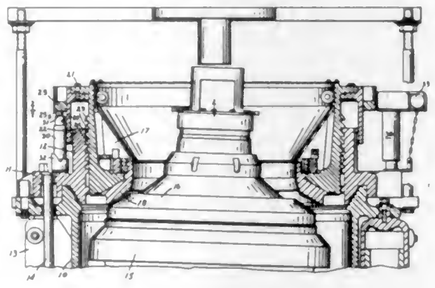
An apparatus for treating refuse wherein a drum is mounted for rotation about a generally horizontal axis. A feeder device is provided for feeding refuse into the drum through an inlet at one end. A portion of the drum wall spaced along the length of the drum from its inlet is perforated for separation of refuse pulverized by rotation of the drum and an outlet opening is provided on the side of the perforated portion remote from the inlet, there being vanes within the drum in the region of the perforated portion and disposed obliquely to the axis of the drum in a sense to urge the refuse back toward the inlet as the drum rotates.

3,405,874
APPARATUS USABLE IN PARTICULAR FOR PREPARING PAINT AND PRINTING INK
Jean Marie Annic Brizon, 35 Blvd. Gouvion St-Cyr., Paris, France
Filed Dec. 17, 1965, Ser. No. 514,538
Claims priority, application France, Dec. 19, 1964, 999,325
4 Claims. (Cl. 241—174)



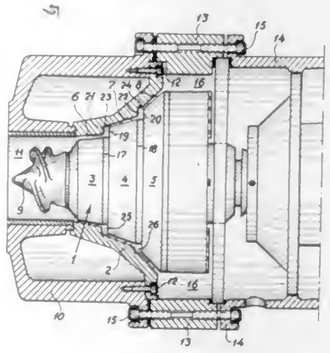
A crushing apparatus comprising one or more crushing cells each having two substantially vertical and parallel walls and a horizontal rotating shaft perpendicular to said walls, agitating arms on said shaft, and balls substantially filling the available space within the cell, the distance between the two said walls being less than one quarter of the height of the cell and the sum of the dimensions of the agitating arms, parallel to the shaft, being at least half of said distance. The apparatus may comprise several cells mounted vertically one above the other, and the aforesaid walls may be cooled by a circulating medium. The balls employed should be not more than ten millimeters, and preferably about two millimeters, in diameter.

3,405,875
HYDRAULIC LOCKING SYSTEM FOR THREADED MEMBERS ON A GYRATING TYPE CRUSHER
Marland G. Curtis, % Curtis Construction Company, Box 106, Spokane, Wash. 99210
Filed Oct. 12, 1966, Ser. No. 586,077
2 Claims. (Cl. 241—207)



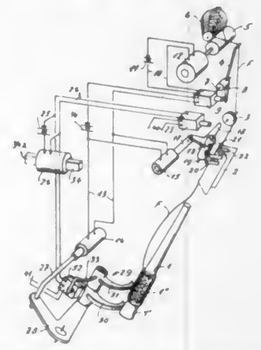
An improved locking system for the threaded members that connect the bowl and supporting framework or adjustment ring of a gyrating type crusher. The locking system is hydraulically operated and the hydraulic cylinders are recessed beneath the structural members of the crusher. A hydraulic locking system is provided for the threaded members, using stationary hydraulic cylinders which therefore do not rotate during bowl adjustment. A combined hydraulic and pneumatic pressure source is provided to permit utilization of conventionally available compressor equipment.

3,405,876
DEFIBRATOR
Antti Juhani Yli-Paavola, Tampere, Finland, assignor to Oy Tampella Ab, a corporation of Finland
Filed Sept. 22, 1966, Ser. No. 581,244
Claims priority, application Finland, Dec. 9, 1965, 2,964/65
4 Claims. (Cl. 241—255)



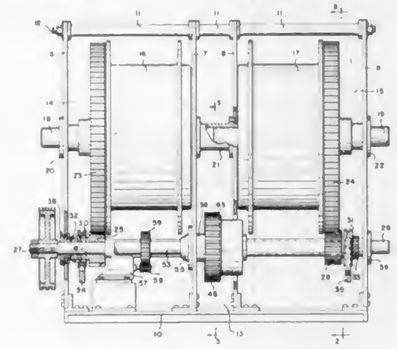
1. Defibrator particularly for refining paper stock, comprising rotatable rotor provided with bars and a stationary stator drum mounted around the same and preferably provided with bars, the rotor and stator both being divided into at least two zones having an increasing diameter in the feeding direction of the stock, characterized in that the zones are conically widening in the feeding direction and that the base angle of the cone decreases from zone to zone in the feeding direction of the stock.

3,405,877
METHOD AND APPARATUS FOR THE TREATMENT OF EJECTED DELIVERY BOBBINS
Rudolf Jenny, Thalwil, Switzerland, assignor to Maschinenfabrik Schweiter AG, Horgen, Switzerland, a corporation of Switzerland
Filed May 2, 1966, Ser. No. 546,803
Claims priority, application Switzerland, May 5, 1965, 6,248/65
19 Claims. (Cl. 242—35.5)



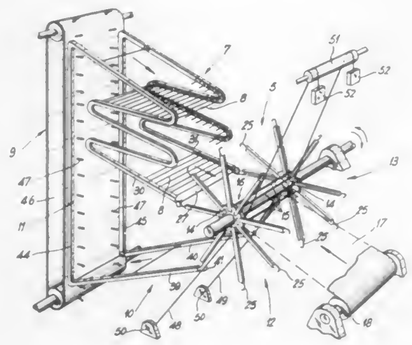
A method and apparatus for the treatment of rejected delivery bobbins from a textile machine of the type having a plurality of winding locations wherein yarn is delivered along a predetermined path from a delivery bobbin to a wind-up bobbin, the invention being characterized by the features that the winding operation is monitored to determine the existence of certain faults. Upon the determination of the faults, the delivery bobbin is ejected and, simultaneously with the determination, a control signal is generated having characteristics indicative of the reason for the ejection of a delivery bobbin. The characteristic control signal is then utilized to correctly sort the ejected bobbins with respect to the yarn remainder thereon.

3,405,878
INFINITE RATIO DRIVING INTERLOCK FOR SPOOLING DRUMS OF A YARDER
Frank L. Lawrence, Suite 803, 1835 Morton Ave., Vancouver, British Columbia, Canada
Filed June 27, 1966, Ser. No. 560,579
8 Claims. (Cl. 242—54)



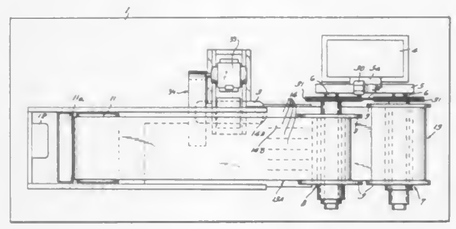
An interlock connection, including an improved application of planetary gearing, between main and haulback drums of a logging yarder so that the ratio between the speed at which one drum turns to take in cable and that at which the other drum turns to pay out cable is made infinitely variable.

3,405,879
APPARATUS FOR DRYING COATED TAPE
Serge Anger, 37 Blvd. de la Republique, 92 Marnes-la-Coquette, France
Filed Mar. 14, 1967, Ser. No. 623,116
Claims priority, application France, Mar. 22, 1966, 54,504
10 Claims. (Cl. 242—55)



Apparatus for drying tape coated, e.g. with pressure-sensitive adhesive, the apparatus including a drying wheel having two groups of spaced apart radial arms between which axially extending spacer bars are built up as the tape is wound on, to space apart successive turns of tape. The bars are fed from a magazine as the wheel rotates and fall under gravity towards the centre of the wheel, the tape thereafter holding them in place. As the tape is unwound, the bars are removed by an extractor and are returned to the magazine for subsequent use.

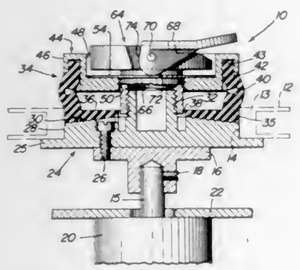
3,405,880
METHOD AND APPARATUS FOR PUNCHING BLANKS FROM WEBS OF SHEET-LIKE MATERIAL
Hans-Georg Bielert, Afferde, Kreis Hameln, Germany, assignor to Stephan-Werke G.m.b.H. & Co., Hameln (Weser), Germany
Filed Nov. 1, 1966, Ser. No. 591,304
Claims priority, application Germany, Nov. 2, 1965, St 24,584
20 Claims. (Cl. 242—56.8)



1. A method of punching blanks from elongated webs whose width is a multiple of the width of a blank, comprising the steps of advancing an elongated web length-

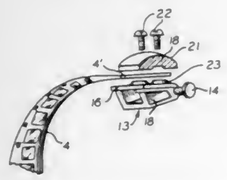
wise along a predetermined path so that one end of the web is leading and that at least one marginal portion of the web travels past a punching station; separating blanks from successive increments of said one marginal portion while such increments dwell at said punching station whereby said one marginal portion yields a series of blanks and is at least substantially consumed with resulting narrowing of the web; placing at least one marginal portion of the thus narrowed web into registry with the punching station; advancing the thus narrowed web lengthwise past said punching station; and separating blanks from successive increments of said last named marginal portion.

3,405,881
REEL-MOUNTING DEVICE
Herbert F. Sanford, Littleton, and Everett M. Schreiner, Denver, Colo., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Mar. 29, 1967, Ser. No. 626,820
7 Claims. (Cl. 242—68.3)



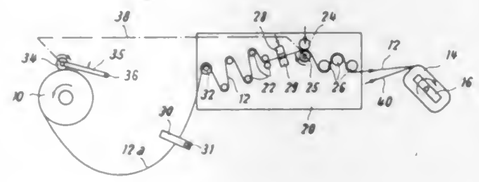
A device for mounting a reel of magnetic tape to a rotatable shaft. The mounting device is attached to the shaft by a base plate having a threaded stud extending coaxially from its upper face. A triportioned elastomeric collar is retained in a coaxial arrangement upon the base plate by a cap member and a cam-locking member. The cam-locking member threadably attaches to the threaded stud of the base plate. Motion of the cam-locking member acts to compress the triportioned collar outwardly and then downwardly for retaining the reel of the magnetic tape upon the collar by urging the reel tightly against the base plate.

3,405,882
FILM EXTENSION MEANS FOR AUTOMATIC FILM PROJECTORS
Angelo Bottani, Milan, Italy, assignor to Società Internazionale Fonovisione S.p.A., Milan, Italy, a corporation of Italy
Filed Jan. 12, 1966, Ser. No. 520,152
Claims priority, application Italy, Jan. 12, 1965, 555/65
4 Claims. (Cl. 242—74)



A film extension means for detachably connecting a film leader to a film transport mechanism, the film extension means having a V-shaped body with a V-shaped recess therein, an upper film seating surface with threaded bosses extending upwardly therefrom through registered apertures in the film leader, a locking plate overlying the film and the bosses and having apertures registered with the bosses and screws extending through the plate apertures and being threadedly secured to the threaded apertures in the bosses for clampingly securing the film leader to the film extension means.

3,405,883
APPARATUS FOR PRODUCING REELS OF FOIL OR STRIP MATERIAL
Max Breitmeier, Todistrasse 62, Thalwil, Zurich, Switzerland
Filed June 20, 1966, Ser. No. 558,857
Claims priority, application Switzerland, June 25, 1965, 8,916/65
5 Claims. (Cl. 242—75.5)



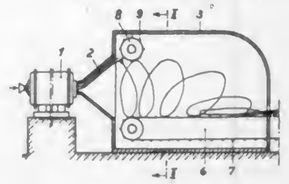
An apparatus for producing reels of foil material wherein foil material from a supply roll is passed over a plurality of foil-deflecting rollers and then wound at a winding station. A freely hanging unloaded loop of the foil material is produced and maintained between the supply roll and the foil-deflecting rollers through the action of a mechanical and/or electrical connection between one of the foil-deflecting rollers and a drive means for the supply roll. The connection is such that the peripheral speed of the supply roll is controlled as a function of the rotation of said one foil-deflecting roller. Lateral guide means are provided for the foil material at the location of the freely hanging loop such that proper feeding of the foil material to the winding station is achieved without damaging the foil material itself.

3,405,884
BOUNDARY LAYER ELIMINATOR
Henry R. Patterson, Jr., West Chester, Pa., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Continuation-in-part of application Ser. No. 342,091, Feb. 3, 1964. This application Sept. 8, 1966, Ser. No. 577,912
8 Claims. (Cl. 242—76)



A guide roll assembly for the traveling paper web including means for delivering such a traveling paper web as for example used on a paper roll winder, and a freely rotatable guide roll engaging the web with the surface partially wrapped thereby and being driven thereby. The freely rotatable guide roll is provided with a plurality of venting means in the surface thereof, such as extending grooves of certain configurations, receiving the air carried over the roll surface body by the oncoming web and purging the same therebetween.

3,405,885
REELER FOR ROD OR WIRE
Egbert Schroder, Lank, Klaus Kuppers and Gerhard Strieck, Dusseldorf, and Hugo Beerens, Osterrath, Germany, assignors to Schloemann Aktiengesellschaft, Dusseldorf, Germany, a company of Germany
Filed Feb. 13, 1967, Ser. No. 615,607
Claims priority, application Germany, Feb. 17, 1966, Sch 38,500
18 Claims. (Cl. 242—83)



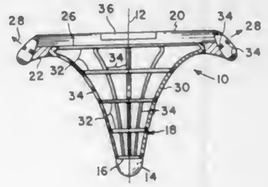
A rod or wire reeler with a horizontal axis laying arm and a device for tilting over the vertical rod or wire loops so formed so that they eventually lie horizontally on a moving conveyor or in a collector.

3,405,886
METHOD OF MAKING INFLATIONABLE ERECTABLE HOLLOW STRUCTURES
Charles N. Gosnell and Stanley H. Saulson, Baltimore, Md., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 23, 1962, Ser. No. 197,113
2 Claims. (Cl. 244—1)



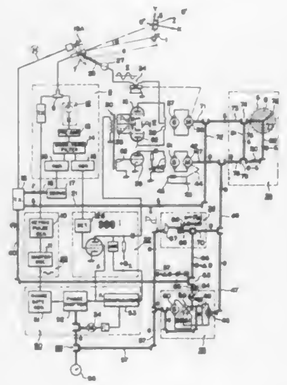
In a method of making an inflation-erectable and rigidizable structure, the steps of cutting and joining its wall sections from a flexible material containing a plastic which is maintained flexible by inclusion of a permanent type plasticizer; substituting, by leaching, a volatile plasticizer for the permanent plasticizer in the joined wall sections to maintain flexibility of the plastic therein on a short-term basis permissive of erection by inflation and rigidizing in its erected configuration by evaporation of such volatile plasticizer; and storing the volatile-plasticizer-containing assemblage in a sealed container pending removal for inflation erection.

3,405,887
RING WING TENSION VEHICLE
John S. Mixson, Hampton, Va., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Oct. 10, 1966, Ser. No. 586,325
6 Claims. (Cl. 244—1)



A ring wing entry vehicle designed so that all the major structural components are stressed in tension upon entry into a low density atmosphere by providing a main shell shaped to produce tension stresses in response to gas flow drag, and a ring wing secured to the shell and shaped to produce lift forces directed so as to counteract and absorb the compressive reaction forces.

3,405,888
FLYING BODY CONTROL SYSTEM AND APPARATUS
Masahiko Okamoto, 56 2-chome, Miyamaecho, Kanagawaku, Yokohama, Japan
Continuation-in-part of application Ser. No. 606,691, Aug. 28, 1956. This application July 1, 1964, Ser. No. 379,602
7 Claims. (Cl. 244—3.14)



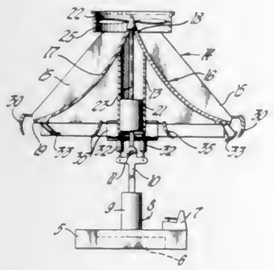
1. A system for guiding a flying body rotating unidirectionally at a predetermined speed about its major longitudinal axis in free flight from a control station along a predetermined line of flight to a target, comprising a position gyro and a transmitting device in the body for detecting and transmitting an instantaneous angle γ of spin rotation of the flying body about its major longitudinal axis, a radar transmitter-receiver including a scanning device driving an A.C. generator at the control station to receive a first subcarrier of the spin rotation angle γ transmitted from the flying body, and to receive a second subcarrier reflected by the flying body resulting from the scanning of the body simultaneously with the first subcarrier, the second subcarrier being modulated by the scanning frequency, separating means in the control station for separating the first subcarrier and the reflected second subcarrier received by the radar transmitter-receiver, a direction determining channel for the second subcarrier signal, means to couple the second subcarrier gated by the direction determining channel and the output wave of the AC generator, to obtain an angle δ of rotation in space of the flying body, means for measuring the amplitude of modulation of the reflected second subcarrier gated by the direction determining channel to obtain an angle θ of deflection in space of the flying body, means for measuring the distance e of the flying body from the launching position, a rate variation measuring unit having as inputs the distance e and the angle θ to obtain a course angle θ' of the flying body, a computer having as inputs the distance e and the angle θ to provide an angle $\Delta\theta$ as an additional control amount for the flying body to strike the target, means for obtaining a control deflection datum Ⓗ by combining the deflection angle θ, the course angle θ' and the additional angle $\Delta\theta$, a deflection steering signal transmitting means in the control station having as inputs the spin angle γ, the angle δ and the deflection datum Ⓗ to transmit a train of pulse signals to the flying body at

a time when the spin angle $\dot{\gamma}$ and the rotation angle δ coincide, means in the flying body to receive the pulse signals, a unidirectional steerable rudder in the body, and means responsive to the pulse signals to steer the rudder in one direction in accordance with the pulse signals.

3,405,889
VERTICAL LIFT VEHICLE

Joseph A. Wagle, New Augusta, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 20, 1966, Ser. No. 588,024
4 Claims. (Cl. 244—12)

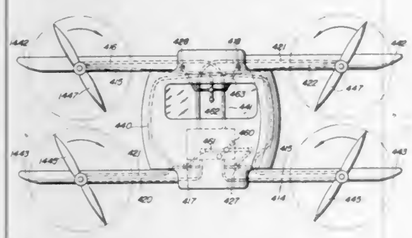


A vertical takeoff vehicle includes a column in which an engine is mounted, a fan at the top of the vertical column, four vertical walls radiating from the column, and a lifting body defined by triangular surfaces extending downwardly and outwardly from the column between the walls. Vanes are provided to deflect the air flowing from the trailing edges of the lifting body into a vertical direction or toward the axis of the vehicle. A cargo carrier is suspended from the column by a pivoting and extensible link.

3,405,890
CONTROL MEANS IN FLUID-POWER DRIVEN, FLUID-BORNE VEHICLES

Karl Eickmann, 2420 Isshiki, Hayama-machi, Kanagawa-ken, Japan

Filed May 24, 1966, Ser. No. 552,559
1 Claim. (Cl. 244—17.23)



The disclosure relates to fluid borne vehicles including a body and having at least a pair of propellers rotatably mounted on the body about symmetrically spaced axes such that, when the propellers are rotating at equal angular velocities, the vehicle maintains a stable attitude. Respective hydraulic motors are in driving relation with each propeller, and a source of working fluid under pressure is connected by supply and return lines to all of the motors to supply working fluid thereto at constantly proportional rates. Control means are selectively operable to vary the relative rates of supply of working fluid to the motors to selectively adjust the attitude of the vehicle, and the propeller axes may be tilted to change the direction of travel of the vehicle.

A feature of the disclosure is the provision of flow control rings surrounding each propeller and which are so designed that they act as lift surfaces for the vehicle. The control means may include bypass means between the supply and return lines connected to each motor and operable to bypass some of the fluid normally delivered to the respective motor and return it to the source of fluid under pressure. Thereby, the rates of operation of the respective motors may be varied. This bypass control is preferably used when pairs of motors are connected in series with each other.

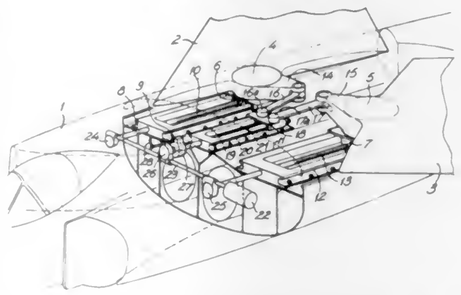
The aircraft may be provided with wings which are spaced both horizontally and vertically of the body so that each propeller operates in a respective air stream, and these wings may be pivotal about axes, relative to the body, as well as being adjustable longitudinally of the body.

A further feature of the disclosure is the provision of a radar device which, through transistor amplifier means, controls a hydraulic control means for stopping motion of the vehicle through a fluid responsive to the presence of an obstruction in the intended direction of movement. When the vehicle is of the helicopter type, a swingable control vane may be provided in the air stream behind one or more of the propellers to assist in varying the attitude or the direction of flight of the aircraft.

3,405,891
VARIABLE-GEOMETRY AIRCRAFT WITH TWO WING HINGE AXES ON THE FUSELAGE

Raymond Jacquart, Boulogne-sur-Seine, and Richard Desire Haze, Saint-Ouen, France, assignors to Sud-Aviation Societe Nationale de Constructions Aeronautiques

Filed Oct. 11, 1966, Ser. No. 585,903
Claims priority, application France, Oct. 19, 1965, 35,423
5 Claims. (Cl. 244—43)



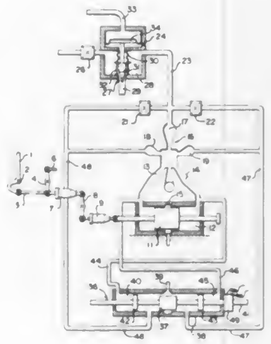
A variable-geometry monoplane aircraft, the wing system of which is constituted of two wings, each pivotally mounted on an articulating pivot carried by a longitudinally displaceable main slide, each wing carrying a link pivotally mounted thereon and upon a second pivot on a similarly longitudinally displaceable secondary slide.

3,405,892
PNEUMATIC FEEL TRIM CONTROL

Carmine V. Di Camillo, Silver Spring, Md., assignor to Bowles Engineering Corporation, Silver Spring, Md., a corporation of Maryland

Filed June 2, 1966, Ser. No. 554,847
11 Claims. (Cl. 244—83)

A feel-trim control system in which a control force applied to a control member is transmitted to a piston located in a cylinder, there being a differential pressure applied to the cylinder on opposite sides of the piston from the output passages of the pure fluid amplifier. A center dump in the cylinder bleeds fluid from either side of the piston as a function of the position of the piston in the cylinder which in turn is controlled by the force applied to the control member. The pressure across the piston varies as the flow varies so that a force is developed across the piston which opposes movement thereof whereby to impart a counteracting force to the control member as a

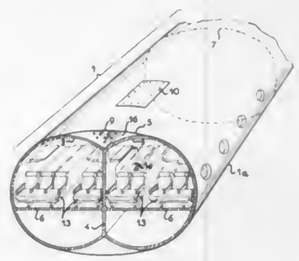


function of displacement of the member from its median position. A trim control apparatus is selectively employed to provide a control signal as a function of a displacement of the piston from its median position, the control signal being applied to the control passages of the fluid amplifier to vary the differential pressure across the amplifier output passages so that a zero net force may be developed across the piston in any position to which the piston is actuated by means of the control member.

3,405,893
LARGE CAPACITY FUSELAGE AND CORRESPONDING AERODYNE

Claude Flamand, Chatenay, Michel Lazareff, Paris, and Fernand Rajau, Sevres, France, assignors to Nord-Aviation Societe Nationale de Constructions Aeronautiques, Paris, France, a joint-stock company of France

Filed Oct. 13, 1966, Ser. No. 586,553
Claims priority, application France, Oct. 15, 1965, 35,032
6 Claims. (Cl. 244—119)

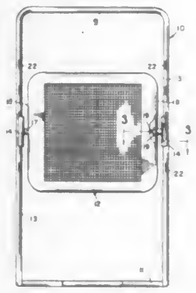


A large capacity fuselage for an aerodyne comprising hollow longitudinal lobes forming side by side compartments having flat faces adjacent each other forming a common connecting wall in a vertical plane, with an outer envelope surrounding the lobes to form the outer surface of the fuselage.

3,405,894
FAN HOUSING LEVEL HOLDING STRUCTURE

Trueman P. Jordan, Don W. Weed, and Everett D. Wiseman, Columbus, Ind., assignors to Vernco Corporation, Columbus, Ind.

Filed July 31, 1967, Ser. No. 657,351
7 Claims. (Cl. 248—13)



A fan housing supporting stand comprising a pair of upstanding, parallel standards having a plurality of pairs of slots therein along common sides of the standards; each pair comprising two slots in one standard and two like slots in the other standard at common respective elevations; a pair of bolts, one each engaging opposite sides of the housing; a plate carried by each bolt conforming to the circumferential shape of the standards, abutting opposing sides of the standards, and extending therearound a distance to receive upper and lower hooks engaging over bottom margins of two slots in each pair of each standard.

3,405,895
UTILITY CHRISTMAS TREE BASE

Hayes P. Perkins, 205 1st St., Monticello, Ky. 42633

Filed Jan. 5, 1967, Ser. No. 607,430
2 Claims. (Cl. 248—44)



A Christmas tree stand which when not used for supporting a Christmas tree, is readily convertible into an ash

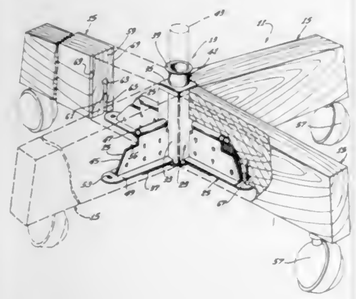
stand, the stand including a hollow center post into which the trunk of a Christmas tree is receivable, the upper end of the post being outwardly flared forming a large tray, the upper opening to the hollow post being closeable by a removable ash tray.

3,405,896
CHRISTMAS TREE HOLDER
Frank B. Eby, Rte. 2, Bristol, Ind. 46507
Filed Feb. 17, 1967, Ser. No. 616,843
6 Claims. (Cl. 248—44)



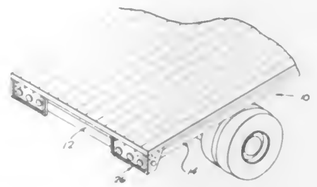
A Christmas tree holder comprising a base member; flexible, adjustable members for gripping the tree at and above the base; radially spaced flexible guy members, each joined respectively to said gripping members and each being trained over a pulley spaced radially from the axis of said tree and each of said members being adjustable.

3,405,897
BASE FOR SUPPORTING AN OBJECT
Robert E. Bond, Pasadena, Calif., assignor to Selje & Bond, South Pasadena, Calif., a partnership
Filed Sept. 21, 1966, Ser. No. 580,928
10 Claims. (Cl. 248—188.7)



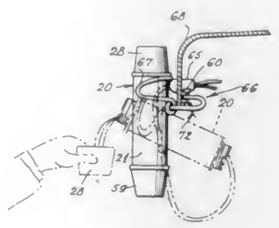
This disclosure describes a device for connecting several load bearing members and including a hub assembly having a central body member and a plurality of support members extending generally radially of the central body member. A plurality of generally radially extending load bearing members are joined respectively to the support members and at least one of the load bearing members has an end surface and a slot with the slot opening at the end surface. The slot receives one of the support members.

3,405,898
MOUNTING BRACKET
Gerald D. Ringle, % St. Louis Freight Lines, Box 493, Michigan City, Ind. 46360
Filed June 24, 1966, Ser. No. 560,240
2 Claims. (Cl. 248—204)



In a heavy duty road vehicle of the semi-trailer type, a rear light support bracket formed of rubber or the like has openings for lamps with surrounding retaining means for light fixtures, and has conduits to enclose wiring for the fixtures.

3,405,899
VEHICLE DASHBOARD THERMOS BOTTLE AND UTILITY CLAMP HOLDER
Leonard Trachtenberg and Peter Warren Trachtenberg, both of 512 Pleasant Valley Way, West Orange, N.J. 07052
Continuation-in-part of application Ser. No. 497,841, Oct. 19, 1965. This application Nov. 14, 1966, Ser. No. 593,887
1 Claim. (Cl. 248—229)

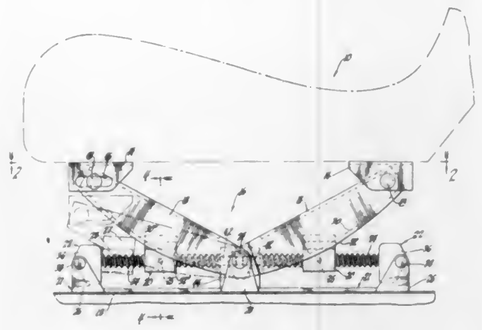


Clamping mechanism for mounting a bottle on a vehicle dashboard. The bottle is adapted to be detachably supported in a vertical position or in a tilted position to pour out the contents. The mounting mechanism is sectional, one section adapted to be clamped to the dashboard, the other section being pivotally connected to the one section for supporting the bottle in either upright or tilted position.

3,405,900
WEDGE ACTUATED SEAT ADJUSTER
David S. Robinson, Detroit, Mich., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Feb. 23, 1966, Ser. No. 529,514
10 Claims. (Cl. 248—396)

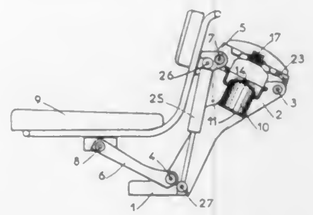
A seat assembly including a seat having front and rear portions with a mount means for supporting the seat, support means adapted for attachment to a support structure, first wedge means for moving the mount means relative to the support means to raise and lower

the front portion of the seat, a second wedge means for moving the mount means relative to the support means to raise and lower the rear portion of the seat, and first and



second drive means respectively coacting with the first and second wedge means to independently actuate the first and second wedge means.

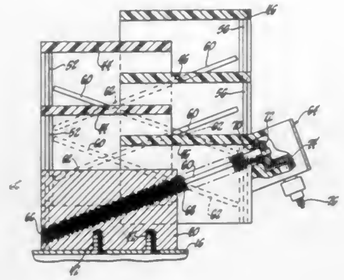
3,405,901
SUSPENSION FOR VEHICLE SEATS
Jean Albert Gregoire, 92 Ave. Niel, Paris 17°, France
Filed July 5, 1966, Ser. No. 562,637
Claims priority, application France, July 9, 1965, 24,171
1 Claim. (Cl. 248—400)



A suspension for vehicle seats of the type wherein the seat is connected through two pivotal links with the vehicle body forming a pivoted link system. Two of the four parts forming said system are interconnected by damping means comprising a piston, pivotally connected to the link and the convex head of which engages a concave diaphragm closing a bell-shaped air-filled chamber rigid with the body of the seat. The connection may be reversed or again the pivotal connection may be transferred from the piston to the air-filled chamber.

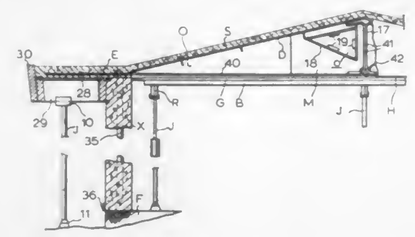
3,405,902
MULTIPLE WEDGE SEAT ADJUSTER
Robert I. Homier, Farmington, Mich., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Feb. 23, 1966, Ser. No. 529,313
21 Claims. (Cl. 248—419)

A seat assembly having a plurality of mechanisms for adjusting the position of the seat and wherein each mechanism includes a plurality of first members, a plurality of second members, and means interconnecting the first and second members for increasing the vertical distance occupied by the members to move the seat vertically upon movement in a second direction of one of the



first members relative to at least one of the second members.

3,405,903
FORM STRUCTURE FOR ROOF SLAB AND TRUSS
Jack E. Sullivan, Margate, Fla., assignor, by mesne assignments, to Futura Roofs, Inc., Margate, Fla.
Filed Sept. 21, 1966, Ser. No. 580,926
12 Claims. (Cl. 249—28)

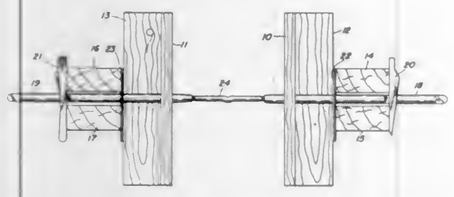


A form structure for the pouring of a concrete roof in which spaced parallel beams are extended between spaced building walls at a common level approximating their tops. These beams provide temporary supports on each of which are removably rested double sets of vertical form walls arranged end to end to extend lengthwise of the beam with opposite end portions of the form walls lapping over the tops of the building walls. Spacer means are also removably carried by the beams to fix the positions of the vertical form walls, top and bottom. Decking boards are removably carried by certain of the spacer means adjacent the tops of the vertical form walls. All of the form walls, spacer means, and decking boards are interfitted for fixed mutual bracing without extraneous fastening means therefor. The resulting form structure is open only at the tops of each set of double vertical form walls to permit concrete, when poured therethrough, to fill all spaces therebetween and, when spread over the decking boards, to provide thereon a continuous slab which is integral with supporting trusses which are molded between each set of double vertical form walls. These trusses in their end portions overlie the tops of the building walls to be permanently supported thereby. Dismantling of the form structure, when the concrete is set, is accomplished by removal of its components in an order which is the reverse of that followed during erection thereof, the underlying beams being the last to be taken down.

3,405,904
TIE ROD FOR ACCURATELY SPACING WALL FORMS

Chester I. Williams, 347 Greenbriar SE., Grand Rapids, Mich. 49506

Filed Dec. 2, 1965, Ser. No. 511,072
1 Claim. (Cl. 249—40)

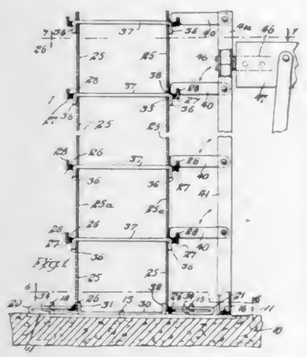


A wall form tie assembly including a central tie rod threaded at both ends and provided with annular abutments axially spaced from the threads to limit the depth of threaded engagement of the rods into bolts positioning the form structure.

3,405,905
METAL FORMS FOR CONCRETE

D. Frank Dakin, 16 Dakin Ave., Mount Kisco, N.Y. 10549

Substitute for abandoned application Ser. No. 856,493, Dec. 1, 1959. This application Nov. 16, 1966, Ser. No. 604,508
3 Claims. (Cl. 249—40)

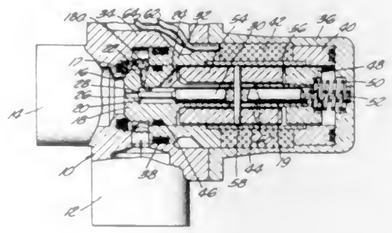


1. A form assembly for receiving poured concrete or the like comprising a horizontal support base, a plurality of base bars disposed in spaced parallel relation on said horizontal support base, said base bars including a plurality of spaced upwardly extending pins thereon, spacer bars including a transverse aperture received on one of said pins on the base bars and being juxtaposed on said base bars, said spacer bars including upwardly extending terminal orienting flanges, pairs of opposed U-shaped orienting members openings toward each other and disposed horizontally on a base bar in longitudinal alinement at opposite ends of a spacer bar, and said U-shaped orienting members including upper and lower leg portions having a transverse aperture therethrough and received on certain of said spaced base bar pins, said lower leg portion of said U-shaped orienting members abuttingly engaging the spacer bars below said orienting flange, the upper leg portions terminating in spaced relation from the spacer bar orienting flanges, a pair of vertically extending, parallel form plates each including a lower L-shaped edge portion having a lateral flange received between the upper and lower leg portions of said U-shaped orienting members and a vertical panel portion extending between the orienting flanges of said spacer bars and the terminal end of the upper leg portion of said U-shaped orienting member, and means engageable with said form plates for maintaining the form assembly in erected condition.

3,405,906
SOLENOID PILOT OPERATED VALVE

William F. Keller, Covina, Calif., assignor to International Telephone and Telegraph Corporation, a corporation of Delaware

Filed Aug. 4, 1966, Ser. No. 570,365
1 Claim. (Cl. 251—30)

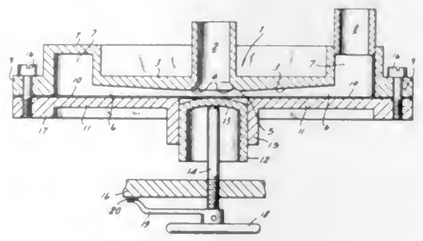


A solenoid controlled pilot operated valve in which a single low-power solenoid has a structure defining a first magnetic path for opening the pilot valve and a second magnetic path for holding the main valve in its open position after the main valve is opened by line pressure.

3,405,907
VENTURI ARRARGEMENT

Lutz T. Kayser, Am Bismarckturm 10, Stuttgart, Germany

Filed May 7, 1965, Ser. No. 455,043
Claims priority, application Germany, May 8, 1964, K 52,891
18 Claims. (Cl. 251—124)

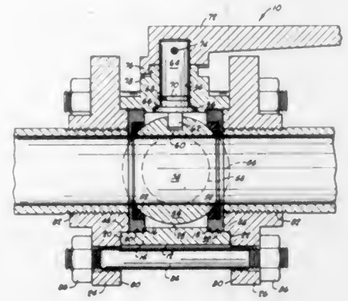


A venturi arrangement for control of fluid passing therethrough substantially independent of pressure variations downstream of the venturi arrangement in which fluid fed in axial direction of the venturi is deflected at the end of the inlet in direction substantially normal to the axis and passed through a radially outwardly extending annular gap which has a length and width so that its peripheral cross section gradually increases in radially outward direction to a cross section several times larger than its smallest cross section so that the fluid cavitating and partly evaporating in the region of the smallest cross section of the gap will recondense in the latter to produce thereby a constant fluid flow through the venturi arrangement independent of pressure variations downstream of the gap.

3,405,908
SELF-ALIGNING BALL VALVE

Domer Scaramucci, Oklahoma City, Okla., assignor to Balon Corporation, Oklahoma City, Okla., a corporation of Oklahoma

Filed Sept. 16, 1965, Ser. No. 487,682
6 Claims. (Cl. 251—148)

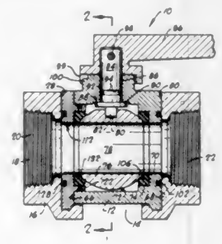


A valve which includes a valve body and a pair of bolt-interconnected connecting members disposed on opposite sides of the valve body and having openings therethrough aligned with a passageway through the body. The connecting members are also provided with an annular surface which extends axially with respect to the passageway through the body. The annular surface of each connecting member is on a side thereof adjacent the valve body and bears against a mating annular surface which extends axially from either the valve body, or from a seal ring which is radially interlocked with the valve body. The mating annular surface extends concentrically with respect to the first-described annular surface along an area of contact such that radial interlocking is effected between the body and connecting members to assure proper alignment between the openings in the connecting members and the passageway through the valve body. A valve member is positioned in the body for opening and closing the valve.

3,405,909
VALVE CONSTRUCTION INCLUDING DIFFERENTIAL AREA SEALS

Domer Scaramucci, 3245 S. Hattie, Oklahoma City, Okla. 73129

Continuation-in-part of application Ser. No. 487,682, Sept. 16, 1965. This application Apr. 4, 1966, Ser. No. 540,015
8 Claims. (Cl. 251—148)

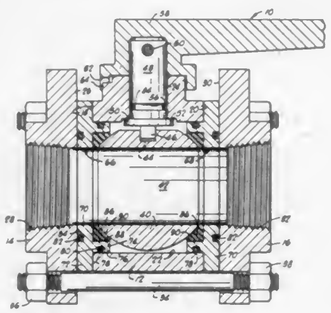


A valve including a housing having an opening therethrough and a valve body positioned in a cavity in the housing. Positioned in contact with the valve body and housing, and extending partially into a bore through the body, are one or a pair of movable seal structures which are so configured and arranged that, upon expansion of the housing, as by excessive internal pressure, the seal structures move in response to fluid pressure within the valve body to remain in sealing contact with the expanded housing, and with the valve body. A movable valve member is provided in the valve body for opening and closing the valve, and each seal structure carries a seal member which sealingly engages the valve member during operation of the valve. The housing and its cavity are constructed so that the housing can be permanently connected in a fluid circuit, and the valve body, valve member and seal structure quickly and easily removed therefrom and replaced therein at any time.

3,405,910
VALVES HAVING DIFFERENTIAL AREA SEALS THEREIN

Domer Scaramucci, Oklahoma City, Okla., assignor to Balon Corporation, Oklahoma City, Okla., a corporation of Oklahoma

Continuation-in-part of application Ser. No. 487,682, Sept. 16, 1965. This application Apr. 4, 1966, Ser. No. 540,037
7 Claims. (Cl. 251—148)



A valve which includes a valve body having a pair of end faces positioned opposite or facing the end faces on a pair of flanged connection members between which the body is positioned. The connection members are interconnected by a plurality of bolts which extend outside the valve body, and each includes an opening which is aligned with a bore extending through the valve body. One or a pair of seal structures are provided for establishing a seal between the valve body and the flanged connection members, and these structures are movable relatively to the valve body, and are configured so that fluid pressure acting outwardly from inside the valve body will cause them to follow the connection members as these members move away from the valve body when the bolts undergo expansion. A valve member is movably disposed in the bore of the valve body for opening and closing the valve.

3,405,911
SEAL ARRANGEMENT FOR GATE VALVE

Thomas J. Bolling, Jr., 5310 Glenmont, Houston, Tex. 77036

Filed Oct. 14, 1966, Ser. No. 586,755
2 Claims. (Cl. 251—172)

1. In a valve including a body having a transverse bore for fluid flow therethrough and having a lateral bore for receiving a gate element for closing and opening the

transverse bore to fluid flow and a movable valve stem extending into the body and connected to the element for opening and closing the transverse bore to fluid flow on relative movement of the element in the lateral bore, the improvement comprising:

(a) there being an enlargement in the body encircling the transverse bore and being formed by a cylindrical wall extending from the lateral bore longitudinally along the transverse bore and defining an annular surface surrounding but spaced from the transverse bore and at its termination forming an end wall extending laterally of and intersecting the transverse bore;

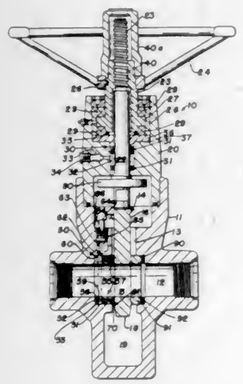
(b) a cylindrical element having an end portion which abuts the end wall of the enlargement and a cylindrical extension which extends from the portion that abuts the end wall toward the lateral bore and terminating therein;

(c) said cylindrical extension throughout its extent being of substantially the same internal diameter as the transverse bore and being narrower in width than the enlargement to form a ring-shaped opening surrounding but spaced from the transverse bore, such ring-shaped opening extending between said cylindrical extension and the annular surface of the enlargement and between said end portion of said cylindrical element and the lateral bore;

(d) seal means between said end portion of said cylindrical element and the annular surface of the enlargement to inhibit fluid leakage therebetween;

(e) a ring-shaped member disposed within the ring-shaped opening for engaging the gate element when in closed position to sealingly engage therewith;

(f) said ring-shaped member including at one end a metal ring to fit within the ring-shaped enlargement;



(g) seal means in said ring-shaped member for sealing with the annular surface of the enlargement and for sealing with said cylindrical extension of said cylindrical element;

(h) a resilient sealing member bonded to one end of said metal ring and in cross-section being substantially T-shaped with the top of the T being bonded to one end of the metal ring;

(i) metal rings bonded on each side of the base of the T of the resilient sealing member so that said ring-shaped member is of substantially uniform thickness throughout its length;

(j) there being fluid passage means formed in the valve body and communicating with the enlargement between the end portion of said cylindrical element and the other end of said metal ring;

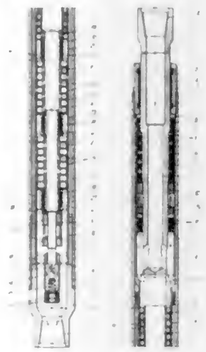
(k) piston means received in one end of the fluid passage means to close off same and form a closed fluid receiving and retaining system, said system receiving and retaining fluid for urging said ring-shaped member longitudinally of the enlargement;

(l) means carried on the stem for moving said piston means against the fluid to urge said ring-shaped member toward the gate element when it moves toward closed position;

(m) the end of said T-shaped resilient sealing member engaging said gate element and sealing thereagainst when the gate element is in closed position; and

(n) said metal rings on each side of the base of the T-shaped resilient sealing member inhibiting damage to said resilient sealing member when said gate element moves across the end thereof when it moves to closed position and when it moves to open position.

3,405,912
TURBINE FOR DRILLING OIL WELLS AND GAS WELLS
Ion Lari and Dumitru Milos, Cimpina, Rumania, assignors to Ministerul Petrolului, Bucharest, Rumania
Filed June 7, 1966, Ser. No. 555,813
Claims priority, application Rumania, June 8, 1965, 49,884
3 Claims. (Cl. 253—3)

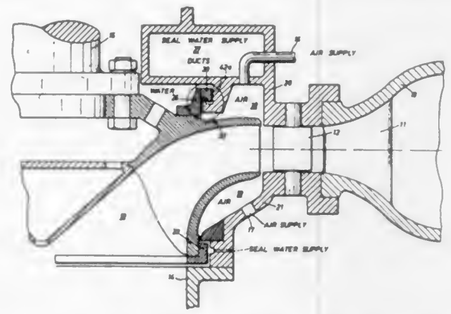


A turbine having a reaction-absorbing shank adapted to be attached to a drill string and surrounded by a cylindrical casing of uniform cross section having a central stepped shaft constituting part of the axle and having a large diameter step followed by an intermediate diameter step and a small diameter step forming respective turbine sections with rotor and stator elements respectively engaging the cylindrical casing and the axle shaft respectively, the passage in the axle shaft delivering the drilling fluid to the turbine at a location above the large-diameter turbine but below the thrust bearing.

3,405,913
ROTARY SEAL STRUCTURE
Victor G. Chatfield, La Salle, Quebec, and Peter G. Roper, Westmount, Quebec, Canada, assignors to Dominion Engineering Works, Limited, Lachine, Quebec, Canada, a corporation of Canada
Continuation of application Ser. No. 644,879, June 9, 1967, which is a continuation of application Ser. No. 326,608, Nov. 27, 1963. This application Dec. 4, 1967, Ser. No. 687,903
3 Claims. (Cl. 253—26)

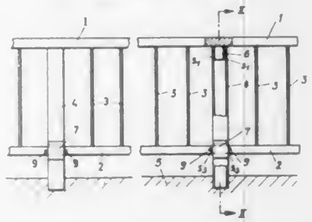
To seal an annular aeration space of an aerated turbo machine such as the crown space of a Francis turbine against loss of aerating fluid from the radially inner zone of the aeration space, there is provided a leakage path

extending radially outwardly relative to the runner main axis, bounded by an annulus filled with pressurized sealing



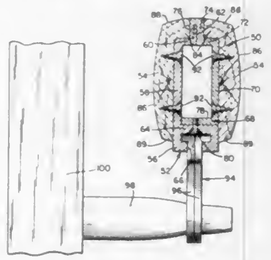
liquid, and a rotary annular surface of the gland structure contacting the sealing liquid in sealing and circulatory pumping relation therewith.

3,405,914
BARRIER FOR THE BOUNDING OF ROADS, BRIDGES, ETC.
Walter Nill, Winterthur, Switzerland, assignor to Kuderli & Co., Zurich, Switzerland
Filed Sept. 7, 1966, Ser. No. 577,657
Claims priority, application Switzerland, Sept. 8, 1965, 12,496/65
4 Claims. (Cl. 256—59)



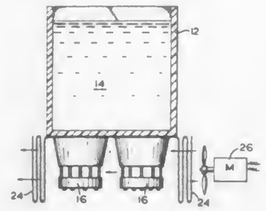
A road barrier or the like in which horizontal upper and lower girders of connected barrier elements are each connected to vertical uprights with longitudinal clearance.

3,405,915
HANDRAILS
Louis Blum and William J. Horgan, Jr., Pittsburgh, Pa., assignors to Blumcraft of Pittsburgh, Pittsburgh, Pa., a firm
Original application June 26, 1964, Ser. No. 378,185. Divided and this application Aug. 5, 1966, Ser. No. 582,778
4 Claims. (Cl. 256—65)



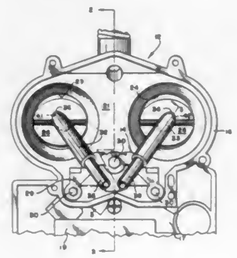
A handrail consists of a two piece metal component with a non-metallic grip means in the form of two wooden members disposed respectively in overlying relation to the parts of the metal component. One of the parts in the metal component has a slot extending longitudinally in the undersurface thereof. The slot receives handrail support means.

3,405,916
ULTRASONIC TREATMENT APPARATUS
John J. Carmichael, Riverside, Old Greenwich, Conn., assignor to Branson Instruments, Incorporated, Stamford, Conn., a corporation of Delaware
Filed Apr. 11, 1967, Ser. No. 630,039
11 Claims. (Cl. 259—1)



In an ultrasonic cleaning or etching tank made of material having a relatively low thermal heat conductivity, such as plastics, a material having a higher heat conductivity is interposed between the transducer frontal surface and the tank surface and is extending beyond such frontal surface in order to provide for the removal of the dissipated heat from the interface between the tank and transducer.

3,405,917
CARBURETOR
Victor Hecht, 969 Alexander, Haysville, Kans. 67060
Filed May 16, 1966, Ser. No. 550,291
2 Claims. (Cl. 261—23)

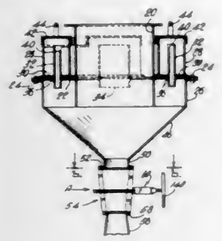


A carburetor having a fuel feed block with a pair of inclined feed tube members. Each tube has a feathered lower end extending horizontally within the fuel and air mixing conduit and an upper end extending into a cavity shielded from the direct flow of air through the fuel and air mixture conduit.

3,405,918
ADJUSTABLE VENTURI FOR SCRUBBERS
Ralph R. Calaceto, Ridgewood, Reuben H. Durst, Washington Township, Bergen County, and David Millar, Ridgewood, N.J., assignors to Airetron Engineering Corporation, Midland Park, N.J., a corporation of New Jersey
Filed Mar. 3, 1967, Ser. No. 620,383
4 Claims. (Cl. 261—62)

A gas scrubber having an adjustable Venturi throat which receives the gas which is to be cleaned and a liquid for cleaning the gas. The adjustable Venturi throat has a pair of inner straight parallel edges which extend perpen-

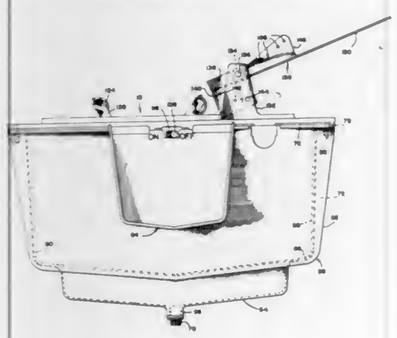
dicularly with respect to the central axis of the Venturi and which are situated in a plane normal to the latter axis, the adjustable Venturi structure providing for equal and opposite displacement of the pair of inner edges with respect to the central axis, and these inner edges define the smallest area of the Venturi throat at any adjusted position thereof. The adjustable Venturi throat structure may take



the form of a pair of stretchable sheets which are actuated by a linkage to displace the above inner parallel edges of the Venturi equally and oppositely with respect to the central axis thereof.

The adjustable Venturi throat structure is capable of being adjusted by a manually operable or power-operated adjusting means.

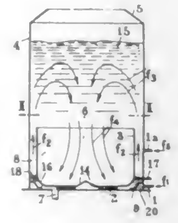
3,405,919
HUMIDIFYING APPARATUS
Ferdinand W. Fisher, Bedford, and Thomas J. Higgins, Jr., East Cleveland, Ohio, assignors to Eaton Yale & Towne Inc., a corporation of Ohio
Filed May 15, 1964, Ser. No. 367,699
4 Claims. (Cl. 261—64)



A humidifying apparatus adapted for mounting in the plenum or warm air duct of a furnace heating system. The humidifying apparatus being characterized by an adjustable air flow directing member protruding into the plenum or air duct for directing a portion of the warm air flow through the humidifying apparatus.

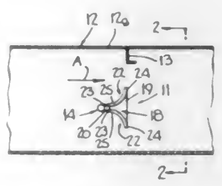
3,405,920
PROCESS AND DEVICE FOR STIRRING AND METHODICALLY CIRCULATING LIQUID MASSES BY BLOWING GASES THERETHROUGH
Louis Alfred Auguste Lefrancois, 24 Rue Barbet de Jouy, Paris, France,
Filed July 30, 1964, Ser. No. 386,329
Claims priority, application France, Aug. 12, 1963, 944,438
13 Claims. (Cl. 261—123)

The gas is blown into the liquid mass at the base and near the outer periphery thereof and is distributed as uniformly as possible along said periphery where a liquid-gas emulsion is formed; the movement of the liquid mass takes place upwards at the periphery and downwards in the central zone. The device comprises a vat with an inner partition a little spaced from the bottom of the vat and



extending approximately in the lower half of the vat coaxially to the vat lateral main wall; said partition forms with said vat lateral wall a relatively narrow annular duct; gas outlets for delivering gas under pressure are uniformly distributed at the bottom of said duct.

3,405,921
AIR-HEATING GAS BURNER
Marvin K. Robrs, Fanwood, N.J., assignor to Aero-Flow Dynamics, Inc. (L. J. Wing Mfg. Co. Division), Linden, N.J., a corporation of New York
Filed Aug. 31, 1966, Ser. No. 576,363
21 Claims. (Cl. 263—19)

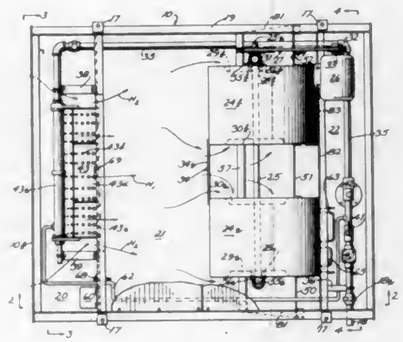


Air-heating gas burner, of the type for mounting within a stream of air to be heated and which utilizes a portion of such air as combustion air, having curved, outwardly flaring, exposed mixing plates having particularly arranged and particularly sized air apertures therethrough for receiving combustion air through their exposed rearward surfaces from the impinging portion of the passing air stream; mixing plates include forward portions which project in a plane perpendicular to the forward direction of the burner. Modified forms include elongated and conical burners with particular configuration as described in the specification.

3,405,922
DOOR HEATER
Marvin K. Rohrs, Fanwood, N.J., assignor to Aero-Flow Dynamics, Inc., (L. J. Wing Mfg. Co. Division) Linden, N.J., a corporation of New York
Filed Nov. 16, 1966, Ser. No. 594,870
14 Claims. (Cl. 263—19)

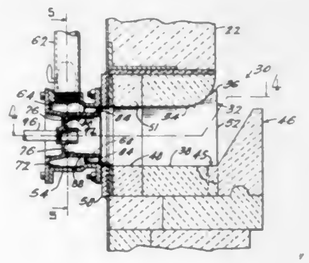
Overhead door heater unit having separately subassembled burner section, horizontal duct section, blower section, controls section, and downwardly projecting air discharge section. Burner section includes line type, raw gas burner mounted at air inlet side of profile plate; air-

flow sensitive sail switch within separate opening of profile plate; and temperature high limit switch on profile plate above burner. Duct section is unobstructed. Blower section includes pair of laterally spaced apart blowers; temperature distribution baffle between blowers; air flow baffles at downstream side of blower inlets; and snorkels for cooling blower bearings. Discharge section includes vertical front plate particularly located with respect to



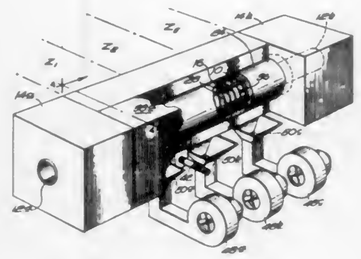
blower outlets; back plate at 52° angle; 122° expansion plates at sides; thermostat for controlling a temperature modulating control valve; and automatic reset high temperature limit switch adjacent blower outlets. Controls section includes said temperature modulating control valve in gas line section; solenoid actuated gas shut-off valve; and manual gas shut-off valve. Other features per specification.

3,405,923
SIDE WALL FIRING SYSTEM FOR MULTI-STAND ANNEALING COVERS
John D. Nesbitt and Herbert M. Kohn, Toledo, Ohio, assignors to Midland-Ross Corporation, Toledo, Ohio, a corporation of Ohio
Filed Sept. 8, 1966, Ser. No. 578,027
21 Claims. (Cl. 263—40)



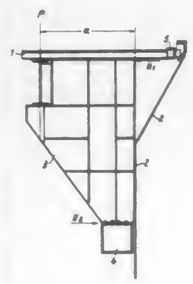
A burner for distributing a flame along a furnace wall containing the burner. A swirling centrally enriched fuel-air mixture flows from a fuel chamber of the burner into a fuel-air entry port where it intermixes with a surrounding swirling air stream. A diverging opening extends from the entry port through the wall. This opening is flared towards the wall section over which the flame is to be spread. The flared portion may take the form of a Coanda turn and have a baffle cooperating therewith to urge the flame along the wall.

3,405,924
FURNACE WITH VARIABLE EFFECTIVE INSULATION
Jacob Howard Beck, Waban, Mass., assignor to BTU Engineering Corporation, a corporation of Delaware
Filed Oct. 3, 1966, Ser. No. 583,724
9 Claims. (Cl. 263—41)



A furnace having the capability of rapidly heating and cooling a product in a precise and efficient manner while avoiding local hot spots in the chamber. These rapid and efficient temperature changes are made possible by adjustment of the effective insulation around the fixed furnace chamber.

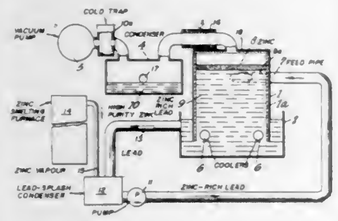
3,405,925
THROAT PLATFORM FOR BLAST FURNACES HAVING NO FRAMEWORK
Friedrich Lenger, Essen-Holsterhausen, Germany, assignor to Beteiligungs- und Patentverwaltungsgesellschaft mit beschrankter Haftung, Essen, Germany, a corporation of Germany
Filed Dec. 28, 1964, Ser. No. 421,260
Claims priority, application Germany, Dec. 28, 1963, B 74,844
2 Claims. (Cl. 266—31)



1. A throat platform structure for blast furnaces having no framework, comprising a shaft furnace jacket, a throat platform disposed on top of said shaft furnace jacket, and brackets secured to said shaft furnace jacket, a closing ring disposed above said brackets and a pressure ring disposed below said brackets, said closing ring and said pressure ring being movably secured to said shaft furnace jacket and comprising torsion-resisting rings, connecting members secured to said closing ring and to said pressure ring, and said shaft furnace jacket having pockets disposed opposite to and receiving said connecting members, so that said rings, disposed above and below said brackets and receiving horizontal forces originating from the connecting moments of said brackets, are connected

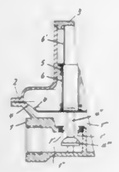
with said shaft furnace jacket such that the forces effective upon said rings are fed at least partly tangentially to said shaft furnace jacket.

3,405,926
APPARATUS FOR DEZINCING LEAD
Thomas Ronald Albert Davey, Glen Waverley, Victoria, Australia, assignor to Metallurgical Processes Limited, Nassau, Bahamas, a company of the Bahamas, and Imperial Smelting Corporation (N.S.C.) Limited, London, England, a British company doing business as Metallurgical Development Company, Nassau, Bahamas
Original application Oct. 14, 1964, Ser. No. 403,807, now Patent No. 3,360,362, dated Dec. 26, 1967. Divided and this application May 6, 1966, Ser. No. 560,346
17 Claims. (Cl. 266—37)



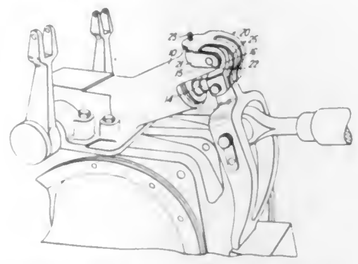
The disclosure relates to apparatus for dezincing a body of molten lead relatively rich in molten zinc, including a primary condenser for condensing zinc vapour initially in the molten lead, a lead-zinc separator to separate a layer of the molten zinc from the body of molten lead, a vacuum pump to withdraw zinc vapour from the layer of molten zinc, and a secondary zinc condenser for condensing the evacuated zinc vapour into molten zinc.

3,405,927
SPRING ADJUSTING DEVICE FOR USE IN A PRESSURE REGULATOR
Josef Drabik, Osnabruck, and Manfred Klare, Georgsmarienhutte, Germany, assignors to G. Kromschroder A.G., Osnabruck, Germany, a corporate body of Germany
Filed June 3, 1965, Ser. No. 461,066
Claims priority, application Germany, June 6, 1964, K 48,132; Feb. 12, 1965, K 50,339
1 Claim. (Cl. 267—1)



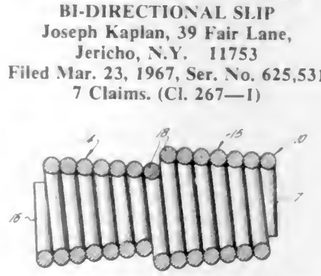
An actuating device is provided for a pressure regulator of the type which has a spring-loaded diaphragm. In contact with the end of the spring opposite that bearing on the diaphragm is a flange which can be moved into one of a limited number of predetermined fixed positions. These fixed positions correspond to desired pressure settings for the regulator valve. In the preferred form the flange is on both of a pair of coaxially-positioned tubular elements, movable axially with respect to each other. The tubular elements may be slidably telescopically one within the other.

3,405,928
DRAFT CONTROL AUXILIARY LEAF SPRING
Robert B. Annat, Kenilworth, England, assignor to Massey-Ferguson Services N.V., Curacao, Netherlands Antilles
Filed Apr. 7, 1966, Ser. No. 540,877
Claims priority, application Great Britain, Apr. 20, 1965, 16,460/65
3 Claims. (Cl. 267—1)



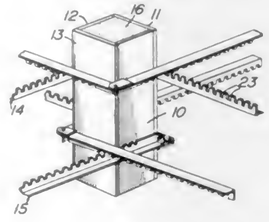
An attachment means to a tractor for resiliently engaging the feedback control spring in the tractor. Such engagement either transfers the control spring from a double-acting into a single-acting spring or applies a precompression force to the control spring.

3,405,929
SPRING SLIP ELEMENT FOR BI-DIRECTIONAL SLIP
Joseph Kaplan, 39 Fair Lane, Jericho, N.Y. 11753
Filed Mar. 23, 1967, Ser. No. 625,531
7 Claims. (Cl. 267—1)



The instant invention, in essence, is concerned with a spring-type element wherein end portions of a spring engage with surfaces of element members, and the spring convolutions engage the element member surfaces with decreasing contact pressure in the direction toward the free ends of the convolutions.

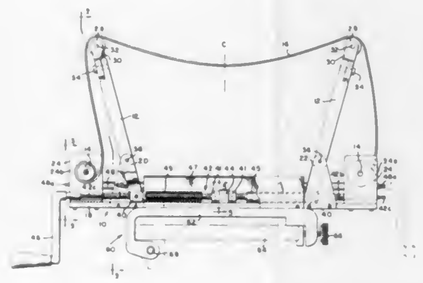
3,405,930
ARTICULATING CLAMP FOR SECURING FORM PANELS IN RECTANGULAR CONFIGURATION
Chester I. Williams, 347 Greenbriar SE., Grand Rapids, Mich. 49506
Filed Dec. 9, 1965, Ser. No. 512,684
3 Claims. (Cl. 269—124)



A foldable clamp for securing column forms in rectangular configuration, the clamp being formed by inter-

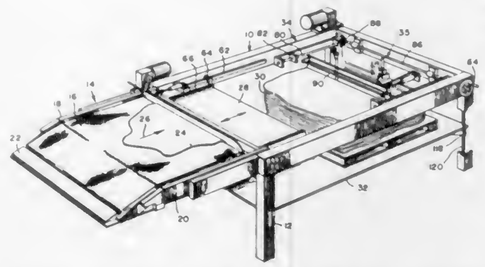
engageable sets of pivotally connected arms, each set being provided with stops establishing a perpendicular relationship of the arms.

3,405,931
OPERATING TABLE HAMMOCK
Roger Anderson, 5421 1st Ave. S., Seattle, Wash. 98108
Filed Apr. 19, 1966, Ser. No. 543,652
11 Claims. (Cl. 269—328)



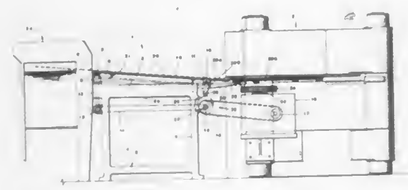
An adjustable operating table hammock is provided comprising a frame adapted to be fitted onto an operating table and a pair of arms movably connected to the frame and having outer belt bearing members with a support belt extended over the outer belt bearing members and rotatably connected at opposite ends to support belt shafts mounted by the frame. The outer ends of the arms are movable toward and away from one another in unison and the support belt shafts are rotatable in unison, such that the support belt may be uniformly raised and lowered by rotating the support belt shafts in unison or by moving the outer ends of the arms toward or away from one another.

3,405,932
APPARATUS FOR FOLDING AND STACKING FLEXIBLE MATERIAL
Stanley P. Dame, Somersworth, N.H., assignor, by mesne assignments, to Thompson Manufacturing Company, Inc., Somersworth, N.H., a corporation of Massachusetts
Filed Aug. 5, 1966, Ser. No. 570,642
8 Claims. (Cl. 270—68)



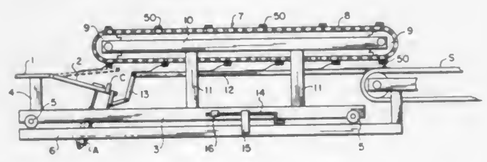
Flexible materials such as leather hides are folded and stacked by means of an endless conveyor which delivers the material onto a horizontally reciprocating table. The table moves in under the conveyor to pick up the first half of the material and then moves in an opposite direction to pick up the remaining half which folds down over the first half. The table carries the folded material into a clamp which grabs the folded end of the article and the table then reciprocates away from the clamp which then releases the folded material onto a stack of previously folded materials.

3,405,933
PRESS AND FEEDER FOR PRESS
Leonard F. Remington, Franklin, Mass., assignor to Thomson National Press Company, Inc., Franklin, Mass., a corporation of Massachusetts
Filed Feb. 1, 1967, Ser. No. 613,218
9 Claims. (Cl. 271—3)



A stream feed table mechanism for feeding sheets successively to a rotating triangular table. The sheets are secured to the edge of the table by clamps which are actuated by cyclical arcuate movement of the table mechanism. The table intermittently rotates to move the sheets into a press having a horizontal platen supported on three points, one of which is coaxial with the rotating table.

3,405,934
FABRIC HANDLING APPARATUS
Norman E. Elsas, 3025 E. Pine Valley Road NW., Atlanta, Ga. 30305
Continuation of application Ser. No. 549,125, Apr. 20, 1966, which is a continuation-in-part of application Ser. No. 450,330, Apr. 23, 1965. This application July 27, 1967, Ser. No. 656,597
7 Claims. (Cl. 271—3)



4. Apparatus for conveying pieces of material to a movable surface in timed relationship with said movable surface wherein the pieces of material must be positioned with the center of their areas at predetermined equally spaced positions on the movable surface, said apparatus comprising,

an endless feed conveyor driven at a velocity equal to the velocity of the movable surface including a pick-up end and a delivery end, and a plurality of material gripping means carried at equally spaced intervals along said feed conveyor,

a material feed table positioned at said pick-up end of the feed conveyor, means for intermittently moving said feed table and the edge of the material present thereon into contact with said gripping means in timed relationship with said feed conveyor, whereby the gripping means engage an edge of the material,

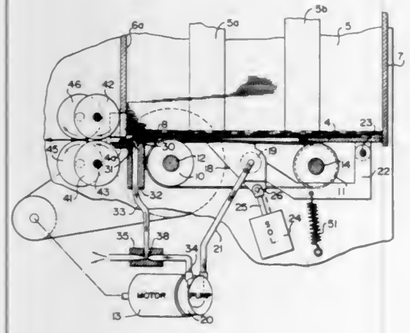
actuating means positioned at said pick-up end of the feed conveyor for actuating said gripping means to grip the material present on the feed table,

deactuating means positioned at said delivery end of the feed conveyor for deactuating said gripping means to disengage the material to deposit the material on the movable surface,

clutch means for repositioning the material gripping means of said feed conveyor with respect to the movable surface whereby pieces of material varying in size can be positioned with the center of their areas at the predetermined equally spaced positions on the movable surface, and

adjusting means for varying the distance between said material feed table and the feed conveyor when the material gripping means have been repositioned so that the gripping means continue to engage the edge of the material.

3,405,935
CARD PICKER MECHANISM
John H. MacNeill, Indialantic, Fla., assignor to Soroban Engineering, Inc., Melbourne, Fla., a corporation of Florida
Filed Dec. 30, 1966, Ser. No. 606,304
40 Claims. (Cl. 271—11)



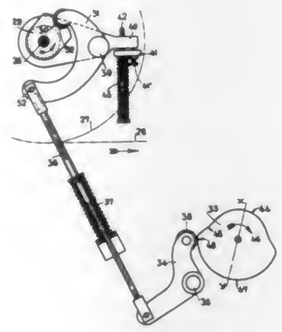
A card picker mechanism for removing the lowermost sheet of material from a stack. The apparatus employs one or more continuously driven friction belts disposed under the lowermost sheet of the stack and normally out of engagement therewith. The belts have a first plurality of holes through which a suction force is applied to solid (web) portions of the underside of the lowermost sheet and also have a second plurality of holes for venting the region of the lowermost sheet in the region of which is normally found punched data holes; thereby preventing the vacuum from being transferred to adjacent sheets. Also included is a member for pushing the driven belts into contact with the lowermost card and concurrently applying the suction force thereto. The member is provided with a contoured surface to reduce friction between the member and the belts. The picker mechanism is also provided with a throat through which the individual sheets are driven, the throat being defined by a throat block and a beveled surface of the plate which supports the stack. A mechanism is employed for supplying a suction force through ports in the beveled surface. The slope of the beveled surface is greater than the natural flexure of an individual sheet overhanging the beveled surface so that the suction force acts to separate the lowermost card from the stack sufficiently for it to pass under the throat block which blocks such passage of all other cards; application of the force may be synchronized with delivery of individual sheets so as to be applied to a delivered sheet only for a period sufficient to permit the sheet to pass beneath the throat block. The apparatus may also be provided with two pairs of offset pinch rollers for receiving a sheet delivered through the throat and steering the sheet into proper alignment with a predetermined sheet transport path.

3,405,936
SHEET HANDLING MECHANISMS
Charles C. Puckette, Enfield, and Richard E. Baldwin, Coulsdon, England, assignors to English Numbering Machines Limited, Middlesex, England, a British company
Filed Feb. 15, 1967, Ser. No. 616,371
Claims priority, application Great Britain, Mar. 2, 1966, 9,072/66
3 Claims. (Cl. 271—19)



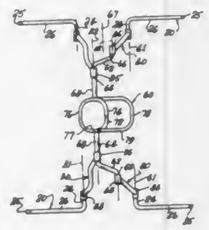
The invention discloses a mechanism for forming a bulge in the uppermost sheet of a pile of flexible sheets, the mechanism including means for straightening the next following sheet if accidentally a bulge is formed therein during the formation of the bulge in the uppermost sheet.

3,405,937
MACHINE FOR PROCESSING SHEETS
Gregor Schoch, Chemin de la Roche 16, Renens, Switzerland
Filed June 14, 1967, Ser. No. 646,088
Claims priority, application Switzerland, June 21, 1966, 9,075/66
9 Claims. (Cl. 271—79)



A machine in which gripping bars are advanced by a chain to engage sheets in a first position and advance the sheets to an operating position in a press, the chains and bars being periodically immobilized in the engaging and operating positions, there being provided a mechanism constituted by a cam operating a stem which in turn operates a balance member coupled to a lever mounted on a drive shaft for the chain wheels, to lock the drive shaft when the bars are in the aforesaid positions and thereafter to pivotally move the balance member, lever and drive shaft as a unit about the axis of the drive shaft such that the latter turns through a small angle and advances the gripper bars a small distance in their direction of advance after they have been immobilized.

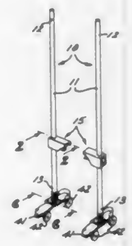
3,405,938
GYMNASTIC DEVICE PROVIDING NON-CIRCULAR SUPPORT MOVEMENTS
Max M. Aydelott, 1029 S. Glenview Road, West Covina, Calif. 91790
Filed Mar. 12, 1965, Ser. No. 439,273
18 Claims. (Cl. 272—61)



A rigid frame is movably mounted so that two spaced parallel axes on the frame are constrained to swing in circular paths about respective parallel axes on a fixed support.

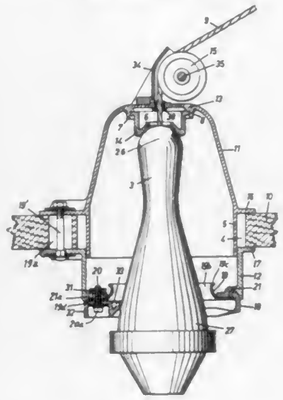
Body supporting elements, typically transverse bars, are provided on the frame at points spaced from the frame axes, such that the elements move along distinctively different but positively coordinated non-circular paths. By shifting his weight from one element to another, the user can produce controlled frame movement.

3,405,939
STILT WITH SUPPORT PLATFORM
Edmund F. Iannone, 12115 Clearglen Ave. 90604, and Woodrow W. Holder, 421 N. Hill 90601, both of Whittier, Calif.
Filed June 4, 1965, Ser. No. 461,383
2 Claims. (Cl. 272—70.1)



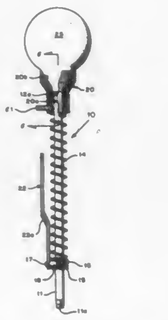
A pair of stilts each of which has a vertical pole with an adjustable foot rest thereon, which foot rest has a box beam cross section with a plurality of clamp plates in the interior of the foot rest and the clamp plates are received around the pole and are arranged so that weight on the foot rest causes the clamp plates to grip the pole more firmly and yet a person can move the clamp plates to a position where they do not grip the pole for adjustment purposes; each of the stilts being further defined by a support platform disposed at the lower end of the stilt and a semi-rigid sleeve anchored to the platform and receiving the lower end of the stilt.

3,405,940
CENTERING APPARATUS FOR THE BOWLING PINS OF AN AUTOMATIC PIN SPOTTING MACHINE
August Schmid, Schwerzenbach, Switzerland, assignor to Patentsverwertungs- und Finanzierungsgesellschaft Serania AG., Glarus, Switzerland, a corporation of Switzerland
Filed Feb. 21, 1966, Ser. No. 528,867
Claims priority, application Switzerland, Feb. 26, 1965, 2,700/65
11 Claims. (Cl. 273—44)



A centering apparatus for the bowling pins of a bowling pin spotting machine wherein each bowling pin is secured to a pulling rope. A support member carries a hollow member which is provided for each bowling pin to be spotted. A centering head is disposed within the hollow member for properly aligning the associated head of the bowling pin, and a sleeve member is disposed beneath the support member and substantially coaxially arranged with respect to the aforementioned hollow member. Flexible centering means provided at said sleeve member can be adjusted in radial direction for centering the belly of the bowling pin.

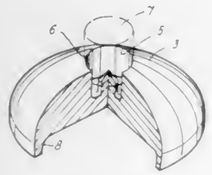
3,405,941
BALLOON REPLACING APPARATUS FOR AN AMUSEMENT SYSTEM
Fred Martell, Wanamassa, and Carl Lefferson, Oakhurst, N.J., assignors to International Exhibits, Inc.
Continuation-in-part of application Ser. No. 520,962, Jan. 17, 1966. This application Nov. 25, 1966, Ser. No. 596,835
6 Claims. (Cl. 273—101)



A water gun system for a plurality of players including a target and an inflatable balloon, each associated with a

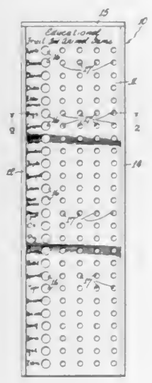
different player. Each of the balloons is mounted on an associated pipe and a balloon changing mechanism is used in the rapid replacement of a balloon that has been broken.

3,405,942
TARGET FOR THROWING GAMES
Karl Lennart Sahlsten, Arvika, Sweden (Karlslundsgatan 7, Karlstad, Sweden)
Filed Feb. 4, 1965, Ser. No. 430,336
Claims priority, application Sweden, Feb. 12, 1964, 1,688/64
4 Claims. (Cl. 273—102.1)



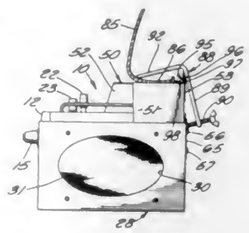
A target for throwing games of the kind wherein throwing bodies are thrown at targets, comprising a body having in its surface a blind hole for holding an explosive marking member projecting upwardly from the top surface and spaced from the bottom of the blind hole which has a stud adapted to penetrate into the explosive marking member to detonate it when the cap marking member is depressed by a throwing body hitting the target.

3,405,943
BOARD GAME APPARATUS WITH LETTER SELECTING DICE
Marvin D. Marsh, Rte. 1, Box 32, Newton Falls, Ohio 44444, and Joseph E. Pence, Newton Falls, Ohio; said Pence assignor to said Marsh
Filed Mar. 21, 1966, Ser. No. 535,863
2 Claims. (Cl. 273—135)



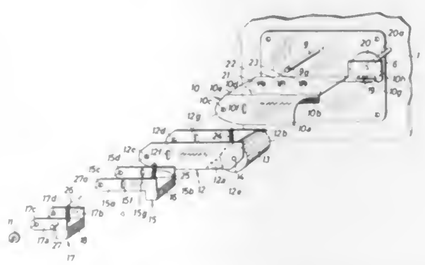
An educational game apparatus comprising a pair of dice carrying letters of the alphabet on their respective faces, the letters appearing on the upper faces when the dice come to rest dictating the positioning of large or small spherical objects in respective large or small recesses formed in a game board, the recesses being arranged in vertically aligned horizontal rows, each row consisting of a large recess and a plurality of small recesses and having the name of an object aligned therewith, each of said names beginning with a different letter of the alphabet.

3,405,944
UNIVERSALLY ADAPTABLE TAPE PLAYER HAVING STEREO LOUDSPEAKERS
David Krechman, 329 S. McCarty Drive, Beverly Hills, Calif. 90212
Filed Nov. 18, 1965, Ser. No. 508,449
2 Claims. (Cl. 274—1)



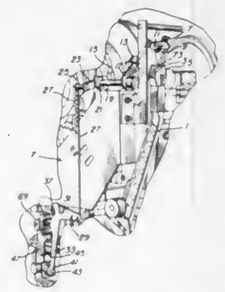
The invention is an assembly of a sound reproducing unit, more particularly, a tape player having stereo loudspeakers assembled in a manner to facilitate the use of the unit in an automobile mounted on, or resting on the transmission in the front part of the automobile. The unit is further provided with means whereby it may be conveniently mounted on the automobile dashboard or carried about, that is, a handle is provided for ease of portability. Preferably, an adapter is provided so that the sound reproducing unit can be operated from the automobile battery or plugged into a conventional 110 volt source with an inverter providing an appropriate voltage output for operation of the unit.

3,405,945
SOUND RECORDING AND REPRODUCING APPARATUS
Alfred Braeth, Unterhaching, Germany, assignor to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed Oct. 6, 1966, Ser. No. 584,707
Claims priority, application Germany, Oct. 13, 1965, A 50,476
17 Claims. (Cl. 274—4)



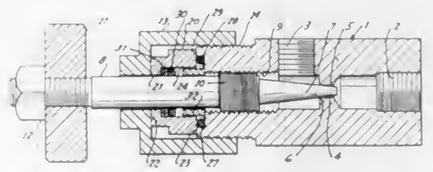
1. In a sound reproducing and/or recording apparatus, particularly for reproducing and/or recording sound on at least one track provided on movie film or a like sound carrier, a support; advancing means provided on said support for moving the sound carrier along a predetermined path; a sound head and a capstan adjacent to one side of said path and mounted on said support; a spindle mounted on said support at the other side of said path; a plurality of holders turnably mounted on said spindle with limited freedom of angular movement with reference to each other, each of said holders comprising a U-shaped body having a pair of flanges with at least one of said flanges being turnably mounted on said spindle, and said holders being received one within the other; a first pressing member provided on one of said holders and arranged to urge the sound carrier against said sound head; a second pressing member provided on another of said holders and arranged to urge the sound carrier against said capstan; and actuating means for moving said holders between first and second positions in which said pressing members respectively engage and are spaced from the sound carrier.

3,405,946
AUTOMATIC PHONOGRAPH STYLUS CLEANING
Albinus G. Bodoh, Prospect Heights, and Raymond L. Gustavel, Itasca, Ill., assignors to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,872
8 Claims. (Cl. 274—47)



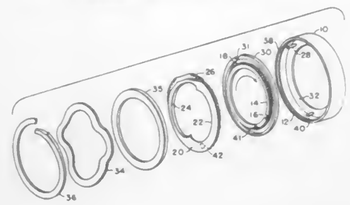
An apparatus for automatically wiping an automatic phonograph stylus that has just been utilized to play a recording is illustrated. Wiping of the stylus is achieved by a brush driving arrangement that is energized to move a brush across the stylus after the recording has been played. The apparatus is particularly adapted for use in association with a pick-up arm that has a stylus on either side thereof, and provision is made for insuring that the stylus that is wiped is that which has just been utilized in the playing of a recording.

3,405,947
SEALING MEANS FOR A HYDRAULIC SYSTEM
Ralph R. Roemer, 2100 Vega Ave., Cleveland, Ohio 44113
Filed Feb. 9, 1966, Ser. No. 526,086
3 Claims. (Cl. 277—110)



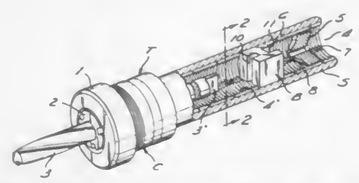
A sealing means for a hydraulic system in which a body with an internal cavity connected in the hydraulic system has an operating stem which extends from the cavity to the exterior of the body through a closure gap forming part of the body. A holder within the cavity surrounds the stem and holds in place two O-ring seals, one of which prevents escape of pressure fluid from the cavity around the inner end of the holder and the other of which prevents the escape of pressure fluid from the cavity between the holder and stem. The stem has a threaded portion in the cavity in threaded engagement with the body for causing movement of the stem upon rotation of the stem. A sleeve is disposed around the stem between the threaded portion of the stem and the O-ring sealing the space between the stem and holder so as to prevent the threaded portion of the stem from engaging and damaging the latter O-ring.

3,405,948
CARBON SEAL FOR HIGH SPEED SHAFT
Arnold E. Junker, Bridgeport, Conn., assignor to Avco Corporation, Stratford, Conn., a corporation of Delaware
Filed Mar. 20, 1967, Ser. No. 624,449
7 Claims. (Cl. 277—137)



Shaft sealing is provided by means of a split shaft carbon ring maintained under compression by means of a garter spring. The crack in the split ring is sealed by a solid carbon ring which is maintained in contact with the shaft at the location of the crack in the split ring. A third solid carbon ring surrounds the split ring to protect it from the effects of air pressure. The assembly is maintained in compression by means of a wavy washer. This seal is primarily useful where a high differential pressure exists across the seal.

3,405,949
TOOL HOLDER
John R. Cox, Lakewood, Ohio, assignor, by mesne assignments, to Balas Collet Company, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 12, 1966, Ser. No. 520,293
10 Claims. (Cl. 279—9)

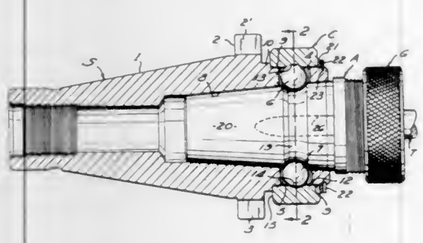


A tool holder for supporting tools such as drills, reamers, etc. having a hollow shank into which the shank of the tool extends, the bore in said hollow shank having a longitudinally extending groove, and a tool drive block member slidingly supported in the hollow shank and having driving engagement with the groove and one or one or more recessed faces adapted to be positioned to receive and drive the end of the shank of a tool which is mounted in the tool holder.

3,405,950
TOOL HOLDER
John R. Cox, Lakewood, Ohio, assignor to Balas Collet Company, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 23, 1966, Ser. No. 574,391
8 Claims. (Cl. 279—103)

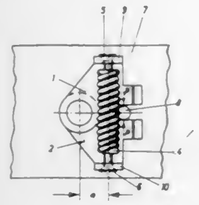
1. A quick change tool holder comprising a body member having a conical tapered bore extending thereinto from one end and being formed with an axially elongated slot extending radially therethrough from the outer surface thereof into said bore, the inner end of said slot being of reduced width, an actuating ball disposed in said slot and of a diameter substantially equal to the circumferential width of said slot, the reduced inner width of said slot preventing said ball from passing therethrough into said bore in said body member, an actuating collar rotatably mounted on said body member and overlying said slot therein and said actuating ball, said

collar having a circumferentially extending groove in the inner surface thereof adapted to receive the outer portion of said ball, said groove being inclined relative to a plane normal to the longitudinal axis of said body member, means for restraining said collar against axial movement while permitting rotational movement on said body, an adapter having a tapered end corresponding to and adapted to fit within said tapered bore in said body member and having a circumferential groove formed therein



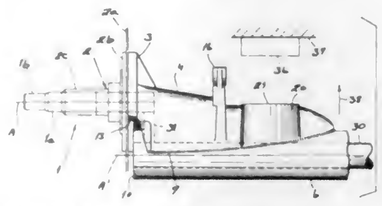
adapted to receive and be engaged by a portion of said ball that extends into said bore of said body member through said slot therein, said inclined groove in said collar having a portion of greater depth at one end thereof whereby, when said portion is aligned with said ball, said ball may move radially outwardly to a position completely out of said groove in said adapter whereby said adapter may be inserted into or withdrawn from said body member, and means on said adapter for securing a tool therein.

3,405,951
SAFETY TOE IRON FOR SAFETY SKI BINDINGS
Ludwig Berchtold, Krailling, and Albert Schuster, Planegg, Germany, assignors to Hannes Marker
Filed Apr. 28, 1966, Ser. No. 546,047
Claims priority, application Germany, Apr. 29, 1965, B 81,673; May 7, 1965, B 81,819; June 16, 1965, B 82,432
11 Claims. (Cl. 280—11.35)



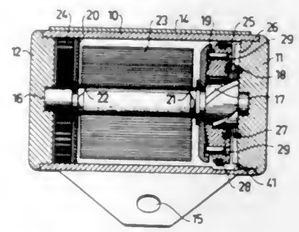
A toe iron for a safety ski binding having a sole holder swingable relative to the ski under the influence of a spring element and said holder being held by the spring element in the normal position in such a way that upon swinging out the sole holder is swung back by the spring element into the normal position, the improvement comprising two swing levers arranged symmetrically to the central longitudinal plane of the ski and operatively coupled to the spring element and sole holder such that the moment arm of the spring element and a sole holder force acting on the swing levers for release are such that after a swinging of the sole holder from the normal position towards either side by a predetermined amount, a restoring moment again acts on said holder which corresponds to the moment which in normal position opposes movement of the sole holder and which does not increase upon the further swinging of the sole holder. Preferably, the predetermined amount approximates 30°.

3,405,952
REAR-END ASSEMBLY FOR AUTOMOTIVE VEHICLES
Karl Hertel, Plankstrasse 1, and Josef Beck, Blucherstrasse 8, both of Ingolstadt, Germany
Filed Dec. 21, 1966, Ser. No. 603,589
Claims priority, application Germany, Dec. 23, 1965, A 51,169
10 Claims. (Cl. 280—124)



A rear-end assembly for automotive vehicles wherein the rear-axle housing, projecting laterally from the differential transverse to the vehicle direction, is provided at its end with support structures for the brake shield and wheel shaft bearings which are excentric relative to the axle sleeve, and the axle sleeve is offset from the wheel-shaft portions of the axle shaft therebelow and is provided with an axial slit to absorb torsional stresses applied to the axle sleeve. The support structure is a housing portion welded onto the cylindrical sleeve along generally longitudinal welds corresponding to sinusoidal lines of intersection of the housing portion and the sleeve. The support housing is formed with a flange adapted to be connected to the flange of the wheel-shaft bearing and with the brake shield as well as with a further flange or rib co-operating with a torsion-bar crank for the axle whereby the latter is swingable about a longitudinal axis of the vehicle and is floatingly or semifloatingly suspended by spring means therefrom.

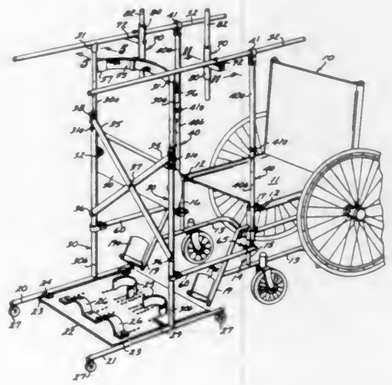
3,405,953
SAFETY HARNESSES FOR HIGH SPEED VEHICLES
Hans Ingemar Reimerts Karlsson, Engelbrektsvagen 17B, Jakobsberg, Sweden
Continuation-in-part of application Ser. No. 395,337, Sept. 9, 1964. This application Sept. 14, 1966, Ser. No. 579,398
Claims priority, application Sweden, Sept. 16, 1965, 12,057/65
18 Claims. (Cl. 280—150)



A reel, particularly suited for retaining a safety belt in a high speed vehicle, such as a motor vehicle, and adapted to automatically lock the belt upon a sudden deceleration of the vehicle but to be freely extensible under normal static and moving conditions, including a housing adapted to be attached to the vehicle adjacent the bottom of a center post of the vehicle; a spindle rotatably mounted in the housing having a spool portion to which is attached a flexible belt and a threaded portion having a plurality of helical threads extending from a point adjacent the spool portion to a point adjacent one end of the housing; a spring adapted to normally

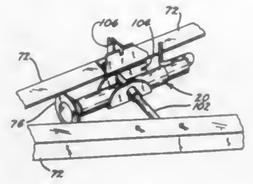
rotate the spindle in a direction to wind up the belt; a conically-shaped washer fixedly attached to the spindle between the spool portion and the threaded portion; a threaded nut having a conical face complementing the conical face of the washer, a plurality of locking teeth on the opposite face, and threads having a diameter slightly larger than the threads of the threaded portions of the spindle; a spring normally urging the nut away from the end of the casing and into contact with the washer; complementary teeth on the end of the casing matching the teeth on the nut and engageable therewith; a detent slideably mounted through a hole in the nut parallel to the axis of the spindle and engageable with the depression in the washer; the detent being adapted to be thrown into engagement with the depression in the washer upon a sudden deceleration of the vehicle to thereby lock the nut against rotation and cause the nut to travel along the threaded portion of the spindle as the spindle rotates, until its teeth are in engagement with the teeth on the casing thereby locking the position of the spindle; and a rubber gasket about the exterior of the nut adapted to frictionally engage the sides of the casing and stop the rotation of the nut when a sudden lateral deceleration causes the nut to move to one side of the casing by virtue of the difference in diameter of the threads of the nut and the threaded portion of the spindle. It is also desirable that the aperture in the nut through which the detent operates be adjacent the engaging face of a tooth of the nut and form a shallow guide groove in the front face of the tooth in question. In mounting in a vehicle, such as a motor vehicle, the reel is mounted adjacent the lower end of the center post and the belt passes upwardly to a fixture adjacent the top of the center post, slideably passes through a slot in the fixture, and thence back to a fixed point adjacent the mounting point of the reel; a clasp is slideably coupled to the belt intermediate the ends of the belt, a mating clasp is fixedly attached adjacent the bottom of the vehicle inwardly displaced from the mounting of the reel and the mating clasp is preferably attached to the free end of a second belt section which is desirably adjustable in length.

3,405,954
WHEELCHAIR STANDING BAR APPARATUS
Ezra F. Wolfe, 583 Walnut Ave., Long Beach, Calif. 90813
Filed July 11, 1966, Ser. No. 564,225
6 Claims. (Cl. 280—289)



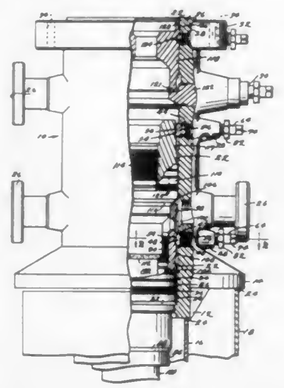
Standing bar apparatus for attachment to a wheelchair and affording the user a means for raising himself out of the wheelchair in a supported, therapeutically advantageous standing position.

3,405,955
SELF-RETRACTING JACK SUPPORT FOR A WAGON TONGUE
Dorland H. Schuler, Griswold, Iowa 51535
Original application June 11, 1964, Ser. No. 374,455, now Patent No. 3,273,733. Divided and this application July 28, 1966, Ser. No. 568,614
8 Claims. (Cl. 280—475)



A device for trailer-type vehicles including a jack support pivotally connected to a V-shaped tongue at a point on the jack wherein the center of gravity is so located to cause the jack to normally pivot the base end thereof upwardly against the converging end of the V-shaped tongue. Means is provided for locking the jack in a vertical upright position.

3,405,956
APPARATUS FOR MECHANICALLY KEYING PARTS TO ONE ANOTHER
Elwood K. Pierce, Jr., Houston, Tex., assignor to Gray Tool Company, Houston, Tex., a corporation of Texas
Filed Mar. 22, 1966, Ser. No. 536,406
10 Claims. (Cl. 285—90)

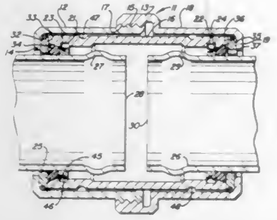


An internally grooved, split-ring type hanger retainer which is self-aligned with respect to the hanger to be retained during the locking operation. The ring is initially received in a free, expanded condition in a peripheral groove in a casing head or the like. Means received in the casing head are operable exteriorly thereof to reversibly, forcibly contract the ring into locking engagement with a casing hanger or the like in order to restrain upward movement of the hanger to within a predetermined amount.

3,405,957
FLEXIBLE TUBE COUPLING
Richard O. Chakroff, P.O. Box 241, Worthington, Ohio 43085
Continuation-in-part of application Ser. No. 521,991, Jan. 20, 1966. This application Apr. 3, 1967, Ser. No. 629,860
18 Claims. (Cl. 285—93)

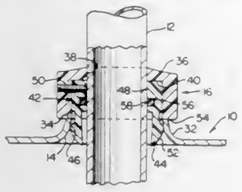
This application describes a coupling for sealingly joining the beaded ends of two substantially aligned fluid

carrying tubes while allowing some misalignment and relative movement of the tubes.



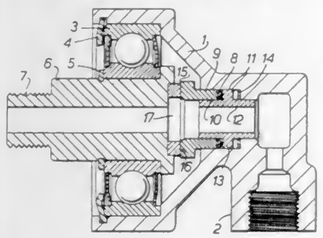
A cylindrical sleeve surrounds the beaded ends of the juxtaposed tubes and has one or more inner circular grooves into which circular rings, surrounding the tubes, are forced by the camming action of the bead whenever the tubes tend to move longitudinally apart. Several and varied embodiments are shown.

3,405,958
SANITARY CONNECTOR FOR SPRAY STICK
Donald R. Holdren, West Liberty, Ohio, assignor to Holdren Brothers, Incorporated, West Liberty, Ohio, a corporation of Ohio
Filed Oct. 24, 1965, Ser. No. 504,482
3 Claims. (Cl. 285—162)



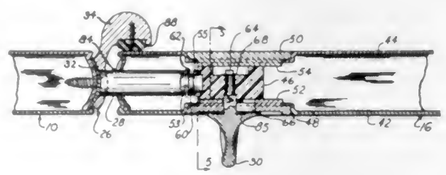
A sanitary connector having resilient fingers depending from one side thereof and adapted to be inserted into a neck-type opening in a tank to be cleaned. The fingers spring outwardly away from the center of the opening after being inserted therethrough and detachably hold the connector to said tank by engaging the inside of the tank at said opening.

3,405,959
FLUID SEALING MEANS
Gordon Richard Walker, Southam, England, assignor to Filton Limited, Leamington Spa, England
Filed Mar. 16, 1965, Ser. No. 440,181
3 Claims. (Cl. 285—276)



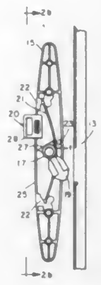
An apparatus incorporating fluid sealing means between relatively rotatable casing and shaft parts thereof, e.g., to apparatus such as rotary unions of the kind used for connecting a fluid-conveying conduit to the interior of a continuously rotating body such as a roll, the sealing means comprising a composite sealing ring composed of a ring of elastically deformable material, more particularly one of D-section, bonded to one end of a relatively rigid elongated ring which forms one element of a rotary sliding contact seal; the composite ring being located in an annular groove formed by the casing part and an axially floating member which exerts axial thrust on the composite ring: the elastically deformable ring engaging the bottom of the groove and the relatively rigid part of the composite ring making a sliding fit with the side walls of the groove ahead of the deformable ring, the deformed ring sealing off the floating member and the casing part when the composite contact-seal ring is making the contact seal.

3,405,960
LATCH MECHANISM
Steve M. Wargo, Mentor, Ohio, assignor to The Mills Company, Cleveland, Ohio, a corporation of Ohio
Filed May 27, 1965, Ser. No. 459,233
3 Claims. (Cl. 292—145)



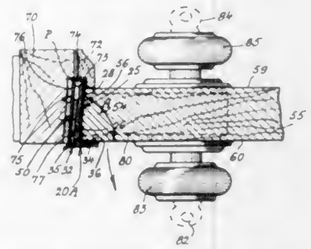
1. In a latch mechanism:
(a) a frame or body assembly comprising
(i) a pair of mounting members adapted to be assembled with one another in a door in fixed position,
(a) one of said mounting members having an elongated linear slot therethrough;
(ii) projections on at least one of said mounting members and extending between said mounting members;
(iii) opposed linear guide surfaces on facing sides of said mounting members extending parallel with the length of said slot;
(iv) opposed linear guide surfaces on facing sides of said projections extending parallel with the length of said slot and orientated 90° with respect to said guide surfaces on said mounting members;
(b) a bolt carriage interposed between and slidably supported for linear movement by said guide surfaces;
(c) means for biasing said bolt carriage against at least one facing side of said projections;
(d) a handle at the exterior side of said mounting member having said slot therein;
(e) an operable connection between said bolt carriage and said handle extending through said slot whereby said bolt carrier may be reciprocated in a linear path upon linear reciprocation of said handle;
(f) a bolt;
(g) said bolt carriage having an aperture in one end thereof adapted to receive one end of said bolt and having slots disposed intermediate the ends of said aperture; and,
(h) means disposed in said slots for connecting said bolt to said bolt carriage operable upon movement of said one end of said bolt into said aperture in said bolt carriage by linear relative movement between said bolt carriage and bolt parallel with said linear path of movement of said bolt carriage.

3,405,961
LOCK FOR SLIDING DOOR
Albert M. Sanders, 2 Tudor City Place, New York, N.Y. 10017
Filed Nov. 23, 1966, Ser. No. 596,570
8 Claims. (Cl. 292—207)



This invention relates to a locking apparatus for sliding doors. It consists of a swinging bolt positioned by a leaf spring and locked in latched position by a sliding catch member.

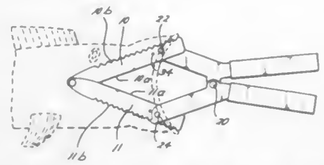
3,405,962
ENTRANCE DOOR JAMB WITH GUARDED STRIKER PLATE AND IMPROVED GUARDED LATCH FACE PLATES FOR LOCK-SETS
Frank M. Sushan, 1422 Hayes St., Hollywood, Fla. 33020
Filed Dec. 5, 1967, Ser. No. 688,127
11 Claims. (Cl. 292—346)



The disclosure describes various types of door lock guards and door lock guard assemblies for door lock sets having a spring bolt, dead-bolt or both. The lock guards are T-shaped in cross section, having unequal flanges and angles, having several different thicknesses. One flange portion extends across the opening between the door and the door jamb, preventing the insertion of a thin flexible metal or plastic strip or tool between the door and the jamb, to force back the spring bolt, the other portion of such flange extending back over the face of the door. The lock guard may have another flanged portion which extends the T end outwardly of the other side of the door for interlocking into a guarded striker plate.

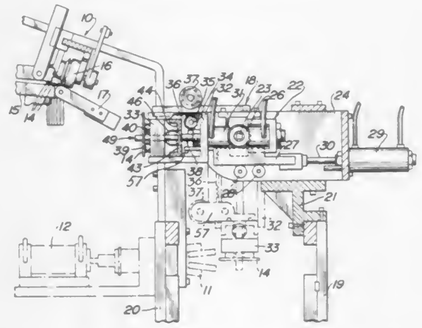
3,405,963
FISH-HOLDING TOOL
Palace J. Neely, 239 Styers St., Houston, Tex. 77022
Filed Nov. 14, 1966, Ser. No. 594,124
5 Claims. (Cl. 294—16)

1. A fish-holding tool comprising, two elongated fish-engaging members each having a longitudinally extending edge surface that is rough along at least a portion of its length, means connecting the elongated members adjacent one end thereof for pivotal movement of the members between a parallel, side-by-side position for insertion of the pivotally connected ends into a fish through its mouth with the rough edges of the members facing in opposite directions and a holding position with the members pivoted apart and the rough edges in engagement with the inside of a fish to anchor the members in the fish, and actuating means, operable with one hand, connected to the members for moving the members between the two positions and for holding the members anchored in the



fish, said actuating means including two actuating members pivotally connected intermediate their ends for pivotal movement around a common axis, each member having one free end and one end pivotally connected to one of the fish-engaging members at a point spaced from the pivotally connected ends of the members whereby pivotal movement of the free ends in opposite directions around said common axis will pivot the fish-engaging members around their common pivotal axis between said insertion and holding positions.

3,405,964
POSITIONING MECHANISM
John Tuit, Grand Rapids, Mich., assignor to McInerney Spring & Wire Company, Grand Rapids, Mich, a corporation of Michigan
Filed Jan. 20, 1966, Ser. No. 537,579
6 Claims. (Cl. 294—65.5)

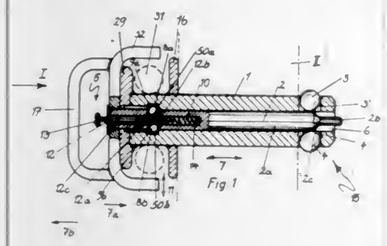


A holding device including magnetic members, and also locating members operative to engage portions of an undulated workpiece to secure and position the same across the face of the magnetic members.

3,405,965
TRANSPORT SAFETY COUPLER
Eberhard Haas, Heilbronn (Neckar), Germany, assignor to Messrs. August Laepple G.m.b.H. & Co.
Filed July 18, 1966, Ser. No. 566,071
Claims priority, application Germany, July 20, 1965, L 51,175
10 Claims. (Cl. 294—83)

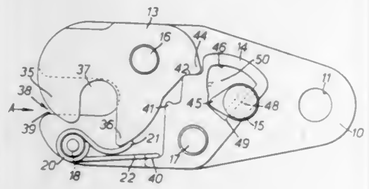
An actuating rod is slidably situated in the axial bore of a shaft whose external dimensions have been chosen to allow its insertion through an opening in a heavy object. The actuating rod has two differently diametered portions connected by a truncated conical surface. Metal spheres

are located in radially directed races in that end of the housing which passes through the opening of the object. These metal spheres are pushed out to protrude beyond the periphery of the housing, after its insertion into the opening, by movement of the actuating rod until its large diametered portion registers with the races. The protruding spheres can lock with the inner well of the opening. Re-



traction of the rod until its small-diametered portion registers with the races allows the spheres to fall back for extraction and insertion of the housing. A similarly operating rod-ball-race mechanism enables releasable locking of the actuating rod to the housing, so that registration of the large diametered portion with the race of the housing is maintained, thus assuring safe holding of the protruding spheres in contact with the inner wall of the opening.

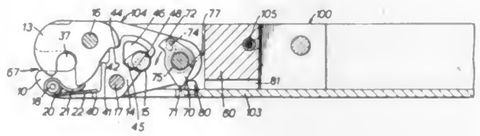
3,405,966
RELEASABLE FASTENER
Frank Bernard Harley, Egham, England, assignor of one-half to Harley Patents (International) Limited, London, England, a company of Great Britain
Filed Aug. 19, 1966, Ser. No. 573,697
Claims priority, application Great Britain, Aug. 25, 1965, 36,544/65
1 Claim. (Cl. 294—83)



A releasable fastener having a pivoted, spring biased slotted catch movable to block an open ended notch in a body to separably hold a member therein. A pivoted locking detent has shoulders that engage the catch to hold it in locked position. A rotary step movable in an aperture in the locking detent may lock or release the locking detent.

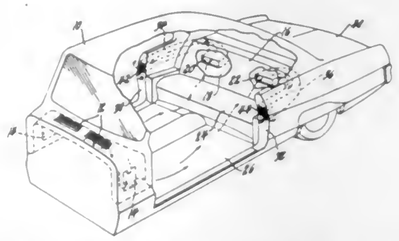
3,405,967
CONNECTOR ASSEMBLIES
Frank Bernard Harley, Egham, England, assignor to Harley Patents (International) Limited, London, England
Filed July 24, 1967, Ser. No. 655,492
Claims priority, application Great Britain, July 27, 1966, 33,789/66
4 Claims. (Cl. 294—83)

A connector assembly is disclosed which may be incorporated as part of the ejector mechanism for a parachute used in deploying freight from aircraft. The arrangement provides safeguards against inadvertant release of the freight due to a part of the assembly moving to a release position during descent. Thus the assembly comprises a pair of units one of which comprises a releasable fastener and incorporating latching means, and lock-



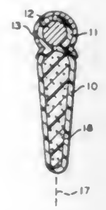
ing means on one of the units to prevent movement of the latching means from latched to unlatched positions when the units are separated.

3,405,968
AUTOMOBILE CONCEALED VENT ARRANGEMENT
Nick Feles and Wilson Harvey West, Royal Oak, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 30, 1966, Ser. No. 576,085
1 Claim. (Cl. 296—28)



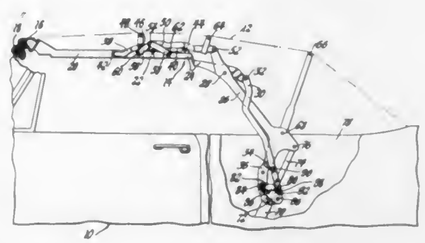
An arrangement in an automobile body comprising a duct extending from a rear zone of a passenger compartment to at least one door lock pillar of the body from which air may be exhausted to the atmosphere from between the door and the pillar.

3,405,969
VISOR
Donald H. Creel, Whitmore Lake, Mich., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 21, 1966, Ser. No. 595,722
9 Claims. (Cl. 296—97)



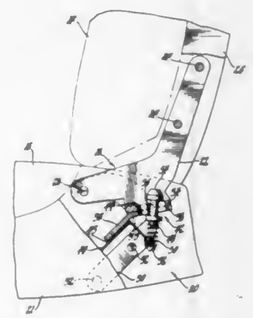
A visor forming structure wherein a sheet of foldable material forms the body of a visor when folded about a fold line; the sheet having first and second hinge elements substantially parallel to the fold line; the elements cooperating to form a continuous longitudinal hinge seat when the sheet is folded.

3,405,970
CONVERTIBLE TOP CONTROL LINKAGE
Frank J. Doka, Rochester, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 12, 1967, Ser. No. 608,801
4 Claims. (Cl. 296—117)



A control linkage is provided for moving a convertible top power arm relative to the rear rail to place a variable restraint on the power arm and delay unfolding of the top until the top has been substantially raised.

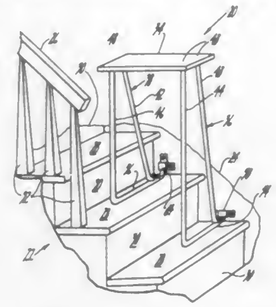
3,405,971
INERTIALLY RESPONSIVE SEAT LOCK FOR FOLDING VEHICLE SEAT BACKS
Peter M. Kobrehel, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 22, 1967, Ser. No. 639,957
8 Claims. (Cl. 297—216)



A seat lock for a folding vehicle seat back wherein a locking member is supported by a flexible member and adapted to move forwardly, due to inertial forces, within slots formed in stop plates attached to the seat back and seating cushion, respectively. The locking member includes head portions that overlap the slots to limit pivotal movement of the seat back upon rapid deceleration of the vehicle.

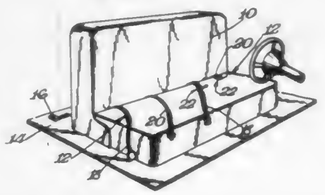
3,405,972
STAIR CHAIR
Charles L. Morris, 78 Blue Ridge Lane, West Hartford, Conn. 06117
Filed May 10, 1967, Ser. No. 637,397
13 Claims. (Cl. 297—217)

A chair having left and right hand leg braces which are of different lengths so that the chair can be placed on a flight of stairs to permit the user to sit facing a bannister with his feet on either of the two steps upon which the stair chair is mounted. The stair chair is collapsible and when mounted on a flight of stairs can be



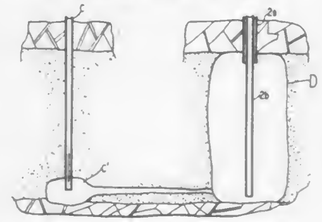
locked in its erected condition and held in sockets provided therefor on a wall opposite the bannister.

3,405,973
SAFETY BELT
Christopher G. Connolly, 102 School Road, Alapocas, Wilmington, Del. 19803
Filed Nov. 2, 1966, Ser. No. 591,498
12 Claims. (Cl. 297—385)



A safety belt construction for vehicles comprising nonretractile buckle carrying and strap members arranged for releasable locking engagement with each other, and an assembly for storing at least one of the safety belt members in a compact nonuse position, the assembly including fastening structure for securing it to one of the safety belt members and retainer structure for engaging a manually wound portion of one of the safety belt members to hold that member in a compact nonuse position when it is manually coiled.

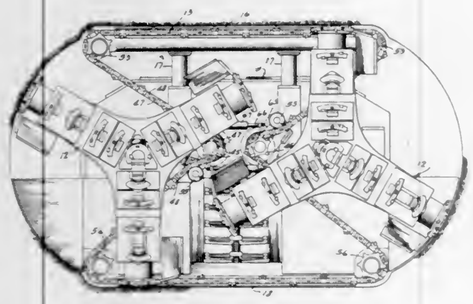
3,405,974
PROCESS OF UNDERGROUND SALT RECOVERY
Clarence L. Hundley, Jr., deceased, late of Dunbar, W. Va., by Virginia J. Hundley, executrix, Dunbar, W. Va., Allen P. McCue, Norwalk, Conn., Ralph E. Ross, Vancouver, Wash., and James Wilding, South Charleston, W. Va., assignors, by mesne assignments, to Intermountain Research & Development Corporation, Cheyenne, Wyo., a corporation of Wyoming
Filed Feb. 21, 1966, Ser. No. 530,766
17 Claims. (Cl. 299—4)



A method of solution mining of salts and mineral deposits, which comprises the use of one or more input wells

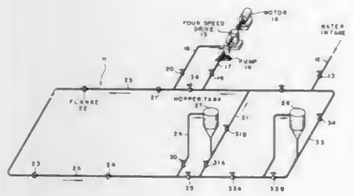
for the solvent and one or more output wells in which only substantially saturated solution is removed from the output wells to avoid caving around the output wells and a method of determining when new input wells should be opened to prevent caving or subsidence around an output well.

3,405,975
LOAD DIVIDING DRIVE FOR SINGLE TRIMMER CHAIN FOR BORING MINER
Edward F. Brill, Oconomowoc, Wis., assignor to Westinghouse Air Brake Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 22, 1966, Ser. No. 559,614
3 Claims. (Cl. 299—59)



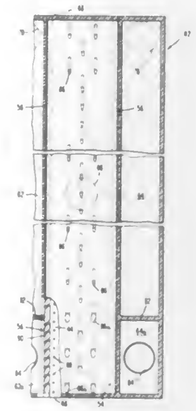
Load dividing drive for the single trimmer chain of a boring type continuous mining machine. The chain is trained inwardly of opposite ends of upper and lower trimmer bars trimming the floor and roof of the mine toward the center of the machine into a generally hour-glass form about drive sprockets disposed midway between the trimmer bars and inwardly of the hubs of the boring heads. Each drive sprocket has its own tensioning roller and the two drive sprockets are positively driven at the same rates of speed by the drive gearing driving the rotary boring heads.

3,405,976
PIPELINE TRANSPORTATION OF SOLIDS
Donald G. Anderson, 5219 Trail Lake 77045, and Raymond H. Pfrehm, 3411 Mona Lee Lane 77055, both of Houston, Tex.
Filed Mar. 31, 1966, Ser. No. 539,023
5 Claims. (Cl. 302—14)



A stable suspension of granular iron ore in water is formed by providing a solids content of about 63%–68% by weight and about 32%–37% by weight of water in the suspension, the solids containing about 1.5% to about 2.5% of bentonite, the remainder being granular iron ore. This suspension may be pumped through a pipeline without settling and iron ore is then recovered from the suspension.

3,405,977
ALL-FLUID UNIT RECORD ACCELERATOR
Charles Barton Albright, Norristown, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 4, 1966, Ser. No. 570,312
7 Claims. (Cl. 302—29)

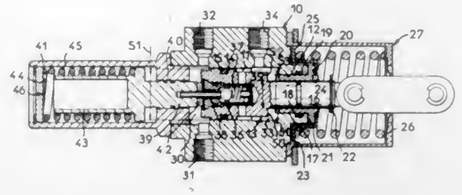


This device provides a four sided passageway for an all fluid item transport mechanism. In the bottom side of the passageway there is provided a plurality of apertures connected to a plenum into which air under pressure is applied. The air passes through the plurality of apertures in the lower side of the passageway thereby providing a plurality of air jets upon which an item being passed therethrough is cushioned. On the top side of the passageway there is provided a second plurality of apertures which are angularly disposed to the top wall and which are further connected to a plenum which also has air under pressure applied thereto. The air from the second plenum passes through the angularly disposed apertures to provide angularly disposed jets of air which propel items therealong. On each side of the passageway there are found further apertures, the apertures on the third side being connected to a third plenum and the apertures on the fourth side being connected to a fourth plenum. A vacuum or partial vacuum is created in the last two mentioned plenums which causes the air being transmitted into the passageway to be exhausted through the apertures on the sides of the passageway. Accordingly, each of the angularly formed jets incrementally propels an item passing along the passageway for a short distance before it gives over control to the next located set of angularly disposed jets.

3,405,978
DYNAMIC PRESSURE CONVERTER
Pierre André Georges Lepelletier, Chatou, France, assignor to Societe Anonyme Francaise du Ferodo, Paris, France, a corporation of France
Filed Oct. 23, 1967, Ser. No. 677,419
7 Claims. (Cl. 303—22)

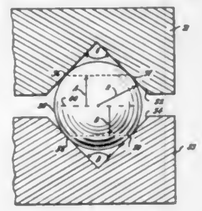
A dynamic pressure converter, especially applicable to braking systems of automobile vehicles, comprising a piston which defines two chambers in a hollow body, one chamber being coupled to the braking circuit, the other to a hydraulic control source, said piston comprising a rod subjected to a variable orientated axial force which is a function of the oscillation of the vehicle chassis with respect to a non-suspended point of the chassis, said piston further comprising, between the two chambers

and for the regulation at rest of the piston in thrust, in floating equilibrium or in traction, a controlled communication comprising a ball valve actuated towards



opening in opposition to a restoring spring, by a finger fixed to an auxiliary piston slidably mounted in a bore and moving in opposition to elastic means.

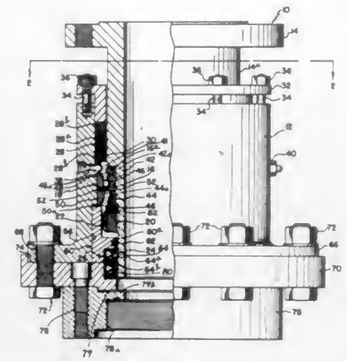
3,405,979
VIBRATION ISOLATION
Tenny D. Lode, 4925 Sherwood Road, Madison, Wis. 53711
Filed Apr. 19, 1965, Ser. No. 448,990
5 Claims. (Cl. 308—6)



The subject of this application is a ball bearing structure which minimizes the transfer of vibration across the bearing. In one form, using solid bearing balls, the raceways are each in the shape of a V-groove with an included angle of 78½°. As shown in the specification, in this instance, the distance from the rolling axis of the ball to the ball contact points is equal to the radius of gyration of the ball. In the general case, where two plates form the ball bearing structure, the product of the distances from the rolling axis to the contact points of the ball, measured normal to the rolling axis, is equal to the square of the radius of gyration of the ball. Constructing the structure according to this teaching substantially reduces the transfer of vibration across the bearing as there will be no force due to the rolling kinematic reactions of the balls.

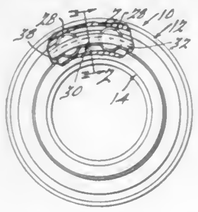
3,405,980
ROTARY SWIVEL
George Stonebraker, Adena, Ohio, assignor to Austin Powder Company, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 5, 1965, Ser. No. 493,212
11 Claims. (Cl. 308—207)

A rotary swivel having a pair of generally cylindrical sleeve-like members including an inner member and an outer member disposed for rotational movement with respect to the inner member and a bearing assembly disposed between said members. A locking nut threadably connected to said inner member for pre-loading said bearing assembly and a locking ring disposed in sealing relation with said inner member and in engaged supporting relation with said bearing assembly. An adapter plate detachably mounted for rotary movement with



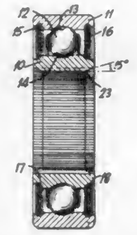
said outer member for holding the locking ring in supporting relation with said bearing assembly.

3,405,981
CAGE AND BEARING ASSEMBLY CONSTRUCTION
Hudson B. Scheifele, Franklin, Mich., assignor to Federal-Mogul Corporation, a corporation of Michigan
Filed June 28, 1966, Ser. No. 561,274
18 Claims. (Cl. 308—213)



A bearing assembly construction having a finger type cage and a separate retaining member for axially retaining the cage.

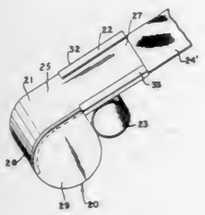
3,405,982
SELF-ANCHORING BEARING
Joseph R. Krenn, New Britain, Conn., assignor to The Fafnir Bearing Company, New Britain, Conn., a corporation of Connecticut
Filed Dec. 23, 1965, Ser. No. 515,837
1 Claim. (Cl. 308—236)



An antifriction bearing is disclosed in which an exposed cylindrical surface of one of the bearing rings by which the bearing is mounted is characterized by splines comprising a plurality of V-grooves spaced about the circumference and running from one edge of the cylindrical surface to the other in the axial direction of the bearing. The size of the splines are such as to provide an interfer-

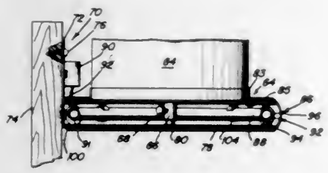
ence fit with a bearing support having a cylindrical mounting surface when the bearing is concentrically force-fitted onto the bearing support, such that the crests of the V-grooves cut into the cylindrical surface of the mounting and anchor the bearing thereto.

3,405,983
GAUZE DISPENSER
Almer J. Rutz, Riverdale, N. Dak. 58565
Filed Feb. 16, 1967, Ser. No. 616,516
4 Claims. (Cl. 312—39)



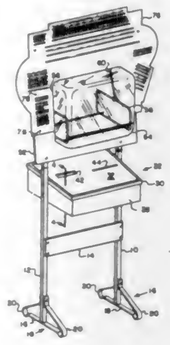
The invention comprises a strip gauze dispenser having a container with an annular portion and sidewalls disposed laterally to the annular portion with said container being adapted to receive a strip of gauze wound into a roll, said annular portion having an elongated slotted mouth for feeding the strip of gauze out of the container in a continuous strip, said container having elongated means for receiving portions of the operator's hand so that the container may be rotated relative to the operator's hand whereby the operator may engage the container with said portions of his hand and hold the outer end of the gauze to an object to be wrapped in his other hand and rotate the dispenser about the object with the said one hand causing the dispenser to rotate relative to the hand and the gauze to wrap about the object.

3,405,984
DISPLAY CASE
William W. Clark, Pueblo, Colo.
(P.O. Box 187, Lamar, Colo. 81052)
Filed Feb. 8, 1966, Ser. No. 525,893
7 Claims. (Cl. 312—102)



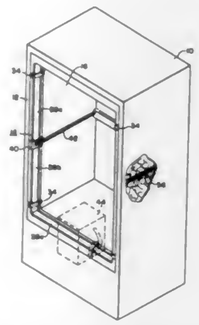
An enclosed weatherproof display case including a rigid transparent dome mounted on a flat base which is in turn provided with a depending mounting leg having a bore therein which receives the upper end of a post or stud. The upper end of the post or stud is provided with an annular groove thereabout which receives the end of a setscrew in a manner so as to mount the base on the post or stud for rotation thereabout or fixed locking thereto. In one form of the invention the base is transparent and a light source is mounted therebeneath for an illumination of the contents of the display case.

3,405,985
DISPLAY STAND
Gerald Higer, Southfield, Mich., assignor to Grolier Incorporated, Oak Park, Mich., a corporation of Delaware
Filed Aug. 22, 1966, Ser. No. 574,205
4 Claims. (Cl. 312—114)



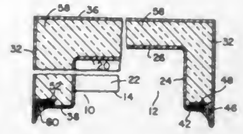
A display stand is supported on a pair of spaced, vertical legs and a generally rectangular box-like receptacle having a sloped upper surface is disposed between the legs at about waist height. A vertically aligned panel having a central opening therein is fixed to the upper end of the legs above the receptacle. A display rack is supported in the opening and is protected on its forward side by a transparent shield. A rearwardly extending enclosure section is built around the rack at the back of the opening and allows merchandise to be inserted therein.

3,405,986
REFRIGERATOR CONSTRUCTION
Lloyd M. Cannon, Grove City, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 13, 1967, Ser. No. 615,466
6 Claims. (Cl. 312—214)



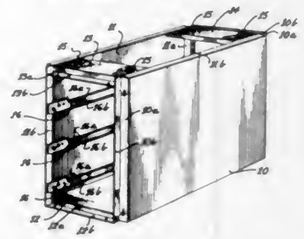
The invention relates to domestic refrigerator construction in which the main runs of electrical wiring for connecting various electrical parts are encased in separate flexible insert strips which fit in recesses extending along the thermal breaker members. The connections may be made to the strip wiring through the back of the breaker members or off an edge. The invention is especially useful in connection with those refrigerators provided with foamed-in-place insulation.

3,405,987
REFRIGERATOR CABINET CONSTRUCTION
John W. Pulaski, Columbus, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 23, 1967, Ser. No. 648,287
5 Claims. (Cl. 312—214)



Refrigerator cabinet structure having foamed-in-place thermal insulation, and in which an inner plastic liner has outwardly-directed peripheral flanges on its open face which serve as integral breaker strips, the flanges overlapping, in forwardly-spaced relation, inwardly-directed flanges on the outer metal shell front face, the lapping space receiving a resilient seal which compresses and effects a seal against foam leakage generally proportional to the pressure developed by the foam insulation during the foaming step.

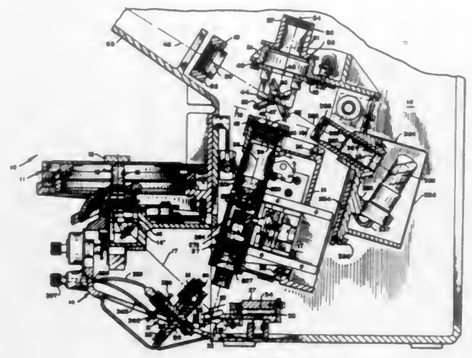
3,405,988
PEDESTAL TYPE DESK AND DRAWER SUSPENSION THEREFOR
Carl A. Eversman, Toledo, Ohio, assignor to Sheller-Globe Corporation, Toledo, Ohio, a corporation of Ohio
Filed Feb. 2, 1967, Ser. No. 613,493
10 Claims. (Cl. 312—254)



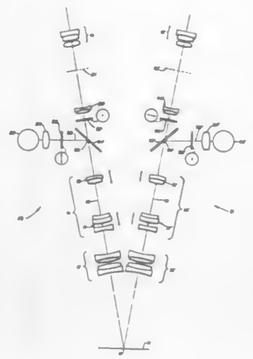
A pedestal type desk comprising basic standard pedestal weldments, and basic standard drawer weldments, and a plurality of alternative trim members and leg members readily attachable without tools whereby to produce desks of several different styles from said basic weldment; and a plurality of alternative drawer suspension elements readily attachable to the pedestals and drawers to provide several different drawer suspension modes, one of said modes permitting a drawer to be fully withdrawn from the pedestal; and a false front and finish front construction of drawers whereby the finish front may be applied by sliding onto the false front vertically or horizontally in either direction so that if a finish front must be reversed when changing a drawer from one pedestal to the other, the finish front can be reversed without special tools; whereby complete interchangeability of drawers is provided for.

3,405,989
INVERTED OR METALLOGRAPHIC TYPE OF MICROSCOPES
John P. Mentink, Pittsford, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Mar. 30, 1964, Ser. No. 355,823
10 Claims. (Cl. 350—10)

A multipurpose metallographic type of miscroscope is described having mechanism for mounting and controlling the operation of a complex optical system which includes a zoom optical system and auxiliary equipment commonly used with microscopes such as phase plates, for instance.



3,405,990
COAXIAL ILLUMINATOR FOR STEREOMICROSCOPE
Paul E. Nothnagle, Rochester, and Edward A. O'Donnell, Lakeville, N.Y., assignors to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed June 25, 1965, Ser. No. 466,900
1 Claim. (Cl. 350—15)

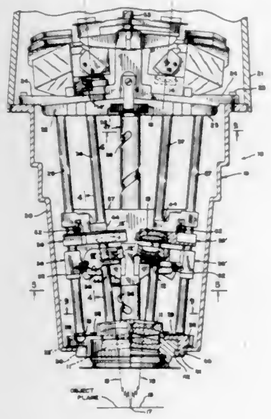


Means for eliminating the interior retroreflected bright images of the light filament and stray light from the episcopic illumination of a convergent type stereomicroscope by the use of polarization techniques.

3,405,991
MOUNTING MECHANISM FOR ZOOM TYPE OF OPTICAL SYSTEMS FOR STEREOMICROSCOPE
Frederick A. Seedhouse, Henrietta, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Nov. 12, 1965, Ser. No. 507,396
9 Claims. (Cl. 350—36)

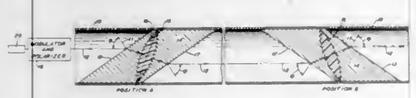
A mounting mechanism for zoom type of optical systems for a stereomicroscope is provided in which a single

rotatable cam shaft is used for directing the respective excursions of movable intermediate and upper lens carriers along the pair of optical axes which converge at a point located in the specimen plane. The movable lens carriers travel along two pairs of spaced, essential coplanar, parallel guide rods. Like carriers are combined by means of a yoke which engages the cam shaft and which carries a cam follower mechnism for the pair of respective lens carriers. The means for mounting the



stationary lower lenses is provided in the base of the housing which mounts and contains the above-mentioned components.

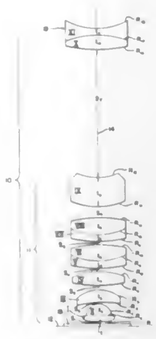
3,405,992
LOW REFLECTION LENSES AND PRISMS
Andrew R. Hutson, Summit, and Saul Meiboom, Berkeley Heights, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 10, 1964, Ser. No. 410,193
3 Claims. (Cl. 350—147)



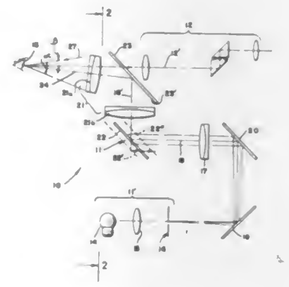
By embedding a lens or a prism in a material having a refractive index only moderately different than that of the lens or prism, and by orienting the exposed surfaces of the embedding material at the Brewster angle with respect to the path of the guided beam, substantially none of the beam energy is lost due to spurious reflections.

3,405,993
HIGH MAGNIFICATION SEMI-APOCHROMATIC MICROSCOPE OBJECTIVE OF THE FLUORITE TYPE
George H. Aklin, Spencerport, and Richard L. Seidenberg, Rochester, N.Y., assignors to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed June 2, 1965, Ser. No. 460,658
2 Claims. (Cl. 350—177)

An optical objective for a microscope having a magnification of 100× and a numerical aperture of 1.25, the objecting being of complex lens construction and characterized by two doublets having fluorite elements so as to provide an image of semi-apochromatic optical quality.



3,405,994
VARIABLE INCIDENCE TYPE SLIT LAMP MECHANISM
Richard M. Altman, Brighton, and Ronald K. Kimmel, Scottsville, N.Y., assignors to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Sept. 14, 1964, Ser. No. 396,273
10 Claims. (Cl. 351—14)

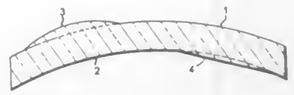


An illuminating system for projecting into an eye to be examined a narrow and focused beam of light, said system including mirror means which are moved rectilinearly along a portion of the optical axis across the entrance face of the objective lens so that the focused beam which is produced by the objective lens may be deviated by the lens in an axial plane to change the angle of incidence of the beam on the eye.

3,405,995
PREFORMED BLANK FOR MULTIFOCAL LENS
Bernard Mignen, Saint-Maur-des-Fosses, France, assignor to L.O.R. Lentilles Ophtalmiques Rationnelles Société Anonyme, Paris, France, a corporation of France
Filed Jan. 21, 1964, Ser. No. 339,265
Claims priority, application France, Feb. 14, 1963, 924,784
3 Claims. (Cl. 351—168)

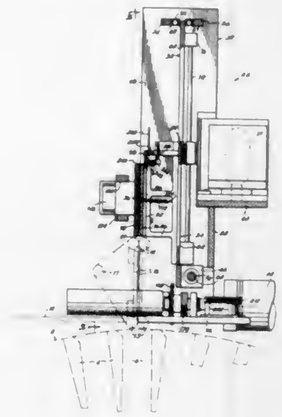
A preformed blank for manufacturing a multifocal lens is concavo-convex and has two optically polished faces. A first near vision zone is formed on one face on one side of the axis of the lens blank, while a second near vision zone is formed on the other face but on the side

of the lens blank axis which is opposite the first near vision zone. One or the other of two different multifocal lenses



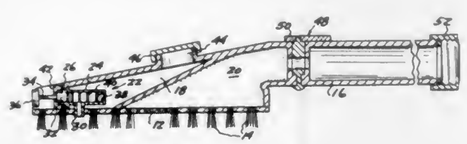
may be produced from one blank, by machining one face or the other to a desired curvature.

3,405,996
X-Y PLATEN ASSEMBLY
Warren D. Novak, Chappaqua, N.Y., assignor to The Mosler Safe Company, Hamilton, Ohio, a corporation of New York
Filed Apr. 27, 1965, Ser. No. 451,147
26 Claims. (Cl. 355—42)



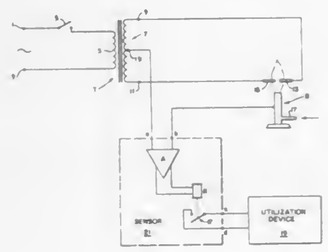
A positioning apparatus for locating a multi-image microfilm card at a viewing station using a stationary frame and two movable frames. The microfilm card is secured to one of the movable frames and is movable in two directions by a pair of motors fixedly mounted on the stationary frame.

3,405,997
FOUNTAIN BRUSH
Valentine E. Diebold, 9649 Coyle, Detroit, Mich. 48227
Filed June 20, 1966, Ser. No. 558,769
1 Claim. (Cl. 401—46)



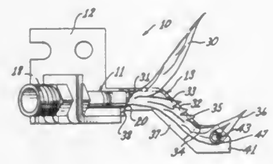
A fountain brush consisting of a tufted scrubber head connectable to a source of pressurized fluid and having therein a pair of independent chambers. One of such chambers directs fluid to the working face of the scrubber head through a central array of discharge ports, and the other chamber selectively supplies a liquid cleaning agent to the working face by means of a fluid pump mounted in the scrubber head.

3,405,998
IGNITION AND FLAME MONITORING CONTROL APPARATUS FOR FUEL BURNERS
Lyman H. Walbridge, Ashland, Mass., assignor to Fenwal Incorporated, Ashland, Mass., a corporation of Massachusetts
Filed June 26, 1967, Ser. No. 648,611
8 Claims. (Cl. 431—25)



The invention relates to a flame-monitoring circuit for a fuel burner in which fuel is ignited by electrodes which are energized by a continuously excited transformer. The circuit input terminals are connected to the burner itself and a center tap on the transformer secondary: the circuit responds to full-wave, flame-rectified current flowing to the burner alternately first from one electrode and then from the other. Apparatus is disclosed for reducing the transformer voltage after a flame is detected, and controlling the supply of fuel in response to the output signal from the flame-monitoring circuit. The full specification should be consulted for an understanding of the invention.

3,405,999
PILOT BURNER MEANS OR THE LIKE
Fred Riehl, Greensburg, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Original application Dec. 2, 1964, Ser. No. 415,410, now Patent No. 3,308,871, dated Mar. 14, 1967. Divided and this application Feb. 14, 1967, Ser. No. 616,114
10 Claims. (Cl. 431—42)



This disclosure relates to a pilot burner means for a main burner wherein the pilot burner is continuously supplied a certain amount of fuel to maintain a small standby flame at one outlet means of the pilot burner means

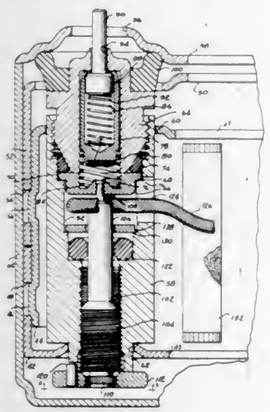
and wherein the pilot burner means is additionally supplied with another amount of fuel by a thermostat valve or the like to not only increase the size of the standby flame to a size sufficient to ignite fuel issuing from the main burner, but also to create a heater flame at another outlet means of the pilot burner so that a heater flame detector will open a safety valve means to direct fuel to the main burner to be ignited by the increased standby flame.

3,406,000

LIQUEFIED NORMALLY GASEOUS FUEL CONTROL SYSTEM FOR MINIATURE BURNERS

Ivan A. Wright, Pearl River, N.Y., assignor to Jacques Kreisler Manufacturing Corporation, North Bergen, N.J., a corporation of New Jersey

Filed Aug. 2, 1965, Ser. No. 476,402
8 Claims. (Cl. 431—130)



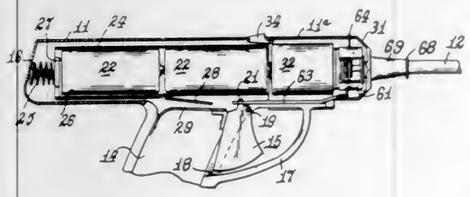
A fuel control system for a gas fueled device employing a miniature burner in which a chamber formed in a housing within the fuel reservoir below a gas passage and through which a valve stem extends adjustably to position a frusto-conical valve in the passage houses a wick extending from the reservoir in a relaxed condition. A positive mechanical stop limits the adjustment of the valve to provide a built-in maximum flame height adjustment. A decorative casing covers the adjustment element so that it is normally inaccessible and a compressible member within the reservoir avoids swelling of the tank as a result of overfilling.

3,406,001

BATTERY POWERED GAS FUELED IGNITER DEVICE

Shozo Ishibashi, Kunitachi, Tokyo, Japan, assignor to United Silver and Cutlery Company, Los Angeles, Calif., a corporation of California

Filed Apr. 20, 1967, Ser. No. 632,431
10 Claims. (Cl. 431—255)



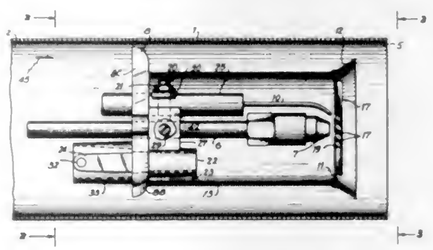
A portable lighter having a cartridge with low boiling liquid fuel and an electric igniter for igniting the liquid fuel. An actuable fuel valve for the cartridge and common means for igniting the igniter and opening the fuel valve to provide a torch flame.

3,406,002

CUP-CONE FLAME RETENTION BURNER

Allan Earl Martin, Pekin, Ind., assignor to American Standard Inc., a corporation of Delaware

Filed Dec. 7, 1966, Ser. No. 599,905
9 Claims. (Cl. 431—265)



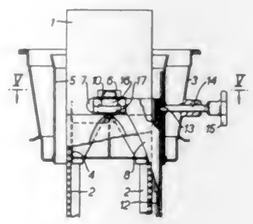
This invention relates to improvements in fluid fuel burners and particularly to tuyere structures wherein a fluid fuel such as a hydro-carbon oil is employed as a base and air as a major constituent is employed and supplied to the oil in an atomized state as it is ejected from the burner nozzle. More particularly the improvement comprises an annular diaphragm structure placed in the path of the air blast of the furnace to provide a spiral turbulence of the air so as to effect a more efficient combustion of the fluid fuel.

3,406,003

LIQUID FUEL BURNING HEATERS

Hugh Charles Hebard, High Wycombe, England, assignor to Aladdin Industries Limited, Greenford, England, a British company

Filed Dec. 19, 1966, Ser. No. 602,910
Claims priority, application Great Britain, Mar. 1, 1966, 69/66
9 Claims. (Cl. 431—307)



An annular wick which can be secured to a movable wick carrier without removing the latter from the burner of a liquid fuel burning heater, said wick having secured to its outer surface at least one pair of circumferentially spaced socket members which are adapted to receive resilient members on the wick carrier which snap into locking engagement with the socket members when the wick carrier is raised relative to the wick.

3,406,004

REACTION OF POLYMERIC MATERIALS CONTAINING ACTIVE HYDROGEN WITH FLUORO-ALKYL VINYL SULFONES

Giuliana C. Tesoro, Dobbs Ferry, N.Y., and Richard N. Ring, Wood-Ridge, N.J., assignors to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Aug. 30, 1963, Ser. No. 305,812, now Patent No. 3,335,163. Divided and this application Sept. 2, 1966, Ser. No. 615,859
14 Claims. (Cl. 8—115.5)

I. A method for modifying polymeric materials containing active hydrogen atoms in order to improve their water and oil resistance which comprises contacting the said polymeric material with a fluoro-alkyl sulfur-containing compound of the general formula

$$R_fCH_2O(CH_2)_nS[O]_bQ$$

wherein

Q is selected from the group consisting of $-CH=CH_2$ and $-CH_2CH_2Y$, wherein

Y is a member selected from the group consisting of a potentially anionic nucleophilic group and a potentially neutral nucleophilic group,

R_f is a fluoro-alkyl group containing from 3 to 14 carbon atoms, where the hydrogen atoms of at least 2 carbon atoms in the said group are substituted completely by fluorine,

n is an integer with a value of from 0 to 2, and

b is an integer with a value of from 0 to 2, and when n has a value of 0, then b has a value of 2.

3,406,005

FIBROUS MATERIAL HAVING A POLYAMIDE BOUND THERETO BY A POLYFUNCTIONAL FIXATIVE

Robert E. Whitfield, Pleasant Hill, Allen G. Pittman, El Cerrito, and William L. Wasley, Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Original application May 28, 1964, Ser. No. 371,150, now Patent No. 3,372,978, dated Apr. 2, 1968. Divided and this application May 12, 1967, Ser. No. 655,694
3 Claims. (Cl. 8—115.5)

Fibrous material carrying a deposit of an interfacially formed polymeric material resulting from the impregnation of said fibrous material with two mutually immiscible solutions containing, respectively, a polyamide containing free amine groups and a compound having a plurality of acid halide groups or a compound having a plurality of isocyanate groups.

3,406,006

PROCESS FOR THE TREATMENT OF FABRICS CONTAINING CELLULOSE FIBRES WITH LIQUID AMMONIA

Karl Joel Lindberg and Per Stranger-Johannessen, Oslo, Norway, assignors to Sentralinstitutt for Industriell Forskning and Norsk Tekstilforskningsinstitutt, Forskningsveien, Oslo, Norway

Filed Apr. 23, 1965, Ser. No. 450,299
Claims priority, application Norway, Apr. 25, 1964, 152,995
15 Claims. (Cl. 8—125)

1. In a method of treating woven or knitted fabric containing natural or regenerated cellulosic fibers, the improvement including the steps of (a) impregnating said fabric with liquid ammonia ranging, with respect to water content, from anhydrous liquid ammonia to liquid ammonia containing up to 10% by weight of water, by applying said liquid ammonia to the fabric in an impregnating zone, (b) removing the saturated impregnated fabric to an atmosphere having an ammonia vapor pressure sufficient to retain said liquid ammonia in the fabric until ensuing swelling of the fabric has taken place, (c) removing the ammonia from the swollen fabric, and (d) applying tension to said fabric during at least one of steps (b) and (c), the tension being sufficient to prevent the formation of mussiness in said fabric but being less than the tension which causes a substantial washing shrinkage and being minimum in the direction in which maximum extensibility is desired and maximum in the direction perpendicular thereto, and being minimum in both directions when maximum extensibility in both directions is desired.

3,406,007

MANUFACTURE OF MOLYBDENUM TRIOXIDE

Antoine Joseph Van Den Steen, Crolles, Marcel Vanlaer, Brignoud, and François Henry Edouard Joly, Courbevoie, France, assignors, by mesne assignments, to Ugine Kuhlman (Societe anonyme), Paris, France a corporation of France

Continuation of application Ser. No. 400,720, Oct. 1, 1964. This application Feb. 19, 1968, Ser. No. 706,710
Claims priority, application France, Oct. 7, 1963, 949,831
7 Claims. (Cl. 23—16)

This invention relates to a process for extracting molybdenum in the form of substantially pure molybdenum trioxide from material containing molybdenum in an hexavalent oxidized form which comprises the steps of contacting a solid bed of material containing molybdenum in an hexavalent oxidized form with a recycling gaseous stream consisting essentially of hydrogen chloride at a temperature between about 150° C. to 500° C., whereby the molybdenum in an hexavalent oxidized form in said material reacts with said hydrogen chloride to form gaseous molybdic chlorohydrin, continuously flowing said gaseous molybdic chlorohydrin and said gaseous stream maintained at approximately the temperature of said contacting step to a cooling zone, cooling said gaseous molybdic chlorohydrin and said gaseous stream, separating and obtaining substantially pure molybdenum trioxide, and recycling said hydrogen chloride to said contacting step.

3,406,008

METHOD OF PURIFYING ALKALI METAL CHROMATE OR DICHROMATE AQUEOUS SOLUTIONS

William W. Carlin, Portland, Tex., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 296,452, July 22, 1963. This application May 2, 1967, Ser. No. 635,347
8 Claims. (Cl. 23—56)

Chloride, carbonate and sulfate impurities present in chromate liquors, particularly alkali metal chromate or dichromate solutions, are removed from the liquor by contact with an anion exchange resin whereby the chloride, carbonate or sulfate is selectively removed therefrom.

3,406,009

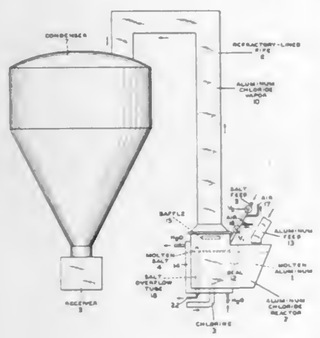
PROCESS FOR ALUMINUM CHLORIDE PRODUCTION

Lawrence P. Gould, Syracuse, and Bernard L. Oechsli, Camillus, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Dec. 23, 1965, Ser. No. 515,968
5 Claims. (Cl. 23—93)

The process relates to the production of aluminum chloride containing no more than 10 p.p.m. iron im-

purities by a process which involves passing chlorine through a molten bath of aluminum contaminated with iron impurities to form aluminum chloride containing iron impurities and then passing the so-formed contaminated aluminum chloride through a sodium aluminum chloride salt layer which is on top of the molten aluminum. The vaporous aluminum chloride recovered after passing through the layer of salt contains no more than 10 p.p.m. iron impurities.

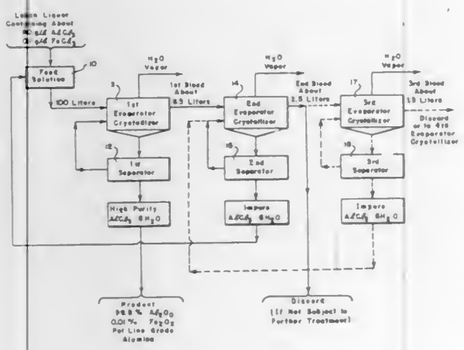


3,406,010

RECOVERY OF PURE CRYSTALS OF $AlCl_3 \cdot 6H_2O$ AND PRODUCTION OF ALUMINUM OXIDE PRODUCT THEREFROM

Francis L. Holderreed and Robert E. Sullivan, Anaconda, Mont., assignors to The Anaconda Company

Filed Sept. 8, 1965, Ser. No. 485,858
10 Claims. (Cl. 23—143)



Pure aluminum chloride hexahydrate is recovered from aqueous solutions thereof containing other metal chlorides as impurities therein by continuously evaporating the solution to precipitate crystals $AlCl_3 \cdot 6H_2O$ of the desired high purity which are then recovered, continuously adding fresh feed solution to replenish the aluminum content of the mother liquor in the evaporation, and continuously withdrawing a bleed portion of the mother liquor to prevent the build-up of impurities in the mother liquor above a predetermined maximum value. The bleed portion withdrawn from the mother liquor in the first evaporator is subjected to a second evaporation and crystallization operation essentially similar to the first evaporation and crystallization operation, the amount of bleed liquor withdrawn from the second mother liquor in the second evaporation being such that the crystals of $AlCl_3 \cdot 6H_2O$ precipitated from the second mother liquor are contaminated with an amount of other metal chlorides no greater than the amount of said other metal chlorides present in the fresh feed solution being added to the first mother liquor. These impure crystals of $AlCl_3 \cdot 6H_2O$ are recovered and recycled to said fresh feed solution being added to the first mother liquor.

3,406,011

PROCESS FOR THE MANUFACTURE OF HYDROXYLAMMONIUM SALTS

Hans Zirngibl, Duisburg, Alexander Dornemann, Krefeld-Bockum, Rudolf Gerken, Krefeld, Heinz Heine, Krefeld-Urdingen, Horst Meyer, Krefeld, and Johannes Weise, Krefeld-Bockum, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Dec. 16, 1966, Ser. No. 602,157
Claims priority, application Germany, Dec. 28, 1965, F 48,021; Nov. 28, 1966, F 50,788
11 Claims. (Cl. 23—190)

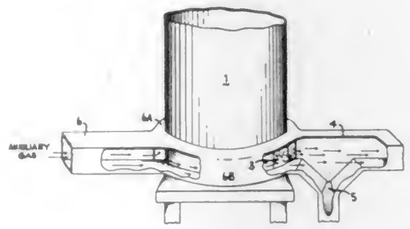
Process for the production of hydroxyl-ammonium salts by reduction of nitric oxide with hydrogen in an aqueous mineral acid solution in the presence of noble metal catalysts, said catalyst being periodically or continuously treated with oxygen thereby maintaining the selectivity and activity of the catalyst at a desired level.

3,406,012

PROCESS FOR CLASSIFYING PIGMENTARY METAL OXIDE

Henry W. Rahn, Pittsburgh, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 16, 1965, Ser. No. 464,470
4 Claims. (Cl. 23—202)



The production of pigmentary metal oxides, e.g., titanium dioxide, by vapor phase oxidation of metal halides, e.g., titanium tetrahalide, is described. The adverse effect of the presence of coarse, non-pigmentary metal oxide in the product is discussed and a process suggested for separating such non-pigmentary metal oxide.

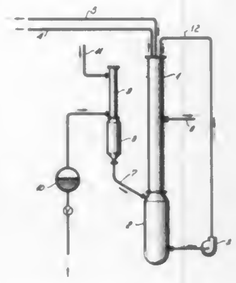
3,406,013

PROCESS FOR THE MANUFACTURE OF A PHOSPHORUS OXYCHLORIDE

Günther Müller-Schiedmayer, Knapsack, near Cologne, Heinz Harnisch, Lovenich, near Cologne, and Joseph Cremer, Hermulheim, near Cologne, Germany, assignors to Knapsack Aktiengesellschaft, Cologne, Germany, a corporation of Germany

Filed June 17, 1963, Ser. No. 288,086
Claims priority, application Germany, July 12, 1962, K 47,214
1 Claim. (Cl. 23—203)

$POCl_3$ and higher phosphorus oxychlorides are prepared by mixing liquid phosphorus, gaseous oxygen and gaseous chlorine with liquid $POCl_3$ to cause the P, O_2 and Cl_2 to react without flame formation. The heat of the reaction is used to boil off $POCl_3$ which is condensed and recovered.

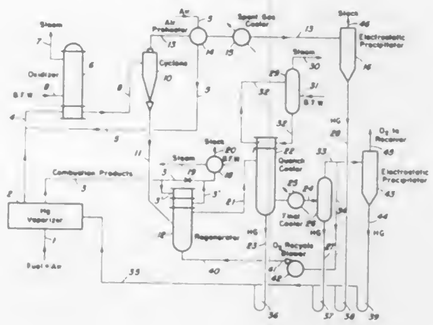


3,406,014

CHEMICAL PROCESS FOR THE PRODUCTION OF OXYGEN AND NITROGEN FROM AIR

Salvatore A. Guerrieri, Rowayton, Conn., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware

Filed Mar. 22, 1965, Ser. No. 441,712
7 Claims. (Cl. 23—221)



A process for producing oxygen from air wherein air is reacted with mercury vapor at a temperature between 400° and 500° C. and a pressure of at least atmospheric pressure to form mercury oxide and heating the mercury oxide to a temperature greater than 400° C., the temperature being greater than 500° C. when the pressure is atmospheric pressure or greater, to decompose the mercury oxide into oxygen and mercury vapor. The mercury vapor and oxygen are rapidly cooled to prevent further reaction and the oxygen recovered. The process may also be employed for producing nitrogen by contacting the air with an excess of mercury vapor, thereby removing all of the oxygen and producing a stream of essentially nitrogen. An inert liquid heat transfer medium may be circulated back and forth between the mercury oxide forming and decomposition reactions, in direct contact with the reactants, in order to balance the heat requirements thereof.

3,406,015

MEANS FOR DETECTING THE FERTILE PERIOD

Raymond O. Foster, Joliet, Ill.
(Hitt and Swanson Sts., Ottawa, Ill. 61350)

No Drawing. Filed Feb. 1, 1965, Ser. No. 429,619
2 Claims. (Cl. 23—230)

The invention embraces a test implement and method for using the same for use in detecting the fertile period of the female, which implement is dry, porous paper impregnated with a stable mannitol-peroxide complex and a color forming compound such as guaiac. When the implement is contacted with saliva it undergoes a marked color change in the presence of peroxidase in the saliva, said peroxidase being coincident with the fertile period.

3,406,016

MEANS FOR DETECTING THE FERTILE PERIOD

Raymond O. Foster, Joliet, and Donald T. Sapit, Ottawa, Ill. (both of Hitt and Swanson Sts., Ottawa, Ill. 61350)

No Drawing. Filed Feb. 1, 1965, Ser. No. 429,649
2 Claims. (Cl. 23—230)

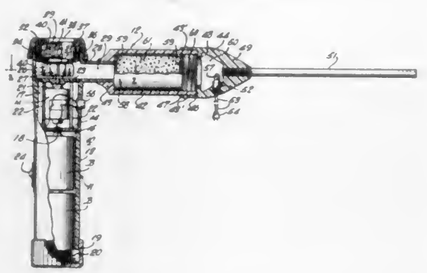
The invention embraces a test implement and method for using the same for use in detecting the fertile period of the female, which implement is dry, porous paper impregnated with peroxidase and a color forming compound such as guaiac. When the implement is contacted with saliva it undergoes a marked color change due to the presence of peroxide in the saliva, said peroxide being coincident with the fertile period.

3,406,017

LEAK DETECTING METHODS AND APPARATUS

Chester H. Canning, New York, N.Y., assignor to American Gas & Chemicals, Inc., New York, N.Y., a corporation of New York

Filed Aug. 7, 1964, Ser. No. 388,238
17 Claims. (Cl. 23—232)



A leak detecting device includes a tubular nozzle formed of a light conducting material and a lamp positioned adjacent the inner end of the nozzle. The nozzle is connected to the outlet of a magazine chamber the inlet to which is connected to a motor driven blower provided with a filter. A cartridge is housed in the magazine and includes an inert material carrying a reagent vapor or gas. In use the lighted nozzle is directed toward a suspected area and the reagent gas blown into the area to react with the leaking gas to form a fine suspension rendered highly visible by the light directed thereto by the nozzle.

3,406,018

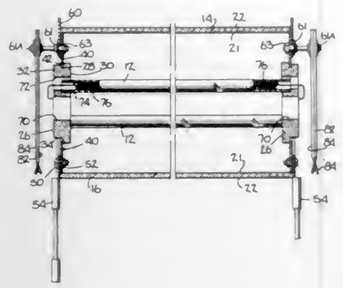
CHEMISTRY FURNACE

Seymour Rosin, Massapequa Park, and Jack Isreeli, Mamaroneck, N.Y., assignors to Technicon Corporation, a corporation of New York

Filed Dec. 3, 1964, Ser. No. 415,771
8 Claims. (Cl. 23—253)

A chemistry furnace comprises an inner sample receiving tube surrounded by tubular heaters, all enclosed by a tubular reflector, longitudinally divided into two por-

tions, each formed of a glass base element with a reflective metal film on the inner and outer base thereof. The



assembly is supported by ceramic end plates which are overlaid by metal end reflectors.

3,406,019

SALTS OF $B_{11}H_{11}^{2-}$ AND THEIR PREPARATION

Earl L. Muetterties, West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 28, 1966, Ser. No. 530,375
13 Claims. (Cl. 23—361)

The invention is directed to preparation of salts of undecahydroundecaborates represented by the formula:

$$M_a(B_{11}H_{11})_b \cdot mH_2O$$

3,406,020

ABRASIVE WHEELS COMPRISING A NOVOLAK RESIN AND A THERMOPLASTIC POLYHYDROXYETHER

William J. D'Alessandro, East Brunswick, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 394,617, Sept. 4, 1964. This application May 11, 1967, Ser. No. 637,631
6 Claims. (Cl. 51—298)

Improved abrasive compositions for fabricating grinding wheels were formulated from abrasive grains, a solid novolak resin and hardener therefor, and a thermoplastic polyhydroxyether reaction product of a dihydric phenol and epichlorohydrin. Wetting agents such as a heat hardenable resole resin, furfural and furfuryl alcohol can be added to facilitate mixing.

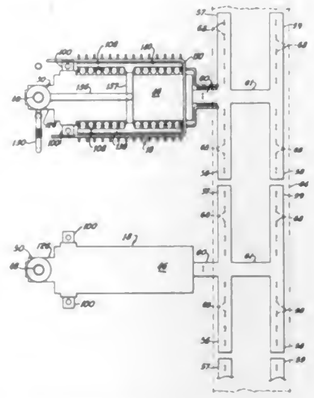
3,406,021

METHOD AND APPARATUS FOR PROCESSING FILAMENT-FORMING MINERAL MATERIALS

Frank Day, Granville, and Magnus L. Froberg, Newark, Ohio, and Jerry B. Holschlag, Greenwood, S.C., assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Continuation of application Ser. No. 463,096, June 11, 1965, which is a division of application Ser. No. 113,526, May 29, 1961. This application Dec. 8, 1966, Ser. No. 600,269
16 Claims. (Cl. 65—1)

The disclosure embraces a method of and apparatus for processing heat-softenable mineral material, such as glass, wherein the material is melted in a chamber and the molten material refined by recirculation in the chamber, the refined material being fed to a main connecting channel from which streams of the material flow into a plurality of channels extending in opposite directions from and normal to the main connecting channel under



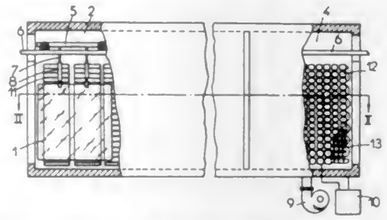
controlled temperatures, and bodies or filaments formed from the material in each stream.

3,406,022

PROCESS AND INSTALLATION FOR GLASS TEMPERING AND COOLING

Charles Gehenot, Brussels, Belgium, assignor to "Compagnie belgo-luxembourgeoise du Commerce exterieur," in abridgment: "Cobelcomex," Brussels, Belgium, a company of Belgium

Filed June 10, 1965, Ser. No. 462,921
Claims priority, application Luxembourg, June 12, 1964, 46,312
11 Claims. (Cl. 65—114)



Glass is preheated in a preheating tunnel to a temperature sufficient to permit high frequency dielectric heating, and the preheated glass is introduced into a room in which the preheated glass is further heated by high frequency dielectric heating means, followed by cooling without movement of the glass to effect tempering.

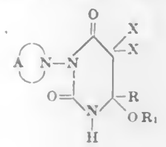
3,406,023

HERBICIDAL METHOD

Harvey M. Loux, Valley View, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 590,545, Oct. 31, 1966. This application Dec. 13, 1967, Ser. No. 690,078
12 Claims. (Cl. 71—92)

Novel hydrouracils of the following formula:



wherein X, R, R_1 and



are as defined hereinafter are useful as herbicides.

Exemplary of such compounds is 5,5-dichloro-3-(hexahydro-1-azepinyl)-6-methoxy-6-methylhydrouracil.

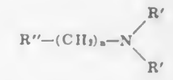
3,406,024

METHOD FOR THE CONTROL OF WEEDS

Sidney B. Richter and David P. Mayer, Chicago, Ill., assignors to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Continuation-in-part of application Ser. No. 208,904, July 10, 1962. This application Aug. 27, 1965, Ser. No. 483,323
13 Claims. (Cl. 71—98)

1. The method for the control of weeds which comprises contacting said weeds with a herbicidal composition comprising an inert carrier and as the essential active ingredient, in a quantity which is toxic to said weeds, a compound of the formula



wherein *n* is a whole number from 1 to 3; R and R′ are selected from the group consisting of lower unsubstituted alkyl, lower unsubstituted alkenyl, lower monohydroxyalkyl, and hydrogen, a maximum of one of R and R″ being hydrogen; and R″ is a phenyl radical containing substituents selected from the group consisting of lower unsubstituted alkyl, lower unsubstituted alkoxy, lower unsubstituted alkylmercapto, halogen, mercapto, nitro, hydroxy, and amino, provided that one substituent on the phenyl radical is halogen when one lower unsubstituted alkoxy substituent is present on the phenyl ring, and provided that a maximum of three substituents on the phenyl radical are hydrogen when one substituent on the phenyl radical is nitro.

3,406,025

PROCESS FOR PRODUCING METAL FIBERS, TEXTILES AND SHAPES

Bernard H. Hamling, Warwick, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of applications Ser. No. 451,326, Apr. 27, 1965; Ser. No. 523,549, Jan. 28, 1966; and Ser. No. 576,840, Sept. 2, 1966. This application Dec. 19, 1966, Ser. No. 602,555
12 Claims. (Cl. 75—.5)

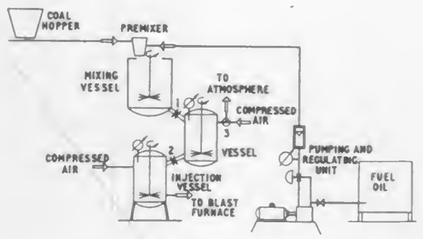
A process for producing elemental metal textiles, fibers, and shapes is described. The process involves the steps of (a) impregnating a preformed organic polymeric substrate, such as rayon fiber, with a solution of a metal compound, (b) removing the solvent, such as by evaporation, (c) heating the impregnated substrate in an oxidizing atmosphere to first carbonize and then oxidize (without igniting) the substrate to effect removal of the substrate thereby leaving a metal oxide relic and (d) then reducing the metal oxide relic to form the elemental metal in the shape of the preformed substrate. The process is widely useful for producing many types of metal articles, and it is particularly interesting as a means for producing tungsten wire.

3,406,026

METHOD OF SUPPLYING BLAST FURNACE WITH SOLID FUEL AND OIL SUSPENSION

Raymond G. Limpach, Luxembourg, Luxembourg, assignor to Central National de Recherches Metallurgiques, Brussels, Belgium

Filed July 8, 1963, Ser. No. 293,316
Claims priority, application Luxembourg, July 18, 1962, 42,088; Apr. 12, 1963, 43,555
3 Claims. (Cl. 75—42)



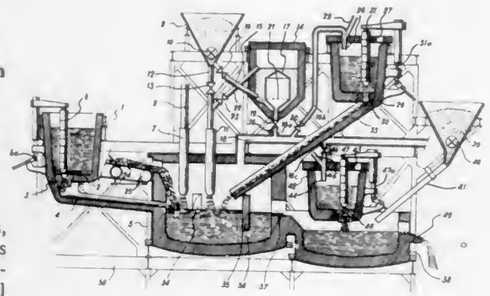
1. A method of supplying a furnace with solid fuel comprising the steps of; allowing particles of the solid fuel to fall freely; spraying oil onto the solid fuel particles as they are falling thereby forming a cloud of droplets of the oil around the falling solid fuel; passing the thus-mixed and falling oil and particles of solid fuel into a vessel containing oil; stirring the mixed oil and particles and feeding the mixture to the furnace.

3,406,027

METHOD FOR REGULATING THE THERMAL BALANCE OF A BATH OF MOLTEN MATERIAL DURING A CONTINUOUS REFINING PROCESS OF THE MATERIAL

Juan Manuel Kindelan y Gomez de Bonilla, Madrid, Spain, and Pierre Vayssiere, Metz, Moselle, France, assignors to Institut de Recherches de la Siderurgie Francaise, Saint Germain-en-Laye, Yvelines, France

Filed Nov. 17, 1965, Ser. No. 508,243
Claims priority, application France, Nov. 18, 1964, 995,301
9 Claims. (Cl. 75—51)



A method of regulating the thermal balance of a bath of molten material during a continuous refining process of the material, which includes the steps of maintaining a molten bath of the material to be refined, continuously adding material to be refined to this bath, refining the materials in a bath while continuously adding additional materials to the bath at a predetermined temperature in

order to maintain a proper heat balance in the bath during the refining process, and continuously discharging refined material from the bath.

ERRATA

For Classes 75—84 through 99—225 see:
Patents Nos. 3,406,056 through 3,406,082, incl.

3,406,028
HARD-FACING MATRIX COMPOSITION AND METHOD OF PREPARING SAME

Herbert J. Woock, 420 California St., Arcadia, Calif. 91006

No Drawing. Filed July 27, 1964, Ser. No. 385,452
13 Claims. (Cl. 106—1)

A hardfacing composition for bonding dispersed carbides and the like abrasion resistant particles to a metallic body at a fusing temperature of 1950 degrees F. to 2100 degrees F. in a furnace atmosphere approximately in the range of 9 to 11 percent CO_2 oxidizing, the composition comprising cobalt, ferrochromium, ferromanganese, ferromolybdenum, ferroboron, ferrosilicon, nickel, copper and a suitable bonding flux.

3,406,029
PLASTIC CHROME ORE COMPOSITION

Grant M. Farrington, Marlton, N.J., and Wayne X. Fay, Villanova, Pa., assignors to General Refractories Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed June 22, 1966, Ser. No. 559,421
9 Claims. (Cl. 106—66)

A plastic, soluble silicate-bonded, chrome ore refractory mix is prepared containing with the chrome ore coarse and chrome ore fines, soluble silicate binder and water, from about 5 to about 15%, by weight, of chrome ore, alumina or mixtures thereof having a particle size less than 8 microns as plasticizer in place of the usual plastic clay plasticizer.

3,406,030
METHOD FOR THE PRODUCTION OF A HARD-POROSITY LIME-SILICA POROUS BODY

Rolland Perraudin, Bagnolet, Claude Perrin, Paris, and Georges Seris, Antony, France, assignors to L'Air Liquide, Societe Anonyme pour l'Etude et l'Exploitation des Procedes Georges Claude

No Drawing. Continuation-in-part of application Ser. No. 339,319, Jan. 22, 1964. This application Mar. 27, 1967, Ser. No. 625,950
Claims priority, application France, Feb. 8, 1963, 924,155; Sept. 11, 1963, 947,141
8 Claims. (Cl. 106—86)

A method for manufacturing a high-porosity lime-silica porous body suitable particularly for storing dissolved gas which includes the heating of cylinders in an autoclave under autogenic pressure, said cylinders being filled with an aqueous slurry comprising a mixture of finely divided lime, silica, asbestos fibers and an organic suspending agent, with no gelling point under the conditions of reaction, in amounts between about 0.3% and about 10% by weight of the porous body after the heating, said aqueous slurry being free from entrapped air.

3,406,031
PHARMACEUTICAL DOSAGE UNIT FORM COATING PROCESS

Samuel Lee, Fair Lawn, N.J., assignor to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 27, 1964, Ser. No. 392,591
10 Claims. (Cl. 106—171)

A liquid composition for the coating of pharmaceutical dosage unit forms comprising (a) from about 0.1 to about 10 parts of a metal salt of a long chain fatty acid which serves as a lubricant, (b) from about .0001 to about 5 parts of a dispersing agent to negate the water repellent properties of the lubricant, (c) from about .01 to about 10 parts of a hydrophilic protective colloid and (d) from about 50 to about 99 parts of a sugar base syrup.

3,406,032
EMULSION FOR HYDROPHOBING TEXTILES

Heinz Enders, Stadtbergen, Augsburg, and Hans Deiner, Neusass-Lohwald, Augsburg, Germany, assignors to Chemische Fabrik Pfersee G.m.b.H., Augsburg, Germany, a firm of Germany

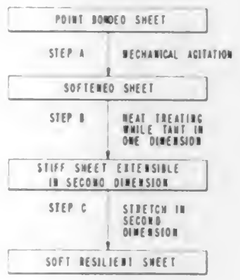
No Drawing. Filed July 12, 1965, Ser. No. 471,397
Claims priority, application Germany, July 22, 1964, C 33,460
6 Claims. (Cl. 106—271)

A product for hydrophobing textiles and other fibrous materials consists of an aqueous emulsion of paraffin with a quaternary ammonium salt as emulsifier which decomposes and produces water repellency when heated, the emulsion containing 3 to 15 parts by weight of paraffin to 1 part by weight of the quaternary ammonium salt. The salt has one aliphatic residue with at least 12 carbon atoms.

3,406,033
METHOD FOR TREATMENT OF FILM-FIBRIL SHEETS

Charles Frederick Reitz, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Mar. 1, 1965, Ser. No. 435,927
9 Claims. (Cl. 117—7)



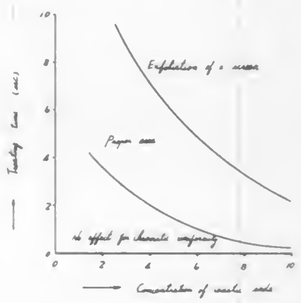
Polymeric nonwoven, point-bonded film fibril sheets are treated to increase their bulk, resilience and recovery and to provide a drier, less slick hand. The treatment involves the steps in order of mechanically agitating the sheet to loosen the film fibril elements, heating the sheet to within 35° C. of the melting point while under tension in one dimension, then stretching the sheet in the second dimension.

3,406,034
TREATMENT OF A PHOSPHOR SCREEN IN A CATHODE RAY TUBE

Teruhiko Komatsu and Goro Shibata, Otsu, Japan, assignors to Shinnippon Denki Kabushiki Kaisha, Osaka, Japan

Filed Jan. 25, 1965, Ser. No. 427,792
Claims priority, application Japan, Feb. 1, 1964, 39/5,163
4 Claims. (Cl. 117—33.5)

In manufacturing luminescent screens for a cathode ray tube, a dried screen of phosphor particles obtained by a sedimentation process is treated with an aqueous solution of sodium hydroxide having a cencentration of 2 to 10% for a predetermined time, and immediately after such treatment the phosphor screen is rewetted with water to wash away the remaining sodium hydroxide



and then a lacquer film is coated on the rewetted phosphor screen for providing a metallizing layer thereon.

3,406,035
OPTICAL BRIGHTENERS

Gerhard Lohaus, Kelkheim, Taunus, and Karl-Heinz Lebkücher, Hofheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed July 15, 1965, Ser. No. 472,343
3 Claims. (Cl. 117—33.5)

The use of 9-cyananthracene as an optical brightener for polyesters.

3,406,036
SELECTIVE DEPOSITION METHOD AND ARTICLE FOR USE THEREIN

Richard S. McGrath, Hopewell Junction, and Norman W. Silcox, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

No Drawing. Filed July 8, 1965, Ser. No. 470,555
9 Claims. (Cl. 117—45)

The electroless deposition of metallic film upon selected areas of a glassy substrate, without plating the other areas of the substrate, is made possible by a substrate conditioning method which involves coating the selected areas with silicon monoxide, then exposing the substrate to dilute hydrofluoric acid long enough to etch the silicon monoxide coatings without appreciably etching the substrate. The etched coatings then can be rendered highly sensitive to electroless plating without sensitizing the smooth uncoated areas of the glassy substrate.

3,406,037
MANUFACTURE OF CELLULOSIC PRODUCT

John P. Pierce, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Nov. 27, 1964, Ser. No. 414,168
6 Claims. (Cl. 117—60)

A process for finishing one side coated paper to provide gloss on the coated side and a relatively low finish (dull) on the second side. The second side may be uncoated, sized or lightly coated and one common term for such second side is the paste side. To provide the finish with either a slight curl to the second side or a flat sheet but not curled to the coated side, the procedure is followed of initially providing the coated sheet with a strong curl to the second side. With the sheet so curled it is passed through a supercalender with limited moistening of the coated side sufficient to develop gloss but insufficient to cause reversal of the curl to the coated side; the second side is maintained dry in its passage through the supercalender. The sheet may be reeled as it passes from the supercalender without further moisture treatment. The procedure permits relatively low supercalendering pressures for the attainment of a given gloss level and the process is readily controllable as the required moisture treatment on the supercalender is low.

3,406,038
TREATMENT OF WOOD WITH A POLYHYDRIC ALCOHOL AND AN ALKYLENE OXIDE

Rolf Erhard Moren, Alfredsham, Sweden, assignor to Mo och Domsjo Aktiebolag, Ornskoldsvik, Sweden, a corporation of Sweden

No Drawing. Continuation-in-part of application Ser. No. 315,359, Oct. 10, 1963. This application June 10, 1966, Ser. No. 556,783
Claims priority, application Sweden, Oct. 15, 1962, 11,029/62
13 Claims. (Cl. 117—62.1)

1. A method of impregnating wood to improve its dimensional stability and resistance to deterioration, which comprises, in either order, applying to the wood a polyhydric alcohol having up to three hydroxyl groups, and drying the wood to a moisture ratio up to 20%; and thereafter applying to the wood an alkylene oxide and effecting reaction of the alkylene oxide with the polyol, with water, with itself, and with organic wood components reactive therewith, thereby forming in situ polymeric substances which improve the dimensional stability of the wood and its resistance to deterioration.

3,406,039
PLASTIC FILM STRUCTURES

Robert Michael Paufler, South Holland, Ill., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

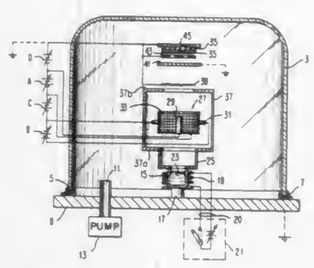
No Drawing. Filed Oct. 4, 1965, Ser. No. 492,850
4 Claims. (Cl. 117—76)

1. A composite structure comprising essentially a base sheet of plastic film having on one surface thereof a subcoat of a tacky pressure-sensitive adhesive, and a topcoat of a cohesive substantially non-adhesive resin containing from 10% to about 20% by weight, based on the weight of the cohesive topcoat resin, of diatomaceous calcium silicate.

3,406,040
VAPOR DEPOSITION METHOD FOR FORMING THIN POLYMERIC FILMS

Edward M. Da Silva, White Plains, and Richard T. Bogardus, Ossining, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 24, 1964, Ser. No. 377,674
3 Claims. (Cl. 117—93.31)



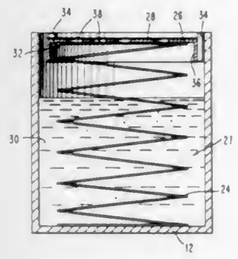
A process is described for depositing a thin polymeric film onto a substrate surface. An evaporant stream of polymerizable material is directed onto the substrate surface in a low pressure chamber and exposed along at

least a portion of its travel to a transverse electron beam. Activated species are created in the evaporant stream which initiate the polymerization process in the gaseous phase and cause the evaporant to deposit on the substrate surface as a thin polymeric film. The activation ratio of the evaporant stream, i.e., the ratio of activated, or ionized, molecules to unactivated molecules, is controlled such that entire evaporant stream enters into the formation of the polymeric film. Accordingly, the system contamination is minimized and system pressures are maintained substantially constant such that the described process is compatible with other deposition processes to be effected in the same chamber.

3,406,041
METHOD AND APPARATUS FOR DEPOSITING PARTICLES ONTO AN OBJECT

Ernest E. Conrad, Clinton Corners, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Mar. 8, 1965, Ser. No. 437,805
14 Claims. (Cl. 117—101)



A method and apparatus for depositing particles onto an object which involves centrifuging the object and an enveloping fluid containing the particles to be deposited on the object for a period of time and with a force sufficient to deposit particles in the fluid onto the object. The object is supported so as to be movable relative to the fluid depending upon the centrifugal force on the object. The centrifugal force on both the object and the fluid is reduced after the deposition process is completed which causes the object, with the particles uniformly deposited thereon, to move out of the fluid before termination of the centrifuging force.

3,406,042
PROCESS FOR CORROSION CONTROL

Arthur R. Belyea, Norwalk, Conn., assignor to Consolidated Edison Company of New York, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 14, 1965, Ser. No. 513,821
9 Claims. (Cl. 117—134)

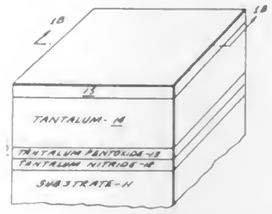
Process of inhibiting corrosion in steam generating boilers, and the like, using quaternary ammonium salts.

3,406,043
INTEGRATED CIRCUIT CONTAINING MULTILAYER TANTALUM COMPOUNDS

John W. Balde, Raritan Township, Hunterdon County, N.J., assignor to Western Electric Company Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 9, 1964, Ser. No. 409,656
7 Claims. (Cl. 117—212)

A nonconductive substrate is first coated with a resistive layer, a metallic oxide parting layer, and then a layer of metal. The oxide layer is sufficiently thin to be penetrated by atoms of the metal layer which permits subsequent electrical conduction between the metal and resistive layers. Selective, sequential etching of the assembly produces one or more resistors from the resistive layer and one or more areas of the metal layer which ultimately serve as a capacitor dielectric and as capacitor electrodes. Such etching is facilitated by the oxide part-



ing layer which is unaffected by certain etchants for the other layers. Portions of the metal layer are anodized to form a capacitor dielectric; unanodized portions of such layer serve as capacitor electrodes. The resistors are trim anodized to value.

3,406,044
RESISTANCE HEATING ELEMENTS AND METHOD OF CONDITIONING THE HEATING SURFACES THEREOF

Darrel M. Harris, Kirkwood, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Continuation-in-part of application Ser. No. 308,859, Sept. 13, 1963. This application Jan. 4, 1965, Ser. No. 423,066

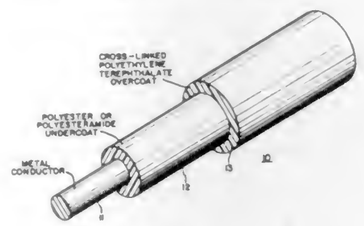
18 Claims. (Cl. 117—215)

Graphite heating elements which are used in epitaxial silicon furnaces and which are presently coated in order to prevent outgassing by vapor depositing a first layer of silicon on the bridge. The bridge is heated above the melting point of silicon causing the silicon to melt and fuse to the bridge and the temperature of the bridge is thereafter lowered. Silicon carbide is thereafter vapor deposited and becomes bonded to the silicon layer. A final coating of silicon is thereafter applied to the silicon carbide.

3,406,045
CROSS-LINKED POLYETHYLENE TEREPHTHALATE OVERCOAT FOR INSULATED ELECTRICAL CONDUCTORS

Frank A. Sattler, Monroeville, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 16, 1964, Ser. No. 396,910
4 Claims. (Cl. 117—218)

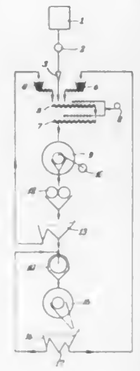


Nonlinear polymeric overcoating compositions are prepared from filamentary polyethylene terephthalate and specific minor amounts of a polyol having at least three hydroxyl groups, certain anhydrides and/or certain polymeric reaction products of polyols with acid components. The polymeric overcoating compositions are applied over metal conductors insulated with phthalic acid polyesters or phthalic acid polyesteramides.

3,406,046
PROCESS FOR CRYSTALLIZING DEXTROSE

Marcel L. E. van Tittelboom, Sas van Gent, Netherlands, assignor to Corn Products Company, New York, N.Y., a corporation of Delaware

Filed May 4, 1965, Ser. No. 453,099
Claims priority, application Netherlands, May 21, 1964, 6405636
13 Claims. (Cl. 127—60)



1. A process for obtaining dextrose crystals consisting essentially of dextrose hydrate crystals, from a liquor supersaturated with respect to dextrose and containing about 75 to about 88 percent, dry substance, which comprises

(a) forming a thin layer of said liquor on agglomerates of dextrose crystals,

(b) contacting the resultant wetted agglomerates with discrete dextrose particles whereby the thin layer of liquor begins to crystallize substantially instantaneously and the agglomerates become free-flowing and substantially free of stickiness;

the temperature of said agglomerates undergoing treatment in steps (a) and (b) being maintained within the range of 15 to 45° C., said dextrose crystals in said agglomerates of step (a) and the dextrose particles of step (b) being predominantly in hydrate form.

3,406,047
VITREOUS ENAMELING STEEL AND METHOD OF MAKING SAME

James K. Magor, Durham, N.C., and Donald S. Gaydosh, Elyria, Ohio, assignors to Lee Wilson Engineering Company, Inc., Cleveland, Ohio, a corporation of Ohio

Filed Feb. 7, 1966, Ser. No. 525,388
2 Claims. (Cl. 148—12.1)

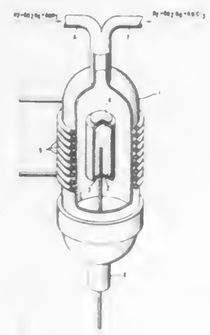


A method of producing steel sheets for vitreous enameling in which a low carbon steel sheet is subjected to two-phase gamma-alpha decarburization whereby outer zones of alpha-iron are produced having a carbon content of not more than about .006% and extending inwardly from about 25% to about 37% with the sheet thickness, the center zone of the sheet remaining substantially unchanged, and then subjecting the sheet to cold reduction followed by sub-critical annealing.

3,406,048
EPITAXIAL DEPOSITION OF GALLIUM ARSENIDE FROM AN ATMOSPHERE OF HYDROGEN AND $Ga_2H_6+AsCl_3+AsH_3$ VAPORS

Martin Immendörfer, Sindelfingen, and Werner K. Spielmann, Dachtel, Post Deufringen, Germany, assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed July 29, 1964, Ser. No. 385,948
Claims priority, application Germany, Aug. 1, 1963, J 24,172
4 Claims. (Cl. 148—175)



1. Method of producing epitaxially a layer of gallium arsenide on a doped seed in a reaction chamber comprising the steps of:

introducing an atmosphere containing at least hydrogen and $Ga_2H_6+AsCl_3+AsH_3$ vapors, at a temperature below the pyrolytic disintegration temperature of said vapors;

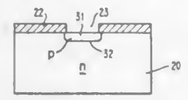
proportioning the relative amounts of AsH_3 to $AsCl_3$ in said atmosphere so that a predetermined sharpness is obtained in the transition of the doping levels between said seed and said layer, the sharpness of said transition increasing as the proportion of AsH_3 to $AsCl_3$ increases;

and selectively heating said seed to a temperature higher than said pyrolytic disintegration temperature whereby a layer of gallium arsenide is deposited on said seed.

3,406,049
EPITAXIAL SEMICONDUCTOR LAYER AS A DIFFUSION MASK

John C. Marinace, Yorktown Heights, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Apr. 28, 1965, Ser. No. 451,583
10 Claims. (Cl. 148—175)



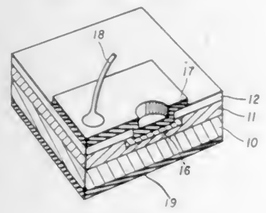
A diffusion technique is described wherein a pattern of epitaxially grown semiconductor material formed on the surface of a wafer of different type semiconductor material is employed as a diffusion mask. The pattern of epitaxial material can be defined by initially providing a pattern of particular material on the wafer surface whereat diffusions are to be made and which is effective to mask against the epitaxial growth of semiconductor material. Such pattern of particular material can be subsequently removed or the diffusion of impurities can be effected therethrough. Additionally, by proper control of the dif-

fusion parameters, the diffusion can be limited to penetrate at the interface between edges of the particular material and the epitaxial material such that a very narrow junction is formed in the wafer surface.

3,406,050
METHOD OF MAKING ELECTRICAL CONTACT TO A SEMICONDUCTOR BODY

Samuel R. Shortes, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Aug. 4, 1965, Ser. No. 477,150
7 Claims. (Cl. 148—179)



1. The method of making an emitter and emitter contact electrode on an NPN gallium arsenide transistor comprising the steps of:
(a) coating the P-type surface of a body of gallium arsenide comprised of contiguous regions of N- and P-type conductivity material with a protective film;
(b) forming a window in said coating;
(c) alloying a donor material to the P-type conductivity surface exposed through said window, thereby forming an N-type regrowth region in said exposed P-type surface;
(d) removing substantially all of said donor material which is not included in said regrowth region; and
(e) selectively evaporating a metal contact material to electrically engage said regrowth region and extend over part of the surface of said coating.

3,406,051
AQUEOUS EXPLOSIVE COMPOSITIONS CONTAINING A PARTIALLY NITRATED AROMATIC HYDROCARBON DISPERSED BY A MONOAMIDE

Philip W. Fearnow, Glassboro, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 16, 1967, Ser. No. 609,330
21 Claims. (Cl. 149—56)

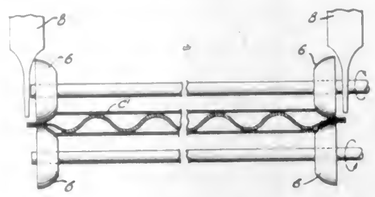
Aqueous explosive compositions comprising water, an inorganic oxidizing salt, thickener, and a partially nitrated aromatic hydrocarbon sensitizer dispersed in the explosive composition by a lower aliphatic monamide having 1 to 4 carbon atoms, and preferably, a nonexplosive carbonaceous fuel. The ingredients of the explosive composition can be combined in any manner, provided that the lower aliphatic monamide dispersing agent is added no later than about the time the partially nitrated aromatic hydrocarbon sensitizer is added.

3,406,052
METHOD OF MAKING PLASTIC-COATED CORRUGATED FIBERBOARD

Guilford B. Peters, Mendham, N.J., assignor to Stapling Machines Co., Rockaway, N.J., a corporation of Delaware

Filed Jan. 28, 1963, Ser. No. 254,228
3 Claims. (Cl. 156—198)

1. The method of making waterproof corrugated fiberboard which comprises, heating thermoplastic material and extruding it into two thin films extending generally vertically downwardly and slightly spaced apart horizontally, feeding corrugated fiberboard generally vertically downwardly between said films, passing said corrugated fiberboard with said films, still in heat-softened condition, at its opposite faces, between a pair of hard-surfaced rollers under a pressure sufficient to compress the composite material to a thickness of 80% to 97% of the original thickness of said corrugated fiberboard, to cause said films to adhere to said faces, crushing together the edges of the coated sheet, and sealing the crushed edges by applying thereto in liquefied form a waterproof composition which solidifies thereon.



3,406,053
ADHESIVE COMPOSITION

Virgil W. Jaenicke, Costa Mesa, Calif., assignor to Whittaker Corporation, Los Angeles, Calif., a corporation of California

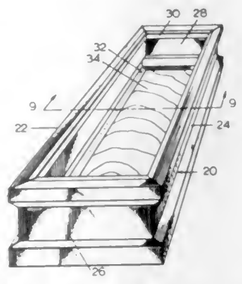
No Drawing. Filed June 1, 1964, Ser. No. 371,807
4 Claims. (Cl. 156—309)

This patent describes an unsupported adhesive film having disbursed therein finely divided particles which are substantially inert to the adhesive and substantially stable at the curing temperature of the adhesive. The particulate material is present in an amount and size sufficient to permit a bond line having a thickness of at least one mil to be obtained when the adhesive is used to bond two or more members. This patent also described a bonding process wherein the unsupported adhesive film is interposed between two members to be bonded and the members and adhesive film are subjected to sufficient heat and pressure to cure the adhesive.

3,406,054
METHOD OF FORMING CASKETS

Floyd L. Chaffee, Spring Valley, Calif., assignor to Crowley Casket Company, Inc., San Diego, Calif., a corporation of California

Filed July 20, 1964, Ser. No. 383,708
1 Claim. (Cl. 156—250)



1. Those steps in the method of forming a casket frame which steps comprise:
(A) molding a strip of fiber glass, mat impregnated with polyester having a length at least equal to the lengths of both sides and both ends of the casket which strip conforms to the design of the sides and end of the complete casket;

(B) severing the strip into four pieces, embodying both sides and both ends of the casket, such severing being at angles of 45 degrees relative to the length of the strip;
(C) placing one of the ends in a horizontal position and the two sides in upright positions in a fixture having a bottom wall conforming to the shape of the end and the interior side walls conforming to the shape of the side walls;
(D) securing the edges of said end to the lower edges of the sides while said end and the sides are in the fixture;
(E) removing the assembly from the fixture and inverting the same;
(F) placing the other of said ends in a horizontal position in the fixture and placing the inverted assembly in the fixture;
(G) and securing the edges of the said other end to the then lower edges of the sides.

3,406,055
WELDING METHOD FOR CURED POLYMERIC COMPOSITIONS

Peter A. Rubel, Lexington, Mass., assignor to Cabot Corporation, Boston, Mass., a corporation of Delaware

Filed May 20, 1965, Ser. No. 457,448
14 Claims. (Cl. 156—275)



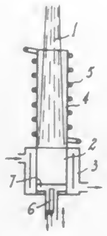
1. A process for welding cured polymeric compositions comprising a cured polymeric material and between about 20 parts and about 500 parts per hundred parts by weight of said material of an electrically conductive filler, which comprises:
(a) heating the surfaces to be welded to above the softening temperatures thereof:
(b) interposing between said surfaces an adhesive composition comprising a thermally activatable curing agent;
(c) contacting said surfaces with said adhesive composition; and
(d) flowing sufficient electrical current through said cured compositions and said adhesive to activate said adhesive.

3,406,056
METHODS OF AND DEVICES FOR PURIFYING HIGH MELTING-POINT METALS

Philippe Albert, Louis Renucci, Pierre Lehr, and Gérard Gosse, Paris, France; said Albert, said Renucci, and said Lehr assignors to Societe Anonyme Heurtey, Paris, France, and said Gosse assignor to Centre National de la Recherche Scientifique, Paris, France

Filed Nov. 16, 1965, Ser. No. 508,014
Claims priority, application France, Nov. 17, 1964, 995,267
5 Claims. (Cl. 75—84)

A method is provided for obtaining highly purified metals having high melting points and belonging to Groups IV*a*, V*a* and VI*a* of the periodic system of the elements. The process comprises adding to the metal to be purified a substance capable of forming a volatile oxide of the impurity to be eliminated from the metal. Primarily oxygen, carbon and silicon impurities are eliminated by adding an additive selected from the group of carbon, silicon, aluminum, a metal carbide, a metal silicide, a metal aluminide, and oxide of the metal to be purified.



3,406,057
FERROMAGNETIC MATERIAL

Hozumi Hirota, Osaka-fu, and Akira Yanase, Miyagi-ken, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan

No Drawing. Filed Mar. 25, 1966, Ser. No. 537,268
Claims priority, application Japan, Mar. 26, 1965, 40/17,950
6 Claims. (Cl. 75—123)

1. A ferromagnetic material with a $Cr_{23}C_6$ type of crystal structure comprising essentially not more than
50.7 atomic percent of iron,
6.3 to 7.3 atomic percent of tin,
20.6 to 23.2 atomic percent of boron, and
the balance cobalt,
said crystal structure having such an atom arrangement that point positions *a*, *f* and *h* of Fm3m are occupied by cobalt atoms and iron atoms, point position *c* of Fm3m is occupied by tin atoms, and point position *e* of Fm3m is occupied by boron atoms.

3,406,058
NICKEL BASE ALLOYS AND ELECTRICAL RESISTANCE WIRE MADE THEREFROM

Stephen Poch, Wyckoff, Edward E. Edmunds, Shrewsbury, and Arthur S. Lichter, Allenwood, N.J., assignors to Molecu-Wire Corporation, a corporation of New Jersey

No Drawing. Filed July 11, 1966, Ser. No. 564,020
7 Claims. (Cl. 75—171)

A nickel base alloy with a flat temperature coefficient of resistivity and the manufacture of wire products from said alloy.

3,406,059
METHOD OF PRODUCING FUEL CELL ELECTRODE

Eugene K. Backe, Milwaukee, and Gary J. Wiskow, West Allis, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

No Drawing. Original application Feb. 2, 1966, Ser. No. 524,462. Divided and this application July 17, 1967, Ser. No. 663,468
4 Claims. (Cl. 75—222)

A sintered porous fuel cell electrode comprised of about 80 to 90% nickel powder and about 1 to 20% fibrous or filamentary nickel. The electrode is made by heating a uniform mixture of the nickel powder and nickel fibers, at a temperature of about 1300–2200° F. in a reducing atmosphere for a period of 10 to 60 minutes.

3,406,060
ELECTROPHOTOGRAPHIC PROCESS
Herbert N. Schlein, Framingham, Mass., and Koichi Kinoshita, Narashino-shi, Japan; said Schlein assignor, by direct and mesne assignments, to Nashua Corporation, Nashua, N.H., a corporation of Delaware, and said Kinoshita assignor to Katsuragawa Electric Company, Ltd., Tokyo, Japan, a corporation of Japan
Filed Apr. 8, 1964, Ser. No. 363,040
4 Claims. (Cl. 96—1)

Improved reproductions in photographic processes utilizing light-sensitive plates having persistent internal polarization properties are realized when the plate is provided with a continuous layer of an insulating material which is retained in contiguous relation to the plate throughout exposure, the application of the polarizing potential, the removal of an electrode and development.

3,406,061
METHOD OF CONDITIONING PHOTOCONDUCTOR SURFACES
Kenneth A. Metcalfe, Fulham Park, South Australia, and Alwin S. Clements, Largs Bay, South Australia, Australia, assignors to The Commonwealth of Australia, % The Secretary, Department of Supply, Melbourne, Victoria, Australia
Filed Dec. 8, 1964, Ser. No. 416,698
Claims priority, application Australia, Dec. 13, 1963, 38,833/63
10 Claims. (Cl. 96—1)

A method of conditioning photoconductor surfaces in which the image is developed in one liquid medium and a second liquid medium is then applied which is not compatible with the first medium so that both liquids wet different parts of the image and then applying a decomposing agent selective to one of the liquids to decompose the photoconductor in contact with the liquid.

3,406,062
METHOD FOR LIQUID DEVELOPMENT OF ELECTROSTATIC IMAGES USING CONDUCTIVE PARTICLES AS FLOATING ELECTRODES
Michael Michalchik, Bethpage, N.Y., assignor to Fairchild Camera & Instrument Corporation, Syosset, N.Y., a corporation of New York
No Drawing. Filed June 9, 1965, Ser. No. 462,718
8 Claims. (Cl. 96—1)

Method for liquid development of an electrostatic image without the use of fixed electrodes and without any criticality between fixed electrodes and the electrostatic image by suspending in the liquid developer conductive particles small enough to be suspended therein but large enough not to adhere to the electrostatic image, said conductive particles thereby functioning as a floating electrode.

3,406,063
XEROGRAPHIC MATERIAL CONTAINING AN INORGANIC PHOTOCONDUCTOR AND NONPOLYMERIC CRYSTALLINE ORGANIC SUBSTANCES AND METHODS OF USING OF SUCH MATERIAL
Josef Matkan, Malvern, South Australia, and Robert J. Wright, Tranmere, South Australia, Australia, assignors to Research Laboratories of Australia Pty. Limited, North Adelaide, South Australia, Australia
No Drawing. Filed Mar. 8, 1965, Ser. No. 438,120
Claims priority, application Australia, Mar. 11, 1964, 41,925/64
8 Claims. (Cl. 96—1.5)

An electrophotographic material is disclosed which includes a support and a photoconductive insulating layer coated thereon. The photoconductive insulating coating consists essentially of an inorganic photoconductor and nonpolymeric, crystalline organic substances. The organic substances may be acids, anhydrides, amine derivatives, phenol derivatives, esters, and aniline derivatives. Methods of using the electrophotographic material are also disclosed.

3,406,064
DIFFUSION TRANSFER WITH 4-METHYLPHENYLHYDROQUINONE IN THE EMULSION AND N,N-DIETHYLHYDROXYLAMINE IN THE PROCESSING FLUID
Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
No Drawing. Filed Feb. 2, 1965, Ser. No. 429,899
2 Claims. (Cl. 96—29)

Diffusion transfer processes for forming silver transfer images are disclosed wherein the photosensitive element includes a first silver halide developing agent (e.g., 4'-methylphenyl hydroquinone) which is a strong silver halide developing agent and is substantially nondiffusible from the photosensitive element to the silver-receptive stratum during processing, and the processing composition includes a second silver halide developing agent (e.g., N,N-diethylhydroxylamine) which is volatilizable at room temperature and is effective to reduce the transferred silver complex. The second developing agent is volatilized from the silver receptive stratum after the transfer image is formed and said stratum is separated from the developed photosensitive element.

3,406,065
PROCESS FOR THE REVERSAL DEVELOPMENT OF REPRODUCTION COATINGS CONTAINING O-NAPHTHOQUINONE DIAZIDE COMPOUNDS
Fritz Uhlig, Wiesbaden-Biebrich, Germany, assignor, by mesne assignments, to Azoplate Corporation, Murray Hill, N.J., a corporation of New Jersey
No Drawing. Filed Aug. 20, 1964, Ser. No. 391,021
Claims priority, application Germany, Aug. 23, 1963, K 50,617
6 Claims. (Cl. 96—33)

This invention relates to a process for producing a positive printing plate from a negative original, which comprises exposing to light under the original a light-sensitive layer containing an o-naphthoquinone diazide and carried on a support, developing the exposed material by treatment with an aqueous alkaline developing solution, removing in said development the exposed areas of the layer from the support, thereafter coating the layer-covered surface of the support with a lacquer the non-volatile components of which are soluble in aromatic hydrocarbons, and then removing from the support those areas originating from the layer, which had been covered during the image-wise exposure, by the application of a solvent capable of dissolving them, together with the lacquer on them.

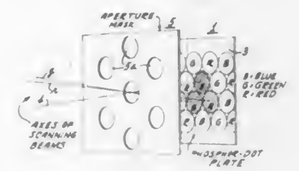
3,406,066
VITRIFIABLE PHOTOSENSITIVE EMULSION
Francis J. Avery, Vestal, N.Y., assignor to GAF Corporation, a corporation of Delaware
No Drawing. Filed Apr. 30, 1964, Ser. No. 363,982
13 Claims. (Cl. 96—34)

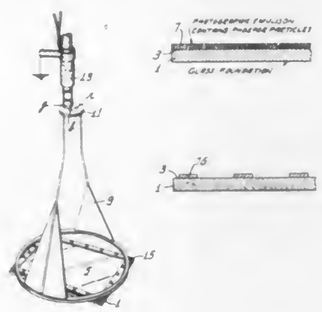
Photosensitive emulsion layers on a refractory surface, adapted for vitrification while resisting contraction, stretching, blistering, tearing and frilling, containing 10 to 50% of polyacrylamide or acrylamide-acrylic acid copolymer, or in the case of silver halide gelatin emulsions, containing 1.25 to 3.75 parts of silver per part of gelatin; and a method of producing vitreous colored images therewith involving imagewise exposure of such silver halide emulsions, developing, converting the image to metal ferrocyanide(s) which yield a colored oxide on firing, and firing the image.

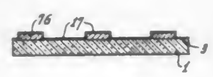
3,406,067
COLORED PHOTORESIST AND METHOD OF PREPARATION
Edward Cerwonka, Binghamton, N.Y., assignor to GAF Corporation, a corporation of Delaware
No Drawing. Filed July 6, 1965, Ser. No. 469,909
6 Claims. (Cl. 96—35.1)

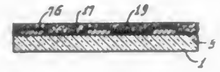
Preparation of colored photoresists by incorporating in a photopolymerizable layer a relatively colorless color-generating reagent yielding a color upon mild oxidation, exposing to a light pattern, oxidizing and removing the unexposed portion of the layer.

3,406,068
PHOTOGRAPHIC METHODS OF MAKING ELECTRON-SENSITIVE MOSAIC SCREENS
Harold B. Law, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed July 30, 1951, Ser. No. 239,358
21 Claims. (Cl. 96—36.1)













1. A method of manufacturing a cathode-ray tube comprising the steps of depositing on a screen-support of said tube a photosensitive substance, comprising an organic gel and a photosensitizing material, having a solubility which decreases with exposure thereof to light, and a first inorganic phosphor having a first given response characteristic upon impingement by electrons, selectively exposing spaced portions of said photosensitive substance to light, subjecting said photosensitive substance to a solvent whereby said photosensitive substance and said first phosphor are selectively removed in unexposed areas, depositing on said screen support and over the remaining portions of said first-deposited photosensitive substance a photosensitive substance, comprising an organic gel and a photosensitizing material, having a solubility which decreases with exposure thereof to light, and a second inorganic phosphor different from said first phosphor and having a second given response characteristic upon impingement by electrons, selectively exposing spaced portions of said second-deposited photosensitive substance to light, in areas offset from the previously exposed areas, subjecting said second-deposited photosensitive substance to a solvent whereby said second-deposited photosensitive substance and said second phosphor are selectively removed in unexposed areas thereof, and baking said screen support to remove said organic gel without removing said phosphors.

3. In a method of making a phosphor screen of the mosaic variety upon the target surface of a cathode-ray tube, the steps comprising:
coating said target surface with a photosensitive material, the solubility of which is decreased by exposure to actinic energy and with inorganic phosphor particles which emit light in response to electron bombardment, said photosensitive material comprising an organic gel and a photosensitizing material,
exposing said photosensitive material to actinic energy having a pattern of distribution corresponding to an array of elements of said mosaic so as to decrease its solubility in the exposed areas, thereby photographically recording said pattern upon said target surface,
removing said phosphor particles and photosensitive material from only the unexposed areas of said target surface, by selectively dissolving said photosensitive material in said unexposed areas, and
baking said target to remove said photosensitive material, but not said phosphor particles, from the exposed areas of the photographically recorded pattern on said target surface.

11. In a method for making a phosphor screen of the type having first and second arrays of discrete areas of phosphor particles of different light-emitting properties interleaved in the form of a mosaic pattern, the steps for producing such a mosaic pattern including:
depositing on a screen support a binder for said first phosphor particles comprising a photosensitizing material and an organic gel the solubility of which decreases with exposure to actinic energy;
associating with said binder first inorganic phosphor particles emissive of light of a first color in response to electron bombardment;
selectively exposing to actinic energy areas of the deposited binder so as to decrease its solubility in exposed areas, thereby producing areas of greater and lesser solubility;
dissolving the unexposed areas of said binder, leaving undissolved binder in exposed areas to define on said support a first array of such discrete areas;
depositing on said screen support a binder for said second phosphor particles comprising a photosensitizing material and an organic gel the solubility of which decreases with exposure to actinic energy;

associating with said second-mentioned binder second inorganic phosphor particles emissive of light of a second color in response to electron bombardment;

selectively exposing to actinic energy areas of said second-deposited binder offset in relation to the first-exposed areas so as to decrease its solubility in exposed areas, thereby producing areas of greater and lesser solubility;

dissolving the unexposed areas of said second-deposited binder, leaving undissolved binder in exposed areas to define on said support a second array of such discrete areas offset from said first array; and

baking said screen support to remove the remaining binder, leaving on said screen support a mosaic pattern of inorganic phosphor particles having different light-emitting properties under electron bombardment.

21. In the manufacture of a cathode-ray tube of the type comprising a phosphor screen support having, on a target face thereof, a mosaic phosphor screen including at least two arrays of phosphor deposits, each array comprising a different phosphor, said arrays being of substantially similar patterns offset from each other, a multi-apertured electrode disposed adjacent to said screen, and means for projecting electrons along different paths passing through the apertures of said electrode and onto said phosphor deposits of said screen, the method of establishing said patterns including the steps of:

(1) sensitizing the target face of said phosphor screen support by coating said face with an organic gel and a photosensitizing material, said organic gel having a solubility which decreases with exposure thereof to actinic energy;

(2) associating inorganic phosphor particles with said organic gel, said phosphor particles being emissive of light of a first color in response to electron bombardment;

(3) positioning a multi-apertured mask in the same position relative to said phosphor screen support that the multi-apertured electrode of the finished tube will have;

(4) projecting actinic energy through apertures in said thus-positioned mask and onto areas of said target face of said phosphor screen support from a first point, after said target face has been sensitized, to record directly on said phosphor screen support, the image of said apertures, thereby establishing thereon one of said patterns for one such array of phosphor deposits of said mosaic screen;

(5) dissolving the unexposed areas of said coating of organic gel by applying a solvent thereto;

(6) resensitizing said target face of said support by coating said face with organic gel and photosensitizing material;

(7) associating inorganic phosphor particles with said last-mentioned organic gel, said phosphor particles being emissive of light of a second color in response to electron bombardment;

(8) projecting actinic energy through said mask and onto areas of said target face of said phosphor screen support, after said target face has been resensitized, from a second point displaced from said first point, with said mask in the same position relative to said phosphor screen support that the multi-apertured electrode of the finished tube will have, to record directly on said phosphor screen support the image of said apertures, thereby establishing thereon another of said patterns for another such array of phosphor deposits of said mosaic screen, offset from said first-mentioned pattern;

(9) dissolving the unexposed areas of said last-applied coating of organic gel by applying a solvent thereto;

(10) and baking said target face to remove the organic gel but not the inorganic phosphor particles.

3,406,069

PHOTOGRAPHIC ELEMENT AND PROCESS

Joseph De Witt Overman, Eatontown, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 3, 1965, Ser. No. 461,200
15 Claims. (Cl. 96—74)

A photographic element comprising a support, a light-sensitive silver halide layer and a layer, e.g., a filter layer or antihalation layer comprising an organic binder and a metal chelate of a fuchsone dyestuff containing at least one carboxyl group ortho to a quinone or hydroxyl group in at least one of the benzene rings of the triphenyl methane structure of said dyestuff.

3,406,070

PROCESS FOR THE MANUFACTURE OF OPTICALLY BRIGHTENED PHOTOGRAPHIC MATERIAL

Alfred Oetiker, Basel, and Paul Schaefer, Rieben, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

No Drawing. Filed Feb. 19, 1965, Ser. No. 434,119
Claims priority, application Switzerland, Mar. 4, 1964, 2,715/64
12 Claims. (Cl. 96—82)

Valuable optically brightened photographic silver halide materials are obtained when an emulsion is dispersed in a photographic colloid which emulsion contains, emulsified in water, a solution in an organic solvent comprising (a) a hydrophilic polymerization resin having a refractive index similar to that of the photographic colloid, and (b) an optical brightening agent free from acid groups imparting solubility in water, and the dispersion so prepared is applied to a support and the layer obtained is dried.

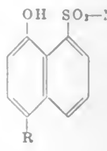
3,406,071

NAPHTHOL SULFONAMIDES AS COUPLING COMPONENTS FOR LIGHT-SENSITIVE DIAZOTYPE MATERIALS

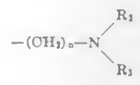
Oskar Süs, Wiesbaden-Biebrich, and Heinz Schäfer, Wiesbaden-Sonnenberg, Germany, assignors, by mesne assignments, to Keuffel & Esser Company, Hoboken, N.J.

No Drawing. Filed Sept. 11, 1964, Ser. No. 395,901
Claims priority, application Germany, Sept. 14, 1963, K 50,826
15 Claims. (Cl. 96—91)

1. A light-sensitive, dry-developing diazo composition which comprises a light-sensitive diazo compound and a coupling component selected solely from compounds having the formula:



where R is alkyl with up to six carbon atoms, and R_1 is a member selected from the group consisting of hydrogen, alkyl with up to six carbon atoms, cycloalkyl with six to seven carbon atoms, hydroxy alkyl with three carbon atoms and the group:

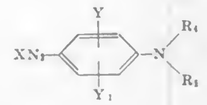


where *n* is a whole number from two to six and R_2 and R_3 are members selected from the groups consisting of:

group A and where R_2 and R_3 are selected individually from the group consisting of alkyl with up to six carbon atoms and cycloalkyl with six to seven carbon atoms; and

group B where R_2 and R_3 are members of the same heterocyclic ring selected from the group consisting of 5- and 6-membered rings

said diazo compound having the formula:



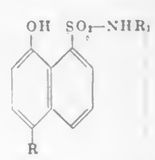
where R_4 and R_5 are members selected from one of the groups consisting of:

group C wherein R_4 and R_5 are members selected individually from the group consisting of alkyl radicals having one to six carbon atoms and hydroxy alkyl radicals having from one to six carbon atoms; and

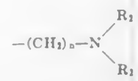
group D wherein R_4 and R_5 are members of the same heterocyclic ring selected from the group consisting of 5- and 6-membered heterocyclic rings,

where X is an acid radical, and where Y and Y_1 are members selected individually from the group consisting of hydrogen and alkoxy groups of low molecular weight and where Y and Y_1 are in para-position to each other when both are alkoxy groups.

10. A coupling component for a dry-developing diazotype material, which has the following formula:



where R is alkyl with up to six carbon atoms, and R_1 is a member selected from the group consisting of hydrogen, alkyl with up to six carbon atoms, cycloalkyl with six to seven carbon atoms, hydroxyalkyl with up to three carbon atoms and the group:



where *n* is a whole number from two to six and R_2 and R_3 are members selected from the group consisting of:

group A where R_2 and R_3 are selected individually from the group consisting of alkyl with up to six carbon atoms and cycloalkyl with six to seven carbon atoms; and

group B where R_2 and R_3 are members of the same heterocyclic ring selected from the group consisting of 5- and 6-membered rings.

3,406,072

ONE-COMPONENT DIAZOTYPES

Walter J. Welch, Port Dickinson, N.Y., assignor to GAF Corporation, a corporation of Delaware

No Drawing. Filed Dec. 21, 1964, Ser. No. 420,126
10 Claims. (Cl. 96—91)

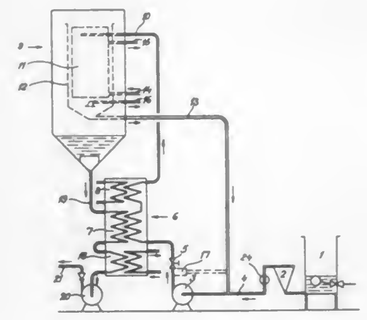
One-component diazotype photoprinting material and sensitizing compositions therefor, comprising acetamide or formamide and a diazonium salt derived from an N-benzyl - N - alkyl-p-phenylaminediamine or of a 4-morpholino- or 4 - thiomorpholino - 2,5 - dialkoxyaniline in which the alkoxy groups have 3 to 5 carbon atoms.

3,406,073

DEODORIZATION OF HEATED LIQUIDS

Bengt Arne Palm, Genarp, Sweden, assignor to Alfa-Laval A.B., Stockholm, Sweden, a corporation of Sweden

Filed Nov. 24, 1964, Ser. No. 413,576
Claims priority, application Sweden, Nov. 29, 1963, 13,241/63
8 Claims. (Cl. 99—61)



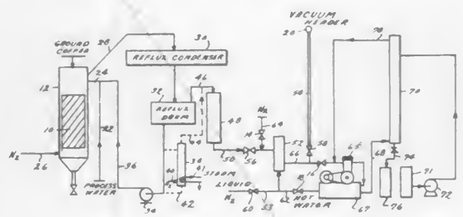
1. A method of deodorizing a heated liquid without changing its concentration, which comprises the steps of feeding the liquid to a vacuum chamber to generate vapors from the liquid while passing the unvaporized liquid to the bottom of said chamber, conveying said vapors through a surface condenser to form a condensate, and conveying said condensate, while apart from said chamber, to the liquid.

3,406,074

AROMATIZATION OF INSTANT COFFEE

Phillip Klein, Wyoming, Ohio, Irwin Raben, Oakland, Calif., and William R. Herrera, San Antonio, Tex., assignors, by direct and mesne assignments, to The Kroger Co., Cincinnati, Ohio, a corporation of Ohio

Filed Dec. 31, 1964, Ser. No. 422,649
4 Claims. (Cl. 99—71)



A process for producing aromatized coffee powder. Instant coffee is improved by the addition of coffee aroma constituents. The coffee aroma is produced by passing a stream of moist inert gas through ground roasted coffee and sequentially cooling the stream of gas to remove, first, 99% by weight of entrained water, second, to reduce the entrained water content to about 2–5 p.p.m. and, finally, to condense carbon dioxide and aroma constituents. The

carbon dioxide is separated from the aroma constituents, preferably in a gas chromatographic column, and the aroma is added to instant coffee powder by plating or other suitable means. In one form of the invention, the aroma is absorbed into granules divided by spray drying an emulsion of coffee oil and edible gum.

3,406,075

METHOD OF TREATING FRUIT

Harold W. Zukerman, Chicago, Ill., assignor to National Dairy Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 23, 1965, Ser. No. 434,621
7 Claims. (Cl. 99—102)

Treating cherries to remove sulfur dioxide by aerating in an aqueous solution containing sulfur dioxide under controlled pH conditions.

3,406,076

PROCESS FOR MAKING CHEESE BY COAGULATING MILK AT A LOW TEMPERATURE

Lawrence L. Little, Creve Coeur, Mo., assignor to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 487,601, Sept. 15, 1965. This application July 19, 1966, Ser. No. 566,198
12 Claims. (Cl. 99—116)

1. A method for making cheese curd from milk comprising:

(a) refrigerating milk to a temperature above freezing to about 60° F. wherein coagulation will not occur within a pH range of from about 4.00 to 4.95; and

(b) setting said milk while it is at said temperature by acidifying to a pH from 4.00 to 4.95 and adding proteolytic enzymes in amounts to effect casein coagulation while maintaining said milk at temperatures above freezing to about 60° F.

3,406,077

FLUORIDATED FLOW CONDITIONER AND SALT COMPOSITIONS AND PROCESSES FOR PRODUCING SAME

Riyad R. Irani, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 31, 1964, Ser. No. 422,529
14 Claims. (Cl. 99—143)

Fluoridated flow conditioner compositions having a particle size smaller than about 100 microns and containing from about 0.1% to about 20% of a fluoride containing material selected from the group consisting of simple fluoride salts, complexing salts containing fluorides, water insoluble fluorine containing compounds and mixtures thereof. Sodium chloride compositions containing from 0.1% to about 20% of said fluoridated flow conditioner and dry processes for producing the beforementioned fluoridated flow conditioner.

3,406,078

PROCESS FOR COATING LOW MOISTURE FRUITS

L. G. Williams, Martinez, Calif., assignor to Vacu-Dry Company, Emeryville, Calif., a corporation of California

No Drawing. Filed Aug. 17, 1964, Ser. No. 390,193
7 Claims. (Cl. 99—168)

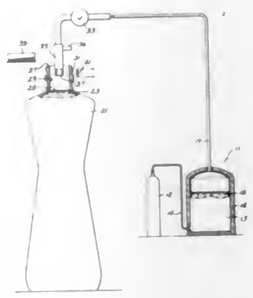
Low moisture fruit segments are precoated with a sugar mixture bonding material, exposed to a humid atmosphere, vacuum dried to a low moisture content, and then postcoated with a slightly moistened granular coating.

3,406,079

PACKAGING OF SALAD OILS AND THE LIKE

Walter P. Gibble, La Habra, Calif., assignor to Hunt Foods and Industries, Inc., Fullerton, Calif., a corporation of Delaware

Filed Apr. 2, 1965, Ser. No. 445,027
16 Claims. (Cl. 99—171)



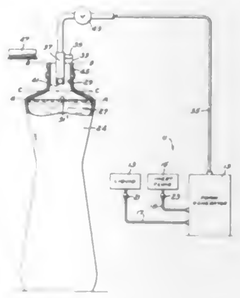
Air is displaced from the headspace of a container before capping by discharging into the headspace a chilled inert gas having a density significantly greater than that of air. The inert gas may be heated thereafter.

3,406,080

PACKAGING OF SALAD OILS AND THE LIKE

Walter P. Gibble, La Habra, Calif., assignor to Hunt Foods and Industries, Inc., Fullerton, Calif., a corporation of Delaware

Filed Apr. 30, 1965, Ser. No. 452,167
7 Claims. (Cl. 99—171)



Air or other headspace gas is displaced from the headspace of an open-top container by a foam having a component of inert gas and a component that is at least partially frozen. After the container is closed the foam is disintegrated leaving the headspace filled with inert gas.

3,406,081

METHOD FOR PREPARING A COATED MEAT PRODUCT

Clifford D. Bauer, Gerald L. Neuser, and Hamilton A. Pinkalla, Milwaukee, Wis., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Continuation-in-part of application Ser. No. 512,558, Dec. 8, 1965. This application Oct. 14, 1966, Ser. No. 586,641
1 Claim. (Cl. 99—194)

The present invention concerns a method for preparing a coated meat product by coating the meat with a water-in-oil emulsion and solidifying said coating.

3,406,082

FUMIGATING PRODUCE WITH HYDRAZOIC ACID

Edwin K. Plant, Pittsburgh, Pa., assignor to PPG Industries, Inc., a corporation of Pennsylvania

No Drawing. Filed July 15, 1965, Ser. No. 472,332
4 Claims. (Cl. 99—225)

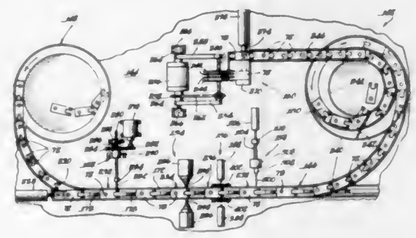
A method of treating stored raw produce which comprises contacting said produce with hydrazoic acid.

3,406,083

FLANGE BUSHING MACHINE

James W. Sundstrom, Holly Springs, Miss., assignor to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio

Filed Feb. 14, 1963, Ser. No. 258,477
20 Claims. (Cl. 156—423)



1. In apparatus to be used in making parts for a piano action, the combination comprising:

(a) guide means for supporting a plurality of such parts in predetermined spatial orientation;

(b) cyclically operable means for progressively and incrementally transporting said parts through said guide means, the end of each increment of movement defining a rest position for the parts;

(c) dispenser means disposed laterally of said guide means at a first one of said rest positions for applying adhesive material to the surface of a pivot bore formed in each of the action parts; and

(d) bushing assembly means disposed laterally of said said guide means at a second one of said rest positions processwise subsequent to said dispenser means for inserting a tubular bushing in the pivot bore formed in each of the action parts.

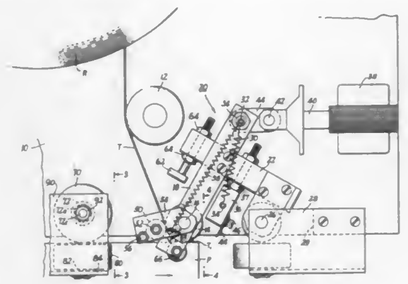
3,406,084

TAPE APPLICATOR

Leroy M. Varga, Dover, N.J., assignor to Stapling Machine Co., Rockaway, N.J., a corporation of Delaware

Filed Nov. 2, 1966, Ser. No. 591,636
6 Claims. (Cl. 156—522)

1. Apparatus for applying adhesive tape to a package being moved relatively thereto, said mechanism comprising a support member, tape supply means spaced from one side of said package, an applicator roller rotatably mounted on said support member in such position as to engage the outer surface of a length of tape extending from said tape supply means to the surface of said package, said support member being mounted for movement between a tape-applying position at which said applicator roller engages the outer surface of said tape and presses the gummed surface of said tape against the surface of said package and a retracted position at which said applicator roller is spaced from said package, allowing the movement of said package to pull said length of tape straighter, means for moving said support member between said tape-applying position and said retracted position, a reset arm, a reset roller rotatably mounted on said reset arm in position to engage the gummed surface of said tape between said applicator roller and said tape supply means, said reset arm being mounted for movement of said reset roller transversely of said length of tape, yieldable means urging said reset arm and reset roller to move in such direction as to bend said tape, the pressure of said yieldable means being overcome by the tension imposed on said tape as said package moves relative to said mechanism thus more nearly straightening said tape and allowing feeding of a short length of tape to said package without removal of tape from said supply means, a cutting knife mounted in such position as to engage the outer surface of the portion of said length of tape between said applicator roller and said package and cut said tape when said support member is moved to said retracted position and to be clear of said tape when said support member is in said tape-applying position.

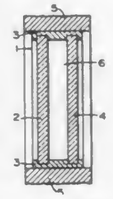


3,406,085

PHOTOCHROMIC WINDOW

Donald N. Brown, Benjamin Justice, and Thomas G. O'Leary, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed May 11, 1964, Ser. No. 366,457
3 Claims. (Cl. 161—45)



This invention relates to photochromic glasses which are reversibly darkened through the action of actinic radiations having wave lengths within the range of about 3000–5500 A. More particularly, this invention relates to improving the proportionality of such glasses to solar radiation, i.e., improving the direct relationship existing between the extent of darkening and the intensity of solar radiation impinging thereon, by filtering part of the ultraviolet portion of the solar radiation incident thereon.

3,406,086

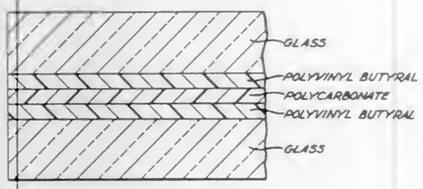
TRANSPARENT SAFETY LAMINATES AND METHOD OF MAKING SAME

William E. Foster, Pittsburgh, Pa., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

Filed Mar. 31, 1965, Ser. No. 444,212
5 Claims. (Cl. 161—183)

Laminated articles, including safety glass, where a sheet of polyaryl carbonate is bonded to a transparent

panel with a sheet of polyvinyl acetal in face-to-face contact by assembling the three components with a polyvinyl acetal between the polyaryl carbonate and the



transparent panel and heating the assembled article for five to fifteen minutes at a temperature of 300 to 400° F. and a pressure of 1 to 50 pounds per square inch.

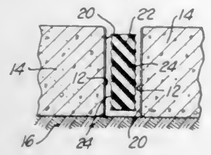
3,406,087

CROSS-LINKED MOLECULAR ADHESIVE EXPANSION JOINTS

Le Roy H. Potter, 412 Magnolia, Glendale, Calif. 91204

Continuation-in-part of application Ser. No. 148,349, Oct. 30, 1961. This application Mar. 29, 1965, Ser. No. 445,848

6 Claims. (Cl. 161—184)



1. An adhesive joint, said adhesive joint comprising:
a first mass, an elastomeric mass and epoxy adhesive therebetween;
said epoxy adhesive being a condensation product of Bisphenol-A and epichlorohydrin and being in adhesive engagement with said first mass;
said elastomeric mass being a body of elastomeric material containing long aliphatic hydrocarbon chains which is capable of being reacted by a vulcanizing type of reaction;
some of the epoxide groups of said epoxy adhesive being cross linked with some of said aliphatic chains so that said elastomeric mass is connected to said epoxy adhesive.

3,406,088

METHOD OF FORMING MULTI-PLY BOARD WITH PLIES OF DIFFERENT CONSISTENCIES

William B. Stengle, Savannah, and Frederick B. Schelhorn, Hardin, Tenn., assignors to Tennessee River Pulp and Paper Company, Counce, Tenn.

Filed June 21, 1965, Ser. No. 465,354

1 Claim. (Cl. 162—125)

A process of manufacturing multi-ply paperboards and the resulting product wherein improved bending and folding characteristics are obtained. The method comprises the steps of refining the fibers in plies other than the outer ply at low consistencies and refining the fibers of the outer ply at high consistencies.

3,406,089

PROCESS FOR THE DIGESTION OF CELLULOSIC MATERIAL BY ENZYMATIC ACTION OF *TRAMETES SUAVEOLENS*

William D. Yerkes, Jr., Appleton, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Oct. 2, 1964, Ser. No. 400,988

The portion of the term of the patent subsequent to Mar. 20, 1984, has been disclaimed

2 Claims. (Cl. 162—199)

A procedure for digesting cellulosic material which procedure is characterized by the enzymatic action of cellulase of *Trametes suaveolens* derivation. The cellulase in its digestion of the cellulose effects an initial breakdown commonly attributed to the C_1 enzyme and a further attack on linear cellulosic molecules commonly attributed to the C_x enzyme, both the C_1 and C_x enzyme being clearly present in the cellulase of *Trametes suaveolens* derivation. Additionally, pentosanase activity is demonstrated in the process of application of the cellulase of *Trametes suaveolens* derivation. The procedure is specifically useful in: the cleaning of equipment by removal of cellulosic materials including the cleaning of papermaking felts, and in modification of the properties of papermaking pulps.

3,406,090

NUCLEAR REACTOR FUEL ELEMENT

Peter Douglas Dunn, Moulsford, Herbert Clucas Whitby, Abingdon, and Graham Rice, Wallingford, England, assignors to United Kingdom Atomic Energy Authority, London, England

Filed Dec. 3, 1965, Ser. No. 511,369

Claims priority, application Great Britain, Dec. 8, 1964, 36,813/64

1 Claim. (Cl. 176—73)



In a nuclear reactor the fuel elements are porous and a liquid coolant is fed to the element such that the coolant diffuses through the element and leaves the element as a vapour.

Preferably the fuel element is a hollow cylindrical body and the coolant diffuses radially through the element.

The coolant may be water or a liquid metal and the coolant may be fed to the center of the element to diffuse radially outwards, for example, in a pressure tube arrangement; or the coolant can be supplied as a liquid to the exterior of the element to diffuse radially inwards i.e. a pressure vessel arrangement.

3,406,091

CONTROL SYSTEM FOR LARGE REACTORS

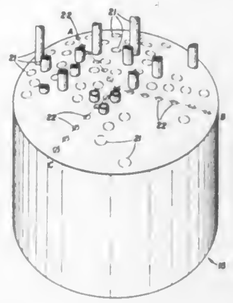
Ian Norton MacKay, Peterborough, Ontario, Canada, assignor to Canadian General Electric Company Limited, Toronto, Ontario, Canada, a corporation of Canada

Filed Dec. 12, 1966, Ser. No. 601,042

3 Claims. (Cl. 176—28)

A pressure tube thermal power nuclear reactor with individual power zones, each having a separate coolant circuit is provided with reactivity suppression means permitting at least partial shut down of a selected zone, and booster means within the reactor operative on the zones adjacent the shut down zone to compensate for the loss

of neutron activity from that zone, to maintain effective production of thermal power in the adjacent zones, where-



by partial shut down of the reactor can be selectively effected.

3,406,092

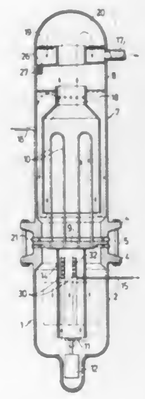
DEVICE FOR CONTROLLING THE REACTIVITY OF A NUCLEAR REACTOR

Peter Heinrich Erwin Margen, Roslags-Nasby, Sweden, assignor to Aktiebolaget Atomenergi, Stockholm, Sweden, a company of Sweden

Filed Dec. 18, 1964, Ser. No. 419,501

Claims priority, application Sweden, Dec. 20, 1963, 14,380/63

2 Claims. (Cl. 176—35)



1. A device for controlling the reactivity of the nuclear reactor having a forced coolant circulation, the coolant flowing upwardly through the reactor core because of the pressure drop thereover, said device comprising at least one tube extending partly in the core and partly above said core, said tube containing at least one neutron absorbing body freely movable up and down in said tube, the lower end of said tube being open into the reactor and the upper end of said tube being closed, a side conduit connected to said tube at a location between said ends of the tube, the free end of the side conduit being connected to a zone in the circulation system of the reactor having a lower pressure than that of the zone to which the open lower end of the tube is connected, the side conduit containing a variable restriction for controlling the rate of fluid flow therein.

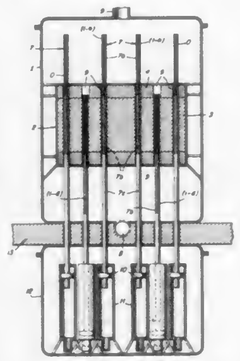
3,406,093

CONTROL ROD SYSTEM FOR NUCLEAR POWER EXCURSION REACTORS

Sergio Galli de Paratesi and Carlo Rinaldini, Varese, Italy, assignors to European Atomic Energy Community—Euratom, Brussels, Belgium

Filed Apr. 12, 1966, Ser. No. 542,030

9 Claims. (Cl. 176—36)



A control system for affecting bi-directional, variable speed movement of control rods in the core of a nuclear reactor, especially adapted for use in reactors of the power excursion type.

3,406,094

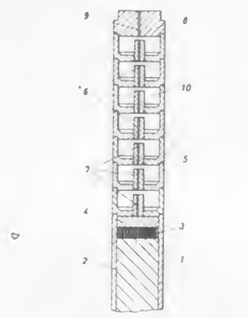
PROCESS AND DEVICE FOR THE DISCHARGE OF FISSION GASES FROM NUCLEAR FUEL ELEMENTS

Heinrich Beisswenger, Friedlandstrasse 3, and Bernhard de Temple, Schneidemuhlerstr. 12H, both of Karlsruhe, Germany

Filed June 3, 1965, Ser. No. 461,146

Claims priority, application Germany, June 3, 1964, G 40,743; Dec. 31, 1964, G 42,445; Mar. 26, 1965, G 43,187

27 Claims. (Cl. 176—79)



1. Device for removing fission gases from nuclear reactor fuel elements, comprising a fuel element in which fission gases develop; a fission-gas discharge device attached to said fuel element and having chamber means including an inlet and an outlet and through which the gases are adapted to flow in a path extending from said inlet to said outlet; and means for throttling the flow of such gases through said chamber means.

3,406,095

PROCESS FOR PRODUCING L-GLUTAMIC ACID BY FERMENTATION OF HYDROCARBONS

Shinichiro Otsuka, 73 Yamashita-cho, Naka-ku, Yokohama-shi, and Ryosuke Ishii, 2 4-chome, Oshima-machi, Kawasaki-shi, both of Kanagawa-ken, Japan; Isamu Shiio, 99 1-chome, Komagome, Toshima-ku, Tokyo, Japan; and Noboru Katsuya, 711 Nakamaruko, Kawasaki-shi, Kanagawa-ken, Japan

No Drawing. Filed Mar. 26, 1965, Ser. No. 443,101
Claims priority, application Japan, Mar. 28, 1964, 39/17,008
13 Claims. (Cl. 195—28)

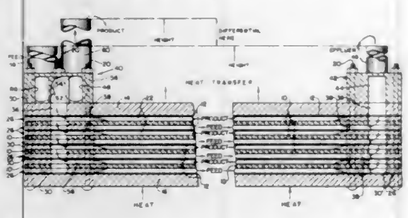
The yield of L-glutamic acid from the fermentation of a culture medium containing hydrocarbons as principal carbon source by micro-organisms not requiring biotin for growth is significantly increased by adding substances having penicillin activity in an amount equivalent to 5 to 300 units of penicillin per milliliter of the medium. Various strains of *Corynebacterium hydrocarboclastus* and *Corynebacterium oleophilus* are disclosed as effective.

3,406,096

DISTILLATION UNDER HYDROSTATIC PRESSURE WITH VAPOR PERMEABLE MEMBRANE

Franklin A. Rodgers, Los Altos, Calif., assignor to Pactide Corporation, Cambridge, Mass., a corporation of Delaware

Filed Nov. 26, 1965, Ser. No. 510,014
7 Claims. (Cl. 202—172)



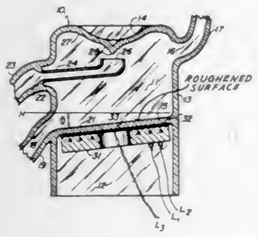
In a still in which a layer of distilland liquid in contact with one side of a microporous membrane is heated to vaporize the liquid while a layer of distillate liquid in contact with the opposite side of a membrane is cooled to transfer and condense the vapor, the distillate is maintained at a higher hydrostatic pressure than the distilland to prevent contamination of the distillate should a leak occur in the membrane.

3,406,097

MOLECULAR STILL

William S. Port, Andover, and Charles K. Chiklis, Lexington, Mass., assignors to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed Jan. 17, 1966, Ser. No. 520,954
3 Claims. (Cl. 202—190)



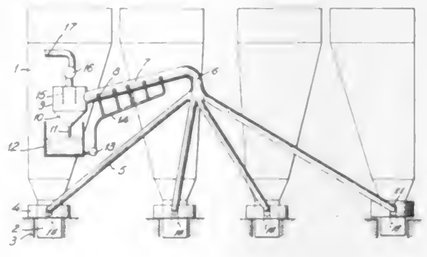
The invention covers a molecular still having an evaporation compartment defined by vertical walls and a top and bottom wall. The bottom wall has a planar roughened surface inclined from 5 to 15 degrees with the horizontal. Heating means is provided on the undersurface of the bottom wall to heat the top surface for evaporating drops of material that are dropped on the top surface.

3,406,098

DISCHARGE AND PURIFYING DEVICE FOR GASEOUS PRODUCTS

Joachim Humez, Wingles, Maurice Germain Jacques Meunier, Pont-a-Vendin, and Louis Pierre Clement Soubrier, Lambres-lez-Doual, France, assignors to Houilleres du Bassin du Nord et du Pas-de-Calais, Nord, France

Filed Mar. 15, 1965, Ser. No. 439,794
Claims priority, application France, Mar. 24, 1964, 968,413
10 Claims. (Cl. 202—263)



1. A device for catching and purifying smoke produced during the charging of a coke oven provided with at least one charging hole, comprising, in combination, in respect of said charging hole of said coke oven, a retractable smoke-box, a fixed suction pipe, a sliding joint means between said smoke-box and said pipe to provide first and second relative positions between said smoke-box and pipe, the smoke-box and pipe being in communication with one another in said first position and isolated from the ambient atmosphere, whereas in the second position the smoke-box is open to atmosphere and the pipe is isolated therefrom, a hydraulic purifier having an inclined chamber and including low and top portions of which the top portion is operatively connected with said pipe, a separator operatively connected to the low portion of said hydraulic purifier, said separator being provided with a gas outlet, and suction means operatively connected to said gas outlet of said hydraulic separator.

3,406,099

DISTILLATION OF AN AZEOTROPIC MIXTURE OF CF_3COCF_3, HF AND CCl_2FCClF_2

Walter R. Buckman, Baton Rouge, and William R. Clemmons, Baker, La., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 16, 1965, Ser. No. 487,917
8 Claims. (Cl. 203—50)

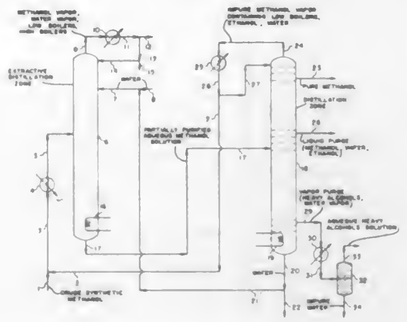
CF_3COCF_3, HF and CCl_2FCClF_2 form a constant boiling azeotrope boiling at about 13° C. at about atmospheric pressure having a molar ratio of CF_3COCF_3/HF/CCl_2FCClF_2 of about 4:4:1. This azeotropic system may be taken advantage of to separate CF_3COCF_3, HF or CCl_2FCClF_2 from mixtures containing one or more of these materials. The azeotropic system is particularly useful to separate CCl_2FCClF_2 from mixtures containing it and dichlorotetrafluoroacetone (sym- or unsym-).

3,406,100

PURIFICATION OF SYNTHETIC METHANOL BY EXTRACTIVE DISTILLATION AND SUBSEQUENT DISTILLATION WITH PLURAL SIDE STREAM PURGES

Maxim Karafian, Cold Spring Harbor, N.Y., assignor to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 16, 1966, Ser. No. 602,388
10 Claims. (Cl. 203—78)



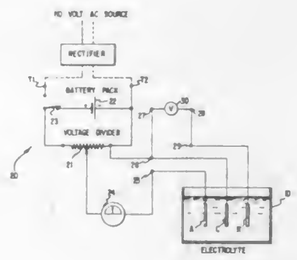
Crude synthetic methanol is purified by water extractive distillation to produce partially purified aqueous methanol solution. The methanol is further purified by being passed to a second distillation zone or column, to produce pure methanol via an upper side draw-off, with bottom water draw-off. The second distillation column is provided with an upper side liquid purge about the point of aqueous methanol solution entry, primarily to remove ethanol; and a lower vapor purge in the lower section and above the point of water removal, to remove ethanol and other higher alcohols. The vapor purge is cooled and condensed, with the formation of a heavy alcohols-rich phase which is recovered as a tails stream, and a water-rich phase.

3,406,101

METHOD AND APPARATUS FOR DETERMINING CORROSION RATE

James M. Kilpatrick, Tulsa, Okla., assignor, by mesne assignments, to Petrolite Corporation, Webster Grove, Mo., a corporation of Delaware

Filed Dec. 23, 1963, Ser. No. 332,399
20 Claims. (Cl. 204—1)



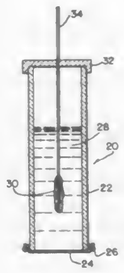
Apparatus and process for rapidly determining the corrosion rate of metallic constructional material exposed to a corrodant electrolyte, for example, an oil field brine, by means of polarization measurements in the electrolytic environment, said apparatus comprising test probe means including three electrodes consisting of a test specimen, a reference electrode and a third electrode, said test specimen and said reference electrode being substantially dimensionally identical and being formed of said metallic material, for example, steel, said test probe means being adapted for immersion in said corrodant electrolyte, means for passing a measurable amount of a polarizing current through the third electrode and the test specimen in an amount sufficient for polarizing said test specimen, said means for passing said measurable amount of polarizing current including a source of direct current, a circuit connecting said third electrode and said test specimen to said direct current source, means in said connecting circuit across said direct current source for accurately controlling the current supplied to the third electrode, for example, a voltage divider, means in said circuit for measuring the current, for example, a calibrated ammeter, and means arranged in an external circuit between the test specimen and the reference electrode for metering said predetermined amount of polarization of the test specimen with respect to the reference electrode. The process comprises immersing said three electrodes in the corrodant electrolyte, one electrode as the anode, another electrode as the cathode and the third electrode as the reference electrode, each of said electrodes having a predetermined exposed area, passing a measurable amount of direct current through the anode, corrodant electrolyte and cathode in an amount sufficient to effect a predeterminable measurable polarization of said one of said anode and said cathode with respect to said reference electrode, detecting electrically and metering the current density with respect to corrosion rate weight loss of the electrode required to obtain said predetermined polarization to produce a composite corrosion rate-polarization resistance curve whereby the corrosion rate of an electrode of said metal in contact with an electrolytic environment similar to said corrodant electrolyte can be correlated with aspects of the curve and determined by electrically measuring the current density required for an electrode of said metal and said predetermined surface area to obtain said predetermined polarization when immersed in said electrolytic environment.

3,406,102

ION-SENSITIVE ELECTRODE WITH ORGANO-METALLIC LIQUID ION-EXCHANGER

Martin S. Frant and James W. Ross, Jr., Newton, Mass., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Apr. 7, 1965, Ser. No. 446,312
14 Claims. (Cl. 204—1)



14. Method of determining the activity of a specific ionic species in aqueous solution and comprising the steps of:

contacting said solution with a body of ion-exchanger liquid substantially insoluble in said solution, said

liquid including an organo-metallic compound having an ion exchangeable with said species, the carbon-to-metal bonding of said compound being substantially stable;

electrically contacting said ion-exchanger liquid with a reference electrode exhibiting a substantially fixed contact potential with respect to said liquid;

electrically contacting said solution with another reference electrode exhibiting a substantially fixed contact potential with respect to said solution;

electrically connecting said reference electrodes to a potentiometric device;

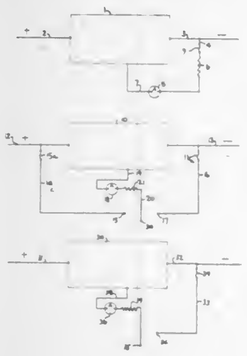
measuring the potential developed across the interface between said solution and said liquid.

3,406,103

METHOD AND APPARATUS FOR MONITORING LINING DAMAGE OF ALKALI METAL CHLORATE BIPOLAR CELLS

Carl W. Raetzsch, Corpus Christi, Tex., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 21, 1965, Ser. No. 457,667
5 Claims. (Cl. 204—1)



A method and apparatus for monitoring an alkali metal chlorate cell for lining damage wherein a current meter is connected between the negative terminal of the cell current source and a side of the cell which is electrically conductive but normally electrolytically insulated from the electrolyte in the cell. Current flow measured by the meter exceeding a predetermined value is indicative of lining damage in the cell.

3,406,104

METHOD OF PREPARING MATRICES FOR A COMPOSING AND CASTING MACHINE

Julius Schneider, 9 Maximiliansplatz 8, Munich 27, Germany

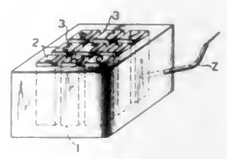
Filed June 18, 1965, Ser. No. 464,985
Claims priority, application Germany, June 22, 1964, Sch 35,362, Patent No. 1,251,340
15 Claims. (Cl. 204—6)

1. A method of preparing matrices for a composing and casting machine which comprises:

(a) forming a block of conductively connected letters, the faces of said letters facing in a common direction;

(b) covering said block with stop off material in such a manner as to leave said faces and a conductive path therebetween exposed;

(c) making the covered block the cathode in an electroplating solution until a shell of electrodeposited metal is formed on said faces and said conductive path;



(d) backing said shell with reinforcing materials to form a body in which said shell constitutes a face portion; and

(e) cutting said body transversely of said face portion into sections corresponding to said letters respectively.

3,406,105

METHOD OF TREATING SURFACES

Calvin O. Letendre, Northford, Conn., assignor to Chromium Corporation of America, Waterbury, Conn., a corporation of Delaware

No Drawing. Filed Sept. 3, 1963, Ser. No. 306,359
8 Claims. (Cl. 204—16)

1. The process of electrodepositing a smooth level coating of metal on a basis metal containing surface depressions which comprises filling in the surface depressions with a viscous, electrically conductive resin containing 10%–90% flaky iron particles having a particle size of 177–74 microns and 90%–10% fibrous iron particles having a particle size of 26–62 microns; hardening said resin; removing excess resin thereby forming a level surface; and electrodepositing a smooth level metal coating on said surface.

3,406,106

COATING TREATMENT

Willard S. Garwood, Dearborn, and John B. Saxton, Detroit, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 336,037, Jan. 6, 1964. This application June 27, 1967, Ser. No. 649,094
4 Claims. (Cl. 204—37)

Heat treating anodized aluminum coatings in an atmosphere having a dew point of at least 150° F. prevents cracking and crazing of the anodized coating, especially coatings that have been sealed prior to heat treatment by immersion in dichromate solutions, boiling water, or other sealing materials. The dew point must be maintained above about 150° F. until the article is cooled below about 160° F. Heat treatment at temperatures exceeding 300° F. have been accomplished without cracking or crazing the anodized coating.

3,406,107

NON-CYANIDE SILVER PLATING BATH

Kurt R. Grebe, Beacon, and John V. Powers, Shenorock, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

No Drawing. Filed Dec. 7, 1964, Ser. No. 416,594
2 Claims. (Cl. 204—46)

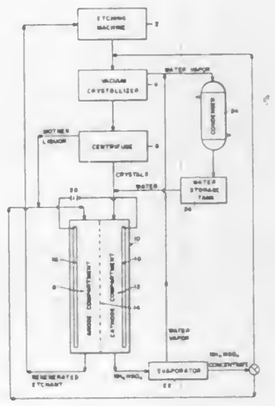
A non-cyanide silver plating bath is described. The bath is composed of ammonium phosphate, sodium phosphate and silver nitrate. Silver films deposited from the above bath are mirror bright, ductile and have excellent adhesive properties with respect to the substrates upon which the films are deposited.

3,406,108

REGENERATION OF SPENT AMMONIUM PERSULFATE ETCHING SOLUTIONS

Kenneth J. Radimer, Little Falls, and Frank E. Caropreso, Hamilton, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 451,635, Apr. 28, 1965. This application Oct. 1, 1965, Ser. No. 495,374
23 Claims. (Cl. 204—82)



1. A process for regenerating an ammonium persulfate etching solution which contains a dissolved metal selected from the group consisting of copper, cobalt, iron, nickel and zinc which comprises separating from said solution a persulfate-free mixture containing ammonium sulfate values and metal sulfate values corresponding to said dissolved metal and leaving a remaining solution containing sulfate values, adding said persulfate-free mixture into the cathode section of an electrolytic cell for use as a catholyte, adding said remaining solution containing sulfate values into the anode section of said electrolytic cell for use as an anolyte, said cathode and anode sections of said electrolytic cell being contained in a manner to prevent substantial amounts of persulfate values present in the anolyte from mixing with the catholyte, but permitting the free passage of at least hydrogen ions between said anolyte and said catholyte, passing an electric current through said catholyte and anolyte by means of a cathodic electrode contacting said catholyte and an anodic electrode contacting said anolyte, converting sulfate ions to persulfate ions at said anodic electrode, converting the dissolved metal ions to the corresponding metal at said cathodic electrode, and recovering an anolyte solution having an increased persulfate content.

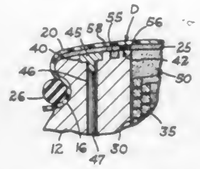
3,406,109

POLAROGRAPHIC SENSOR

Everett W. Molloy, Yellow Springs, Ohio, assignor to The Yellow Springs Instrument Company, Inc., Yellow Springs, Ohio, a corporation of Ohio

Filed July 20, 1964, Ser. No. 383,768
3 Claims. (Cl. 204—195)

A sensor cell for polarographic analysis includes an anode and a cathode supported in an electrically insulating body having a convex face with a membrane spaced from the face to form an electrolyte chamber, the membrane being permeable to the constituent being measured. The chamber, which is of capillary dimensions, is filled with an electrolyte which contacts both the anode and cathode, which may be of silver and gold, respectively. The cathode is annular in shape and spaced from the anode, the latter surrounding the cathode and being supported on the working face. An annular land is provided on the working face between the anode and cathode so that as the anode is consumed, the anodic material tends to deposit on the land, a groove being provided



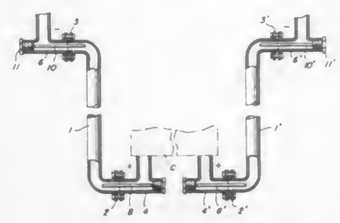
adjacent the land to promote deposition of the anodic products on that portion of the land spaced from the cathode. In this way, a sensor is provided which is relatively insensitive to mechanical shock, possessing a faster response time, the relatively fast recovery from mechanical shock, if it occurs.

3,406,110

CATHODIC PROTECTION OF PIPING IN COOLING SYSTEMS FOR OSCILLATORS AND THE LIKE

Henry E. Turnes, 7041 Arkansas Ave., Hammond, Ind. 46323, and Charles Horvath, Jr., 2105 Franklin St., East Chicago, Ind. 46312

Filed Nov. 21, 1963, Ser. No. 325,343
5 Claims. (Cl. 204—197)



1. In combination with an electrically non-conductive coolant-carrying pipe, a pair of electrically conductive coolant-carrying elements connected to the ends thereof for transfer of coolant therethrough, one of said conductive elements having a positive charge in relation to the other and sacrificial anode means extending from the positively charged element into the proximate end of the pipe, a cathodic target comprising an electrically conductive rod extending axially into the other end of the pipe, and removable means carried by the other of said conductive elements for supporting said rod therefrom.

3,406,111

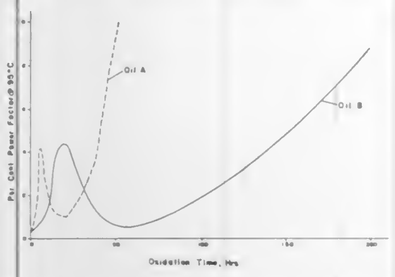
TRANSFORMER OIL

Raymond Wynkoop, Gladwyne, and Shirley C. Bartlett, Jr., Broomall, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Continuation-in-part of application Ser. No. 94,433, Mar. 9, 1961. This application July 12, 1962, Ser. No. 209,345
4 Claims. (Cl. 208—14)

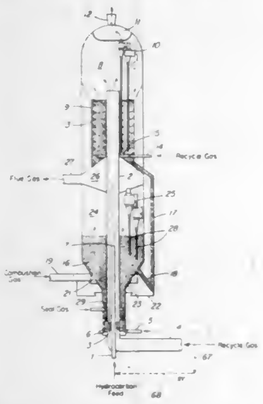
1. A transformer oil comprising a naphthenic petroleum distillate boiling in the range of 460–775° F. having a viscosity in the range of 50–65 S.U.S. at 100° F., a viscosity-gravity constant in the range of 0.84–0.92 and a nitrogen content less than 4 p.p.m. and, when tested under Doble Oxidation Test conditions in the absence of an added inhibitor, exhibiting the following characteristics: (1) a neutralization number less than 0.25 mg.

KOH/g. at 96 hours oxidation time; (2) absence of sludge at 96 hours oxidation time; and (3) power factors



during the oxidation period of 0–96 hours consistently less than 2 percent.

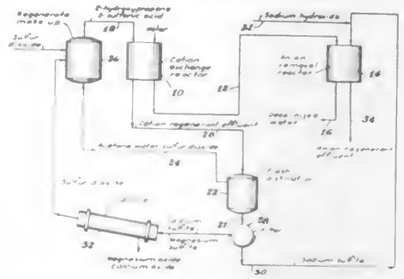
3,406,112
CATALYTIC CRACKING PROCESS
Vernon O. Bowles, Katonah, N.Y., assignor to Mobil Oil Corporation, a corporation of New York
Continuation of application Ser. No. 540,604, Apr. 6, 1966. This application Dec. 26, 1967, Ser. No. 693,676
3 Claims. (Cl. 208—153)



A cyclic catalytic conversion process wherein conversion is conducted in a riser reactor. Regenerated catalyst is mixed with a low boiling hydrocarbon lift gas in the bottom of a riser. The mixture of lift gas and catalyst is carried upwardly in the riser as a dilute phase and contacted therein with a vaporous hydrocarbon feed to effect conversion. The catalyst is separately recovered from lift gas and hydrocarbon product. The catalyst is regenerated and recycled to the bottom of the riser. The hydrocarbon product is fractionated to recover fractions including low boiling hydrocarbons which are recycled to be used as lift gas and desired hydrocarbon product. The hydrocarbon feed inlet in the riser is vertically adjustable to regulate contact time in the riser.

3,406,113
DESALINATION PROCESS
Robert E. Anderson, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Dec. 26, 1967, Ser. No. 693,325
12 Claims. (Cl. 210—30)

An ion exchange process is provided for the desalination of water. The process includes regeneration of the cation exchange resin with a complex sulfonic acid and regeneration of the anion exchange resin with sodium sulfite. Preferably, the regenerant effluents of both ion exchange resins are mixed and this mixture is distilled to substantially recover the complex sulfonic acid and sodium sulfite regenerants for reuse.



3,406,114
PROCESS FOR FLOCCULATING FINELY DIVIDED SOLIDS SUSPENDED IN AN AQUEOUS MEDIUM WITH A MICROBIAL POLYSACCHARIDE
Mayer B. Goren, Golden, Colo., assignor to Kerr-McGee Oil Industries, Inc., a corporation of Delaware
No Drawing. Filed July 20, 1964, Ser. No. 383,949
15 Claims. (Cl. 210—54)

Finely divided inorganic solids suspended in an aqueous medium are flocculated and settled by mixing therewith a flocculating agent including a microbial polysaccharide prepared by cultivating a microorganism such as *Pullularia pullulans, Xanthomonas campestris* B–1459, Arthrobacter sp. B–1973, *Cryptococcus laurentii* var. *flavescens* Y–1401, *Hansenula capsulata* Y–1842, *Hansenula holstii* Y–2154, *Hansenula holstii* Y–2448 and *Plectania occidentalis* NRRL–349 in an aqueous fermentation medium therefor.

3,406,115
METHOD OF LESSENING FRICTION IN MOVING OIL-BASE LIQUIDS
Jerry L. White, Tulsa, Okla., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Apr. 2, 1965, Ser. No. 445,247
9 Claims. (Cl. 252—8.5)

An oil-base liquid, prior to its being moved or while it is being moved along a conduit, is admixed with an aluminum salt of a mono-alkyl substituted benzoic acid (i.e., a metal alkylbenzoate). The additive lessens the turbulence of the liquid when in motion and has the added desirable property of lessening the loss of fluid to a porous surface in contact therewith, which property is enhanced in a synergistic manner when used in conjunction with silica flour.

3,406,116
ABRASIVE DETERGENT COMPOSITIONS
Peter T. Vitale, Fresh Meadows, N.Y., assignor to Colgate-Palmolive Company, Jersey City, N.J., a corporation of Delaware
No Drawing. Filed Mar. 2, 1956, Ser. No. 568,986
6 Claims. (Cl. 252—99)

1. A substantially dry abrasive scouring powder highly effective in cleansing soiled ceramic surfaces and in polishing tarnished copper surfaces consisting essentially of at least about 50% by weight of a water insoluble inorganic siliceous abrasive material having a particle size of from 40 to 400 mesh, about 0.1 to 10% by weight of a heterocyclic N-chloro imide, and about 0.5 to 15% by weight of an organic detergent compound stable in the presence of said imide.

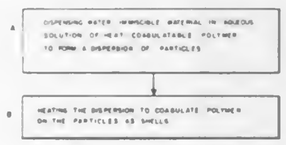
3,406,117
LIQUID OXYGEN-OZONE SOLUTION CONTAINING TRIFLUOROCHLOROMETHANE
Gerhard A. Cook, Clarence, N.Y., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Nov. 19, 1956, Ser. No. 622,748
4 Claims. (Cl. 252—186)

1. A stable homogeneous liquid solution consisting of liquid oxygen as a solvent; liquid ozone as the solute; and as a liquid blending agent trichlorofluoromethane for preventing the formation of a heavy ozone rich phase and for promoting the stability and homogeneity of said liquid solution at ozone concentrations of from about 24 percent by weight to about 40 percent by weight.

3,406,118
BRIGHTENER AGENT SOLUTIONS
Christopher J. Tscharner, Warwick, and Richard J. Pichler, Cranston, R.I., assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 31, 1965, Ser. No. 444,435
9 Claims. (Cl. 252—301.2)

Stable aqueous concentrates of an alkanolamine salt of 4,4'-bis-{[4-[3-sulfoanilino-6-[bis(2 - hydroxyethyl)amino]-1,3,5-triazine-2-yl]amino}-stilbene - 2,2' - disulfonic acid are prepared by converting the sodium salt thereof to a partial acid salt by salting out with ammonium chloride, converting the acid salt to a free acid by the addition of hydrochloric acid, and then reacting the resulting free acid with an alkanolamine.

3,406,119
ENCAPSULATION
Jaromir Kosar, Beechhurst, N.Y., and George M. Atkins, Jr., Atlanta, Ga., assignors to Keuffel & Esser Company, Hoboken, N.J., a corporation of New Jersey
Filed Mar. 5, 1965, Ser. No. 437,464
3 Claims. (Cl. 252—316)

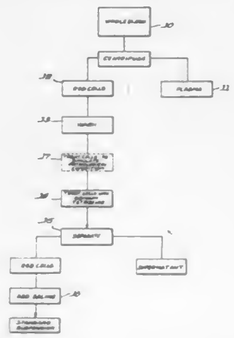


The method of forming capsules by the heat coagulation of an albumin about particles or droplets of water-immiscible oil dispersed in an aqueous solution of albumin is improved by including in the oil droplets an infrared absorber and exposng the emulsion or dispersion of oil droplets to infrared radiation. The radiation absorbed by the infrared absorber is converted to heat and raises the temperature of the oil droplets sufficiently to coagulate the albumin at the surface of the droplets. In this manner, heating of the mass of aqueous vehicle and extraneous albumin coagulation are avoided.

3,406,120
CERAMIC PACKING MATERIAL FOR THE PREVENTION OF METHACRYLATE AND ACRYLATE ESTER POLYMERIZATION
Hugh J. Hagemeyer, Jr., Alden E. Blood, and Max Statman, Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Original application Dec. 10, 1964, Ser. No. 417,504, now Patent No. 3,332,984, dated July 25, 1967. Divided and this application Mar. 6, 1967, Ser. No. 620,672
5 Claims. (Cl. 252—397)

1. A ceramic packing material prepared by pretreatment of an unglazed ceramic material selected from silica and silicates, the pretreatment comprising soaking the untreated unglazed ceramic packing material in a concentrated nitric-sulfuric acid mixture for at least about fifteen minutes, at a temperature of about 15–60° C., removing the ceramic material from the bath, and rinsing the ceramic material with water.

3,406,121
BLOOD CELL COUNTING STANDARD AND METHOD OF PREPARING THE SAME
Alan Richardson Jones, Miami, Fla., assignor to Dade Reagents, Inc., Miami, Fla., a corporation of Florida
Filed Oct. 1, 1965, Ser. No. 492,206
10 Claims. (Cl. 252—408)



A blood cell counting standard, and its method of preparation, in which a quantity of red blood cells are suspended in a stabilizing medium consisting essentially of physiologic saline solution containing a small percentage of osmium tetroxide, the stabilizing medium acting to stabilize the size, shape, and appearance of the red cells.

3,406,122
COATING COMPOSITION
Franklin L. Racine, Rochester, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
No Drawing. Filed Jan. 28, 1966, Ser. No. 523,567
4 Claims. (Cl. 252—408)

1. A liquid composition capable of drying by evaporation to form a uniformly brittle film responsive to strains by cracking and adapted for use in observing the surface strain concentration in a rigid article at a temperature within the range of about 60° to 90° F. and a humidity range of about 10% to 70% relative humidity, said composition consisting essentially of about 100 to 1000 grams zinc abietate, about 50 to 250 grams calcium abietate, about 10 to 100 milliliters of dibutyl phthalate measured at about 75° F., about 10 to 100 milliliters of oleic acid measured at about 75° F., and sufficient methylene chloride to make one gallon of solution.

3,406,123
CATALYSTS AND THEIR METHOD OF PREPARATION
Eugene E. Sensel, Beacon, and Edward L. Cole, Fishkill, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 15, 1965, Ser. No. 487,586
21 Claims. (Cl. 252—455)

Zeolite type molecular sieve catalysts containing a heavy metal compound in the unit crystallographic cells

of the zeolite are prepared by introducing a multivalent heavy metal ion into a cation position of a zeolite by ion exchange and thereafter substituting a monovalent cation for the multivalent heavy metal ion by ion exchange with a solution of compound of a monovalent metal cation and a metal-containing anion whereby a compound of the multivalent heavy metal cation and the metal containing anion is formed within the unit cell structure of the zeolite. Subsequent to formation of the complex heavy metal compound in the unit cells, the monovalent cation may be displaced without displacement of the heavy metal compound by decationization of the zeolite.

3,406,124

PREPARATION OF CRYSTALLINE ALUMINOSILICATE CONTAINING COMPOSITE CATALYST

Sylvander C. Eastwood, Woodbury, N.J., and Albert B. Schwartz, Philadelphia, Pa., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Nov. 17, 1965, Ser. No. 508,384

12 Claims. (Cl. 252—455)

An alumina containing clay is leached to remove a portion of the alumina as soluble aluminum salts, the aluminum salts are precipitated in situ as aluminum hydroxide on the clay, particles of a crystalline aluminosilicate are admixed therewith, and the mixture is shaped into discrete, composite bodies having catalytic activity for cracking hydrocarbons.

3,406,125

ACTIVATED BAUXITE AGGREGATES AND PREPARATION THEREOF

Aldo P. Allegrini, Westfield, and Tom A. Cecil, Highland Park, N.J., assignors, by mesne assignments, to Engelhard Minerals & Chemicals Corporation, Menlo Park, Edison, N.J., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 360,089, Apr. 14, 1965. This application Apr. 20, 1967, Ser. No. 632,451

7 Claims. (Cl. 252—455)

Crushed bauxite ore of exceptionally high mechanical strength is produced by mixing the crushed uncalcined gibbsitic bauxite ore with a 3% to 10% dosage of sodium hydroxide in the form of a concentrated aqueous solution, extruding the mixture into pellets, reacting the sodium hydroxide with the bauxite by heating the pellets at a temperature within the range of about 250° F. to about 375° F., and then partially dehydrating the pellets at a temperature within the range of about 500° F. to about 800° F.

3,406,126

CONDUCTIVE SYNTHETIC RESIN COMPOSITION CONTAINING CARBON FILAMENTS

Irving Litant, Lexington, Mass., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

Continuation-in-part of application Ser. No. 324,171, Nov. 13, 1963, which is a continuation-in-part of application Ser. No. 128,053, July 31, 1961. This application Dec. 7, 1966, Ser. No. 599,790

5 Claims. (Cl. 252—511)

An electrically conducting composite consisting of a non-conducting moldable material having imbedded therein about .05 to about 5% of unwoven carbon yarn filaments which are in substantial contacting relationship to provide a field for current flow, thus to render the moldable material conductive but without modification of or deleterious effect upon the natural and inherent qualities of such moldable material.

3,406,127

METHOD FOR RECLAIMING SCRAP POLYMERS

Richard L. Alexander, Orange, Tex., assignor to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 15, 1964, Ser. No. 375,239

33 Claims. (Cl. 260—2.3)

Low value organic polymers are upgraded by blending therewith a normally solid thermoplastic elastomer comprising a copolymer of ethylene and an unsaturated ester of a lower aliphatic carboxylic acid and an aliphatic alcohol, said copolymer having a particularly defined combination of melt index and comonomer concentration.

3,406,128

THERMOSET RESIN AND METHOD FOR MAKING IT

Sachio Nishimura and Naoaki Hata, Arakawa-ku, Tokyo, Japan, assignors to Asahidenka Kogyo Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Sept. 23, 1963, Ser. No. 310,886

Claims priority, application Japan, Sept. 26, 1962, 37/41,252

14 Claims. (Cl. 260—2.5)

A thermoset synthetic resin having a high adhesiveness to metals and a high durability to fluorinated hydrocarbons, produced by reacting an organic polyisocyanate with a reaction product of an epoxidized diolefin polymer with a hydroxyalkylamine.

3,406,129

OXYMETHYLENE POLYMER-CELLULOSE COMPOUND BLENDED MOLDABLE COMPOSITIONS

Martin B. Price, Berkeley Heights, N.J. (% Celanese Corporation of America, Summit, N.J. 07901)

No Drawing. Filed Feb. 15, 1965, Ser. No. 432,838

9 Claims. (Cl. 260—13)

Moldable homogeneous thermoplastic resinous blends of (1) a moldable cellulose polymer having free hydroxyl groups, e.g., a partially esterified cellulose acetate, and (2) a high molecular weight moldable oxymethylene homopolymer or copolymer containing at least 60 mol percent of recurring oxymethylene (—CH_2O—) units, said blends exhibiting improved melt strength and elongation with retention of clarity, impact strength and moldability of the cellulosic component.

3,406,130

MOLDABLE CELLULOSE POLYMER - MOLDABLE OXYMETHYLENE POLYMER BLEND - COLLOIDAL DISPERSIONS

Stewart B. Neff, Edison, N.J., assignor to Celanese Corporation, a corporation of Delaware

No Drawing. Filed Feb. 15, 1965, Ser. No. 432,881

16 Claims. (Cl. 260—13)

Colloidal dispersions of (1) a thermoplastic resinous blend of (a) a moldable cellulose polymer having free hydroxyl groups, e.g., a partially esterified cellulose acetate, and (b) up to about 50% of the weight of said blend of a moldable oxymethylene homopolymer or copolymer containing at least 60 mol percent of recurring oxymethylene (—CH_2O—) units, in (2) an inert volatile organic solvent for said cellulose polymer, said dispersions being of such stability that they undergo no substantial observable gelation or precipitation upon standing at room temperature for periods of up to as much as one year.

3,406,131

PROCESS FOR MAKING EPOXY RESIN FOAM PLASTICS

Alfred Kühlkamp, Hofheim, Taunus, Otto Mauz, Frankfurt am Main, and Siegfried Göwecke, Kelkheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengeselischaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed July 16, 1965, Ser. No. 472,725

Claims priority, application Germany, July 17, 1964, F 43,467

1 Claim. (Cl. 260—2.5)

An improved process has been provided for the foaming and hardening of an epoxy resin derived from epichlorohydrin and a polyhydroxy compound. The foaming and hardening is effected in the presence of amines and carbamates of the formula:

$$^{+}H_3N—(CH_2)_3—O—(R—O)_n—(CH_2)_3—NH—COO^{-}$$

and a carbamate derived from an amine of the formula:

$$HO—R_3—NH—R_2—(NH—R_1)n_1—NH_2$$

in which R, R_1 and R_2 represent an aliphatic, cycloaliphatic, aromatic or araliphatic radical, and R_3 represents an aliphatic, cycloaliphatic or araliphatic radical and in which n is a whole number within the range of 0 to 30 and n^1 is a whole number within the range of 0 to 10. The advantages accruing to the process because of the use of the specified carbamate is based on the solubility of the carbamates in the amine, which may be employed as a hardening agent, as well as in the epoxy resin itself. As a result, a fine control of pore formation as well as hardening may be achieved.

3,406,132

METHOD OF PREPARING PHENOLIC ACCELERATOR/AROMATIC HYDROCARBON/FORMALDEHYDE CONDENSATION PRODUCT/FILLER/ACID CATALYST THERMOSETTING MOLDING RESINS

Edgar C. Winegartner, Baytown, Tex., assignor to Esso Research and Engineering Company

No Drawing. Filed May 21, 1965, Ser. No. 457,809

7 Claims. (Cl. 260—17.2)

Solid, thermoplastic, thermosetting molding resin powder is prepared by heating together at 50° to 280° F., 0 to 250 p.s.i.g., and 3 to 600 minutes, a mixture of a filler, a phenolic accelerator, an acid catalyst, and a liquid condensation product of aromatic hydrocarbon and formaldehyde followed by cooling, solidifying and comminuting the product.

3,406,133

FLOOR POLISH COMPOSITION

Jack Henry Hartshorn, Springfield, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 30, 1964, Ser. No. 407,871

9 Claims. (Cl. 260—28.5)

This invention comprises an aqueous emulsion floor polish having 5 to 30 parts by weight of leveling resins, 5–60 parts by weight waxes, and 35–90 parts by weight of a terpolymer of (a) a conjugated diene (b) an α,β-unsaturated carboxylic acid containing 3–9 carbon atoms and (c) a monomeric composition consisting essentially of at least 50% of a lower alkyl ester of a C_3 to C_9 α,β-unsaturated carboxylic acid. The weight proportions of (a), (b) and (c) are in the percentage ranges of 4–49, 1–15, and 36–95, respectively. These emulsions provide floor polishes which form nonyellowing high gloss films with excellent mar and scuff resistance properties.

3,406,134

MOISTURE-CURABLE URETHANE COATINGS

Joseph J. Seiwert, Groesbeck, and Jack B. Boylan, Springdale, Ohio, assignors to Emery Industries, Inc., Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Nov. 2, 1964, Ser. No. 408,414

16 Claims. (Cl. 260—22)

A urethane prepolymer coating composition prepared from (1) a polyester formed from a mixture of dimer acid and an acid selected from the group consisting of phthalic acid, maleic acid, isophthalic acid, fumaric acid, phthalic anhydride, maleic anhydride, and mixtures thereof, and an aliphatic diol, (2) a polyol, and (3) a polyisocyanate. The prepolymer is converted into a cured coating by exposure to moisture.

3,406,135

POLYOLEFINS STABILIZED WITH MIXTURES COMPRISING AN ACID PHOSPHORUS COMPOUND, A METAL SALT, AND OPTIONALLY A PHENOL

Arthur C. Hecker, Forest Hills, N.Y., and Norman L. Perry, Wayne, N.J., assignors to Argus Chemical Corporation, Brooklyn, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of applications Ser. No. 161,369, Dec. 22, 1961, and Ser. No. 238,733, Nov. 19, 1962. This application July 12, 1966, Ser. No. 564,538

18 Claims. (Cl. 260—23)

Stabilizer combinations are provided suitable for improving the resistance of olefin polymers to deterioration in physical properties on exposure to heat comprising an organic phosphorus acid containing trivalent phosphorus and a Group II metal salt of an organic acid, and optionally, a phenol and/or a triphosphite and/or a thiodipropionic acid ester. Olefin polymer compositions including such stabilizer combinations are also provided.

3,406,136

INJECTION MOLDING COMPOSITIONS CONTAINING VINYL CHLORIDE POLYMER, ABS GRAFT COPOLYMER AND PLASTICIZER MIXTURE

Luciano Scarso and Mario Bevilacqua, Milan, and Bruno Pozzer, Mestre, Venezia, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy

No Drawing. Filed Oct. 12, 1964, Ser. No. 403,392

Claims priority, application Italy, Oct. 11, 1963, 20,909/63

3 Claims. (Cl. 260—23.7)

Thermoplastic for injection molding consisting of an intimate mixture of 51 to 98% by weight of a vinylchloride polymer containing at least 85% chemically combined vinylchloride and having a Fickentscher K number between 40 and 80, from 1 to 40% by weight of an acrylonitrile-butadiene-styrene graft copolymer formed by polymerizing a mixture of at least one styrene-type compound and one acrylonitrile-type compound with a latex of a synthetic elastomer containing at least 85% by weight of polymerized butadiene, the graft copolymer consisting essentially of 30 to 60% by weight polymerized butadiene, 30 to 52.5% by weight of said styrene-type compound in polymerized form and from 10 to 17.55% by weight of said acrylonitrile-type compound in polymerized form, and 1 to 15% by weight of a plastifying-component selected from the group which consists of epoxidized soy bean oil, epoxidized esters of alkanoic acids having from 10 to 20 carbon atoms and alkyl alcohols having from 2 to 20 carbon atoms, esters of alkanoic acids having from 10 to 20 carbon atoms with alkyl alcohols having from 2 to 20 carbon atoms and mixtures thereof.

3,406,137
IMAGING MATERIAL
Jack H. Terry, Pittsford, N.Y., and Herbert N. Johnston and Rexford W. Jones, Columbus, and Helmuth O. Schoen, Worthington, Ohio, assignors, by direct and mesne assignments, to Xerox Corporation, Rochester, N.Y., a corporation of New York
No Drawing. Filed Apr. 29, 1965, Ser. No. 451,960
9 Claims. (Cl. 260—28.5)

A novel pressure transfer ink formulation comprising a greater amount of pigment and polysiloxane and lesser amounts of waxes, wax soluble dyes, and an adhesive resin, as well as a method of preparing said formulation is disclosed.

3,406,138
SCUM-FREE LAMINATING RESINS PREPARED BY ADMIXING A SODIUM SALT OF AN AMINOPOLYCARBOXYLIC ACID WITH AN AMINOPLAST
Thomas Anas, Springfield, James D. Larkin, West Springfield, and John J. Watson, Chicopee Falls, Mass., assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed Dec. 20, 1963, Ser. No. 332,278
4 Claims. (Cl. 260—29.4)

1. A thermosettable aminoplast resin system consisting of an aqueous admixture of a thermosettable melamine aminoplast resin and an additive selected from the group consisting of the sodium salts of amino tris- and penta-acetic acid chelating agents and mixtures thereof with a defoaming agent; said additive being present in an amount of 0.005–1.0 weight percent based on the weight of the thermosettable melamine aminoplast resin; said melamine aminoplast resin being the reaction product of 1.5–6.0 mols of formaldehyde per mol of melamine.

3,406,139
VINYLIMIDAZOLINE AND VINYLTETRAHYDROPYRIMIDINE POLYMERS
Marvin J. Hurwitz, Elkins Park, and Herbert Aschkenasy, Levittown, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Jan. 29, 1963, Ser. No. 254,585
19 Claims. (Cl. 260—29.6)

The preparation of polymers of 2-vinyl imidazoline and 2-vinyl-2,4,5,6-tetrahydropyrimidine, their derivatives and salts is described. These polymers are useful in the dewatering of aqueous suspensions of particulate water-insoluble solid materials such as mineral and organic matter.

In an example a suspension of 10.6 pts. polyacrylonitrile (0.2 mole) in 60.1 pts. (1 mole) of ethylene diamine and 0.5 pt. thio-acetamide were heated at 100° C. under N_2 for 3.5 hours. The product, poly (2-vinylimidazoline), is isolated by freeze drying or precipitation by a large excess of acetone.

3,406,140
POLYURETHANE COMPOSITION CONTAINING AN EPOXY COMPOUND AS A STABILIZER
Walter John Polestak, Summit, and James Francis Tracy, Millington, N.J., assignors to Celanese Corporation, a corporation of Delaware
No Drawing. Filed Jan. 9, 1964, Ser. No. 336,618
18 Claims. (Cl. 260—33.4)

An improved fiber spinning composition for spandex type fibers wherein improved stability is obtained by the addition of an organic epoxy compound as a stabilizer.

3,406,141
DELAYED ACTION ACCELERATION FOR VULCANIZATION OF RUBBER
Peter J. S. Bain, Wrexham, Denbighshire, Wales, and Alan Dibbo, Oswestry, Shropshire, England, assignors to Monsanto Chemicals Limited, London, England, a British company
No Drawing. Filed Feb. 8, 1965, Ser. No. 431,172
Claims priority, application Great Britain, Feb. 13, 1964, 6,059/64
3 Claims. (Cl. 260—41.5)

Methoxycarbonylmethylenebis(N,N - dimethyldithiocarbamate) is a delayed-action accelerator for vulcanization of natural and synthetic rubber containing fine particle size furnace black. Delayed action is compared to that of other members of the class and to a delayed-action sulfenamide accelerator.

3,406,142
ACYCLIC DIENOPHILE CURE OF LOW UNSATURATED POLYMERS
Roger S. Hawley, Cranford, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed June 1, 1965, Ser. No. 460,482
23 Claims. (Cl. 260—41.5)

An improved method for curing halogenated low unsaturated synthetic rubbery materials which comprises curing said rubbers with an acyclic alpha-beta-unsaturated carbonyl dienophile and a heavy metal oxide; said curing technique being suitable for preparing improved laminated articles comprising said halogenated rubbers bonded to high unsaturated rubbers.

3,406,143
LIGHT STABLE ALKENYL AROMATIC RESINS
Charles L. Stacy, Jr., William J. Hanson, and Theodore C. Wallace, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 26, 1964, Ser. No. 347,368
1 Claim. (Cl. 260—45.8)

The compositions are of the class of light stable alkenyl aromatic resins containing a light stabilizing mixture of an ultraviolet light absorber, a phenolic antioxidant and a phosphite antioxidant, useful for fabricating into light fixtures.

3,406,144
STABILISED OLEFIN POLYMER COMPOSITIONS
Brian Arthur Marshall, Hitchin, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Jan. 28, 1966, Ser. No. 523,572
Claims priority, application Great Britain, Feb. 17, 1965, 6,827/65
9 Claims. (Cl. 260—45.8)

A composition comprising a solid olefin polymer and from 0.01 to 2%, by weight of the composition, of 9,10-dihydroanthracene or 9,10-dihydroacridine. The polymers may be used in shaped articles (including granules) formed from the said composition, in the shaping of which the composition has been heated to a high temperature, particularly a temperature above its melting point and within the range 200–350° C. Usually from 0.05 to 0.25% by weight of the dihydroanthracene or dihydroacridine is sufficient.

3,406,145
HEAT STABILITY OF ACRYLONITRILE POLYMER PRODUCTS
John H. Hennes, Newport News, Va., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed June 21, 1965, Ser. No. 465,715
17 Claims. (Cl. 260—45.75)

Acrylonitrile polymer articles are rendered stable to

heat by impregnating the article while it is in a swollen gel condition with an aqueous solution of a water soluble inorganic salt having a cation selected from the group consisting of alkaline earth metal ions, aluminum, tin, iron, copper, zirconium and lead ions followed by intimately contacting the article while still in the gel condition with an aqueous phosphoric acid solution.

3,406,146
PROCESS FOR STABILIZING SYNTHETIC RUBBER
Kurt Ley and Wolfgang Redetzky, Leverkusen, Robert Seydel, Cologne-Dellbrueck, and Kurt Vohwinkel, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed June 30, 1965, Ser. No. 468,571
Claims priority, application Germany, July 2, 1964, F 43,329
9 Claims. (Cl. 260—45.95)

Synthetic rubber stabilized against cyclization by triarylphosphites wherein one or two of the aryl radicals contain a hydroxyl group.

3,406,147
CROSS-LINKED POLYPHENYLENE OXIDE
Seymour Schmukler, Dalton, Mass., assignor to General Electric Company, a corporation of New York
No Drawing. Filed May 13, 1966, Ser. No. 549,814
7 Claims. (Cl. 260—47)

A polyphenylene oxide capable of crosslinking by the application of heat comprising a polyphenylene oxide containing acyloxy substituents distributed along the polymer backbone. Crosslinking of the polymer can take place by an electrophilic aromatic substitution reaction in the presence of a Lewis acid or by transesterification with a difunctional material reactive with acyloxy groups on the polymer backbone. Crosslinked polymers formed in this manner have good solvent resistance and will neither dissolve nor craze in their presence.

3,406,148
CROSS-LINKED POLYIMIDES AND METHODS OF PRODUCING SAME FROM HALOGENATED N,N'-BIS-MALEIMIDES
Joerg Sambeth, Carouge, Geneva, and Friedrich Grundschober, Confignon, Geneva, Switzerland, assignors to Societe Rhodiaceta, Paris, France, a French body corporate
No Drawing. Continuation-in-part of application Ser. No. 507,656, Nov. 15, 1965. This application May 9, 1967, Ser. No. 637,054
Claims priority, application Switzerland, May 11, 1966, 6,863/66
9 Claims. (Cl. 260—47)

Cross-linked polyimides are produced by polymerizing a halogenated N,N'-bis-maleimide. These polymers are non-inflammable and have high mechanical and thermal strength and are used in construction and in particular as thermal and electrical insulators.

3,406,149
POLYSULFONES AND PROCESS FOR MAKING
Herward A. Vogel, Oakdale Township, Washington County, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Sept. 17, 1964, Ser. No. 397,295
6 Claims. (Cl. 260—49)

Thermoplastic polymers having good thermal stability and relatively high melting point which are permanently and non-extractably colored to any desired color or strength of color are produced by incorporating colored aromatic dye moieties derived from an aromatic dye system free from Zerewitinoff-active hydrogen as comonomers into the backbone of polyarylsulfone polymers. The dye moieties are coupled to the aromatic polymer moieties by —SO_2— linking groups connecting aromatic rings of the dye moieties with aromatic nuclei of the polyarylsulfone and form part of the backbone of the polymer.

3,406,150
LOW MOLECULAR WEIGHT EPOXIDIZED RESORCINOL NOVOLAC RESIN HAVING HIGH FUNCTIONALITY
Theodore S. Boozalis, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Mar. 4, 1965, Ser. No. 437,305
3 Claims. (Cl. 260—54)

The present invention is concerned with an epoxidized novolac resin having a low viscosity at casting temperatures and a high functionality and comprising the epoxidized tetrafunctional novolac of resorcinol and formaldehyde.

3,406,151
PROCESS FOR THE PREPARATION OF ACETYLATED HIGH MOLECULAR WEIGHT POLYOXYMETHYLENES
Kurt Klinkmann, Monheim, and Karl-Ludwig Schmidt, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation
No Drawing. Filed July 21, 1964, Ser. No. 384,244
Claims priority, application Germany, Aug. 16, 1963, F 40,507
3 Claims. (Cl. 260—67)

Acetylation of high molecular weight polyoxymethylenes and copolymers thereof employing an inert organic solvent having a boiling point less than that of acetic anhydride for the purpose of producing colorless, thermally stable products.

3,406,152
MODIFIED FIBER- AND FILM-FORMING POLYESTERS AND IMPROVED FIBERS AND FILAMENTS MADE THEREFROM
Walter Koller, Frankfurt am Main, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed July 15, 1965, Ser. No. 472,352
Claims priority, application Germany, July 18, 1964. F 43,486, F 43,487
4 Claims. (Cl. 260—75)

The preparation of linear, film- and fiber-forming polyesters and copolyesters by polycondensation of bis-hydroxyalkyl dicarboxylic acid esters in the presence of an alkaline or alkaline earth metal salt of benzylsilanetriol-p-sulfonic acid or a condensation product thereof as a catalyst is disclosed. The fibers and filaments manufactured from these polyesters and copolyesters exhibit an exceptionally low pilling tendency.

3,406,153
PROCESS OF PRODUCING POLYETHYLENE TEREPHTHALATE
Edwin E. Eaton, Circleville, Ohio, and James R. Small, Mount Vernon, Ind., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 274,903, Apr. 23, 1963, which is a continuation-in-part of application Ser. No. 195,325, May 16, 1962. This application Aug. 9, 1966, Ser. No. 571,179
4 Claims. (Cl. 260—75)

In the manufacture of highly polymeric linear polyesters of aromatic dicarboxylic acids, e.g., polyethylene terephthalate, the polymerization reaction is carried out in the presence of from 0.05% to 1% by weight, based on the weight of alkyl ester of the aromatic dicarboxylic

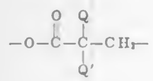
acid employed, of an organic phosphonate selected from the group consisting of hydroxy-polyoxyethylene hydroxymethyl phosphonate, hydroxy - polyoxyethylene chloromethyl phosphonate, hydroxy-polyoxyethylene trichloromethyl phosphonate, bis[2-bromoethyl(phenyl)] ethylene diphosphonate, bis(2-bromoethyl)phosphonate, bis(2-chloroethyl)phosphonate, the reaction product of triethyl phosphite and 2-chloroethanol, the reaction product of triethyl phosphite and 2-bromoethanol, and the reaction product of dimethyl methylphosphonate and ethylene glycol. The resulting products have the advantageous properties, particularly with respect to film made therefrom, normally associated with the presence of phosphorus compounds in the polyester composition, and the disadvantages generally incident to reaction of the phosphorus compound with catalysts commonly employed in the manufacture of the polyesters are avoided.

3,406,154
COPOLYESTER PRODUCTS

Donald Richard Wilson, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

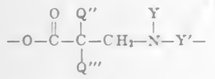
No Drawing. Filed May 14, 1965, Ser. No. 455,963
9 Claims. (Cl. 260—78.3)

Copolyesters consisting essentially of a succession of recurring structural units represented by the formulas



(I)

and



(II)

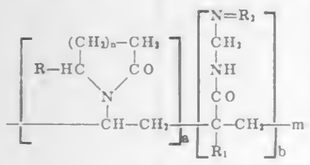
wherein Q, Q', Q'', and Q''' are alkyl radicals of up to about six carbon atoms which may be joined to form alicyclic rings; Y and Y' are hydrocarbon radicals of up to about ten carbon atoms which may be joined to form rings; and the ratio of said units (Formulas I and II) is in the range of about 75/25 to 99.5/0.5, are found to have enhanced affinity for dyes.

3,406,155
CATIONIC VINYL LACTAM-ACRYLAMIDE COPOLYMERS

Julian L. Azorlosa, Easton, and Earl P. Williams, Pen Argyl, Pa., assignors to GAF Corporation, a corporation of Delaware

No Drawing. Filed May 18, 1965, Ser. No. 456,826
15 Claims. (Cl. 260—80.3)

A composition of matter which is useful as a flocculant for aqueous dispersions containing suspended inorganic solid particles and as filler retention aid in paper making, consisting essentially of cationic vinyl lactam-acrylamide copolymer having the following recurring units:



wherein R is selected from the group consisting of hydrogen, methyl and ethyl, R_1 is selected from the group consisting of hydrogen and methyl, R_2 is selected from the group consisting of dimethyl, diethyl, dihydroxyethyl and morpholino, *n* is a positive integer of from 1 to 3, *a* is selected from the recurring units ranging from 50 to 95% by weight of the lactam moiety in said copolymer, *b* is selected from the recurring units ranging from 5 to 50% by weight of the acrylamide moiety in said copolymer, and *m* represents the relative viscosity of from 5 to 30 of said copolymer as measured using 1 gram of copolymer in solution in 100 ml. of water at 25° C.

3,406,156
REGENERATION OF HYDROGENATION CATALYSTS

Clyde Lee Aldridge and John Dana Koontz, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Jan. 20, 1964, Ser. No. 338,612
6 Claims. (Cl. 260—82)

1. In a method for preparing a low-colored resin in which a steam-cracked naphtha fraction is polymerized in the presence of a Friedel-Crafts catalyst at a temperature of −150 to +200° F. to form a highly colored resin and in which the highly colored resin solution is hydrogenated by dissolving it in an aliphatic hydrocarbon solvent and passing it over a hydrogenation catalyst at a temperature between 100 and 750° F. and under pressure at a flow rate between 0.1 and 5 volumes of resin solution per volume of catalyst per hour to form a low-colored resin and in which the catalyst gradually loses activity, the improvement which comprises restoring the catalyst activity by periodically discontinuing the flow of resin solution over the catalyst and instead contacting the catalyst while maintaining the other conditions substantially constant with an aromatic hydrocarbon until the catalyst activity has been restored, stopping the flow of aromatic hydrocarbon and continuing the flow of resin solution.

3,406,157
POLYMERIZATION OF VINYL CHLORIDE IN THE PRESENCE OF AMMONIA COMPLEX OF A LOWER TRIALKYLBORON AS CATALYST THEREFOR

Georgette Steinbach, Paris, France, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France

No Drawing. Filed June 9, 1961, Ser. No. 126,756
Claims priority, application France, June 23, 1960, 830,954
8 Claims. (Cl. 260—87.5)

2. A method of copolymerizing vinyl chloride with at least one other monomer, said other monomer being compatible with vinyl chloride and having at least one ethylenically unsaturated double bond, which comprises subjecting the mixture of the monomers to conditions of temperature and pressure favorable to polymerization in contact with the ammonia complex of a lower trialkylboron of the formula $R_3B{:}NH_3$, in which R is an alkyl group having from 1 to 6 C atoms.

3,406,158
PROCESS FOR THE PRODUCTION OF SULFURIZED PHENOLS

Joseph Patrick Brown and Ernest Bryson McCall, Llangollen, Denbighshire, Wales, assignors to Monsanto Chemicals Limited, London, England, a British company

No Drawing. Filed Sept. 29, 1965, Ser. No. 491,420
Claims priority, application Great Britain, Oct. 2, 1964, 40,205/64
11 Claims. (Cl. 260—137)

A phenol is heated with 0.5 to 5.0 atomic proportions of sulfur per molar proportion of the phenol at 150°–300° C. in the presence of a Friedel-Crafts catalyst to form a sulfurized phenol useful for the preservation of rubber.

3,406,159
METHOD FOR THE MANUFACTURE OF POLYFUNCTIONAL DIAZONIUM PHOSPHATES

Hartmut Steppan, Wiesbaden-Dotzheim, and August Rebenstock and Wilhelm Neugebauer, Wiesbaden-Biebrich, Germany, assignors, by mesne assignments, to Azoplate Corporation, Murray Hill, N.J., a corporation of New Jersey

No Drawing. Filed July 18, 1961, Ser. No. 124,777
Claims priority, application Germany, Jan. 25, 1961, K 42,720
20 Claims. (Cl. 260—141)

1. A process for preparing a polyfunctional diazonium phosphate which comprises condensing a diphenylamine-4-diazonium salt of an acid, the acid having a boiling point below 150° C., with formaldehyde in phosphoric acid solution, removing the anions of the initial diphenylamine-4-diazonium salt from the reaction mixture, precipitating the diazonium phosphate from the reaction mixture, and recovering the diazonium phosphate as a product of the process.

3,406,160
METAL COMPLEX TRISAZO DYES

Heinz Wicki, Allschwil, Basel-Land, Switzerland, assignor to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland

No Drawing. Filed Apr. 15, 1965, Ser. No. 448,241
Claims priority, application Switzerland, Apr. 22, 1964, 5,225/64
8 Claims. (Cl. 260—145)

2:1 metal complexes of trisazo dyes containing a sulfonic acid group and a separate phenyl-azo-group bound to each of the 2-, 4- and 6-positions of a benzene nucleus having in each of its 1- and 3-positions either hydroxyl or amino substituents and characterized by a 2-hydroxy-3,5-dinitrophenylazo as one of the separate phenyl-azo-groups having good building-up properties and give consistent shades on leathers of different tannage.

3,406,161
PROCESS FOR THE MANUFACTURE OF AZO DYESTUFFS USING UREA AS A COUPLING ACCELERATOR

Jacky Dore and Hans Ischer, Basel, Piero Maderni, Binningen, Basel-Land, Lukas Schneider, Basel, and August Schweizer, Muttenz, Basel-Land, Switzerland, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland

No Drawing. Filed Aug. 26, 1965, Ser. No. 482,916
Claims priority, application Switzerland, Sept. 4, 1964, 11,554/64
3 Claims. (Cl. 260—145)

Urea is a coupling accelerator in the coupling of diazotized amines with coupling components in the manufacture of azo dyes.

3,406,162
DYE SALTS OF ANIONIC METAL COMPLEX DYES OF THE BENZENEAZOACETOACETYL ALKYL AMIDE SERIES AND ORGANIC AMINE NITROGEN BASES

Reinhard Neier, Basel, Switzerland, assignor to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland

No Drawing. Filed Jan. 12, 1966, Ser. No. 520,057
Claims priority, application Switzerland, Jan. 15, 1965, 600/65
23 Claims. (Cl. 260—145)

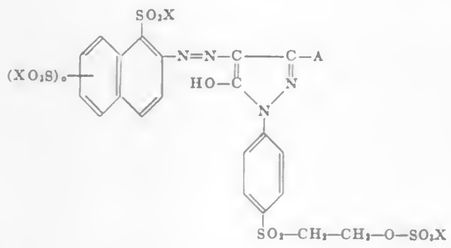
Anionic metal complex dye/nitrogen base salts, the dye of which is a benzene-azo-acetoacetyl-alkyl amide dye, have good solubility in organic solvents. Polymers colored with the dye salts have excellent fastness properties.

3,406,163
WATER-SOLUBLE MONOAZO PYRAZOLONE DYESTUFFS

Fritz Meininger and August Bauer, Frankfurt am Main, and Klaus Berner, Hofheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Apr. 26, 1965, Ser. No. 451,047
Claims priority, application Germany, May 6, 1964, F 42,809
5 Claims. (Cl. 260—162)

Water soluble dyestuffs of the formula



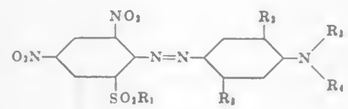
in which X is hydrogen or an alkali metal atom, *n* is 0, 1 or 2 and A is lower alkyl, which dyestuffs produce, in the presence of alkaline substances on cellulose materials, greenish yellow tints of high color strength and of a very good fastness to light and to washing.

3,406,164
DISPERSE DYES OF THE MONOAZO SERIES

Ruedi Altermatt, Tecknau, Basel-Land, and Curt Mueller, Basel, Switzerland, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland

No Drawing. Filed Jan. 13, 1966, Ser. No. 520,365
Claims priority, application Switzerland, Jan. 14, 1965, 519/65
16 Claims. (Cl. 260—207)

Monoazo dyes which are virtually insoluble in water and are of the formula



(I)

wherein:

R_1 is lower alkyl;
R_2 is hydrogen, lower alkyl or lower alkoxy;
R_3 is alkylcarbonylalkyl, acyloxyalkyl, alkoxycarbonylalkyl or alkoxycarbonyloxyalkyl;
R_4 is cyanoalkyl, acyloxyalkyl, alkoxycarbonylalkyl or alkoxycarbonyloxyalkyl; and
R_5 is alkoxy, acylamino, alkoxycarbonylamino, aralkoxycarbonylamino or aryloxycarbonylamino;

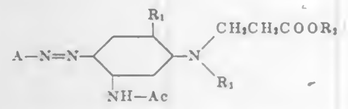
are excellent disperse dyes for a number of fibers and fabrics prepared therefrom. Dyeings obtained with said dyes are extremely fast; their dischargeability and reserve of wool and cotton are good; and they are stable to boiling and reduction at temperatures up to at least 220° C.

3,406,165
MONOAZO DYESTUFFS

Winfried Kruckenberg, Leverkusen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

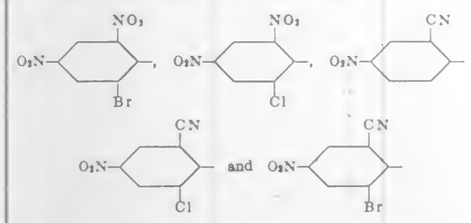
No Drawing. Filed July 9, 1963, Ser. No. 293,866
Claims priority, application Germany, July 11, 1962, F 37,285
11 Claims. (Cl. 260—207.1)

1. A compound of the formula



wherein:

A is a member selected from the group consisting of



R_1 is a member selected from the class consisting of hydrogen, methoxy, ethoxy and chloro;

R_2 is the group having the formula $—C_nH_{2n+1}$;

R_3 is a member selected from the class consisting of hydrogen, cyanoethyl, $—CH_2CH_2COO—C_nH_{2n+1}$, and $—C_nH_{2n+1}$, wherein n is an integer of 1–5; and Ac is a member selected from the group consisting of unsubstituted lower aliphatic carbonyl having 2–3 carbon atoms, chloro substituted lower aliphatic carbonyl having 2–3 carbon atoms, cyano substituted lower aliphatic carbonyl having 2–3 carbon atoms, hydroxy substituted lower aliphatic carbonyl having 2–3 carbon atoms, methoxy carbonyl, amino carbonyl and methylamino carbonyl; the compound being free of sulfonic acid and carboxylic acid groups.

3,406,166
METHOD FOR PRODUCING RIBONUCLEOSIDE-5'-PHOSPHATE

Toru Masuda, Nishinomiya, Mikio Honjo, Takatsuki, Shoichiro Fujii, Kyoto, Kinichi Imai, Takatsuki, and Kunio Takanohashi, Suita, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan

No Drawing. Filed June 21, 1966, Ser. No. 559,105
7 Claims. (Cl. 260—211.5)

A method is provided for producing ribonucleoside-5'-phosphate from the corresponding ribonucleoside. The process comprises reacting the ribonucleoside with boron oxide, reacting the resulting product with a phosphorylating agent and subsequently hydrolyzing the thus phosphorylated product.

3,406,167
PURIFICATION OF CAPROLACTAM

Chao-Shing Cheng, Williamsville, N.Y., and Richard C. Hecker, Petersburg, Basil G. Apostle, Richmond, and Orvill E. Snider, Petersburg, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Nov. 9, 1965, Ser. No. 507,060
11 Claims. (Cl. 260—239.3)

A method for purifying epsilon caprolactam by

(A) forming a mixture of the crude lactam with certain proportions of alkali metal hydroxide and water, establishing in said mixture a temperature range of 15° C. to 75° C. and separating the liquid caprolactam from the aqueous alkali metal hydroxide phase

(B) contacting an aqueous solution of the lactam containing impurities with adsorbent carbon and thereafter separating the aqueous lactam from said carbon and distilling said lactam

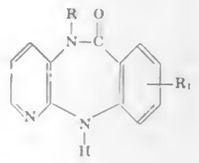
(C) thereafter optionally treating the lactam with an oxidizing agent or a halogen of atomic weight 35 to 80 and subsequently contacting with adsorbent carbon and distilling.

3,406,168
NOVEL 5,6-DIHYDRO-6-OXO-11H-PYRIDO [2,3-b] [1,4]BENZODIAZEPINES

Günther Schmidt, Biberach an der Riss, Germany, assignor to Boehringer Ingelheim G.m.b.H., Ingelheim am Rhine, Germany, a corporation of Germany

No Drawing. Continuation-in-part of applications Ser. No. 320,935, Nov. 1, 1963, and Ser. No. 369,628, May 22, 1964. This application Dec. 6, 1966, Ser. No. 599,385
Claims priority, application Germany, Nov. 8, 1962, T 22,988; May 31, 1963, T 24,087
15 Claims. (Cl. 260—239.3)

1. A compound of the formula



wherein

R is hydrogen, alkyl of 1 to 4 carbon atoms or

D—X—

where X is alkylene of 1 to 3 carbon atoms and D is phenyl, chlorophenyl or



where R_2 and R_3 are methyl or, together with each other and the adjacent nitrogen atom, piperidino or morpholino, and

R_1 is hydrogen, chlorine or methyl,

or a non-toxic, pharmacologically acceptable acid addition salt thereof.

3,406,169
METHOD OF PREPARING WATER INSOLUBLE FLUORESCENT TRIAZOLYLSTILBENE BRIGHTENERS

Anthony J. Cofrancesco, Albany, N.Y., assignor to GAF Corporation, a corporation of Delaware

No Drawing. Filed Oct. 13, 1964, Ser. No. 403,626
12 Claims. (Cl. 260—240)

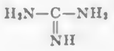
An improved process of preparing water insoluble fluorescent triazolyl stilbene brighteners is provided by dissolving an o-aminoazo dyestuff in a sufficient quantity of a liquid mono aryl nitro compound to yield a workable solution. To the solution a catalytic amount of metallic powder such as copper, cobalt, nickel, iron, zinc or manganese is added and the solution refluxed at about 100°–110° C. for two to five hours. The resulting brightener product, triazolyl stilbene compound, is isolated by filtration in a yield up to about 80% and of a high degree of purity.

3,406,170
2-HALO-GUANIDINES

Anthony J. Papa, Claymont, Del., assignor to E. I du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 29, 1965, Ser. No. 475,849
11 Claims. (Cl. 260—246)

This invention is concerned with new compounds of the basic guanidine structure having the structural formula,



wherein the guanidine compounds are tetrasubstituted in the imino nitrogen atoms and are 2-halotetrasubstituted in that a chlorine, bromine, or iodine atom replaces the hydrogen atom on the imino nitrogen atom. These compounds are prepared by reacting a tetrasubstituted guanidine with chlorine, bromine, or iodine in an inert liquid. The compounds are useful as intermediates.

3,406,171
N - TERTIARYAMINO - N' - [ALKYL, ALLYL OR TERTIARY AMINO]DITHIOCARBAMOYL MONOSULPHIDES

Ranajit Ghosh, Bracknell, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed May 14, 1965, Ser. No. 455,957
Claims priority, application Great Britain, May 19, 1964, 20,582/64
10 Claims. (Cl. 260—247.1)

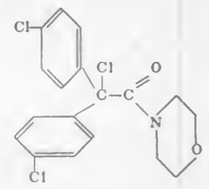
N-tertiary amino-N'-[alkyl, allyl or tertiary amino]dithiocarbamoyl monosulphides useful as pesticides. The compounds are prepared by reacting dithiocarbazinic acid or a salt thereof with an isothiocyanate, or by bringing into reaction with a dithiocarbazinic acid or salt thereof chloroformic acid ester, or phosgene.

3,406,172
2,2-BIS(4-CHLOROPHENYL)-2-CHLOROACETAMIDES

Colin R. McArthur, Camillus, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed June 25, 1964, Ser. No. 378,073
5 Claims. (Cl. 260—247.7)

5. A compound having the following formula:



3,406,173
2-n-DECYL-3-(o-METHYL-p-AMINO-PHENYL)-3H-4-QUINAZOLONE

Alex Heusner, Karl Zeile, and Peter Danneberg, Ingelheim am Rhein, Germany, assignors to Boehringer Ingelheim G.m.b.H., Ingelheim am Rhein, Germany, a corporation of Germany

No Drawing. Filed Apr. 29, 1966, Ser. No. 546,217
Claims priority, application Germany, May 5, 1965, B 81,761
2 Claims. (Cl. 260—256.4)

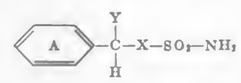
A 2 - higher alkyl-3-aminophenyl-4(3H)-quinazolinone is disclosed. The compound and its acid addition salts may be used as sedatives and anticonvulsants.

3,406,174
BENZYLSULFAMIDES

William J. Houlihan, Mountain Lakes, N.J., assignor to Sandoz Inc., Hanover, N.J.

No Drawing. Continuation-in-part of application Ser. No. 339,354, Jan. 22, 1964. This application July 5, 1966, Ser. No. 562,463
38 Claims. (Cl. 260—268)

1. A pharmaceutically acceptable compound of the formula



wherein

Y is a member selected from the group consisting of a hydrogen atom and R, the member being a hydrogen atom when X is —N(lower alkyl);

R is a member selected from the group consisting of straight chain alkyl having from 1 to 4 carbon atoms, a phenyl radical having from zero to four substituents on the phenyl ring and a benzyl radical having from zero to four substituents on the benzene ring; the ring of both the phenyl radical and the benzyl radical being unsubstituted in the 6-position and each substituent being selected from the group consisting of lower alkyl, lower alkoxy, di-(lower)alkylamino, fluoro, chloro, bromo, trifluoromethyl (providing that a plurality of trifluoromethyl groups are not ortho to each other) and, together with its counterpart on an adjacent ring carbon atom, methylenedioxy;

ring A has from zero to five substituents, but has at least one chloro substituent when Y is a hydrogen atom and X is —NH—; it is unsubstituted in the 6-position when Y is other than a hydrogen atom and when X is other than —NH— or —N(CH_3)—; each substituent being a member selected from the group consisting of lower alkyl, lower alkoxy, di-(lower)alkylamino, fluoro, chloro, bromo, trifluoromethyl (providing that a plurality of trifluoromethyl groups are not ortho to each other) and, together with its counterpart on an adjacent ring carbon atom, methylenedioxy;

X is a member selected from the group consisting of —N(R')— and



and

R' is a member selected from the group consisting of a hydrogen atom and lower alkyl.

3,406,175
1',3' - DIOXO - 1',2',3',4' - TETRAHYDROSPIRO[CYCLOPENTANE - 1,4' - ISOQUINOLINE] AND ITS PREPARATION

George Y. Lesher, Schodack, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 23, 1966, Ser. No. 574,294
2 Claims. (Cl. 260—281)

1',3'-dioxo - 1',2',3',4' - tetrahydrospiro[cyclopentane-1,4'-isoquinoline], having anti-inflammatory and psychomotor depressant properties, is prepared by reacting 1,4-dihalobutane with homophthalimide.

3,406,176
7-HALO-4-CARBAMYLIMINO-1,4-DIHYDROQUINOLINES

Alexander R. Surrey, Albany, and Julian Richard Mayer, Colonie, N.Y., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 24, 1964, Ser. No. 391,737
10 Claims. (Cl. 260—287)

7 - halo - 4 - imino - 1,4 - dihydroquinolines substituted by halophenyl-(lower-alkyl) at the 1-position and by N-

R-carbamyl or N-R-thiocarbamyl at the 4-amino group where R is lower-alkyl, lower-carbalkoxy-(lower-alkyl)-phenyl or phenyl substituted by lower-alkyl, halo, nitro or lower-alkoxy are prepared by reacting the corresponding 1-(7-halo-4-quinolyl)-3-R-urea or -thiourea with a halophenyl-(lower-alkyl) ester of a strong acid and reacting the acid-addition salt of the resulting 1-[halophenyl-(lower-alkyl)]-4-(N-R-carbamyl- or -thiocarbamylimino)-1,4-dihydroquinoline with an acid-acceptor to yield said compound in free base form. The compounds have antibacterial and amebacidal activities.

3,406,177

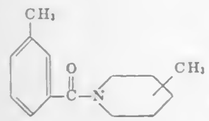
N-(META-TOLUYL)-METHYLPIPERIDINES

Clayton W. Yoho, Racine, Wis., assignor to S. C. Johnson & Son, Inc., Racine, Wis.

No Drawing. Filed May 12, 1965, Ser. No. 455,301

4 Claims. (Cl. 260—294.7)

N-(meta-toluyl)-methylpiperidines having the structural formula



which are useful as insect repellents. The products are prepared by reacting a toluyl halide with a methylpiperidine in an anhydrous ethyl ether.

3,406,178

PREPARATION OF 2-SUBSTITUTED BENZIMIDAZOLES

Henry Peter Crocker, North Balwyn, Victoria, and William George Clive Raper, Moorabbin, Victoria, Australia, assignors to Monsanto Chemicals (Australia) Limited, West Footscray, Victoria, Australia, a company of Victoria

No Drawing. Filed Jan. 29, 1965, Ser. No. 429,161

Claims priority, application Australia, Feb. 4, 1964, 40,453/64; Apr. 23, 1964, 43,606/64

8 Claims. (Cl. 260—309.2)

A process for producing biologically active 2-substituted benzimidazoles from o-nitroaniline or a nuclear-substituted derivative of o-nitroaniline and an aldehyde or a carboxylic acid or a precursor material which forms an aldehyde or a carboxylic acid by passing the reactants in vapor phase together with hydrogen over a catalyst bed of a member of the platinum family of metals. The 2-substituted benzimidazoles are active as anti-mycotic agents and as anthelmintics.

3,406,179

1-(MERCAPTOACETYL)-2-IMIDAZOLIDONE S-(O,O-DIALKYLPHOSPHOROTHIOATES)

Joel D. Jamison, Wilmington, Del., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 29, 1966, Ser. No. 568,732

6 Claims. (Cl. 260—309.7)

The compounds are of the class of mercaptoacetylimidazolidone dialkylphosphorothioates, useful as nematocides. A representative compound is 1-(mercaptoacetyl)-2-imidazolidone S-(O,O-diethylphosphorodithioate).

3,406,180

ADAMANTANYL THIOSEMICARBAZONES

Stephen Sallay, Montgomery, and Scott J. Childress, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 495,690, Oct. 13, 1965. This application Oct. 20, 1966, Ser. No. 587,985

11 Claims. (Cl. 260—325)

This invention relates to new adamantanyl thiosemicarbazones. The compounds are useful as antagonists of Herpes Simplex and Vaccinia viruses.

3,406,181

1,4,5,6,7,7-HEXABROMO-N-(METHYLMERCURI)-5-NORBORNENE-2,3-DICARBOXIMIDE

Louis P. Wilks, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Apr. 18, 1966, Ser. No. 543,035

1 Claim. (Cl. 260—326)

The compound 1,4,5,6,7,7 - hexabromo - N - (methylmercuri)-5-norbornene-2,3-dicarboximide and its use as a fungicide and nematocide.

3,406,182

1,4,5,6,7,7-HEXABROMO-N-(ETHYLMERCURI)-5-NORBORNENE-2,3-DICARBOXIMIDE

Louis P. Wilks, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Apr. 18, 1966, Ser. No. 543,009

1 Claim. (Cl. 260—326)

The compound 1,4,5,6,7,7-hexabromo-N-(ethylmercuri)-5-norbornene-2,3-dicarboximide and its use as a fungicide and nematocide.

3,406,183

3-N-ARYLAMINO-3-MERCAPTO-2-CYANO-ACRYLAMIDES

Réal Laliberté, Laval, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 1, 1966, Ser. No. 591,088

4 Claims. (Cl. 260—326.5)

The present invention relates to 3-N-arylamino-3-mercapto-2-cyano-acrylamides and to the process for preparing them. These compounds are useful as anthelmintic and anti-bacterial agents.

3,406,184

ADDITION COMPOUNDS OF NORBORNADIENES AND QUADRICYCLENES WITH BIS(TRIFLUOROMETHYL)THIOKETENE AND THEIR S-OXIDES AND S-DIOXIDES

Maynard S. Raasch, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 4, 1966, Ser. No. 547,437

12 Claims. (Cl. 260—327)

6 - hexafluoroisopropylidene-7-thiatetracyclo[3.2.1.1^{3,8}.0^{2,4}]nonanes and 4-hexafluoroisopropylidene-3-thiatricyclo[4.2.1.0^{2,5}]non-7-enes formed by reacting bis(trifluoromethyl)thioketene with norbornadienes and quadricyclenes, respectively, and their S-oxides and S-dioxides are claimed. The S-oxides and S-dioxides are formed by oxidation of the sulfides. The compounds are useful as plasticizers for polythiocarbonyl fluoride.

3,406,185

ANTIBIOTICS

Arthur A. Patchett, Cranford, and Edward F. Rogers, Middletown, N.J., and William J. Leanza, Staten Island, N.Y., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Original application July 2, 1964, Ser. No. 380,052. Divided and this application May 16, 1966, Ser. No. 566,166

3 Claims. (Cl. 260—332.2)

Novel α-guanidino carboxylic acids prepared by reacting an α-amino carboxylic acid with a selected O-alkylisourea or an S-alkylisothionitrourea, followed by hydrogenation. The α-guanidino carboxylic acids are useful intermediates in preparing α-guanidino penicillins and certain esters thereof.

3,406,186

5 - HYDROXY - 10,5 - (EPOXYMETHANO) - 10,11-DIHYDRO - 5H - DIBENZO[a,d]CYCLOHEPTEN-13 - ONE AND PROCESS FOR PREPARATION THEREOF

Martin A. Davis, Montreal, Quebec, and Thomas A. Dobson, St. Laurent, Quebec, Canada, assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 23, 1966, Ser. No. 551,948

2 Claims. (Cl. 260—343.2)

The compound, 5-hydroxy-10.5-(epoxymethano)-10,11-dihydro - 5H - dibenzo[a,d]cyclohepten-13-one, and a process for its preparation which comprises cyclizing by heat the prepared 10-bromo derivative of 5-hydroxy-10,11-dihydro-5H-dibenzo[a,d]cycloheptene - 5 - carboxylic acid methyl ester are disclosed. The new compound has important biological properties including anticonvulsant, anti-bacterial, central depressant and skeletal muscle relaxant activity. Dosage forms of the compound when orally administered as an anti-convulsant agent and for the treatment of disorders characterized by central excitation or muscle rigidity are described.

3,406,187

ALKALI METAL AZIDE COMPLEXES OF ORGANO-ALUMINUM COMPOUNDS AND USES THEREOF

Wolf Rainer Kroll, 715 Clark St., Linden, N.J. 07036

Continuation-in-part of applications Ser. No. 92,254, Feb. 28, 1961, and Ser. No. 95,473 and Ser. No. 95,474, Mar. 14, 1961. This application Sept. 30, 1964, Ser. No. 411,171

Claims priority, application Germany, Mar. 15, 1960, Z 7,877, Z 7,878

42 Claims. (Cl. 260—349)

There is disclosed novel processes for preparing alpha-olefins containing at least 3 carbon atoms from a low molecular weight mono-olefin reacted with an aluminum compound (AlR_3, $AlR_2OR' + AlR_3$ or $AlR_2SR' + AlR_3$), to provide a growth product, the growth product is converted into a displacement product by treatment with a metal reducing catalyst and further mono-olefin; and thereafter the displacement product is contacted with an alkali metal azide complexing agent which reacts therewith to complex substantially all of the AlR_3 in the displacement product and provide the desired alpha-olefins.

As can be appreciated, the aforesaid process can be adapted for the separation of trialkyl aluminum from other organic compounds and for the separation of alpha-olefins from its mixtures with other organic compounds.

Further, the complexes of alkali metal azides with aluminum trihydrocarbons ($nAlR_3 \cdot MeN_3$; Me is an alkali metal and n is a number having a value of from about 1 to about 2.1) constitute novel materials which can be used (supra) for the separation of aluminum trialkyls from mixtures thereof with other materials, etc.

3,406,188

PREPARATION OF ALPHA-TOCOPHERYL-QUINONE

Wayne B. Fletcher, Chester, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Mar. 27, 1964, Ser. No. 355,489

5 Claims. (Cl. 260—396)

Method for preparing alpha-tocopherylquinone by contacting alpha-tocopherol (vitamin E) with activated manganese dioxide in an inert atmosphere. These quinone compounds have particular utility as chemical intermediates for the preparation of the corresponding hydroquinones by conventional reduction methods. The hydroquinones are known to be useful for antioxidants particularly in foodstuffs. The quinone compounds and hydroquinone compounds are useful in the treatment of muscular dystrophies and atrophies (The Journal of Biological Chemistry, volume 183, p. 655, 1950).

3,406,189

AMINOPREGNANES

Leland L. Smith, Galveston, Tex., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 12, 1965, Ser. No. 479,325

4 Claims. (Cl. 260—397.3)

Aminopregnanes and particularly 21-aminoprogesterone and derivatives thereof are described having utility for the treatment of adrenal insufficiency.

3,406,190

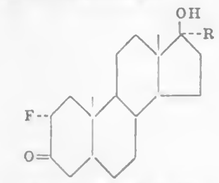
2-FLUORO STEROIDS OF THE ANDROSTANE SERIES AND A PROCESS FOR THEIR PRODUCTION

John A. Hogg and Alan H. Nathan, Kalamazoo Township, Kalamazoo County, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Jan. 16, 1959, Ser. No. 787,105

9 Claims. (Cl. 260—397.4)

8. A compound of the formula



wherein R is a member of the group consisting of hydrogen and methyl.

3,406,191

METHOD OF PRODUCING METHYL ISOTHIOCYANATE

Horst Werres, Berlin, Germany, assignor to Schering AG., Berlin, Germany

No Drawing. Continuation of application Ser. No. 67,463, Nov. 7, 1960. This application Dec. 7, 1964, Ser. No. 416,598

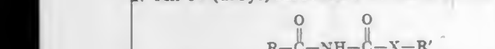
Claims priority application Germany, Nov. 6, 1959, Sch 26,924

3 Claims. (Cl. 260—454)

Methyl isothiocyanate is produced by reacting methylchloro-carbonate at a temperature of between about 35 and 60° C. with an alkali metal or ammonium salt of N-methyldithiocarbamic acid, preferably followed by steam distillation of the thereby formed methyl isothiocyanate.

3,406,192
N-(AROYL) CARBAMATES AND THIO CARBAMATES
Angelo John Speziale, Creve Coeur, and Lowell R. Smith, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Original application Sept. 4, 1962, Ser. No. 221,302. Divided and this application May 13, 1965, Ser. No. 455,632
5 Claims. (Cl. 260—455)

1. An N-(aroyl)carbamate of the formula



wherein R is chloro substituted phenyl having from 1 to 3 chlorine substituents, wherein X is a chalkogen of atomic weight less than 40, and wherein R' has from 1 to 5 carbon atoms and is selected from the group consisting of alkyl, alkenyl, alkynyl, chloroalkyl and chloroalkenyl.

3,406,193
SEPARATION OF ISOPHTHALONITRILE AND TEREPHTHALONITRILE MIXTURES BY TREATMENT WITH DIMETHYL FORMAMIDE OR METHYL ISOBUTYL KETONE
Roger M. Butler, 1235 Glen Douglas Drive, and Leander Burton Simpson, 1011 Edgewater Court, both of Sarnia, Ontario, Canada
Filed June 20, 1966, Ser. No. 558,934
9 Claims. (Cl. 260—465)

1. A process for the separation of a phthalonitrile mixture comprised of isophthalonitrile and terephthalonitrile which comprises treating the mixture with a solvent in which one of the phthalonitriles is more soluble than the other, the solvent being selected from the group consisting of dimethyl formamide and methyl isobutyl ketone, and thereafter recovering at least one of the phthalonitriles in higher concentration than in the phthalonitrile mixture treated.

3,406,194
DIACYLOXY-NITROSTILBENES
Myron S. Simon, Newton Center, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
No Drawing. Filed May 25, 1964, Ser. No. 370,066
5 Claims. (Cl. 260—479)

Novel diacyloxy-nitrostilbenes which are useful intermediates in the preparation of silver halide developing agents and dye developers (dyes which are also silver halide developing agents).

3,406,195
ALPHA-CHLORO-ALPHA-THYMOXY-PROPIONIC ACID
Richard G. Taylor, Reeds Spring, Mo., assignor to CDC Industries, Inc., Springfield, Mo., a corporation of Missouri
No Drawing. Filed Feb. 5, 1965, Ser. No. 430,733
1 Claim. (Cl. 260—521)

Alpha-chloro-alpha-thymoxy propionic acid is prepared by reacting either aluminum or magnesium thymate with a dihalopropionic acid, with yields of 70–90%. The product exhibits bacteriostatic activity.

3,406,196
OXIDATION OF POLYALKYL AROMATICS TO POLYCARBOXYLIC ACIDS
Donald M. Lewis, Wilmington, Del., and Frederick J. Sebelist, Chadds Ford, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 30, 1964, Ser. No. 400,354
4 Claims. (Cl. 260—524)

Improvement in the process for oxidation of alkyl substituted aromatics to polycarboxylic acids with molecular oxygen in the presence of bromine and metal oxidation catalyst which involves partial oxidation, preferably without added solvent in a first stage followed by a second-stage oxidation at higher temperature with water addition.

3,406,197
TRANSITION METAL CARBONYL CATALYSTS FOR CONVERTING ORGANIC ISOCYANATES TO CARBODIIMIDES
Henri Ulrich, North Branford, Conn., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed June 8, 1966, Ser. No. 555,970
12 Claims. (Cl. 260—551)

The conversion of organic mono- and poly-isocyanates to the corresponding carbodiimides is accomplished using as catalyst the complex of a d-group transition element and a π-bonding ligand. At least one of the ligands is carbon monoxide or a hydrocarbyl isocyanate (e.g. methyl isocyanide, phenyl isocyanide). Iron pentacarbonyl, diiron ennacarbonyl, tungsten hexacarbonyl and molybdenum hexacarbonyl are typical of the catalysts. The carbodiimides are useful as stabilizers for polyesters and the like, as acylation catalysts and dehydrating agents.

3,406,198
TRIARYLARSINES AS CATALYSTS FOR CONVERTING ISOCYANATES TO CARBODIIMIDES
Edward G. Budnick, Scotch Plains, N.J., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Aug. 5, 1966, Ser. No. 570,420
14 Claims. (Cl. 260—551)

Triarylarsines, wherein the aryl group is free of substituents containing reactive hydrogen atoms, are employed as catalysts in converting certain organic isocyanates to the corresponding carbodiimides. The starting organic isocyanates can be secondary alkyl, primary alkyl (of more than 10 carbon atoms), cycloalkyl, or aryl isocyanates. The aryl group in the latter can be substituted by groups free from reactive hydrogen atoms provided that one position ortho to the NCO group is unsubstituted. The carbodiimides so obtained are useful as polyester stabilizers, acylation catalysts, and condensing agents in peptide synthesis.

3,406,199
BENZENESULFONYL UREAS AND PROCESS FOR THEIR MANUFACTURE
Helmut Weber, Frankfurt am Main, Walter Aumuller, Kelkheim, Taunus, Rudi Weyer, Frankfurt am Main, Karl Muth, Kelkheim, Taunus, and Felix Helmut Schmidt, Mannheim-Neuostheim, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Apr. 12, 1965, Ser. No. 447,565
Claims priority, application Germany, Apr. 16, 1964, F 42,627
8 Claims. (Cl. 260—553)

Benzenesulfonyl urea compounds that are effective as oral antidiabetics.

3,406,200
UREA MANUFACTURE
Giacomo Fauser, Novara, Italy, assignor to Montecatini Edison S.p.A., Milan, Italy
Filed Dec. 28, 1960, Ser. No. 78,896
Claims priority, application Italy, Dec. 31, 1959, 21,734/59
13 Claims. (Cl. 260—555)

1. A process for producing urea from nitrogen and a mixture of carbon dioxide and hydrogen, comprising compressing a mixture of carbon dioxide and hydrogen and cooling the compressed mixture to condense the carbon dioxide and separate it from the hydrogen, reacting the separated compressed hydrogen with nitrogen to produce liquid ammonia, reacting the separated carbon dioxide with said liquid ammonia under pressure to synthesize urea, the said carbon dioxide and the ammonia being passed to the urea synthesis without further expenditure of energy for compression.

3,406,201
UREA SYNTHESIS
George P. Baumann, Sparta, and Maurice Spielman, New Providence, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed June 18, 1965, Ser. No. 465,058
6 Claims. (Cl. 260—555)

1. In the process of synthesizing urea from reaction of ammonia with gaseous carbon dioxide under pressure in the range of 100 to 300 atmospheres, at a temperature in the range of 140° to 200° C. and at a residence time of 5 to 60 minutes to form a urea melt which contains the urea, water and ammonium carbamate in a urea synthesis reaction zone and subsequently decomposing said ammonium carbamate in a decomposing and stripping zone, the improvement steps which comprise:

(a) flowing the urea melt from the synthesis reaction zone down through said decomposing and stripping zone;

(b) transferring most of the heat evolved in the synthesis reaction zone to the urea melt flowing down through the decomposing and stripping zone, thereby controlling the temperature in said synthesis reaction zone;

(c) contacting the urea melt with a countercurrent stream of gaseous CO_2 to cause decomposition of the carbamate and to strip CO_2 and NH_3 gas released by decomposition of the carbamate;

(d) passing the countercurrent stream of carbon dioxide carrying ammonia and water vapor from the decomposition and stripping zone into the urea synthesis reaction zone wherein the carbon dioxide reacts and consumes ammonia feed to form additional urea melt; and

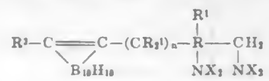
(e) maintaining the decomposition and stripping zone at essentially the same pressure as the pressure in the synthesis reaction zone.

3,406,202
PREPARATION OF ANILINE THIOETHERS
Walter Reifschneider and Jacqueline S. Kelyman, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Nov. 12, 1964, Ser. No. 410,706
The portion of the term of the patent subsequent to Sept. 20, 1983, has been disclaimed
8 Claims. (Cl. 260—578)

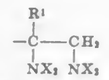
Preparation of aniline thioethers directly by reacting a thiocyanated aniline compound with an alcohol, a lower alkyl sulfate or an organic halide in the presence of a base.

3,406,203
DIHALOAMINO-CARBORANES
Scott I. Morrow, Morris Plains, Marvin M. Fein, Westfield, and Donald D. Perry, Morristown, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
No Drawing. Filed May 15, 1963, Ser. No. 281,382
28 Claims. (Cl. 260—583)

1. Dihaloamino carboranes of the formula:

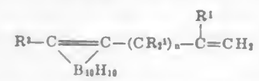


wherein R^1 is selected from the group consisting of hydrogen and alkyl groups having from 1–4 carbon atoms, n is a number ranging from 0–6, X is a halogen selected from the group consisting of chlorine, bromine, and fluorine, and R^2 is selected from the group selected from hydrogen and:

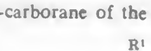


wherein X has the same meaning given above.

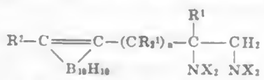
18. The process of preparing dihaloamino carboranes comprising the step of contacting a dinitrogen tetrahalide of the formula: N_2X_4, with 11-alkenyl carboranes of the formula:



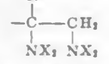
wherein R^1 is selected from the group consisting of hydrogen and alkyl groups having from 1–4 carbon atoms, n is a number ranging between 0–6, X is a halogen selected from the group consisting of chlorine, bromine and fluorine, and R^3 is selected from the group consisting of hydrogen and:



until a dihaloamino-carborane of the formula:



where X, n, R^1 have the meaning previously ascribed to them, R^2 is chosen from the group consisting of H and



is formed and isolating said dihaloamino carborane product.

3,406,204
PROCESS FOR THE PURIFICATION AND DECONTAMINATION OF TERTIARY ALIPHATIC AMINE SOLVENTS
André Bathellier, Sceaux, and Jean-Jacques Perez, Maisons-Alfort, France, assignors to Commissariat à l'Energie Atomique, Paris, France
Filed Aug. 17, 1965, Ser. No. 480,326
Claims priority, application France, Aug. 17, 1964, 985,363
5 Claims. (Cl. 260—583)

This invention relates to a process for the purification and decontamination of organic solvents constituted by tertiary amines.

3,406,205
SUBSTITUTED DIPHENYLACETAMIDE DERIVATIVES
Martin A. Davis, Montreal, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 9, 1965, Ser. No. 507,068
13 Claims. (Cl. 260—558)

There are disclosed herein the compounds 2,2-diphenyl-2-methyl-, -2-ethyl-, -2-butyl-, and -2-benzylsulfonylacetamides; 2,2-diphenyl-2-ethylsulfinylacetamide; 2-phenyl-2-(o-, m-, and p-, fluorophenyl)-2-ethylsulfonylacetamides; 2,2-diphenyl-2-ethylsulfonyl-N-methyl-, -N,N-diethyl-, and N-benzylacetamides; and 2,2-diphenyl-2-ethylsulfonylacetanilide. A procedure for their preparation is also disclosed. The compounds show trichomonacidal activity and anti-inflammatory activity and formulations

utilizing them as trichomonacidal agents and as anti-inflammatory agents are disclosed.

3,406,206
FORMALDEHYDE SOLUTIONS STABILIZED WITH VINYL ACETATE POLYMERS

Frederic J. Locke, East Longmeadow, Mass., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Jan. 21, 1965, Ser. No. 427,135
5 Claims. (Cl. 260—606)

The invention provides concentrated solutions of formaldehyde stabilized against polymerization with or without the use of conventional organic solvents. The novel stabilizers used are all non-colloidal polymers having a weight average molecular weight of from about 800 to 10,000 and are selected from the group consisting of polyvinyl acetate, vinyl acetate-allyl or methallyl alcohol copolymers, vinyl acetate-alkyl acrylate copolymers and vinyl acetate-dialkyl fumarate copolymers.

3,406,207
DIPHENOXYBIPHENYL COMPOUNDS AND PROCESS

Robert M. Schisla, Kirkwood, and William C. Hammann, Creve Coeur, Mo., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed Sept. 20, 1963, Ser. No. 310,457
6 Claims. (Cl. 260—613)

1. 2,3′-diphenoxybiphenyl.

3,406,208
POLYGLYCOL ETHERS SUITABLE FOR DETERGENT PREPARATIONS, AND PROCESS FOR PREPARING THE SAME

Bruno Blaser, Dusseldorf-Urdenbach, and Horst Rutzen, Haan, Rhineland, Germany, assignors to Henkel & Cie, G.m.b.H., Dusseldorf-Holthausen, Germany, a German corporation

No Drawing. Continuation of application Ser. No. 297,221, July 24, 1963. This application Dec. 16, 1966, Ser. No. 614,376
Claims priority, application Germany, July 25, 1962, H 46,462
3 Claims. (Cl. 260—615)

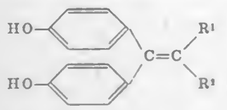
Non-ionic surface active polyglycol ethers soluble in water at temperatures of at least about +5° C. and prepared by the addition of alkylene oxide onto higher molecular weight saturated aliphatic hydrocarbon 1,2-glycol having between about 8–26 carbon atoms in the molecule at a temperature of between about 50–200° C. and at a pressure at least as high as normal pressure, and having turbidity points of between about 20–105° C.

3,406,209
1,1-BIS(p-OH-PHENYL)-2,2-DISUBSTITUTED ETHYLENES

Ernst H. Barany, Farmakologiska Institutionen, Uppsala, Sweden, and Jean Francois Miquel, Montpellier, France

No Drawing. Continuation-in-part of application Ser. No. 232,249, Oct. 22, 1962. This application Feb. 8, 1966, Ser. No. 525,866
The portion of the term of the patent subsequent to Feb. 22, 1983, has been disclaimed
11 Claims. (Cl. 260—619)

1. Compounds having the general formula



I

wherein R^1 is a member of the group consisting of methyl and ethyl radicals, R^2 is a member of the group consisting of straight and branched alkyl and alkenyl radicals containing from three to five carbon atoms.

3,406,210
PREPARATION OF HALOPOLYOLEFINS

Louis Schmerling, Riverside, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed June 3, 1965, Ser. No. 461,191
The portion of the term of the patent subsequent to Apr. 26, 1983, has been disclaimed
9 Claims. (Cl. 260—648)

Reaction of polyhaloolefins with monoolefins at about 50–300° C. in presence of organic peroxides and other free radical generating compounds to form halopolyolefins.

3,406,211
MANUFACTURE OF HEXACHLOROBENZENE AND PENTACHLOROBENZENE BY THE CHLORINATION OF BENZENE

Leonhard Tiganik, Skoghall, Sweden, assignor to Uddeholms Aktiebolag, Uddeholm, Sweden, a company of Sweden

No Drawing. Filed May 17, 1965, Ser. No. 456,524
Claims priority, application Sweden, May 26, 1964, 6,377/64
6 Claims. (Cl. 260—650)

1. In the method of chlorinating benzene to produce penta- and hexachlorobenzene which comprises passing a gaseous mixture consisting essentially of benzene, hydrogen chloride and oxygen in contact with copper chloride, supported on a carrier, as a catalyst at a temperature of at least 300° C., the improvement which consists in including in the catalyst at least one of the metal chlorides selected from the group consisting of the chlorides of silver, palladium and platinum.

3,406,212
PROCESS FOR PREPARING 1,3-DICHLOROBUTANE

Karl O. Christie and Attila E. Pavlath, Berkeley, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 27, 1965, Ser. No. 516,714
5 Claims. (Cl. 260—652)

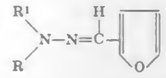
A process for the preparation of 1,3-dichlorobutane by reacting under substantially anhydrous conditions tetrahydrofuran with carbonyl chloride in the presence of hydrogen chloride preferably about 0.1 to 20% by weight based upon the weight of tetrahydrofuran used at atmospheric or superatmospheric pressure at a temperature preferably 50° to 120° C.

3,406,213
PROCESS FOR STABILIZING HALOGENATED HYDROCARBONS

Germano Patron, Venice, Italy, assignor to Montecatini-Edison S.p.A., Milan, Italy

No Drawing. Filed Mar. 7, 1966, Ser. No. 532,079
Claims priority, application Italy, Mar. 12, 1965, 5,490/65
7 Claims. (Cl. 260—652.5)

Liquid halogenated hydrocarbons, e.g. trichloroethylene, a conventional solvent, are stabilized against decomposition by the addition of a furfural dialkylhydrazone of the formula:



wherein R and R^1 are the same or different and represent lower alkyl moieties of from 1 to 3 carbon atoms. The stabilization may be enhanced by also adding an epoxide e.g. butylene oxide and a phenol.

3,406,214
METHOD OF PREPARING PERFLUOROETHYL IODIDE

Walter Blochl, Karlsruhe, Germany, assignor to FMC Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 475,282, July 27, 1965. This application Aug. 19, 1966, Ser. No. 573,456
5 Claims. (Cl. 260—653)

Perfluoroethyl iodide is prepared by introducing perfluoroethylene into iodine pentafluoride containing a minor amount of dissolved iodine and isolating the so formed perfluoroethyl iodide.

3,406,215
CHLORINATION OF BUTADIENE

Howard Emil Holmquist, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 23, 1965, Ser. No. 504,167
4 Claims. (Cl. 260—655)

Process for the chlorination of butadiene by reacting butadiene with an organic solvent solution of cupric chloride in the presence of a second chloride salt, said cupric chloride and said second chloride salt being soluble in said solvent and recovering 1-chloro-1,3-butadiene and 2-chloro-1,3-butadiene.

3,406,216
PREPARATION OF CARBON TETRACHLORIDE FROM PHOSGENE

John W. Ager, Jr., Princeton, N.J., assignor to FMC Corporation, New York, N.Y., a corporation of Delaware

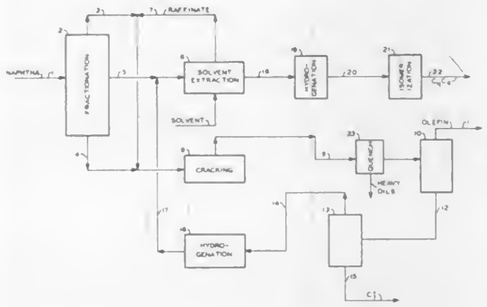
No Drawing. Filed Nov. 15, 1965, Ser. No. 507,659
10 Claims. (Cl. 260—664)

1. A process for converting phosgene to carbon tetrachloride which comprises heating phosgene to a temperature of 200–400° C. in the presence of at least 10% by weight, based on the phosgene, of a catalyst comprising 1 part by weight of tungsten hexachloride or molybdenum pentachloride and 1–20 parts by weight of calcium, strontium, barium or zinc chloroaluminate.

3,406,217
PRODUCTION OF CYCLOHEXANE FROM NAPHTHA

Joseph W. Davison, John F. Hutto, and Richard J. Livingston, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Mar. 31, 1966, Ser. No. 539,083
7 Claims. (Cl. 260—666)



A process of producing cyclohexane from a petroleum naphtha stream wherein the naphtha stream is fractionated in a distillation zone to form an overhead fraction containing C_5's and lighter, an intermediate fraction containing benzene, methylcyclopentane, and cyclohexane, and a bottom fraction containing C_7's and heavier. The bottom fraction is passed to a cracking zone wherein a benzene-containing stream is formed which is then combined with the intermediate fraction from the distillation zone. The resulting combined stream is then passed through an extraction zone wherein paraffinic hydrocarbons are removed therefrom. The effluent from the extraction zone is passed through a benzene hydrogenation zone wherein benzene is hydrogenated to cyclohexane, and the effluent from the benzene hydrogenation zone is passed through an isomerization zone wherein methylcyclopentane is converted to cyclohexane. A pure cyclohexane stream is removed from the isomerization zone.

3,406,218
QUINOL ETHER AS ANTIOXIDANT

Margaret A. Da Rooge, Dearborn Heights, and Lee R. Mahoney, Livonia, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

No Drawing. Filed Mar. 30, 1967, Ser. No. 626,986
2 Claims. (Cl. 260—666.5)

Small amounts of 4-(4-methoxy-phenoxy)-2,4,6-tri-t-butyl-2,5-cyclohexadien-1-one are unusually effective in inhibiting oxidation of organic substances. The compound also synergizes with small amounts of 2,4,6 - tri-t-butyl-phenol.

3,406,219
PROCESS FOR THE DEHYDROGENATION OF ETHYL BENZENE

Danford H. Olson, Wood River, Ill., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio

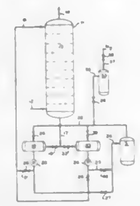
No Drawing. Filed Aug. 1, 1966, Ser. No. 569,048
8 Claims. (Cl. 260—669)

The present invention comprises a process for the production of styrene comprising in combination the steps of contacting ethyl benzene with at least 3 moles of carbon dioxide per mole of ethyl benzene in the presence of a catalytic amount of a catalyst consisting essentially of a Fischer-Tropsch catalyst and simultaneously causing the carbon dioxide to react with hydrogen to produce water and carbon monoxide during the course of the dehydrogenation process.

3,406,220
REMOVAL OF A CHELATING AGENT FROM A PROCESS STREAM

Harold M. Hawkins, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Jan. 11, 1966, Ser. No. 519,908
8 Claims. (Cl. 260—677)



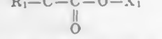
A diketone chelating compound is removed from a product stream by contacting the stream with a trivalent metal compound capable of forming a solid chelate with said chelating compound in a dispersant, and filtering the dispersant to remove the chelate so formed.

3,406,221
INTERPOLYMERS CONTAINING VINYL ACETATE, HYDROXY ESTERS OF DICARBOXYLIC ACIDS, AN ESTER PLASTICIZING MONOMER AND AN ALKYL ACID MALEATE OR FUMARATE

Howard J. Wright and Michael B. Prenosil, Kansas City, Mo., assignors to Cook Paint & Varnish Company, Kansas City, Mo., a corporation of Delaware

No Drawing. Filed Nov. 24, 1965, Ser. No. 509,628
6 Claims. (Cl. 260—856)

1. A copolymer comprising on a weight basis:
(1) 45–85% vinyl acetate;
(2) 5–35% of a hydroxy compound of the formula:



wherein R and R_1 are hydrogen or lower alkyl; X is hydrogen or non-hydroxy aryl or alkyl; and X_1 is a hydroxy-aliphatic group;
(3) 5–15% of a plasticizing monomer selected from the group consisting of dialkyl maleates, dialkyl fumarates and alkyl acrylates; and
(4) 5–30% of an alkyl acid maleate or fumarate.

3,406,222
STABILIZED POLYOXYMETHYLENE COMPOSITIONS

Henry Moncure, Jr., Marietta, Ohio, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 8, 1966, Ser. No. 563,717
7 Claims. (Cl. 260—857)

Polyoxyethylenes may be stabilized by the addition of 0.001–1% by weight of the component bis(phenylisopropylidene)diphenylamine. The composition may optionally contain polyamides and ultraviolet screening agents as exemplified by benzotriazole, cinnamonitrile and O-hydroxy benzophenone.

3,406,223
STABILIZED POLYOXYMETHYLENES

Hugh Harper Gibbs, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 344,541, Feb. 13, 1964. This application Dec. 13, 1966, Ser. No. 601,322
9 Claims. (Cl. 260—857)

High molecular weight polyoxymethylene polymers having improved hydrolytic stability are obtained by adding a superpolyamide, a phenolic antioxidant and an α,α-disubstituted aliphatic amine to the polymer.

3,406,224
NON-FLAMMABLE POLYETHYLENE TEREPHTHALATE FILM

Leslie Marvin McDonough, Yakima, Wash., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 14, 1966, Ser. No. 533,819
6 Claims. (Cl. 260—860)

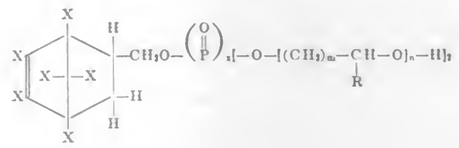
A non-flammable polyethylene terephthalate film is provided. The polyethylene terephthalate film is derived from a block copolymer of poly(2,2-bis 4-hydroxy dichlorophenyl propane pentaerythritol diphosphite) and polymeric linear terephthalate esters wherein the weight ratio of said polyphosphite to said polymeric linear terephthalic ester is between 10:90 and 40:60.

3,406,225
CYCLIC PROSPHORUS ACID ESTERS

Daniel S. Raden, Chicago, Ill., assignor to Velsicol Chemical Corporation, a corporation of Delaware

No Drawing. Filed Nov. 26, 1965, Ser. No. 510,037
10 Claims. (Cl. 260—953)

1. A compound of the structure



wherein X is selected from the group consisting of chlorine and bromine; m is an integer from 1 to 2; n is an integer from 0 to 20; x is an integer from 0 to 1; and R is selected from the group consisting of hydrogen and lower alkyl.

3,406,226
METHOD OF PRODUCING O,O-DIALKYLDITHIOPHOSPHORYLFATTYACIDAMIDES

Werner Kochmann, Hans-Günter Seelmann, and Gerda Wetzke, Bitterfeld, Christian Duschek, Leipzig, Frank Frotscher, Halle, Jürgen Müller, Reinhold Springer, Rudolf Liedmann, Peter Schmidt, and Dieter Sass, Bitterfeld, Erwin Armbrüster, Zorbig, Brigitte Triems, Leipzig, and Karl-Heinz Teutschbein, Sandersdorf, Germany, assignors to VEB Elektrochemisches Kombinat Bitterfeld, Bitterfeld, Germany, a corporation of Germany

No Drawing. Filed May 11, 1965, Ser. No. 454,961
11 Claims. (Cl. 260—981)

The process for preparing O,O-dialkyldithiophosphorylfattyacidamides which comprises reacting at a temperature between 0° and 125° C., phosphorus pentasulfide, a reaction mixture consisting essentially of an alcohol having the formula R_1OH wherein R_1 is an alkyl having 1–4 carbon atoms, and α-halofattyacidamide having the formula $XC(H)(R_2)C(O)N(R_3)R_4$, wherein X is selected from the group consisting of bromine, chlorine, and iodine, R_2 is selected from the group consisting of hydrogen and alkyls having 1–4 carbon atoms, and R_3 and R_4 are each selected from the group consisting of hydrogen, alkyls, having 1 to 4 carbon atoms, and monocyclicaryl.

3,406,227
METHOD OF FABRICATING LOW PERMEABILITY NUCLEAR FUEL BODIES

Geoffrey R. Tully, Jr., and Walter V. Goeddel, Poway, Calif., assignors, by mesne assignments, to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware

No Drawing. Filed Oct. 19, 1962, Ser. No. 231,818
2 Claims. (Cl. 264—.5)

1. A method of making a solid, high temperature, nuclear fuel body, which method comprises the steps of compacting a mixture of finely divided graphite and discrete nuclear fuel carbide particles, each of which particles is coated with a protective layer of pyrolytic carbon, into a solid fuel body having a maximum pore diameter of about 2 microns, impregnating a portion of the pores of said fuel body with a polymerizable substance, curing and carbonizing said substance within said pores, repeating said impregnating, curing and carbonizing steps until the gas permeability of said fuel body is substantially reduced, and thereafter heat-treating said carbonized substance within the pores of said fuel body to produce a fuel body having excellent fission product retention.

3,406,228
METHOD OF PRODUCING EXTREMELY FINELY-DIVIDED OXIDES

John E. Hardy, Andover, and Merrill E. Jordan, Walpole, Mass., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware

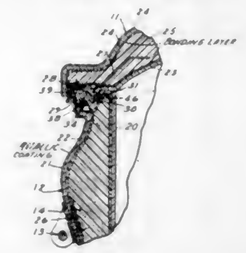
No Drawing. Filed June 17, 1964, Ser. No. 375,942
19 Claims. (Cl. 264—.5)

The present invention relates to a novel process for the production of metal oxide powders of extremely small particle size. Broadly, said process is characterized by the formation of a liquid slurry comprising a liquid medium, a metal compound and carbon black. Said slurry is spray dried and the resulting powder is heat treated in order to convert the metal compound to the corresponding metal oxide.

3,406,229
METHOD OF MANUFACTURING COMPOSITE FOAMED RESIN CASKETS

Louis F. Cenegy, Downey, Calif., assignor to Hitco, a corporation of California

Original application Mar. 9, 1962, Ser. No. 178,617, now Patent No. 3,283,386, dated Nov. 8, 1966. Divided and this application Oct. 23, 1965, Ser. No. 565,328
2 Claims. (Cl. 264—45)



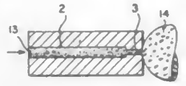
1. In a method of manufacturing a casket unit, the steps comprising:
vacuum forming an inner shell from polystyrene sheet material, the inner shell including a convex outer surface and a mating surface;
vacuum forming an outer shell, larger than the inner shell, from polystyrene sheet material, the outer shell including a concave inner surface and a mating surface;
coating the outer surface of the inner shell and the inner surface of the outer shell with an acrylic lacquer;
applying a charge of polyurethane foam-forming agents onto the inner surface of the outer shell;
positioning the inner shell within the outer shell, in spaced-apart relation, with the outer surface of the inner shell facing the inner surface of the outer shell, the polyurethane foam forming within the space between the shells, the charge of foam-forming agents being sufficient to form a quantity of polyurethane foam which substantially fills the space between the shells; and
adhering together the mating surfaces of the shells to close the space between the shells.

3,406,230
EXTRUSION OF RESINS

Samuel Baxter, Penhow, and John Harold Gilbert, Shire Newton, Chepstow, England, assignors to Monsanto Chemicals Limited, London, England, a British company

Filed June 18, 1964, Ser. No. 376,089
Claims priority, application Great Britain, June 24, 1963, 25,001/63
10 Claims. (Cl. 264—51)

This application is directed to a continuous die extrusion process for producing a foamed thermoplastic synthetic resin by first coalescing separate molten foamable

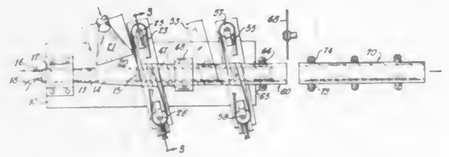


streams and then expanding the thus coalesced mass into a foam resin.

3,406,231
METHOD FOR PRODUCTION OF TUBULAR FIBROUS BODIES

William L. Ullman, Cherry Hill, N.J., and James C. Baxter, Minerva, Arthur J. Pearson, Granville, Robert E. Davis, Newark, and William B. Hullhorst, Rossford, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed Jan. 20, 1964, Ser. No. 339,007
5 Claims. (Cl. 264—145)

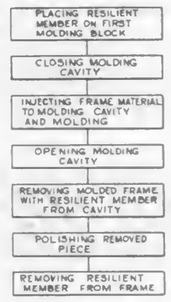


1. A method of producing a tubular insulating body of fibrous glass which comprises directing a flat belt helically around a mandrel, directing a generally planar, compressible, porous pack of fibrous glass impregnated with a heat curable binder in a path tangential of the mandrel and adjacent to the belt whereby the pack is gripped and compressed between the belt and the mandrel and is pulled by the belt in a helical path around the mandrel, and the porous tubular body formed by the helical turns of the pack is advanced along the mandrel by the belt, and directing binder curing hot air under pressure outwardly from a longitudinal section of the mandrel through the tubular body and directing additional binder curing hot air from an exterior source inwardly into the porous tubular body supplementing the curing action of the hot air directed outwardly from the mandrel.

3,406,232
PROCESS FOR MOLDING EYEGLASS FRAMES

Allan L. Barker, Southbridge, Mass., assignor, by mesne assignments, to American Optical Corporation, a corporation of Delaware

Filed Aug. 3, 1964, Ser. No. 387,114
2 Claims. (Cl. 264—162)



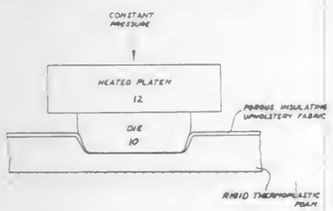
A process for molding a closed internal groove or undercut in eyeglass frames to eventually receive a lens

comprising the steps of placing a resilient member to form the groove within the cavity on the molding block to form the rim, molding the frame in such cavity, removing the molded frame from the cavity with the resilient member retained in said frame, polishing the frame, and thereafter removing the resilient member from the frame.

3,406,233
METHOD OF KILLING PESTS WITH S-(2,5-DICHLORO-3-THIENYL-THIOMETHYL) O,O-DIETHYLPHOSPHORODITHIOATE
Peter F. Epstein, El Cerrito, Calif., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Original application July 15, 1964, Ser. No. 382,952, now Patent No. 3,341,553, dated Sept. 12, 1967. Divided and this application May 22, 1967, Ser. No. 654,289
1 Claim. (Cl. 424—202)

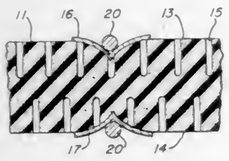
1. The method of killing pests selected from the group consisting of insects and acarids comprising applying to a pest habitat an effective amount of S-(2,5-dichloro-3-thienylthiomethyl)-O,O-diethylphosphorodithioate.

3,406,234
MOLDING PROCESS
Richard L. Bailly, Woodcrest Road, Boxford, Mass. 01921
Filed Jan. 17, 1966, Ser. No. 521,127
1 Claim. (Cl. 264—257)



A cavity-contoured upholstered packaging panel is formed by covering a board of rigid thermoplastic foam with an insulating upholstery fabric, and applying a heated die defining the cavity to the fabric and board. The die is heated sufficiently to soften the thermoplastic material and penetrate into the board at a rate of at least about 1½ inches per minute while under a pressure of about 1.8 pounds per square inch.

3,406,235
METHOD AND APPARATUS FOR MANUFACTURING FOAM RUBBER CUSHIONING
Thomas Trogdon, James R. Fore, and John O. Pettigrew, Waynesville, N.C., assignors to Dayco Corporation, Dayton, Ohio, a corporation of Delaware
Filed Mar. 19, 1965, Ser. No. 441,100
10 Claims. (Cl. 264—321)



Apparatus and method of forming additional crowned areas in foam rubber cushioning. This is accomplished by applying heated V-shaped clamping members to the upper and lower surfaces. By applying pressure to these members and forcing them toward each other and into the surfaces of the cushioning while simultaneously applying moisture and heat, a permanent deformation occurs.

3,406,236
METHOD OF MOLDING ARTICLES UTILIZING MOLD COATED WITH RELEASE AGENT COMPRISING POLYSILOXANE - POLYOXYALKYLENE MIXTURE
Wilfried Kniege, Cologne-Mulheim, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Jan. 5, 1965, Ser. No. 423,602
Claims priority, application Germany, Jan. 15, 1964, F 41,747
5 Claims. (Cl. 264—338)

Mold release agent comprising a mixture of a hydrocarbon-substituted polysiloxane having a viscosity at room temperature of about 40 to 20,000 centistokes, and a polyoxyalkylene in an amount of about 15% to 65% based on the weight of the polysiloxane, in which the polyoxyalkylene is a water soluble copolymer having a molecular weight between about 200 and 2500 and composed of ethylene oxide and propylene oxide in a molar ratio between about 30:70 and 85:15.

3,406,237
COMPOSITION AND A METHOD FOR RELIEVING BRONCHO-SPASMS WHICH USE 1-p-HYDROXYPHENYL - 2 - (β - 3',5' - DIHYDROXYPHENYL - β-HYDROXY)-ETHYLAMINOPROPANE
Karl Zeile, Otto Thomä, and Anton Mentrup, Ingelheim am Rhein, Germany, assignors to Boehringer Ingelheim G.m.b.H., Ingelheim am Rhein, Germany, a corporation of Germany
No Drawing. Original application Nov. 27, 1963, Ser. No. 326,398, now Patent No. 3,341,593, dated Sept. 12, 1967. Divided and this application July 25, 1967, Ser. No. 655,747
Claims priority, application Germany, Nov. 30, 1962, B 69,820
3 Claims. (Cl. 424—45)

The composition contains a 1-p-hydroxyphenyl-2-(β-3',5'-dihydroxyphenyl-β - hydroxy) - ethylamino-propane as an active broncho-spasmolytic ingredient.

3,406,238
EMOLLIENT PREPARATIONS CONTAINING ALKYLATED POLYMERS OF HETEROCYCLIC N-VINYL MONOMERS
Harlan B. Freyermuth and Wilmer E. Van Horn, Easton, Pa., assignors to GAF Corporation, a corporation of Delaware
No Drawing. Filed Jan. 5, 1965, Ser. No. 423,603
12 Claims. (Cl. 424—70)

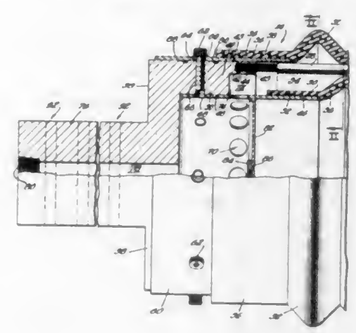
Toiletry and cosmetic compositions are provided which are smooth in texture and which impart a softening and soothing effect to the skin and the appendages of the skin. The said compositions contain as an essential component from 0.1 to about 50% by weight thereof of an alkylated polymer of an N-vinyl heterocyclic monomer wherein on an average at least 25% of the N-vinyl heterocyclic monomer units in said polymer are alkylated with an alkyl group of from 10 to 42 carbon atoms.

ERRATUM

For Class 424—202 see:
Patent No. 3,406,233

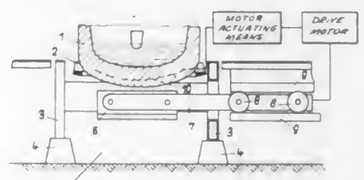
ELECTRICAL

3,406,239
POWER CABLE ARRANGEMENT FOR ELECTRIC ARC FURNACES
Charles G. Robinson, Sterling, Ill., assignor to Northwestern Steel and Wire Company, Sterling, Ill., a corporation of Illinois
Filed Aug. 25, 1965, Ser. No. 482,515
3 Claims. (Cl. 13—9)



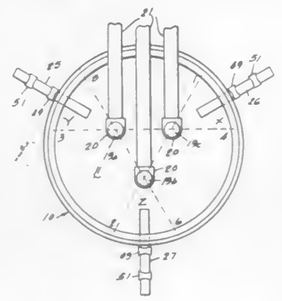
A current delivery cable having a plurality of current carrying conductors helically wound about an inner flexible tube. An outer flexible tube surrounds the conductors and forms a chamber with the inner tube for receiving cooling liquid. A connector is provided at each end of the current delivery cable. A fluid passage is formed in each of the connectors to direct the fluid flow through the chamber formed by the inner flexible tube and the outer flexible tube and, to prevent fluid flow from passing through the center of the inner flexible cable.

3,406,240
ELECTRIC-ARC FURNACE EQUIPPED WITH PUDDLING COIL
Gustav-Adolf Sixel, Dusseldorf-Kaiserswerth, Germany, assignor to Beteiligungs- und Patentverwaltungsgesellschaft mit beschrankter Haftung, Essen, Germany, a corporation of Germany
Filed June 21, 1965, Ser. No. 465,293
Claims priority, application Germany, July 22, 1964, B 77,783
3 Claims. (Cl. 13—10)



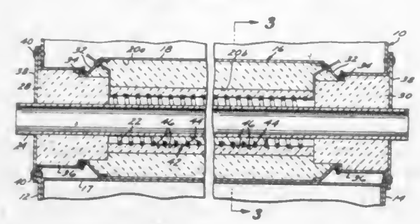
An electric arc furnace comprising a furnace vessel and puddling coil operatively disposed below the furnace vessel. Means are provided for removing the puddling coil from under the furnace vessel and are arranged away from the underneath of the furnace vessel and include rails extending away therefrom and running gear means movable on the rails and operatively connected to the puddling coil for moving the latter away from underneath the furnace vessel and a drive motor means responsive to an impending breakthrough in the furnace vessel for actuating the running gear means, removing the puddling coil from the danger zone.

3,406,241
METHOD AND APPARATUS FOR BALANCING THE ARC POWER OF A DIRECT ARC ELECTRIC FURNACE AND PROTECTING THE REFRACTORY LINING IN THE HOT SPOTS OF THE FURNACE
Charles G. Robinson, Sterling, Ill., assignor to Northwestern Steel and Wire Company, Sterling, Ill., a corporation of Illinois
Filed Mar. 10, 1967, Ser. No. 622,321
12 Claims. (Cl. 13—11)



Method and apparatus for improvement of the heat balance and increasing the life of the lining of a multi-electrode direct arc electric furnace. Magnetic probes are introduced into the furnace along the hot spot areas of the furnace to repel the effects of the arcs from the side wall of the furnace in the region of the hot spot areas of the furnace. The magnetic probes besides repelling the arcs from the side wall of the furnace also broaden the arcs and thereby more evenly distribute the heat inside of the furnace, with a resultant decrease in the melting time of the charge.

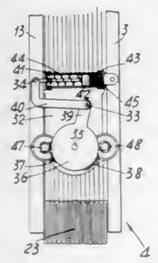
3,406,242
DIFFUSION FURNACE HEARTH PLATE
Karl A. Lang, 93 Rivo Alto Canal, Long Beach, Calif. 90803
Filed May 4, 1967, Ser. No. 636,154
4 Claims. (Cl. 13—22)



A hearth plate for use in a diffusion furnace of the type in which the work to be heated is carried in a quartz tube inserted within an elongated heating coil seated within a helical groove provided in a surrounding sleeve made of refractory material, the hearth plate being interposed between the quartz tube and the sleeve and having complemental grooves to receive the adjacent portion of the heating coil, the lands between the grooves in the

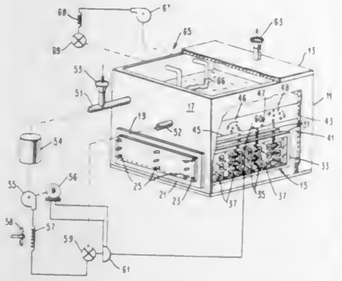
hearth plate and the sleeve thereby transmitting the weight of the tube, the work within the tube, and the hearth plate, so that the tube is kept from sagging without pressing against the heating coil.

3,406,243
CONTROL DEVICE FOR ELECTRONIC MUSICAL INSTRUMENTS
Paolo Settimio Soprani, Via Bainsizza 2, Ancona, Italy
Filed Apr. 27, 1965, Ser. No. 451,191
Claims priority, application Italy, May 16, 1964, 314/64; Feb. 19, 1965, 1,453/65
6 Claims. (Cl. 84—1.27)



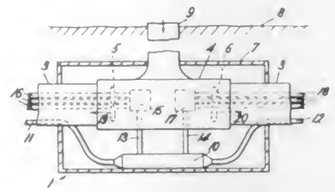
A mechanical device adapted to be mounted on the bellows of electronic musical instruments and to be connected in the electric circuit in such a manner that movement of the bellows in either of two opposite directions from the same starting position will produce corresponding variations of volume or timbre.

3,406,244
MULTI-LIQUID HEAT TRANSFER
Sevgin Oktay, Beacon, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 7, 1966, Ser. No. 555,730
7 Claims. (Cl. 174—15)



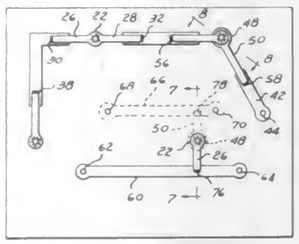
A cooling system is provided for cooling heat generating electronic components which are completely immersed in a liquid having a low temperature boiling point. This dielectric liquid, such as a fluorcarbon, preferably boils only somewhat above ambient room temperature at atmospheric pressure. A second liquid having a lower density and a higher boiling point than the first mentioned liquid is superimposed on the first liquid resulting in an interface between the two liquids where nucleate boiling bubbles generated in the first fluid are principally condensed. The superimposed liquid is maintained at a predetermined temperature by means of a cooling arrangement.

3,406,245
ELECTRIC CABLE INSTALLATIONS
Roland Howard Weir Watkins, Kent, England, assignor to British Insulated Callender's Cables Limited, London, England
Filed Aug. 23, 1966, Ser. No. 574,334
Claims priority, application Great Britain, Aug. 24, 1965, 36,322/65
8 Claims. (Cl. 174—15)



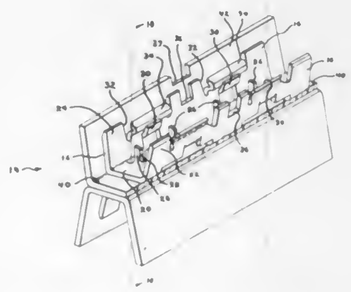
1. An electric cable installations in which a cooled section of cable, consisting of a plurality of successive individually cooled lengths of cable, is provided with cooling means comprising:
(a) at least one primary cooling fluid duct associated with and passing along each individually cooled length of cable to extract heat therefrom,
(b) means for circulating cooling fluid through said ducts comprising at least one return pipe interconnecting the ends of each of the primary cooling fluid ducts,
(c) a secondary cooling fluid duct extending along at least a major part of the cooled section of cable,
(d) a plurality of heat exchangers arranged to transfer heat from the primary cooling fluid in the return pipes to the secondary cooling fluid in the secondary fluid duct,
(e) means for circulating the secondary fluid comprising a secondary cooling fluid return pipe interconnecting the ends of the secondary cooling fluid duct, and
(f) at least one secondary heat exchanger connected in the secondary fluid circuit to extract heat from the secondary cooling fluid.

3,406,246
ARTICLES FOR PRINTED CIRCUIT REPAIR
Arthur P. Davidson, Westport, and Andrew N. Mangum, Orange, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed July 11, 1966, Ser. No. 564,306
7 Claims. (Cl. 174—68.5)



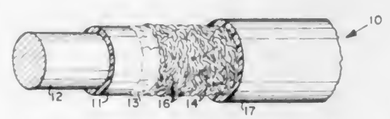
In general our invention contemplates the provision of printed circuit repair elements and of a method of using the same to connect printed conductors in which a grommet or eyelet of a length greater than the thickness of the circuit board is provided with one or more arms for engaging printed conductors. The eyelet is passed through the hole in the board and may also be passed through an opening in a pad having an arm for engaging the conductor. After the arms have been engaged with the proper conductors, the end of the eyelet remote from its arms is upset securely to retain the elements on the board and the arms are soldered or welded to the conductors.

3,406,247
ELECTRICAL CONNECTIONS FOR PAIRS OF CONDUCTORS
Stuart L. Parsons, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed Oct. 9, 1967, Ser. No. 673,856
6 Claims. (Cl. 174—88)



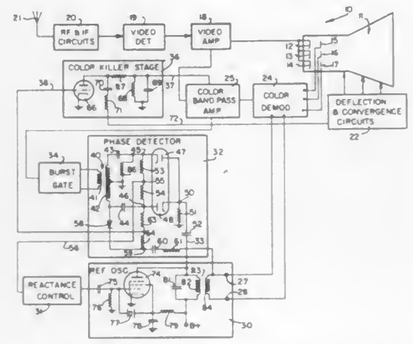
Electrical connecting device for connecting pairs of conductors comprises two open U-type metallic connectors secured to each other in back-to-back relationship with their open sides facing in opposite directions. Connectors are separated by insulating material to which connectors are secured and which maintain the two connectors as a single structural entity but as separate electrical entities. Crimping apparatus for this connecting device comprises a pair of opposed crimping dies which are movable relatively towards and away from each other. Connector holding means is loacted between the crimping dies when they are in their open positions and is adapted to support the connecting device with its open sides facing the forming surfaces of the dies. Each crimping die has an inwardly extending slot intermediate its ends into which wires are threaded or laced prior to crimping. During crimping, wire-cutting members move into these slots prior to crimping of the connecting device onto the trimmed wire ends.

3,406,248
CABLE WITH EXTRUDED COVERING HAVING FIBROUS INTERLAYER
Steve Bunish and Rosario J. Perrone, Marion, Ind., assignors to Anaconda Wire and Cable Company, a corporation of Delaware
Filed Oct. 27, 1966, Ser. No. 589,879
2 Claims. (Cl. 174—121)



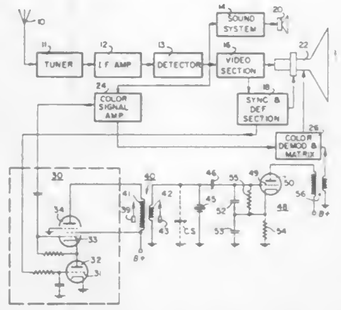
An electrical cable has plural insulation layers with a multi-layered fibrous material between the layers. The fibrous material is introduced between the layers during an extrusion operation.

3,406,249
COLOR KILLER PHASE DETECTOR FOR COLOR TELEVISION RECEIVERS
Rolf E. Spies, Lyons, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Oct. 13, 1965, Ser. No. 495,433
7 Claims. (Cl. 178—5.4)



A color killer phase detector circuit for a color TV receiver is formed by ading a third diode in circuit with one of the two diodes of the reference oscillator phase detector. The two diodes together with the circuitry coupled thereto form a balanced bridge circuit which develops an output signal when a color signal is received.

3,406,250
TELEVISION RECEIVER
Rolf E. Spies, Lyons, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Dec. 20, 1965, Ser. No. 514,969
5 Claims. (Cl. 178—5.4)

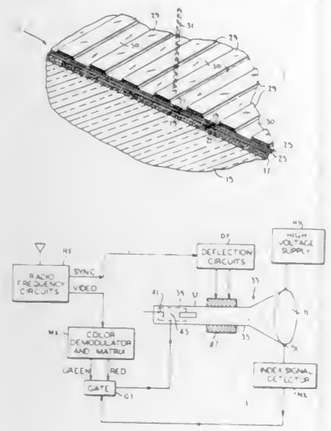


There is disclosed a burst controlled local oscillator for a color television receiver, wherein a coupling circuit having a transformer and parallel crystal for coupling the burst to the oscillator is tuned to a frequency different from the burst frequency providing the necessary passband for the burst and rejecting noise.

3,406,251
COLOR TV TUBE STRUCTURE
Morton E. Jones, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Jan. 3, 1966, Ser. No. 518,136
6 Claims. (Cl. 178—5.4)

There is disclosed, for use in a two color television display, a homogeneous screen containing two phosphors the first emitting light when scanned by a beam of one

energy level and the second emitting light at a higher energy level. Superposed over the screen are indexing strips which when scanned by a beam at the higher energy

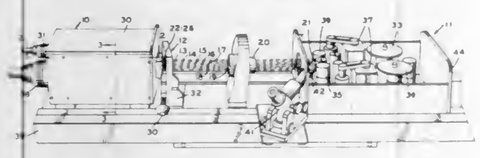


level generate indexing pulses and lower the beam energy level reaching the screen, obviating the need for high voltage switching to produce the two color display.

3,406,252
FIBER OPTIC OUTPUT TRANSFORMATION FOR MULTIPLE ELECTRON DISCHARGE DEVICES

Carlton E. Thomas, Ann Arbor, Mich., assignor to Conductron Corporation, Ann Arbor, Mich., a corporation of Delaware

Filed Feb. 11, 1965, Ser. No. 431,954
3 Claims. (Cl. 178—6.7)



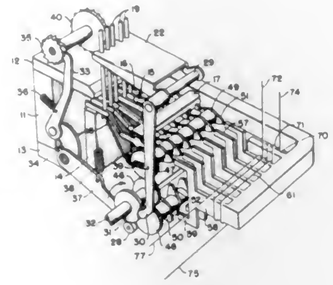
An electro-optical apparatus for converting from time-varying voltage to time-varying light and vice versa including a compact cluster of electron discharge devices such as cathode ray tubes with a plurality of light conduits for compacting the output of the tubes to a dense pattern of light, an optical system for treating said light to further refine it, and a recording device to provide a continuous time-varying record, the apparatus being reversible to move from a continuous light varying record to a plurality of time-varying voltages.

3,406,253
MAGNETO-MECHANICAL TRANSMITTER DISTRIBUTOR

Walter J. Zenner, Des Plaines, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware

Filed Jan. 4, 1965, Ser. No. 423,238
12 Claims. (Cl. 178—17)

A device for sensing permutation-coded apertures in a telegraph tape and causing a series of time related marking and spacing signals representative of the aperture permutations to be provided in a transmitting conductor. A magnetic control device causes a memory core to be driven from a first stable state to a second stable state when an aperture is sensed and subsequently causes the memory core to be driven back to the first stable state. Output pulses are induced in a conductor wound in common around all of the memory cores when the memory

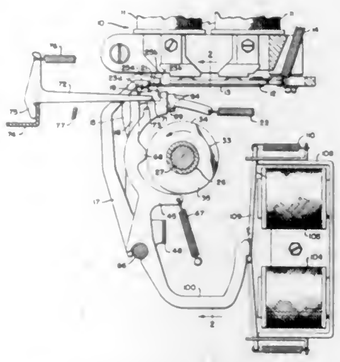


cores are driven from the first stable state to the second stable state. The output pulses control operation of a bistable flip-flop which causes a series of time related output pulses to be provided in the transmitting conductor.

3,406,254
COMBINATION SEQUENTIAL AND PARALLEL SELECTOR MECHANISM FOR AUTOMATIC TELEGRAPH APPARATUS

Robert E. Arko, Mount Prospect, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware

Filed Apr. 15, 1965, Ser. No. 448,426
10 Claims. (Cl. 178—27)



1. In a selector mechanism having a serial selector magnet responsive to incoming signals to position its armature in either a marking or a spacing position and a plurality of followers individually responsive to the position of the armature for controlling the function of a telegraph apparatus, the following:

a plurality of latching members each in the path of travel of an individual one of the followers for preventing the followers from responding to the position of the serial selector armature;

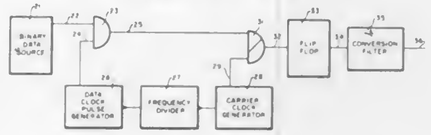
a plurality of parallel selector magnets each individual to one of the latching members and responsive to an incoming signal to move its respective latching member out of the path of travel of its respective follower; and

means for holding the armature of the serial selector magnet in the marking position whenever signals are being received on the parallel selector magnets and for holding all of the latching members out of the path of travel of the followers whenever signals are being received on the serial selector magnet.

3,406,255
DATA TRANSMISSION TECHNIQUES USING ORTHOGONAL FM SIGNAL

Adam Lender, Palo Alto, Calif., assignor, by mesne assignments, to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed June 2, 1965, Ser. No. 460,753
29 Claims. (Cl. 178—67)



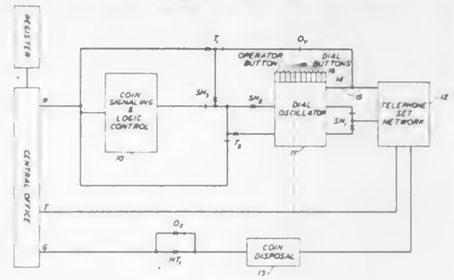
Apparatus and method for generating the frequency modulated signal utilizing a single frequency source, means for deriving from said source a train of pulses of twice the bit rate of the binary data signal, means including a bistable device gated in a complementary manner by a combination of said binary data signal and said train of pulses for providing a two-phase coded waveform and filter means for converting the two-phase coded waveform into said frequency modulated signal.

Apparatus and method for the recovery of the binary information from the orthogonal frequency modulated signal utilizing means for delaying said frequency modulated signal by one half bit interval, product modulator means for comparing the undelayed frequency modulated signal with the delayed frequency modulated signal and low pass filter means connected to the output of said product modulator for eliminating alternating current components in the output of said filter means which are equal to or greater than said bit rate. Because of correlation characteristics the low pass filter output will have a minimum and maximum level. One of these levels is indicative of one and the other level of the other state respectively of said binary data signal. Synchronous sampling of said low pass output wave at the binary data rate produces a replica of the binary data signal.

3,406,256
COIN TELEPHONE EMERGENCY SERVICE

Lawrence A. Strommen, Indianapolis, Ind., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed June 2, 1965, Ser. No. 460,716
15 Claims. (Cl. 179—6.3)

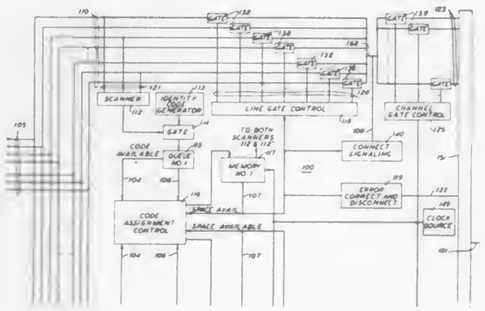


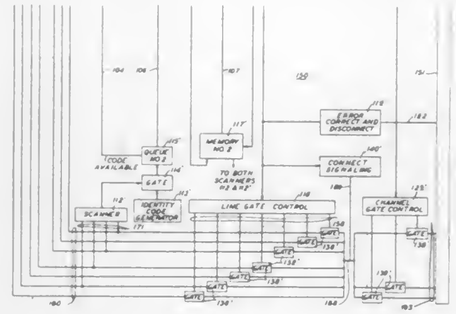
A coin telephone system for providing coin free access to an emergency operator employing a tone generator and special switching contacts associated with either a rotary or pushbutton dialing mechanism for bypassing coin control circuitry and enabling the tone generator.

3,406,257
PARALLEL TASI SYSTEM WITH COMMON MEANS FOR CALL ASSIGNMENT CONTROL

Norwood G. Long, Millington, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 7, 1964, Ser. No. 402,091
7 Claims. (Cl. 179—15)





Two time assignment speech interpolation (TASI) systems are conected in parallel to utilize the increased channel capacity of a speech transmission facility. Each input subscriber line is connected to a speech transmission gate in each of the two TASI systems. Subscriber identification codes to identify the active input lines are queued up in memory units in both TASI systems. An assignment control system common to both TASI systems determines which TASI system shall transmit the subscriber call basing its decision on speech transmission channel availability in either of the two parallel TASI systems.

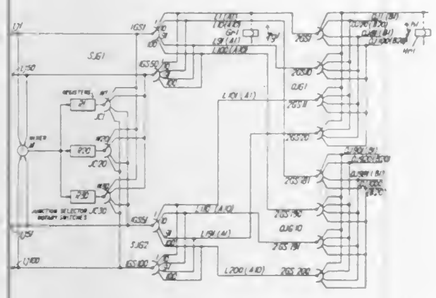
3,406,258
CONTROL CIRCUIT FOR SWITCHING NETWORKS HAVING OUTPUT AVAILABILITY CHECK MEANS

Andreas Michiel Cyriel Corneel Peeters, Schoten, Jan Van Goethem, Antwerp, and Jozef August Corneel Maria De Cleyn, Kapellen, Belgium, assignors to International Standard Electric Corporation

Filed Apr. 16, 1965, Ser. No. 448,704
7 Claims. (Cl. 179—18)

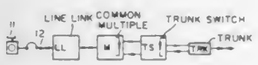
Switching network including a plurality of incoming junctions connected through a plurality of first group selectors, links, and second group selectors to a plurality

of outgoing junctions. The connection is made in such a manner that each incoming junctions has access to all of the outgoing junctions. The outgoing junctions are arranged in a plurality of sets. The network includes a control circuit which operates to check the availability of the outgoing junctions of the wanted set, and the



availability of the links giving access to these outgoing junctions. The control circuit then indicates that there is at least one available outgoing junction in the wanted set. Thus, the circuitry provides means for precluding the necessity of having the control circuit check all the individual outgoing junctions for availability.

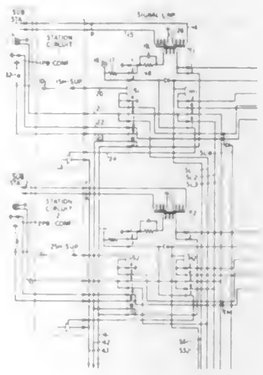
3,406,259
SWITCHING CONTACT NETWORK HAVING COMMON MULTIPLE PRIMARY SWITCH MEANS
Evert O. Ekbergh, Hagersten, and Per G. Jonsson, Sorlid, Ronninge, Sweden, assignors to International Standard Electric Corporation
Filed Apr. 6, 1965, Ser. No. 446,011
Claims priority, application Sweden, Apr. 10, 1964, 4,470/64
7 Claims. (Cl. 179—22)



A switching contact network for telephone systems. The network enables the establishment of different categories of calls, such as local calls, external calls and transit calls over a minimum number of contacts. The network is characterized in that the primary switching matrix provides individual common multiples to the subscribers. The common multiples are divided to enable switching between the subscribers and switching between the subscribers and trunks.

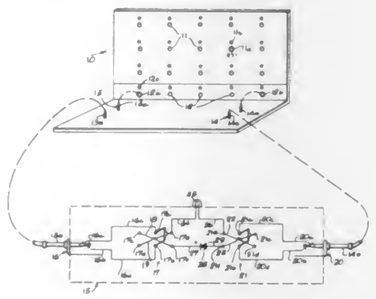
3,406,260
INTERCOM SYSTEM WITH SEPARATE SIGNAL, RINGING, AND TALKING LINKS
James R. McEowen, Madison Township, Middlesex County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed July 20, 1965, Ser. No. 473,381
14 Claims. (Cl. 179—37)

An intercom system is disclosed having eight talking links, two ringing links and a signal link. All calls are first established on the signal link, thereafter being transferred to one of the two ringing links for the ringing and ringback functions, and thereafter being transferred to an idle one of the eight talking links. A crossbar switch provides the crosspoints for connection of the stations to the ringing and talking links, six crosspoints being utilized for each ringing link to provide the necessary supervisory signals. Any station may transfer to the signaling link



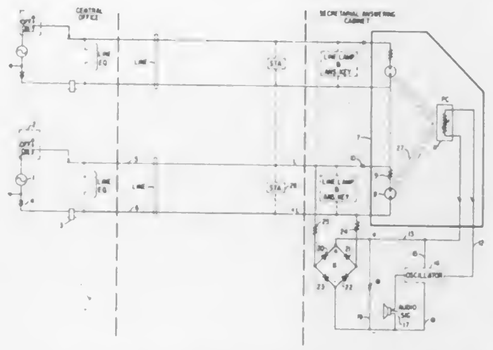
during a connection in order to add other stations for a conference connection by manual operation of a conference pushbutton. If the connection to the third station is not completed, a second operation of the conference pushbutton causes the transfer of the original parties from the ringing link back to a talking link.

3,406,261
TELEPHONE SWITCHBOARD CALL TRANSFER DEVICE
Walter H. Shaw, 20 SE. 3rd Ave., Miami, Fla. 33131
Filed Mar. 19, 1965, Ser. No. 441,086
2 Claims. (Cl. 179—42)



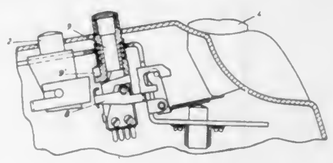
A telephone switchboard call transfer device for rerouting incoming calls at a subscriber switchboard through an outgoing trunk line. A patch circuit is used, including polarity reversal switches connected with the respective incoming and outgoing lines for establishing correct polarity of inter-connection through the device, indicated by lighting of a supervisory lamp in a series network with a rectifier in the patch circuit. The supervisory lamp thus serves both as an indication of correct polarity to be achieved by the operator by use of the switches, and as supervision of the rerouting circuits so that disconnect can be made upon completion of a rerouted call.

3,406,262
SIGNALING ARRANGEMENTS CONTROLLED BY LINE RINGING CURRENT
Otho D. Grandstaff, Oak Park, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Feb. 23, 1965, Ser. No. 434,383
3 Claims. (Cl. 179—84)



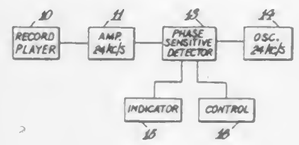
A secretarial answering cabinet having a plurality of telephone subscriber lines terminating therein, and having a photocell positioned in an enclosure with a plurality of neon lamps. Each of the lamps is connected in series with a resistor and a capacitor across a different one of the subscriber lines, whereby ringing current transmitted over a calling one of the lines causes the associated lamp to emit light, which causes the photocell to effectively turn on an oscillator for producing an audible signal as an indication of an incoming call to the cabinet. In this manner, incoming ringing signals are isolated from the audible signal and the individual resistor/capacitor combination prevents false operation of the lamp associated therewith during operation of the dial when an outgoing call from the corresponding subscriber station is initiated.

3,406,263
TELEPHONE CRADLE SWITCH ARRANGEMENTS
Wilfried Klenk, Berlin, and Horst Ringhandt, Berlin-Lichterfelde, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 19, 1965, Ser. No. 441,182
Claims priority, application Germany, Apr. 1, 1964, St 21,911
2 Claims. (Cl. 179—100)



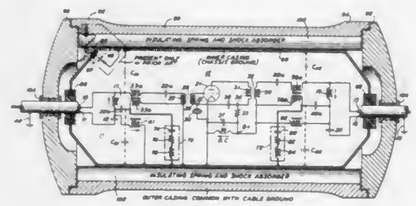
1. A cradle switch device for telephone sets having hands free facilities, said telephone sets equipped with first push buttons which can be released or locked through a mechanical connection with the said cradle switch, said mechanical connection including a coupling, a corresponding push button for controlling the coupling, means responsive to the operation of said corresponding push button for actuating said coupling to interrupt said mechanical connection, a call-completed push button, and means responsive to the actuation of said call completed push button for releasing the corresponding push button and restoring the mechanical connection.

3,406,264
MANUFACTURE AND TESTING OF PHONOGRAPH RECORDS
Alan Phillipson and Basil Harry Royston Spiller, London, England, assignors to Decca Limited, London, England, a British company
Filed Dec. 11, 1964, Ser. No. 417,694
4 Claims. (Cl. 179—100.4)



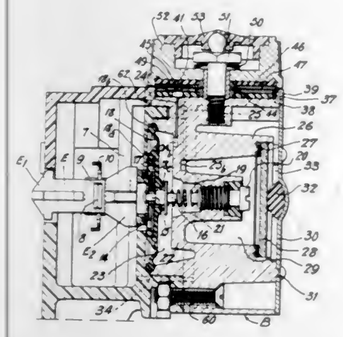
For checking phonograph records after manufacture, an ultrasonic signal of constant amplitude and frequency is superimposed on the audio signals to be recorded so that the ultrasonic signal can be reproduced from the final sound track. At least a proportion of the records are played to check if there is any distortion or break in the reproduced ultrasonic signal. An apparatus is described for automatically comparing a constant amplitude, constant frequency ultrasonic signal with the output of an oscillator using a phase sensitive detector.

3,406,265
REPEATER WITH POWER SEPARATION FILTERS AND WITH NEUTRALIZATION NETWORKS CONNECTED TO A COMMON TERMINAL OF SIGNAL AND POWER CHANNELS
William J. Richter, Jr., Annandale, Va., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 14, 1964, Ser. No. 417,971
3 Claims. (Cl. 179—170)



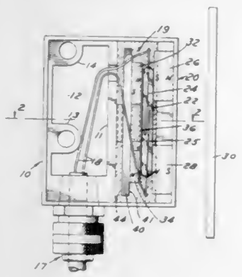
In a submarine cable repeater in which an inner metallic casing is the signal reference terminal and is isolated from an outer metallic casing which is the ground, or reference terminal, for the repeater power supply, neutralization of spurious feedback through stray and inherent capacitances with respect to the inner casing is achieved by means of first and second neutralizing networks connected from the repeater inner casing to respective points at which the direct-current blocking capacitors of the power separation filters are connected to the coaxial choke coils in the repeater power separation filters. The neutralization networks eliminate the need for any inductive impedances between the inner and outer casings, thereby reducing the amount of change in repeater characteristics which occurs when the separation between inner and outer casings changes, for instance, under impact.

3,406,266
TIMED SWITCH-CONTROL DEVICE
Raymond Herve, La Celle-Saint-Cloud, France, assignor to La Telemecanique Electrique, Nanterre, Hauts-de-Seine, France, a French body corporate
Filed Mar. 3, 1967, Ser. No. 620,478
Claims priority, application France, Mar. 11, 1966, 53,142
8 Claims. (Cl. 200—34)



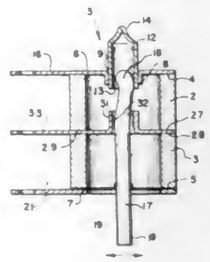
A timed switch-control device contained in a moulded housing having a timer chamber closed off by a flexible diaphragm, and having two further cavities one of which partly envelopes the other. One of the cavities is closed by a filter and the other by a wall. The timer chamber communicates with the other of the cavities via a variable air flow throttling device whilst the one cavity is in communication with a space containing the electrical contacts of the device.

3,406,267
PROXIMITY SWITCH HAVING A MAGNETIC SHIELD
James P. Kohls, Detroit, Mich., assignor to Jervis B. Webb Company, a corporation of Michigan
Filed Aug. 23, 1966, Ser. No. 574,395
10 Claims. (Cl. 200—61.41)



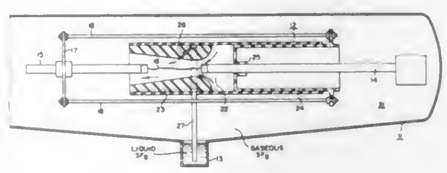
1. A magnetic proximity switch including a non-magnetic case having a sensing face and a switch element with a pair of magnetically operable contacts mounted in a sensing magnetic field and in a biasing magnetic field; characterized by the sensing magnetic field being formed by a pair of sensing magnets mounted in the case in spaced relation to each other with one pair of opposite poles adjacent the sensing face, the magnetically operable contacts of the switch element being mounted in the field between the other pair of opposite poles; the biasing magnetic field being formed by a pair of biasing magnets positioned in the case with one pair of opposite poles adjacent the magnetically operable contacts of the switch element; a shield member of magnetic material mounted in the case to form a closed flux path for the sensing and biasing magnetic fields, which closed flux path is spaced from the sensing face and shields both the sensing and biasing magnetic fields from the influence of extraneous magnetic material other than magnetic material to be detected adjacent the sensing face of the case.

3,406,268
MINIATURE SINGLE POLE-DOUBLE THROW CERAMIC-METAL SWITCH STRUCTURE
Robert W. Hansen, San Jose, Calif., assignor to Jennings Radio Manufacturing Corporation, San Jose, Calif., a corporation of Delaware
Continuation of application Ser. No. 448,322, Apr. 15, 1965. This application Nov. 20, 1967, Ser. No. 684,561
4 Claims. (Cl. 200—144)



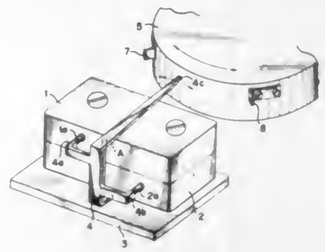
A single pole-double throw hermetically sealed switch having two axially aligned ceramic envelope portions closed at each opposite end by metallic end caps, one of which constitutes a diaphragm, and having intermediate said metallic end cap assemblies an intermediate electrode. Either one of two selected circuits through the switch is made or broken by an axially extending contact rod pivotally supported on the diaphragm.

3,406,269
FLUID-BLAST CIRCUIT BREAKERS HAVING MEANS FOR INCREASING THE DENSITY OF THE FLUID DURING INTERRUPTION
William H. Fischer, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 26, 1965, Ser. No. 435,563
10 Claims. (Cl. 200—148)



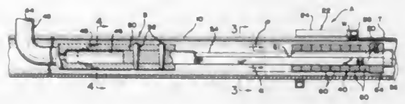
A gas-blast type of circuit interrupter using an electronegative arc-extinguishing gas or liquid increases the density of the fluid along the established arc path by injector means or piston means, and hence the arc voltage at the time of interruption.

3,406,270
SWITCH CONTROL COMPRISING A ROTATABLE RING PIVOTING A T-SHAPED LEVER FOR A MINIATURE TYPE MOTOR-DRIVEN INSTRUMENT
Koji Sho, Yokohama-shi, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan, a corporation of Japan
Filed Oct. 27, 1966, Ser. No. 590,055
Claims priority, application Japan, Nov. 6, 1965, 40/89,954
5 Claims. (Cl. 200—153)



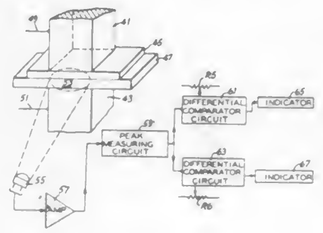
Control switch for miniature type, motor-driven, optical instruments wherein two microswitches are stacked with the switch buttons thereof disposed on the same side, a motor-driven and manually settable rotatable control ring controlling the lens zooming or stop displacement being disposed on the side opposite to the switch buttons, and wherein a T-shaped lever having an arm extending across the stacked microswitches and extending switch actuating arms is provided to selectively engage the microswitches upon pivoting thereof by the engagement of the extending arm by one or the other of two spaced projections provided on the rotatable control ring; the arrangement being such to accommodate a switch control means within the minimum space requirements provided by optical instruments such as cameras and the like, and prevent damage to the microswitches.

3,406,271
IMPEDOR FOR A TUBE MILL
John F. Cachat, Cleveland, and James W. Thomas, Brookpark Village, Ohio, assignors to Park-Ohio Industries, Inc., a corporation of Ohio
Filed May 15, 1964, Ser. No. 367,780
1 Claim. (Cl. 219—8.5)



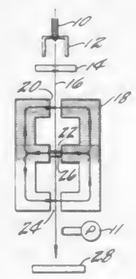
A tube mill for high frequency welding includes an impedor which is advanced along the converging edges of the tube being formed. The impedor consists of a support rod which extends into the tube and is connected to a support arm at one end. A plurality of high permeability rings are removably supported at the free end so that rings of different diameters can be substituted to conform to the diameter of the tube being formed. A coolant is forced against the rings to hold them in the desired position on the support rod.

3,406,272
WELDING APPARATUS
Burney J. Ehrlich, Houston, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Feb. 15, 1965, Ser. No. 432,593
2 Claims. (Cl. 219—109)



Disclosed herein is an infrared detecting system for verifying the quality of a weld in a weld zone. The peak value of the signal obtained from the infrared detector is compared with preselected limits and a signal is given if the limits are exceeded to provide an indication if the peak temperature of the weld zone falls outside of a preselected band of acceptable temperatures.

3,406,273
MAGNETIC VAPOR DEFLECTOR FOR AN ELECTRON BEAM
Robert C. Holland, Park Forest, Ill., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Dec. 14, 1966, Ser. No. 601,773
5 Claims. (Cl. 219—121)

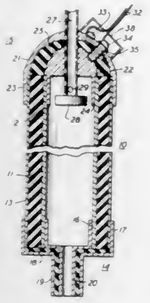


1. Apparatus for working materials with a beam of charged particles comprising:
- means for generating a beam of charged particles,
- means for directing and focussing said beam along a first line towards the materials to be worked,
- a vapor deflector interposed across the first line between the beam generating means and the materials,
- a pair of oppositely disposed E core magnetic beam deflectors with magnetic poles of opposite polarity facing one another across a predetermined gap,
- said pair of E core beam deflectors positioned with the vapor deflector adjacent the central gap,
- where the magnetic poles across the upper gap nearest the beam generating means deflect the beam in a first direction away from the first line and past the vapor deflector,
- where the central magnetic poles of the pair of E cores deflect the beam in a second direction towards the first line,
- and where the magnetic poles across the lower gap nearest the materials to be worked deflect the beam substantially parallel to the first line.

3,406,274
TOOL FOR REMOVING ELECTRICALLY CONDUCTING MATERIAL

Wilburn W. Smith, Freehold, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Feb. 9, 1966, Ser. No. 526,136
4 Claims. (Cl. 219—234)

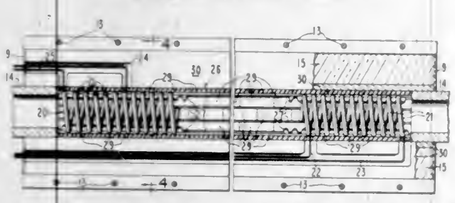


A tool for the removal of excess solder includes a housing portion supporting insulatedly spaced inner and outer concentric tubular electrodes and a central cavity in the housing portion connecting with the open ended axial channel of the inner electrode. By controllably connecting a vacuum source to the cavity and by applying electric potential across the electrodes to liquify the excess solder, the solder so liquified may be drawn through the axial channel and into the cavity.

3,406,275
FURNACE HAVING FINGERS INTERDIGITATEDLY ENGAGED WITH ITS HEATING ELEMENTS

Donald G. Pedrotti, Cupertino, Calif., assignor to RCK, Incorporated, Sunnyvale, Calif.

Filed Dec. 2, 1965, Ser. No. 511,086
4 Claims. (Cl. 219—406)



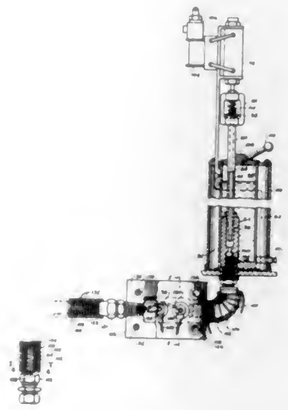
A furnace for heating objects at high temperatures in a controlled atmosphere having a heating unit surrounding the objects to be heated, the heating unit having a support with interdigitated fingers engaging the heating elements, the fingers extending inwardly towards the interior of the heating unit at least beyond the heating elements, the tips of the fingers being adapted to support and come into intimate contact with the tube fitting into the interior of the heating unit, and an insulating layer surrounding the support to prevent the passage of heat from the heating unit to the atmosphere.

3,406,276
HEATED CEMENT SUPPLY SYSTEM FOR SHOE MACHINE

Edgar Haas, New York, N.Y., assignor to Universal Shoe Machinery Corp., Brooklyn, N.Y., a corporation of New York

Filed Feb. 23, 1966, Ser. No. 529,504
9 Claims. (Cl. 219—421)

1. A heated cement supply system comprising: a flexible hose made of Teflon for conveying the cement from a supply tank to a delivery point in a shoe machine, threaded end fittings secured to the ends of the hose, a hollow metal block receiving one of said end fittings at one end of the block, the other end of said block having an opening, a flexible resistance heater wire extending from the block lengthwise through the hose and back again to the block, insulating ceramic beads along the entire length of said wire, two insulated electrical terminals on

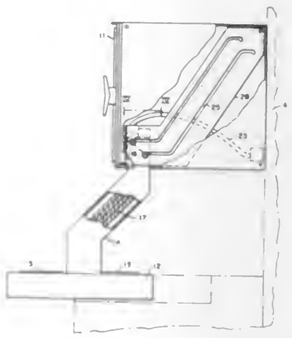


said block passing into the same, the ends of said resistance heater wire being connected to said terminals inside the block, a conduit connected at one end into said opening and adapted at the other end for connection into a heated cement supply tank, an additional heater secured to said conduit to heat the cement during its passage from the supply tank to the block, and means for control of cement temperature in said system.

3,406,277
MECHANISM FOR CONVERTING A WALL TYPE OVEN TO A COMBINATION OVEN AND SURFACE HEATER UNIT

Robert L. Gault, Hillsdale, Mich., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 11, 1965, Ser. No. 494,341
2 Claims. (Cl. 219—444)



Mechanism for converting a wall type cooking oven to a combination cooking apparatus comprising the wall oven and a platform containing surface heating elements. The mechanism is characterized by the provision of a pair of arms movable along guide means provided in side panels

attachable to the wall oven. The arms are so attached to the platform containing the surface units that when the arms are moved the platform travels from an inoperative position directly beneath the wall oven to an operative position below and forward of the front of the wall oven.

3,406,278
WATTAGE CONTROLLER FOR ELECTRICAL SURFACE HEATING UNIT

Arthur T. Bassett, Jr., and Donald C. Siegla, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 12, 1965, Ser. No. 495,161
3 Claims. (Cl. 219—450)

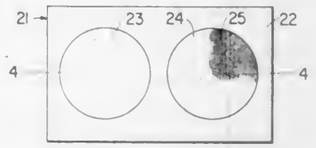


A controller for an electrical surface heating unit including first and second resistance elements of equal ohmic rating. One of the elements defines a six inch diameter heating surface and both of the elements together define an eight inch diameter heating surface. First circuit means energizes one of the resistance elements across a 116-volt supply. Second circuit means energizes both of the resistance elements in series across a 236-volt supply. Switch means selectively connect the resistance elements in either the first or second circuit means. A pulsating bimetallic switch included in both the first and second circuit means varies the wattage output of the resistance elements connected in the respective circuit means.

3,406,279
COOKING SURFACES

Garo M. Ziver, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Nov. 12, 1965, Ser. No. 507,380
6 Claims. (Cl. 219—464)

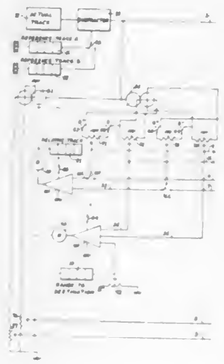


Panels of a glass-ceramic material which are to have electric heating elements secured adjacent selected symmetrical areas of one surface thereof to provide top-of-stove "burners" for kitchen ranges, for example, are provided with minutely convexly curved areas on the opposite panel surface, each such area corresponding with one of said symmetrical areas on said one surface. Each said curved area is formed in a panel by selectively providing compressive stresses in the surface layer thereof which exceed compressive stresses provided in the surface layer of the associated symmetrical area of the opposite surface of the panel.

3,406,280
COORDINATE DESTINATION COMPUTER

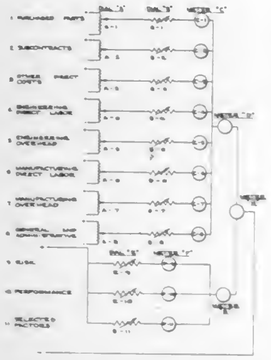
Robert E. Vago, Bell's Corners, Ontario, Canada, assignor to Computing Devices of Canada Limited, Ontario, Canada

Filed June 4, 1965, Ser. No. 461,414
8 Claims. (Cl. 235—150.27)



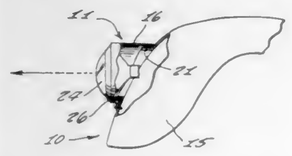
1. A navigational computer for calculating position with respect to a first point and any one of a plurality of designated tracks passing therethrough, comprising
a first settable storage means for storing the reference angle of a first one of said designated tracks,
a second settable storage means for storing the reference angle of a second one of said designated tracks,
means for supplying signals representing the track made good and the distance travelled from a second point lying on said first track at a known distance from said first point,
subtracting means having a first input connected to said signal supplying means and a second input switchedly connected to one of said storage means for supplying a difference signal representing the difference between the track made good and one of said reference tracks,
first computing means responsive to said subtracting means and to the signal representing the distance travelled from said second point to calculate position with respect to said second point and said first track,
second computing means responsive to said first computing means to calculate position with respect to said first point and said first track,
third computing means operable in a first circuit configuration responsive to signals representing position from said second computing means and said difference signal to calculate range and relative track to said first point,
said third computing means being operable in a second circuit configuration responsive to said difference signal and to signals representing range and relative track stored in said third computing means to calculate position with respect to said first point and said second track,
sequence switching means controlling said third computing means for selectively establishing said first or second circuit configuration.

3,406,281
PROFIT ANALYSIS COMPUTER
William E. Buchanan, Pacific Palisades, and Steven C. Jellum, Northridge, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed Oct. 5, 1964, Ser. No. 401,464
3 Claims. (Cl. 235—193)



A device for quickly computing profits of portions of a contract including profit subtotals and the profit grand total. Known values of contract portions are registered on dials and multiplied by known profit rates registered on associated dials. The products of these individual contract portions are added together and read out on a meter. Other factors such as risk factors capable of influencing the profit picture are added together and likewise are read out on a meter. The subtotals are then added to show the profit grand total.

3,406,282
HEADLAMP ADAPTER KIT FOR MOTOR VEHICLE
Harvey J. Kinch, Rte. 1, Box 70, Berthoud, Colo. 80513
Filed Sept. 6, 1967, Ser. No. 665,779
1 Claim. (Cl. 240—7.1)

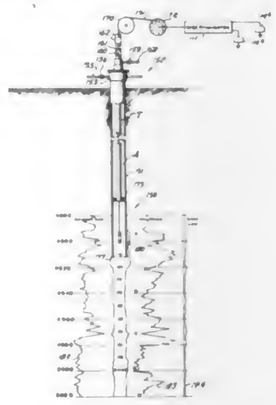


An adapter unit usable with the headlamp of an automobile. The adapter is formed to accommodate a sealed beam lamp, reflector and electric wiring. A cylindrical shaped member positions the beam forward from the fender. The cylindrical member has an inclined edge which fits over a lip portion integral with the fender. The inclined edge is provided with a lug having an opening for receiving a mounting screw. The other edge of the cylinder member is bounded with a chrome plated rim.

3,406,283
MEANS FOR CONTROLLING CALUTRON FILAMENT ACTIVATION
Charlie Williams, Clinton, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Apr. 24, 1967, Ser. No. 634,059
7 Claims. (Cl. 250—41.9)

A calculation for the separation of isotopes of the alkaline earth, the rare earth and certain other elements is modified to provide a source of gas and means for feeding gas from the source at a controlled rate into the region near the calutron ion source filament to substantially prevent activation normally caused by the calutron charge vapor, such that the calutron arc discharge is better stabilized and the purity of the collected isotopes in the calutron receiver is substantially improved. The feed gas is selected from the group including CS_2, S_2Cl_2, H_2S, and CCl_4. In addition, argon or nitrogen gas may be mixed with the above selected gas before being fed to the region near the filament.

3,406,284
METHOD OF DETERMINING DIRECTION AND VELOCITIES OF FLUID FLOW INTO A WELL BY MEANS OF RADIOACTIVE TRACER INTRODUCTION INTO THE WELL
Marcus C. Young, Odessa, Tex., assignor of fifty percent each to Cardinal Surveys Company, Odessa, Tex., and Well Reconnaissance, Inc., Dallas, Tex., both corporations of Texas
Filed Aug. 19, 1964, Ser. No. 390,590
10 Claims. (Cl. 250—43.5)

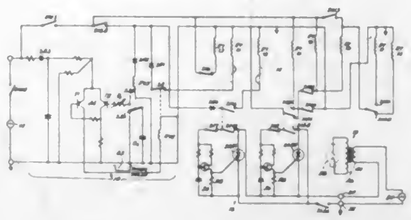


1. The method of investigating in a well the flow of water introduced in the well and into earth formations penetrated by the well including: introducing water at a constant rate for a predetermined period of time sufficiently long to cause stabilization of water flow into the earth formations and during the investigation; positioning a detector device in the well above the expected locations of outward flow of water into the earth formations; introducing a quantity of tracer material into the well a predetermined distance above the detector device; determining by the output of the detector device the period of time required for the tracer material to move past the detector after its introduction into the well; and then moving the detector device successively in the well and through the tracer material as it moves downwardly in the well to determine locations of outward flow of the tracer material from the well.

3,406,285
METHOD OF INSPECTION OF SOLDERED JOINTS COMPRISING USING A VOLATILE FLUORESCENT DYE
Donald G. Scorgie, Murrysville, and Bernard A. Kerns, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Oct. 19, 1966, Ser. No. 587,656
6 Claims. (Cl. 250—71)

1. A method of testing a soldered joint in a member comprising the steps of (1) applying a coating of a fluorescent dye to the joint to be soldered, the fluorescent dye being rendered non-fluorescing when heated to the soldering temperature, (2) heating the member at the joint to soldering temperature and applying solder thereto, and (3) inspecting the soldered joint with a light capable of causing the original fluorescent dye to fluoresce, whereby a defective soldered joint due to the temperatures not reaching the soldering temperature is indicated by fluorescence of the coating thereat.

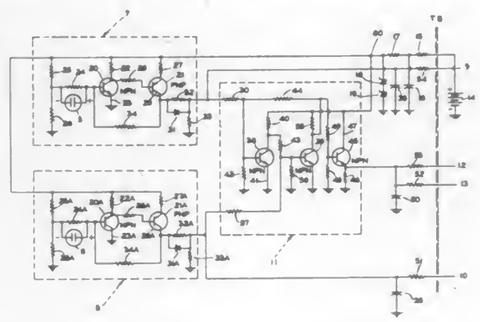
3,406,286
PRECISELY TIMED A.C. SWITCHING SYSTEM FOR X-RAY TUBES
William T. Bross, Cincinnati, Ohio, assignor to Liebel-Flarsheim Company, Division of Ritter Company, Inc., Rochester, N.Y., a corporation of Delaware
Filed Mar. 10, 1965, Ser. No. 438,650
9 Claims. (Cl. 250—95)



A switching circuit is disclosed for automatically initiating, without circuit adjustments for transformer reactance variation, supply of alternating current to a load at a particular point in the alternating current cycle and for a predetermined duration. The switching circuit includes a silicon controlled rectifier connected in series with a source of A.C. power and the load to be supplied, and a high frequency pulse source connected to the gate electrode of the silicon controlled rectifier for conditioning the rectifier for conduction. The high frequency pulse source, which triggers the rectifier to a conducting state at a point when the load current reaches the threshold level necessary to sustain conduction, provides the switching circuit with automatic transformer reactance compensation. Specifically, the high frequency pulse source enables the silicon controlled rectifier to be reliably switched to a conducting state at approximately the zero current point regardless of changes in the degree of lag or lead of the load current, and to do so without the need for making adjustments in the triggering circuit for transformer reactance variations. For example, with a load of varying inductance, the high frequency pulse source enables the silicon controlled rectifier to be reliably driven into conduction at the approximate zero current point and the inductive load provided with power regardless of variations in inductance and, hence, current lag, and without circuit adjustments.

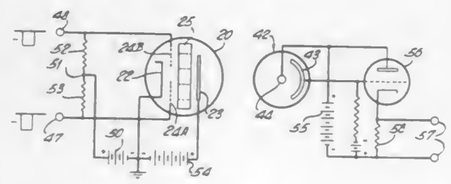
3,406,287
RADIATION SENSITIVE DEVICE FOR DETECTING SUN IN A SELECTED FIELD OF VIEW
George V. Zito, Northvale, and Edward A. Chilton, Westwood, N.J., assignors to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed June 26, 1963, Ser. No. 290,809
9 Claims. (Cl. 250—209)

1. Solar energy detection system including a first solar cell, means for exposing said first solar cell to one portion of a selected field of view, means for generating a signal in response to solar energy impinging on said first solar cell, a first trigger circuit for abruptly amplifying said solar signal, a second solar cell, means for exposing said second solar cell to another portion of said selected field of view, means for generating a signal in response to solar energy impinging on said second solar cell, a second trigger circuit for abruptly amplifying said second solar



signal, and memory circuit means selectively operable by the amplified solar signals from said first and second trigger circuits to provide an output signal to indicate the solar cell on which the sun is or has last impinged.

3,406,288
OPTOELECTRONIC LOGIC ELEMENT COMPRISING A VACUUM-FLUORESCENT LIGHT SOURCE
Richard Du Bois, Jr., Caldwell Township, Harold D. Johnson, Parsippany, and Herbert E. Pessin, West Caldwell, N.J., assignors, by mesne assignments, to Wagner Electric Corporation, South Bend, Ind., a corporation of Delaware
Filed Aug. 13, 1965, Ser. No. 479,425
18 Claims. (Cl. 250—217)

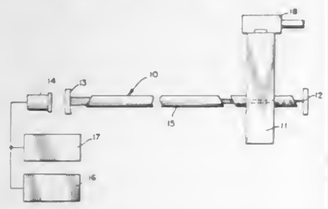


1. A vacuum fluorescent readout device comprising; a sealed envelope including a cathode, an anode, and a plurality of control electrodes; a flat insulator positioned between the cathode and the anode, said insulator formed with a plurality of apertures for the passage of electrons from the cathode to the anode; and a fluorescent material deposited on the anode for generation of light when actuated by electrons; said control electrodes respectively positioned adjacent to said apertures for selectively controlling the passage of electrons therethrough.

13. An "AND" circuit component for the transmission of signals from a plurality of input circuits to an output circuit comprising; a first transducer for converting electric energy into light energy; a second transducer for converting light energy into electric energy; said first transducer including an evacuated envelope containing an anode, a cathode and a plurality of control electrodes; said anode comprising a flat conductor having a plurality of spaced openings for the passage of electrons; a fluorescent material deposited on the anode for generation of light when activated by electrons; a flat insulator positioned between the cathode and the anode formed with a plurality of apertures for the passage of electrons from the cathode to the anode; said control electrodes respectively positioned adjacent to said apertures for selectively

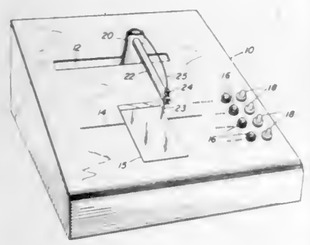
controlling the passage of electrons therethrough; said input terminals connected to said control electrodes for the application of control voltage pulses; and connections between said second transducer and the output terminals.

3,406,289
LASER SMALL-PARTICLE DETECTOR AND METHOD
Stuart A. Schleusener, Las Cruces, N. Mex., assignor to Iowa State University Research Foundation, Inc., Ames, Iowa, a corporation of Iowa
Filed Nov. 10, 1965, Ser. No. 507,194
4 Claims. (Cl. 250—217)



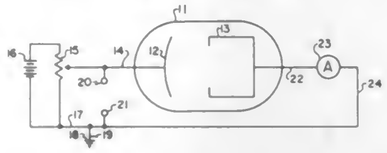
1. An apparatus for detecting particles of sub-sieve size comprising a cavity-equipped gas laser, means coupled to said cavity for introducing said particles thereinto and means coupled to said laser for detecting the change in laser output.

3,406,290
SCANNING DENSITOMETER FOR THERMAL PROFILE ANALYSIS
Erich E. Brueschke, Philadelphia, Pa., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware
Filed July 14, 1965, Ser. No. 471,866
4 Claims. (Cl. 250—219)



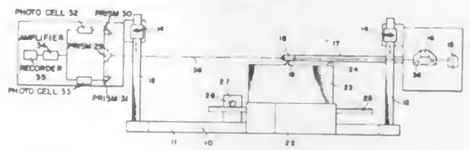
1. A scanning densitometer for analyzing thermograms to determine how temperature varies along a line in a thermogram comprising in combination
(a) a housing having a flat surface with a long, narrow slot therein the length of which at least corresponds to the longest dimension of the thermogram which is to be examined by the densitometer,
(b) a radiation detector,
(c) a light guide positioned above said slot, said light guide being coupled to said radiation detector,
(d) a light source positioned under said slot and in alignment with said light guide,
(e) drive means for simultaneously moving said light source and said light guide along said slot,
(f) electrical means associated with said drive means for deriving a signal indicative of the position of said light guide with respect to distance along said slot, and
(g) circuit means including said radiation detector for deriving a signal in accordance with the film density of a thermogram which is being examined by said densitometer.

3,406,291
METHOD OF ESTABLISHING A VOLTAGE STANDARD USING A PHOTOELECTRIC TUBE
Tenny D. Lode, Madison, Wis., assignor to Rosemount Engineering Company, Minneapolis, Minn., a corporation of Minnesota
Filed Jan. 13, 1965, Ser. No. 425,178
4 Claims. (Cl. 250—220)



A voltage level is established by alternate illumination of a photocathode with different and precisely known frequencies. The energy of resulting photoelectrons is a function of frequency and also work function of the cathode but the difference in potential at the different frequencies is independent of work function and thus serves as a standard voltage. The standard voltage is derived by noting the difference in bias voltage required to cut off anode current.

3,406,292
SURFACE CHECKING DEVICE
George Geier, Teaneck, Charles R. Ellis, Andover, and Allister L. Baker, Denville, N.J., assignors to Keuffel & Esser Company, Hoboken, N.J., a corporation of New Jersey
Original application July 17, 1961, Ser. No. 124,511, now Patent No. 3,220,113, dated Nov. 30, 1965. Divided and this application Feb. 10, 1965, Ser. No. 440,980
5 Claims. (Cl. 250—224)

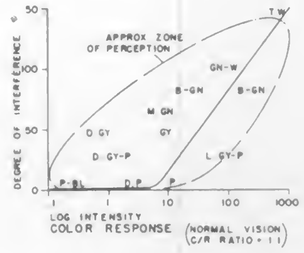


A surface checking device for measuring surface projections and indentations in a direction perpendicular to the surface being checked by means of an optical system directed to a photoelectric sensing system in which either the optical system or the photosensitive system are moved in a direction perpendicular to the surface being checked with object engaging means connected to one of the optical system or the photosensitive system to deflect the corresponding system to thereby determine the surface characteristics of the object.

3,406,293
METHOD OF DETERMINING COLOR USING COLOR MAPS
Chris Mowry, Valley Center, Calif., assignor to Gyro Engineering Corporation, San Diego, Calif., a corporation of California
Filed May 17, 1965, Ser. No. 456,387
2 Claims. (Cl. 250—226)

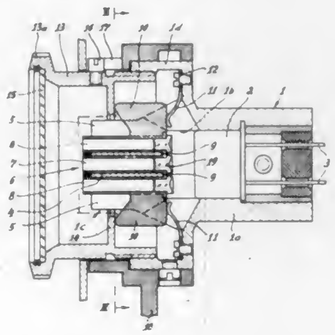
1. A method of coding color response with respect to a pair of photo-receptors having different spectral sensitivity characteristics, comprising:
measuring the total intensity of a stimulus as perceived by the receptors;
measuring the relative intensities of the stimulus as perceived by the receptors individually;
measuring the randomness of the degree of interference between frequencies of long and short wave components of the stimulus, as perceived by the receptors;

and applying the measurements to appropriately scaled color maps to reproduce the color response characteristics of the photo-receptors in terms of the measured



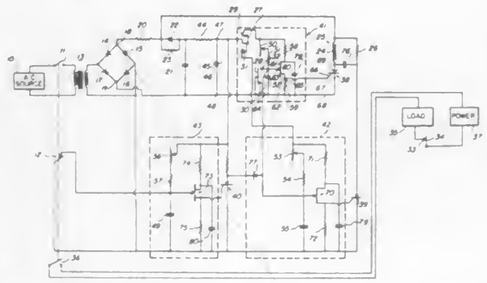
data, whereby measurements can be made from the maps to reproduce a color accurately for interpretation by the receptors.

3,406,294
LIGHT EXPOSURE METER WITH ANGULARLY ADJUSTABLE LIGHT CONDUCTING MEANS FOR VARYING THE ANGLE OF LIGHT ACCEPTANCE
Walter Swarofsky, Braunschweig, Germany, assignor to Voigtlander A.G., Braunschweig, Germany, a corporation of Germany
Filed Feb. 28, 1966, Ser. No. 530,725
Claims priority, application Germany, Mar. 15, 1965, V 28,064
10 Claims. (Cl. 250—237)



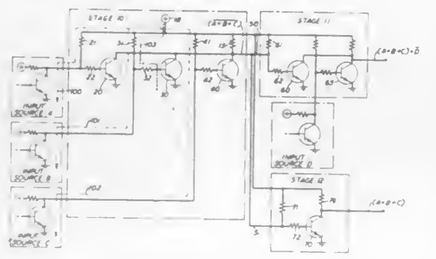
1. In an exposure meter, photosensitive light-receiving means, and a plurality of tubes situated beside each other and respectively having inner ends facing said photosensitive means for directing light to said photosensitive means from said inner ends of said tubes, said tubes respectively having outer, light-receiving ends directed away from said photosensitive means for receiving light which passes through said tubes to said photosensitive means, connecting means connecting said tubes to each other at their exterior surfaces in a light-tight manner preventing light from passing between said tubes to said photosensitive means, and adjusting means operatively connected with said tubes for spreading their outer ends away from each other and for drawing said outer ends of said tubes inwardly toward each other so as to adjust the angular field of light which is directed through said tubes to said photosensitive means.

3,406,295
CYCLING ON-OFF ELECTRONIC TIMING SYSTEM USING ONE RELAY
Lawrence G. Corey, Rockville, Conn., assignor to The Arrow-Hart & Hegeman Electric Company, Hartford, Conn., a corporation of Connecticut
Filed July 30, 1965, Ser. No. 476,133
13 Claims. (Cl. 307—132)



A solid state control circuit provides for independently adjustable off and on times for actuating a load control relay. A further solid state device retains the relay in the off condition after an adjustably predetermined number of cycles.

3,406,296
DIRECT COUPLED TRANSISTOR LOGIC CIRCUIT INCLUDING INDIVIDUAL BASE BIASING NETWORKS
John H. Huttenhoff, Succasunna, and George E. Saltus, Mendham, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 27, 1965, Ser. No. 451,281
2 Claims. (Cl. 307—215)

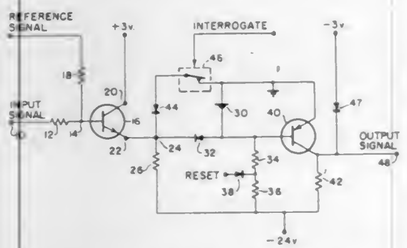


A direct coupled transistor logic stage designed as a basic building block for digital systems comprises a plurality of transistors each of which includes an individual base-biasing network. A logic array comprised of driving and driven stages of this type is relatively insensitive to variations in the fan-out characteristics of the array.

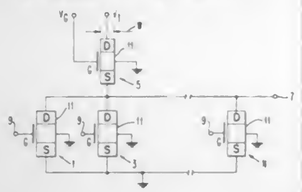
3,406,297
POLARITY RESPONSIVE COMPARATOR CIRCUIT FOR SIMULTANEOUS ANALOG-DIGITAL CONVERTERS USING A TUNNEL DIODE
Paul G. Lucas, Magnolia, Mass., assignor to Adage, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Dec. 23, 1964, Ser. No. 424,167
5 Claims. (Cl. 307—235)

1. A comparator circuit for providing at a predetermined time when an interrogation signal is supplied thereto, an output signal which has a first or a second value dependent upon the polarity of the input signal being supplied thereto concurrently with said interrogation signal, said circuit comprising, in combination, means providing a first voltage source, a resistor, one end of said resistor

being connected to said first voltage source, the other end of said resistor being connected to a junction point, means for clamping said junction point to a predetermined voltage different from said first voltage source, said clamp being removed when said circuit is interrogated, means forming a first current path between said junction point and a second source of voltage, said first current path including a transistor having a control electrode, means connecting the control electrode of said transistor to the input terminal of said circuit and means supplying a reference signal to said control electrode, said transistor being biased to be non-conducting for one polarity of signal on its control electrode when said junction point is clamped to said predetermined voltage, means forming a second current path between said junction point and a reference voltage, said second current path including a tunnel diode and a second diode connected in series, the current through said tunnel diode being limited prior to interrogation to a value to place said tunnel diode in a first of its two voltage states, conduction through said first current path biasing said second diode in said second current path for non-conduction, means for setting said tunnel diode to said first voltage state, and means responsive to the state of said tunnel diode for providing an output signal.



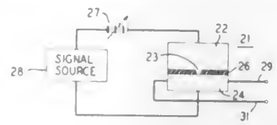
3,406,298
INTEGRATED IGFET LOGIC CIRCUIT WITH LINEAR RESISTIVE LOAD
Martin S. Axelrod, North White Plains, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Feb. 3, 1965, Ser. No. 430,146
14 Claims. (Cl. 307—251)



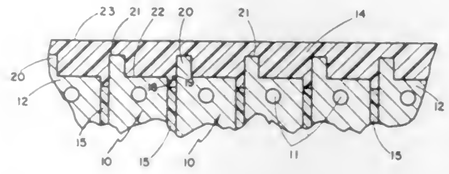
A logical circuit arrangement is described comprising insulated gate field effect transistors wherein the gate electrode of the load field effect transistor is independently biased such that the load transistor exhibits a substantially linear resistance.

3,406,299
NEGATIVE RESISTANCE DEVICE HAVING THERMAL INSTABILITY
Cecil A. Nanney, Murray Hill, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 27, 1965, Ser. No. 505,370
5 Claims. (Cl. 307—306)

Certain materials, such as certain semimetals, exhibit a negative resistance and hysteresis loop in the I–V characteristic resulting from a thermal instability. A member of such material in contact with a superconductor member controls the state of the superconducting member in response to voltage pulses, with a switching time of the order of 10^{-13} seconds.

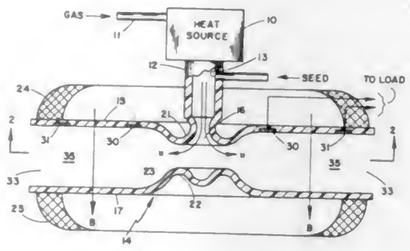


3,406,300
HIGH TEMPERATURE ELECTRODE FOR MHD DEVICES
Joseph Teno, Medford, and Martin E. Novack, Brookline, Mass., assignors to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Jan. 18, 1965, Ser. No. 426,327
15 Claims. (Cl. 310—11)



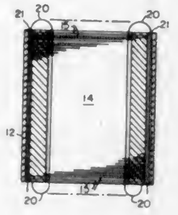
An electrode construction for MHD devices including a material electrically conductive only at high temperatures covering a cooled metallic base member adapted to maintain a portion of the material covering it at a temperature at which it is not electrically conductive and thereby prevent the flow of current parallel to the direction of gas flow in the MHD device.

3,406,301
MAGNETOHYDRODYNAMIC HALL CURRENT GENERATOR
Richard J. Rosa, Reading, Mass., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Feb. 23, 1965, Ser. No. 434,341
14 Claims. (Cl. 310—11)



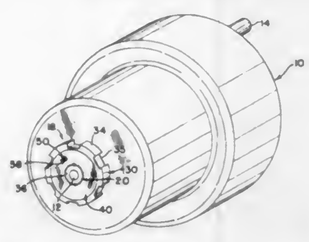
A magnetohydrodynamic Hall type generator and method of operating same having a disk-like configuration wherein a seeded and heated monatomic gas is passed through the generator at a pressure and magnetic field strength sufficient to produce nonequilibrium ionization. Segmented electrodes may be provided in the event they are required.

3,406,302
CYLINDRICAL MAGNETOSTRICTIVE ELECTRO-MECHANICAL TRANSDUCER
Ronald J. Lanyi and Richard C. Heim, Baltimore, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 15, 1966, Ser. No. 534,453
4 Claims. (Cl. 310—26)



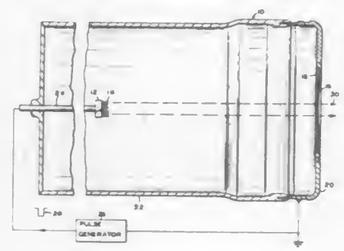
1. An electromechanical transducer comprising a hollow cylinder member for vibration in a radial mode and having inner and outer cylindrical surfaces, one of which is for exposure to a medium to be vibrated; a hollow cylindrical array of thin slot-free annular magnetostrictive elements arranged coaxially with said cylinder member and each having a circumferential edge in vibrative coupling to the other of the aforesaid cylindrical surfaces of the hollow cylinder member; said hollow cylinder member having longitudinally-extending grooves formed in the cylindrical surface thereof to which the magnetostrictive elements are coupled; and an energizing coil toroidally wound around said array, disposition of the turns of which coil being accommodated by the grooves in said cylinder member.

3,406,303
BI-DIRECTIONAL MOTOR REVERSAL CONTROL DEVICE
Frederick E. Erickson, Port Byron, Ill., assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed May 5, 1965, Ser. No. 453,297
10 Claims. (Cl. 310—40)



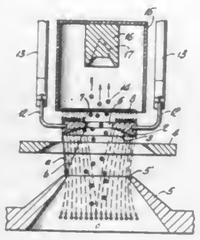
A control device is disclosed herein for purposes of reversing the direction of rotation of the rotor shaft of a bi-directional motor while the motor is energized. The control device includes a first member which is adapted to be mounted on the rotor shaft for rotation therewith, and a second member rotatably mounted in substantial coaxial relationship to the first member. A spring serves to couple rotational drive forces between the members. A means, such as a pawl, serves to engage the second member to stop rotation thereof in each of two opposing directions. The spring is sufficiently resilient to permit a degree of relative rotation between the members after the second member has stopped rotation in one of the directions and thereby store energy in the coupling means, which energy ultimately rebounds the first member for rotation in the opposite direction.

3,406,304
ELECTRON TRANSMISSION WINDOW FOR PULSED FIELD EMISSION ELECTRON RADIATION TUBE
John L. Brewster, McMinnville, Oreg., assignor to Field Emission Corporation, McMinnville, Oreg., a corporation of Oregon
Filed Nov. 25, 1966, Ser. No. 597,021
7 Claims. (Cl. 313—74)



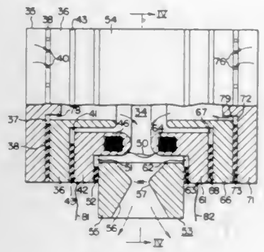
A high energy pulsed electron radiation apparatus is described including an electron tube having a field emission cathode and a thin electron transparent anode window. Electrical pulses of high voltage and high current are applied between the cathode and the anode window to cause vacuum arc operation of the tube which results in short pulses of electrons of extremely high current being transmitted through such anode window. The anode window is formed of a metal alloy including iron, nickel and managanese, having a low thermal expansion coefficient of less than 6.0×10^{-6} per degree centigrade and a specific heat of greater than 0.10 calorie per gram per degree centigrade to provide such anode window with a long useful lifetime.

3,406,305
HIGH POWER ELECTRON GUN WITH ELECTRON BOMBARDED APERTURED CATHODE HAVING A CONCAVE EMISSION SURFACE
Siegfried Schiller and Peter Lenk, Dresden, Germany, assignors to VEB Lokomotivbau - Elektrotechnisch Werke Hans Beimler, Henningsdorf, Kreis Oranienburg, Germany
Filed Oct. 6, 1965, Ser. No. 493,440
4 Claims. (Cl. 313—83)



The invention relates to an electron gun in which a cathode having a curved emission surface with a central aperture therethrough produces an axially symmetrical electron beam. Spaced from the cathode an anode is disposed with a transit aperture therein. The inner diameter of the annular cathode is defined by the ratio $a:b$ in which b is the distance from the periphery of the transit aperture of the anode to the periphery of the inner diameter of the cathode and a is the distance from the same periphery of the transit aperture to the outer diameter of said annular cathode, such ratio being preferably in the range of 1.2 to 1.8.

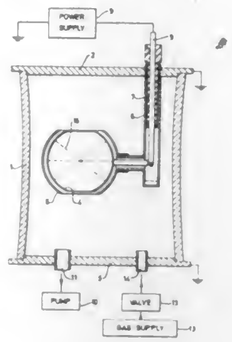
3,406,306
CENTER DISCHARGE ARC HEATER APPARATUS
Daniel A. Maniero, Monroeville, and George A. Kemeny, Franklin Township, Export, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 26, 1966, Ser. No. 523,098
12 Claims. (Cl. 313—156)



An arc heater especially suitable for chemical processing has an exhaust nozzle in the side wall thereof with an exhaust vent which discharges heated gases in a chosen direction substantially in a plane normal to the longitudinal axis of the gas arc heater. A pair of annular electrodes are so disposed with respect to the nozzle that the arcing surfaces thereof for a peripheral portion of the annular electrodes are adjacent the nozzle with the annular space between electrodes substantially coinciding in axial position along the arc heater with the axial position of the exhaust vent. Each electrode houses an annular magnetic field coil for setting up a magnetic field to substantially continuously move the arc. Where direct current produces the magnetic field and alternating current produces the arc, the nozzle is shaped to exhaust gases in a direction radial to the longitudinal axis; in another embodiment where direct current produces the magnetic field and direct current produces the arc, the exhaust vent is shaped to exhaust heated gas in a plane substantially normal to the longitudinal axis of the arc heater but in a direction tangential rather than radial to provide improved performance from the standpoint of turbulence or entrance losses, the polarity of the current supplying the arc and that creating the magnetic field being chosen in accordance with the tangential direction of the exhaust vent passageway.

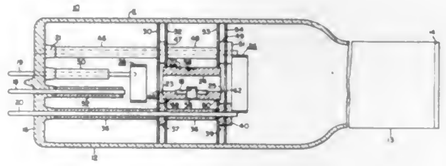
3,406,307
NONTHERMIONIC HOLLOW CATHODE DISCHARGE DEVICES
Ronald Arthur Dugdale, Blewbury, England, assignor to United Kingdom Atomic Energy Authority, London, England
Filed July 8, 1966, Ser. No. 563,826
Claims priority, application Great Britain, July 16, 1965, 30,434/65
2 Claims. (Cl. 313—231)

A nonthermionic hollow cathode discharge device comprising an enclosure, means to maintain the enclosure at a low gas pressure, an anode mounted with at least one surface thereof within the enclosure, a hollow cathode mounted within the enclosure, the cathode comprising a portion in the shape of a hollow sphere truncated by two parallel planes symmetrically disposed about the centre of the sphere, a perforated shielding electrode of generally similar shape to the cathode which surrounds the cathode, the spacing between the cathode and the shielding electrode being uniform and sufficiently small for no appreciable discharge to take place between them during operation, and means to apply suitable operating potentials to the anode, cathode and shielding electrode, substantially the same potential being applied to the anode and the shielding electrode, the arrangement being such



that during operation a glow discharge occurs and streams of electrons converge in the region of the centre of a space generally defined by said hollow.

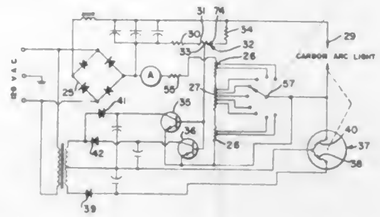
3,406,308
ELECTRON DISCHARGE DEVICE FOR GENERATION OF SPECTRAL RADIATION HAVING AN AUXILIARY DISCHARGE OF LOW CURRENT
George K. Yamasaki, Horseheads, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 4, 1966, Ser. No. 584,253
5 Claims. (Cl. 313—306)



1. A spectral radiation source comprising first and second electrodes for establishing a first electrical discharge therebetween, said first electrode having an aperture therethrough and including a material for providing a beam of characteristic spectral radiation, and an auxiliary electrode for establishing a second electrical discharge between said auxiliary electrode and said second electrode through said aperture of said first electrode to thereby intensify said beam of characteristic spectral radiation.

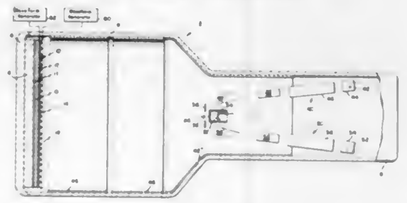
3,406,309
REVERSIBLE SEMICONDUCTOR DIRECT CURRENT MOTOR DRIVE CIRCUIT
Alexander E. Martens, Greece, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Dec. 31, 1964, Ser. No. 422,638
7 Claims. (Cl. 314—75)

A motor drive circuit is disclosed for reversibly driving a direct current motor. The field winding of the motor is energized by a direct current potential. The armature circuit is energized from an alternating current source. A pair of semiconductor amplifying devices are connected in series with the armature and the alternating current source through undirectional current conduction devices. The amplifying devices, when rendered conductive, conduct during opposite polarities of the alternating current source to allow current flow through the armature in



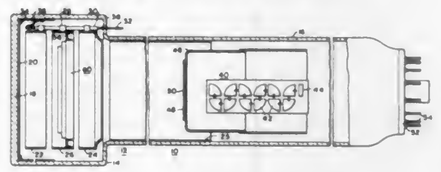
opposite directions providing for reversible motor operation.

3,406,310
DIRECT-VIEWING COLOR DISPLAY STORAGE DEVICE
Phillip P. Damon, Vista, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Dec. 11, 1964, Ser. No. 417,706
11 Claims. (Cl. 315—12)



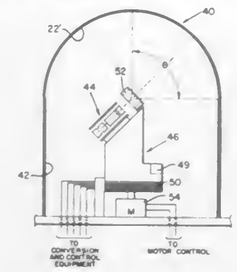
Apparatus and method for displaying stored visual displays in different colors as a function of brightness or signal level which is achieved by applying increasingly negative potentials on the storage target backplate to progressively cut off lower brightness levels while shifting the output color of the viewing screen from one color to another.

3,406,311
ELECTRON IMAGE STORAGE DEVICE
James F. Nicholson, Pine City, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 25, 1966, Ser. No. 545,049
7 Claims. (Cl. 315—12)



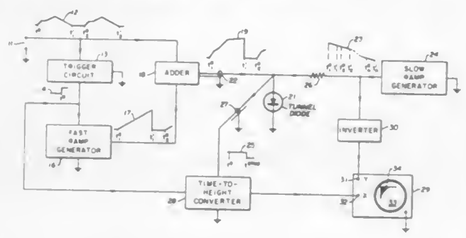
This invention relates to a storage device which illustratively includes a photocathode element for emitting an electron image in response to an incident radiation image and for emitting a flow of electrons of substantially uniform distribution, a member having an aperture therein, an electron multiplier disposed remotely with respect to the photocathode to receive and multiply those electrons directed through the aperture, and a foraminated target for storing a pattern of charges in response to the electron image and for modulating the uniform flow of electrons in accordance with the pattern of charges.

3,406,312
CATHODE RAY TUBE DISPLAY DEVICE HAVING A HEMISPHERICAL DISPLAY AREA
James H. Redman, San Diego, Calif., assignor, by mesne assignments, to Stromberg Carlson Corporation, Rochester, N.Y., a corporation of Delaware
Filed July 6, 1964, Ser. No. 380,468
6 Claims. (Cl. 315—13)



A direct view cathode-ray display device including an envelope having at least a curved portion with a phosphor coating excitable by a beam of electrons generated from an electron gun structure within the envelope and means provided for rotating the envelope or rotating the electron gun with respect to the envelope, the envelope being provided in the form of a sphere or hemisphere representing the earth, another planet or other spatial system.

3,406,313
TIME SAMPLING CIRCUIT FOR AN OSCILLOSCOPE
Harlan W. Lefevre, Eugene, Oreg., and Donald L. Wieber, Orinda, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Dec. 14, 1965, Ser. No. 513,862
8 Claims. (Cl. 315—22)

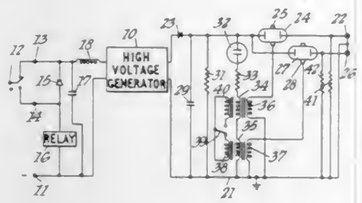


An oscilloscope circuit for displaying the waveform of very rapid, repetitive signals by time sampling. A fast ramp signal added to each input pulse is applied across a tunnel diode. The tunnel diode is back biased by a very slowly changing ramp signal. An X-deflection signal for an oscilloscope is derived in a time-to-height converter with an amplitude proportional to the time from the start of each input pulse until the tunnel diode conducts while Y-deflection is obtained from the slow ramp signal. The input signal waveform may be displayed as a line of dots.

3,406,314
IGNITION SYSTEMS
Norman Arthur Parish, Hemel Hempstead, England, assignor to Rotax Limited, London, England, a British company
Filed May 2, 1966, Ser. No. 546,809
3 Claims. (Cl. 315—209)

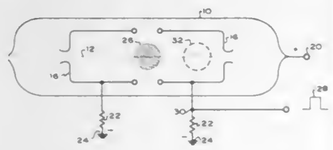
In a spark ignition system, a capacitor is charged so that the voltage across it increases, and a voltage sensitive

device is connected in the circuit across the capacitor so as to conduct when the voltage across the capacitor reaches a predetermined value. A transformer is provided for turning on a trigger device as soon as the capacitor starts to discharge through the voltage sensitive device, the trigger device then permitting the capacitor to discharge through



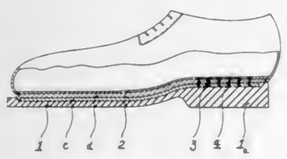
a spark plug. A second transformer has its primary winding in series with the voltage sensitive device, and its secondary winding connected to another trigger device controlling another spark plug, and switch means is provided for determining which trigger device is switched to conduction when the capacitor starts to discharge through the voltage sensitive device.

3,406,315
LIGHT SOURCE INCLUDING MEANS FOR TRANSLATIONAL MOVEMENT OF GLOW DISCHARGE ALONG ENVELOPE AXIS
Julius J. Muray, Los Altos, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Dec. 13, 1965, Ser. No. 513,494
11 Claims. (Cl. 315—334)



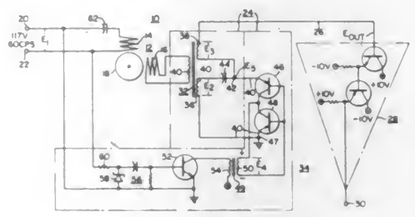
A wire anode and a multiple element cathode structure are coaxially supported within a gas-filled enclosure to provide a high stability light source.

3,406,316
STATIC ELECTRICITY CONDUCTING SHOES
Seiji Ito, 530 Tabata-machi, Kita-ku, Tokyo, Japan
Filed July 6, 1967, Ser. No. 651,503
5 Claims. (Cl. 317—2)



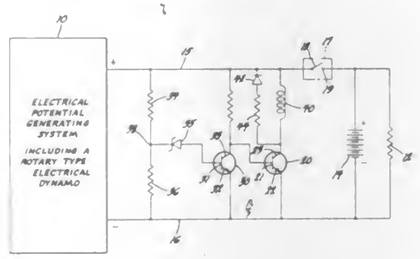
Static electricity conducting shoes in which a plurality of perforations are pierced in parallel with each other and from the upper surface of a heel member of said shoe sole to the uppermost surface of an insole thereof, said shoe sole made from static electricity conducting rubber material and said perforations filled up with static electricity conducting rubber material which sticks tightly therein thus said shoes being made static electricity conducting.

3,406,317
DIRECT CURRENT TACHOMETER SYSTEM
Joseph Gill, Bridgeville, and George Rouvalis, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 14, 1966, Ser. No. 593,831
10 Claims. (Cl. 317—5)



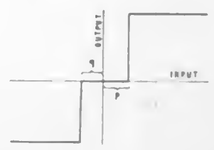
1. A direct current tachometer system comprising an alternating current tachometer device generating an A.C. output signal having an amplitude which varies as a function of tachometer speed, means for biasing the A.C. output signal so that a predetermined waveform reference value of the A.C. output signal is at a D.C. bias value dependent on an amplitude property of the A.C. output signal, and means for removing the fluctuating components of the biased A.C. signal so as to produce a D.C. speed signal.

3,406,318
POTENTIAL REGULATOR WITH AN ELECTRICAL POLARITY REVERSAL PROTECTION FEATURE
Glen E. Harland, Jr., and Johan Lund, Kokomo, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 1, 1966, Ser. No. 524,094
1 Claim. (Cl. 317—43)



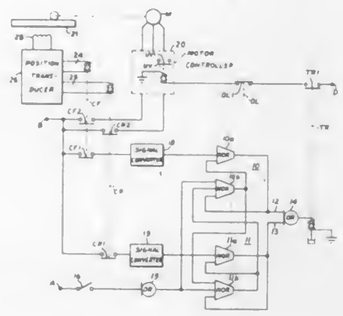
A direct current electrical generating system including a rotary type electrical dynamo having a field coil and a solid state potential regulator circuit including a field switching transistor for regulating the system output potential wherein a resistor, which is selected to be of an ohmic value of sufficient magnitude to produce a potential drop thereacross which will reduce the potential across the field discharge diode to a value equal to or less than the rated forward bias potential thereof in the event a battery is connected in a reverse polarity relationship across the system output terminals, is connected in series with the field discharge diode.

3,406,319
APPARATUS FOR MONITORING THE OPERATION OF A CLOSED LOOP POSITION CONTROL SYSTEM
Kenneth Milford Faulkes, Bradford, England, assignor to The English Electric Company Limited, London, England, a British company
Filed Apr. 20, 1964, Ser. No. 360,879
Claims priority, application Great Britain, Apr. 23, 1963, 16,059/60
5 Claims. (Cl. 318—18)



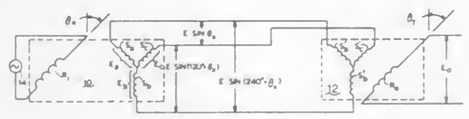
This invention is concerned with closed loop position control systems and provides apparatus for monitoring the operation of such systems to detect any one or more of a number of faults and to give an output signal indicative of such fault in a system. The monitoring apparatus includes a limiter circuit for receiving the error signal and a scaling circuit for receiving the velocity signal. These signals are fed to a summing circuit and if there is any change in the relative magnitude of the signals, such as those caused by faults, the output of the summing means will operate a relay to produce an output signal.

3,406,320
POSITIONING CONTROL CIRCUIT INCLUDING OVERSHOOT PREVENTION MEANS
James B. Hemker, Milwaukee, Wis., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed Feb. 25, 1965, Ser. No. 435,317
7 Claims. (Cl. 318—18)



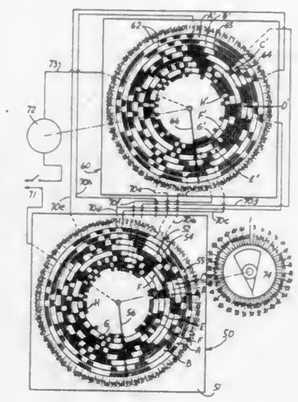
An overtravel preventing circuit for a positioning system including a pair of NOR memories each of which is switched to a first of its bistable states by a common reset signal and is switched to a second of its bistable states by a positioning transducer in response to the direction of movement of a machine tool part as the part moves through a preselected position and supplies a signal through an OR circuit component when in its other bistable state to stop the motor driving the machine tool part in event the motor does not reverse when the machine tool part passes the preselected position.

3,406,321
FRACTIONAL SPEED SYNCHRO SYSTEM
John F. Emerson, Hackensack, and Charles W. Lang, Passaic, N.J., assignors to General Precision Inc., Little Falls, N.J., a corporation of Delaware
Filed May 19, 1965, Ser. No. 456,960
15 Claims. (Cl. 318—18)



In a synchro system comprising a control transmitter (CX) and a control transformer (CT), the stator windings in at least one of the units are unbalanced in the sense that one of the windings has a different number of effective turns compared to the remaining two windings which have the same number of effective turns. The effect of the unbalance stator winding is to produce a non-integral relationship between CX–CT rotor displacement over a preselected limited range, say, ±150. After determining the electrical position error occuring over this limited range of rotor displacement, the unbalanced rotor and stator windings are distributed to introduce space harmonics effective to minimize the residual electrical error occuring over such limited range of rotor displacement.

3,406,322
SEEKING SWITCH REMOTE MOTOR CONTROL WHEREIN EACH POSITION IS UNIQUELY ENCODED BY 2N CONDUCTORS AND 2N NON-CONDUCTORS
Bret P. de Dube, Jr., 6 Club Drive, Massapequa, N.Y. 11758
Filed Dec. 30, 1964, Ser. No. 422,329
6 Claims. (Cl. 318—33)

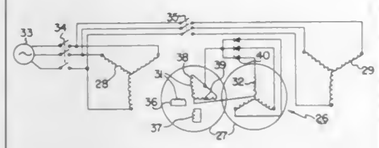


Remote position control consists of command switch that is interconnected through electrical conductors to remotely located, motor driven, follow-up switch.

Operation is based on a principle whereby all interconnected switch positions are electrically energized except for one position that is selected.

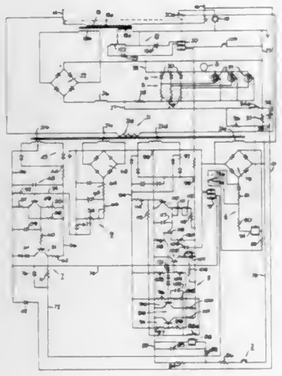
Command switch will remotely de-energize selected position through a unique electrical code and forces motor driven follow-up switch to rotate until the electrically de-energized position is reached cutting electrical power to the driving motor.

3,406,323
SYNCHRONOUS MACHINE WITH SINGLE ROTOR
Howard E. Jordan, Euclid, Ohio, assignor to Reliance Electric and Engineering Company, a corporation of Ohio
Filed Mar. 23, 1966, Ser. No. 536,840
22 Claims. (Cl. 318—185)



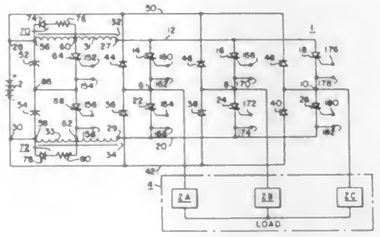
The disclosure relates to a synchronous machine such as motor having first and second stator windings and first and second rotor windings. The first windings act as a synchronous motor and the second windings act as an exciter. In one example the first stator winding is two pole, three phase and the second stator winding is four pole, three phase; the first rotor winding is two pole, two phase and the second rotor winding is four pole, three phase. The rotor windings are interconnected by rectifiers to supply the voltage generated in the rotor exciter winding to the rotor first winding as a field winding of the synchronous motor. The different number of poles in the first and second stator windings permits the second windings to act as a frequency converter to generate a voltage in the rotor second winding and cause the motor to pull in to synchronism with the rotating field of the stator first winding. The foregoing abstract is merely a resume of one general application, is not a complete discussion of all principles of operation or applications, and is not to be construed as a limitation on the scope of the claimed subject matter.

3,406,324
CONDENSER DISCHARGE CONTROL CIRCUIT
Richard A. Ayers, El Cajon, Calif., assignor, by mesne assignments, to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware
Continuation-in-part of application Ser. No. 311,427, Sept. 25, 1963. This application Sept. 21, 1964, Ser. No. 397,971
19 Claims. (Cl. 320—1)



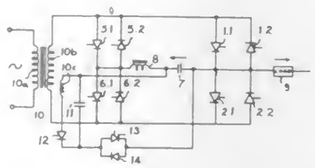
A circuit controls the selective charging and discharging of a capacitor bank, sensing the potential developed thereacross by the energy accumulated therein, and discharging the same through a load when a preselected potential is reached. Means are provided, also responsive to the potential developed across the capacitor bank, for prematurely discharging the same before the energy accumulation exceeds that which can be safely dissipated by the load.

3,406,325
FORCED COMMUTATING INVERTER
John Rosa, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 13, 1966, Ser. No. 520,497
11 Claims. (Cl. 321—5)



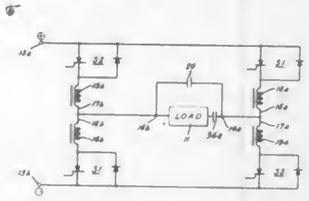
A commutating circuit for an inverter using discontinuous control type valves, such as thyristors, in which two commutating capacitors, connected in series between the source terminals, are alternately charged and thereafter discharged through first and second reactors to reduce the current flow through certain conducting ones of the control valves below the sustaining current and for an interval sufficient to commutate them.

3,406,326
FREQUENCY CHANGER EMPLOYING PARALLEL CONNECTED MAIN AND AUXILIARY GROUPS OF RECTIFIERS AND A COMMUTATION AND QUENCHING DEVICE CONNECTED THEREBETWEEN
Herbert Stemmler, Wettingen, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie., Baden, Switzerland, a joint-stock company
Filed Oct. 6, 1966, Ser. No. 584,827
Claims priority, application Switzerland, Oct. 8, 1965, 13,913/65
6 Claims. (Cl. 321—43)



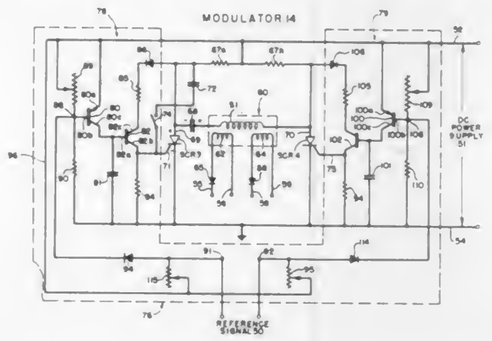
A frequency changer of the type employing two main controllable rectifier groups arranged in series and connected to an A.C. voltage supply source, two auxiliary controllable rectifier groups arranged in series connected in parallel with the main rectifier groups and a commutation and quenching device connected between common interconnected points for the main and auxiliary rectifier groups respectively. A control device triggers the rectifier elements of the main rectifier groups at least once in each direction at different times and the rectifier elements of the auxiliary rectifier groups being triggered only during the commutation period.

3,406,327
ELECTRIC POWER INVERTER HAVING A WELL REGULATED, NEARLY SINUSOIDAL OUTPUT VOLTAGE
Neville W. Mapham, Jordan, N.Y., and Fred W. Kelley, Jr., Media, Pa., assignors to General Electric Company, a corporation of New York
Filed May 27, 1965, Ser. No. 459,225
12 Claims. (Cl. 321—45)



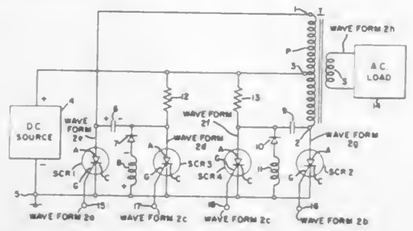
In electric power apparatus designed to supply an A-C load from a D-C source, the load is paralleled by a capacitor and is connected to the source via alternately triggered bidirectionally conducting switching elements respectively in series with separate inductors, whereby a complementary pair of resonant circuits are formed. Each resonant circuit is tuned to a frequency that is about 1.35 times higher than the operating frequency of the switching elements, and capacitor compensating means is connected in series circuit relationship with the load.

3,406,328
STATIC INVERTER CARRIER SYSTEM
George H. Studtmann, Mount Prospect, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Apr. 28, 1966, Ser. No. 545,906
5 Claims. (Cl. 321—45)



An inverter **11** has the positive-going and negative-going portions of its output square wave voltage waveform determined in time by signals received from a square wave generator **15**, in its turn governed by trigger signals produced by a modulator **14**. A reference signal **50**, having positive- and negative-going portions, is applied to the modulator **14** to determine the times of occurrence of the trigger signals. Circuit means **89**, **90**, **109**, **110** is provided in the modulator to establish the maximum frequency of the trigger pulses and correspondingly determine the maximum frequency of the inverter output voltage, which is also the normal frequency of the output signal produced by the inverter when no reference signal is applied to the modulator. Additional circuit components **94**, **95**, **114** and **115** cooperate with the just-described circuit means when a reference signal is received at input terminals **91**, **92** to modulate the frequency (or regulate the time duration of the different polarity alternations) of the inverter output signal. Because of the circuit connections the only adjustment that can be effected in the inverter output signal is an increase of the time duration of the respective polarity alternations.

3,406,329
PARALLEL INVERTER WITH RAPID RESPONSE TIME TO CHANGES IN PULSE DURATIONS
Richard W. French, Liverpool, N.Y., assignor to General Electric Company, a corporation of New York
Continuation of application Ser. No. 348,002, Feb. 28, 1964. This application Dec. 19, 1966, Ser. No. 602,833
2 Claims. (Cl. 321—45)

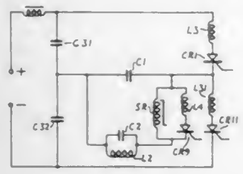


1. In a parallel inverter for conversion of DC to AC electrical energy, the combination comprising:
- a transformer having a tapped winding;
- a first and a second controlled rectifier each having anode, cathode and control electrodes, the respective anodes of said rectifiers being coupled to opposite ends of said winding;
- input terminals for connection to a DC source being coupled respectively to said tap and to the cathodes of said first and second controlled rectifiers;
- means for coupling to said respective control electrodes of said first and second controlled rectifiers firing potentials at desired moments in time;
- a first switching circuit for extinguishing said first controlled rectifier comprising a first auxiliary controlled rectifier having an anode, cathode and control electrodes, a first commutating capacitor coupled between the anodes of said first rectifier and said auxiliary rectifier, and means interconnecting the cathodes of said two last recited rectifiers;
- a second switching circuit for extinguishing said second controlled rectifier comprising a second auxiliary controlled rectifier having an anode, cathode and control electrodes, a second commutating capacitor coupled between the anodes of said second rectifier and said second auxiliary rectifier, and means interconnecting the cathodes of said two last recited rectifiers;
- means for coupling to said respective control electrodes of said first and second auxiliary controlled rectifiers firing potentials at desired moments in time; and
- energizing means including a resistance coupled between said tap connected input terminal and the anode of each auxiliary rectifier to provide current sufficient to sustain conduction therein.

3,406,330
RELAXATION INVERTER CIRCUITS WITH SWITCHING CONTROL
Brian Raymond Pelly, Murryville, Pa., assignor to Westinghouse Brake and Signal Company, Limited
Filed Mar. 8, 1965, Ser. No. 437,737
Claims priority, application Great Britain, Mar. 23, 1964, 12,076/64
12 Claims. (Cl. 321—18)

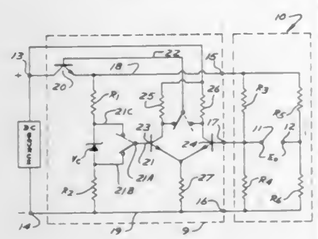
An improvement in an inverter or converter circuit, for generating from a supply source a continuous alternating

current in a load circuit, including a storage capacitor, a saturable reactor connected to the storage capacitor and intermittently operable from a high impedance condition to a low impedance condition for charging the capacitor and a resonant output circuit. A second saturable reactor is connected to the storage capacitor and is operable from a high impedance condition to a low impedance condition while the first saturable reactor is in a high impedance condition for providing a discharge path for the unidirectional transfer of charge from the storage



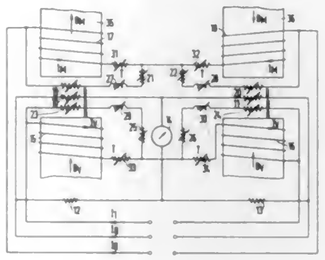
capacitor to the resonant output circuit. The improvement also includes means for controlling the condition of the saturable reactors, means for sensing the occurrence of zeros in the waveform of the load circuit and producing signals corresponding thereto and means for applying these signals to the control means to control the switching condition of the saturable reactors and thus maintain coincidence of the operation of the second saturable reactor from a high impedance condition to the low impedance condition with the occurrence of such zeros.

3,406,331
COMPENSATING POWER SUPPLY CIRCUIT FOR NON-LINEAR RESISTANCE BRIDGES
Robert C. Rose, Minneapolis, Minn., assignor to Rosemount Engineering Company, Minneapolis, Minn., a corporation of Minnesota
Filed Mar. 23, 1966, Ser. No. 536,737
11 Claims. (Cl. 323—22)



A power supply circuit including voltage regulating means supplying an excitation voltage to a resistance bridge wherein one arm of the bridge varies in resistance in relation to a measurand in a non-linear manner. The means regulating the output from the power supply is sensitive to voltage differential between two control signal input terminals. The control signal input terminals are connected respectively to an output terminal of the bridge and to a series combination of a voltage reference element and two resistors connected across the output of the regulating means. The voltage control signal is sensed between one of the resistors and the subcombination of the voltage reference element and the other resistor. By proper selection of the resistances in the series combination of the two resistors and the voltage reference element the desired compensation of the output of the power supply in order to give linearity to the output of the measuring bridge can be obtained.

3,406,332
GALVANOMAGNETIC RESISTANCE DEVICE WITH FEEDBACK COUPLED EXCITATION WINDING
Hans Hieronymus, Erlangen, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed June 17, 1966, Ser. No. 558,512
Claims priority, application Germany, July 1, 1965, S 97,915
13 Claims. (Cl. 323—75)



8. A multiplier circuit comprising a pair of galvanomagnetic resistance devices connected in series with each other, each of said galvanomagnetic resistance devices, comprising

an electromagnet having an excitation winding and an air gap;

a first field plate positioned in the air gap of said electromagnet and having an electrical resistance and a current flow therethrough;

a second field plate positioned in the air gap of said electromagnet;

a resistor connected in series with said second field plate to provide a series connection;

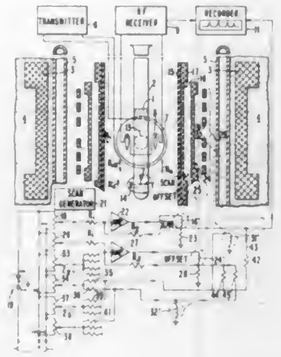
connecting means connecting said series connection of second field plate and said resistor in parallel with the excitation winding of said electromagnet whereby the resistance of said first field plate varies in proportion with the square of a total current supplied to said excitation winding and said series connection; and

supply means for supplying a total current to said excitation winding and said series connection connected in parallel therewith.

3,406,333
SCANNED INTENSITY MAGNET HAVING FIELD HOMOGENEITY CORRECTION COILS IN COMMON WITH ITS SCANNING COILS
Forrest A. Nelson, Palo Alto, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Apr. 7, 1966, Ser. No. 541,010
5 Claims. (Cl. 324—.5)

1. A magnet apparatus including, first magnet means for producing a uniform D.C. magnetic field component with associated minute gradient components in a region of space, means forming a gradient coil structure to produce a gradient magnetic field component of variable magnitude superimposed upon the field in the region of the uniform magnetic field component produced by said first magnet means for canceling a certain one of the associated magnetic field gradients in the D.C. magnetic field produced by said first means, second uniform field producing coil means separate from said first magnet means

for producing a second uniform magnetic field component with associated minute gradient components superimposed upon the first uniform magnetic field component for varying the total uniform magnetic field intensity, and means for deriving and superimposing a current proportional to the current in said second uniform field producing coil means on the current of said gradient coil structure to

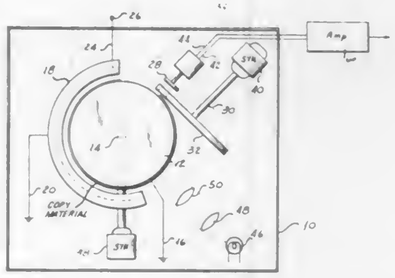


cancel a certain gradient produced by said second uniform field producing coil means, whereby said common gradient coil structure serves to correct the gradients associated with both said first and second uniform magnetic field components.

ERRATUM

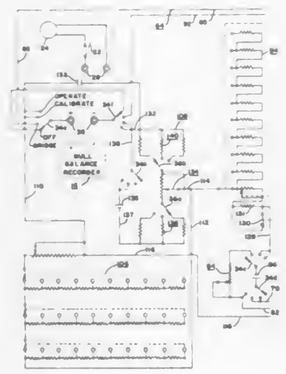
For Class 324—1 see:
Patent No. 3,406,359

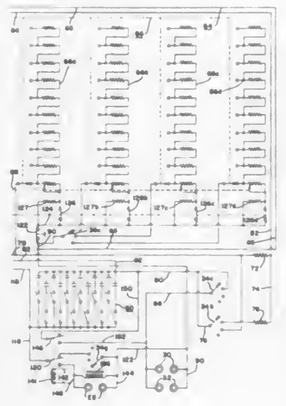
3,406,334
APPARATUS FOR TESTING ELECTROSTATIC COPY MATERIAL
Vernon L. Marquart, Philadelphia, Pa., and Mark A. Stolle, Glendale, Ariz., assignors to Nuclear Corporation of America, Phoenix, Ariz., a corporation of Delaware
Filed July 27, 1964, Ser. No. 385,155
9 Claims. (Cl. 324—32)



A system for testing electrostatic copy material in which means is provided for subjecting the copy material to the action of an electrostatic field for a predetermined time and for measuring the rate of acquisition of charge by the material during that time. Following the period of time the measuring means measures the rate of dark discharge of the material. Subsequently the material is illuminated and during the time of illumination the measuring means measures the illuminated discharge rate of the material.

3,406,335
APPARATUS FOR RECORDING TEMPERATURE CHANGES IN A RESISTIVE ELEMENT DUE TO SELF-HEATING
Hubert E. Magee, Dayton, and Joseph C. Whitmer, Bradford, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 30, 1965, Ser. No. 443,935
7 Claims. (Cl. 324—65)



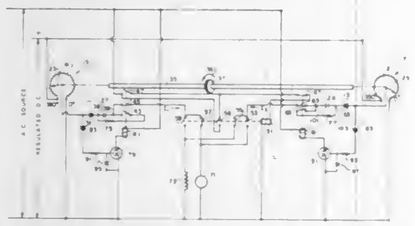


In preferred form, an electrical resistance measuring system for continuously recording changes in temperature of wiring in electrical components under operating conditions. The system includes a first circuit for measuring ambient resistance of the component. The first circuit is associated with means to energize the component across an AC power source. A DC sensing circuit produces a signal reflecting changes in temperature in the tested component under operating conditions. The DC sensing circuit is automatically matched to a particular kind of load to produce a maximum output signal differential to fully utilize the scale of a continuously reading null balance temperature recorder.

3,406,336
RC RATE GENERATOR FOR SLOW SPEED MEASUREMENT

William M. McCampbell and Clayton Loyd, Madison, Ala., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Continuation-in-part of application Ser. No. 516,795, Dec. 27, 1965. This application June 22, 1966, Ser. No. 560,968
4 Claims. (Cl. 324—70)

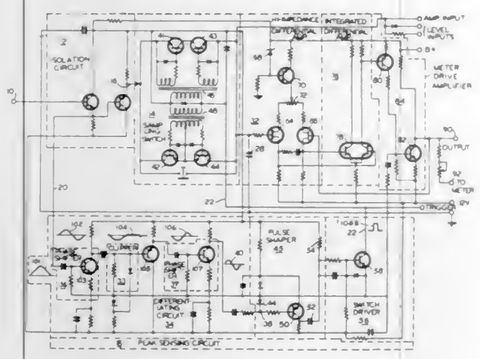


A slow speed measuring system including first and second RC rate generators, each consisting of a continuous rotation potentiometer having their respective resistors connected across a DC source and their wiper arms coupled to capacitors. The wiper arms are driven in accordance with the speed to be measured and are angularly displaced from one another. Switching means responsive to the position of the wiper arms are provided for alternately coupling the outputs of the RC rate generators to current indicating means so as to maintain the current indicating means connected to the RC rate generator operating in its continuous interval. Additional switching means are provided to discharge the respective capacitors after disconnection with the current indicating means and to connect the output of the RC rate generator not connected to the current indicating means to current conducting means.

3,406,337
CAPACITIVE PEAK POWER INDICATOR CIRCUIT GATED BY PEAK SENSING CIRCUIT

Dean S. Thornberg, Richard M. Jepperson, and Marvin W. Loosle, Salt Lake City, Utah, assignors, by mesne assignments, to LTV Electrosystems, Inc., Greenville, Tex., a corporation of Delaware

Filed Nov. 21, 1963, Ser. No. 325,390
4 Claims. (Cl. 324—103)

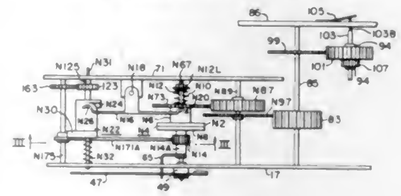


1. An indicating circuit comprising:
an input circuit for applying pulse-shaped input signals to circuits electrically isolated from each other;
a sensing circuit connected to receive pulse-shaped input signals from the input circuit and including differentiating circuits and phase shifter networks for sensing the peak values of each of the pulse-shaped input signals;
means connected to said peak sensing circuit for producing a pulse which occurs at the exact time of the peak value of the pulse-shaped input signal sensed by said sensing circuit;
a capacitor;
a switch connected to the input circuit for sampling the pulse-shaped input signals as isolated from the peak sensing circuit and connected to transmit each of said pulse-shaped input signals to charge said capacitor while said switch is closed;
means for applying said pulse which occurs at the exact time of the peak value of the pulse-shaped input signal to said sampling switch for closing said switch; and
means for applying the charge of said capacitor through a high impedance network for indicating the peak value of said pulse-shaped input signal.

3,406,338
MAXIMUM-DEMAND DEVICE WITH CLUTCH HAVING ADJUSTABLE OPEN TIME

Eugene C. Benbow, Raleigh, N.C., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 14, 1965, Ser. No. 487,170
5 Claims. (Cl. 324—103)



A maximum demand device drives a maximum demand indicator through a clutch. The clutch is released at the end of each demand interval for resetting purposes. The clutch release is operated from an operator which moves at a varying rate through each of a plurality of repetitive similar cycles. The operator is coupled to the clutch for release purpose during a small part of each cycle. The position of this small part in the cycle is adjustable to adjust the clutch-open time.

3,406,339
ELECTROMAGNETIC METER CONSTRUCTION

William F. Bibbings, Battle Creek, Mich., assignor to Kal-Equip Company, Inc., Otsego, Mich., a corporation of Michigan

Filed Aug. 19, 1963, Ser. No. 303,089
9 Claims. (Cl. 324—151)

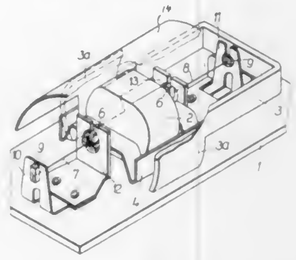


1. A moving coil type meter including a movable means comprising a coil, fixed means comprising a permanent magnet generating a flux field wherein said coil is disposed, pivotal support means for said movable means, a housing wherein said movable means and said fixed means are disposed, terminal means electrically connected to said coil and extending externally of said housing for connecting said coil to an energizing means; said movable means also comprising a plastic bobbin upon which said coil is wound; damping means provided by a metalized deposit formed directly on said bobbin and a pair of spaced pivot sub-assemblies mounted directly on said bobbin; each of said pivot subassemblies including a molded plastic mounting member having insert molded thereon, a pivot pin and spring anchor means.

3,406,340
MINIATURE ELECTRICAL INDICATING INSTRUMENT OF THE MOVING COIL TYPE WITH TORSION ELEMENTS UNDER TENSION FOR SUPPORTING THE COIL

Georg Seibel, Dreieichenhain, Hesse, Germany, assignor to Schoeller & Co., Frankfurt am Main, Germany

Filed Apr. 13, 1964, Ser. No. 359,271
Claims priority, application Germany, Apr. 17, 1963, Sch 33,122; Dec. 11, 1963, Sch 34,309
15 Claims. (Cl. 324—154)



A miniature electrical indicating instrument, of the moving coil type, is disclosed as including a relatively elongated support base having a pair of bracket means secured in longitudinally spaced relation thereon and each having an upstanding relatively resilient arm formed with an upwardly opening key hole slot. The moving coil includes a frame having a pair of substantially coaxial and outwardly extending tongues, one at each end of its axis, with the tongues lying in a common axial plane and each having an aperture therethrough. This frame is positioned between the bracket arms.

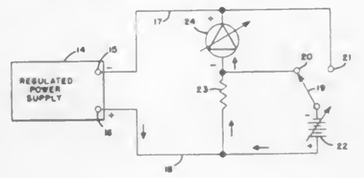
A pair of relatively elongated and relatively narrow torsion elements are provided, each having a pair of clamping jaws secured thereto, one at each end thereof. The distance between the jaws of each pair is substantially equal to the axial distance between a respective bracket arm and the aperture of the adjacent tongue. One jaw of each pair is engaged in the aperture of a tongue and the other is engaged with the outer face of the adjacent bracket arm with the torsion element inserted through the key hole slot of the latter. The torsion elements are thus connected under tension between axially opposite ends of the moving coil frame and the bracket arms, and suspend the moving coil for oscillation about its axis. A magnetic structure on the base is operately associated with the moving coil.

A further feature of the disclosure is the provision of damping means in the form of a receptacle on the base adjacent end of the frame, and having its interior formed as a sector shape slot concentric with the frame axis and having a very small axial dimension. This receptacle contains a viscous damping liquid, and a substantially flat tongue extends radially from the frame into the viscous liquid. The inner dimensions of the receptacle are so small that the surface tension of the viscous liquid on the surfaces inhibit loss of liquid in any angular position of the coil, and the surfaces of the tongue in contact with the liquid are of a material which is not wettable by the viscous liquid.

3,406,341
DYNAMIC LOADS FOR TESTING REGULATED POWER SUPPLIES

Kenneth Kupferberg and Paul J. Birman, Flushing, N.Y., assignors to Forbro Design Corp., New York, N.Y., a corporation of New York

Filed Apr. 15, 1965, Ser. No. 448,394
6 Claims. (Cl. 324—158)

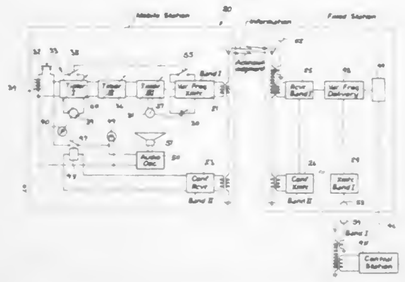


1. A dynamic load for testing regulated power supplies including the combination of;
a pair of input terminals to be connected to the regulated power supply under test;
a power resistor and a current regulated power supply connected in series circuit across said terminals;
and a voltage regulated power supply connected across at least a portion of said series circuit whereby predetermined test load conditions are provided between said terminals for dynamic loading of a regulated power supply, and whereby the output of the regulated power supply under test may be indicated while dynamically loaded.

3,406,342
SAFETY MONITORING AND ACKNOWLEDGMENT SYSTEM FOR SUBTERRANEAN STRUCTURES USING RADIO RELAYS

Rolf Hübner, Westfalendamm 267, Dortmund, Germany

Filed Jan. 19, 1966, Ser. No. 521,677
Claims priority, application Germany, Jan. 21, 1965, H 54,921
8 Claims. (Cl. 325—2)



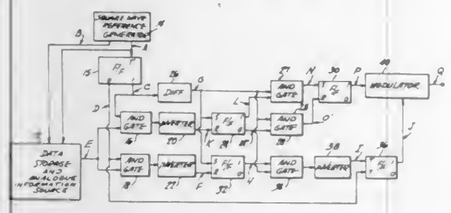
In a subterranean tunnel having angularly adjoining stretches, a signaling system wherein fixed signaling stations are provided at the junctions between the tunnel stretches and have each a fixed receiver operable at a through frequency for receiving a similar high-frequency signal from the next fixed station along the tunnel, a relay transmitter operating at this frequency for transmitting the signal to the next fixed station along the tunnel and a mobile station with a range less than the distance be-

tween successive fixed stations. The mobile station actuating, via an information transmitter operating on another frequency, the fixed station thereby initiating a relay of the information through the tunnel in the through frequency. Each fixed station also has a transmitter producing an acknowledgment signal triggered upon receipt of the information signal for indicating such receipt to the mobile station.

3,406,343
PM/AM MULTIPLEX COMMUNICATION

Samuel J. Mehlman, Jericho, N.Y., assignor to Radio Corporation of America, a corporation of Delaware

Filed July 1, 1965, Ser. No. 468,697
15 Claims. (Cl. 325—40)

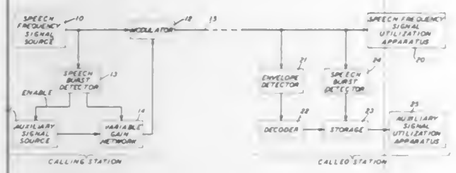


A cycle of a given wave is phased modulated to indicate a mark pulse by reversing the phase of the given wave at the middle of the cycle thereof, and to indicate a space by making no change in the cycle of the given wave. A cycle of the given wave is also amplitude modulated by changing the amplitude of the cycle to indicate a mark pulse and by not changing the amplitude of the cycle to indicate a space. To keep the average amplitude of the doubly modulated wave at zero, the wave cycles that are phased modulated and the wave cycles that are amplitude modulated differ by an odd number of half cycles of the given wave.

3,406,344
TRANSMISSION OF LOW FREQUENCY SIGNALS BY MODULATION OF VOICE CARRIER

Andrew L. Hopper, Murray Hill, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed July 1, 1964, Ser. No. 379,587
10 Claims. (Cl. 325—50)

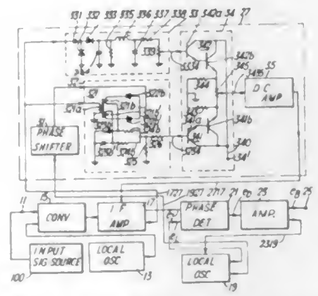


Speech signals are modulated by low frequency data signals to produce sidebands for simultaneous transmission of the data signals along with the speech over a common channel. The data signals are suppressed in the modulation process and the speech frequency carrier and at least one modulated sideband are transmitted. Since the carrier (speech) is discontinuous and highly variable in amplitude the data signals are stored and used to modulate the speech through a modulation index control network only during speech bursts. An ordinary envelope detector is used to recover the data signals at the receiver.

3,406,345
RADIO RECEIVER UTILIZING IF, LOCAL AND NOISE SIGNALS FOR PROVIDING NEGATIVE FEEDBACK VOLTAGES TO CONTROL GAIN AND FREQUENCY

Sukehiro Ito and Yoshito Ueno, Tokyo, Japan, assignors to Nippon Electric Company, Tokyo, Japan, a corporation of Japan

Filed Mar. 10, 1964, Ser. No. 350,737
Claims priority, application Japan, Mar. 18, 1963, 38/14,641
18 Claims. (Cl. 325—346)

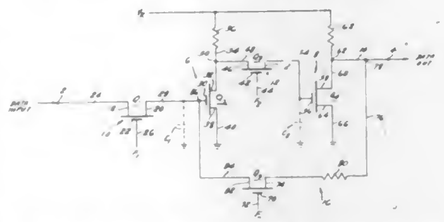


An improved negative feedback RF receiver for an alternating current carrier signal either phase or frequency modulated by other alternating current signals and including an antenna, a converter for translating the received modulated carrier signal into an IF signal, an IF amplifier for the IF signal, a source of a local alternating current signal, a demodulator for translating the IF and local signals into an output signal, an amplifier for the output signal, a first feedback circuit for feeding back a portion of the amplified output signal in negative feedback relation to control the frequency of the local signal, and an improved second feedback circuit arrangement comprising coherent and peak-value detectors utilizing the amplified IF signal, the local signal and a noise signal for generating a control signal feedback in negative feedback relation to adjust the gain of the IF amplifier. Modifications include second and third feedback circuits including coherent and peak-value detectors utilizing the amplified IF signal, the local signal and a noise signal for generating two control signals of which a first control signal fed back in negative feedback relation controls the gain of the IF amplifier and a second control signal fed back in negative feedback relation controls either the gain of the output signal amplifier or the frequency of the local signal.

3,406,346
SHIFT REGISTER SYSTEM

Frank M. Wanlass, Huntington, N.Y., assignor to General Instrument Corporation, Newark, N.J., a corporation of Delaware

Filed Apr. 20, 1966, Ser. No. 543,860
13 Claims. (Cl. 328—37)



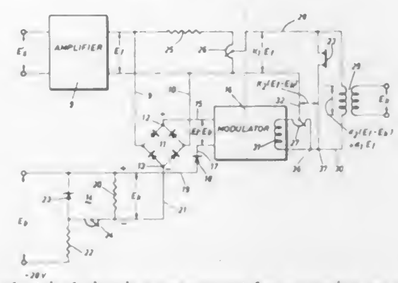
A two-stage shift register circuit in which the output from the second stage is controllably fed back to the input of the first stage so as to ensure that the stages remain

in a given condition until such time as a different input signal is switched to the first stage to modify its condition.

3,406,347
CIRCUIT FOR MODIFYING AN ELECTRICAL SIGNAL

John A. I. Young, Peterborough, Ontario, Canada, assignor to Canadian General Electric Company Limited, Toronto, Ontario, Canada, a corporation of Canada

Filed Jan. 14, 1965, Ser. No. 425,530
2 Claims. (Cl. 328—143)

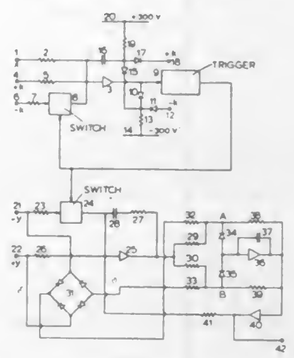


An electrical circuit arrangement for accepting an alternating current signal including a rectifier and a comparing circuit for matching rectified signal values with direct current biases according to a predetermined calibration with means for combining the resultant signals to a modulator for modifying the original alternating current signals to derive a new calibration including the method for adapting such apparatus to recalibrating an elasticity curve of a metals rolling mill.

3,406,348
ELECTRICAL SMOOTHING CIRCUITS

Anthony John Shawcross Udall, Ashford, Middlesex, England, assignor to Electric & Musical Industries Limited, Hayes, Middlesex, England, a corporation of Great Britain

Filed Aug. 10, 1964, Ser. No. 388,552
Claims priority, application Great Britain, Aug. 13, 1963, 32,021/63
7 Claims. (Cl. 328—165)



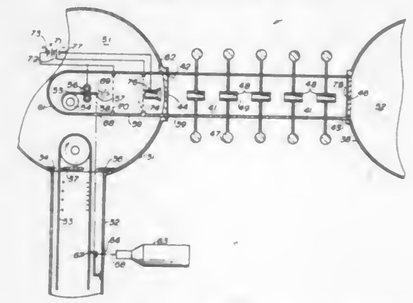
This specification describes a circuit for smoothing an input electrical signal consisting of a desired signal with a superimposed ripple having a storage element, such as a condenser, in which the desired signal or a signal related to it is stored. Two threshold voltages dependent on the signal stored in the storage element are set up differing by the amplitude of the ripple to define a range within which the input electrical signal can lie without affecting the signal stored in the storage element. Departure of the input electrical signal from the range is sensed by diode circuits and is used to change the signal stored in the storage element, from which element the smoothed signal is derived. Two storage elements may alternatively be used storing the threshold voltages independently.

The circuit is used to smooth the output of a time division analogue multiplier and has the advantage of avoiding unnecessary restriction of the pass band of the multiplier such as would be incurred by a conventional smoothing circuit. The multiplier described includes a diode arrangement for disconnecting the feedback condenser from the amplifier of the integrator in the rectangular wave generator at the triggering voltages, thus avoiding the need for accuracy in the triggering levels of the trigger.

3,406,349
ION BEAM GENERATOR HAVING LASER-ACTIVATED ION SOURCE

James E. Swain, Livermore, and John B. Truher, Redwood City, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed June 16, 1965, Ser. No. 464,589
7 Claims. (Cl. 328—233)

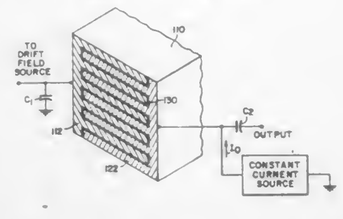


An ion source and accelerator for producing ion beams of energies up to several m.e.v. and up to hundreds of amperes, comprising a target of a material to be ionized disposed in the light beam path of a laser, means for concentrating the light beam to impinge the target surface with an energy sufficient to ionize the target material and produce a plasma, electrode means for extracting the desired ions from the plasma produced by the light beam impinging said target, and electrostatic accelerator means for producing an electric field to accelerate the ions.

3,406,350
ULTRASONIC AMPLIFIER DEVICE

William E. Newell, Murrysville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 24, 1967, Ser. No. 633,275
4 Claims. (Cl. 330—5.5)



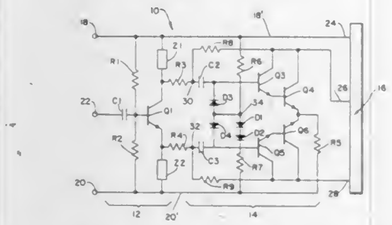
An ultrasonic amplifier utilizing a body of piezoelectric semiconductor material wherein an output electrical signal can be obtained directly from bunched carriers caused

by the local electric field accompanying the propagated ultrasonic wave. The bunched carriers produce conductivity modulation that may be detected by properly placed contact elements.

3,406,351
TRANSFORMERLESS PUSH-PULL TRANSISTOR AMPLIFIER

Harvard Brouwer, Grand Rapids, Mich., assignor to Lear Siegler, Inc.

Filed Mar. 5, 1965, Ser. No. 437,397
5 Claims. (Cl. 330—15)

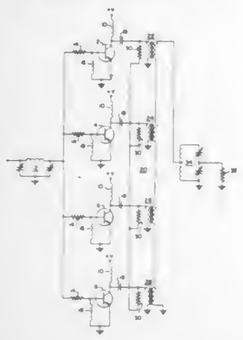


A transistorized push-pull circuit producing a double-ended or three-terminal output from a two-terminal input, with a single source of operating power, including a first stage comprising a split-load phase inverter for producing the required out-of-phase signals for a pair of symmetrical output stages connected in push-pull, in which feedback is provided in the phase inverter stage to stabilize the same and make its operation independent in variations in the transistor or transistors involved, in which feedback is provided in each of the output push-pull stages to make each half of the output stage independent with respect to the loading of the other half, and in which the biasing is such that the output circuit normally operates in Class B but is automatically changed by the signals supplied to the input thereof to operate in Class AB.

3,406,352
SOLID STATE HIGH FREQUENCY POWER AMPLIFIER

Robert A. Gardenghi, Baltimore, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 17, 1965, Ser. No. 456,228
4 Claims. (Cl. 330—31)

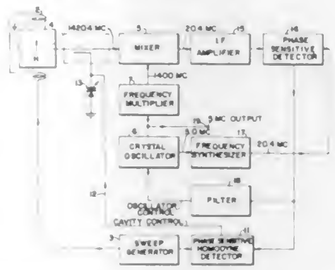


A high power solid state amplifier wherein a plurality of semiconductor amplifying devices are combined with a single output tank circuit while maintaining isolation and equal power division between the individual devices. A broadband transformer coupler provides power combining in one direction while reflecting the tank circuit back to the devices in the other direction. By broadbanding the amplifying devices, a common tuned circuit can be placed after the power combiner thereby allowing a single adjustment to control the output circuits of all the amplifying stages.

3,406,353
AUTOMATIC TUNING OF QUANTUM RESONANCE CIRCUITS

Louis F. Mueller, Jr., Marblehead, Mass., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed May 17, 1965, Ser. No. 456,245
6 Claims. (Cl. 331—3)



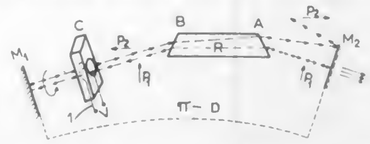
Atomic resonance systems are disclosed. The systems include an ensemble of atomic resonators, such as a sample of atomic resonance gas or nuclear quadrupole resonance material, coupled to a resonant circuit. Atomic resonance is induced in the sample material and resonance signals are extracted from the tuned resonant circuit. A modulator is provided for modulating the line width of the resonance line to produce a modulated resonator detuning component on the resonance signal due to the pulling of the resonant circuit on the frequency of the atomic resonance line. A first stage of phase sensitive detection is provided for detecting the resonance signal and for passing the frequency detuning component at the modulation frequency through to a second stage of phase sensitive detection wherein this detuning component is phase sensitive detected against the modulator frequency to produce a resonator tuning control signal which is fed back to tune the resonator to the precise center frequency of the atomic resonance line. In one embodiment of the present invention, the atomic resonance material is an atomic resonance gas such as hydrogen, rubidium, etc. The output of the first stage of phase sensitive detection is employed for phase locking a local oscillator crystal frequency to the phase of the natural frequency of the resonance line and an output of the local oscillator is employed as a frequency standard output. In a second embodiment of the present invention, the atomic resonance material comprises a nuclear quadrupole resonance sample and the output of the first stage of phase sensitive detection is employed for tuning the resonator circuit coupled to the quadrupole resonance sample. The output of the second stage of phase sensitive detection is employed for fine tuning the same resonant circuit coupled to the sample at a time constant substantially different than the time constant of the first resonator tuning control signal.

3,406,354
CRYSTAL LASER DEVICE

Roger Dumanchin, Montgeron, France, assignor to Compagnie Generale d'Electrite, Paris, France

Filed Dec. 17, 1963, Ser. No. 331,247
Claims priority, application France, Dec. 17, 1962, 918,839
6 Claims. (Cl. 331—94.5)

A crystal laser device able to emit polarized light and comprising an optically resonant cavity including two mirrors, a birefringent crystal and a phase shifting cell all optically aligned to sustain laser oscillations. The crystal is a body of birefringent material having an optical axis such that the light path through the crystal during laser oscillation is perpendicular to the optical axis. The end faces of the crystal through which the light path passes

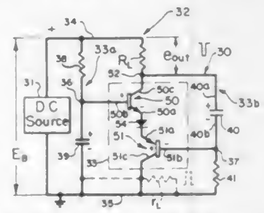


lie in planes which intersect in a line parallel to the optical axis. The said planes are equally inclined to the direction of the light path through the crystal. The mirrors comprising the optical resonant cavity are perpendicular to the light beam leaving the crystal when the polarization of the beam is not modified by the phase shifting cell.

3,406,355
OSCILLATOR CIRCUIT

Anthony Trujillo, Carpentersville, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Dec. 27, 1966, Ser. No. 604,748
5 Claims. (Cl. 331—111)

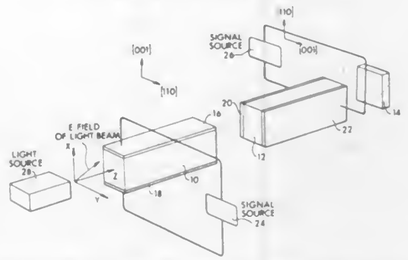


An oscillator circuit includes a first pair of junctions **34**, **35** for energization from a D-C voltage. Two branch circuits **38**, **39** and **40**, **41** are coupled between the first pair of junctions **34**, **35**. A second junction pair **36**, **37** is defined at intermediate points in the two branch circuits. A load R_L (and/or r_L) is coupled in series with at least one branch circuit, and a semiconductor switching circuit **33** is connected to regulate current flow through the load as a function of a difference signal **68** determined by the potentials at the second junction pair **36**, **37** in the two branch circuits.

3,406,356
OPTICAL FREQUENCY TRANSLATOR

Charles J. Peters, Wayland, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Dec. 21, 1964, Ser. No. 419,909
3 Claims. (Cl. 332—7.51)

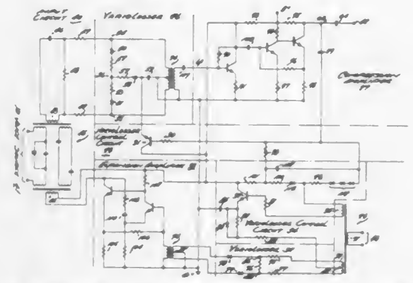


A pair of electro-optical phase modulators are energized with quadrature phased signals to produce an array of sideband signals each having a unique polarization. A polarizer arranged in light transmitting arrangement with the modulators selects the desired sideband signal and suppresses the carrier and other sidebands.

3,406,357
COMPANDOR THAT SUPPLIES GAIN TO THE SYSTEM

Julian Alonso Garcia and Jackie Harrell Kasell, Raleigh, N.C., assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland

Filed Mar. 14, 1966, Ser. No. 533,911
7 Claims. (Cl. 333—14)

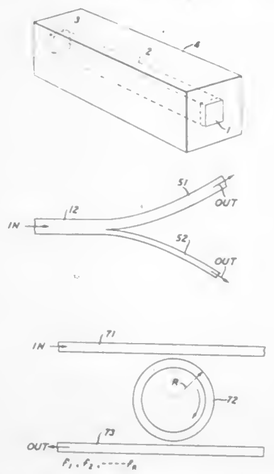


The invention provides a campandor for pole mounting in a subscriber carrier telephone system. The primary object is to power the entire campandor from the central office battery, and this requires a minimization of current drain. Among other things, this minimization is accomplished by a double use of circuit elements; for example, the campandor not only provides its campandor functions—but also supplies gain.

3,406,358
ULTRASONIC SURFACE WAVEGUIDES

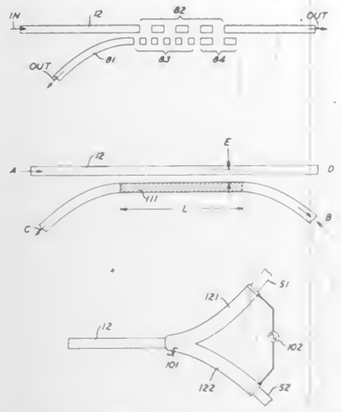
Harold Seidel, Warren Township, Somerset County, and Donald L. White, Mendham, N.J., assignors to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York

Filed Oct. 30, 1967, Ser. No. 678,891
19 Claims. (Cl. 333—71)



This application discloses arrangements for guiding elastic bulk-mode and surface-mode waves which substantially eliminate beam spreading. Bulk-mode wave guidance is produced by forming, in an elastic wave supporting medium, a longitudinally extending perturbation

which either decreases the net longitudinal phase velocity in the body or increases its net longitudinal attenuation. Surface-mode wave guidance is produced by forming a similar perturbation on the surface of an elastic wave



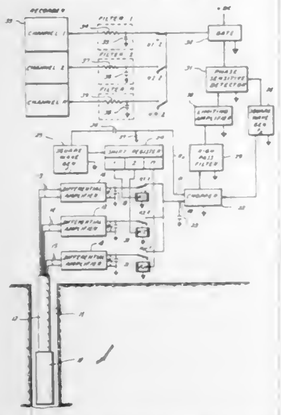
supporting substrate. The surface wave guiding structures, which can be produced by simple photoetching processes, can be readily adapted to form a wide variety of elastic wave circuit devices such as filters, power dividers and directional couplers.

3,406,359

METHODS AND APPARATUS FOR COMPUTING A FUNCTION OF SAMPLED WELL LOGGING MEASUREMENTS DERIVED FROM MULTIPLE INVESTIGATING DEVICES

Wilbur C. Welz, Houston, Tex., and Jimmy G. Lee, Clamart, France, assignors, by mesne assignments, to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Filed Dec. 15, 1965, Ser. No. 514,036
14 Claims. (Cl. 324—1)



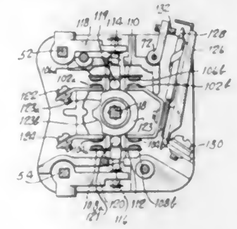
In accordance with an illustrative embodiment of the invention, a technique for computing a function of well logging measurements derived from a plurality of downhole investigating apparatus is disclosed. The well logging measurements are sampled and supplied to a computing means on a time sharing basis. The computing means utilizes time domain techniques wherein a chopper means switches between a generated time function signal and the well logging measurements to produce a chopped output signal. In another form, the chopper means switches between a constant amplitude signal and well logging measurements which have been differentiated. The chopped output signal is then compared in phase with the signal which energizes the chopper means to produce a pulse whose pulse width is representative of a given function of the well logging measurements. The output signals from the computing means are then separated by a switching means which is synchronized with the sampling operation.

3,406,360

PROTECTOR SWITCH

Samuel Brian Simons, 201 Westport Road, Wilton, Conn. 06897

Filed Apr. 5, 1967, Ser. No. 628,661
12 Claims. (Cl. 335—20)



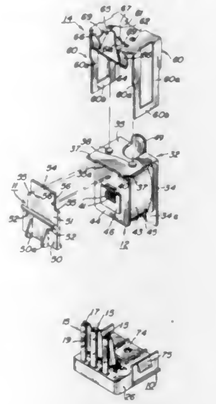
A high-current, low-voltage protector switch, as for motors, has sections each with one or more sets of stationary and movable contacts actuated by a cam in each section carried on a common shaft that is manually turned from an off or reset position to selected on positions for the contacts, the switch having bimetal high-current protective elements for the sections and a low-voltage electromagnetic protective element, all of the protective elements being operable directly on a common release shaft to release a trigger that actuates a settable spring-biased toggle. The toggle is initially spring-set by moving the switch camshaft to reset position, for setting individual release devices that are carried on shafts to which arms of the toggle are connected and that are arranged to shift the movable contacts to open position when the trigger is released for actuation of the toggle.

3,406,361

ELECTROMAGNETIC RELAY HAVING PARTS RETAINED BY A ONE-PIECE SPRING CLIP WHICH ALSO PROVIDES ARMATURE BIAS

Paul J. Le Mauviel, Asheville, N.C., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed May 11, 1966, Ser. No. 549,257
13 Claims. (Cl. 335—178)



The armature of a miniature clapper-type relay is retained in pivotal engagement with the frame of the relay

by a one-piece generally U-shaped spring clip which also secures the frame to the relay base without the need for additional fastening means. The spring clip includes a portion having a tab member which biases the armature toward its normal position away from the relay core and which holds the armature in that position when the relay is unenergized.

3,406,362

ANISOTROPIC SUPERCONDUCTOR

Eugene Revolinsky, West Allis, Wis., Donald J. Beerntsen, Youngstown, N.Y., and Glen A Spiering, Milwaukee, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Continuation-in-part of application Ser. No. 349,524, Feb. 13, 1964. This application Feb. 2, 1966, Ser. No. 533,744
3 Claims. (Cl. 335—216)

A superconducting composition of matter consisting essentially of a solid solution of niobium diselenide with a chemical composition within the range of $Nb_{1.05}$ to $NbSe_{2.0}$, and having a transition temperature within the range of 2.4 to 7.0°K. And an isotropic superconducting composition of matter consisting essentially of a single hexagonal crystal of the above composition having more liberal current and magnetic field limitations when the current is passed therethrough in a direction parallel to the C-axis of the crystal.

3,406,363

MULTICOLORED MICROMAGNETS

Clarence R. Tate, 307 E. Court St., Fairfield, Ill. 62837

Filed May 26, 1966, Ser. No. 553,087
6 Claims. (Cl. 335—302)

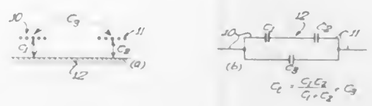
1. Magnetically orientable micromagnets having at least three separate and distinct surface color zones and a constant magnetization vector, said magnetization vector being insufficient in strength to cause among the micromagnets in close association a sufficient magnetic interaction to prevent selective orientation by an external activating magnetic force.

3,406,364

TOROID TRANSFORMER ELECTROSTATIC SHIELD

Robert H. Russell, Altadena, and Donald Boyko and John A. Gilbert, Pasadena, Calif., assignors to Electro-Optical Systems, Inc., Pasadena, Calif., a corporation of California

Filed Mar. 1, 1965, Ser. No. 436,123
8 Claims. (Cl. 336—69)



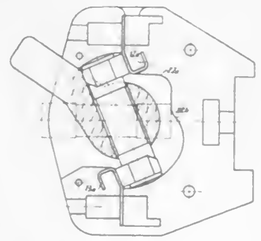
1. In a toroid transformer, the combination of:
a torodial bobbin of conductive material;
a ferromagnetic tape wrapped circumferentially about and insulated from said bobbin of conductive material;
insulation material wrapped upon said bobbin, leaving only a small space of said conductive material of said bobbin exposed;
an electrostatic shield plate inserted across the diameter of said bobbin, making electrical and mechanical contact with said conductive material of said toroidal bobbin only at said exposed small space, said shield being in a plane perpendicular to the plane of the circumference of said bobbin, said bobbin, said ferromagnetic tape, and said insulating material forming an insulated toroidal core with said shield inserted therein;
a primary winding wound on said core on one side of said shield; and a secondary winding wound on said core on the other side of said shield opposite said primary winding,
whereby, the interwinding capacitances between said primary winding and said secondary winding are a minimum and said shield thereby provides a maximum interwinding electrostatic shielding against electrostatically induced potentials between said windings to reduce interference and noise that may be otherwise generated in the use of said transformer.

3,406,365

ROTARY ELECTRIC SWITCHES WITH CARTRIDGE FUSES

Felix G. Lameyre, Rueil-Malmaison, France, assignor to La Telemecanique Electrique, Nanterre, France

Filed Dec. 2, 1966, Ser. No. 598,871
Claims priority, application France, Dec. 13, 1965, 41,937
9 Claims. (Cl. 337—211)



An electric switch formed of a hollow casing defining an inner cartridge chamber. A cartridge-carrying drum rotatable in the chamber between a circuit-making position and a circuit-breaking position. The drum has a tangential operating lever that extends out of the casing through a window, the length of which is such as to allow travel of the lever between the said two positions.

This window, in circuit-breaking position of the lever, is wide enough to allow escape of the cartridge but narrow enough to allow only passage of the lever in the circuit-making position.

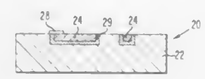
The drum has a diametral cavity for the reception of the cartridge and extends in the form of a channel along the operating lever.

3,406,366

ELECTRICAL TEMPERATURE SENSOR DEVICE

Richard Kontrimas, Poughkeepsie, Robert J. Krohl, Schenectady, and Edward S. Wajda, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

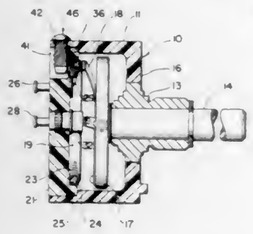
Filed Jan. 13, 1966, Ser. No. 521,487
8 Claims. (Cl. 338—25)



The electrical sensor has an elongated resistance element of monocrystalline semiconductor material including a P or N type impurity. The resistance element is inlaid in a base of rigid insulating material preferably

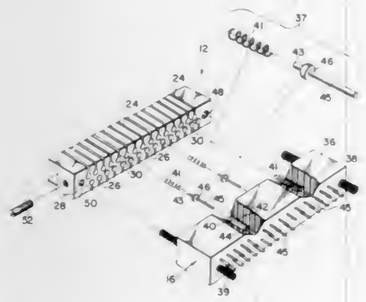
having a coefficient of expansion substantially matching the material of the resistance element. The resistance element is insulated by at least a layer of insulating material in intimate contact with the element.

3,406,367
HOUSING CONSTRUCTION FOR VARIABLE RESISTANCE DEVICE
William B. Maguire, Santa Ana, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Nov. 14, 1966, Ser. No. 594,204
5 Claims. (Cl. 338—184)



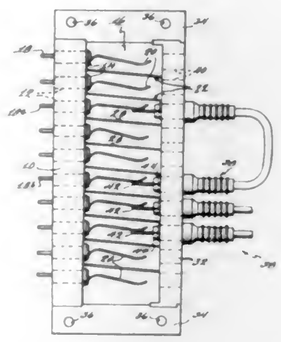
A fastening arrangement for holding a lid in the end of a housing of a variable resistance device including a hole through an outer side wall of the housing adjacent one end thereof. In the end of the housing there is positioned a cover lid having at least one slot formed in the outer surface of the lid and mating with the hole in the housing and a drive screw inserted through the hole and into the slot so that the threads of the drive screw "bite" into the botom surface of the slot to retain the lid in place.

3,406,368
INTERCONNECTION SYSTEM
Robert A. Curran, Framingham, Mass., assignor, by mesne assignments, to Solitron Devices, Incorporated, Tappan, N.Y., a corporation of New York
Filed May 16, 1966, Ser. No. 550,324
10 Claims. (Cl. 339—17)



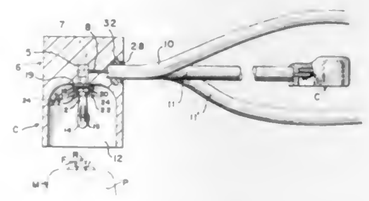
An "in line" interconnection system for interconnecting discrete integrated circuit formations mounted on modular supporting structures connecting uniquely formed and arranged conductor terminals on the modules to a motherboard. There is further provided a module connector for making a low resistance connection with conductor terminals on a module to enable the integrated circuit modules to be stacked "in line" at low cost and in a highly compact manner.

3,406,369
MODULAR SHIELDED PATCHCORD PROGRAMMING SYSTEM
John E. Taylor, Jr., 413 Pine Ave., Waynesboro, Va. 22980
Filed July 8, 1966, Ser. No. 563,852
24 Claims. (Cl. 339—18)



A patchcord programming system employing a pair of electrically conductive boards having spaced apertures in substantial alignment. The boards are separated by a partitioning grid which is also conductive. Contact members which are insulated from one another project through the apertures of one board to the interior of the grid. Patchcords are selectively positioned in the holes of the other board to make electrical connections with desired contacts. The grid provides a shielding function between electrical connections. The patchcords are coaxial and have shield caps which engage their associated board to establish an electrical connection therewith.

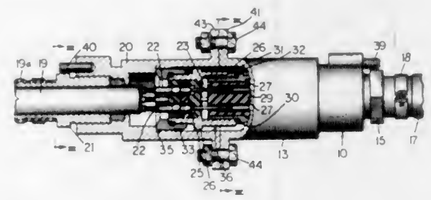
3,406,370
ELECTRICAL CONNECTOR
John William Gaw, Elizabethtown, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed June 21, 1966, Ser. No. 559,151
5 Claims. (Cl. 339—60)



The invention constitutes an electrical connector for connecting high voltage leads to a magnetron comprising contact pins with spring clips therearound for engaging associate contact receptacles and circumferential flanges, respectively, on the magnetron. The contact pins are mechanically and electrically secured to the high voltage lead wires, and the entire connector is encapsulated in a dielectric housing. The housing is substantially rigid; yet pliable so as to conform around a portion of a magnetron and effect a moisture-proof seal at the interface. A grommet defining sealing means and strain relief means is disposed in the housing where the leads extend therefrom. The connector is pushed onto a magnetron during which time the contact pins engage respective receptacles, the

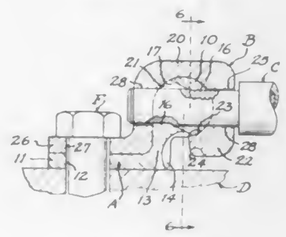
spring clips engage their associate circumferential ridges and the housing sealingly engages a portion of the magnetron.

3,406,371
CONNECTION BOX
Roger M. Buckeridge, Downers Grove, Ill., assignor to Westinghouse Air Brake Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 18, 1965, Ser. No. 497,079
1 Claim. (Cl. 339—92)



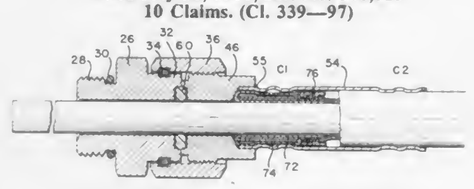
Connection box for motors operable in confined areas, such as the traction motors for shuttle cars. The connection box is fastened to the frame of the machine and provides a compact quick disconnection for removal of the motor or other electrical component served by the connection box. Two identical shell sections flanged at the adjacent ends of the shell sections and bolted together in explosion proof relation with respect to each other, form the connection box. One shell section contains a plug electrical connector carried in a casing extending beyond the shell section. The other shell section contains a receptacle electrical connector contained in a casing having guiding engagement with the casing of the plug connector, to register the plugs with the receptacles. Packing glands with hose connections seal the electrical cables to the outer ends of the shell sections.

3,406,372
NON-SHEARING WIRE-CLAMPING ELECTRICAL CONNECTOR
Robert E. Lawlor, Ridgecrest, Calif., assignor to Electro-Clamp Corporation, Beverly Hills, Calif., a corporation of California
Filed Dec. 1, 1966, Ser. No. 598,425
5 Claims. (Cl. 339—95)



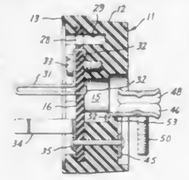
This invention provides an electrical connector of the type having relatively rotatable jaws adapted to clamp a conductor wire between them so as to provide a good electrical connection, and wherein shearing action of the jaws upon the wire is avoided. An excellent conductive connection is established by pressing broad faces of the jaws against the wire with only a very slight indenting action, but with heavy pressure applied over substantial areas to develop the excellent conductive connection. This is attained by providing a cylindrical internal jaw having an X-shaped throat flaring from minimum width at the center to maximum width at each end and defining jaw faces which, when moved into full clamping engagement with the wire, are substantially parallel to the axis thereof.

3,406,373
COAXIAL CONNECTOR ASSEMBLY
Edgar Wilmot Forney, Jr., Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Filed July 26, 1966, Ser. No. 568,013
10 Claims. (Cl. 339—97)



A connector assembly for coaxial cable having a thin sheet outer conductor is taught which features a threaded connector body having a crimpable ferrule permanently attached thereto in which is positioned a separate back-up sleeve inserted beneath the outer connector of a cable. The back-up sleeve includes a plurality of arms folded back to extend thereover. These arms include projections which are forced into the cable outer conductor when the ferrule attached to the body of the connector is crimped inwardly. The connector body includes an inner bore to receive the cable dielectric sheath inserted therethrough. The body of the connector includes two parts which are threadably intermated and the two parts include interior recesses housing a disk of sealing material which is deformed radially when the two parts are threaded together and caused to flow inwardly against the dielectric sheath of the cable and outwardly against the surfaces of the body parts to provide a sealed connection.

3,406,374
CORD CONNECTING PLUG
Robert L. Martin, Cranston, R.I., assignor to General Electric Company, a corporation of New York
Filed Nov. 26, 1965, Ser. No. 509,764
10 Claims. (Cl. 339—103)



A cord connecting plug and a method of forming is taught which emphasizes enclosing the portion of an insulated support of electrical contact elements with casing material. An integral fastener is formed at preforated edge portions by flow of casing resin through the perforation to link the casing and an overlaying rim of plastic.

3,406,375
MARKER LIGHT
Robert R. Rossi, Audubon, N.J., assignor to Arrow Safety Device Company, Mount Holly, N.J., a corporation of New Jersey
Filed July 14, 1967, Ser. No. 653,451
4 Claims. (Cl. 339—176)

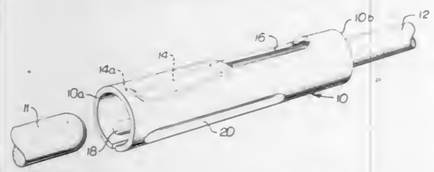
A molded plastic backing member is provided with a pair of integrally molded supporting members receiving conductive metal U-shaped clips for holding and delivering current to an incandescent bulb. Each supporting

member is provided with a post, and both posts support a plate, which is held in place by expanding the ends of the posts. The plate prevents the clips from spreading



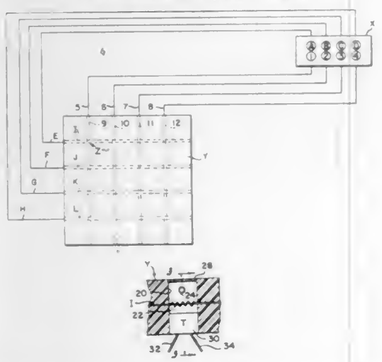
apart when the bulb is inserted and removed. Slots provided in the supporting members are engaged by ears on the clips to provide further support.

3,406,376
SOCKET CONTACT AND METHOD OF MANUFACTURE
Andre J. Varrin, Long Beach, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Sept. 26, 1966, Ser. No. 581,993
3 Claims. (Cl. 339—258)



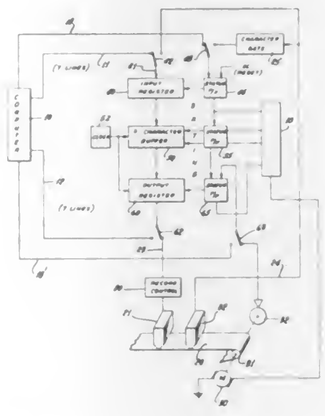
A socket contact for receiving a terminal pin. The contact is formed from a thin body of spring conductive material which is cut to provide an elongated tongue which is bent nearly 180° so that its free end extends close to but spaced from the body surface. The body is rolled into a tubular shape with the tongue extending generally parallel to the axis of the body. The tongue serves as a spring to furnish resilient positive contact when the terminal pin is inserted in the body.

3,406,377
ELECTRICAL CROSS-BAR SWITCH HAVING SENSING MEANS IN CLOSE PROXIMITY TO THE CROSS POINTS OF THE SWITCH
Bernard Edward Shlesinger, Jr., 906 Bruce Lane, Annandale 22003, and George A. Arkwright, 6 Chickawane Court, Alexandria, Va. 22309
Filed Feb. 2, 1965, Ser. No. 429,809
23 Claims. (Cl. 340—166)



A cross-bar switch having two transversely disposed sets of parallel spaced conductors that form a grid, where the cross points define a plurality of sensing zones. A current responsive radiative element for each conductor in a given sensing zone is disposed in close proximity to a sensitive element, which gives an output signal when current flows through both of the current responsive radiative elements in the corresponding zone.

3,406,378
DIGITAL DATA TRANSFER SYSTEM
Robert S. Bradford, Tarzana, Calif., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed July 14, 1965, Ser. No. 471,959
47 Claims. (Cl. 340—172.5)



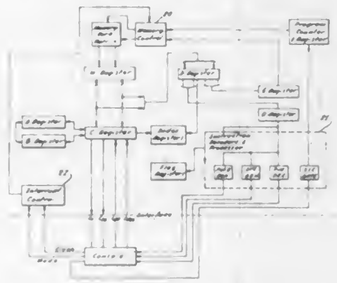
This invention relates to a system for controlling the transfer of data between a movable storage medium such as a magnetic tape and a data processing system on an asynchronous basis. The system includes a buffer for storing such data and means for providing for the passage of data into the buffer from a particular one of the movable storage medium and the data processing system at a rate dependent upon the passage of the data from the buffer to the other one of the movable storage medium and the data processing system. For example, the movable storage medium is moved at an increased rate past transducer means connected to the buffer to provide an increased transfer of data into the buffer when data is transferred from the buffer to the data processing system at an increased rate.

The invention also includes a number of features for facilitating and insuring the proper operation of the asynchronous system. For example, the data is often recorded in the form of characters separated by inter-record gaps. Means are provided for obtaining a movement of the medium through the inter-record gaps upon the completion of the transducing action upon the characters. Furthermore, the characters are recorded in a plurality of bits transverse to the direction of movement of the movable storage medium. Means are provided for offsetting any skew in the disposition of such transverse bits relative to the transducing means.

When characters are introduced into the buffer, they are transferred through the buffer from the input side to the output side at a rate faster than the transfer of characters into or out of the buffer. This facilitates an instantaneous transfer of the characters from the buffer. Furthermore, the transfer of characters from the buffer is controlled by the relative rate at which the characters are transferred into and out of the buffer.

When data characters are being transferred from the buffer to the data processing system, movement of the movable storage medium is stopped at such times as the buffer has become loaded to a relatively high level having a particular value. However, when data characters are being transferred from the data processing system to the buffer, movement of the movable storage medium is stopped at such times as the buffer has become emptied to a relatively low and predetermined level.

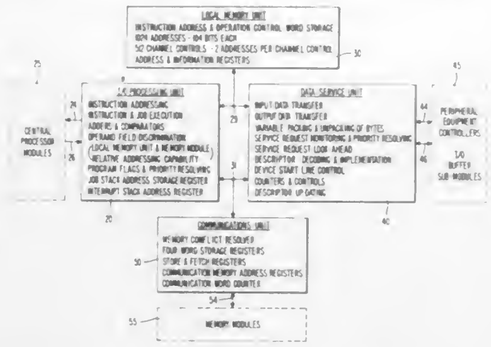
3,406,379
DIGITAL DATA PROCESSING SYSTEM
Max Palevsky and Leon Levine, Los Angeles, and Ralph T. Dames, Redondo Beach, Calif., assignors to Scientific Data Systems, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Aug. 16, 1965, Ser. No. 480,016
52 Claims. (Cl. 340—172.5)



The disclosure relates to a digital analog simulator using a general purpose digital computer for solving differential equations by providing the solution through successive iteration cycles. A console is provided with a number of switches to permit an operator to communicate with the computer during execution of a program. The communicator is described in detail as to both computer and console. By way of programmed assignment, groups of switches are associated with particular parameters of the differential equation to be solved and the state of these switches is interrogated during each iteration cycle. The independent variable of a differential equation is varied in steps, adjustable through the console. A particular clock is provided to provide interrupt pulses at a rate equal to the increment of the independent variable interpreted as time, so that the computer presents progressive values of the solution as real time progresses. A special set of switches permits variations in the functional relationship of the quantities involved in the differential equation to be solved. A special mode control section causes subdividing of the solution of the differential equation into several steps, separating in particular a mode for calculating initial conditions out of boundary values and from which iteration can then proceeed automatically or in individually controllable steps in two other modes. Another set of switches in the console is assignable to particular variables to control selective display of the value of that variable as the calculations progress.

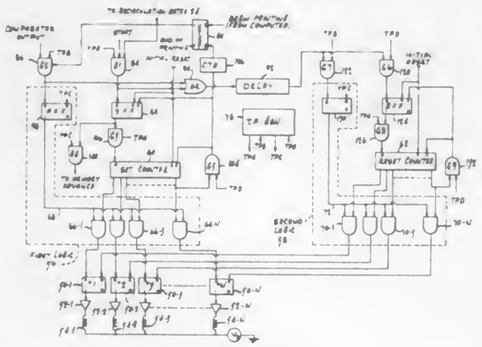
3,406,380
INPUT-OUTPUT DATA SERVICE COMPUTER
Richard E. Bradley, Wayne, Albert Sankin, King of Prussia, George H. Barnes, West Chester, Simon Peter Beauregard, Malvern, James L. Murtaugh, West Chester, Herbert L. Rosenblatt, Broomall, and Blair C. Thompson, King of Prussia, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Nov. 26, 1965, Ser. No. 509,909
20 Claims. (Cl. 340—172.5)

Input-output data service computing apparatus connected in an electronic data processing system including a central processor, a main memory and a plurality of input/output channels. The data service computing apparatus includes a local memory for storing input/output



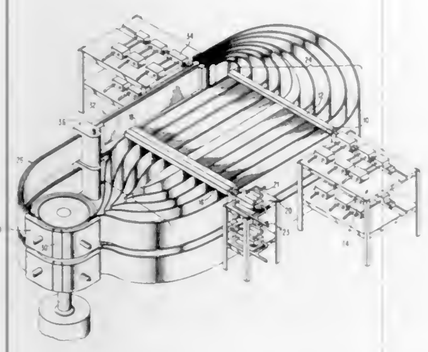
channel controls, a processing unit for constructing information transfer control words, and a data transfer control unit coupled to the input/output channels and to the system main memory.

3,406,381
PRINT HAMMER ENERGIZING ARRANGEMENT
Robert C. Peyton, North Palm Beach, Fla., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 9, 1966, Ser. No. 548,720
20 Claims. (Cl. 340—172.5)



1. The combination comprising:
first and second counter means each having an input and at least N different operating states representing N different counts;
N bistable circuits each related to a different one of the N counts and each having a set input and a reset input;
means for applying a first series of pulses at the input of the first counter means;
input signal means;
logic means responsive to an input signal and to the operating state of the first counter means for applying a signal at the set input of the related bistable circuit;
means for applying a second series of input pulses at the input of the second counter means, the first pulse of the second series commencing at a later time than the first pulse of the first series; and
means responsive to the operating state of the second counter means for applying a signal at the reset input of the related bistable circuit.

3,406,382
RANDOM ACCESS FILM STRIP STORAGE SYSTEM
Richard K. Wilmer, Yorktown Heights, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 27, 1964, Ser. No. 392,454
16 Claims. (Cl. 340—173)



A film strip storage system comprising multiple storage bins each having a plurality of chutes therein, each said chute being adapted to hold a single film strip in a substantially planar configuration. Means are provided for propelling a single strip from a chute under pneumatic pressure applied to the trailing edge of such strip. Constraining means are provided to direct said propelled strip to the surface of a rotating read drum, said drum having means for securely retaining said strip on the surface thereof. Additional means are provided for releasing leading edge of said strip from the drum, whereby said strip is propelled away from said drum into a constraining path and returned to its storage chute in said bin means. According to an additional aspect of the invention, means are provided by which a hydrodynamic air film is formed between the surface of the rapidly moving strip and the constraining path means. This means includes a tapered leading edge on the strip such that a wedge shaped segment of air is trapped between the leading edge of the strip and said constraining member as the strip is propelled forward. The wedge shaped segment of air is forced between the strip and the constraining member and forms a lubricating air cushion between the strip and the constraining member.

3,406,383
ANALOG KEYED PHASE TRANSMITTER AND SYSTEM
Maynard D. McFarlane, San Diego, Calif., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Aug. 21, 1964, Ser. No. 391,200
4 Claims. (Cl. 340—207)

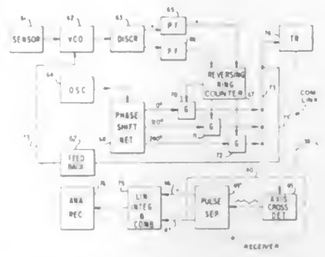
1. In an analog data transmitting system wherein a single frequency wave is phase modulated in steps to convey data bits, transmitter apparatus, comprising

means generating a fixed frequency carrier wave having a plurality of output phase differing by like steps of advancement or retardation,

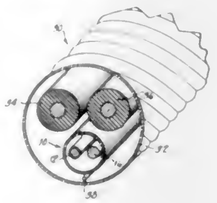
sensing means for producing a voltage output varying according to the magnitude and direction of deviations in analog data sensed,

Control signal generating means responsively connected to said sensing means for producing a number of successive positive or negative control pulses according to the magnitude and direction of a said deviation of data sensed, and

phase selecting means controlled by said pulses to select for successive transmission a number of phases successively advanced or retarded according to the number of successive positive or negative control signals generated.



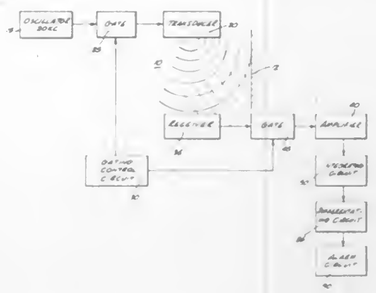
3,406,384
FIRE DETECTOR AND PREVENTER SYSTEM
Robert L. Hartman, Hollis, N.Y. (Apt. DD5, 1275 Rock Ave., North Plainfield, N.J. 07060), and Richard A. Hartman, 9130 193rd St., Hollis, N.Y. 11423
Filed Aug. 26, 1966, Ser. No. 575,311
7 Claims. (Cl. 340—227)



A sensor cable and a unitary cable structure for use in a fail-safe fire detector and preventer system according to which the sensor cable itself comprises a pair of spaced conductors, one of the conductors being a conventional insulated wire, the other being a soft, readily-meltable, uninsulated wire which is adapted to sever, responsive to a high temperature condition, out of contact with said conventional wire, and non-flammable insulation in the form of stiff tubing surrounding the pair of spaced conductors, the non-flammable insulation having the property that it does not melt before the melting of the soft wire. The system disclosed incorporates this sensor cable and further provides means responsive to the detection of a high temperature condition for interrupting the power supply to the associated power conductors, thereby to provide a safety feature in that the system operates to prevent the outbreak of a fire resulting from a deficiency in a power branch circuit associated with a detector circuit.

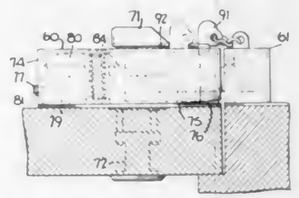
3,406,385
INTRUDER DETECTION SYSTEM
Lawrence S. Lerner, Santa Monica, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Aug. 16, 1965, Ser. No. 479,960
13 Claims. (Cl. 340—258)

A system for detecting the presence of intruders in an area under surveillance including a source of acoustic signals and a gated receiving network adapted to receive acoustic signals during a predetermined interval subsequent to the generation of said signals for the purpose of determining the ambient reverberation time of said area



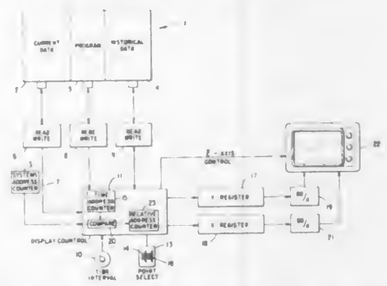
and for detecting deviations from said ambient reverberation time which are caused by the presence of intruders.

3,406,386
CHAIN LOCK ALARM
Paul Maddison Hawkins, Jericho, N.Y., assignor to General Alarm Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 4, 1965, Ser. No. 492,455
13 Claims. (Cl. 340—274)



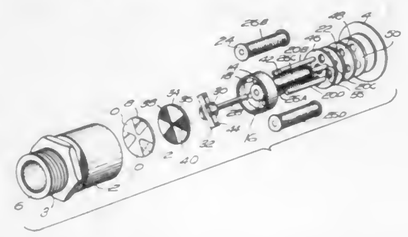
A chain lock-alarm arrangement wherein a flexible chain element utilized for limiting the amount by which a closure may be opened, is arranged in conjunction with an alarm in such a manner that excessive force produced upon the chain will cause the alarm to be actuated.

3,406,387
CHRONOLOGICAL TREND RECORDER WITH UPDATED MEMORY AND CRT DISPLAY
John V. Werme, Painesville, Ohio, assignor to Bailey Meter Company, a corporation of Delaware
Filed Jan. 25, 1965, Ser. No. 427,900
12 Claims. (Cl. 340—324)



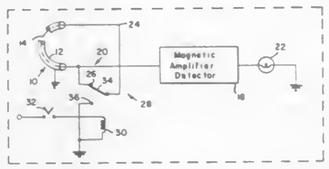
A data display system for displaying a chronological trend of one or more variables on a cathode ray tube oscilloscope. The data associated with each variable is transmitted chronologically from a data storage apparatus to the cathode ray tube where it is displayed as a series of dots. The magnitude of the data establishes the Y position of the data, whereas a series of position signals establishes the X position of each dot so as to maintain the oldest variable data at the left edge of the cathode ray tube and the latest variable data at the right edge of the cathode ray tube.

3,406,388
ELECTROMAGNETIC INDICATOR HAVING PERMANENT MAGNET MOUNTED ON ROTATING SHAFT
George E. Pihl, Abington, Mass., assignor to Miniature Electronic Components Corp., Holbrook, Mass., a corporation of Massachusetts
Filed Sept. 28, 1965, Ser. No. 490,905
8 Claims. (Cl. 340—373)



An electromagnetically operated indicator capable of binary indication. The device comprises a rotatable shaft carrying at one end a permanent bar magnet having salient poles, energizable electromagnetic means adapted to rotate the magnet in one direction, and additional electromagnetic means or rotatable mechanical means for rotating the magnet in the opposite direction. Each electromagnetic means includes a core which is magnetically permeable and also functions as a mechanical stop for the magnet. The binary indication is provided by indication means comprising a fixed window member having opaque and transparent portions and a member mounted for rotation with the magnet having indicia which is exposed or hidden by the window according to the position of the magnet.

3,406,389
FIRE WARNING SYSTEMS
James C. Nailen, Santa Ana, Calif., assignor, by mesne assignments, to Whittaker Corporation, Los Angeles, Calif., a corporation of California
Filed Aug. 23, 1965, Ser. No. 481,849
17 Claims. (Cl. 340—411)

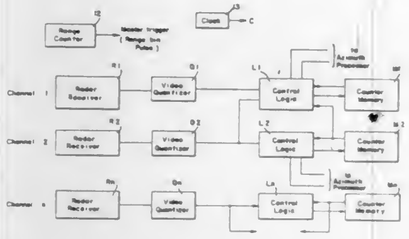


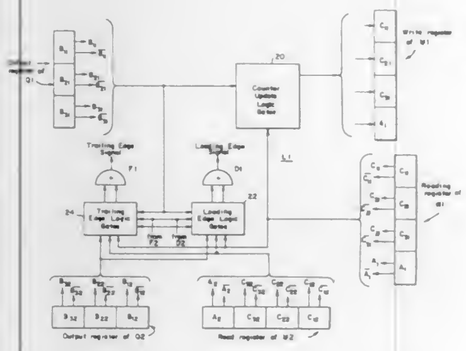
A fire warning system for use with heat sensors of the type wherein a heat sensitive salt insulates coaxial conductors under normal conditions and reduces in resistance when heated. The system discriminates between the relatively slow resistance decrease representing heat, and also the rapid resistance drop of short circuit producing faults in the salt, and actuates an appropriate alarm. If the system senses a short circuit, it applies a plurality of electrical pulses across the salt which, in most instances, will cure the fault and restore the heat sensor to an operational condition.

3,406,390
AUTOMATIC PROCESSOR FOR STACKED BEAM RADAR

Norol T. Evans, San Pedro, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed June 19, 1967, Ser. No. 646,866
20 Claims. (Cl. 343—5)





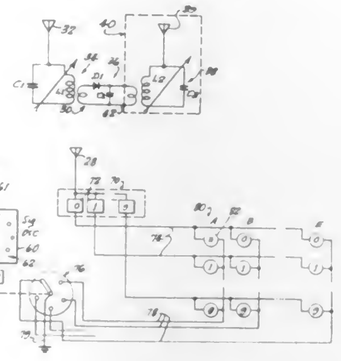
An automatic processor in a stacked beam radar receiving system, in which video returns are quantized into a multilevel code consisting of a plurality of bits. The video returns from each range bin interval, quantized into the multibit code are utilized to update the count in a multibit counter, associated with each range bin as a function of the code's numerical value or amplitude. The count in each channel, as well as the counts in adjacent channels are utilized to generate leading trailing edge signals, used for target azimuth detection.

3,406,391
VEHICLE IDENTIFICATION SYSTEM

Mihran Le Von, Jr., Box 341, Venice, Calif. 90291

Continuation-in-part of application Ser. No. 463,531, June 14, 1965. This application Feb. 13, 1967, Ser. No. 639,004
22 Claims. (Cl. 343—6.5)

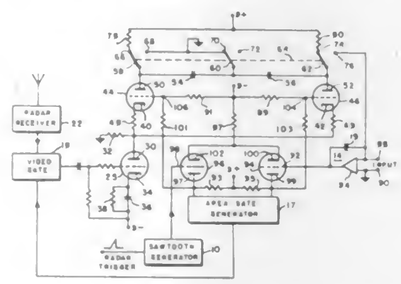
The described systems for identifying vehicles or other relatively movable stations transmit to such station interrogating electromagnetic radiation that comprises one or more carrier frequencies and at least one sideband of each carrier representing one or more signal frequencies. The interrogating radiation associated with each carrier is received at the station and is separately demodulated to obtain the signal frequencies. Certain of the signal frequencies are selected, typically by means of resonant circuits, in accordance with a predetermined code. The selected frequencies are directly radiated as an identification of the station. The identifying radiation thus comprises directly radiated signal frequencies that were supplied by carrier transmission from the interrogating station.



3,406,392
AUTOMATIC ERROR CORRECTING SYSTEM

Richard N. Close, Garden City, and Eugene W. Sard, Flushing, N.Y., assignors to the United States of America as represented by the Secretary of the Army

Filed Feb. 15, 1955, Ser. No. 488,734
8 Claims. (Cl. 343—7.3)

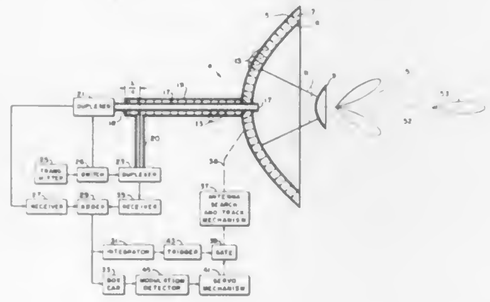


1. In a track-while-scan radar system, means for correcting the error between the actual position of selected target and the predicted target position indicated by a potential on a storage capacitor adapted to store the summation of all pulse echo returns from the selected target as the radar beam passes over the target, the value of the stored signal being substantially proportional to the coordinate distance of said target from a reference position, comprising means for converting the time of arrival of the echo return to a voltage signal having a value proportional to the coordinate distance from said reference position, a pair of discrete integrating circuits each including a capacitor, and each having a long time constant with respect to the time for the radar beam to pass over said target, means in circuit with each of said integrating circuits and responsive to the difference in the values of said voltage signal and said stored signal whereby the respective integrating circuit capacitors are charged to discrete potentials which are in the proportion determined by the relative values of said converted voltage signal and said stored signal, the difference in charge on the integrating circuit capacitors being determined by the sum total of the effect of all the pulse differences which have occurred as the radar beam passes over the selected target, and means for simultaneously disconnecting said integrating circuit capacitors from their respective integrating circuits and connecting said capacitors in circuit with said storage capacitor whereby the difference in charge between said capacitors flows into said storage capacitor in a direction to correct said storage capacitor potential such that the error between the actual target position and the predicted position is reduced.

3,406,393
DUAL ANTENNA

John J. Kulik, Belmar, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed Apr. 25, 1967, Ser. No. 634,796
5 Claims. (Cl. 343—7.4)

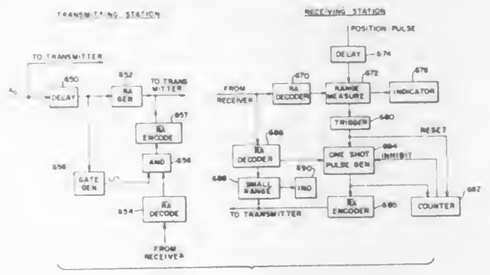


A dual antenna is described comprising a pair of spaced and nested paraboloids. The inner paraboloid is fed in normal fashion to form a pencil beam. The annular slot formed by the peripheries of the paraboloids is fed from the vertex area to form a split lobe pattern with a null on the focal axis of the paraboloids. A circuit of a search and track radar utilizing this dual antenna is shown.

3,406,394
SYNCHRONIZED COMMUNICATIONS SYSTEM

James F. Lyons, Mineola, N.Y., assignor to Control Data Corporation, Melville, N.Y., a corporation of Minnesota

Filed July 18, 1966, Ser. No. 565,924
22 Claims. (Cl. 343—7.5)

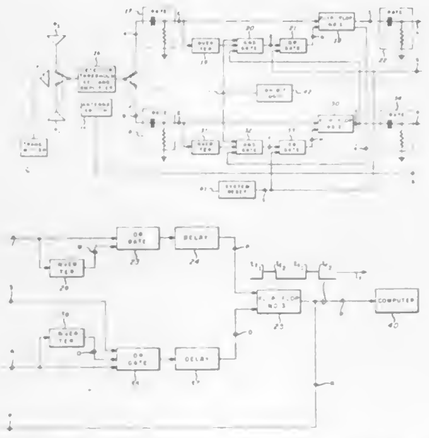


Improvements in synchronized communications systems in which range measurement accuracy is improved through the use of multiple rounds trips of a ranging signal; data transmission capability is provided between timing positions to transmit a high rate of data; and a signal used for range measuring purposes is transmitted at a predetermined time with respect to a synchronized timing position.

3,406,395
VEHICLE CHARACTERISTIC SENSING AND MEASURING APPARATUS FOR VEHICULAR TRAFFIC CONTROL

Joseph E. Zupanick, Westbury, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed Aug. 25, 1966, Ser. No. 575,160
7 Claims. (Cl. 343—8)

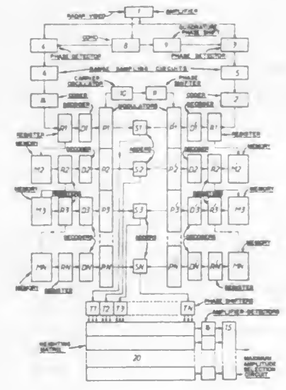


Vehicular sensing and measuring apparatus for determining the individual as well as average speed and length of vehicles and the volume and density of traffic. This is accomplished by measuring the time that it takes for the front and rear of vehicles to pass predetermined points. Computer circuitry processes the discrete time intervals thus generated to provide outputs indicative of the various desired traffic parameters.

3,406,396
COHERENT PULSE-DOPPLER RADARS

Henri Jean Bosc, Paris, and Marc Jules Theodore Schneider and Gerard Marie Edouard van den Broek d'Obrenan, Versailles, France, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

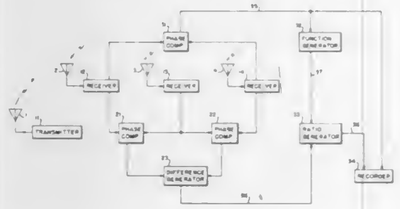
Filed Nov. 25, 1966, Ser. No. 596,936
7 Claims. (Cl. 343—9)



The disclosure is drawn to a pulse Doppler radar system which produces an accurate indication of target velocity by optimizing the ratio of the peak signal power to

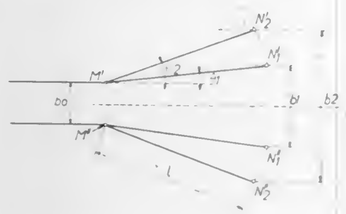
mean noise power according to the matched filter theory. Quadrature sine wave outputs of a coherent oscillator and phase shifter are fed to two respective phase detectors each of which has a received signal input. The output of each phase detector is converted into a binary code and stored in two successive chains of memories. The output of each memory is converted back to an analog, and the analog produced from the corresponding memory in each chain is fed to a balanced modulator. The outputs of corresponding modulator pairs are then added and fed to triphase shifters. The output of the triphase shifters is then passed through a weighting matrix and a bank of amplifier-detectors. The maximum output of the amplifier-detectors is then produced by a selection circuit.

3,406,397
SATELLITE ANGLE AND ALTITUDE MEASURING SYSTEM
Roger L. Easton, Washington, D.C., and Thomas B. McCaskill, Alexandria, Va., assignors to the United States of America as represented by the Secretary of the Navy
Filed July 21, 1967, Ser. No. 655,246
8 Claims. (Cl. 343—15)



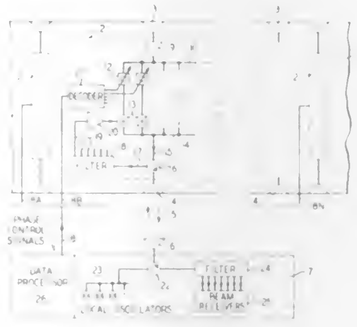
A radio interferometer system for determining from a single receiver site the angle and latitude of a satellite. A transmitted fan-shape beam forms a fence through which the satellite passes and echo signals are detected by pairs of receivers. The phase difference between the signals received at a receiver pair is directly related to the angle of arrival of the signals while the difference between the phase differences obtained from two pairs of receivers is related to both arrival angle and satellite altitude. Additional pairs of receivers are used to eliminate measurement ambiguities.

3,406,398
MULTIMODE PRIMARY FEED FOR MONOPULSE RADAR
Daniel Edmond Beguin, Saint Prix, France, assignor to International Standard Electric Corporation
Filed Aug. 1, 1966, Ser. No. 569,415
9 Claims. (Cl. 343—16)



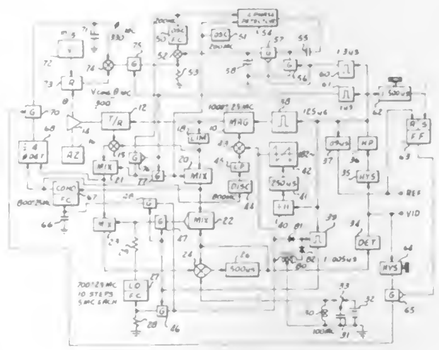
The metallic sides of a truncated pyramidal horn-type radar antenna are arranged so that the aperture is variable in both vertical and horizontal dimensions by pivotal displacement of opposed pairs of sides toward and away from one another while maintaining adjacent sides in direct physical connection over substantially their entire lengths.

3,406,399
MULTIBEAM FORMATION MEANS FOR ARRAY RADAR
Dietrich A. Alsberg, Berkeley Heights, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Dec. 2, 1966, Ser. No. 598,781
14 Claims. (Cl. 343—16)



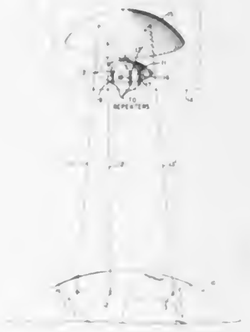
A beam forming means for a multibeam phased array radar receiver in which all high frequency couplings between the antenna and the rest of the radar system are accomplished by space feed techniques using frequency multiplexing principles.

3,406,400
HIGH RESOLUTION RADAR
Kenneth A. Ruttenberg, Norwalk, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 17, 1967, Ser. No. 639,199
18 Claims. (Cl. 343—17.1)



A radar system in which the transmitted frequency is successively changed from pulse to pulse includes a recirculating delay line having a period equal to the time interval between transmitted pulses. This permits the various frequencies to be added together or integrated, despite the fact that they are not transmitted simultaneously. Phase coherence between the various frequencies is preserved at a given instant during the various pulses. The composite pulse in the recirculating delay line will have a high amplitude at the instant of phase coherence and a low amplitude elsewhere. This recirculating pulse is amplitude-modulated. The various side bands for the modulated recirculating pulse are generated successively rather than simultaneously.

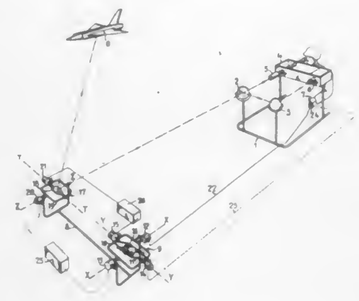
3,406,401
COMMUNICATION SATELLITE SYSTEM
Le Roy C. Tillotson, Holmdel, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Aug. 25, 1966, Ser. No. 575,006
8 Claims. (Cl. 343—100)



A synchronous satellite communication system for communicating simultaneously with a number of ground stations at points on the earth in which the satellite antenna comprises a concave spherical reflector with a plurality of feeds distributed at points on a focal surface beneath said reflector that correspond respectively to the image locations on this surface of each of said earth points. Each feed therefore communicates with one of the ground stations and is associated with one of a plurality of repeaters in the satellite.

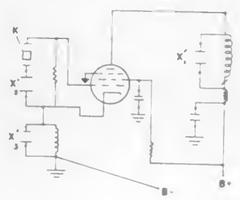
3,406,402
OPTICAL AIMING DEVICE
Emile Stauff, Versailles, and Jean-Paul Meyer, Paris, France, assignors to Nord-Aviation Societe Nationale de Constructions Aeronautiques, Paris, France, a French body corporate
Filed Oct. 28, 1963, Ser. No. 319,351
Claims priority, application France, Nov. 27, 1962, 916,697
6 Claims. (Cl. 343—225)

1. A telecontrol apparatus for guiding, toward a mobile target, a mobile object including means for correcting the direction thereof in response to radio control signals, said apparatus comprising: a fixed support adapted to be fixed on a movable platform such as a ship, an air-craft, a land vehicle; a sight having an optical axis defining a line of sight, said sight being rigidly fixed on said fixed support, a radiation detector operative to detect radiations selected from the group comprising infra-red rays, visible light rays, and ultra-violet rays, said detector having an optical axis and being rigidly fixed on said fixed support, said two axes being parallel; an orientatable support rotatably supported by said fixed support and having two degrees of freedom; a reflector fixed to said orientatable support and having its center positioned on said line of sight, and means whereby a light beam from the target and radiation from the mobile object can be made to substantially coincide at the reflector whereby said reflector can be oriented to constantly reflect, partly along the sight axis and partly along the detector axis the light beam from said movable target, and to reflect into the detector the radiations from said mobile object; said means comprising precessing gyroscope means operatively connected to said orientatable support to ensure stabilization thereof, torque-motors operatively connected to said gyroscope means



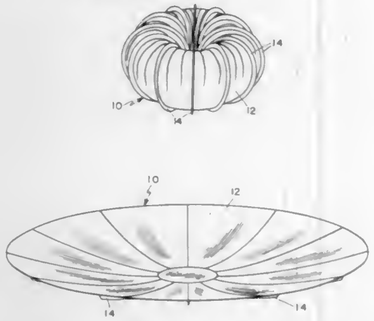
and hand-controlled electric means electrically connected to said torque-motors to control the precession of said gyroscope means and thereby the attitude of said reflector; said detector including means for detecting and measuring the deviations of the mobile object relative to the line of sight, and said apparatus further comprising a calculator connected to said detector for converting said deviations to analog correction signals, means for converting said analog signals to radio control signals, and means for transmitting said control signals to said mobile object.

3,406,403
VARIABLE FREQUENCY OSCILLATOR
Joseph Spiteri, 142 W. 26th St., Erie, Pa. 16508
Filed Nov. 27, 1964, Ser. No. 414,224
1 Claim. (Cl. 343—225)



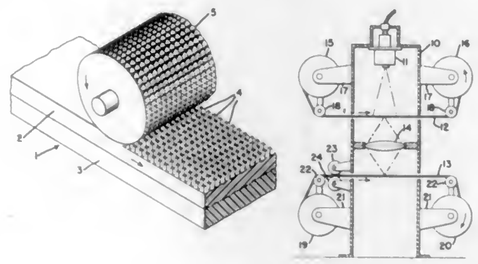
The invention disclosed herein is made up of a transmitter containing an oscillator which has its frequency controlled by a cardlike ticket. The frequency of the oscillator may be changed to other frequencies by cardlike tickets. The oscillator is used in combination with two or more receivers that are likewise tuned by means of the cardlike tickets containing a condenser. This makes it possible to immediately and precisely tune the transmitter to the particular receiver desired and vice-versa. This invention has particular utility in the improvements listed below.

3,406,404
FURLABLE AND UNFURLABLE MEMBER
Albert C. Maier, Lakeside, Calif., assignor to The Ryan Aeronautical Co., San Diego, Calif.
Filed Oct. 16, 1964, Ser. No. 404,278
8 Claims. (Cl. 343—915)



A large radiant energy reflector of flexible material comprising a surface of revolution, is made to open and close by means of jointed radial ribs, which are collectively operated to roll inwardly and furl the reflector into a toroid form, or to unroll and extend the reflector outwardly with an unfurling action into its functional configuration.

3,406,405
THERMAL MODULATION THERMOPLASTIC RECORDING
Lewis E. Somers, Baldwinsville, N.Y., assignor to General Electric Company, a corporation of New York
Filed July 6, 1961, Ser. No. 122,223
17 Claims. (Cl. 346—1)

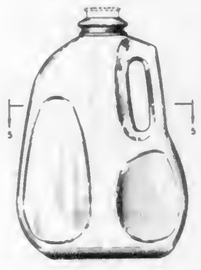


1. A method of recording information on a thermally softenable member comprising the steps of: uniformly pre-stressing spatially distributed portions of said member so that the surface of said member will deform when softened and applying thermal energy modulated by said information to the pre-stressed member for selectively softening said member whereby said surface is deformed in accordance with said information.

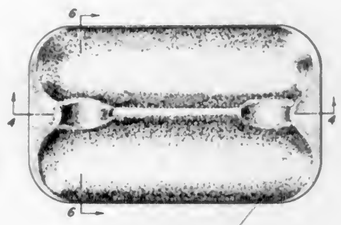
DESIGNS

OCTOBER 15, 1968

212,410
JUG
Richard L. Platte, Ann Arbor, Mich., assignor to Hoover Ball and Bearing Company, Saline, Mich., a corporation of Michigan
Filed Dec. 18, 1967, Ser. No. 9,837
Term of patent 14 years
(Cl. D9—39)



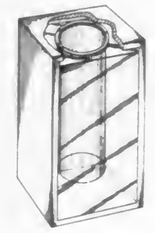
212,411
MOLDED FRUIT TRAY
Ronald A. Schelmetic, Fairfield, Conn., assignor to Diamond International Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 18, 1968, Ser. No. 11,003
Term of patent 14 years
(Cl. D9—187)



212,412
COLLAPSIBLE TUBE
Patrick G. Hanlon, 1016 S. Coy, Kansas City, Kans. 66101
Filed July 17, 1967, Ser. No. 7,835
Term of patent 14 years
(Cl. D9—194)



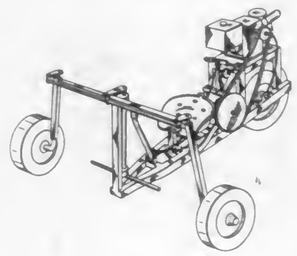
212,413
JAR-TYPE CONTAINER
Jean Pierre Lacoste, Montreal, Quebec, Canada, assignor to Girard, Bruce, Garabedian Et Associes Ltee, Montreal, Canada
Filed Dec. 30, 1966, Ser. No. 5,229
Term of patent 14 years
(Cl. D9—223)



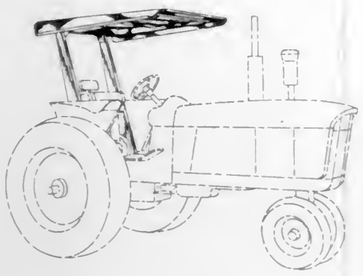
212,414
DISPENSER CAP FOR A PRESSURIZED CAN
Robert Podall, Highland Park, Ill., assignor to The Drackett Company, Cincinnati, Ohio, a corporation of Delaware
Filed Dec. 29, 1967, Ser. No. 9,985
Term of patent 14 years
(Cl. D9—258)



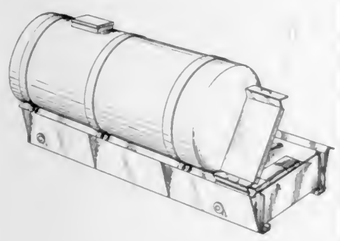
212,415
THREE-WHEELED TRACTOR
George Siems, Fairmont, Minn. 56031
Filed Nov. 10, 1966, Ser. No. 4,613
Term of patent 14 years
(Cl. D14—3)



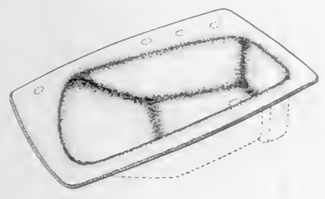
212,416
TRACTOR CANOPY
William F. H. Purcell, Pasadena, Calif., assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Jan. 9, 1967, Ser. No. 5,353
Term of patent 14 years
(Cl. D14—27)



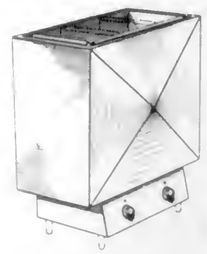
212,417
COMBINED FERTILIZER TANK AND MOUNTING
William N. Glover, Jr., Wilson, N.C., assignor to General Metals, Inc., Greensboro, N.C., a corporation of North Carolina
Filed June 12, 1967, Ser. No. 7,451
Term of patent 14 years
(Cl. D23—3)



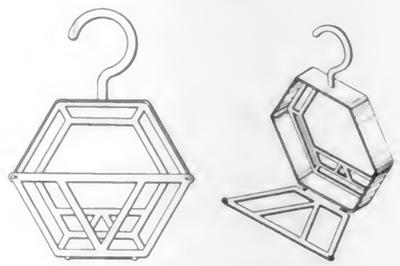
212,418
LAVATORY
Donald W. Doman, Janesville, Wis., assignor to Kohler Co., Kohler, Wis., a corporation of Wisconsin
Filed Feb. 23, 1968, Ser. No. 10,702
Term of patent 14 years
(Cl. D23—58)



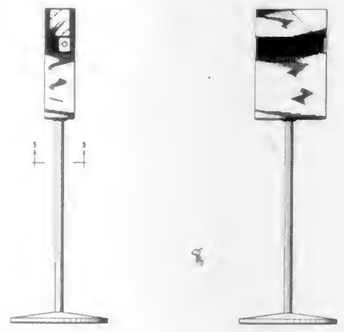
212,419
SAUNA HEATING UNIT
Sakari Kujansuu, 1408 Kingston Road, Scarborough, Ontario, Canada
Filed June 19, 1967, Ser. No. 7,521
Claims priority, application Canada June 13, 1967
Term of patent 7 years
(Cl. D23—84)



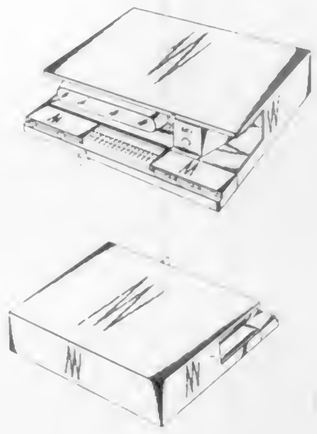
212,420
HOLDER FOR EVAPORATIVE BLOCKS
Norman E. Wilson, University City, Mo., assignor to The Puro Co., Inc., St. Louis, Mo., a corporation of Missouri
Filed Jan. 11, 1968, Ser. No. 10,131
Term of patent 14 years
(Cl. D23—150)



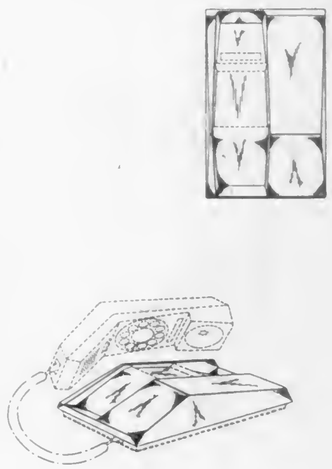
212,421
TELEVISION TELEPHONE
Paul Hans Thiess, 16 Luxemburgerstrasse, 8 Munich 23, Germany
Filed Sept. 12, 1967, Ser. No. 8,571
Claims priority, application Germany Mar. 16, 1967
Term of patent 14 years
(Cl. D26—14)



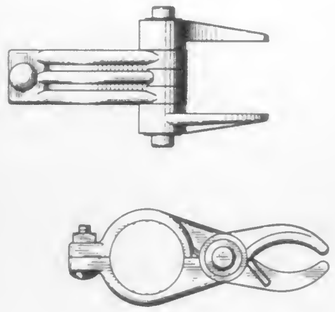
212,422
TRANSCRIBER OR THE LIKE
Eliot F. Noyes, New Canaan, Conn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 7, 1967, Ser. No. 9,677
Term of patent 14 years
(Cl. D26—14)



212,423
BASE FOR TELEPHONE INSTRUMENT
John F. Tyson, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Continuation of design application Ser. No. 4,864, Nov. 30, 1966. This application Dec. 4, 1967, Ser. No. 10,151
Term of patent 14 years
(Cl. D26—14)



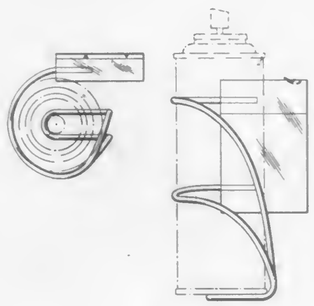
212,424
GATE CLOSER
William A. Jackson, Jr., Harrison, Ark., assignor to Southern Precision Industries, Inc., Harrison, Ark., a corporation of Arkansas
Filed Mar. 7, 1968, Ser. No. 10,889
Term of patent 14 years
(Cl. D28—1)



212,425
ROTATABLE MISSAL STAND
Joseph J. Gildea, The Monastery, Villanova, Pa. 19085
Filed Oct. 2, 1967, Ser. No. 8,822
Term of patent 14 years
(Cl. D33—3)



212,426
BATHROOM HOLDER FOR A SPRAY CAN OR THE LIKE
Victor E. Lane, 2424 Kings Highway, Brooklyn, N.Y. 11229
Filed Aug. 25, 1967, Ser. No. 8,392
Term of patent 14 years
(Cl. D33—21)



212,427
TOOTHPASTE DISPENSER
Budak Korol, 462 Castlefield Ave., Toronto, Ontario, Canada, and Frederick Slavner, 535 Shepherd Ave. W., Downsview, Ontario, Canada, and Cleo Ralph Johnson, Agincourt, Ontario, Canada; said Johnson assignor to said Korol and said Slavner
Filed Sept. 11, 1967, Ser. No. 8,550
Term of patent 14 years
(Cl. D33—30)



212,428
DOLL
Reuben B. Klamer, 245 S. Barrington, Los Angeles, Calif. 90049
Filed Apr. 14, 1967, Ser. No. 6,691
Term of patent 14 years
(Cl. D34—4)



212,429
DOLL
Reuben B. Klamer, 245 S. Barrington, Los Angeles, Calif. 90049
Filed Apr. 14, 1967, Ser. No. 6,687
Term of patent 14 years
(Cl. D34—4)



212,430
DOLL
Reuben B. Klamer, 245 S. Barrington, Los Angeles, Calif. 90049
Filed Apr. 14, 1967, Ser. No. 6,686
Term of patent 14 years
(Cl. D34—4)



212,431
DOLL
Reuben B. Klamer, 245 S. Barrington, Los Angeles, Calif. 90049
Filed Apr. 14, 1967, Ser. No. 6,693
Term of patent 14 years
(Cl. D34—4)



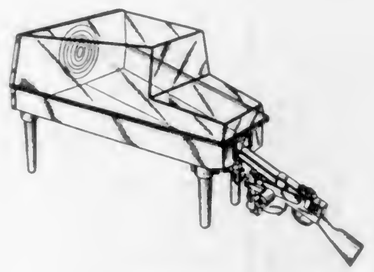
212,432
DOLL
Reuben B. Klamer, 245 S. Barrington, Los Angeles, Calif. 90049
Filed Apr. 14, 1967, Ser. No. 6,684
Term of patent 14 years
(Cl. D34—4)



212,433
DOLL
Reuben B. Klamer, 245 S. Barrington, Los Angeles, Calif. 90049
Filed Apr. 14, 1967, Ser. No. 6,683
Term of patent 14 years
(Cl. D34—4)



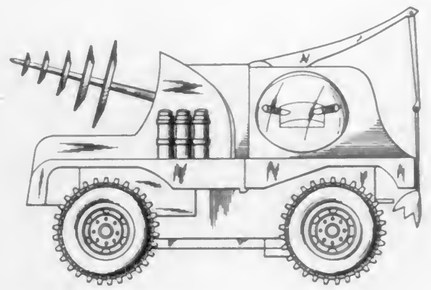
212,434
SHOOTING GALLERY GAME CABINET
Laurie J. Campbell, Erie, Pa., assignor to Louis Marx & Co., Inc., New York, N.Y., a corporation of New York
Filed Sept. 11, 1967, Ser. No. 8,540
Term of patent 14 years
(Cl. D34—5)



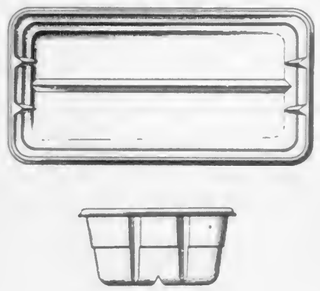
212,435
GAME PADDLE
Perry J. Grant, 727 Ocampo Drive, Pacific Palisades, Calif. 90272
Filed Jan. 26, 1968, Ser. No. 10,330
Term of patent 14 years
(Cl. D34—5)



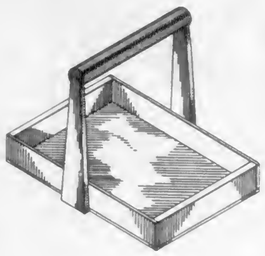
212,436
TOY VEHICLE
Frank Fusco, Monroe, Norman Charles Gold, New York, and William Gold, Great Neck, N.Y., assignors to Louis Marx & Co., Inc., New York, N.Y., a corporation of New York
Filed Dec. 28, 1967, Ser. No. 9,970
Term of patent 14 years
(Cl. D34—15)



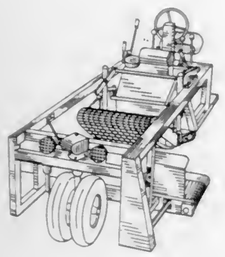
212,437
NURSERY TRAY
Ted L. Paxton, P.O. Box 2006, Magnolia Center Station, Riverside, Calif. 92506
Filed Jan. 29, 1968, Ser. No. 10,351
Term of patent 14 years
(Cl. D35—3)

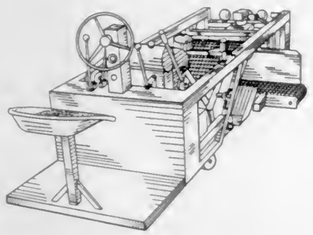


212,438
GARDEN TRAY
Mary Fujita, 74 White St., Watsonville, Calif. 95076
Filed Apr. 8, 1968, Ser. No. 11,364
Term of patent 14 years
(Cl. D35—3)

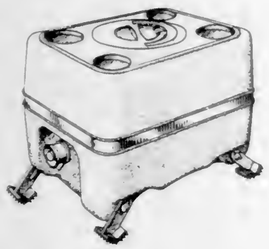


212,439
SOD ROLLING MACHINE
Robert C. Daymon, 7450 Weller Road, Gregory, Mich. 48137
Filed Apr. 21, 1967, Ser. No. 6,781
Term of patent 14 years
(Cl. D40—1)

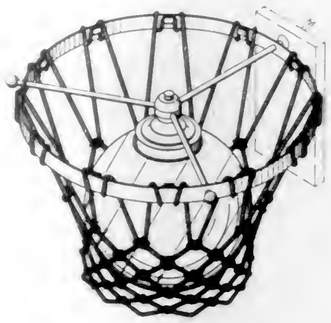




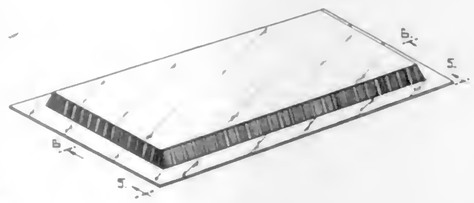
212,440
INSULATED PORTABLE CHEST
John P. Cannon, Shawnee Mission, Kans., and Roy C. Degenfelder, Independence, Mo., assignors to Plattner Industries, Inc., Kansas City, Mo., a corporation of Missouri
Continuation-in-part of design application Ser. No. 5,800, Feb. 13, 1967. This application Sept. 29, 1967, Ser. No. 8,791
Term of patent 14 years
(Cl. D44—1)



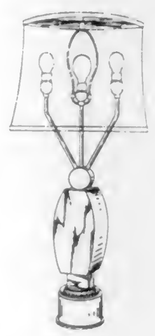
212,441
LAMP FIXTURE
Paul Espinosa, 12560 Dunlap Blvd., Yucaipa, Calif. 92399
Filed Dec. 26, 1967, Ser. No. 9,931
Term of patent 14 years
(Cl. D48—4)



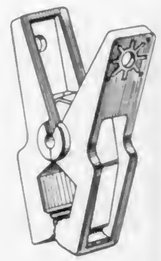
212,442
LUMINAIRE LENS
Clarence Christian Keller, Jr., Palisades Park, N.J., assignor to Holophane Company, Inc., New York, N.Y., a corporation of Delaware
Filed July 14, 1967, Ser. No. 7,805
Term of patent 14 years
(Cl. D48—16)



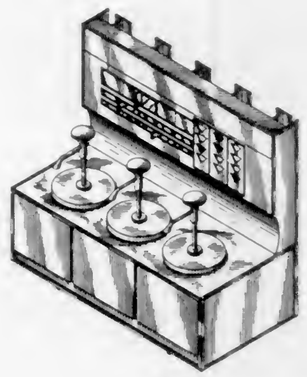
212,443
TABLE LAMP BASE
Thomas F. Roche, 21 W. Main St., Merrimac, Mass. 01860
Filed Apr. 18, 1968, Ser. No. 11,502
Term of patent 14 years
(Cl. D48—20)



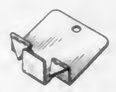
212,444
CLAMP FOR CLOTHES HANGERS, DISPLAY BOARDS, OR SIMILAR APPLICATIONS
Herb Coon, New York, N.Y., assignor to Hercules Clip Corporation, New Hyde Park, N.Y., a corporation of New York
Filed Sept. 13, 1967, Ser. No. 8,585
Term of patent 14 years
(Cl. D49—1)



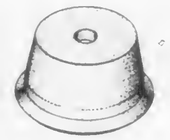
212,445
COMBINED HAIR CONDITIONER SELECTOR AND DISPENSER
David Anthony, Norwell, Mass., and Robert Crane, Monsey, N.Y., assignors to Clairol Incorporated, New York, N.Y., a corporation of Delaware
Filed Oct. 6, 1967, Ser. No. 8,898
Term of patent 14 years
(Cl. D52—2)



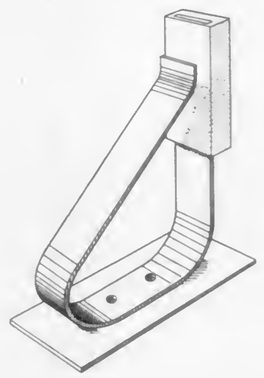
212,446
CLIP FOR FORM SLEEVES
William P. McCarthy, Kansas City, Mo., assignor to Ridgewood Instrument Company, Kansas City, Mo., a corporation of Missouri
Filed Jan. 10, 1968, Ser. No. 10,115
Term of patent 14 years
(Cl. D54—1)



212,447
MATERIAL HANDLING VACUUM CUP
Louis D. Kaser, Upland, and Paul F. Paddock, Riverside, Calif., assignors to Sunkist Growers, Inc., Los Angeles, Calif., a corporation of California
Filed July 3, 1967, Ser. No. 7,669
Term of patent 14 years
(Cl. D54—13)



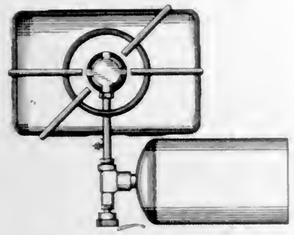
212,448
CAR BUFFER
Arthur Robert David Tosler, 7 Inglewood Ave., Bradmore, Wolverhampton, England
Filed Dec. 26, 1967, Ser. No. 9,913
Term of patent 14 years
Claims priority, application Great Britain June 30, 1967
(Cl. D66—2)



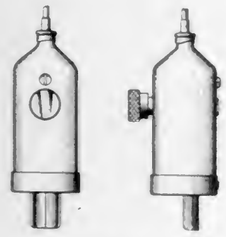
212,449
AIRCRAFT
Lawrence Bernard Rellis, 734 NW. 80th St., Apt. 16, Miami, Fla. 33150
Filed Jan. 10, 1968, Ser. No. 10,109
Term of patent 14 years
(Cl. D71—1)



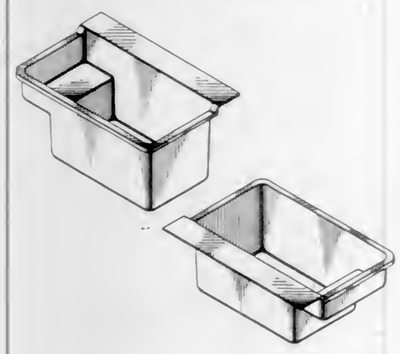
212,450
CAMP STOVE
Donn C. Hendee, 1773 Roslyn St., Denver, Colo. 80222
Filed Aug. 24, 1967, Ser. No. 8,376
Term of patent 14 years
(Cl. D81—10)



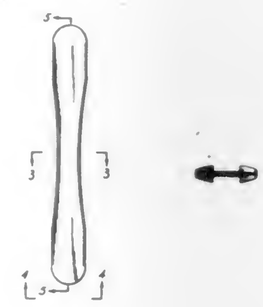
212,451
BODY FUNCTION SENSOR HOUSING
Clyde L. Tichenor, 8503 Hayrenhurst Ave., Sepulveda, Calif. 91342, and Carl A. Budde, 8427 Balboa Blvd., Northridge, Calif. 91324
Filed Apr. 14, 1967, Ser. No. 6,711
Term of patent 14 years
(Cl. D83—1)



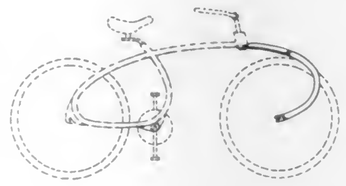
212,452
HYDROTHERAPY TUB FOR USE IN SWIMMING POOLS
Harry M. De Vane, 1549 Pine St., Oxnard, Calif. 93030
Filed Mar. 28, 1968, Ser. No. 11,171
Term of patent 14 years
(Cl. D83—1)



212,453
TONGUE DEPRESSOR
Clarence Wallace, 1435 Irving Ave., Glendale, Calif. 91201
Filed Sept. 25, 1967, Ser. No. 8,728
Term of patent 14 years
(Cl. D83—12)



212,454
FRONT FORK FOR A BICYCLE
Charles F. Voytech, 208 S. La Salle St., Chicago, Ill. 60604
Filed Apr. 12, 1967, Ser. No. 6,659
Term of patent 14 years
(Cl. D90—9)



LIST OF PLANT PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 15TH DAY OF OCTOBER, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Bountiful Ridge Nurseries : *See*—
Curcio, Anthony C. 2,839.

Curcio, Anthony C., and N. C., to E. H. and H. S. Kemp, co-partners, trading as Bountiful Ridge Nurseries. Nectarine tree. 2,839, 10–15–68, Cl. 41.

Curcio, Nunzio C. : *See*—
Curcio, Anthony C., and N. C. 2,839.

Kemp, Edgar H. : *See*—
Curcio, Anthony C., and N. C. 2,839.

Kemp, Homer S. : *See*—
Curcio, Anthony C. 2,839.

LIST OF DESIGN PATENTEES

Anthony, David, and R. Crane, to Clairol Inc. Combined hair conditioner selector and dispenser. 212,445, 10–15–68, Cl. D52—2.

Budde, Carl A. : *See*—
Tichenor, Clyde L., and Budde. 212,451.

Campbell, Laurie J., to Louis Marx & Co., Inc. Shooting gallery game cabinet. 212,434, 10–15–68, Cl. D34—5.

Cannon, John P., and R. C. Degenfelder, to Plattner Industries, Inc. Insulated portable chest. 212,440, 10–15–68, Cl. D44—1.

Clairol Inc. : *See*—
Anthony, David, and Crane. 212,445.

Coon, Herb, to Hercules Clip Corp. Clamp for clothes hangers, display boards, or similar applications. 212,444, 10–15–68, Cl. D49—1.

Crane, Robert : *See*—
Anthony, David, and Crane. 212,445.

Daymon, Robert C. Sod rolling machine. 212,439, 10–15–68, Cl. D40—1.

Deere & Co. : *See*—
Purcell, William F. H. 212,416.

Degenfelder, Roy C. : *See*—
Cannon, John P., and Degenfelder. 212,440.

De Vane, Harry M. Hyrotherapy tub for use in swimming pools. 212,452, 10–15–68, Cl. D83—1.

Diamond International Corp. : *See*—
Schelmetic, Ronald A. 212,411.

Doman, Donald W., to Kohler Co. Lavatory. 212,418, 10–15–68, Cl. D23—58.

Drackett Co. : *See*—
Podall, Robert. 212,414.

Espinosa, Paul. Lamp fixture. 212,441, 10–15–68, Cl. D48—4.

Fujita, Mary. Garden tray. 212,438, 10–15–68, Cl. D35—3.

Fusco, Frank, and N. C. and W. Gold, to Louis Marx & Co., Inc. Toy vehicle. 212,436, 10–15–68, Cl. D34—15.

General Metals, Inc. : *See*—
Glover, William N., Jr. 212,417.

Gildea, Joseph J. Rotatable missal stand. 212,425, 10–15–68, Cl. D33—3.

Girard, Bruce, Garabedian et Associes, Ltee. : *See*—
Lacoste, Jean P. 212,413.

Glover, William N., Jr., to General Metals, Inc. Combined fertilizer tank and mounting. 212,417, 10–15–68, Cl. D23—3.

Gold, Norman C. : *See*—
Fusco, Frank, and N. C. and W. Gold. 212,436.

Gold, William : *See*—
Fusco, Frank, and N. C. and W. Gold. 212,436.

Grant, Perry J. Game paddle. 212,435, 10–15–68, Cl. D34—5.

Hanlon, Patrick G. Collapsible tube. 212,412, 10–15–68, Cl. D9—194.

Hendee, Donn C. Camp stove. 212,450, 10–15–68, Cl. D81—10.

Hercules Clip Corp. : *See*—
Coon. Herb. 212,444.

Holophane Co., Inc. : *See*—
Keller, Clarence C., Jr. 212,442.

Hoover Ball and Bearing Co. : *See*—
Platte, Richard L. 212,410.

International Business Machines Corp. : *See*—
Noyes, Eliot F. 212,422.

Jackson, William A., Jr., to Southern Precision Industries, Inc. Gate closer. 212,424, 10–15–68, Cl. D28—1.

Johnson, Cleo R : *See*—
Korol, Budak, Slavner, and Johnson. 212,427.

Kaser, Louis D., and P. F. Paddock, to Sunkist Growers, Inc. Material handling vacuum cup. 212,447, 10–15–68, Cl. D54—13.

Keller, Clarence C., Jr., to Holophane Co., Inc. Luminaire lens. 212,442, 10–15–68, Cl. D48—16.

Klamer, Reuben B. Doll. 212,428, 10–15–68, Cl. D34—4.

Klamer, Reuben B. Doll. 212,429, 10–15–68, Cl. D34—4.

Klamer, Reuben B. Doll. 212,430, 10–15–68, Cl. D34—4.

Klamer, Reuben B. Doll. 212,431, 10–15–68, Cl. D34—4.

Klamer, Reuben B. Doll. 212,432, 10–15–68, Cl. D34—4.

Klamer, Reuben B. Doll. 212,433, 10–15–68, Cl. D34—4.

Kohler Co. : *See*—
Doman, Donald W. 212,418.

Korol, B., F. Slavner, and C. R. Johnson, said Johnson, assor to said Koral and Slavner. Toothpaste dispenser. 212,427, 10–15–68, Cl. D33—30.

Kujansuu, Sakari. Sauna heating unit. 212,419, 10–15–68, Cl. D23—84.

Lacoste, Jean P., to Girard, Bruce, Garabedian et Associes, Ltee. Jar-type container. 212,413, 10–15–68, Cl. D9—223.

Lane, Victor E. Bathroom holder for a spray can or the like. 212,426, 10–15–68, Cl. D33—21.

Marx, Louis, & Co., Inc. : *See*—
Campbell, Laurie J. 212,434.
Fusco, Frank, and N. C. and W. Gold. 212,436.

McCarthy, William P., to Ridgewood Instrument Co. Clip for form sleeves. 212,446, 10–15–68, Cl. D54—1.

Northern Electric Co, Ltd. : *See*—
Tyson, John F. 212,423.

Noyes, Eliot F., to International Business Machines Corp. Transcriber or the like. 212,422, 10–15–68, Cl. D26—14.

Paddock, Paul F. : *See*—
Kaser, Louis D., and Paddock. 212,447.

Paxton, Ted L. Nursery tray. 212,437, 10–15–68, Cl. D35—3.

Platte, Richard L., to Hoover Ball and Bearing Co. Jug. 212,410, 10–15–68, Cl. D9—39.

Plattner Industries, Inc. : *See*—
Cannon, John P., and Degenfelder. 212,440.

Podall, Robert, to Drackett Co. Dispenser cap for a pressurized can. 212,414, 10–15–68, Cl. D9—238.

Purcell, William F. H., to Deere & Co. Tractor canopy. 212,416, 10–15–68, Cl. D14—27.

Puro Co., Inc., The : *See*—
Wilson, Norman E. 212,420.

Rellis, Lawrence B. Aircraft. 212,449, 10–15–68, Cl. D71—1.

Ridgewood Instrument Co. : *See*—
McCarthy, William P. 212,446.

Roche, Thomas F. Table lamp base. 212,443, 10–15–68, Cl. D48—20.

Schelmetic, Ronald A., to Diamond International Corp. Molded fruit tray. 212,411, 10–15–68, Cl. D9—187.

Siems, George. Three-wheeled tractor. 212,415, 10–15–68, Cl. D14—3.

Slavner, Frederick : *See*—
Korol, Budak, Slavner, and Johnson. 212,427.

Southern Precision Industries, Inc. : *See*—
Jackson, William A., Jr. 212,424.

Sunkist Growers, Inc. : *See*—
Kaser, Louis D., and Paddock. 212,447.

Thiess, Paul H. Television telephone. 212,421, 10–15–68, Cl. D26—14.

Tichenor, Clyde L., and C. A. Budde, Body function sensor housing. 212,451, 10–15–68, Cl. D83—1.

Tosler, Arthur R. D. Car buffer. 212,448, 10–15–68, Cl. D66—2.

Tyson, John F., to Northern Electric Co. Ltd. Base for telephone instrument. 212,423, 10–15–68, Cl. D26—14.

Voytech, Charles F. Front fork for a bicycle. 212,454, 10–15–68, Cl. D90—9.

Wallace, Clarence. Tongue depressor. 212,453, 10–15–68, Cl. D83—12.

Wilson, Norman E., to The Puro Co., Inc. Holder for evaporative blocks. 212,420, 10–15–68, Cl. D23—150.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 15TH DAY OF OCTOBER, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

AB Bahco: *See*—
Axelsson, Sten S., and Svensson. 3,405,703.

AMP Inc.: *See*—
Forney, Edgar W., Jr. 3,406,373.
Gaw, John W. 3,406,370.
Parsons, Stuart L. 3,406,247.

Action Packaging Corp.: *See*—
Kugler, Robert J. 3,405,863.

Adage, Inc.: *See*—
Lucas, Paul G. 3,406,297.

Adams, Frederick J., to Cam Gears (Luton) Ltd. Power steering and like systems. 3,405,523, 10–15–68, Cl. 60—52.

Adams, Frederick J., to Cam Gears (Luton) Ltd. Spool valve with adjustable spring loading. 3,405,735, 10–15–68, Cl. 137—625.69.

Addressograph-Multigraph Corp.: *See*—
Maul, John A., Zofchak, and Anderson. 3,405,634.
Schmidlin, Raymond J. 3,405,636.

Aero-Flow Dynamics, Inc.: *See*—
Rohrs, Marvin K. 3,405,921.
Rohrs, Marvin K. 3,405,922.

Aerospace Systems Co.: *See*—
Kriesel, Marshall S. 3,405,593.

Ager, John W., Jr., to FMC Corp. Preparation of carbon tetrachloride from phosgene. 3,406,216, 10–15–68, Cl. 260—664.

Agfa-Gevaert Aktiengesellschaft: *See*—
Braeth, Alfred. 3,405,945.

Ahlich, Harold G.: *See*—
Salzinger, Carl B., and Ahlich. 3,405,833.

Airetron Engineering Corp.: *See*—
Calaceto, Ralph R., Durst, and Millar. 3,405,918.

Aklin, George H., and R. L. Seldenberg, to Bausch & Lomb Inc. High magnification semi-apochromatic microscope objective of the fluorite type. 3,405,993, 10–15–68, Cl. 350—177.

Aktiebolaget Atomenergi: *See*—
Margen, Peter H. E. 3,406,092.

Aktiengesellschaft Brown, Boveri & Cie: *See*—
Stemmler, Herbert. 3,406,326.

Aktiengesellschaft Gebruder Loepfe: *See*—
Eichenberger, Werner. 3,405,582.

Aladdin Industries Ltd.: *See*—
Hebard, Hugh C. 3,406,003.

Aladdin Mfg. Co.: *See*—
Wintz, Donald E. 3,405,704.

Albert, Philippe, L. Renucci, P. Lehr, and G. Gosse; said Albert, Renucci, and said Lehr, assors. to Societe Anonyme Heurtey, and said Gosse, assor. to Centre National de la Recherche Scientifique. Methods of and devices for purifying high melting-point metals. 3,406,056, 10–15–68, Cl. 75—84.

Albrecht, Otto J., to Borg-Warner Corp. Combined reader-reeler with variable tension web control. 3,405,857, 10–15–68, Cl. 226—195.

Albright, Charles B., to Sperry Rand Corp. All fluid unit record accelerator. 3,405,977, 10–15–68, Cl. 302—29.

Aldridge, Clyde L., and J. D. Koontz, to Esso Research and Engineering Co. Regeneration of hydrogenation catalysts. 3,406,156, 10–15–68, Cl. 260—82.

Alexander, Richard L., to Gulf Oil Corp. Method for reclaiming scrap polymers. 3,406,127, 10–15–68, Cl. 260—2.3.

Alfa-Laval A.B.: *See*—
Palm, Bengt A. 3,406,073.

Alford, Robert M., to H. L. Kotkins. Hinged frame construction for luggage. 3,405,788, 10–15–68, Cl. 190—49.

Alfred Teves Maschinen- und Armaturenfabrik KG: *See*—
Schmid, Leopold F. 3,405,785.

Algemene Kunstzijde Unie N.V.: *See*—
Gonsalves, Victor E., and De Vries. 3,405,556.

Almanestinau, Mihai, to Speed-Park, Inc. Warehouse facility. 3,405,817, 10–15–68, Cl. 214—16.1.

Allegrani, Aldo P., and T. A. Cecil, to Engelhard Minerals & Chemicals Corp. Activated bauxite aggregates and preparation thereof. 3,406,125, 10–15–68, Cl. 252—455.

Allied Chemical Corp.: *See*—
Buckman, Walter R., and Clemmons. 3,406,099.
Cheng, Chao-Shing, Hecker, Apostle, and Snider. 3,406,167.
Gould, Lawrence P., and Oechsli. 3,406,009.
McArthur, Colin R. 3,406,172.

Allis-Chalmers Mfg. Co.: *See*—
Backe, Eugene K., and Wiskow. 3,406,059.
Revolinsky, Eugene, Beerntsen, and Spiering. 3,406,362.

Alsberg, Dietrich A., to Bell Telephone Laboratories, Inc. Multibeam formation means for array radar. 3,406,399, 10–15–68, Cl. 343—16.

Altermatt, Ruedi, and C. Mueller, to Sandoz Ltd. (also known as Sandoz A.G.). Disperse dyes of the monoazo series. 3,406,164, 10–15–68, Cl. 260—207.

Altman, Richard M., and R. K. Kimmel, to Bausch & Lomb Inc. Variable incidence type slit lamp mechanism. 3,405,994, 10–15–68, Cl. 351—14.

American Coldset Corp.: *See*—
Wisenbaker, John D., and Stuart. 3,405,772.

American-Coleman Co., The: *See*—
Martin, Emmet L. 3,405,778.

American Filtrona Corp.: *See*—
Berger, Richard M., and Sproull. 3,405,717.

American Gas & Chemicals, Inc.: *See*—
Canning, Chester H. 3,406,017.

American Home Products Corp.: *See*—
Davis, Martin A., and Dobson. 3,406,186.
Davis, Martin A. 3,406,205.
Laliberté, Réal 3,406,183.
Salley, Stephen, and Childress. 3,406,180.
Smith, Leland L. 3,406,189.

American Hospital Supply Corp.: *See*—
Jellies, David A. 3,405,723.

American Optical Corp.: *See*—
Barker, Allan L. 3,406,232.
Regis, Leo S., Jr. 3,405,836.

American Optical Co.: *See*—
Brandt, Milo O. 3,405,482.

American Radiator & Standard Sanitary Corp.: *See*—
Nelden, Richard M. 3,405,524.

American Standard Inc.: *See*—
Martin, Allan E. 3,406,002.

Amero, Clifford L., to Bird Machine Co. Centrifuge. 3,405,866, 10–15–68, Cl. 233—14.

Anaconda Co., The: *See*—
Holderreed, Francis L., and Sullivan. 3,406,010.

Anaconda Wire and Cable Co.: *See*—
Bunish, Steve, and Perrone. 3,406,248.
Jore, Olav E., and Bunish. 3,405,443.

Anahara, Meiji, T. Ezaki, K. Nakagawa, N. Tsutsui, and T. Okazaki, to Japan Exlan Co. Ltd., and Toyo Boseki Kabushiki Kaisha. Production of crimped yarns. 3,405,517, 10–15–68, Cl. 57—157.

Anas, Thomas, J. D. Larkin, and J. J. Watson, to Monsanto Co. Scum-free laminating resins prepared by admixing a sodium salt of an aminopolycarboxylic acid with an aminoplast. 3,406,138, 10–15–68, Cl. 260—29.4.

Anderson, David D.: *See*—
Maul, John A. and Z., and Anderson. 3,405,634.

Anderson, Donald G., and R. H. Pfrehm. Pipeline transportation of solids. 3,405,976, 10–15–68, Cl. 302—14.

Anderson, Robert E., to The Dow Chemical Co. Desalination process. 3,406,113, 10–15–68, Cl. 210—30.

Anderson, Roger. Operating table hammock. 3,405,931, 10–15–68, Cl. 269—328.

Anger, Serge. Apparatus for drying coated tape. 3,405,879, 10–15–68, Cl. 242—55.

Anhouse, Stanley J., and G. A. Buon, to J. A. Maurer, Inc. Electronic photographic exposure timer. 3,405,622, 10–15–68, Cl. 95—53.

Annat, Robert B., to Massey-Ferguson Services N.V. Draft control auxiliary leaf spring. 3,405,928, 10–15–68, Cl. 267—1.

Apostle, Basil G.: *See*—
Cheng, Chao-Shing, Hecker, Apostle, and Snider. 3,406,167.

Archer Products, Inc.: *See*—
Phillips, Floyd L., Jr. 3,405,859.

Arde, Inc.: *See*—
Zeff, Jack D. 3,405,454.

Argus Chemical Corp.: *See*—
Hecker, Arthur C., and Perry. 3,406,135.

Arko, Robert E., to Teletype Corp. Combination sequential and parallel selector mechanism for automatic telegraph apparatus. 3,406,254, 10–15–68, Cl. 178—27.

Arkwright, George A.: *See*—
Shlesinger, Bernard E., Jr., and Arkwright. 3,406,377.

Armbruster, Erwin: *See*—
Kochmann, Werner, Seelmann, Wetzke, Duschek, Frotscher, Muller, Springer, Liedmann, Schmidt, Sass, Armbruster, Triems, and Teutschbein. 3,406,226.

Arrow-Hart & Hegeman Electric Co., The: *See*—
Corey, Lawrence G. 3,406,295.

Arrow Safety Device Co.: *See*—
Rossi, Robert R. 3,406,375.

Art-Craft Optical Co., Inc.: *See*—
Neary, Francis B. 3,405,438.

Asahidenka Kogyo Kabushiki Kaisha: *See*—
Nishimura, Sachio, and Hata. 3,406,128.

Aschauer, George R., to Twin Disc, Inc. Multiple stage, hydraulic jet propulsion apparatus for water craft. 3,405,526, 10–15–68, Cl. 60—221.

Aschkenasy, Herbert: *See*—
Hurwitz, Marvin J., and Aschkenasy. 3,406,139.

Asher, John W., F. W. Martin, and W. H. Tarcza, to Corning Glass Works. Method of enclosing an electrical device. 3,405,441, 10–15–68, Cl. 29—627.

Aspro-Nicholas Ltd.: *See*—
Badder, Peter T. 3,405,502.

Atkins, George M., Jr.: *See*—
Kosar, Jaromir, and Atkins. 3,406,119.

Atwater, Wayne G., to The Triax Co. Guard against obstructing load in an automatic warehousing system. 3,405,819, 10–15–68, Cl. 214—16.4.

Aubrey, Howard W., to Nashua Corp. Jam release lever. 3,405,568, 10–15–68, Cl. 74—522.5.

Aumuller, Walter: *See*—
Weber, Helmut, Aumuller, Weyer, Muth, and Schmidt. 3,406,199.

Austin Powder Co.: *See*—
Stonebraker, George 3,405,980.

Australia, Commonwealth of, care of the Secretary of the Department of Supply, The: *See*—
Metcalfe, Kenneth A., and Clements. 3,406,061.

Automatic Electric Laboratories, Inc.: *See*—
Grandstaff, Otho D. 3,406,262.
Lender, Adam. 3,406,255.

Autoquip Corp.: *See*—
Clarke, Jesse E. 3,405,601.

Avco Corp.: *See*—
Junker, Arnold E. 3,405,948.
Litant, Irving. 3,406,126.
Port, William S., and Chiklis. 3,406,097.
Rosa, Richard J. 3,406,301.
Teno, Joseph, and Novack. 3,406,300.

Avery, Francis J., to GAF Corp. Vitrifiable photosensitive emulsion. 3,406,066, 10–15–68, Cl. 96—34.

Axelrod, Martin S., to International Business Machines Corp. Integrated IGFET logic circuit with linear resistive load. 3,406,298, 10–15–68, Cl. 307—251.

Axelsson, Sten S., and K. J. V. Svensson, to AB Bahco. Portable stove. 3,405,703, 10–15–68, Cl. 126—38.

Aydelott, Max M. Gymnastic device providing non-circular support movements. 3,405,938, 10–15–68, Cl. 272—61.

Ayers, Richard A., to Gulf General Atomic Inc. Condenser discharge control circuit. 3,406,324, 10–15–68, Cl. 320—1.

Azoplate Corp.: *See*—
Jons, Kurt, and Marx. 3,405,683.
Stepnan, Hartmut, Rebenstock, and Neugebauer. 3,406,159.
Uhlig, Fritz. 3,406,065.

Azorlosa, Julian L., and E. P. Williams, to GAF Corp. Cationic vinyl lactam-acrylamide copolymers. 3,406,155, 10–15–68, Cl. 260—80.3.

BTU Engineering Corp.: *See*—
Beck, Jacob H. 3,405,924.

Bachelder, Albert J.: *See*—
Land, Edwin H., and Bachelder. 3,405,617.

Bachman, William S., to Columbia Broadcasting System, Inc. Packaging method and apparatus. 3,405,498, 10–15–68, Cl. 53—29.

Backe, Eugene K., and G. J. Wiskow, to Allis-Chalmers Mfg. Co. Method of producing fuel cell electrode. 3,406,059, 10–15–68, Cl. 75—222.

Badder, Peter T., to Aspro-Nicholas Ltd. Apparatus for forming commodity bearing sachets from pressure sensitive or heat sealable material. 3,405,502, 10–15–68, Cl. 53—51.

Bähr, Theodore, and W. Müller-Rld. to J. M. Voith, G.m.b.H. Vortex separator. 3,405,803, 10–15–68, Cl. 209—211.

Balgas, Joseph F., Jr.: *See*—
Coates, Herbert W., Balgas, Hamilton, and Haynes. 3,405,674.

Bailey Meter Co.: *See*—
Werme, John V. 3,406,387.

Bailly, Richard L. Molding process. 3,406,234, 10–15–68, Cl. 264—257.

Bain, Peter J. S., and A. Dibbo, to Monsanto Chemicals Ltd. Delayed action acceleration for vulcanization of rubber. 3,406,141, 10–15–68, Cl. 260—41.5.

Baker, Allister L.: *See*—
Geier, George Ellis, and Baker. 3,406,292.

Baker, James H. Tie holder. 3,405,408, 10–15–68, Cl. 2—145.

Baker Research & Development Corp.: *See*—
Baker, William E. 3,405,520.

Baker, William E., to Baker Research & Development Corp. Pressure seal. 3,405,520, 10–15–68, Cl. 60—23.

Bakunin, Maurice I. Intra uterine contraceptive device. 3,405,711, 10–15–68, Cl. 128—130.

Balas Collet Co.: *See*—
Cox, John R. 3,405,949.
Cox, John R. 3,405,950.

Balde, John W., to Western Electric Co. Inc. Integrated circuit containing multilayer tantalum compounds. 3,406,043, 10–15–68, Cl. 117—212.

Baldwin, Richard E.: *See*—
Puckette, Charles C., and Baldwin. 3,405,936.

Ballard, John S., K. D. Garnjost, R. Z. Hague, W. C. Moog, Jr., and C. C. Treff to Moog Inc. Numerical control positioning apparatus. 3,405,600, 10–15–68, Cl. 90—21.5.

Balon Corp.: *See*—
Scaramucci, Domer. 3,405,908.
Scaramucci, Domer. 3,405,910.

Baranv, Ernst H., and J. F. Miquel. 1 1-bis(p-OH-phenyl)-2 2-disubstituted ethylenes. 3,406,209, 10–15–68, Cl. 260—619.

Barbera, Edmund C. Building wall construction with laterally spaced panel members. 3,405,495, 10–15–68, Cl. 52—562.

Barker, Allan L., to American Optical Corp. Process for molding eyeglass frames. 3,406,232, 10–15–68, Cl. 264—162.

Barker, Arthur F., and N. C. Wyeth, to E. I. du Pont de Nemours and Co. Aerosol valve. 3,405,851, 10–15–68, Cl. 222—505.

Barlow, Roland J., J. M. Brandstadter, J. E. Taylor, and A. J. Wroble, to Cadillac Gage Co. Weapon stabilization system. 3,405,599, 10–15–68, Cl. 89—41.

Barnes Engineering Co.: *See*—
Brueschke, Erich E. 3,406,290.

Barnes, George H.: *See*—
Bradley, Richard E., Sankin, Barnes, Beauregard, Murtaugh, Rosenblatt, and Thompson. 3,406,380.

Barnett, Arthur V.: *See*—
Spencer, William C., and Barnett. 3,405,519.

Barnett, Harold: *See*—
Preston, Hart, and Barnett. 3,405,467.

Barr, Courtland H., Sr., and J. W. Lucas, to Courtland Laboratories. Needle dispenser. 3,405,841, 10–15–68, Cl. 221—24.

Bartlett, Shirley C., Jr.: *see*—
Wynkoop, Raymond, and Bartlett. 3,406,111.

Basiletti, John: *See*—
Saarinen, Edward, and Basiletti. 3,405,698.

Bassett, Arthur T., Jr., and D. C. Siegla, to General Motors Corp. Wattage controller for electrical surface heating unit. 3,406,278, 10–15–68, Cl. 219—450.

Bathellier, Andre, and J.-J. Perez, to Commissariat a l'Energie Atomique. Process for the purification and decontamination of tertiary aliphatic amine solvents. 3,406,204, 10–15–68, Cl. 260—583.

Battelle Development Corp., The: *See*—
Little, Lawrence L. 3,406,076.

Bauer, August: *See*—
Meininger, Fritz, Bauer, and Berner. 3,406,163.

Bauer, Clifford D., G. L. Neuser, and H. A. Pinkalla, to W. R. Grace & Co. Method for preparing a coated meat product. 3,406,081, 10–15–68, Cl. 99—194.

Bauer Ordnance Co.: *See*—
Klehart, Lawrence R., Doyle, and Walmsley. 3,405,566.

Baumann, George P., and M. Spielman, to Esso Research and Engineering Co. Urea synthesis. 3,406,201, 10–15–68, Cl. 260—555.

Baumann, Hans D., to A. W. Cash Co. Pressure relief valve having tubular plug. 3,405,730, 10–15–68, Cl. 137—510.

Bausch & Lomb Inc.: *See*—
Aklin, George H., and Seldenberg. 3,405,993.
Altman, Richard M., and Kimmel. 3,405,994.
Martens, Alexander E. 3,406,309.
Mentink, John P. 3,405,989.
Nothnagle, Paul E., and O'Donnell. 3,405,990.
Seedhouse, Frederick A. 3,405,991.

Baxter, James C.: *See*—
Ullman, William L., Baxter, Pearson, Davis, and Hullhorst. 3,406,231.

Baxter, Samuel, and J. H. Gilbert, to Monsanto Chemicals Ltd. Extrusion of resins. 3,406,230, 10–15–68, Cl. 264—51.

Beau, Christian and G. Vehicle garage. 3,405,816, 10–15–68, Cl. 214—161.

Beau, Gerard: *See*—
Beau, Christian and G. 3,405,816.

Beauregard, Simon P.: *See*—
Bradley, Richard E., Sankin, Barnes, Beauregard, Murtaugh, Rosenblatt, and Thompson. 3,406,380.

Beck, Jacob H., to BTU Engineering Corp. Furnace with variable effective insulation. 3,405,924, 10–15–68, Cl. 263—41.

Beck, Josef: *See*—
Hertel, Karl, and Beck. 3,405,952.

Beckenstein, Leonard A., to The Singer Co. Cam apparatus for independent needle knitting machines. 3,405,542, 10–15–68, Cl. 66—38.

Becker, Fritz, and F. Brinkmann. Refuse burning installations. 3,405,667, 10–15–68, Cl. 110—14.

Beckman Instruments, Inc.: *See*—
Maguire, William B. 3,406,367.

Beerens, Hugo: *See*—
Schroder, Egbert, Kuppers, Strieck, and Beerens. 3,405,885.

Beerntsen, Donald J.: *See*—
Revolinsky, Eugene, Beerntsen, and Spiering. 3,406,362.

Beguin, Daniel E., to International Standard Electric Corp. Multimode primary feed for monopulse radar. 3,406,398, 10–15–68, Cl. 343—16.

Beisswenger, Heinrich, and B. De Temple. Process and device for the discharge of fission gases from nuclear fuel elements. 3,406,094, 10–15–68, Cl. 176—79.

Belco Engineering, Inc.: *See*—
Misik, Albert V. 3,405,796.

Bell Telephone Laboratories, Inc.: *See*—
Alsberg, Dietrich A. 3,406,399.
Hopper, Andrew L. 3,406,344.
Hutson, Andrew R., and Melboom. 3,405,992.
Huttenhoff, John H., and Saltus. 3,406,296.
Lin, Lawrence H., and Schulz-Du Bois. 3,405,614.
Long, Norwood G. 3,406,257.
McAlexander, JosephC., Jr., and Monahan. 3,405,671.
McEowen, James R. 3,406,260.
Nanney, Cecil A. 3,406,299.
Richter, William J., Jr. 3,406,265.
Seidel, Harold. 3,405,570.
Seidel, Harold, and White. 3,406,358.
Smith, Wilburn W. 3,406,274.
Strommen, Lawrence A. 3,406,256.
Tillotson, Le Roy C. 3,406,401.

Bell, William T.: *See*—
Shore, James B., and Bell. 3,405,769.

Beloit Corp.: *See*—
Crist, Elmer E., and Edward. 3,405,632.
Daly, David A., and Patterson. 3,405,855.
Patterson, Henry R., Jr. 3,405,884.

Belokin, Paul, Jr., to Schenley Industries, Inc. Animated educational and amusement device. 3,405,459, 10–15–68, Cl. 35—31.

Belva, George M., R. F. Kilburn, and A. J. da Silva, to General Precision Systems Inc. Display device. 3,405,462, 10–15–68, Cl. 35—46.

Belyea, Arthur R., to Consolidated Edison Co. of New York, Inc. Process for corrosion control. 3,406,042, 10–15–68, Cl. 117—134.

Benbow, Eugene C., to Westinghouse Electric Corp. Maximum demand device with clutch having adjustable open time. 3,406,338, 10–15–68, Cl. 324—103.

Bendix Corp., The: *See*—
Zito, George V., and Chilton. 3,406,287.

Beneke Corp.: *See*—
Brown, William O. 3,405,411.

Benichasa, Thomas J.: *See*—
Price, Lewis C., Jr., and Benichasa. 3,405,633.

Benier, Pieter J., to N. V. Nederlandsche Fabriek van Bakkerijwerktuigen v/h G. J. Benier. Rounding machine. 3,405,863, 10–15–68, Cl. 107—9.

Bennett, Floyd M., to Lundy Electronics & Systems, Inc. Method and apparatus for disposal of waste liquid and solid material. 3,405,409, 10–15–68, Cl. 4—142.

Berchtold, Ludwig, and A. Schuster, to Marker, Hannes. Safety toe iron for safety ski bindings. 3,405,951, 10–15–68, Cl. 280—11.35.

Berger, Richard M., and R. C. Sproull, to American Filtrona Corp. Method of associating a filter section with a tobacco section. 3,405,717, 10–15–68, Cl. 131—94.

Berkovitz, Harry, and L. R. Rissler, to Westinghouse Electric Corp. Elevator system. 3,405,782, 10–15–68, Cl. 187—58.

Berman, Myron S., to Raleigh Industries, Inc. Device for pumping viscous liquids through a bunghole of a drum. 3,405,843, 10–15–68, Cl. 103—50.

Berner, Klaus: *See*—
Meininger, Fritz, Bauer, and Berner. 3,406,163.

Beteiligungs- und Patentverwaltungsgellschaft mit beschrankter Haftung: *See*—
Lenger, Friedrich. 3,405,925.
Sixel, Gustav-Adolf. 3,406,240.

Bevilacqua, Mario: *See*—
Scarso, Luciano, Bevilacqua, and Pozzer. 3,406,136.

Bibbings, William F., to Kal-Equip Co., Inc. Electromagnetic meter construction. 3,406,339, 10–15–68, Cl. 324—151.

Bielert, Hans-Georg, to Stephan-Werke G.m.b.H. & Co. Method and apparatus for punching blanks from webs of sheetlike material. 3,405,880, 10–15–68, Cl. 242—56.8.

Billenstein, Paul F. Implement attaching means. 3,405,825, 10–15–68, Cl. 214—778.

Bird Machine Co.: *See*—
Amero, Clifford L. 3,405,866.

Birman, Paul J.: *See*—
Kupferberg, Kenneth, and Birman. 3,406,341.

Bitzer, Donald L., to University of Illinois Foundation. Versatile display teaching system. 3,405,457, 10–15–68, Cl. 35—9.

Blair, Ronald L. Hanger for girdles, panty girdles, and the like. 3,405,854, 10–15–68, Cl. 223—85.

Blanchette, Jon A.: *See*—
Crosier, James E., Blanchette, and Romanowski. 3,405,721.

Blaser, Bruno, and H. Rutzen, to Henkel & Cie, G.m.b.H. Polyglycol ethers suitable for detergent preparations, and process for preparing the same. 3,406,208, 10–15–68, Cl. 260—615.

Blinn, Ludwig: *See*—
Slesaczek, Alfred, and Blinn. 3,405,821.

Bliss, E. W., Co.: *See*—
Erickson, Frederick E. 3,406,303.

Bloch, Morton G., to Mobil Oil Corp. Chromatographic method and apparatus for determining trace concentrations of water. 3,405,550, 10–15–68, Cl. 73—23.1.

Blochl, Walter, to FMC Corp. Method of preparing perfluoroethyl iodide. 3,406,214, 10–15–68, Cl. 260—653.

Blodee, Leif. Dowel structure. 3,405,592, 10–15–68, Cl. 85—14.

Blood, Alden E.: *See*—
Hagemeyer, Hugh J., Jr., Blood, and Statman. 3,406,120.

Blum, Louis, and W. J. Horgan, Jr., to Blumcraft of Pittsburgh. Handrails. 3,405,915, 10–15–68, Cl. 256—65.

Blumcraft of Pittsburgh: *See*—
Blum, Louis, and Horgan. 3,405,915.

Bodoh, Albinus G., and R. L. Gustavel, to The Seeburg Corp. Automatic phonograph stylus cleaning. 3,405,946, 10–15–68, Cl. 274—47.

Boehringer Ingelheim G.m.b.H.: *See*—
Heusner, Alex, Zelle, and Danneberg. 3,406,173.
Schmidt, Gunther. 3,406,168.
Zelle, Karl, Thoma, and Mentrup. 3,406,237.

Boeing Co., The: *See*—
Falcioni, Joseph G. 3,405,594.

Bogardus, Richard T.: *See*—
Da Silva, Edward M., and Bogardus. 3,406,040.

Bogart, Marcel J. P., to The Lummus Co. Flight simulator. 3,405,561, 10–15–68, Cl. 73—432.

Bohan, Jack L.: *See*—
Sullivan, Norman D. 3,405,534.

Boisard, Pierre, and J. Lamazou, to Societe Nationale des Petroles d'Aquitaine. Process and apparatus for determining the permeability of solids. 3,405,553, 10–15–68, Cl. 73—38.

Boling, Don R.: *See*—
Burrus, Bill S., Hill, Coggins, and Boling. 3,405,690.
Burrus, Bill S., Hill, Coggins, and Boling. 3,405,759.

Bolling, Thomas J., Jr. Seal arrangement for gate valve. 3,405,911, 10–15–68, Cl. 251—172.

Bond, Robert E., to Selje & Bond. Base for supporting an object. 3,405,897, 10–15–68, Cl. 248—188.7.

Boniface, Frederick G., to Roto-Finish Ltd. Vibratory finishing machine with screen discharge. 3,405,483, 10–15–68, Cl. 51—163.

Boone, Jerry S.: *See*—
Richmond, Jerry F., Boone, and Langley. 3,405,444.

Boozalis, Theodore S., to The Dow Chemical Co. Low molecular weight epoxidized resorcinol novolac resin having high functionality. 3,406,150, 10–15–68, Cl. 260—54.

Borg-Warner Corp.: *See*—
Albrecht, Otto J. 3,405,857.
Studtmann, George H. 3,406,328.
Trujillio, Anthony. 3,406,355.

Borgella, Albert, and P. De Raveton. Clutch release bearings. 3,405,792, 10–15–68, Cl. 192—98.

Borisov, Igor S.: *See*—
Vinegradov, Alexandr S., Kapustin, Marjutenko, Kiselnikov, Borisov, and Mazalov. 3,405,427.

Bosc, Henri J., M. J. T. Schneider, and M. E. van den Broek d'Obrenan, to International Standard Electric Corp. Coherent pulse-doppler radars. 3,406,396, 10–15–68, Cl. 343—9.

Bosch, Robert, G.m.b.H.: *See*—
Hoefer, Gerald. 3,405,700.

Bottani, Angelo, to Societa Internazionale Fonovisione S.p.A. Film extension means for automatic film projectors. 3,405,882, 10–15–68, Cl. 242—74.

Bousageon, Louis H. A. Fishing rods. 3,405,473, 10–15–68, Cl. 43—21.

Boutland, John A.: *See*—
Cockerell, Christopher S., Grace, and Boutland. 3,405,675.

Bowles Engineering Corp.: *See*—
Di Camillo, Carmine V. 3,405,892.

Bowles, Vernon O., to Mobil Oil Corp. Catalytic cracking process. 3,406,112, 10–15–68, Cl. 208—153.

Bowman, Benjamin P. Method and apparatus for packing material into containers. 3,405,744, 10–15–68, Cl. 141—12.

Boyko, Donald: *See*—
Russell, Robert H., Boyko, and Gilbert. 3,406,364.

Boylan, Jack B.: *See*—
Selwert, Joseph J., and Boylan. 3,406,134.

Bradford, Robert S., to Minnesota Mining and Mfg. Co. Digital data transfer system. 3,406,378, 10–15–68, Cl. 340—172.5.

Bradley, Richard E., A. Sankin, G. H. Barnes, S. P. Beauregard, J. L. Murtaugh, R. L. Rosenblatt, and B. C. Thompson, to Burroughs Corp. Input-output data service computer. 3,406,380, 10–15–68, Cl. 340—172.5.

Braeth, Alfred, to Agfa-Gevaert Aktiengesellschaft. Sound recording and reproducing apparatus. 3,405,945, 10–15–68, Cl. 274—4.

Brandstadter, Jack M.: *See*—
Barlow, Roland J., Brandstadter, Taylor, and Wroble. 3,405,599.

Brandt, Edison R., to Polaroid Corp. Stop mechanism for rotating members. 3,405,562, 10–15–68, Cl. 74—10.2.

Brandt, Milo O., to American Optical Co. Pattern holder for edging machines. 3,405,482, 10–15–68, Cl. 51—101.

Branson Instruments, Inc.: *See*—
Carmichael, John J. 3,405,916.

Breitmeier, Max. Apparatus for producing reels of foil or strip material. 3,405,883, 10–15–68, Cl. 242—75.5.

Brewster, John L., to Field Emission Corp. Electron transmission window for pulsed field emission electron radiation tube. 3,406,304, 10–15–68, Cl. 313—74.

Brinkmann, Friedheim: *See*—
Becker, Fritz, and Brinkmann. 3,405,667.

British Insulated Callender's Cables Ltd.: *See*—
Watkins, Roland H. W. 3,406,245.

British Petroleum Co. Ltd.: *See*—
Carruthers, John A., and Prince. 3,405,722.

Brizon, Jean M. A. Apparatus usable in particular for preparing paint and printing ink. 3,405,874, 10–15–68, Cl. 241—174.

Bross, William T., to Liebel-Flarsheim Co., Div. of Ritter Co., Inc. Precisely timed A.C. switching system for X-ray tubes. 3,406,286, 10–15–68, Cl. 250—95.

Brouwer, Harvard, to Lear Siegler, Inc. Transformerless push-pull transistor amplifier. 3,406,351, 10–15–68, Cl. 330—15.

Brown, Charles H., to The Joyce-Cridland Co. Vehicle lifting apparatus. 3,405,781, 10–15–68, Cl. 187—8.41.

Brown, Donald N., B. Justice, and T. G. O'Leary, to Corning Glass Works. Photochromic window. 3,406,085, 10–15–68, Cl. 161—45.

Brown, Joseph P., and E. B. McCall, to Monsanto Chemicals Ltd. Process for the production of sulfurized phenols. 3,406,158, 10–15–68, Cl. 260—137.

Brown, William O., to Beneke Corp. Arm and seat assembly. 3,405,411, 10–15–68, Cl. 4—254.

Brown and Williamson Tobacco Corp.: *See*—
Mizelle, Adrian C., and Gillespie. 3,405,503.

Brueschke, Erich E., to Barnes Engineering Co. Scanning densitometer for thermal profile analysis. 3,406,290, 10–15–68, Cl. 250—219.

Brundin, Bjorn: *See*—
Frisk, Karl P. 3,405,489.

Brunson, Bruce W., to Werner Machinery Co. Dusting machine. 3,405,680, 10–15–68, Cl. 118—24.

Brunt, Laurence P.: *See*—
Gothard, Sydney A., Rees, and Brunt. 3,405,873.

Bryan, Thomas E. Flow valves. 3,405,647, 10–15–68, Cl. 103—232.

Buchanan, William E., and S. C. Jellum, to North American Rockwell Corp. Profit analysis computer. 3,406,281, 10–15–68, Cl. 235—193.

Buckeridge, Roger M., to Westinghouse Air Brake Co. Connection box. 3,406,371, 10–15–68, Cl. 339—92.

Buckley, Francis T., and W. Hing, to Monsanto Co. Apparatus for producing partially pigmented plastic sheets. 3,405,425, 10–15–68, Cl. 18—13.

Buckman, Walter R., and W. R. Clemmons, to Allied Chemical Corp. Distillation of an azeotropic mixture of CF_3COCF_3 HF and CCl_3FCClF_2. 3,406,099, 10–15–68, Cl. 203—60.

Budnick, Edward G., to The Upjohn Co. Triarylarsines as catalysts for converting isocyanates to carbodiimides. 3,406,198, 10–15–68, Cl. 260—551.

Buechner, Werner W. Carrier for photographic materials. 3,405,628, 10–15–68, Cl. 95—100.

Bunish, Steve: *See*—
Jore, Olav E., and Bunish. 3,405,443.

Bunish, Steve, and R. J. Perrone, to Anaconda Wire and Cable Co. Cable with extruded covering having fibrous interlayer. 3,406,248, 10–15–68, Cl. 174—121.

Buon, Georges A: *See*—
Anhouse, Stanley J., and Buon. 3,405,622.

Burgess-Manning Co.: *See*—
Halter, Edmund J., and Chance. 3,405,511.

Burkhardt, Kenneth J., to Union Tank Car Co. Filter cartridge sealing means. 3,405,807, 10–15–68, Cl. 210—232.

Burroughs Corp.: *See*—
Bradley, Richard E., Sankin, Barnes, Beauregard, Murtaugh, Rosenblatt, and Thompson. 3,406,380.
Colwill, Richard H. 3,405,637.

Burrus, Bill S., E. C. Hill, R. W. Coggins, and D. R. Boling, to Combustion Engineering, Inc. Method of and means for operating fired processing equipment. 3,405,690, 10–15–68, Cl. 122—136.

Burrus, Bill S., E. C. Hill, R. W. Coggins, and D. R. Boling, to Combustion Engineering, Inc. Method of and means for controlling the external temperatures of fired processing equipment. 3,405,759, 10–15–68, Cl. 165—39.

Bush, Robert G., to L. D. Schreiber Cheese Co. Sealed package. 3,405,861, 10–15–68, Cl. 229—51.

Butler, De Forest D., and R. C. Zimmerman, to Square D Co. Convertible junction box for underfloor wiring duct. 3,405,834, 10–15–68, Cl 220—3.4.

Butler, Richard G., to Kendor Distributors Ltd. Multi-chambered tool holder. 3,405,749, 10–15–68, Cl. 145—63.

Butler, Roger M., and L. B. Simpson. Separation of isophthalonitrile and terephthalonitrile mixtures by treatment with dimethyl formamide or methyl isobutyl ketone. 3,406,193, 10–15–68, Cl. 260—465.

C.A.V. Limited: *See*—
Kemp, Kenneth A. W. 3,405,640.

CDC Industries, Inc: *See*—
Taylor, Richard G. 3,406,195.

Cabot Corp.: *See*—
Hardy, John E., and Jordan. 3,406,228.
Rubel, Peter A. 3,406,055.

Cachat, John F., and J. W. Thomas, to Ozark-Ohio Industries, Inc. Impedor for a tube mill. 3,406,271, 10–15–68, Cl. 219—8.5.

Cadillac Gage Co.: *See*—
Barlow, Roland J., Brandstadter, Taylor, and Wroble. 3,405,599.

Caflero, Vincent J., and W. I. Sohl, to Knoll Associates, Inc. Guide rod latch for card file drawer. 3,405,716, 10–15–68, Cl 129—16.

Calaceto, Ralph R., R. H. Durst, and D. Millar, to Airetron Engineering Corp. Adjustable venturi for scrubbers. 3,405,918, 10–15–68, Cl. 261—62.

Caldironi, Franco: *See*—
Meazzi, Remo, Caldironi, and Olivieri. 3,405,587.

Cam Gears (Luton) Ltd.: *See*—
Adams, Frederick J. 3,405,523.
Adams, Frederick J 3,405 735.

Canadian General Electric Co. Ltd.: *See*—
MacKay, Ian N. 3,406 091.
Young, John A. I. 3,406,347.

Candor, James T.: *See*—
Candor, Robert R., and J. T. 3,405,452.

Candor, Robert R., and J. T. Laundry drying apparatus or the like using electrostatic method and means. 3,405,452, 10–15–68, Cl. 34—1.

Canion, Claude. Carving knife for a one-armed person. 3,405,445, 10–15–68, Cl. 30—148.

Canning, Chester H., to American Gas & Chemicals, Inc. Leak detecting methods and apparatus. 3,406,017, 10–15–68, Cl. 23—232.

Cannon, Lloyd M., to Westinghouse Electric Corp. Refrigerator construction. 3,405,986, 10–15–68, Cl. 312—214.

Caracciolo, Edward A., to General Micro-Electronics Inc. Method of packaging microelectronic devices. 3,405,442, 10–15–68, Cl. 29—627.

Cardinal Surveys Co.: *See*—
Young, Marcus C. 3,406,284.

Carlin, William W., to Pittsburgh Plate Glass Co. Method of purifying alkali metal chromate or dichromate aqueous solutions. 3,406,008, 10–15–68, Cl. 23—56.

Carlson, John W., to Speed-O-Print Business Machines Corp. Photocopy machine with fluid bath and liquid reservoir package elevator. 3,405 625, 10–15–68, Cl. 95—89.

Carlson, Keith L., to Seelye Plastic-Fab, Inc. Movable work etcher. 3,405,720, 10–15–68, Cl. 134—140.

Carmack, Allen H., and J. W. De Frees. Automatically justifying phototypographic apparatus. 3,405,615, 10–15–68, Cl. 95—4.5.

Carmichael John J., to Branson Instruments, Inc. Ultrasonic treatment apparatus. 3,405,916, 10–15–68, Cl. 259—1.

Caronreso, Frank E.: *See*—
Radimer, Kenneth J., and Caropreso. 3,406,108.

Carpenter, Herbert L., Jr., to The Greif Bros. Cooperage Corp. Ratchet type cap. 3,405,837, 10–15–68, Cl. 220—27.

Carpenter, Virgil R., and J. E. Jennings, to The Unipress Co., Inc. Pants press. 3,405,853, 10–15–68, Cl. 223—74.

Carr, Charles J., and M. D. Hughes. Deep well motor impact tool and drilling apparatus. 3,405,771, 10–15–68, Cl. 175—73.

Carrier Corp.: *See*—
Endress, James W. 3,405,536.

Carruthers, John A., and L. J. S. Prince, to British Petroleum Co. Ltd. Method for monitoring the generation of static electricity in fluid transfer systems. 3,405,722, 10–15–68, Cl. 137—2.

Carter, Harry T., and D. J. Hicks. Collapsible mop frame. 3,405,418, 10–15–68, Cl. 15—147.

Cash, A. W., Co.: *See*—
Baumann, Hans D. 3,405,730.

Cava Industries: *See*—
Simson, Anton K. 3,406,464.

Cecil, Tom A.: *See*—
Allegrani, Aldo P., and Cecil. 3,406,125.

Celanese Corp.: *See*—
Neff, Stewart B. 3,406,130.
Polestak, Walter J., and Tracy. 3,406,140.

Cenegy, Louis F., to Hitco. Method of manufacturing composite foamed resin caskets. 3,406,229, 10–15–68, Cl. 264—45.

Central National de Recherches Metallurgiques: *See*—
Limpach, Raymond G. 3,406,026.

Centre National de la Recherche Scientifique: *See*—
Albert, Philippe, Renucci, Lehr, and Gosse. 3,406,056.

Cerwonka, Edward, to GAF Corp. Colored photoresist and method of preparation. 3,406,067, 10–15–68, Cl. 96—35.1.

Chaffee, Floyd L., to Crowley Casket Co., Inc. Method of forming caskets. 3,406,054, 10–15–68, Cl. 156—250.

Chakroff, Richard O. Flexible tube coupling. 3,405,957, 10–15–68, Cl. 285—93.

Champion Spark Plug Co.: *See*—
Cousino, Walter F. 3,405,577.

Champion Carriers Inc.: *See*—
Coburn, Herbert D. Shear, and Steele. 3,405,780.

Champlin, Charles L., to Packaging Corp. of America. Bottle carrier. 3,405,840, 10–15–68, Cl. 220—114.

Chance, Calvin L.: *See*—
Halter, Edmund J., and Chance. 3,405,511.

Charlton, Arthur T., to Magnatex Ltd. Windscreen wipers. 3,405,419, 10–15–68, Cl. 15—250.32.

Chatfield, Victor G., and P. G. Roper, to Dominion Engineering Works, Ltd. Rotary seal structure. 3,405,913, 10–15–68, Cl. 253—26.

Cheek, James H.: *See*—
Spencer, John R., Cheek, and Greathouse. 3,405,507.

Chemetron Corp.: *See*—
Marshall, Robert H., and Hensgen. 3,405,504.
Smith, Robert L. 3,405,760.

Chemical Construction Corp.: *See*—
Karafian, Maxim. 3,406,100.

Chemische Fabrik Pfersee G.m.b.H.: *See*—
Enders, Heinz, and Deiner. 3,406 032.

Cheng, Chao-Shink, R. C. Hecker, B. G. Apostle, and O. E. Snider, to Allied Chemical Corp. Purification of caprolactam. 3,406,167, 10–15–68, Cl. 260—239.3.

Chester Electronic Laboratories, Inc.: *See*—
Joslow, David L. 3,405,461.

Chiklis, Charles K.: *See*—
Port, William S., and Chiklis. 3,406,097.

Childress, Scott J.: *See*—
Sallay, Stephen, and Childress. 3,406,180.

Chilton, Edward A.: *See*—
Zito, George V., and Chilton. 3,406,287.

Christe, Karl O., and A. E. Pavlath, to Stauffer Chemical Co. Process for preparing 1,3-dichlorobutane. 3,406,212, 10–15–68, Cl. 260—652.

Christiansen, Gerald E.: *See*—
Young, Stephen A., and Christiansen. 3,405,729.

Chromium Corp. of America: *See*—
Letendre, Calvin O. 3,406,105.

Ciba Ltd.: *See*—
Oetiker, Alfred, and Schaefer. 3,406,070.

Cinqualbre, Paul. Arrangement for taking blood. 3,405,706, 10–15–68, Cl. 128—2.

Clark, Myron, A., and P. L. Fosburg, to Westinghouse Electric Corp. Releasable brake constructions for vehicles. 3,405,783, 10–15–68, Cl. 188—5.

Clark, William W. Display case. 3,405,984, 10–15–68, Cl. 312—102.

Clarke, Jesse E., to Autoquip Corp. Single rotary valve for hydraulic fluid and air. 3,405,601, 10–15–68, Cl. 91—4.

Clements Alwin S.: *See*—
Metcalfe, Kenneth A., and Clements. 3,406,061.

Clemmons, William R.: *See*—
Buckman, Walter R., and Clemmons. 3,406,099.

Clinton Silk Mill, Inc.: *See*—
Hampson, Clinton W. 3,405,741.

Close, Richard N., and E. W. Sard, to United States of America, Army. Automatic error correcting system. 3,406,392, 10–15–68, Cl. 343—7.3.

Coal Industry (Patents) Ltd.: *See*—
Teale, Ronald. 3,405 608.

Coates, Herbert W., J. F. Balgas, Jr., M. J. Hamilton, and T. J. Haynes, Jr., to Kem-Wove Industries, Inc. Method of producing a quilted non-woven textile product. 3,405,674, 10–15–68. Cl. 112—420.

Coberly, Clarence J., to Kobe, Inc. Rotary, fluid operated, axial plunger pump. 3,405,641, 10–15–68, Cl. 103—49.

Coburn, Herbert D., to E. P. Shear, and C. E. Steele, ½ to Champion Carriers Inc., and ½ Texas Instruments Inc. Carrier and positioning mechanism for a seismic energy source. 3,405,780, 10–15–68, Cl. 181—.5.

Cocker Machine & Foundry Co.: *See*—
Diehl, Walter L. 3,405,543.
Graham, Charles B., and Mutter. 3,405,538.

Cockerell, Christopher Sydney, H. W. Grace, and J. A. Boutland, to Hovercraft Development Ltd. Water-borne gas-cushion vehicles. 3,405,675, 10–15–68, Cl. 114—67.

Coe Mfg. Co., The: *See*—
Skoog, Per O. 3,405,746.

Cofrancesco, Anthony J., to GAF Corp. Method of preparing water insoluble fluorescent triazolylstilbene brighteners. 3,406,169, 10–15–68, Cl. 260—240.

Coggins, Robert W., to Combustion Engineering Inc. Means for conserving heat and regulating temperature in a stack. 3,405,509, 10–15–68, Cl. 55—160.

Coggins, Robert W.: *See*—
Burrus, Bill S., Hill, Coggins, and Boling. 3,405,690.
Burrus, Bill S., Hill, Coggins:, and Boling. 3,405,759.

Cole, Edward L.: *See*—
Sensel, Eugene E., and Cole. 3,406,123.

Colgate-Palmolive Co.: *See*—
Vitale, Peter T. 3,406,116.

Collie, Stafford D., to Phillips Petroleum Co. Article package convertible to a container. 3,405,858, 10–15–68, Cl. 229—2.5.

Columbia Broadcasting System, Inc. *See*—
Bachman, William S. 3,405,498.

Colwill, Richard H., to Burroughs Corp. Rotary ribbon printer. 3,405,637, 10–15–68, Cl. 101—244.

Combustion Engineering Inc.: *See*—
Coggins, Robert W. 3,405,509.
Burrus, Bill S., Hill, Coggins, and Boling. 3,405,690.
Burrus, Bill S., Hill, Coggins, and Boling. 3,405,759.

Comdata Corp.: *See*—
Peterson, Jack E. 3,405,798.

Commissariat a l'Energie Atomique: *See*—
Bathellier, Andre, and Perez. 3,406,204.

Compagnie belgoluxembourgeoise du Commerce exterieur in abridgment; "Cobelcomex": *See*—
Gehenot, Charles. 3,406,022.

Compagnie de Saint-Gobain: *See*—
Steinbach, Georgette. 3,406,157.

Compagnie Francaise Thomson Houston-Hotchkiss Brandt: *See*—
Francois, Marcel. 3,405,469.

Compagnie Generale d'Electricite: *See*—
Dumanchin, Roger. 3,406,354.

Compagnie Generale des Etablissements Michelin, raison sociale Michelin & Cie: *See*—
Verdier, Henri. 3,405,753.
Verdier, Henri. 3,405,755.

Computing Devices of Canada Ltd.: *See*—
Vago, Robert E. 3,406,280.

Conductron Corp.: *See*—
Thomas, Carlton E. 3,406,252.

Connolly, Christopher G. Safety belt. 3,405,973, 10–15–68, Cl. 297—385.

Conrad, Ernest E., to International Business Machines Corp. Method and apparatus for depositing particles onto an object. 3,406,041, 10–15–68, Cl. 117—101.

Consolidated Edison Co. of New York, Inc.: *See*—
Belyea, Arthur R. 3,406,042.

Consolidated Electrodynamics Corp.: *See*—
Finley, Charles M. 3,405,549.

Continental Aviation and Engineering Corp.: *See*—
Marchand, William C. 3,405,697.
Saarinen, Edward, and Basiletti. 3,405,698.

Continental Can Co., Inc.: *See*—
Manizza, Guelfo A. 3,405,860.

Continental Oil Co.: *See*—
Spencer, John R., Cheek, and Greathouse. 3,405,507.

Continental Transport Appliances Ltd.: *See*—
Dorey, George B. 3,405,655.
Dorey, George B. 3,405,656.

Control Data Corp.: *See*—
Lyons, James F. 3,406,394.

Control Print Corp.: *See*—
Price, Lewis C., Jr., and Benichasa. 3,405,633.

Controls Co. of America: *See*—
Matthies, Alan A. 3,405,535.

Cook, Gerhard A., to Union Carbide Corp. Liquid oxygen-ozone solution containing trifluorochloromethane. 3,406,117, 10–15–68, Cl. 252—186.

Cook Paint & Varnish Co.: *See*—
Wright, Howard J., and Prenosil. 3,406,221.

Cook, Ralph J., and J. M. Schumann, to Products Research and Chemical Corp. Gas generating dispenser. 3,405,845, 10–15–68, Cl. 222—387.

Cope, Geoffrey W., to Symington Wayne Corp. Automatic hook type coupler. 3,405,811, 10–15–68, Cl. 213—100.

Core Laboratories, Inc.: *See*—
Wisenbaker, John D., and Stuart. 3,405,772.

Corey, Lawrence G., to The Arrow-Hart & Hegeman Electric Co. Cycling on-off electronic timing system using one relay. 3,406,295, 10–15–68, Cl. 307—132.

Corn Products Co.: *See*—
Van Tittelboom, Marcel L. E. 3,406,046.

Corning Glass Works: *See*—
Asher, John W., Martin, and Tarcza. 3,405,441.
Brown, Donald N., Justice, and O'Leary. 3,406,085.
Frant, Martin S., and Ross. 3,406,102.
Richmond, Jerry F., Boone, and Langley. 3,405,444.
Ziver, Garo M. 3,406,279.

Courtland Laboratories: *See*—
Barr, Courtland H., Sr., and Lucas. 3,405,841.

Cousino, Walter F., to Champion Spark Plug Co. Apparatus for cutting off elongated materials. 3,405,577, 10–15–68, Cl. 83—1.

Cox, John R., to Balas Collet Co. Tool holder. 3,405,949, 10–15–68, Cl. 279—9.

Cox, John R., to Balas Collet Co. Tool holder. 3,405,950, 10–15–68, Cl. 279—103.

Crain, Robert L.: *See*—
Pitts, William A., Crain, and Pierce. 3,405,763.

Creel, Donald H., to Phillips Petroleum Co. Visor. 3,405,969, 10–15–68, Cl. 296—97.

Cremer, Joseph: *See*—
Muller-Schiedmayer, Gunther, Harnisch, and Cremer. 3,406,013.

Crist, Elmer E., and D. B. Edward, to Beloit Corp. Calender loading mechanism. 3,405,632, 10–15–68, Cl. 100—41.

Crocker, Henry P., and W. G. C. Raper, to Monsanto Chemicals (Australia) Ltd. Preparation of 2-substituted benzimidazoles. 3,406,178, 10–15–68, Cl. 260—309.2.

Crosier, James E., J. A. Blanchette, and R. F. Romanowski, to R. J. Sporting Inc. Collapsible and portable cabana. 3,405,721, 10–15–68, Cl. 135—7.1.

Crowley Casket Co., Inc.: *See*—
Chaffee, Floyd L. 3,406,054.

Cryo-Therm, Inc.: *See*—
Weller, John J., and Weaver. 3,405,709.

Cunningham, James B., to General Steel Industries, Inc. Railway vehicle center bearing. 3,405,653, 10–15–68, Cl. 105–199.

Curran, Robert A., to Solitron Devices, Inc. Interconnection system. 3,406,308, 10–15–68, Cl. 339—17.

Curtis, Marland G. Hydraulic locking system for threaded members on a gyrating type crusher. 3,405,875, 10–15–68, Cl. 241—207.

Curtiss-Wright Corp.: *See*—
Jones, Charles, and Galliers. 3,405,695.

Daklin, D. Frank. Metal forms for concrete. 3,405,905, 10–15–68, Cl. 249—40.

D'Alessandro, William J., to Union Carbide Corp. Abrasive wheels comprising a novoak resin and a thermoplastic polyhydroxyether. 3,406,020, 10–15–68, Cl. 51—298.

Daly, David A., and H. R. Patterson, Jr., to Beloit Corp. Paper guide and drive roll assemblies. 3,405,853, 10–15–68, Cl. 226—1.

Dames, Ralph T.: *See*—
Palevsky, Max, Levine, and Damas. 3,406,379.

Dame, Stanley P., to Thompson Mfg. Co., Inc. Apparatus for folding and stacking flexible material. 3,405,932, 10–15–68, Cl. 270—68.

Damon, Phillip P., to Hughes Aircraft Co. Direct-viewing color display storage device. 3,406,310, 10–15–68, Cl. 315—12.

Damrel, Robert L., to Haskon, Inc. Liquid dispenser. 3,405,848, 10–15–68, Cl. 222—481.5.

Danneberg, Peter: *See*—
Heusner, Alex, Zelle, and Danneberg. 3,406,173.

Da Rooge, Margaret A., and L. R. Mahoney, to Ford Motor Co. Quinol ether as antioxidant. 3,406,218, 10–15–68, Cl. 260—606.5.

Da Silva, Anibal J.: *See*—
Belva, George M., Kilburn, and da Silva. 3,405,462.

Da Silva, Edward M., and R. T. Bogardus, to International Business Machines Corp. Vapor deposition method for forming thin polymeric films. 3,406,040, 10–15–68, Cl. 117–93.31.

Datron Systems, Inc.: *See*—
Stewart, Alfred W. 3,405,867.

Davey, Thomas R. A., to Metallurgical Processes Ltd., and Imperial Smelting Corp. (N.S.C.) Ltd., d.b.a. Metallurgical Development Co. Apparatus for dezincing lead. 3,405,926, 10–15–68, Cl. 266—37.

Davidson, Arthur P., and A. N. Mangum, to United Aircraft Corp. Articles for printed circuit repair. 3,406,246, 10–15–68, Cl. 174—68.5.

Davis, Charles M.: *See*—
Davis, William E. and C. M. 3,405,813.

Davis, Harold E., Jr., and R. J. Powers. Method and apparatus of refrigeration using cryogenic liquid. 3,405,531, 10–15–68, Cl. 62—63.

Davis, Martin A., and T. A. Dobson, to American Home Products Corp. 5-hydroxy-10,5-(epoxymethano)-10,11-dihydro-5H-dibenzo[a,d]cyclohepten-13-one and process for preparation thereof. 3,406,186, 10–15–68, Cl. 260—343.2.

Davis, Martin A., to American Home Products Corp. Substituted diphenylacetamide derivatives. 3,406,205, 10–15–68, Cl. 260—558.

Davis, Robert E.: *See*—
Ullman, William L., Baxter, Pearson, Davis, and Hullhorst. 3,406,231.

Davis, William E. and C. M. Conveyor for tobacco stitcher and looper mechanism. 3,405,813, 10–15–68, Cl. 214—5.5.

Davison, Joseph W., J. F. Hutto, and R. J. Livingston, to Phillips Petroleum Co. Production of cyclohexane from naphtha. 3,406,217, 10–15–68, Cl. 260—666.

Day, Frank, M. L. Froberg, and J. B. Holschlag, to Owens-Corning Fiberglas Corp. Method and apparatus for processing filament-forming mineral materials. 3,406,021, 10–15–68, Cl. 61—1.

Day, Kenneth H., and L. C. Sanford, to Itek Corp. Film processor. 3,405,627, 10–15–68, Cl. 95—94.

Dayco Corp.: *See*—
Trogdon, Thomas, Fore, and Pettigrew. 3,406,235.

Decca Ltd.: *See*—
Phillipson, Alan, and Spiller. 3,406,264.

De Dube, Bret P., Jr. Seeking switch remote motor control wherein each position is uniquely encoded by 2 N conductors and 2 N non-conductors. 3,406,322, 10–15–68, Cl. 318—33.

De Forest, Wesley V., to Robertshaw Controls Co. Thermostatic contro device using a hall plate. 3,405,870, 10–15–68, Cl. 236—78.

De Frees, Jon W.: *See*—
Carmack, Allen H., and De Frees. 3,405,615.

De Frees, Joseph H., to J. De Frees Heelan. Control valve for an outlet port in a fluid storage tank. 3,405,731, 10–15–68, Cl. 137—561.

Deiner, Hans: *See*—
Enders, Heinz, and Deiner. 3,406,032.

Della-Porta, Clifford, to The Premier Drum Co. Ltd. Snare drum stands. 3,405,588, 10–15–68, Cl. 84—421.

Demarest, Charles W.: *See*—
Walker, Wythe F., and Demarest. 3,405,758.

Denahan, Richard A., D. A. Farmer, P. K. Pal, and D. S. Rehaut. Regasification and separation of liquefied natural gas. 3,405,530, 10–15–68, Cl. 62—28.

Denecour, Ronald L.: *See*—
Georges, Louis W., and Denecour. 3,405,754.

Dennison, Carroll R. Pencil lead sharpener. 3,405,747, 10–15–68, Cl. 145—3.8.

Depetris, Giovanni: *See*—
Depetris, Lorenzo and G. 3,405,415.

Depetris, Lorenzo and G., to Smyth Europea S.p.A. Book covers manufacturing machine. 3,405,415, 10–15–68, Cl. 11—2.

De Raveton, Pierre: *See*—
Borgella, Albert, and De Raveton. 3,405,792.

Design Properties, Inc. *See*—
Kellogg, Thomas W. 3,405,849.

De Temple, Bernhard: *See*—
Belsswenger, Heinrich, and De Temple. 3,406,094.

De Valliere, Pierre F. Automatic release devices, more particularly for machine tools. 3,405,565, 10–15–68, Cl. 74—405.

Devlin, James E., A. J. and D. Eramo, and H. V. O'Connor, to Doe Corp. Snow melter. 3,405,705, 10–15–68, Cl. 126—343.5.

De Vries, Onno T.: *See*—
Gonsalves, Victor E., and De Vries. 3,405,556.

Dexter, Edwin M., to General Electric Co. Electro-viscous fluid valve. 3,405,728, 10–15–68, Cl. 137—251.

Dexter, Robert G., to Horix Mfg. Co. Torque limiting apparatus. 3,405,499, 10–15–68, Cl. 53—331.5.

Dibbo, Alan: *See*—
Bain, Peter J. S., and Dibbo. 3,406,141.

Di Camillo, Carmine V., to Bowles Engineering Corp. Pneumatic feel trim contro. 3,405,892, 10–15–68, Cl. 244—83.

Diebold, Valentine E. Fountain brush. 3,405,997, 10–15–68, Cl. 401—46.

Diehl, Walter L., to Cocker Machine & Foundry Co. Knock-over blade structure for warp knitting machines. 3,405,543, 10–15–68, Cl. 66—86.

Dietsch, Edouard V., to Societe anonyme des Etablissements Leon Hatot. Display devices. 3,405,465, 10–15–68, Cl. 40—68.

Dilg, Walter C., to Waugh Equipment Co. Resilient railway truck center plate. 3,405,654, 10–15–68, Cl. 105—199.

Dittmer, Theodore. Fruit harvester. 3,405,515, 10–15–68, Cl. 56—328.

Dobson, Thomas A.: *See*—
Davis, Martin A., and Dobson. 3,406,186.

Doe Corp.: *See*—
Devlin, James E., A. J. and D. Eramo, and O'Connor. 3,405,705.

Doka, Frank J., to General Motors Corp. Convertible top control linkage. 3,405,970, 10–15–68, Cl. 296—117.

Dominion Engineering Works, Ltd.: *See*—
Chatfield, Victor G., and Roper. 3,405,913.

Donald, Harold J., to The Dow Chemical Co. Apparatus for the preparation of reinforced tubes. 3,405,426, 10–15–68, Cl. 18—13.

Donalies, Daniel J.: *See*—
King, Paul F., and Donalies. 3,405,682.

Dore, Jacky, H. Ischer, P. Maderni, L. Schneider, and A. Schweizer, to Sandoz Ltd. (also known as Sandoz A.G.). Process for the manufacture of azo dyestuffs using urea as a coupling accelerator. 3,406,161, 10–15–68, Cl. 260—145.

Dorey, George B., to Continental Transport Appliances Ltd. Railway hopper car door operating mechanism lock. 3,405,655, 10–15–68, Cl. 105—250.

Dorey, George B., to Continental Transport Appliances Ltd. Oppositely swinging railway hopper valves. 3,405,656, 10–15–68, Cl. 105—253.

Dornemann, Alexander: *See*—
Zirngibl, Hans, Dornemann, Gerken, Heine, Meyer, and Weise. 3,406,011.

Dow Chemical Co., The: *See*—
Anderson, Robert E. 3,406,113.
Boozalis, Theodore S. 3,406,150.
Donald, Harold J. 3,405,426.
Hennes, John H. 3,406,145.
Reifschneider, Walter, and Kelyman. 3,406,202.
Salzinger, Carl B., and Ahlich. 3,405,833.
Stacy, Charles L., Jr., Hanson, and Wallace. 3,406,143.
White, Jerry L. 3,406,115.

Dow, Edmund A. Replaceable valve and valve seat units for control valves. 3,405,732, 10–15–68, Cl. 137—614.19.

Downen, Jim L.: *See*—
Sutliff, Wayne N., and Downen. 3,405,773.

Doyle, Larry D.: *See*—
Kiehart, Lawrence R., Doyle, and Walmsley. 3,405,566.

Drabik, Josef, and M. Klare, to G. Kromschroder, A.G. Spring adjusting device for use in a pressure regulator. 3,405,927, 10–15–68, Cl. 267—1.

Du Bois, Richard, Jr., H. D. Johnson, and H. E. Pessin, to Wagner Electric Corp. Optoelectronic logic element comprising a vacuum-fluorescent light source. 3,406,288, 10–15–68, Cl. 250—217.

Dud-Aviation Societe Nationale de Constructions Aeronautiques: *See*—
Jacquart, Raymond, and Haze. 3,405,891.

Dugdale, Ronald A., to United Kingdom, Atomic Energy Authority. Nonthermionic hollow cathode discharge devices. 3,406,307, 10–15–68, Cl. 313—231.

Dumanchin, Roger, to Compagnie Generale d'Electricite. Crystal laser device. 3,406,354, 10–15–68, Cl. 331—94.5.

Dunlap, Robert B.: *See*—
Edelberg, Alan K., Dunlap, and Harriman. 3,405,501.

Dunn, Peter D., H. C. Whitby, and G. Rice, to United Kingdom Atomic Energy Authority. Nuclear reactor fuel element. 3,406,090, 10–15–68, Cl. 176—73.

Du Pont de Nemours, E. I., and Co.: *See*—
Barker, Arthur F., and Wyeth. 3,405,851.
Eaton Edwin E., and Small. 3,406,153.
Fearnow, Philip W. 3,406,051.
Gibbs, Hugh H. 3,406,223.
Hartshorn, Jack H. 3,406,133.
Hitt, Otha A. 3,405,417.
Holmquist, Howard E. 3,406,215.
Lewis, Donald M., and Sebellst. 3,406,196.
Loux, Harvey M. 3,406,023.
McDonough, Leslie M. 3,406,224.
Moncure, Henry, Jr. 3,406,222.
Muetterties, Earl L. 3,406,019.
Overman, Joseph De W. 3,406,069.
Papa, Anthony J. 3,406,170.
Paufler, Robert M. 3,406,039.
Preisendanz, Edward S. 3,405,838.
Raasch, Maynard S. 3,406,184.
Reitz, Charles F. 3,406,033.
Wilson, Donald R. 3,406,154.

Durst, Reuben H.: *See*—
Calaceto, Ralph R., Durst, and Millar. 3,405,918.

Duschek, Christian: *See*—
Kochmann, Werner, Seelmann, Wetzke, Duschek, Frotscher, Muller, Springer, Liedmann, Schmidt, Sass, Armbruster, Triems, and Teutschbeln. 3,406,226.

Dwyer, Richard J., Jr., to Kimberly-Clark Corp. Roll package. 3,405,797, 10–15–68, Cl. 206—52.

Eastman Kodak Co.: *See*—
Hagemeyer, Hugh J., Jr., Blood, and Statman. 3,406,120.
Peterson, Dean McC. 3,405,624.

Easton, Roger L., and T. B. McCaskill, to United States of America, Navy. Satellite angle and altitude measuring system. 3,406,397, 10–15–68, Cl. 343—15.

Eastwood, Sylvander C., and A. B. Schwartz, to Mobil Oil Corp. Preparation of crystalline aluminosilicate containing composite catalyst. 3,406,124, 10–15–68, Cl. 252—455.

Eaton, Edwin E., and J. R. Small, to E. I. du Pont de Nemours and Co. Process of producing polyethylene terephthalate. 3,406,153, 10–15–68, Cl. 260—75.

Eaton Yale & Towne Inc.: *See*—
Fisher, Ferdinand W., and Higgins. 3,405,919.

Eby, Charles M. Aluminum knock-down collapsible container. 3,405,835, 10–15–68, Cl. 220—4.

Eby, Frank B. Christmas tree holder. 3,405,896, 10–15–68, Cl. 248—44.

Edelberg, Alan K., R. B. Dunlap, and A. C. Harriman, to International Shoe Machine Corp. Packaging machine. 3,405,501, 10–15–68, Cl. 53—51.

Edmunds, Edward E.: *See*—
Poch, Stephen, Edmunds, and Lichter. 3,406,058.

Edward, D., Beachler: *See*—
Crist, Elmer E., and Edward. 3,405,632.

Edwards, Harlan H. Flashing system for flat roofs. 3,405,485, 10–15–68, Cl. 52—60.

Edwards, William C., to Kline, Smith, & French Laboratories. Apparatus for measuring blood pressure. 3,405,707, 10–15–68, Cl. 128—2.05.

Ehrhardt, Gerry H.: *See*—
Wissinger, Robert R., and Ehrhardt. 3,405,555.

Ehrlich, Burney J., to Texas Instruments Inc. Welding apparatus. 3,406,272, 10–15–68, Cl. 219—109.

Eichenberger, Werner, to Aktiengesellschaft Gebruder Loepfe. Cutting mechanism for thin, elongate structures. 3,405,582, 10–15–68, Cl. 83—568.

Eickmann, Karl. Control means in fluid-power driven, fluid-borne vehicles. 3,405,890, 10–15–68, Cl. 244—17.23.

Ekbergh, Evert O., and P. G. Jonsson, to International Standard Electric Corp. Switching contact network having common multiple primary switch means. 3,406,259, 10–15–68, Cl. 179—22.

Ekman, Carl O. A.: *See*—
Frisk, Karl P. 3,405,489.

Ekman, Ernst O. V.: *See*—
Frisk, Karl P. 3,405,489.

Electric & Musical Industries Ltd.: *See*—
Udall, Anthony J. S. 3,406,348.

Electro-Clamp Corp.: *See*—
Lawlor, Robert E. 3,406,372.

Electro-Optical Systems, Inc.: *See*—
Russell, Robert H., Boyko, and Gilbert. 3,406,364.

Ellis, Charles R.: *See*—
Geier, George, Ellis, and Baker. 3,406,292.

Eloranta, Vaito K.: *See*—
Land, Edwin H., and Eloranta. 3,405,618.

Elsas, Norman E. Fabric handling apparatus. 3,405,034, 10–15–68, Cl. 271—3.

Elsner, Edwin C., F. G. Hahn, and H. W. Littlebury, Sr., 51% to Edwin Elsner, 29% to Max Fink, 10% to Floyd G. Hahn, and 10% to Hugh W. Littlebury, Sr. Tension indicator for fastening means. 3,405,597, 10–15–68, Cl. 85—62.

Embassy Industry, Inc.: *See*—
Nelson, Elliot S. 3,405,488.

Emerson, John F., and C. W. Lang, to General Precision Inc. Fractional speed synchro system. 3,406,321, 10–15–68, Cl. 318—18.

Emery Industries, Inc.: *See*—
Seiwert, Joseph J., and Boylan. 3,406,134.

Enders, Heinz, and H. Deiner, to Chemische Fabrik Pfersee G.m.b.H. Emulsion for hydrophobing textiles. 3,406,032, 10–15–68, Cl. 106—271.

Endress, James W., to Carrier Corp. Refrigerant control to maintain minimum head. 3,405,530, 10–15–68, Cl. 62—218.
Engelhard Industries, Inc.: *See*—
Seal, Michael. 3,405,510.
Engelhard Minerals & Chemicals Corp.: *See*—
Allegrani, Aldo P., and Cecil. 3,406,125.
English Electric Co. Ltd., The: *See*—
Faulkes, Kenneth M. 3,406,319.
English Munbering Machines Ltd.: *See*—
Puckette, Charles C., and Baldwin. 3,405,936.
Epstein, Peter F., to Stauffer Chemical Co. Method of killing pests with S-(2,5-dichloro-3-thienyl-thiomethyl) 0,0-diethyl phosphorodithioate. 3,406,233, 10–15–68, Cl. 424—202.
Eramo, Alderico J.: *See*—
Devlin, James E., A. J. and D. Eramo, and O'Connor. 3,405,705.
Eramo, Dominic: *See*—
Devlin, James E., A. and D. Eramo, and O'Connor. 3,405,705.
Erickson, Frederick E., to E. W. Bliss Co. Bi-directional motor reversal control device. 3,406,303, 10–15–68, Cl. 310—40.
Erickson, John W., M. G. Konrad, and J. McCloud, to Preco Inc. Adjustable second deck for transport vehicles. 3,405,661, 10–15–68, Cl. 105—371.
Esposito, Vincent J., Jr. Screw actuated toggle valve dispensing cap. 3,405,850, 10–15–68, Cl. 222—498.
Esso Research and Engineering Co.: *See*—
Aldridge, Clyde L., and Koontz. 3,406,156.
Baumann, George P., and Spielman. 3,406,201.
Hawley, Roger S. 3,406,142.
Winegartner, Edgar C. 3,406,132.
European Atomic Energy Community-Euratom: *See*—
Galli De Paratesi, Sergio, Rinaldini, and Katsuya. 3,406,093.
Evans, Norol T., to Hughes Aircraft Co. Automatic processor for stacked beam radar. 3,406,390, 10–15–68, Cl. 343—5.
Eversman, Carl A., to Sheller-Globe Corp. Pedestal type desk and drawer suspension therefor. 3,405,988, 10–15–68, Cl. 312—254.
Ezaki, Tadao: *See*—
Anahara, Meiji, Ezaiki, Nakagawa, Tsutsui, and Okazaki. 3,405,517.
FMC Corp.: *See*—
Ager, John W., Jr. 3,406,216.
Blochl, Walter. 3,406,214.
Radimer, Kenneth J., and Caropreso. 3,406,108.
Fafnir Bearing Co., The: *See*—
Krenn, Joseph R. 3,405,982.
Fagenstrom, James R. Support bracket for concrete structures. 3,405,480, 10–15–68, Cl. 52—190.
Fairchild Camera & Instrument Corp.: *See*—
Michalchik, Michael. 3,406,062.
Falcioni, Joseph G., to The Boeing Co. Rivet joining method, pin therefor and pin manufacturing method. 3,405,594, 10–15–68, Cl. 85—37.
Fankhanel, Martin O.: *See*—
Wallace, Bruce A., Fankhanel, and Leitner. 3,405,691.
Farbenfabriken Bayer Aktiengesellschaft: *See*—
Zirngibl, Hans, Dornemann, Gerken, Heine, Meyer, and Weise. 3,406,011.
Klinkmann, Kurt, and Schmidt. 3,406,151.
Kniege, Wilfried. 3,406,236.
Kruccenberg, Winfried. 3,406,165.
Ley, Kurt, Redetzky, Seydel, and Volwinkel. 3,406,146.
Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
Koller, Walter. 3,406,152.
Kuhlkamp, Alfred, Mauz, and Gowecke. 3,406,131.
Lohaus, Gerhard, and Lebkücher. 3,406,035.
Meininger, Fritz, Bauer, and Berner. 3,406,163.
Weber, Helmut, Aumuller, Weyer, Muth, and Schmidt. 3,406,199.
Farmer, Douglas A.: *See*—
Denahan, Richard A., Farmer, Pal, and Rehaut. 3,405,530.
Farr, John B., and D. E. Powley, to Pan American Petroleum Corp. Protecting marine structures from floating objects. 3,405,527, 10–15–68, Cl. 61—1.
Farrington, Grant M., and W. X. Fay, to General Refractories Co. Plastic chrome ore composition. 3,406,029, 10–15–68, Cl. 106—66.
Fastener Corp.: *See*—
Novak, Edward J. 3,405,602.
Faulkes, Kenneth M., to The English Electric Co. Ltd. Apparatus for monitoring the operation of a closed loop position control system. 3,406,319, 10–15–68, Cl. 318—18.
Fauser, Giacomo, to Montecatini Edison S.p.A. Urea manufacture. 3,406,200, 10–15–68, Cl. 260—555.
Fay, Wayne X.: *See*—
Farrington, Grant M., and Fay. 3,406,029.
Fearnow, Philip W., to E. I. du Pont de Nemours and Co. Aqueous explosive composition containing a partially nitrated aromatic hydrocarbon dispersed by a monamide. 3,406,051, 10–15–68, Cl. 149—56.
Federal-Mogul Corp.: *See*—
Scheifele, Hudson B. 3,405,981.
Fein, Marvin M.: *See*—
Morrow, Scott I., Fein, and Perry. 3,406,203.
Feles, Nick, and W. H. West, to General Motors Corp. Automobile concealed vent arrangement. 3,405,968, 10–15–68, Cl. 296—28.
Fenwal Inc.: *See*—
Walbridge, Lyman H. 3,405,998.
Feucht, Jacob E., to Westinghouse Air Brake Co. Drill rig. 3,405,768, 10–15–68, Cl. 173—52.
Field Emission Corp.: *See*—
Brewster, John L. 3,406,304.
Filton Ltd.: *See*—
Walker, Gordon R. 3,405,959.
Finelli, Patrick L., to Polaroid Corp. Film metering device with two locking members. 3,405,621, 10–15–68, Cl. 95—31.
Fink, Max: *See*—
Eisner, Edwin C., Hahn, and Littlebury. 3,405,597.
Finley, Charles M., to Consolidated Electrodynamics Corp. Analytical system. 3,405,549, 10–15–68, Cl. 73—23.1.
Firestone Tire & Rubber Co., The: *See*—
Georges, Louis W., and Denecour. 3,405,754.
Firma Bergwerksverband G.m.b.H.: *See*—
Peters, Werner, and Juntgen. 3,405,508.
Fischer, William H., to Westinghouse Electric Corp. Fluid-blast circuit breakers having means for increasing the density of the fluid during interruption. 3,406,269, 10–15–68, Cl. 200—148.
Fisher, Ferdinand W., and T. J. Higgins, Jr., to Eaton Yale & Towne Inc. Humidifying apparatus. 3,405,919, 10–15–68, Cl. 261—64
Fisholow Products Ltd.: *See*—
Orwin, Olaf J. B., Gold, and Fortune. 3,405,789.
Orwin, Olaf J. B., and Fortune. 3,405,790.
Flamand, Claude, M. Lazareff, and F. Rajau, to Nord-Aviation Societe Nationale de Constructions Aeronautiques. Large capacity fuselage and corresponding aerodyne. 3,405,893, 10–15–68, Cl. 244—119.
Fleisher, Marvin B., and P. E. Hixon, to Itek Corp. Apparatus for processing photographic material and the like. 3,405,626, 10–15–68, Cl. 95—94.
Fletcher, Wayne B., to Sun Oil Co. Preparation of alpha-tocopheryiquinone. 3,406,188, 10–15–68, Cl. 260—396.
Floehr, Walter L., to Midland-Ross Corp. Gear train gate operating mechanism. 3,405,657, 10–15–68, Cl. 105—282.
Forbro Design Corp.: *See*—
Kupferberg, Kenneth, and Birman. 3,406,341.
Ford Motor Co.: *See*—
Da Rooge, Margaret A., and Mahoney. 3,406,218.
Garwood, Willard S., and Saxton. 3,406,106.
Searles, John J., and Ruokolainen. 3,405,575.
Ford, Vernon E., and R. P. Forsyth, to Polaroid Corp. Photographic exposure control apparatus. 3,405,623, 10–15–68, Cl. 95—53.
Fore, James R.: *See*—
Trogdon, Thomas, Fore, and Pettigrew. 3,406,235.
Forney, Edgar W., Jr., to AMP Inc. Coaxial connector assembly. 3,406,373, 10–15–68, Cl. 339—97.
Forsyth, Robert P.: *See*—
Ford, Vernon E., and Forsyth. 3,405,623.
Fortuna-Werke Spezialmaschinenfabrik AG.: *See*—
Koppenwallner, Georg. 3,405,484.
Fortune, David J.: *See*—
Orwin, Olaf J. B., and Fortune. 3,405,790.
Orwin, Olaf J. B., Gold, and Fortune. 3,405,789.
Fosburg, Philip L.: *See*—
Clark, Myron A., and Fosburg. 3,405,783.
Foster, Raymond O. Means for detecting the fertile period. 3,406,015, 10–15–68, Cl. 23—230.
Foster, Raymond O., and D. T. Saplt. Means for detecting the fertile period. 3,406,016, 10–15–68, Cl. 23—230.
Foster, William E., to Mobay Chemical Co. Transparent safety laminates and method of making same. 3,406,086, 10–15–68, Cl. 161—183.
Fox, Harold L., to Sperry Rand Corp. Fluid flow dividing means for fluid control devices. 3,405,725, 10–15–68, Cl. 137—81.5.
Fox, Ruby K. Inflated dress form measurement harness. 3,405,852, 10–15–68, Cl. 223—67.
Foxx, Robert J., and E. H. Krause, Jr., to Nordberg Mfg. Co. Spike driver. 3,405,649, 10–15–68, Cl. 104—17.
Francois, Marcel, to Compagnie Francaise Thomson Houston-Hotchkiss Brandt. Column-mounted portable firearm for a projectile. 3,405,469, 10–15–68, Cl. 42—1.
Frant, Martin S., and J. W. Ross, Jr., to Corning Glass Works. Ion-sensitive electrode with organo-metallic liquid ion-exchanger. 3,406,102, 10–15–68, Cl. 204—1.
Freeman, Alan J. M., to Olin Mathieson Chemical Corp. Apparatus for raising the pressure of a fluid. 3,405,642, 10–15–68, Cl. 103—50.
French, Richard W., to General Electric Co. Parallel inverter with rapid response time to changes in pulse durations. 3,406,329, 10–15–68, Cl. 321—45.
Frenkel, Herbert M.: *See*—
Frenkel, Richard E., and H. M. 3,405,678.
Frenkel, Richard E., and H. M. Cooking utensil with temperature indicating means. 3,405,678, 10–15–68, Cl. 116—114.
Freyermuth, Harlan B., and W. E. Van Horn, to GAF Corp. Emollient preparations containing alkylated polymers of heterocyclic N-vinyl monomers. 3,406,238, 10–15–68, Cl. 424—70.
Frieder, Leonard P., Jr., to Gentex Corp. Readily reversible buoyant jacket. 3,405,414, 10–15–68, Cl. 9—338.
Friedman, Melvin, to Polaroid Corp. Camera apparatus. 3,405,620, 10–15–68, Cl. 95—13.
Fries, Donald L., ½ to Lubbock Mfg. Co., and ½ to Perrytex Machinery Co. Cable layer. 3,405,533, 10–15–68, Cl. 61—72.6.
Frisk, Karl P., to E. O. V. Ekman, B. Brundin, and C. O. A. Ekman, trading as Licentia, Ekman & Brundin. False ceilings. 3,405,489, 10–15–68, Cl. 52—222.
Froberg, Magnus L.: *See*—
Day, Frank, Froberg, and Holschlag. 3,406,021.
Frotscher, Frank: *See*—
Kochmann, Werner, Seelmann, Wetzke, Duschek, Frotscher, Muller, Springer, Liedmann, Schmidt, Sass, Armbruster, Triems, and Teutschbein. 3,406,226.
Fujii, Shoichiro: *See*—
Masuda, Toru, Honjo, Fujii, Imai, and Takanohashi. 3,406,166.

Fukano, Michio, and T. Hojo, to Kabushiki Kaisha Tokyo Keiki Seizosho (Toyko Keiki Seizosho Co., Ltd.). Liquid ballistic for gyrocompasses. 3,405,451, 10–15–68, Cl. 33—226.
Futura Roofs, Inc.: *See*—
Sullivan, Jack E. 3,405,903.
GAF Corp.: *See*—
Avery, Francis J. 3,406,066.
Azorlosa, Julian L., and Williams. 3,406,155.
Cerwonka, Edward. 3,406,067.
Cofrancesco, Anthony J. 3,406,169.
Freyermuth, Harlan B., and Van Horn. 3,406,238.
Welch, Walter J. 3,406,072.
Galle, Edward M., and H. B. Woods, to Hughes Tool Co. Drilling method and apparatus employing pressure variations in a drilling fluid. 3,405,770, 10–15–68, Cl. 175—56.
Galli De Paratesi, Sergio, and C. Rinaldini, to European Atomic Energy Community-Euratom. Control rod system for nuclear power excursion reactors. 3,406,093, 10–15–68, Cl. 176—36.
Galliers, Marshall W.: *See*—
Jones, Charles, and Galliers. 3,405,695.
Garcia, Julian A., and J. H. Kasell, to International Telephone and Telegraph Corp. Compandor that supplies gain to the system. 3,406,357, 10–15–68, Cl. 333—14.
Garden, Kenneth S. Caution cap and key therefor. 3,405,827, 10–15–68, Cl. 215—9.
Gardenghi, Robert A., to Westinghouse Electric Corp. Solid state high frequency power amplifier. 3,406,352, 10–15–68, Cl. 330—31.
Garnjost, Kenneth D.: *See*—
Ballard, John S., Garnjost, Hague, Moog, and Treff. 3,405,600.
Garwood, Willard S., and J. B. Saxton, to Ford Motor Co. Coating treatment. 3,406,106, 10–15–68, Cl. 204—37.
Gault, Robert L., to Westinghouse Electric Corp. Mechanism for converting a wall type oven to a combination oven and surface heater unit. 3,406,277, 10–15–68, Cl. 219—444.
Gauthier, Edward V. Integrated meter system. 3,405,554, 10–15–68, Cl. 73—114.
Gaw, John W., to AMP Inc. Electrical connector. 3,406,370, 10–15–68, Cl. 339—60.
Gaydosh, Donald S.: *See*—
Magor, James K., and Gaydosh. 3,406,047.
Gebroeders Stork & Co.'s Apparatenfabriek N.V.: *See*—
Vertegaal, Jacobus G. 3,405,423.
Gehenot, Charles, to Compagnie belgoluxembourgeoise du Commerce exterieur in abridgment; "Cobelcomex". Process and installation for glass tempering and cooling. 3,406,022, 10–15–68, Cl. 65—114.
Gerlie, Charles S., to Presto Lock Co., Inc. Combination lock. 3,405,544, 10–15–68, Cl. 70—74.
Geler, George, C. R. Ellis, and A. L. Baker, to Keuffel & Esser Co. Surface checking device. 3,406,292, 10–15–68, Cl. 250—224.
Geigy Chemical Corp.: *See*—
Lee, Samuel. 3,406,031.
Tscharner, Christopher J., and Pichler. 3,406,118.
General Alarm Corp.: *See*—
Hawkins, Paul M. 3,406,386.
General Electric Co.: *See*—
Dexter, Edwin M. 3,405,728.
French, Richard W. 3,406,329.
Mapham, Neville W., and Kelley. 3,406,327.
Martin, Robert L. 3,406,374.
Schmukler, Seymour. 3,406,147.
Somers, Lewis E. 3,406,405.
General Instrument Corp.: *See*—
Wanlass, Frank M. 3,406,346.
General Micro-Electronics Inc.: *See*—
Caracciolo, Edward A. 3,405,442.
General Motors Corp.: *See*—
Bassett, Arthur T., Jr., and Siegla. 3,406,278.
Doka, Frank J. 3,405,970.
Feles, Nick, and West. 3,405,968.
Harland, Glen E., Jr., and Lund. 3,406,318.
Johnston, Ralph H. 3,405,779.
Kobrehel, Peter M. 3,405,971.
Livezey, William G. 3,405,574.
Magee, Hubert E., and Whitmer. 3,406,335.
Nolta, James P., and Schubring. 3,405,440.
Racine, Franklin L. 3,406,122.
Sinke Robert A., Jr. 3,405,557.
Tanaka, Akira. 3,405,539.
Wagle, Joseph A. 3,405,889.
Zaruba, Karl. 3,405,696.
General Precision Inc.: *See*—
Emerson, John F., and Lang. 3,406,321.
General Precision Systems Inc.: *See*—
Belva, George M., Kilburn, and da Silva. 3,405,462.
General Refractories Co.: *See*—
Farrington, Grant M., and Fay. 3,406,029.
Stein, Joseph L. 3,405,668.
General Steel Industries, Inc.: *See*—
Cunningham, James B. 3,405,653.
General Time Corp.: *See*—
Patrick, Alan E., and Robinson. 3,405,518.
Gentex Corp.: *See*—
Frieder, Leonard P., Jr. 3,405,414.
Georges, Louis W., and R. L. Denecour, to The Firestone Tire & Rubber Co. Tires containing ethylene-propylene-diene rubber and process of manufacture. 3,405,754, 10–15–68, Cl. 152—330.
Gerhardi, Thomas E. Livestock protector and animal repeller. 3,405,688, 10–15–68, Cl. 119—156.
Gerken, Rudolf: *See*—
Zirngibl, Hans, Dornemann, Gerken, Heine, Meyer, and Weise. 3,406,011.
Ghosh, Ranajit, to Imperial Chemical Industries Ltd. N-tertiaryamino-N'-[alkyl, allyl or tertiary amino] dithiocarbamoyl monosulphides. 3,406,171, 10–15–68, Cl. 260—247.1.
Gibble, Walter P., to Hunt Foods and Industries, Inc. Packaging of salad oils and the like. 3,406,079, 10–15–68, Cl. 99—171.
Gibble, Walter P., to Hunt Foods and Industries, Inc. Packaging of salad oils and the like. 3,406,080, 10–15–68, Cl. 99—171.
Gibbs, Hugh H., to E. I. du Pont de Nemours and Co. Stabilized polyoxymethylenes. 3,406,223, 10–15–68, Cl. 260—857.
Gilbert, John A.: *See*—
Russell, Robert H., Boyko, and Gilbert. 3,406,364.
Gilbert, John H.: *See*—
Baxter, Samuel, and Gilbert. 3,406,230.
Gill, Joseph, and G. Rouvalis, to Westinghouse Electric Corp. Direct current tachometer system. 3,406,317, 10–15–68, Cl. 317—5.
Gillespie, Robert D.: *See*—
Mizelle, Adrian C., and Gillespie. 3,405,503.
Glitzow, James H.: *See*—
McFadyen, Richard, and Glitzow. 3,405,466.
Glacier Metal Co. Ltd., The: *See*—
Herbert, Colin W. 3,405,765.
Glass, John P.: *See*—
Simson, Anton K. 3,405,464.
Global Marine Inc.: *See*—
Koot, Nick. 3,405,558.
Goeddel, Walter V.: *See*—
Tully, Geoffrey R., Jr., and Goeddel. 3,406,227.
Gold, Derek L.: *See*—
Orwin, Olaf J. B., Gold, and Fortune. 3,405,789.
Goldschmied, Fabio R., to Sperry Rand Corp. Pure fluid control device. 3,405,724, 10–15–68, Cl. 137—81.5.
Gonsalves, Victor E., and O. T. De Vries, to Algemene Kunstzijde Unie N.V. Apparatus for measuring the twist of a cord. 3,405,556, 10–15–68, Cl. 73—160.
Good Humor Corp.: *See*—
Otken, Edwin J. 3,405,662.
Goode, Robert W. Fluid pressure control for brake mechanism with cooling means. 3,405,786, 10–15–68, Cl. 188—264.
Goodman, H., & Sons, Inc.: *See*—
Sidelman, Abraham. 3,405,430.
Goren, Mayer B., to Kerr-McGee Oil Industries, Inc. Process for flocculating finely divided solids suspended in an aqueous medium with a microbial polysaccharide. 3,406,114. 10–15–68, Cl. 210—54.
Gosnell, Charles N., and S. H. Saulson, to Westinghouse Electric Corp. Method of making inflationable erectable hollow structures. 3,405,886, 10–15–68, Cl. 244—1.
Gosse, Gerard: *See*—
Albert, Philippe, Renucci, Lehr, and Gosse. 3,406,056.
Gothard, Sydney A., D. F. Rees, and L. P. Brunt, to Vickers Seerdrum Ltd. Refuse treating apparatus. 3,405,873. 10–15–68, Cl. 241—38.
Gould, Lawrence P., and B. L. Oechsli, to Allied Chemical Corp. Process for aluminum chloride production. 3,406,009, 10–15–68, Cl. 23—93.
Gowecke, Siegfried: *See*—
Kuhlkemp, Alfred, Mauz, and Gowecke. 3,406,131.
Grace, Herbert W.: *See*—
Cockerell, Christopher S., Grace, and Boutland. 3,405,675.
Grace, W. R., & Co.: *See*—
Bauer, Clifford D., Neuser, and Pinkalla. 3,406,081.
Grady, Charles B., Jr., and N. B. Wales, Jr., to The Metrodynamics Corp. Weighing mechanism. 3,405,775, 10–15–68, Cl. 177—229.
Graham, Charles B., and R. A. Mutter, to Cocker Machine & Foundry Co. Textile beam driving apparatus having expandable gudgeons. 3,405,538, 10–15–68, Cl. 64—5.
Grandstaff, Otho D., to Automatic Electric Laboratories, Inc. Signaling arrangements controlled by line ringing current. 3,406,262, 10–15–68, Cl. 179—84.
Grassi, Elio. Cigarette sheath perforator. 3,405,718, 10–15–68, Cl. 131—170.
Gray Tool Co.: *See*—
Pierce, Elwood K., Jr. 3,405,956.
Pitts, William A., Crain, and Pierce. 3,405,763.
Grayson, Richard D., and L. Newton, to International Telephone and Telegraph Corp. Range control system. 3,405,869, 10–15–68, Cl. 236—15.
Greathouse, Walton D.: *See*—
Spencer, John R., Cheek, and Greathouse. 3,405,507.
Greaves, Douglas: *See*—
Mealin, Thomas E., and Greaves. 3,405,701.
Grebe, Kurt R., and J. V. Powers, to International Business Machines Corp. Non-cyanide silver plating bath. 3,406,107, 10–15–68, Cl. 204—46.
Gregoire, Jean A. Suspension for vehicle seats. 3,405,901, 10–15–68, Cl. 248—400.
Greif Bros. Cooperage Corp., The: *See*—
Carpenter, Herbert L., Jr. 3,405,837.
Groller Inc.: *See*—
Higer, Gerald. 3,405,985.
Grundig, Max: *See*—
Stulber, Walter, and Mueller. 3,405,793.
Grundschober, Friedrich: *See*—
Sambeth, Joerg, and Grundschober. 3,406,148.
Guenther, Arthur W. E., to E. Hildebrandt. Wire bending apparatus. 3,405,742, 10–15–68, Cl. 140—103.
Guerrieri, Salvator A., to The Lummus Co. Chemical process for the production of oxygen and nitrogen from air. 3,406,014, 10–15–68, Cl. 23—221.
Gugler, Victor F. Cake icing machine. 3,405,681, 10–15–68, Cl. 118—25.
Guidry, Bernard. Self-propelled fishing gig. 3,405,472, 10–15–68, Cl. 43—6.
Gulf General Atomic Inc.: *See*—
Ayers, Richard A. 3,406,324.
Tully, Geoffrey R., Jr., and Goeddel. 3,406,227.

Gulf Oil Corp.: *See*—
Alexander, Richard L. 3,406,127.
Gulf Research & Development Co.: *See*—
Terwilliger, Paul L. 3,405,762.
Gustafson, Beauford L. Road paving machine. 3,405,613. 10–15–68, Cl. 94—44.
Gustavel, Raymond L.: *See*—
Bodoh, Albinus G., and Gustavel. 3,405,946.
Gyro Engineering Corp.: *See*—
Mowry, Chris. 3,406,293.
Haas, Eberhard, to Messrs. August Laepple G.m.b.H. & Co. Transport safety coupler. 3,405,965, 10–15–68, Cl. 294—83.
Haas, Edgar, to Universal Shoe Machinery Corp. Heated cement supply system for shoe machine. 3,406,276, 10–15–68, Cl. 219—421.
Hagemeyer, Hugh J., Jr., A. E. Blood, and M. Statman, to Eastman Kodak Co. Ceramic packing material for the prevention of methacrylate and acrylate ester polymerization. 3,406,120, 10–15–68, Cl. 252—397.
Hagfors, Norman R., to Medtronics, Inc. Implantable electrode. 3,405,715, 10–15–68, Cl. 128—418.
Hague, Robert Z.: *See*—
Ballard, John S., Garnjost, Hague, Moog, and Treff. 3,405,600.
Hahn, Floyd G.: *See*—
Elsner, Edwin C., Hahn, and Littlebury. 3,405,597.
Halasz, Istvan. Pressure program device for chromatographic column. 3,405,551, 10–15–68, Cl. 73—23.1.
Hallden, Karl W., to The Hallden Machine Co. Rotary shear drive. 3,405,580, 10–15–68, Cl. 83—305.
Hallden Machine Co., The: *See*—
Hallden, Karl W. 3,405,580.
Hallowell, Fulton W., Jr., to R. E. Hartung Co., Inc. Thermoplastic bottle. 3,405,826, 10–15–68, Cl. 215—1.
Harper, Edmund J., and C. L. Chance, to Burgess-Manning Co. Vane type separator. 3,405,511, 10–15–68, Cl. 55—440.
Hamilton, Milon J.: *See*—
Coates, Herbert W., Baigas, Hamilton, and Haynes. 3,405,674.
Hamling, Bernard H., to Union Carbide Corp. Process for producing metal fibers, textiles and shapes. 3,406,025, 10–15–68, Cl. 75—.5.
Hammann, William C.: *See*—
Schisla, Robert M., and Hammann. 3,406,207.
Hampson, Clinton W., to Clinton Silk Mill, Inc. Front for loom shuttle box. 3,405,741, 10–15–68, Cl. 139—183.
Hansen, Clarence M., and T. L. Speer, said Hansen assor. to Board of Trustees, a constitutional corporation, operating Michigan State University of Agriculture and Applied Science, and said Speer assor. to Standard Oil Co. Method of forming a subterranean moisture barrier. 3,405,528, 10–15–68, Cl. 61—1.
Hansen, Clarence M., and L. E. Ott, said Hansen assor. to Board of Trustees, of Michigan State University of Agriculture and Applied Science, a constitutional corporation, and said Ott assor. to Standard Oil Co. Preparation of underground water barriers. 3,405,529, 10–15–68, Cl. 61—1.
Hansen, Kay W. Fluid distributor valve. 3,405,733, 10–15–68, Cl. 137—624.14.
Hansen, Robert W., to Jennings Radio Mfg. Corp. Miniature single pole-double throw ceramic-metal switch structure. 3,406,268, 10–15–68, Cl. 200—144.
Hanson, William J.: *See*—
Stacy, Charles L., Jr., Hanson, and Wallace. 3,406,143.
Happel, William E., to Landis Tool Co. Disengaging means for work driving dogs. 3,405,576, 10–15–68, Cl. 82—40.
Hardinge Brothers, Inc.: *See*—
Peterson, Anders A. 3,405,595.
Hardy, John E., and M. E. Jordan, to Cabot Corp. Method of producing extremely finely-divided oxides. 3,406,228, 10–15–68, Cl. 264—.5.
Harland, Glen E., Jr., and J. Lund, to General Motors Corp. Potential regulator with an electrical polarity reversal protection feature. 3,406,318, 10–15–68, Cl. 317—43.
Harley, Frank B., ½ to Harley Patents (International) Ltd. Releasable fastener. 3,405,966, 10–15–68, Cl. 294—83.
Harley, Frank B., to Harley Patents (International) Ltd. Connector assemblies. 3,405,967, 10–15–68, Cl. 294—83.
Harley Patents (International) Ltd.: *See*—
Harley, Frank B. 3,405,966.
Harley, Frank B. 3,405,967.
Harmon, James V. Method and apparatus for towing skiers and the like. 3,405,651, 10–15–68, Cl. 104—173.
Harnisch, Heinz: *See*—
Müller-Schiedmayer, Günther, Harnisch, and Cremer. 3,406,013.
Harper, James E. Surface modification apparatus. 3,405,481, 10–15–68, Cl. 51—9.
Harper, Laffie. Duct device. 3,405,737, 10–15–68, Cl. 138—39.
Harrell, John W. Tip resistant animal feeder. 3,405,685, 10–15–68, Cl. 119—61.
Harriman, Allen C.: *See*—
Edelberg, Alan K., Dunlap, and Harriman. 3,405,501.
Harris, Darrel M., to Monsanto Co. Resistance heating elements and method of conditioning the heating surfaces thereof. 3,406,044, 10–15–68, Cl. 117—215.
Harris, Donald S., to New Castle Products, Inc. Folding door. 3,405,756, 10–15–68, Cl. 160—229.
Hart, H. W., Mfg. Co.: *See*—
Hart, Harold W. 3,405,686.
Hart, Harold W., to H. W. Hart Mfg. Co. Watering system for newly hatched fowls. 3,405,686, 10–15–68, Cl. 119—75.
Hartman, Richard A.: *See*—
Hartman, Robert L. and R. A. 3,406,384.
Hartman, Robert L. and R. A. Fire detector and preventer system. 3,406,384, 10–15–68, Cl. 340—227.
Hartshorn, Jack H., to E. I. du Pont de Nemours and Co. Floor polish composition. 3,406,133, 10–15–68, Cl. 260—28.5.
Hartung, R. E., Co., Inc.: *See*—
Hallowell, Fulton W., Jr. 3,405,826.
Harvey Aluminum, Inc.: *See*—
Harvey, Leo M., H. and H. M., and Hill. 3,405,757.
Harvey, Homer M.: *See*—
Harvey, Leo M., H. and H. M., and Hill. 3,405,757.
Harvey, Leo M., H. Harvey, H. M. Harvey, and L. C. Hill, to Harvey Aluminum, Inc. Method and apparatus for continuous casting of metal between oppositely rotatable cooling rolls set generally one above the other. 3,405,757, 10–15–68, Cl. 164—87.
Haskon, Inc.: *See*—
Damrel, Robert L. 3,405,848.
Hata, Naoaki: *See*—
Nishimura, Sachio, and Hata. 3,406,128.
Hatter, Robert F. Filter. 3,405,805, 10–15–68, Cl. 210—130.
Hawes, Alan B. Monorail train. 3,405,650, 10–15–68, Cl. 104—119.
Hawkins, Harold M., to Phillips Petroleum Co. Removal of a chelating agent from a process stream. 3,406,220, 10–15–68, Cl. 260—677.
Hawkins, Paul M., to General Alarm Corp. Chain lock alarm. 3,406,386, 10–15–68, Cl. 340—274.
Hawley, Roger S., to Esso Research and Engineering Co. Acyclic dienophile cure of low unsaturated polymers. 3,406,142, 10–15–68, Cl. 260—41.5.
Hayashida, Koniehi. Bottle-stopper. 3,405,830, 10–15–68, Cl. 215—40.
Haynes, John T., Jr.: *See*—
Coates, Herbert W., Baigas, Hamilton, and Haynes. 3,405,674.
Hays, Thomas M., to Shure Shaft Co. Masonry walls and strengthener. 3,405,491, 10–15–68, Cl. 52—236.
Haze, Richard D.: *See*—
Jacquart, Raymond, and Haze. 3,405,891.
Hebard Hugh C., to Aladdin Industries Ltd. Liquid fuel burning heaters. 3,406,003, 10–15–68, Cl. 431—307.
Hecht, Victor. Carburetor. 3,405,917, 10–15–68, Cl. 261—23.
Hecker, Arthur C., and N. L. Perry, to Argus Chemical Corp. Polyolefins stabilized with mixtures comprising an acid phosphorus compound, a metal salt, and optionally a phenol. 3,406,135, 10–15–68, Cl. 260—23.
Hecker, Richard C.: *See*—
Cheng, Chao-Shing, Hecker, Apostle, and Snider. 3,406,167.
Heelan, June D. F.: *See*—
De Frees, Joseph H. 3,405,731.
Hees, Ronald D., to Narad, Inc. Honeycomb load spacer. 3,405,659, 10–15–68, Cl. 105—369.
Heim, Richard C.: *See*—
Lanyi, Ronald J., and Heim. 3,406,302.
Heine Heinz: *See*—
Zirngibl, Hans, Dornemann, Gerken, Heine, Meyer, and Weise. 3,406,011.
Hemker, James B., to Square D Co. Positioning control circuit including overshoot prevention means. 3,406,320, 10–15–68, Cl. 318—18.
Henkel & Cie, G.m.b.H.: *See*—
Blaser, Bruno, and Kutzen. 3,406,208.
Hennes, John H., to The Dow Chemical Co. Heat stability of acrylonitrile polymer products. 3,406,145, 10–15–68, Cl. 260—45.75.
Henry-Biabaud, Edmond, to Societe Anonyme Andre Citroen. Disc and support means therefor. 3,405,784, 10–15 68, Cl. 188—18.
Hensgen, Bernard T.: *See*—
Marshall, Robert H., and Hensgen. 3,405,504.
Herbert Colin W., to The Glacier Metal Co. Ltd. Ship's propeller mounting. 3,405,765, 10–15–68, Cl. 170—173.
Hercules Inc.: *See*—
Jamison, Joel D. 3,406,179.
Herrell, Robert L. Van ventilating door. 3,405,480, 10–15–68, Cl. 49—293.
Herrera William R.: *See*—
Klein, Phillip, Raben, and Herrera. 3,406,074.
Hertel, Karl, and J. Beck. Rear-end assembly for automotive vehicles. 3,405,952, 10–15–68, Cl. 280—124.
Hertell, Siegfried, to Teves, Alfred, KG. Hydraulic-drive system and control device therefor. 3,405,776, 10–15–68, Cl. 180—6.3.
Herve, Raymond, to La Telemecanique Electrique. Timed switch-control device. 3,406,266, 10–15–68, Cl. 200—34.
Herzog, John H., to Houdaille Industries, Inc. Notching unit. 3,405,583, 10–15–68, Cl. 83—588.
Heusner, Alex. K. Zelle, and P. Danneberg, to Boehringer Ingelheim G.m.b.H. 2-n-decyl-3-(O-methyl-p-amino-phenyl)-3H-4-quinazolone. 3,406,173, 10–15–68, Cl. 260—256.4.
Hewlett-Packard Co.: *See*—
Muray, Julius J. 3,406,315.
Hicks, Donald J.: *See*—
Carter, Harry T., and Hicks. 3,405,418.
Hieronymus, Hans to Siemens Aktiengesellschaft. Galvanomagnetic resistance device with feedback coupled excitation winding. 3,406,332, 10–15–68, Cl. 323—75.
Higer, Gerald, to Groller Inc. Display stand. 3,405,985, 10–15–68, Cl. 312—114.
Higgins, Thomas J., Jr.: *See*—
Fisher, Ferdinand W., and Higgins. 3,405,919.
Hildebrandt, Egon: *See*—
Guenther, Arthur W. E. 3,405,742.
Hill, Ernest C.: *See*—
Burrus, Bill S., Hill, Coggins, and Boling. 3,405,690.
Burrus, Bill S., Hill, Coggins, and Boling. 3,405,759.
Hill, Frank E., to Pneumo Dynamics Corp. Fluid control valve with feedback. 3,405,727, 10–15–68, Cl. 137—83.
Hill, Harold T., and C. F. Nossiter, to Wellworthy Ltd., Radial Works. Piston having spray coated inlay. 3,405,610, 10–15–68, Cl. 92—223.

Hill, Linden C.: *See*—
Harvey, Leo M., H. and H. M., and Hill. 3,405,757.
Hing, William: *See*—
Buckley, Francis T., and Hing. 3,405,425.
Hirota, Hozumi, and A. Yanase, to Matsusbita Electric Industrial Co., Ltd. Ferromagnetic material. 3,406,057, 10–15–68, Cl. 75—123.
Hi-Shear Corp.: *See*—
Thearle, Freddrick G. 3,405,537.
Hitco: *See*—
Cenegy, Louis F. 3,406,229.
Hitt, Othn A., to E. I. du Pont de Nemours and Co. Cleaning apparatus. 3,405,417, 10–15–68, Cl. 15—21.
Hixon, Philip E.: *See*—
Fleisher, Marvin B., and Hixon. 3,405,626.
Hobbs, Milton M., and L. B. Podolsky, to Westinghouse Electric Corp. Steam propulsion control system. 3,405,676, 10–15–68, Cl. 115—.5.
Hoefer, Gerald, to Robert Bosch, G.m.b.H. Fuel injection pump. 3,405,700, 10–15–68, Cl. 123—140.
Hoffman, Bernard L., and L. C. Reed, to Frederick A. Krause Associates, Inc. Method and apparatus for producing bulged shapes. 3,405,546, 10–15–68, Cl. 72—348.
Hoffman, Walter, and W. Jacob, to Industriewerk Schaeffler o.H.G. Multi-row cylindrical roller bearings. 3,405,434, 10–15–68, Cl. 29—148.4.
Hogg, John A., and A. H. Nathan, to The Upjohn Co. 2-fluoro steroids of the androstane series and to a process for their production. 3,406,190, 10–15–68, Cl. 260—397.4.
Hojo, Takeshi: *See*—
Fukano, Michio, and Hojo. 3,405,451.
Hokkai Seikan Kabushiki Kaisha: *See*—
Uemura, Sozaburo. 3,405,439.
Holder, Woodrow W.: *See*—
Iannone, Edmund F., and Holder. 3,405,939.
Holderreed, Francis L., and R. E. Sullivan, to The Anaconda Co. Recovery of pure crystals of $AlCl_3.6H_2O$ and production of aluminum oxide product therefrom. 3,406,010, 10–15–68, Cl. 23—143.
Holdren Brothers, Inc.: *See*—
Holdren, Donald R. 3,405,958.
Holdren, Donald R., to Holdren Brothers, Inc. Sanitary connector for spray stick. 3,405,958, 10–15–68, Cl. 285—162.
Holland, Robert C., to United Aircraft Corp. Magnetic vapor deflector for an electron beam. 3,406,273, 10–15–68, Cl. 219—121.
Holmquist, Howard E., to E. I. du Pont de Nemours, and Co. Chlorination of butadiene. 3,406,215, 10–15–68, Cl. 260—655.
Holschlag, Jerry B.: *See*—
Day, Frank, Froberg, and Holschlag. 3,406,021.
Homier, Robert I., to Lear Siegler, Inc. Multiple wedge seat adjuster. 3,405,902, 10–15–68, Cl. 248—419.
Honeywell Inc.: *See*—
Sanford, Herbert F., and Schreiner. 3,405,881.
Honjo, Mikio: *See*—
Masuda, Toru, Honjo, Fujii, Imai, and Takanohashi. 3,406,166.
Hoover Ball and Bearing Co.: *See*—
Rupert, Samuel J. 3,405,500.
Hopper, Andrew L., to Bell Telephone Laboratories, Inc. Transmission of low frequency signals by modulation of voice carrier. 3,406,344, 10–15–68, Cl. 325—50.
Hopper Machine Works, Inc.: *See*—
Suverkrop, Don. 3,405,513.
Horgan, William J., Jr.: *See*—
Blum, Louis, and Horgan. 3,405,915.
Horix Mfg. Co.: *See*—
Dexter, Robert G. 3,405,499.
Horvath, Charles, Jr.: *See*—
Turnes, Henry E., and Horvath. 3,406,110.
Houdaille Industries, Inc.: *See*—
Herzog, John H. 3,405,583.
Krynytzky, Alexander. 3,405,581.
Houilleres du Bassin du Nord et du Pas-de Calais: *See*—
Humez, Joachim, Meunier, and Soubrier. 3,406,098.
Houk, Richard D., to Morse Controls Inc. Selective vernier control. 3,405,567, 10–15–68. Cl. 74—502.
Houlihan, William J., to Sandoz Inc. Benzylsulfamides. 3,406,174, 10–15–68, Cl. 260—268.
Hovercraft Development Ltd.: *See*—
Cockerell, Christopher S., Grace, and Boutland. 3,405,675.
Hubenaar, Peter T., to Massey-Ferguson Industries Ltd. Hay conditioner. 3,405,512, 10–15–68, Cl. 56—1.
Hubner, Rolf. Safety monitoring and acknowledgment system for subterranean structures using radio relays. 3,406,342 10–15–68, Cl. 325—2.
Hudson, Jimmie E., to Phillips Petroleum Co. Container. 3,405,831, 10–15–68, Cl. 215—43.
Hughes Aircraft Co.: *See*—
Damon, Phillip P. 3,406,310.
Evans, Norol T. 3,406,390.
Lerner, Lawrence S. 3,406,385.
Hughes, Marion D.: *See*—
Carr, Charles J., and Hughes. 3,405,771.
Hughes Tool Co.: *See*—
Galle, Edward M., and Woods. 3,405,770.
Hullhorst, William B.: *See*—
Ullman, William L., Baxter, Pearson, Davis, and Hullhorst. 3,406,231.
Humenuk, Stan. Article storage and retrieval system. 3,405,818. 10–15–68, Cl. 214—16.4.
Humez, Joachim, M. G. J. Meunier, and L. P. C. Soubrier, to Houilleres du Bassin du Nord et du Pas-de Calais. Discharge and purifying device for gaseous products. 3,406,098, 10–15–68, Cl. 202—263.
Hundley, Clarence L., Jr., deceased, by Virginia J. Hundley, executrix, A. P. McCue, R. E. Ross, and J. Wilding, to Intermountain Research & Development Corp. Process of underground salt recovery. 3,405,974, 10–15–68, Cl. 299—4.
Hundley, Virginia J.: *See*—
Hundley Clarence L., Jr. and Virginia J., McCue, Ross, an l Wilding. 3,405,974.
Hunt Foods and Industries, Inc.: *See*—
Gibble, Walter P. 3,406,079.
Gibble, Walter P. 3,406,080.
Hurwitz, Marvin J., and H. Aschkenasy, to Rohm & Haas Co. Vinylimidazoline and vinyltetrahydropyrimidine polymers. 3,406,139, 10–15–68, Cl. 260—29.6.
Hutson, Andrew R., and S. Melboom, to Bell Telephone Laboratories, Inc. Low reflection lenses and prisms. 3,405,992, 10–15–68, Cl. 350—147.
Huttenhoff, John H., and G. E. Saltus, to Bell Telephone Laboratories, Inc. Direct coupled transistor logic circuit including individual base biasing networks. 3,406,296, 10–15–68, Cl. 307—215.
Hutto, John F.: *See*—
Davison, Joseph W., Hutto, and Livingston. 3,406,217.
Iannone, Edmund F., and W. W. Holder. Still with support platform. 3,405,939, 10–15–68, Cl. 272—70.1.
Illinois Creamery Supply Co.: *See*—
Mistarz, Robert J. 3,405,505.
Imai, Kinichi: *See*—
Masuda, Toru, Honjo, Fujii, Imai, and Takanohashi. 3,406,166.
Immendorfer, Martin, and W. K. Spielmann, to International Business Machines Corp. Epitaxial deposition of gallium arsenide from an atmosphere of hydrogen and $Ga_2H_6 + AsCl_3 + AsH_3$ vapors. 3,406,048, 10–15–68, Cl. 148—175.
Imobersteg, Ulrich, and W.-J. Schulze, to Inventa A.G. Fur Forschung und Patentverwertung. Device and process for the manufacture of hollow synthetic fibers. 3,405,424, 10–15–68, Cl. 18—8.
Imperial Chemical Industries Ltd.: *See*—
Ghosh, Ranajit. 3,406,171.
Marshall, Brian A. 3,406,144.
Imperial Smelting Corp.: *See*—
Davey, Thomas R. A. 3,405,926.
Industrial Electronic Rubber Co.: *See*—
Murray, Myles N. 3,405,437.
Industriewerk Schaeffler o.H.G.: *See*—
Hoffman, Walter, and Jacob. 3,405,434.
Institut de Recherches de la Siderurgie Francaise: *See*—
Kindelan y Gomez de Bonilla, and Vayssiere. 3,406,027
Intermountain Lumber Co.: *See*—
Van der Meer, Wybe J. 3,405,496.
Intermountain Research & Development Corp.: *See*—
Hundley, Clarence L., Jr., McCue, Ross, and Wilding. 3,405,974.
International Business Machines Corp.: *See*—
Axelrod, Martin S. 3,406,298.
Conrad, Ernest E. 3,406,041.
Da Silva, Edward M., and Bogardus. 3,406,040.
Grebe, Kurt R., and Powers. 3,406,107.
Immendorfer, Martin, and Spielmann. 3,406,048.
Kontrimas, Richard P., Krohl, and Wajda. 3,406,366.
Marinace, John C. 3,406,049.
McGrath, Richard S., and Silcox. 3,406,036.
Oktay, Sevgin. 3,406,244.
Wilmer, Richard K. 3,406,382.
International Exhibits, Inc.: *See*—
Martell, Fred, and Lefferson. 3,405,941.
International Shoe Machine Corp.: *See*—
Edelberg, Alan K., Dunlap, and Harriman. 3,405,501.
International Standard Electric Corp.: *See*—
Beguin, Daniel E. 3,406,398.
Bosc, Henry J., Schneider, and Van den Broek d'Obrenan. 3,406,396.
Ekbergh, Evert O., and Jonsson. 3,406,259.
Klenk, Wilfried, and Ringhandt. 3,406,263.
Peeters, Andreas M. C. C., Van Goethem, and De Cleyn. 3,406,258.
International Telephone and Telegraph Corp.: *See*—
Garcia, Julian A., and Kasell. 3,406,357.
Grayson, Richard D., and Newton. 3,405,869.
Keller, William F. 3,405,906.
Varrin, Andre J. 3,406,376.
Walker, Wythe F., and Demarest. 3,405,758.
Inventa A.G. fur Forschung und Patentverwertung: *See*—
Imobersteg, Ulrich, and Schulze. 3,405,424.
Iowa State University Research Foundation, Inc.: *See*—
Schleusener, Stuart A. 3,406,289.
Irani, Riyad R., to Monsanto Co. Fluoridated flow conditioner and salt compositions and processes for producing same. 3,406,077, 10–15–68, Cl. 99—143.
Ischer, Hans: *See*—
Dore, Jacky, Ischer, Maderni, Schneider, and Schweizer. 3,406,161.
Ishibashi, Shozo, to United Silver and Cuttery Co. Battery powered gas fueled igniter device. 3,406,001, 10–15–68, Cl. 431—255.
Ishii, Ryosuke: *See*—
Otsuka, Shinichiro, Ishii, Shiio, and Katsuya. 3,406,095.
Ishikawajima-Harima Jukogyo Kabushiki Kaisha: *See*—
Mori, Tsunezo. 3,405,820.
Isreeli, Jack: *See*—
Rosin, Seymour, and Isreeli. 3,406,018.
Itek Corp.: *See*—
Day, Kenneth H., and Sanford. 3,405,627.
Fleisher, Marvin B., and Hixon. 3,405,626.
Ito, Seiji. Static electricity conducting shoes. 3,406,316, 10–15–68, Cl. 317—2.

Ito, Sukehiro, and Y. Ueno, to Nippon Electric Co. Radio receiver utilizing IF, local and noise signals for providing negative feedback voltages to control gain and frequency. 3,406,345, 10–15–68, Cl. 325—346.

Iwai, Yasuaki. Cord for plied rug. 3,405,598. 10–15–68, Cl. 87—7.

Iwai, Yasuaki. Tufted cord for rugs. 3,405,673, 10–15–68, Cl. 112—412.

Jackson, Clark E., to Purex Corp., Ltd. Dual fluid pumping system. 3,405,645, 10–15–68, Cl. 103—152.

Jacob, Werner: *See*—
Hoffman, Walter, and Jacob. 3,405,434.

Jacobey, Olaf, to Vickers-zimmer Aktiengesellschaft Planung und Bau von Industrieanlagen. Screw conveyor. 3,405,847, 10–15–68, Cl. 222—412.

Jacobs Mfg. Co., The: *See*—
Laas, Eugene D. 3,405,699.

Jacquart, Raymond, and R. D. Haze, to Dud-Aviation Societe Nationale de Constructions Aeronautiques. Variable-geometry aircraft with two wing hinge axes on the fuselage. 3,405,891, 10–15–68, Cl. 244—43.

Jasnicke, Virgil W., to Whittaker Corp. Adhesive composition. 3,406,053, 10–15–68, Cl. 156—309.

Jamison, Joel D., to Hercules Inc. 1-(mercaptoacetyl)-2-imidazolidone S-(O,O-dialkylphosphorothioates. 3,406,179, 10–15–68, Cl. 260—309.7.

Jantzen, George H., to M. Steinthal and Co. Inc. Load control systems. 3,405,660, 10–15–68, Cl. 105—369.

Japan Exlan Co. Ltd.: *See*—
Anahara, Meiji, Ezaki, Nakagawa, Tsutsui, and Okazaki. 3,405,517.

Jellies, David A., to American Hospital Supply Corp. Parenteral liquid container with air tube. 3,405,723, 10–15–68, Cl. 137—43.

Jellum, Steven C.: *See*—
Buchanan, William E., and Jellum. 3,406,281.

Jendrick, Rodney J.: *See*—
Liva, Robert H., and Jendrick. 3,405,635.

Jennings, James E.: *See*—
Carpenter, Virgil R., and Jennings. 3,405,853.

Jennings Radio Mfg. Corp.: *See*—
Hansen, Robert W. 3,406,268.

Jenny, Rudolf, to Maschinenfabrik Schweiter AG. Method and apparatus for the treatment of ejected delivery bobbins. 3,405,877, 10–15–68, Cl. 242—35.2.

Jepperson, Richard M.: *See*—
Thornberg, Dean S., Jepperson, and Loosle. 3,406,337.

Johnson, Edmond E. Couplings. 3,405,540, 10–15–68, Cl. 64—19.

Johnson, Harold D.: *See*—
Du Bois, Richard, Jr., Johnson, and Pessin. 3,406,288.

Johnson, Maurice V., Jr.: *See*—
Zwiacher, Wayne E., Kaser, and Johnson. 3,405,801.

Johnson, S. C., & Son, Inc.: *See*—
Yobo, Clayton W. 3,406,177.

Johnston, Herbert N.: *See*—
Terry, Jack H., Johnston, Jones, and Schoen. 3,406,137.

Johnston, Ralph H., to General Motors Corp. Vehicle speed control system. 3,405,779, 10–15–68, Cl. 180—108.

Joly, Francois H. E.: *See*—
Van Den Steen, Antonone J., Vanlaer, and Joly. 3,406,007.

Jones, Alan R., to Dade Reagents Inc. Blood cell counting standard and method of preparing the same. 3,406,121, 10–15–68, Cl. 252—408.

Jones, Charles, and M. W. Galliers, to Curtiss-Wright Corp. Rotary combustion engine and rotor therefor. 3,405,695, 10–15–68, Cl. 123—8.

Jones, Morton E., to Texas Instruments Inc. Color TV tube structure. 3,406,251, 10–15–68, Cl. 178—5.4.

Jones, Rexford W.: *See*—
Terry, Jack H., Johnston, Jones, and Schoen. 3,406,137.

Jons, Kurt, and G. Marx, to Azoplate Corp. Apparatus for the development of latent electrostatic images. 3,405,683, 10–15–68, Cl. 118—637.

Jonsson, Per G.: *See*—
Ekbergh, Evert O., and Jonsson. 3,406,259.

Jordan, Howard E., to Reliance Electric and Engineering Co. Synchronous machine with single rotor. 3,406,323, 10–15–68, Cl. 318—185.

Jordan, Merrill E.: *See*—
Hardy, John E., and Jordan. 3,406,228.

Jordan, Trueman P., D. W. Weed, and E. D. Wiseman, to Vernco Corp. Fan housing level holding structure. 3,405,894, 10–15–68, Cl. 248—13.

Jore, Olav E., and S. Bunish, to Anaconda Wire and Cable Co. Method of electrically connecting mobile apparatus. 3,405,443, 10–15–68, Cl. 29—628.

Joslow, David L., to Chester Electronic Laboratories, Inc. Recording-playback system and control therefor. 3,405,461, 10–15–68, Cl. 35—35.

Joyce-Cridland Co., The: *See*—
Brown, Charles N. 3,405,781.

Juillard, Yves, to Societe Alsacienne de Constructions Mecaniques. Drive and control system for looms. 3,405,740, 10–15–68, Cl. 139—1.

Jünemann, Hubert: *See*—
Scholl, Hans, and Jünemann. 3,405,670.

Junker, Arnold E., to Avco Corp. Carbon seal for high speed shaft. 3,405,948, 10–15–68, Cl. 277—137.

Juntgen, Harald: *See*—
Peters, Werner, and Juntgen. 3,405,508.

Justice, Benjamin: *See*—
Brown, Donald N., Justice, and O'Leary. 3,406,085.

Kabushiki Kaisha Tokyo Keiki Seizosho (Tokyo Keiki Seizosho Co., Ltd.): *See*—
Fukano, Michio, and Hojo. 3,405,451.

Kajitani, Tadahiro. Cake stock dispensing apparatus. 3,405,664, 10–15–68, Cl. 107—27.

Kal-Equip Co., Inc.: *See*—
Bibbings, William F. 3,406,339.

Kantola, Carl F., to The New York Central Railroad Co. Rail track gauge. 3,405,449, 10–15–68, Cl. 33—145.

Kaplan, Joseph. Variable-torque slip device. 3,405,791, 10–15–68, Cl. 192—81.

Kaplan, Joseph. Spring slip element for bi-directional slip. 3,405,929, 10–15–68, Cl. 267—1.

Kapustin, Jury M.: *See*—
Vinogradov, Alexandr S., Kapustin, Maxjutenko, Kiselnikov, Borisov, and Maxalov. 3,405,427.

Karafian, Maxim, to Chemical Construction Corp. Purification of synthetic methanol by extractive distillation and subsequent distillation with plural side stream purges. 3,406,100, 10–15–68, Cl. 203—78.

Karlsson, Hans I. R. Safety harnesses for high speed vehicles. 3,405,953, 10–15–68, Cl. 280—150.

Kasell, Jackie H.: *See*—
Garcia, Julian A., and Kasell. 3,406,357.

Kaser, Louis D.: *See*—
Zwiacher, Wayne E., Kaser, and Johnson. 3,405,801.

Katsuragawa Electric Co., Ltd.: *See*—
Schlein, Herbert N., and Kinoshita. 3,406,060.

Katsuya, Noboru: *See*—
Otsuka, Shinichiro, Ishii, Shiio, and Katsuya. 3,406,095.

Kayser, Lutz T. Venturi arrangement. 3,405,907, 10–15–68, Cl. 251—124.

Keller, William F., to International Telephone and Telegraph Corp. Solenoid pilot operated valve. 3,405,906, 10–15–68, Cl. 251—30.

Kelley, Fred W., Jr.: *See*—
Mapham, Neville W., and Kelley. 3,406,327.

Kellogg, Thomas W., to Design Properties, Inc. Self-closing container. 3,405,849, 10–15–68, Cl. 222—498.

Kelly, Donald A. High pressure stirling cycle engines. 3,405,521, 10–15–68, Cl. 60—24.

Kelyman, Jacqueline S.: *See*—
Reifschneider, Walter, and Kelyman. 3,406,202.

Kemeny, George A.: *See*—
Maniero, Daniel A., and Kemeny. 3,406,306.

Kemp, Kenneth A. W., to C.A.V. Ltd. Fluid pressure regulating valves. 3,405,640, 10–15–68, Cl. 103—5.

Kem-Wove Industries, Inc.: *See*—
Costes, Herbert W., Baigas, Hamilton, and Haynes. 3,405,674.

Kendor Distributors Ltd.: *See*—
Butler, Richard G. 3,405,749.

Kerns, Bernard A.: *See*—
Scorgie, Donald G., and Kerns. 3,406,285.

Kerr-McGee Oil Industries, Inc.: *See*—
Goren, Mayer B. 3,406,114.

Ketcham & McDougall, Inc.: *See*—
McFadyen, Richard, and Giltzow. 3,405,466.

Keuffel & Esser Co.: *See*—
Geier, George, Ellis, and Baker. 3,406,292.
Kosar, Jaromir, and Atkins. 3,406,119.
Süs, Oskar, and Schäfer. 3,406,071.

Kiehart, Lawrance R., L. D. Doyle, and J. H. Walmsley, to Bauer Ordnance Co. Antibacklash gearing. 3,405,566, 10–15–68, Cl. 74—440.

Kilburn, Richard F.: *See*—
Belva, George M., Kilburn, and Da Silva. 3,405,462.

Kilpatrick, James M., to Petrolite Corp. Method and apparatus for determining corrosion rate. 3,406,101, 10–15–68, Cl. 204—1.

Kimberly-Clark Corp.: *See*—
Dwyer, Richard J., Jr. 3,405,797.
Pierce, John P. 3,406,037.
Yerkes, William D., Jr. 3,406,089.

Kimmel, Ronald K.: *See*—
Altman, Richard M., and Kimmel. 3,405,994.

Kinch, Harvey J. Headlamp adapter kit for motor vehicle. 3,406,282, 10–15–68, Cl. 240—7.1.

Kindelan y Gomez de Bonilla, Juan M., and P. Vayssiere, to Institut de Recherches de la Siderurgie Francaise. Method for regulating the thermal balance of a bath of molten material during a continuous refining process of the material. 3,406,027, 10–15–68, Cl. 75—51.

King, Paul F., and D. J. Donalies, to Xerox Corp. Xerographic development apparatus with web loading means to remove residual developer. 3,405,682, 10–15–68, Cl. 118—637.

Kinoshita, Koichi: *See*—
Schlein, Herbert N., and Kinoshita. 3,406,060.

Kiselnikov, Vladimir N.: *See*—
Vinogradov, Alexandr S., Kapustin, Maxjutenko, Kielnikov, Borisov, and Maxalov. 3,405,427.

Klare, Manfred: *See*—
Drabik, Josef and Klare. 3,405,927.

Klein, Phillip, I. Raben, and W. R. Herrera, to The Kroger Co. Aromatization of instant coffee. 3,406,074, 10–15–68, Cl. 99—71.

Klenk, Wilfried, and H. Ringhandt, to International Standard Electric Corp. Telephone cradle switch arrangements. 3,406,263, 10–15–68, Cl. 179—100.

Kline, Smith, & French Laboratories: *See*—
Edwards, William C. 3,405,707.

Klinkmann, Kurt, and K.-L. Schmidt, to Farbenfabriken Bayer Aktiengesellschaft. Process for the preparation of acetylated high molecular weight polyoxymethylenes. 3,406,151, 10–15–68, Cl. 260—67.

Klun, Godfrey H., to Union Carbide Corp. Aerosol valve. 3,405,846, 10–15–68, Cl. 222—402.20.

Knapsack Aktiengesellschaft: *See*—
Müller-Schiedmayer, Günther, Harnisch, and Cremer. 3,406,013.

Kniege, Wilfried, to Farbenfabriken Bayer Aktiengesellschaft. Method of molding articles utilizing mold coated with release agent comprising polysiloxane-polyoxyalkylene mixture. 3,406,236, 10–15–68, Cl. 264—338.

Knoll Associates, Inc.: *See*—
Cafiero, Vincent J., and Sohl. 3,405,716.

Kobe, Inc.: *See*—
Coberly, Clarence J. 3,405,641.

Kobrehel, Peter M., to General Motors Corp. Inertially responsive seat lock for folding vehicle seat backs. 3,405,971, 10–15–68, Cl. 297—216.

Kochmann, Werner, H.-G. Seelmann, G. Wetzke, C. Duschek, F. Frotscher, J. Muller, R. Springer, R. Liedmann, P. Schmidt, D. Sass, E. Armbruster, B. Triema, and K.-H. Teutschbein, to Veb Elektrochemisches Kombinat Bitterfeld. Method of producing O,O-dialkyldithiophosphoryl fatty acid amides. 3,406,2.6, 10–15–68, Cl. 260—981.

Koett, Albert C. Method of and apparatus for securing fastener means. 3,405,436, 10–15–68, Cl. 29—432.1.

Kohls, James P., to Jervis B. Webb Co. Proximity switch having a magnetic shield. 3,406,267, 10–15–68, Cl. 200—61.41.

Kohn, Herbert M.: *See*—
Nesbitt, John D., and Kohn. 3,405,923.

Koishikawa, Yoshiyuki. Mounting means for mounting a sheet on a musical instrument. 3,405,586, 10–15–68, Cl. 84—414.

Kolbus, Walter, to Rahdener Maschinenfabrik Aug. Kolbus. Book-case making machines. 3,405,812, 10–15–68, Cl. 214—1.

Koller, Ernst. Dismantleable wall assembly. 3,405,492, 10–15–68, Cl. 52—281.

Koller, Walter, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Modified fiber- and film-forming polyesters and improved fibers and filaments made therefrom. 3,406,152, 10–15–68, Cl. 260—75.

Komatsu, Teruhiko, and G. Shibata, to Shinnippon Denki Kabushiki Kaisha. Treatment of a phosphor screen in a cathode ray tube. 3,406,034, 10–15–68, Cl. 117—33.5.

Konrad, Marion G.: *See*—
Erickson, John W., Konrad, and McCloud. 3,405,661.

Kontrimas, Richard, R. J. Krohl, and E. S. Wajda, to International Business Machines Corp. Electrical temperature sensor device. 3,406,366, 10–16–68, Cl. 338—25.

Koontz, John D.: *See*—
Aldridge, Clyde L., and Koontz. 3,406,156.

Koot, Nick, to Global Marine Inc. Oceanographic instrumentation. 3,405,558, 10–15–68, Cl. 73—170.

Koppenwallner, Georg, to Fortuna-Werke Spezialmaschinenfabrik AG. Control apparatus for grinding machines and the like. 3,405,484, 10–15–68, Cl. 51—165.

Kosar, Jaromir, and G. M. Atkins, Jr., to Keuffel & Esser Co. Encapsulation. 3,406,119, 10–15–68, Cl. 252—316.

Kostur, Robert E. Protective device for the leg of a horse. 3,405,506, 10–15–68, Cl. 54—82.

Kotkins, Henry L.: *See*—
Alford, Robert M. 3,405,788.

Koucky, Frantisek: *See*—
Koucky, Josef, and F. 3,405,471.

Koucky, Josef, and F., to Zavody Jana Svermy. Firearm having disconnectable sections. 3,405,471, 10–15–68, Cl. 42—76.

Kovach, Leslie J. Cleaning and massaging device. 3,405,710, 10–15–68, Cl. 128—66.

Kozub, Frank J. Double swivel mount for transporting long loads. 3,405,658, 10–15–68, Cl. 105—367.

Krakowsky, Hans: *See*—
Lukesch, Heinz, and Krakowsky. 3,405,832.

Krasberg, Alan R., to Westinghouse Electric Corp. Automatic decompression system. 3,405,629, 10–15–68, Cl. 98—1.5.

Krause, Edward H., Jr.: *See*—
Foxx, Robert J., and Krause. 3,405,649.

Krause, Frederick A., Associates, Inc.: *See*—
Hoffman, Bernard L., and Reed. 3,406,546.

Krechman, David. Universally adaptable tape player having stereo loudspeakers. 3,405,944, 10–15–68, Cl. 274—1.

Kreisler, Jacques, Mfg. Corp.: *See*—
Wright, Ivan A. 3,406,000.

Krenn, Joseph R., to The Fafnir Bearing Co. Self-anchoring bearing. 3,405,982, 10–15–68, Cl. 308—236.

Kriesel, Marshall S., to Aerospace Systems Co. Separation device. 3,405,593, 10–15–68, Cl. 85—63.

Kroger Co., The: *See*—
Klein, Phillip, Raben, and Herrera. 3,406,074.

Krohl, Robert J.: *See*—
Kontrimas, Richard, Krohl, and Wajda. 3,406,366.

Kroll, Wolf R. Alkali metal azide complexes of organo-aluminum compounds and uses thereof. 3,406,187, 10–15–68, Cl. 260—349.

Kromschroder, G., A.G.: *See*—
Drabik, Josef, and Klare 3,405,927.

Kruccenberg, Winfried, to Farbenfabriken Bayer Aktiengeselischaft. Monoazo dyestuffs. 3,406,165, 10–15–68, Cl. 260—207.1.

Kruger, Harry, G.m.b.H.: *See*—
Scheffer, Harry. 3,405,606.

Krynytzky, Alexander, to Houdaille Industries, Inc. Heavy duty punching machine with carriage means to support and move tool holder transversely of machine. 3,405,581, 10–15–68, Cl. 83—563.

Kuderli & Co.: *See*—
Nill, Walter. 3,405,914.

Kugler, Robert J., to Action Packaging Corp. Plastic bag for round-shaped object. 3,405 863, 10–15–68. Cl. 229—57.

Kuhlkamp, Alfred, O. Mauz, and S. Gowecke, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for making epoxy resin foam plastics. 3,406,131, 10–15–68. Cl. 260—2.5.

Kulik, John J., to United States of America, Army. Dual antenna. 3,406,393, 10–15–68, Cl. 343—7.4.

Kupferberg, Kenneth, and P. J. Birman, to Forbro Design Corp. Dynamic loads for testing regulated power supplies. 3,406,341, 10–15–68, Cl. 324—158.

Kuppers, Klaus: *See*—
Schroder, Egbert, Kuppers, Strieck, and Beerens. 3,405,885.

LFV Electrosystems, Inc.: *See*—
Thornberg, Dean S., Jepperson, and Loosle. 3,406,337.

LKB-Produkter Aktiebolag: *See*—
Persson, Algy. 3,405,578.

L.O.R. Lentilles Ophtalmiques Rationnelles Societe Anonyme: *See*—
Mignen, Bernard. 3,405,995.

Laas, Eugene D., to The Jacobs Mfg. Co. Engine braking system with trip valve controlled piston. 3,405,699, 10–15–68, Cl. 123—97.

Lagelbauer, Ernest. Turbofan bladings. 3,405,865, 10–15–68, Cl. 230—120.

L'Air Liquide, Societe Anonyme Pour l'Etude et l'Exploitation des Procedes Georges Claude: *See*—
Perraudin, Rolland, Perrin, and Seris. 3,406,030.

Lallberté, Real, to American Home Products Corp. 3-N-arylamino-3-mercapto-2-cyano-acrylamides. 3,406,183, 10–15–68, Cl. 260—326.5.

La Marr, Robert R. Anchor structure for post-tensioned tendons. 3,405,490, 10–15–68, Cl. 52—223.

Lamazou, Jean: *See*—
Boisard, Pierre, and Lamazou. 3,405,553.

Lameyre, Felix G., to La Telemecanique Electrique. Rotary electric switches with cartridge fuses. 3,406,365, 10–15–68, Cl. 337—211.

Land, Edwin H., and A. J. Bachelder, to Polaroid Corp. Photographic apparatus, product and processes. 3,405,617, 10–15–68, Cl. 95—13.

Land, Edwin H., and V. K. Eloranta, to Polaroid Corp. Photographic apparatus and processes. 3,405,618, 10–15–68, Cl. 95—13.

Land, Edwin H., to Polaroid Corp. Camera and film useful therein. 3,405,619, 10–15–68, Cl. 95—13.

Land, Edwin H., to Polaroid Corp. Diffusion transfer with 4-methylphenyl-hydroquinone in the emulsion and N,N-diethylhydroxylamine in the processing fluid. 3,406,064, 10–15–68, Cl. 96—29.

Landini S.p.A.: *See*—
Todeschini, Eugenio. 3,405,766.

Landis Tool Co.: *See*—
Happel, William E. 3,405,576.

Lang, Charles W.: *See*—
Emerson, John F., and Lang. 3,406,321.

Lang, Karl A. Diffusion furnace hearth plate. 3,406,242, 10–15–68, Cl. 13—22.

Langley, Lawrence W.: *See*—
Richmond, Jerry F., Boone, and Langley. 3,405,444.

Lanyi, Ronald J., and R. C. Helm, to Westinghouse Electric Corp. Cylindrical magnetostrictive electromechanical transducer. 3,406,302, 10–15–68, Cl. 310—26.

Lari, Ion, and D. Milos, to Ministerul Petrolului. Turbine for drilling oil wells and gas wells. 3,405,912, 10–15–68, Cl. 253—3.

Larkin, James D.: *See*—
Anas, Thomas, Larkin, and Watson. 3,406,138.

Laroche, Robert. Weigh feed mechanism. 3,405,774, 10–15–68, Cl. 177—46.

La Telemecanique Electrique: *See*—
Herve, Raymond. 3,406 266.
Lameyre, Felix G. 3,406,365.

Laureti, Remo J., to Wall Industries, Inc. Yarn, cordage, ropes, and the like. 3,405,516, 10–15–68, Cl. 57—144.

Law, Harold B., to Radio Corp. of America. Photographic methods of making electron-sensitive mosaic screens. 3,406,068, 10–15–68, Cl. 96—36.1.

Lawlor, Robert E., to Electro-Clamp Corp. Non-shearing wire-clamping electrical connector. 3,406,372, 10–15–68, Cl. 339—95.

Lawner, Arnold M.: *See*—
Wahl, Eugene A., Lawner, and Winters. 3,405,842.

Lawrence, Frank L. Infinite ratio driving interlock for spooling drums of a yarder. 3,405,878, 10–15–68, Cl. 242—54.

Lazareff, Michel: *See*—
Flamand, Claude, Lazareff, and Rajau. 3,405,893.

Leanza, William J.: *See*—
Patchett, Arthur A., Rogers, and Leanza. 3,406,185.

Lear Siegler, Inc.: *See*—
Brouwer, Harvard. 3,406,351.
Homler, Robert I. 3,405,902.
Robinson, David S. 3,405,900.

Lebkücher, Karl-Heinz: *See*—
Lohaus, Gerhard, and Lebkücher. 3,406,035.

Lee, Denis E., to Joseph Lucas (Industries) Ltd. Diaphragm seals. 3,405,609, 10–15–68, Cl. 92—99.

Lee, Jimmy G.: *See*—
Welz, Wilbur C., and Lee. 3,406,359.

Lee, Samuel, to Geigy Chemical Corp. Pharmaceutical dosage unit form coating process. 3,406,031, 10–15–68, Cl. 106—171.

Lefevre, Harlan W., and D. L. Wieber, to United States of America, Atomic Energy Commission. Time sampling circuit for an oscilloscope. 3,406,313, 10–15–68, Cl. 315—22.

Lefferson, Carl: *See*—
Martell, Fred, and Lefferson. 3,405,941.

Lefrancois, Louis A. A. Process and device for stirring and methodically circulating liquid masses by blowing gases therethrough. 3,405,920, 10–15–68, Cl. 261—123.

Lehmann, Ernst Paul, Patentwerk: *See*—
Richter, Wolfgang. 3,405,478.

Lehr, Pierre: *See*—
Albert, Philippe, Renucci, Lehr, and Gosse. 3,406,056.

Leitner, Walter : *See*—
Wallace, Bruce A., Fankhanel, and Leitner. 3,405,691.

Le Mauviel, Paul J., to Square D Co. Electromagnetic relay having parts retained by a one-piece spring clip which also provides armature bias. 3,406,361, 10–15–68, Cl. 335—178.

Lenco Inc. of Early : *See*—
Lenz, James E., and Mohr. 3,405,844.

Lender, Adam, to Automatic Electric Laboratories, Inc. Data transmission techniques using orthogonal FM signal. 3,406,235, 10–15–68, Cl. 178—67.

Lenger, Friedrich, to Beteiligungs- und Patentverwaltungsgesellschaft mit beschrankter Haftung. Throat platform for blast furnaces having no framework. 3,405,925, 10–15–68, Cl. 266—31.

Lenk, Peter : *See*—
Schiller, Siegfried, and Lenk. 3,406,305.

Lenz, James E., and K. J. Mohr, to Lenco Inc. of Early. Cartridge dispenser. 3,405,844, 10–15–68, Cl. 222—162.

Lepelletier, Pierre A. G., to Societe Anonyme Francaise du Perodo. Dynamic pressure converter. 3,405,978, 10–15–68, Cl. 303—22.

Lerner, Lawrence S., to Hughes Aircraft Co. Intruder detection system. 3,406,385, 10–15–68, Cl. 340—258.

Lesher, George Y., to Sterling Drug Inc. 1′,3′-dioxo-1′,2′,3′,4′-tetrahydrospiro [cyclopentane-1,4′-isoquinoline] and its preparation. 3,406,175, 10–15–68, Cl. 260—281.

Letendre, Calvin O., to Chromium Corp. of America. Method of treating surfaces. 3,406,105, 10–15–68, Cl. 204—16.

Levine, Leon : *See*—
Palevsky, Max, Levine, and Dames. 3,406,379.

Le Won, Mibran, Jr. Vehicle identification system. 3,406,391, 10–15–68, Cl. 343—6.5.

Lewis, Donald M., and F. J. Sebelist, to E. I. du Pont de Nemours and Co. Oxidation of polyalkyl aromatics to polycarboxylic acids. 3,406,196, 10–15–68, Cl. 260—524.

Lewis, James W., to Swanson-Erie Corp. Inspection machine for flares. 3,405,800, 10–15–68, Cl. 209—75.

Lewis, Robert B. Fish lure and actuator. 3,405,474, 10–15–68, Cl. 43—26.2.

Ley, Kurt, W. Redetzky, R. Seydel, and K. Vohwinkel, to Farbenfabriken Bayer Aktiengesellschaft. Process for stabilizing synthetic rubber. 3,406,146, 10–15–68, Cl. 260—45.95.

Lichter, Arthur S. : *See*—
Poch, Stephen, Edmunds, and Lichter. 3,406,058.

Liebel-Flarsheim Co., Div. of Ritter Co., Inc. : *See*—
Bross, William T. 3,406,286.

Liedmann, Rudolf : *See*—
Kochmann, Werner, Seelmann, Wetzke, Duschek, Frotscher, Muller, Springer, Liedmann, Schmidt, Sass, Armbruster, Triems, and Teutschbein. 3,406,226.

Lilliston Implement Co. : *See*—
Whitfield, Carroll J., and Tharpe. 3,405,541.

Limpach, Raymond G., to Central National de Recherches Metallurgiques. Method of supplying blast furnace with solid fuel and oil suspension. 3,406,026, 10–15–68, Cl. 75—42.

Lin, Lawrence H., and E. O. Schulz-Du Bois, to Bell Telephone Laboratories, Inc. Apparatus for producing a fly's eye lens. 3,405,614, 10–15–68, Cl. 95—1.

Lindsey, Ernest E. Process for making a partially frozen confection. 3,405,532, 10–15–68, Cl. 62—66.

Litant, Irving, to Avco Corp. Conductive synthetic resin composition containing carbon filaments. 3,406,126, 10–15–68, Cl. 252—511.

Little, Lawrence L., to The Battelle Development Corp. Process for making cheese by coagulating milk at a low temperature. 3,406,076, 10–15–68, Cl. 99—116.

Littlebury, Hugh W., Sr. : *See*—
Elsner, Edwin C., Hahn, and Littlebury. 3,405,597.

Liva, Robert H., to Xerox Corp. Pulley. 3,405,564, 10–15–68, Cl. 74—230.18.

Liva, Robert H., and R. J. Jendrick, to Xerox Corp. Paper support tray for reproduction machines. 3,405,635, 10–15–68, Cl. 101—132.

Livezey, William G., to General Motors Corp. Power train. 3,405,574, 10–15–68, Cl. 74—720.5.

Livingston, Richard J. : *See*—
Davison, Joseph W., Hutto, and Livingston. 3,406,217.

Locke, Frederic J., to Monsanto Co. Formaldehyde solutions stabilized with vinyl acetate polymers. 3,406,206, 10–15–68, Cl. 260—606.

Lode, Tenny D. Vibration isolation. 3,405,979, 10–15–68, Cl. 308—6.

Lode, Tenny D., to Rosemount Engineering Co. Method of establishing a voltage standard using a photoelectric tube. 3,406,291, 10–15–68, Cl. 250—220.

Lohaus, Gerhard, and Karl-Heinz Lebkücher, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Optical brighteners. 3,406,035, 10–15–68, Cl. 117—33.5.

London Concrete Machinery Co. a division of Hodgson Machine & Equipment Ltd. : *See*—
Smit, Gerrit H., and Skinner. 3,405,734.

Loudon, William C., to Molins Machine Co. Ltd. Apparatus for feeding rod-like articles. 3,405,579, 10–15–68, Cl. 83—102.

Long, Dan R. Fluid pump. 3,405,648, 10–15–68, Cl. 103—238.

Long, Norwood G., to Bell Telephone Laboratories, Inc. Parallel TASI system with common means for call assignment control. 3,406,257, 10–15–68, Cl. 179—15.

Loosle, Marvin W. : *See*—
Thornberg, Dean S., Jepperson, and Loosle. 3,406,337.

Loux, Harvey M., to E. I. du Pont de Nemours and Co. Herbicidal method. 3,406,023, 10–15–68, Cl. 71—92.

Lubbock Mfg. Co. : *See*—
Fries, Donald L. 3,405,533.

Lucas, James W. : *See*—
Barr, Courtland H., Sr., and Lucas. 3,405,841.

Lucas, Joseph (Industries) Ltd. : *See*—
Lee, Denis E. 3,405,609.
Skinner, Robert T. J. 3,405,644.

Lucas, Paul G., to Adage, Inc. Polarity responsive comparator circuit for simultaneous analog-digital converters using a tunnel diode. 3,406,297, 10–15–68, Cl. 307—235.

Luckett, Thomas J. Air detector for webs. 3,405,552, 10–15–68, Cl. 73—37.7.

Lukesch, Heinz, and H. Krakowsky, to Hans Schwarzkopf. Stopper for bottles or the like. 3,405,832, 10–15–68, Cl. 215—47.

Lummus Co., The : *See*—
Bogart, Marcel J. P. 3,405,561.
Guerrieri, Salvator A. 3,406,014.

Lund, Johan : *See*—
Harland, Glen E., Jr., and Lund. 3,406,318.

Lundy Electronics & Systems, Inc. : *See*—
Bennett, Floyd M. 3,405,409.

Lustbader, Samuel. Device for safely retaining a lighted cigarette. 3,405,719, 10–15–68, Cl. 131—235.

Lyons, James F., to Control Data Corp. Synchronized communications system. 3,406,394, 10–15–68, Cl. 343—7.5.

Lysholm, Alf. Method of driving a screw engine power unit and a power unit to be driven according to such method. 3,405,604, 10–15–68, Cl. 91—84.

Macjutenko, Ilya N. : *See*—
Vinogradov, Alexandr S., Kapustin, Maxjutenko, Kiselnikov, Borisov, and Mazalov. 3,405,427.

MacKay, Ian N., to Canadian General Electric Co. Ltd. Control system for large reactors. 3,406,091, 10–15–68, Cl. 176—28.

MacNeill, John H., to Soroban Engineering, Inc. Card picker mechanism. 3,405,935, 10–15–68, Cl. 271—11.

Maderni, Piero : *See*—
Dore, Jacky, Ischer, Maderni, Schneider, and Schweizer. 3,406,161.

Maerz Ofenbau AG. & Pohlig-Heckel-Bleichert Vereinigte Maschinenfabriken AG. : *See*—
Siesaczek, Alfred, and Blinn. 3,405,821.

Magee, Hubert E., and J. C. Whitmer, to General Motors Corp. Apparatus for recording temperature changes in a resistive element due to self-heating. 3,406,335, 10–15–68, Cl. 324—65.

Magnatex Ltd. : *See*—
Charlton, Arthur T. 3,405,419.
Tomlin Robert D. 3,405,421.

Magor, James K., and D. S. Gaydosh, to Wilson, Lee Engineering Co., Inc. Vitreous enameling steel and method of making same. 3,406,047, 10–15–68, Cl. 148—12.1.

Maguire, William B., to Beckman Instruments, Inc. Housing construction for variable resistance device. 3,406,367, 10–15–68, Cl. 338—184.

Mahoney, Lee R. : *See*—
Da Rooge, Margaret A., and Mahoney. 3,406,218.

Maier, Albert C., to The Ryan Aeronautical Co. Furlable and unfurlable member. 3,406,404, 10–15–68, Cl. 343—915.

Malik, Gennady G. : *See*—
Voitsekhovsky, Rostislav I., Malik, and Rodionov. 3,405,822.

Mangum, Andrew N. : *See*—
Davidson, Arthur P., and Mangum. 3,406,246.

Manfero, Daniel A., and G. A. Kemeny, to Westinghouse Electric Corp. Center discharge arc heater apparatus. 3,406,306, 10–15–68, Cl. 313—156.

Manis, John R. Swim fin. 3,405,413, 10–15–68, Cl. 9—309.

Manizza, Guelfo A., to Continental Can Co., Inc. Reusable display carton for relatively small objects. 3,405,860, 10–15–68, Cl. 229—34.

Mapham, Neville W., and F. W. Kelley, Jr., to General Electric Co. Electric power inverter having a well regulated nearly sinusoidal output voltage. 3,406,327, 10–15–68, Cl. 321—45.

Marathon Oil Co. : *See*—
Olson, Danford H. 3,406,219.

Marchand, William C., to Continental Aviation and Engineering Corp. Hollow valve construction for variable compression ratio piston. 3,405,697, 10–15–68, Cl. 123—78.

Margen, Peter H. E., to Aktiebolaget Atomenergi. Device for controlling the reactivity of a nuclear reactor. 3,406,092, 10–15–68, Cl. 176—35.

Marinace, John C., to International Business Machines Corp. Epitaxial semiconductor layer as a diffusion mask. 3,406,049, 10–15–68, Cl. 148—175.

Marker, Hannes : *See*—
Berchtold, Ludwig, and Schuster. 3,405,951.

Marsh, Marvin D., and J. E. Pence ; said Pence, assor. to said Marsh. Board game apparatus with letter selecting dice. 3,405,943 10–15–68, Cl. 273—135.

Marshall, Brian A., to Imperial Chemical Industries Ltd. Stabilized olefin polymer compositions. 3,406,144, 10–15–68, Cl. 260—45.8.

Marshall, Robert H., and B. T. Hensgen, to Chemetron Corp. Transferring system. 3,405,504, 10–15–68, Cl. 53—74.

Martens, Alexander E., to Bausch & Lomb Inc. Reversible semiconductor direct current motor drive circuit. 3,406,309, 10–15–68, Cl. 314—75.

Martin, Allan E., to American Standard Inc. Cup-cone flame retention burner. 3,406,002, 10–15–68, Cl. 431—265.

Martin, Emmet L., to The American-Coleman Co. Integrated tractor and trailer. 3,405,778, 10–15–68, Cl. 180—24.

Martin, Francis W. : *See*—
Asher, John W., Martin, and Tarcza. 3,405,441.

Martin, Robert L., to General Electric Co. Cord connecting plug. 3,406,374, 10–15–68, Cl. 339—103.

Martell, Fred, and C. Lefferson, to International Exhibits, Inc. Balloon replacing apparatus for an amusement system. 3,405,941, 10–15–68, Cl. 273—101.

Marquart, Vernon L., and M. A. Stolle, to Nuclear Corp. of America. Apparatus for testing electrostatic copy material. 3,406,334, 10–15–68, Cl. 324—32.

Marx, Gerhard : *See*—
Jons, Kurt, and Marx. 3,405,083.

Mascherpa, Carlo. Apparatus for stowign and conveying articles. 3,405,795, 10–15–68, Cl. 198—138.

Maschinenfabrik August Herbort K.G. : *See*—
Weirauch, Bruno. 3,405,750.

Maschinenfabrik Schweiter AG. : *See*—
Jenny, Rudolf. 3,405 877.

Massey-Ferguson Inc. : *See*—
Thompson, Howard G. 3,405,767.
Tweedale, Ralph L. 3,405,824.

Massey-Ferguson Industries Ltd. : *See*—
Hubenaar, Peter T. 3,405,512.

Massey-Ferguson Services N.V. : *See*—
Annat, Robert E. 3,405,928.
Williams, Derrick G. 3,405,823.

Masuda, Toru, M. Honjo, S. Fujii, K. Imai, and K. Takanohashi, to Takeda Chemical Industries, Ltd. Method for producing ribonucleoside-5′-phosphate. 3,406,166, 10–15–68, Cl. 260—211.5.

Mathers, Kenneth R., to Niagara Therapy Mfg. Corp. Reciprocating gyrator ymassage assembly. 3,405,709, 10–15–68, Cl. 128—33.

Matkan, Josef, and R. J. Wright, to Research Laboratories of Australia Pty., Ltd. Xerographic material containing an inorgnic photoconductor and nonpolymeric crystalline organic substances and methods of using of such material. 3,406,063, 10–15–68, Cl. 96—1.5.

Matsushita Electric Industries Co., Ltd. : *See*—
Hirota, Hozumi, and Yanase. 3,406,057.

Matthies, Alan A., to Controls Co. of America. Temperature controlled flow control device and refrigeration system including such device. 3,405,535, 10–15–68, Cl. 62—202.

Maul, John A., J. T. Zofchak, and D. D. Anderson, to Addressograph-Multigraph Corp. Settable wheel control means in bed and cylinder creating machines. 3,405,634, 10–15–68, Cl. 101—45.

Maurer, J. A., Inc. : *See*—
Anhouse, Stanley J., and Buon. 3,405,622.

Manz, Otto : *See*—
Kuhlkamp, Alfred, Mauz, and Gowecke. 3,406,131.

Mayer, David P. : *See*—
Richter, Sidney B., and Mayer. 3,406,024.

Mayer, Julian R. : *See*—
Surrey, Alexander R., and Mayer. 3,406,176.

Mazalov, Ivan M. : *See*—
Vinogradov, Alexanr S., Kapustin, Maxjutenko, Kiselnikov, Borisov, and Mazalov. 3,405,427.

McAlexander, Joseph C., Jr., and J. J. Monahan ; said McAlexander, assor. to Bell Telephone Laborntories, Inc., and said Monahan, assor. to Western Elecrtic Co., Inc. Apparatus for threading a strand through a succession of apertures in an article. 3,405,671, 10–15–68, Cl. 112—173.

McArthur Colin R., to Allied Cehmical Corp. 2,2-bis(4-chlorophenyl)-2-chloroacetamides. 3,406,172, 10–15–68, Cl. 260—247.7.

McCall, Ernest B. : *See*—
Brown, Joseph P., and McCall. 3,406,158.

McCaskill, Thomas B. : *See*—
Easton, Roger L., and McCaskill. 3,406,397.

McCloud, James : *See*—
Erickson John W., Konrad, and McCloud. 3,405,661.

McCue, Allen P. : *See*—
Hundley, Clarence L., Jr. and V., McCue, Ross, and Wilding. 3,405,974.

McDonough, Leslie M., to E. I. du Pont de Nemours and Co. Non-flammable polyethylene terephthalate film. 3,406,224. 10–15–68, Cl. 260—860.

McEowen, James R., to Bell Telephone Laboratories, Inc. Intercom system with separate signal, ringing, and talking links. 3,406,260, 10–15–68, Cl. 179—37.

McFadyen, Richard, and J. H. Glitzow, to Ketcham & McDougall, Inc. Desk indexing device. 3,405,466, 10–15–68, Cl. 40—104.

McFarlane, Maynard D., to Robertshaw Controls Co. Analog keyed phase transmitter and system. 3,406,383, 10–15–68, Cl. 340—207.

McGrath, Richard S., and N. W. Silcox, to International Business Machines Corp. Selective deposition method and article for use therein. 3,406,036, 10–15–68, Cl. 117—45.

McInerney Spring & Wire Co. : *See*—
Tuit, John. 3,405,964.

McNair, Lloyd L. Suspension device for ceilings and fixtures. 3,405,497, 10–15–68, Cl. 52—699.

Mealin, Thomas E., and D. Greaves. Rotary valve for engines. 3,405,701, 10–15–68, Cl. 123—190.

Means, Ralph P., to Soroban Engineering, Inc. Printer with detent means on the print motion producing means. 3,405,794, 10–15–68, Cl. 197—55.

Meazzi, Remo, F. Caldironi, and A. Olivieri. Supports, particularly for drums and the like, with arrangements admitting the swing motion of the instrument over a wide angulation range and its quick locking and release, and related improved supports. 3,405,587, 10–15–68, Cl. 84—421.

Medtronics, Inc. : *See*—
Hagfors, Norman R. 3,405,715.

Mehlman, Samuel J., to Radio Corp. of America. PM/AM multiplex communication. 3,406,343, 10–15–68, Cl. 325—40.

Melboom, Saul : *See*—
Hutson, Andrew R., and Melboom. 3,405,992.

Meier, Ernst, and H. Seip, to Alfred Teves, KG. Hydraulic brake system with locking means. 3,405,787, 10–15–68, Cl. 188—265.

Meininger, Fritz, A. Bauer, and K. Berner, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Water-soluble monoazo pyrazolone dyestuff. 3,406,163, 10–15–68, Cl. 260—162.

Mentink, John P., to Bausch & Lomb Inc. Inverted or metallographic type of microscopes. 3,405,989, 10–15–68, Cl. 350—10.

Mentrup, Anton : *See*—
Zelle, Karl, Thoma, and Mentrup. 3,406,237.

Merck & Co., Inc. : *See*—
Patchett, Arthur A., Rogers, and Leanza. 3,406,185.

Mersch, Georges. Phase displacement device of two shafts. 3,405,571, 10–15–68, Cl. 74—674.

Messrs. August Laepple G.m.b.H. & Co. : *See*—
Haas, Eberhard. 3,405,965.

Meszaros, Zoltan. Device for starting, clamping and checking the clamping of vehicles on a rope. 3,405,652, 10–15–68, Cl. 104—204.

Metallurgical Processes Ltd. : *See*—
Davey, Thomas R. A. 3,405,926.

Metcalfe, Kenneth A., and A. S. Clements, to The Commonwealth of Australia, care of the Secretary of the Department of Supply. Method of conditioning photoconductor surfaces. 3,406,061, 10–15–68, Cl. 96—1.

Metrodynamics Corp., The : *See*—
Grady, Charles B., Jr., and Wales. 3,405,775.

Meunier, Maurice G. J. : *See*—
Humez, Joachim, Meunier, and Soubrier. 3,406,098.

Meyer, Horst : *See*—
Zirngibl, Hans, Dornemann, Gerken, Heine, Meyer, and Weise. 3,406,011.

Meyer, Jean-Paul : *See*—
Stauff, Emile, and Meyer. 3,406,402.

Michaelson, Sylvia. Mathematics teaching device. 3,405,460. 10–15–68, Cl. 35—31.

Michalchik, Michael, to Fairchild Camera & Instrument Corp. Method for liquid development of electrostatic images using conductive particles as floating electrodes. 3,406,062, 10–15–68, Cl. 96—1.

Michigan State University of Agriculture and Applied Science : *See*—
Hansen, Clarence M., and Ott. 3,405,529.

Midland-Ross Corp. : *See*—
Floehr, Walter L. 3,405,657.
Nesbitt, John D., and Kohn. 3,405,923.

Mid-West Metallic Products, Inc. : *See*—
Rogus, Joseph A. 3,405,810.

Mignen, Bernard, to L.O.R. Lentilles Ophtalmiques Rationnelles Societe Anonyme. Preformed blank for multifocal lens. 3,405,995, 10–15–68, Cl. 351—168.

Millar, David : *See*—
Calaceto, Ralph R., Durst, and Millar. 3,405,918.

Miller, Richard J., to Sheller-Globe Corp. Pallet assembly. 3,405,666, 10–15–68, Cl. 108—58.

Millich, Thomas L., ½ to Paperbox Corp. Article handling method and apparatus. 3,405,611, 10–15–68, Cl. 93—49.

Mills Co., The : *See*—
Wargo, Steve M. 3,405,960.

Milos, Dumitru : *See*—
Lari, Ion, and Milos. 3,405,912.

Miniature Electronic Components Corp. : *See*—
Pihl, George E. 3,406,388.

Ministerul Petrolului : *See*—
Lari, Ion, and Milos. 3,405,912.

Minnesota Mining and Mfg. Co. : *See*—
Bradford, Robert S. 3,406,378.
Vogel, Herward A. 3,406,149.

Miquel, Jean F. : *See*—
Barany, Ernst H., and Miquel. 3,406,209.

Misik, Albert V., to Beico Engineering, Inc. Packaged newspaper. 3,405,796, 10–15–68, Cl. 206—46.

Mistarz, Robert J., to Illinois Creamery Supply Co. Machine for automatically forming, filling, closing and sealing cartons. 3,405,505, 10–15–68, Cl. 53—183.

Mixon, Clyde E., to Pedicraft, Inc. Crib attachment. 3,405,412, 10–15–68, Cl. 5—100.

Mixson, John S., to United States of America, National Aeronautics and Space Administration. Ring wing tension vehicle. 3,405,887, 10–15–68, Cl. 244—1.

Mizelle, Adrian C., and R. D. Gillespie, to Brown and Williamson Tobacco Corp. Cartoner. 3,405,503, 10–15–68, Cl. 53—53.

Mobay Chemical Co. : *See*—
Foster, William E. 3,406,086.

Mobil Oil Corp. : *See*—
Bloch, Morton G. 3,405,550.
Bowles, Vernon O. 3,406,112.
Eastwood, Sylvander C., and Schwartz. 3,406,124.
Spencer, William C., and Barnett. 3,405,519.

Moffatt, Elbert M., to United Aircraft Corp. Pressure transducer. 3,405 559, 10–15–68, Cl. 73—398.

Mogolis, Bruce W. Stock feeder. 3,405,856, 10–15–68, Cl. 226—154.

Mohr, Kenneth J. : *See*—
Lenz, James E., and Mohr. 3,405,844.

Molecu-Wire Corp. : *See*—
Poch, Stephen, Edmunds, and Lichter. 3,406,058.

Molins Machine Co. Ltd. : *See*—
London, William C. 3,405,579.

Molloy, Everett W., to The Yellow Springs Instrument Co., Inc. Polarographic sensor. 3,406,109, 10–15–68, Cl. 204—195.

Monahan, Jack J. : *See*—
McAlexander, Joseph C., Jr., and Monahan. 3,405,671.

Moncure, Henry, Jr., to E. I. du Pont de Nemours and Co. Stabilized polyoxymethylene compositions. 3,406,222, 10–15–68, Cl. 260—857.

Monsanto Chemicals (Australia) Ltd. : *See*—
Crocker, Henry P., and Raper. 3,406,178.

Monsanto Chemicals Ltd. : *See*—
Bain, Peter J. S., and Dibbo. 3,406,141.
Baxter, Samuel, and Gilbert. 3,406,230.
Brown, Joseph P., and McCall. 3,406,158.

Monsanto Co.: *See*—
Anas, Thomas, Larkin, and Watson. 3,406,138.
Buckley, Francis T., and Hing. 3,405,425.
Harris, Darrel M. 3,406,044.
Irani, Riyad R. 3,406,077.
Locke, Frederic J. 3,406,206.
Schisla, Robert M., and Hammann. 3,406,207.
Speziale, Angelo J., and Smith. 3,406,192.

Montecatini Edison S.p.A.: *See*—
Fauser, Giacomo. 3,406,200.
Patron, Germano. 3,406,213.
Scarso, Luciano, Bevilacqua, and Pozzer. 3,406,136.

Mo och Domsjo Aktiebolag: *See*—
Moren, Rolf E. 3,406,038.

Moog Inc.: *See*—
Ballard, John S., Garnjost, Hague, Moog, and Treff. 3,405,600.

Moog, William C., Jr.: *See*—
Ballard, John S., Garnjost, Hague, Moog, and Treff. 3,405,600.

Moren, Rolf E., to Mo och Domsjo Aktiebolag. Treatment of wood with a polyhydric alcohol and an alkylene oxide. 3,406,038, 10–15–68, Cl. 117—62.1.

Mori, Tsunezo, to Ishikawajima-Harima Jukogyo Kabushiki Kaisha. Dust-proof hopper. 3,405,820, 10–15–68, Cl. 214—17.

Morris, Charles L. Stair chair. 3,405,972, 10–15–68, Cl. 297—217.

Morrow, Scott I., M. M. Fein, and D. D. Perry, to Thiokol Chemical Corp. Dihaloamino-carboranes. 3,406,203, 10–15–68, Cl. 260—583.

Morse Controls Inc.: *See*—
Houk, Richard D. 3,405,667.

Mosler Safe Co., The: *See*—
Novak, Warren D. 3,405,996.

Moss, David H. Disposable urinal. 3,405,714.

Motorola, Inc.: *See*—
Spies, Rolf E. 3,406,250.

Mower, Peter: *See*—
Smithers, Phillip G. K., and Mower. 3,405,420.

Mowry, Chris, to Gyro Engineering Corp. Method of determining color using color maps. 3,406,293, 10–15–68, Cl. 250—226.

Mueller Co.: *See*—
Smith, John J. 3,405,739.

Mueller, Curt: *See*—
Altermatt, Ruedi, and Mueller. 3,406,164.

Mueller, Georg: *See*—
Stuiber, Walter, and Mueller. 3,405,793.

Muller, Jurgen: *See*—
Kochmann, Werner, Seelmann, Wetzke, Duschek, Frotscher, Muller, Springer, Liedmann, Schmidt, Sass, Armbruster, Triems, and Teutschbein. 3,406,226.

Mueller, Louis F., Jr., to Varian Associates. Automatic tuning of quantum resonance circuits. 3,406,353, 10–15–68, Cl. 331—3.

Muetterties, Earl L., to E. I. du Pont de Nemours and Co. Salts of $B_9H_9^{2-}$ and their preparation. 3,406,019, 10–15–68, Cl. 23—361.

Mullan, Joseph A. Cam control sprinkler. 3,405,871, 10–15–68, Cl. 239—236.

Müller-Rid, Wilhelm: *See*—
Bähr, Theodore, and Müller-Rid. 3,405,803.

Müller-Schiedmayer, Günther, H. Harnisch, and J. Cremer, to Knapsack Aktiengesellschaft. Process for the manufacture of a phosphorus oxychloride. 3,406,013, 10–15–68, Cl. 23—203.

Muray, Julius J., to Hewlett-Packard Co. Light source including means for translational movement of glow discharge along envelope axis. 3,406,315, 10–15–68, Cl. 315—334.

Murray, Myles N., to Industrial Electronic Rubber Co. Method of making an oral cleanser. 3,405,437, 10–15–68, Cl. 29—450.

Murtaugh, James L.: *See*—
Bradley, Richard E., Sankin, Barnes, Beauregard, Murtaugh, Rosenblatt, and Thompson. 3,406,380.

Muth, Karl: *See*—
Weber, Helmut, Aumuller, Weyer, Muth, and Schmidt. 3,406,199.

Mutter, Robert A.: *See*—
Graham, Charles B., and Mutter. 3,405,538.

Myers, Thomas E. Tuning fork. 3,405,589, 10–15–68, Cl. 84—457.

NSU Motorenwerke Aktiengesellschaft & Wankel G.m.b.H.: *See*—
Paschke, Hanns-Dieter. 3,405,692.
Zimmermann, Hans-George, and Schaller. 3,405,694.

N.V. Nederlandsche Fabriek van Bakkerijwerktuigen v/h G. J. Benier: *See*—
Benier, Pieter J. 3,405,663.

Nailen, James C., to Whittaker Corp. Fire warning systems. 3,406,389, 10–15–68, Cl. 340—411.

Nakagawa, Kazumi: *See*—
Anahara, Meiji, Ezaki, Nakagawa, Tsutsui, and Okazaki. 3,405,517.

Nanney, Cecil A., to Bell Telephone Laboratories, Inc. Negative resistance device having thermal instability. 3,406,299, 10–15–68, Cl. 307—306.

Narad, Inc.: *See*—
Hees, Ronald D. 3,405,659.

Nashua Corp.: *See*—
Aubrey, Howard W. 3,405,568.
Schlein, Herbert N., and Kinoshita. 3,406,060.

Nathan, Alan H.: *See*—
Hogg, John A., and Nathan. 3,406,190.

National Dairy Products Corp.: *See*—
Zukerman, Harold W. 3,406,075.

Neary, Francis B., to Art-Craft Optical Co., Inc. Method of making a spectacle hinge. 3,405,438, 10–15–68, Cl. 29—471.9.

Neely, Palace J. Fish holding tool. 3,405,963, 10–15–68, Cl. 294—16.

Neff, Stewart B., to Celanese Corp. Moldable cellulose polymer-moldable oxymethylene polymer blend-colloidal dispersions. 3,406,130, 10–15–68, Cl. 260—13.

Neier, Reinhard, to Sandoz Ltd. (a/k/a Sandoz A.G.). Dye salts of anionic metal complex dyes of the benzeneazoacetoacetyl alkylamide series and organic amine nitrogen bases. 3,406,162, 10–15–68, Cl. 260—145.

Nelden, Richard M., to American Radiator & Standard Sanitary Corp. Liquid level sensing and control means for fluid drives. 3,405,524, 10–15–68, Cl. 60—54.

Nelson, Elliot S., to Embassy Industry, Inc. Housing for covering exposed pipe lengths. 3,405,488, 10–15–68, Cl. 52—287.

Nelson, Forrest A., to Varian Associates. Scanned intensity magnet having field homogeneity correction coils in common with its scanning coils. 3,406,333, 10–15–68, Cl. 324—.5.

Nesbitt, John D., and H. M. Kohn, to Midland-Ross Corp. Side wall firing system for multi-stand annealing covers. 3,405,923, 10–15–68, Cl. 263—40.

Neugebauer, Wilhelm: *See*—
Steppan, Hartmut, Rebenstock, and Neugebauer. 3,406,159.

Neuser, Gerald L.: *See*—
Bauer, Clifford D., Neuser, and Pinkalla. 3,406,081.

Neuschotz, Robert. Threaded elements having deformable spacers. 3,405,591, 10–15–68, Cl. 85—9.

Neuschotz, Robert. Self tapping threaded part. 3,405,596, 10–15–68, Cl. 85—47.

Neuschotz, Robert. Structure and installation of threaded elements having serrated locking portion. 3,405,752, 10–15–68, Cl. 151—41.72.

New Castle Products, Inc.: *See*—
Harris, Donald S. 3,405,756.

New York Central Railroad Co., The: *See*—
Kantola, Carl F. 3,405,449.

Newell, William E., to Westinghouse Electric Corp. Ultrasonic amplifier device. 3,406,350, 10–15–68, Cl. 330—5.5.

Newton, Le Roy: *See*—
Grayson, Richard D., and Newton. 3,405,869.

Niagara Therapy Mfg. Corp.: *See*—
Mathers, Kenneth R. 3,405,709.

Nicholson, James F., to Westinghouse Electric Corp. Electron image storage device. 3,406,311, 10–15–68, Cl. 315—12.

Niehaus, Edward J.: *See*—
Schoonover, Francis B., and Niehaus. 3,405,745.

Nill, Walter, to Kuderli & Co. Barrier for the bounding of roads, bridges, etc. 3,405,914, 10–15–68, Cl. 256—59.

Nimrick, Harold C. Fertilizer-applying irrigation device. 3,405,669, 10–15–68, Cl. 111—7.2.

Nippon Electric Co.: *See*—
Ito, Sukehiro, and Ueno. 3,406,345.

Nippon Kogaku K.K.: *See*—
Sho, Koji. 3,406,270.

Nishimura, Sachio, and N. Hata, to Asahidenka Kogyo Kabushiki Kaisha. Thermoset resin and method for making it. 3,406,128, 10–15–68, Cl. 260—2.5.

Nolta, James P., and N. W. Schubring, to General Motors Corp. Ferroelectric material and method of making it. 3,405,440, 10–15–68, Cl. 29—604.

Nord-Aviation Societe Nationale de Constructions Aeronautiques: *See*—
Flamand, Claude, Lazareff, and Rajau. 3,405,893.
Stauff, Emile, and Meyer. 3,406,402.

Nordberg Mfg. Co.: *See*—
Foxx, Robert J., and Krause. 3,405,649.

Norris, Edward O., and R. F. Wiggins. Spray unit for use with arcuate conveyor paths. 3,405,679, 10–15–68, Cl. 118—2.

North American Rockwell Corp.: *See*—
Buchanan, William E., and Jellum. 3,406,281.

Northwestern Steel and Wire Co.: *See*—
Robinson, Charles G. 3,405,743.
Robinson, Charles G. 3,406,239.
Robinson, Charles G. 3,406,241.

Nossiter, Clarence F.: *See*—
Hill, Harold T., and Nossiter. 3,405,610.

Nothnagle, Paul E., and E. A. O'Donnell, to Bausch & Lomb Inc. Coaxial illuminator for stereomicroscope. 3,405,990, 10–15–68, Cl. 350—15.

Novack, Martin E.: *See*—
Teno, Joseph, and Novack. 3,406,300.

Novak, Edward J., to Fastener Corp. Fluid motor having a supply-and-exhaust valve carried by the piston. 3,405,602, 10–15–68, Cl. 91—28.

Novak, Warren D., to The Mosler Safe Co. X-Y platen assembly. 3,405,996. 10–15–68, Cl. 355—42.

Nuclear Corp. of America: *See*—
Marquart, Vernon L., and Stolle. 3,406,334.

Nutter, Benjamin P., to Schlumberger Technology Corp. Multiple purpose well tools. 3,405,764, 10–15–68, Cl. 166—145.

O.K. Tool Co., Inc., The: *See*—
Williams, Thruston V. 3,405,433.

Oark-Ohio Industries, Inc.: *See*—
Cachat, John F., and Thomas. 3,406,271.

O'Connor, Harry V.: *See*—
Devlin, James E., Eramo, A. and D., and O'Connor. 3,405,705.

O'Donnell, Edward A.: *See*—
Nothnagle, Paul E., and O'Donnell. 3,405,990.

Oechsli, Bernard L.: *See*—
Gould, Lawrence P., and Oechsli. 3,406,009.

Oetiker, Alfred, and P. Schaefer, to Ciba Ltd. Process for the manufacture of optically brightened photographic material. 3,406,070, 10–15–68, Cl. 96—82.

Oka, Shozo. Pipes with bent portion for transporting powder or grains by air power. 3,405,738, 10–15–68, Cl. 138—39.

Okada, Tamotsu. Water filtration plant. 3,405,806, 10–15–68, Cl. 210—203.

Okamoto, Masahiko. Flying body control system and apparatus. 3,405,888, 10–15–68, Cl. 244—3.14.

Okazaki, Takeshi: *See*—
Anahara, Meiji, Ezaki, Nakagawa, Tsutsui, and Okazaki. 3,405,517.

Oktay, Sevgin, to International Business Machines Corp. Multi-liquid heat transfer. 3,406,244, 10–15–68, Cl. 174—15.

O'Leary, Thomas G.: *See*—
Brown, Donald N., Justice, and O'Leary. 3,406,085.

Oldshue, James Y. Insulated lightweight cover for pools of water. 3,405,410, 10–15–68, Cl. 4—172.

Olin Mathieson Chemical Corp.: *See*—
Freeman, Alan J. M. 3,405,642.

Olivieri, Attilio: *See*—
Meazzi, Remo, Caldironi, and Olivieri. 3,405,587.

Olson, Danford H., to Marathon Oil Co. Process for the dehydrogenation of ethylbenzene. 3,406,219, 10–15–68. Cl. 260—669.

Omholt, Ray E. Wall construction particularly for playing courts. 3,405,493, 10–15–68, Cl. 52—480.

Oriomoski, Roger W., to Reed Rolled Thread Die Co. Rolled thread die with traction notches. 3,405,545, 10–15–68, Cl. 72—88.

Oriomoski, Roger W., to Reed Rolled Thread Die Co. Thread rolling die with twisted slug forming and removal surface. 3,405,547, 10–15–68. Cl. 72—469.

Orwin, Olaf J. B., D. L. Gold, and D. J. Fortune, to Fisholow Products Ltd. Overload clutches. 3,405,789, 10–15–68, Cl. 192—56.

Orwin, Olaf J. B., and D. J. Fortune, to Fisholow Products Ltd. Locking device for an overload clutch. 3,405,790, 10–15–68, Cl. 192—56.

Otken, Edwin J., to Good Humor Corp. Apparatus for making confectionary products. 3,405,662, 10–15–68, Cl. 107—1.

Otsuka, Shinichiro, R. Ishii, I. Shiio, and Katsuya. Process for producing L-glutamic acid by fermentation of hydrocarbons. 3,406,095, 10–15–68. Cl. 195—28.

Ott, Furman E. Creep feeder. 3,405,684, 10–15–68, Cl. 119—53.

Ott, Louis E.: *See*—
Hansen, Clarence M., and Ott. 3,405,529.

Overman, Joseph De W., to E. I. du Pont de Nemours and Co. Photographic element and process. 3,406,069, 10–15–68, Cl. 96—74.

Owens-Corning Fiberglas Corp.: *See*—
Day, Frank Froberg, and Holschlag. 3,406,021.
Ullman, William L., Baxter, Pearson, Davis, and Hullhorst. 3,406,231.

Oy Tampella Ab: *See*—
Yli-Paavola, Antti J. 3,405,876.

PPG Industries, Inc.: *See*—
Plant, Edwin K. 3,406,082.

Pacific Industries Inc.: *See*—
Wissinger, Robert R., and Ehrhardt. 3,405,555.

Packaging Corp. of America: *See*—
Chamolin, Charles L. 3,405,840.

Pactide Corp.: *See*—
Rodgers, Franklin A. 3,406,096.

Pal, Prabhakar K.: *See*—
Denahan, Richard A., Farmer, Pal, and Rehaut. 3,405,530.

Palevsky, Max, L. Levine, and R. T. Dames, to Scientific Data Systems, Inc. Digital data processing system. 3,406,379, 10–15–68. Cl. 340—172.5.

Palm, Bengt A., to Alfa-Laval A.B. Deodorization of heated liquids. 3,406,073, 10–15–68, Cl. 99—61.

Pan American Petroleum Corp.: *See*—
Farr, John B., and Powley. 3,405,527.

Papa, Anthony J., to E. I. du Pont de Nemours and Co. 2-halo-guanidines. 3,406,170, 10–15–68, Cl. 260—246.

Paperbox Corp.: *See*—
Millich, Thomas L. 3,405,611.

Parish, Norman A., to Rotax Ltd. Ignition systems. 3,406,314, 10–15–68. Cl. 315—209.

Parker, Harry W., to Phillips Petroleum Co. Steam flooding oil-bearing limestone strata. 3,405,761, 10–15–68, Cl. 166—11.

Parr, Edward L., to Wendell L. Thompson. Element having continuous thread, portion of thread being longitudinally variable in length. 3,405,751, 10–15–68. Cl. 151—14.

Parsons, Stuart L., to AMP Inc. Electrical connections for pairs of conductors. 3,406,247, 10–15–68. Cl. 174—88.

Paschke, Hanns-Dieter, to NSU Motorenwerke Aktiengesellschaft & Wankel G.m.b.H. Supercharged rotary internal combustion engine. 3,405,692. 10–15–68. Cl. 123—8.

Pasowicz, Walter E. Dressing grinding wheels and the like. 3,405,702. 10–15–68, Cl. 125—11.

Patchett, Arthur A., E. F. Rogers, and W. J. Leanza, to Merck & Co., Inc. Antibiotics. 3,406,185, 10–15–68. Cl. 260—332.2.

Patentsverwertungs- und Finanzierungsgesellschaft Serania AG.: *See*—
Schmid, August. 3,405,940.

Patrick, Alan E., and R. C. Robinson, to General Time Corp. Test arrangement for battery-powered alarm clocks. 3,405,518, 10–15–68, Cl. 58—20.

Patron, Germano, to Montecatini-Edison S.p.A. Process for stabilizing halogenated hydrocarbons. 3,406,213, 10–15–68, Cl. 260—652.5.

Patterson, Henry R., Jr.: *See*—
Daly, David A., and Patterson. 3,405,855.

Patterson, Henry R., Jr., to Beloit Corp. Boundary layer eliminator. 3,405,884, 10–15–68, Cl. 242—76.

Paufler, Robert M., to E. I. du Pont de Nemours and Co. Plastic film structures. 3,406,039, 10–15–68, Cl. 117—76.

Paulson, Nils I., to Playskool Mfg. Co. Toy building block. 3,405,479, 10–15–68, Cl. 46—25.

Pavlath, Attila E.: *See*—
Christe, Karl O., and Pavlath. 3,406,212.

Peacock, Reginald T. Plumb bob. 3,405,450, 10–15–68, Cl. 33—217.

Pearson, Arthur J.: *See*—
Ullman, William L., Baxter, Pearson, Davis, and Hullhorst. 3,406,231.

Pearson, John H. Method and apparatus for handling urban shopper traffic. 3,405,612, 10–15–68, Cl. 94—1.

Pease, John W. Tuner for stringed musical instruments. 3,405,590, 10–15–68. Cl. 84—458.

Pedicraft, Inc.: *See*—
Mixon, Clyde E. 3,405,412.

Pedrotti, Donald G., to RCK, Inc. Furnace having fingers interdigitatedly engaged with its heating elements. 3,406,275, 10–15–68, Cl. 219—406.

Peeters, Andreas M. C. C., J. Van Goethem, and J. A. C. M. DeCleyn, to International Standard Electric Corp. Control circuit for switching networks having output availability check means. 3,406,258, 10–15–68, Cl. 179—18.

Pelly, Brian R., to Westinghouse Brake and Signal Co., Ltd. Relaxation inverter circuits with switching control. 3,406,330, 10–15–68, Cl. 321—18.

Pence, Joseph E.: *See*—
Marsh, Marvin D., and Pence. 3,405,943.

Perez, Jean-Jacques: *See*—
Bathellier, Andre, and Perez. 3,406,204.

Perkins Engines Ltd.: *See*—
Sparrow, Alan W. 3,405,693.

Perkins, Hayes P. Utility Christmas tree base. 3,405,895, 10–15–68, Cl. 248—44.

Perraudin, Rolland, C. Perrin, and G. Seris, to L'Air Liquide, Societe Anonyme Pour l'Etude et l'Exploitation des Procedes Georges Claude. Method for the production of a high-porosity lime-silica porous body. 3,406,030, 10–15–68, Cl. 106—86.

Perrin, Claude: *See*—
Perraudin, Rolland, Perrin, and Seris. 3,406,030.

Perrone, Rosario J.: *See*—
Bunish, Steve, and Perrone. 3,406,248.

Perry, Donald D.: *See*—
Morrow, Scott I., Fein, and Perry. 3,406,203.

Perry, Norman L.: *See*—
Hecker, Arthur C., and Perry. 3,406,135.

Perrytex Machinery Co.: *See*—
Fries, Donald L. 3,405,533.

Persson, Algy, to LKB-Produkter Aktiebolag. Method for measuring the true cutting edge angle of a knife for a microtome. 3,405,578, 10–15–68, Cl. 83—13.

Pessin, Herbert E.: *See*—
Du Bois, Richard, Jr., Johnson, and Pessin. 3,406,288.

Peters, Charles J., to Sylvania Electric Products Inc. Optical frequency translator. 3,406,356, 10–15–68, Cl. 332—7.51.

Peters, Guilford B., to Stapling Machines Co. Method of making plastic-coated corrugated fiberboard. 3,406,052, 10–15–68, Cl. 156—198.

Peters, Werner, and H. Juntgen, to Firma Bergwerksverband G.m.b.H. Method and apparatus for purifying gases. 3,405,508, 10–15–68, Cl. 55—73.

Petersen, Alfred W., to Stauffer Chemical Co. Apparatus for boiling liquids by falling film heating. 3,405,689, 10–15–68, Cl. 122—39.

Peterson, Anders A., to Hardinge Bros., Inc. Devices for closing wrench sockets. 3,405,595, 10–15–68, Cl. 85—45.

Peterson, Dean M., to Eastman Kodak Co. Photographic shutter. 3,405,624, 10–15–68, Cl. 95—59.

Peterson, Jack E., to Comdata Corp. Reel container. 3,405,798, 10–15–68, Cl. 206—52.

Petrolite Corp.: *See*—
Kilpatrick, James M. 3,406,101.

Pettigrew, John O.: *See*—
Trocdon, Thomas, Fore, and Pettigrew. 3,406,235.

Peyton, Robert C., to Radio Corp. of America. Print hammer energizing arrangement. 3,406,381, 10–15–68, Cl. 340—172.5.

Pfeffer, John. Drafting instrument. 3,405,447, 10–15–68, Cl. 33—41.

Pfrehm, Raymond H.: *See*—
Anderson, Donald G., and Pfrehm. 3,405,976.

Phillips, Edwin R.: *See*—
Reader, Trevor D., and Phillips. 3,405,736.

Phillips, Floyd L., Jr., to Archer Products, Inc. Package and blank therefor. 3,405,859, 10–15–68, Cl. 229—22.

Phillips Petroleum Co.: *See*—
Parker, Harry W. 3,405,761.
Hudson, Jimmie E. 3,405,831.
Collie, Stafford D. 3,405,858.
Creel, Donald H. 3,405,969.
Davison, Joseph W., Hutto, and Livingston. 3,406,217.
Hawkins, Harold M. 3,406,220.

Phillipson, Alan, and B. H. R Spiller, to Decca Ltd. Manufacture and testing of phonograph records. 3,406,264, 10–15–68. Cl. 179—100.4.

Phosphate Development Corp. Ltd: *See*—
Preller, Gustav S., and Schoeman. 3,405,802.

Pichler, Richard J.: *See*—
Tacharner, Christopher J., and Pichler. 3,406,118.

Pierce, Elwood K.: *See*—
Pitts, William A., Crain, and Pierce. 3,405,763.
Pierce, Elwood K., Jr., to Gray Tool Co. Apparatus for mechanically keying parts to one another. 3,405,956, 10–15–68, Cl. 285—90.
Pierce, John P., to Kimberly-Clark Corp. Manufacture of cellulosic product. 3,406,037, 10–15–68, Cl. 117—60.
Pierick, Richard L. Desiccative syringe. 3,405,712, 10–15–68, Cl. 128—218.
Phil, George E., to Miniature Electronic Components Corp. Electromagnetic indicator having permanent magnet mounted on rotating shaft. 3,406,388, 10–15–68, Cl. 340—373.
Pilkington Bros. Ltd.: *See*—
Richardson, Donald A., and Waters. 3,405,468.
Pinkalla, Hamilton A.: *See*—
Bauer, Clifford D., Neuser, and Pinkalla. 3,406,081.
Pittman, Allen G.: *See*—
Whitfield, Robert E., Pittman, and Wasley. 3,406,005.
Pitts, William A., R. L. Crain, and E. K. Pierce; said Crain and said Pierce assors. to Gray Tool Co. Well completion apparatus and method. 3,405,763, 10–15–68, Cl. 166—46.
Pittsburgh Plate Glass Co.: *See*—
Carlin, William W. 3,046,008.
Raetzsch, Carl W. 3,406,103.
Rahn, Henry W. 3,406,012.
Plant, Edwin K., to PPG Industries, Inc. Fumigating produce with hydrazoic acid. 3,406,082, 10–15–68, Cl. 99—225.
Playskool Mfg. Co.: *See*—
Paulson, Nils I. 3,405,479.
Plock, Edward B. Photographic composing machine. 3,405,616, 10–15–68, Cl. 95—4.5.
Pneumo Dynamics Corp.: *See*—
Hill, Frank E. 3,405,727.
Poch, Stephen, E. E. Edmunds, and A. S. Lichter, to Molecu-Wire Corp. Nickel base alloys and electrical resistance wire made therefrom. 3,406,058, 10–15–68, Cl. 75—171.
Podolsky, Leaman B.: *See*—
Hobbs, Milton M., and Podolsky. 3,405,676.
Polaroid Corp.: *See*—
Brandt, Edison R. 3,405,562.
Finelli, Patrick L. 3,405,621.
Ford, Vernon E., and Forsyth. 3,405,623.
Friedman, Melvin. 3,405,620.
Land, Edwin H. 3,406,064
Land, Edwin H., and Bachelder. 3,405,617.
Land, Edwin H., and Eloranta. 3,405,618.
Land, Edwin H. 3,405,619.
Simon, Myron S. 3,406,194.
Polestak, Walter J., and J. F. Tracy, to Celanese Corp. Polyurethane composition containing an epoxy compound as a stabilizer. 3,406,140, 10–15–68, Cl. 260—33.4.
Polan, Joseph. Turn for handbag closure. 3,405,431, 10–15–68, Cl. 24—221.
Polsut, Theodore. Fishhook with live bait holding means. 3,405,477, 10–15–68, Cl. 43—44.6.
Porter, William S., and C. K. Chiklis, to Avco Corp. Molecular still. 3,406,097, 10–15–68, Cl. 202—190.
Potter, LeRoy H. Cross-linked molecular adhesive expansion joints. 3,406,087, 10–15–68, Cl. 161—184.
Powers, John V.: *See*—
Grebe, Kurt R., and Powers. 3,406,107.
Powers, Robert J.: *See*—
Davis, Harold E., Jr., and Powers. 3,405,531.
Powley, David E.: *See*—
Farr, John B., and Powley. 3,405,527.
Pozzer, Bruno: *See*—
Scarso Luciano, Bevilacqua, and Pozzer. 3,406,136.
Presto Inc.: *See*—
Erickson, John W., Konrad, and McCloud. 3,405,661
Prelsendanz, Edward S., to E. I. du Pont de Nemours and Co. Pressure vessel venting means. 3,405,838, 10–15–68, Cl. 220—44.
Preller, Gustav S., and B. J. D. K. Schoeman, to Phosphate Development Corp. Ltd. Flotation of apatite. 3,405,802, 10–15–68, Cl. 209—166.
Premier Drum Co., Ltd., The: *See*—
Della-Porta, Clifford. 3,405,588.
Prenosil, Michael B.: *See*—
Wright, Howard J., and Prenosil. 3,406,221.
Presto Lock Co., Inc.: *See*—
Gehrle, Charles S. 3,405,544.
Preston, Hart, and H. Barnett. Postcard. 3,405,467, 10–15–68, Cl. 40—124.1.
Price, Lewis C., Jr., and T. J. Benichasa, to Control Print Corp. Vertical can printer machine. 3,405,633, 10–15–68, Cl. 101—37.
Price, Martin B. Oxymethylene polymer-cellulose compound blended moldable compositions. 3,406,129, 10–15–68, Cl. 260—13.
Prince, Leon J. S.: *See*—
Carruthers, John A., and Prince. 3,405,722.
Products Research and Chemical Corp.: *See*—
Cook, Ralph J., and Schumann. 3,405,845.
Puckette, Charles C., and R. E. Baldwin, to English Numbering Machines Ltd. Sheet handling mechanisms. 3,405,906, 10–15–68, Cl. 271—19.
Pulaski, John W., to Westinghouse Electric Corp. Refrigerator cabinet construction. 3,405,987, 10–15–68, Cl. 312—214.
Pullman Inc.: *See*—
Wallace, Bruce A., Fankhanel, and Leitner. 3,405,691.
Pulrang, Earl J. Material dispensing apparatus. 3,405,514, 10–15–68, Cl. 56—25.4.
Pumillo, Joseph A. Disintegrating sinker. 3,05,476, 10–15–68, Cl. 43—43.12.
Purex Corp., Ltd.: *See*—
Jackson, Clark E. 3,405,645.
RCK, Inc.: *See*—
Pedrotti, Donald G. 3,406,275.
R. J. Sporting Inc.: *See*—
Crosier, James E., Blanchette, and Romanowski. 3,405,721.
Raasch, Maynard S., to E. I. du Pont de Nemours and Co. Addition compounds of norbornadienes and quadricyclenes with bis(trifluoro-methyl) thioketene and their S-oxides and S-dioxides. 3,406,184, 10–15–68, Cl. 260—327.
Raben, Irwin: *See*—
Klein, Phillip, Raben, and Herrera. 3,406,074.
Racine, Franklin L., to General Motors Corp. Coating composition. 3,406,122, 10–15–68, Cl. 252—408.
Raden, Daniel S., to Velsicol Chemical Corp. Cyclic phosphorus acid esters. 3,406,225, 10–15–68, Cl. 260—953.
Radlmer, Kenneth J., and F. E. Caropreso, to FMC Corp. Regeneration of spent ammonium persulfate etching solutions. 3,406,108, 10–15–68, Cl. 204—82.
Radio Corp. of America *See*—
Law, Harold B. 3,406,068.
Mehlman, Samuel J. 3,406,343.
Peyton, Robert C. 3,406,381.
Raetzsch, Carl W., to Pittsburgh Plate Glass Co. Method and apparatus for monitoring lining damage of alkali metal chlorate bipolar cells. 3,406,103, 10–15–68, Cl. 204—1.
Rahdener Maschinenfabrik Aug. Kolbus: *See*—
Kolbus, Walter. 3,405,812.
Rahn, Henry W., to Pittsburgh Plate Glass Co. Process for classifying pigmentary metal oxide. 3,406,012, 10–15–68, Cl. 23—202.
Rajau, Fernand: *See*—
Flamand, Claude, Lazareff, and Rajau. 3,405,893.
Raleigh Industries, Inc.: *See*—
Berman, Myron S. 3,405,643.
Raper, William G. C.: *See*—
Crocker, Henry P., and Raper. 3,406,178.
Reader, Trevor D., and E. R. Phillips, to Sperry Rand Corp. Pure fluid logic element. 3,405,736, 10–15–68, Cl. 137—81.5.
Reagents, Dade, Inc.: *See*—
Jones, Alan R. 3,406,121.
Rebenstock, August: *See*—
Steppan, Hartmut, Rebenstock, and Neugebauer. 3,406,160.
Redetzky, Wolfgang: *See*—
Ley, Kurt, Redetzky, Seydel, and Vohwinkel. 3,406,146.
Redman, James H., to Stromberg Carlson Corp. Cathode ray tube display device having a hemispherical display area. 3,406,312, 10–15–68, Cl. 315—13.
Reed, Lincoln C.: *See*—
Hoffman, Bernard L., and Reed. 3,405,546.
Reed Rolled Thread Die Co.: *See*—
Orlomoski, Roger W. 3,405,545.
Orlomoski, Roger W. 3,405,547.
Rees, Donald F.: *See*—
Gothard, Sydney A., Rees, and Brunt. 3,405,873.
Regis, Leo S., to American Optical Corp. Mailing package. 3,405,836, 10–15–68, Cl. 220—23.
Rehaut, David S.: *See*—
Denahan, Richard A., Farmer, Pal, and Rehaut. 3,405,530.
Reifschneider, Walter, and J. S. Kelyman, to The Dow Chemical Co. Preparation of aniline thioethers. 3,406,202, 10–15–68, Cl. 260—578.
Reitz, Charles F., to E. I. du Pont de Nemours and Co. Method for treatment of film-fibril sheets. 3,406,033, 10–15–68, Cl. 117—7.
Reliance Electric and Engineering Co.: *See*—
Jordan, Howard E. 3,406,323.
Remington, Leonard F., to Thomson National Press Co., Inc. Press and feeder for press. 3,405,933, 10–15–68, Cl. 271—3.
Renucci, Louis: *See*—
Albert, Philippe, Renucci, Lehr, and Gosse. 3,406,056.
Research Laboratories of Australia Pty., Ltd.: *See*—
Matkan, Josef, and Wright. 3,406,063.
Revolinsky, Eugene, D. J. Beerntsen, and G. A. Spiering, to Allis-Chalmers Mfg. Co. Anisotropic superconductor. 3,406,362, 10–15–68, Cl. 335—216.
Rice, Graham: *See*—
Dunn, Peter D., Whitby, and Rice. 3,406,090.
Richardson, Donald A., and J. R. Waters, to Pilkington Bros. Ltd. Signs. 3,405,468, 10–15–68, Cl. 40—130.
Richmond, Jerry F., J. S. Boone, and L. W. Langley, to Corning Glass Works. Internal ridging tool. 3,405,444, 10–15–68, Cl. 30—106.
Richter, Sidney B., and D. P. Mayer, to Velsicol Chemical Corp. Method for the control of weeds. 3,406,024, 10–15–68, Cl. 71—98.
Richter, William J., Jr., to Bell Telephone Laboratories, Inc. Repeater with power separation filters and with neutralization networks connected to a common terminal of signal and power channels. 3,406,265, 10–15–68, Cl. 179—170.
Richter, Wolfgang, to Ernst P. Lehmann Patentwerk. Toy cable car device. 3,405,478, 10–15–68, Cl. 46—1.
Riehl, Fred, to Robertshaw Controls Co. Pilot burner means or the like. 3,405,999, 10–15–68, Cl. 431—42.
Ries, Gottfried. Method and apparatus for drying objects such as cars. 3,405,453, 10–15–68, Cl. 34—9.
Rinaldini, Carlo: *See*—
Galli de Parattesi, Sergio, and Rinaldini. 3,406,093.
Ringhandt, Horst: *See*—
Klenk, Wilfried, and Ringhandt. 3,406,263.
Ringle, Gerald D. Mounting bracket. 3,405,898, 10–15–68, Cl. 248—204.
Rissler, Lennius R.: *See*—
Berkovitz, Harry, and Rissler. 3,405,782.

Robertshaw Controls Co.: *See*—
De Forest, Wesley V. 3,405,870.
McFarlane, Maynard D. 3,406,383.
Riehl, Fred. 3,405,999.
Vollbehr, Harald E. 3,405,607.
Robinson, Charles G., to Northwestern Steel and Wire Co. Reinforcing mat fabricating apparatus. 3,405,743, 10–15–68, Cl. 140—112.
Robinson, Charles G., to Northwestern Steel and Wire Co. Power cable arrangement for electric arc furnaces. 3,406,230, 10–15–68, Cl. 13—9.
Robinson, Charles G., to Northwestern Steel and Wire Co. Method and apparatus for balancing the arc power of a direct arc electric furnace and protecting the refractory lining in the hot spots of the furnace. 3,406,241, 10–15–68, Cl. 13—11.
Robinson, David S., to Lear Siegler, Inc. Wedge actuated seat adjuster. 3,405,900, 10–15–68, Cl. 248—396.
Robinson, Ralph C.: *See*—
Patrick, Alan E., and Robinson. 3,405,518.
Rockwell Mfg. Co.: *See*—
Schoonover, Francis B., and Niehaus. 3,405,745.
Rodgers, Franklin A., to Pactide Corp. Distillation under hydrostatic pressure with vapor permeable membrane. 3,406,096, 10–15–68, Cl. 202—172.
Rodionov, Georgy V.: *See*—
Voltsekhovsky, Rostislav I., Malik, and Rodionov. 3,405,822.
Roemer, Ralph R. Sealing means for a hydraulic system. 3,405,947, 10–15–68, Cl. 277—110.
Rogers, Edward F.: *See*—
Patchett, Arthur A., Rogers, and Leanza. 3,406,185.
Rogus, Joseph A., to Mid-West Metallic Products, Inc. Tierable and nestable receptacle. 3,405,810, 10–15–68, Cl. 211—126.
Rohm & Haas Co.: *See*—
Hurwitz, Marvin J., and Aschkenasy. 3,406,139.
Rohrs, Marvin K., to Aero-Flow Dynamics, Inc. (L. J. Wing Mfg. Co. Div.). Air-heating gas burner. 3,405,921, 10–15–68, Cl. 263—19.
Rohrs, Marvin K., to Aero-Flow Dynamics, Inc. (L. J. Wing Mfg. Co. Div.). Door heater. 3,405,922, 10–15–68, Cl. 263—19.
Romanowski, Robert F.: *See*—
Crosier, James E., Blanchette, and Romanowski. 3,405,721.
Roper, Peter G.: *See*—
Chatfield, Victor G., and Roper. 3,405,913.
Rosa, John, to Westinghouse Electric Corp. Forced commutating inverter. 3,406,325, 10–15–68, Cl. 321—5.
Rosa, Richard J., to Avco Corp. Magnetohydrodynamic hall current generator. 3,406,301, 10–15–68, Cl. 310—11.
Rosaen Filter Co., The: *See*—
Rosaen, Nils O. 3,405,804.
Rosaen, Nils O., to The Rosaen Filter Co. Horizontally mounted bayonet filter device. 3,405,804, 10–15–68, Cl. 210—90.
Rose, Robert C., to Rosemount Engineering Co. Compensating power supply circuit for non-linear resistance bridges. 3,406,331, 10–15–68, Cl. 323—22.
Rosemount Engineering Co.: *See*—
Lode, Tenny D. 3,406,291.
Rose, Robert C. 3,406,331.
Werner, Frank D. 3,405,463.
Rosenblatt Herbert L.: *See*—
Bradley, Richard E., Sankin, Barnes, Beauregard, Murtaugh, Rosenblatt, and Thompson. 3,406,380.
Rosin, Seymour, and J. Isreeli, to Technicon Corp. Chemistry furnace. 3,406,018, 10–15–68, Cl. 23—253.
Ross, James W., Jr.: *See*—
Frant Martin S., and Ross. 3,406,102.
Ross, Milburn M. Hydraulic pump jack means. 3,405,605, 10–15–68, I. 91—173.
Ross, Ralph E.: *See*—
Hundley, Clarence L., Jr., and V. McCue, Ross, and Wilding. 3,405,974.
Ross, Roger J., to The Singer Co. Needle thread cutters and thread end clamps 3,405,672, 10–15–68, Cl. 112—252.
Ross, Stephen A. Fish lure. 3,405,475, 10–15–68, Cl. 43—42.08.
Rossi, Robert R., to Arrow Safety Device Co. Marker light. 3,406,375, 10–15–68, Cl. 339—176.
Rotax Ltd.: *See*—
Parish, Norman A. 3,406,314.
Roto-Finish Ltd.: *See*—
Boniface, Frederick G. 3,305,483.
Rouvalis, George: *See*—
Gill, Joseph, and Rouvalis. 3,406,317.
Roylyn Inc.: *See*—
Saarem, Myrl J. 3,405,839.
Ruane, George W. Shirt with collar point hold-down device. 3,405,407, 10–15–68, Cl. 2—132.
Rubel, Peter A., to Cabot Corp. Welding method for cured polymeric compositions. 3,406,055, 10–15–68, Cl. 156—275.
Rumsey, John W., Jr.: *See*—
White, James L. 3,405,494.
Ruokolainen Richard B.: *See*—
Searles, John J., and Ruokolainen. 3,405,575.
Rupert, Samuel J., to Hoover Ball and Bearing Co. Method and apparatus for filling liquids into bottles and for capping the same. 3,405,500, 10–15–68, Cl. 53—37.
Russell, Robert H., D. Boyko, and J. A. Gilbert, to Electro-Optical Systems, Inc. Toroid transformer electrostatic shield. 3,406,364, 10–15–68, Cl. 336—69.
Ruter, Hans. Adjustable float control valve. 3,405,687, 10–15–68, Cl. 119—78.
Ruttenberg, Kenneth A., to United Aircraft Corp. High resolution radar. 3,406,400, 10–15–68, Cl. 343—17.1.
Rutz, Almer J. Gauze dispenser. 3,405,983, 10–15–68, Cl. 312—39.
Rutzen, Horst: *See*—
Blaser, Bruno, and Rutzen. 3,406,208.
Ryan Aeronautical Co., The: *See*—
Maier, Albert C. 3,406,404.
S.S.S. Patents Ltd.: *See*—
Sinclair, Harold. 3,405,572.
Saarem, Myrl J., to Roylyn Inc. Quick-disconnect cap. 3,405,839, 10–15–68, Cl. 220—46.
Saarinen, Edward, and J. Basiletti, to Continental Aviation and Engineering Corp. Valve retaining means for variable compression ratio pistons. 3,405,698, 10–15–68, Cl. 123—78.
Sahlsten, Karl L. Target for throwing games. 3,405,942, 10–15–68, Cl. 273—102.1.
St. Pierre, Robert. Bottle cap lock structure. 3,405,828, 10–15–68, Cl. 215—9.
Sallay, Stephen, and S. J. Childress, to American Home Products Corp. Adamantanyl thiosemicarbazones. 3,406,180, 10–15–68, Cl. 260—325.
Saltus, George E.: *See*—
Huttenhoff, John H., and Saltus. 3,406,296.
Salzinger, Carl B., and H. G. Ahlich, to The Dow Chemical Co. Biaxially oriented alkenyl aromatic resinous tape having a pressure sensitive adhesive thereon. 3,405,833, 10–15–68, Cl. 215—96.
Samartzopoulos, Costas G. Apparatus and method for analysing liquid sprays. 3,405,548, 10–15–68, Cl. 73—1.
Sambeth, Joerg, and F. Grundschober, to Societe Rhodiaceta. Cross-linked polyimides and methods of producing same from halogenated N,N'-bis-maleimides. 3,406,148, 10–15–68, Cl. 260—47.
Sanders, Albert M. Lock for sliding door. 3,405,961, 10–15–68, Cl. 292—207.
Sandoz Inc.: *See*—
Houlihan, William J. 3,406,174.
Sandoz Ltd.: *See*—
Altermatt, Ruedi, and Mueller. 3,406,164.
Dore, Jacky, Ischer, Maderni, Schneider, and Schweizer. 3,406,161.
Neier, Reinhard. 3,406,162.
Wicki, Heinz. 3,406,160.
Sanford, Herbert F., and E. M. Schreiner, to Honeywell Inc. Reel-mounting device. 3,405,881, 10–15–68, Cl. 242—68.3.
Sanford, Lloyd C.: *See*—
Day, Kenneth H., and Sanford. 3,405,627.
Sankin, Albert: *See*—
Bradley, Richard E., Sankin, Barnes, Beauregard, Murtaugh, Rosenblatt, and Thompson. 3,406,380.
Sapit, Donald T.: *See*—
Foster, Raymond O., and Sapit. 3,406,016.
Sard, Eugene W.: *See*—
Close, Richard N., and Sard. 3,406,392.
Sass, Dieter: *See*—
Kochmann, Werner, Seelmann, Wetzke, Duschek, Frotscher, Muller, Springer, Liedmann, Schmidt, Sass Armbruster, Triems, and Teutschbein. 3,406,226.
Sattler, Frank A., to Westinghouse Electric Corp. Cross-linked polyethylene terephthalate overcoat for insulated electrical conductors. 3,406,045, 10–15–68, Cl. 117—218.
Saulson, Stanley H.: *See*—
Gosnell, Charles N., and Saulson. 3,405,886.
Saxton, John B.: *See*—
Garwood, William S., and Saxton. 3,406,106.
Scaramucci, Domer, to Balon Corp. Self-aligning ball valve. 3,405,908, 10–15–68, Cl. 251—148.
Scaramucci, Domer. Valve construction including differential area seals. 3,405,909, 10–15–68, Cl. 251—148.
Scaramucci, Domer, to Balon Corp. Valves having differential area seals therein. 3,405,910, 10–15–68, Cl. 251—148.
Scaravelli, Angelo. Tube clamping device. 3,405,432, 10–15–68, Cl. 24—274.
Scarso, Luciano, M. Bevilacqua, and B. Pozzer, to Montecatini Edison S.p.A. Injection molding compositions containing vinyl chloride polymer ABS graft copolymer and plasticizer mixture. 3,406,136, 10–15–68, Cl. 260—23.7.
Schaefer, Paul: *See*—
Oetiker Alfred, and Schaefer. 3,406,070.
Schäfer, Heinz: *See*—
Süs, Oskar, and Schäfer. 3,406,071.
Schaller, Ulrich: *See*—
Zimmermann, Hans-George, and Schaller. 3,405,694.
Schatz, Peter M. Adjustable clamp rack. 3,405,809, 10–15–68, Cl. 211—89.
Scheffer, Harry, to Harry Kruger G.m.b.H. Control of double-acting pressure medium energized servo-motors. 3,405,606, 10–15–68, Cl. 91—306.
Scheifele, Hudson B., to Federal-Mogul Corp. Cage and bearing assembly construction. 3,405,981, 10–15–68, Cl. 308—213.
Schelhorn, Frederick B.: *See*—
Stengle, William B., and Schelhorn. 3,406,088.
Schenley Industries, Inc.: *See*—
Belokin, Paul, Jr. 3,405,459.
Schering AG: *See*—
Werres, Horst. 3,406,191.
Schiller, Siegfried, and P. Lenk, to Veb Lokomotivbau-Elektrotechnisch Werke Hans Beimler. High power electron gun with electron bombarded apertured cathode having a concave emission surface. 3,406,305, 10–15–68, Cl. 313—83.
Schisla, Robert M., and W. C. Hammann, to Monsanto Co. Diphenoxybiphenyl compounds and process. 3,406,207, 10–15–68, Cl. 260—613.
Schlein, Herbert N., and K. Kinoshita; said Schlein, assor. by direct and mesne, to Nashua Corp., and said Kinoshita, assor. to Katsuragawa Electric Co., Ltd. Electrophotographic process. 3,406,060, 10–15–68, Cl. 96—1.
Schleusener, Stuart A., to Iowa State University Research Foundation, Inc. Laser small-particle detector and method. 3,406,289, 10–15–68, Cl. 250—217.

Schloemann Aktiengesellschaft: *See*—
Schroder, Egbert, Kuppers, Strieck, and Beerens. 3,405,885.

Schlumberger Technology Corp.: *See*—
Nutter, Benjamin P. 3,405,764.
Shore, James B., and Bell. 3,405,769.
Welz, Wilbur C., and Lee. 3,406,359.

Schmerling, Louis, to Universal Oil Products Co. Preparation of halopolyolefins. 3,406,210, 10–15–68, Cl. 260—648.

Schmid, August, to Patentsverwertungs- und Finanzierungsgesellschaft Serania AG. Centering apparatus for the bowling pins of an automatic pin spotting machine. 3,405,940, 10–15–68, Cl. 273—44.

Schmid, Leopold F., to Alfred Teves Maschinen- und Armaturenfabrik KG. Self-energizing, spot-type disk brake. 3,405,785, 10–15–68, Cl. 188—73.

Schmidlin, Raymond J., to Addressograph-Multigraph Corp. Lithographic moisture supply. 3,405,636, 10–15–68, Cl. 101—148.

Schmidt, Felix H.: *See*—
Weber, Helmut, Aumuller, Weyer, Muth, and Schmidt. 3,406,199.

Schmidt, Gunther, to Boehringer Ingelheim G.m.b.H. Novel 5,6-dihydro-6-oxo-11H-pyrido [2,3-b] [1,4] benzodiazepines. 3,406,168, 10–15–68, Cl. 260—239.3.

Schmidt, Karl-Ludwig: *See*—
Klinkmann, Kurt, and Schmidt. 3,406,151.

Schmidt, Peter: *See*—
Kochmann, Werner, Seelmann, Wetzke, Duschek, Frotscher, Muller, Springer, Liedmann, Schmidt, Sass, Armbruster, Triems, and Teutschbein. 3,406,226.

Schmukler, Seymour, to General Electric Co. Cross-linked polyphenylene oxide. 3,406,147, 10–15–68, Cl. 260—47.

Schneider, Julius. Method of preparing matrices for a composing and casting machine. 3,406,104, 10–15–68, Cl. 204—6.

Schneider, Lukas: *See*—
Dore, Jacky, Ischer, Maderni, Schneider, and Schweizer. 3,406,161.

Schneider, Marc J. T.: *See*—
Bosc, Henri J., Schneider, and van den Broek d'Obrenan. 3,406,396.

Schoch, Gregor. Machine for processing sheets. 3,405,937, 10–15–68, Cl. 271—79.

Schoeller & Co.: *See*—
Seibel, Georg. 3,406,340.

Schoeman, Barend J. de K.: *See*—
Preller, Gustav S., and Schoeman. 3,405,802.

Shoen, Helmut O.: *See*—
Terry, Jack H., Johnston, Jones, Schoen. 3,406,137.

Scholl, Hans, and H. Jünemann. Device for sewing installations for clamping workpieces. 3,405,670, 10–15–68, Cl. 112—2.

Schoonover, Francis B., and E. J. Niehaus, to Rockwell Mfg. Co. Wood turning duplicator. 3,405,745, 10–15–68, Cl. 142—1.

Schreiber, L. D., Cheese Co.: *See*—
Bush, Robert G. 3,405,861.

Schreiner, Everett M.: *See*—
Sanford, Herbert F., and Schreiner. 3,405,881.

Schroder, Egbert, K. Kuppers, G. Strieck, and H. Beerens, to Schloemann Aktiengesellschaft. Reeler for rod or wire. 3,405,885, 10–15–68, Cl. 242—83.

Schubring, Norman W.: *See*—
Nolta, James P., and Schubring. 3,405,440.

Schuler, Dorland H. Self-retracting jack support for a wagon tongue. 3,405,955, 10–15–68, Cl. 280—475.

Schulz-Du Bois, Erich O.: *See*—
Lin, Lawrence H., and Schulz-Du Bois. 3,405,614.

Schulze, Walter-Joachim: *See*—
Imobersteg, Ulrich, and Schulze. 3,405,424.

Schumann, Joseph M.: *See*—
Cook, Ralph J., and Schumann. 3,405,845.

Schuster, Albert: *See*—
Berchtold, Ludwig, and Schuster. 3,405,951.

Schwartz, Albert B.: *See*—
Eastwood, Sylvander C., and Schwartz. 3,406,124.

Schwarzkopf, Hans: *See*—
Lukesch, Heinz, and Krakowsky. 3,405,832.

Schweizer, August: *See*—
Dore, Jacky, Ischer, Maderni, Schneider, and Schweizer. 3,406,161.

Scientific Data Systems, Inc.: *See*—
Palevsky, Max, Levine, and Dames. 3,406,379.

Scorgie, Donald G., and B. A. Kerns, to Westinghouse Electric Corp. Method of inspection of soldered joints comprising using a volatile fluorescent dye. 3,406,285, 10–15–68, Cl. 250—71.

Scovill Mfg. Co.: *See*—
Weber, Robert L., III. 3,405,630.

Seal, Michael, to Engelhard Industries, Inc. Apparatus for transporting hydrogen. 3,405,510, 10–15–68, Cl. 55—208.

Searles, John J., and R. B. Ruokolainen, to Ford Motor Co. Automatic control valve system for a multiple ratio power transmission mechanism. 3,405,575, 10–15–68, Cl. 74—868.

Sebelist, Frederick J.: *See*—
Lewis, Donald M., and Sebelist. 3,406,196.

Seeburg Corp., The: *See*—
Bodoh, Albinus G., and Gustavel. 3,405,946.
Von Gunten, Lee L. 3,405,584.

Seedhouse, Frederick A., to Bausch & Lomb Inc. Mounting mechanism for zoom type of optical systems for stereomicroscope. 3,405,991, 10–15–68, Cl. 350—36.

Seelmann, Hans-Gunter: *See*—
Kochmann, Werner, Seelmann, Wetzke, Duschek, Frotscher, Muller, Springer, Liedmann, Schmidt, Sass, Armbruster, Triems, and Teutschbein. 3,406,226.

Seelye Plastic-Fab, Inc.: *See*—
Carlson, Keith L. 3,405,720.

Seibel, Georg, to Schoeller & Co. Miniature electrical indicating instrument of the moving coil type with torsion elements under tension for supporting the coil. 3,406,340, 10–15–68, Cl. 324—154.

Seidel, Harold, to Bell Telephone Laboratories, Inc. Mechanical amplifier. 3,405,570, 10–15–68, Cl. 74—661.

Seidel, Harold, and D. L. White, to Bell Telephone Laboratories, Inc. Ultrasonic surface waveguides. 3,406,358, 10–15–68, Cl. 333—71.

Seidenberg, Richard L.: *See*—
Aklin, George H., and Seidenberg. 3,405,993.

Seip, Hermann: *See*—
Meier, Ernst, and Seip. 3,405,787.

Selwert, Joseph J., and J. B. Boylan, to Emery Industries, Inc. Moisture-curable urethane coatings. 3,406,134, 10–15–68, Cl. 260—22.

Selje & Bond: *See*—
Bond, Robert E. 3,405,897.

Sensel, Eugene E., and E. L. Cole, to Texaco Inc. Catalysts and their method of preparation. 3,406,123, 10–15–68, Cl. 252—455.

Seris, Georges: *See*—
Perraudin, Rolland, Perrin, and Seris. 3,406,030.

Seydel, Robert: *See*—
Ley, Kurt, Redetzky, Seydel, and Vohwinkel. 3,406,146.

Shaw, Walter H. Telephone switchboard call transfer device. 3,406,261, 10–15–68, Cl. 179—42.

Shear, Edward P.: *See*—
Coburn, Herbert D., Shear, and Steele. 3,405,780.

Sheller-Globe Corp.: *See*—
Eversman, Carl A. 3,405,988.
Miller, Richard J. 3,405,666.

Shepherd, Max A., to Taylor Publishing Co. Film dryer. 3,405,456, 10–15–68, Cl. 34—155.

Shibata, Goro: *See*—
Komatsu, Teruhiko, and Shibata. 3,406,034.

Shiio, Isamu: *See*—
Otsuka, Shinichiro, Ishii, Shiio, and Katsuya. 3,406,095.

Shinnippon Denki Kabushiki Kaisha: *See*—
Komatsu, Teruhiko, and Shibata. 3,406,034.

Shlesinger, Bernard E., Jr., and G. A. Arkwright. Electrical cross-bar switch having sensing means in close proximity to the cross points of the switch. 3,406,377, 10–15–68, Cl. 340—166.

Sho, Koji, to Nippon Kogaku K.K. Switch control comprising a rotatable ring pivoting a T-shaped lever for a miniature type motor-driven instrument. 3,406,270, 10–15–68, Cl. 200—153.

Shore, James B., and W. T. Bell, to Schlumberger Technology Corp. Well perforating apparatus. 3,405,769, 10–15–68, Cl. 175—4.53.

Shortes, Samuel R., to Texas Instruments Inc. Method of making electrical contact to a semiconductor body. 3,406,050, 10–15–68, Cl. 148—179.

Shure Shaft Co.: *See*—
Hays, Thomas M. 3,405,491.

Sico, Anthony C.: *See*—
Sico, Carmen and A. C. 3,405,422.

Sico, Carmen and A. C. Food skewering machine. 3,405,422, 10–15–68, Cl. 17—1.

Sideiman, Abraham, to H. Goodman & Sons, Inc. Closures. 3,405,430, 10–15–68, Cl. 24—204.

Siegla, Donald C.: *See*—
Bassett, Arthur T., Jr., and Siegla. 3,406,278.

Siemens Aktiengesellschaft: *See*—
Hieronymus, Hans. 3,406,332.

Silcox, Norman W.: *See*—
McGrath, Richard S., and Silcox. 3,406,036.

Simon, Myron S., to Polaroid Corp. Diacyloxy-nitrostilbenes. 3,406,194, 10–15–68, Cl. 260—479.

Simons, Samuel B. Protector switch. 3,406,360, 10–15–68, Cl. 335—20.

Simpson, Leander B.: *See*—
Butler, Roger M., and Simpson. 3,406,193.

Simson, Anton K., to John P. Glass, t/a Cava Industries. Display device. 3,405,464, 10–15–68, Cl. 40—28.

Sinclair, Harold, to S.S.S. Patents Ltd. Power transmission system. 3,405,372, 10–15–68, Cl. 74—675.

Singer Co., The: *See*—
Beckenstein, Leonard A. 3,405,542.
Ross, Roger J. 3,405,672.

Sinke, Robert A., Jr., to General Motors Corp. Gear tooth mesh profile measuring system. 3,405,557, 10–15–68, Cl. 73—162.

Siravo, Ronald J. Bottle protector and toy. 3,405,829, 10–15–68, Cl. 215—13.

Sixel, Gustav-Adolf, to Beteiligungs- und Patentverwaltungsgesellschaft mit beschraenkter Haftung. Electric-arc furnace equipped with puddling coil. 3,406,240, 10–15–68, Cl. 13—10.

Skinner, John R.: *See*—
Smit, Gerrit H., and Skinner. 3,405,734.

Skinner Precision Industries, Inc.: *See*—
Wroble, Francis N. 3,405,569.

Skinner, Robert T. J., to Joseph Lucas (Industries) Ltd. Liquid displacement pumps. 3,405,644, 10–15–68, Cl. 103—97.

Skoog, Per O., to The Coe Mfg. Co. Plywood panel patching apparatus. 3,405,746, 10–15–68, Cl. 144—2.

Siesaczek, Alfred, and L. Blinn, to Maerz Ofenbau AG & Poblig-Heckel-Bleichert Vereinigte Maschinenfabriken AG. Method of and apparatus for charging furnaces. 3,405,821, 10–15–68, Cl. 214—26.

Sloat, Samuel M. Protective mailer. 3,405,864, 10–15–68, Cl. 229—92.9.

Slonim, David M. Shipping pallet. 3,405,665, 10–15–68, Cl. 108—55.

Small, James R.: *See*—
Eaton, Edwin E., and Small. 3,406,153.

Smit, Gerrit H., and J. R. Skinner, to London Concrete Machinery Co., a division of Hodgson Machine & Equipment Ltd. Self-draining valve. 3,405,734, 10–15–68, Cl. 137—625.46.

Smith, John J., to Mueller Co. Retractable steel wedge stopper and method of using the same. 3,405,739, 10–15–68, Cl. 138—97.

Smith, Leland L., to American Home Products Corp. Aminopregnanes. 3,406,180, 10–15–68, Cl. 260—397.3.

Smith, Lowell R.: *See*—
Speziale, Angelo J., and Smith. 3,406,192.

Smith, Robert C. Motorized surfboard. 3,405,677, 10–15–68, Cl. 115—70.

Smith, Robert L., to Chemetron Corp. Heat exchange apparatus and method of making same. 3,405,760, 10–15–68, Cl. 165—94.

Smith, Wilburn W., to Bell Telephone Laboratories, Inc. Tool for removing electrically conducting material. 3,406,274, 10–15–68, Cl. 219—234.

Smithers, Philip G. K., and P. Mower, to Trico Products Corp. Wiper arms. 3,405,420, 10–15–68, Cl. 15—230.35.

Smyth Europea S.p.A.: *See*—
Depetris, Lorenzo and G. 3,405,415.

Snider, Orvill E.: *See*—
Cheng, Chao-Shing, Hecker, Apostle, and Snider. 3,406,167.

Societa Internazionale Fonovisione S.p.A.: *See*—
Bottani, Angelo. 3,405,882.

Societe Alsacienne de Constructions Mecaniques: *See*—
Juillard, Yves. 3,405,740.

Societe Anonyme Andre Citroen: *See*—
Henry-Biabaud, Edmond. 3,405,784.

Societe anonyme des Etablissements Leon Hatot: *See*—
Dietsch, Edouard V. 3,405,465.

Societe Anonyme Francaise du Ferodo: *See*—
Lepelletier, Pierre A. G. 3,405,978.

Societe Anonyme Heurtey: *See*—
Albert, Philippe, Renucci, Lehr, and Gosse. 3,406,056.

Societe Nationale des Petroles d'Aquitaine: *See*—
Boisard, Pierre, and Lamazou. 3,405,553.

Societe Rhodiaceta: *See*—
Sambeth, Joerg, and Grundschober. 3,406,148.

Sohl, William I.: *See*—
Cafiero, Vincent J., and Sohl. 3,405,716.

Solitron Devices, Inc.: *See*—
Curran, Robert A. 3,406,368.

Solowey, Ida. Combination hypodermic needle blocker and needle sheath. 3,405,713, 10–15–68, Cl. 128—221.

Somers, Lewis E., to General Electric Co. Thermal modulation thermoplastic recording. 3,406,405, 10–15–68, Cl. 346—1.

Soprani, Paolo S. Control device for electronic musical instruments. 3,406,243, 10–15–68, Cl. 84—1.27.

Soroban Engineering, Inc.: *See*—
MacNeill, John H. 3,405,935.
Means, Ralph P. 3,405,794.

Sorteberg, Johannes. Manometer and supporting device. 3,405,560, 10–15–68, Cl. 73—401.

Sorteberg, Johannes. Torsion tube screw driver. 3,405,748, 10–15–68, Cl. 145—50.

Soubrier, Louis P. C.: *See*—
Humez, Joachim, Meunier, and Soubrier. 3,406,098.

Spalding, Henry A. Protective guard for jewelry. 3,405,428, 10–15–68, Cl. 24—90.5.

Sparrow, Alan W., to Perkins Engines Ltd. Rotary piston machine. 3,405,693, 10–15–68, Cl. 123—8.

Speed-O-Print Business Machines Corp.: *See*—
Carlson, John W. 3,405,625.

Speed-Park, Inc.: *See*—
Allmanestianu, Mihai. 3,405,817.

Speer, Thomas L.: *See*—
Hansen, Clarence M., and Speer. 3,405,528.

Spencer, John R., J. H. Cheek, and W. D. Greathouse, to Continental Oil Co. Volume compensation in vapor sorption systems. 3,405,507, 10–15–68, Cl. 55—62.

Spencer, William C., and A. V. Barnett, to Mobil Oil Corp. Method and system for operation of a powerplant. 3,405,519, 10–15–68, Cl. 60—13.

Sperry Rand Corp.: *See*—
Albright, Charles B. 3,405,977.
Fox, Harold L. 3,405,725.
Goldschmied, Fabio R. 3,405,724.
Reader, Trevor D., and Phillips. 3,405,736.
Wood, Orin L. 3,405,726.
Zupanick, Joseph E. 3,406,395.

Speziale, Angelo John, and L. R. Smith, to Monsanto Co. N-(aroyl) carbamates and thio carbamates. 3,406,192, 10–15–68, Cl. 260—455.

Spielman, Maurice: *See*—
Baumann, George P., and Spielman. 3,406,201.

Spielmann, Werner K.: *See*—
Immendorfer, Martin, and Spielmann. 3,406,048.

Spiering, Glen A.: *See*—
Revolinsky, Eugene, Beerntsen, and Spiering. 3,406,362.

Spies, Rolf E., to Motorola, Inc. Color killer phase detector for color television receivers. 3,406,249, 10–15–68, Cl. 178—5.4.

Spies, Rolf E., to Motorola, Inc. Television receiver. 3,406,250, 10–15–68, Cl. 178—5.4.

Spiller, Basil H. R.: *See*—
Phillipson, Alan, and Spiller. 3,406,264.

Spiteri, Joseph. Variable frequency oscillator. 3,406,403, 10–15–68, Cl. 343—225.

Springer, Reinhold: *See*—
Kochmann, Werner, Seelmann, Wetzke, Duschek, Frotscher, Muller, Springer, Liedmann, Schmidt, Sass, Armbruster, Triems, and Teutschbein. 3,406,226.

Sproull, Reavis C.: *See*—
Berger, Richard M., and Sproull. 3,405,717.

Spyra, Rudolf A. Plastic container. 3,405,862, 10–15–68, Cl. 229—5.6.

Square D Co.: *See*—
Butler, De Forest D., and Zimmerman. 3,405,834.
Hemker, James B. 3,406,320.
Le Mauviel, Paul J. 3,406,361.

Stacy, Charles L., Jr., W. J. Hanson, and T. C. Wallace, to The Dow Chemical Co. Light stable alkenyl aromatic resins. 3,406,143, 10–15–68, Cl. 260—45.8.

Stanciu, Virgil, to Temperaft Tool & Mold, Inc. Wax injection machine. 3,405,639, 10–15–68, Cl. 103—5.

Standard Oil Co.: *See*—
Hansen, Clarence M., and Speer. 3,405,528.
Hansen, Clarence M., and Otto. 3,405,529.

Stapling Machines Co.: *See*—
Peters, Guilford B. 3,406,052.

Stapling Machine Co.: *See*—
Varga, Leroy M. 3,406,084.

Statman, Max: *See*—
Hagemeyer, Hugh J., Jr., Blood, and Statman. 3,406,120.

Stauff, Emile, and J.-P. Meyer, to Nord-Aviation Societe Nationale de Constructions Aeronautiques. Optical aiming device. 3,406,402, 10–15–68, Cl. 343—225.

Stauffer Chemical Co.: *See*—
Christe, Karl O., and Pavlath. 3,406,212.
Epstein, Peter F. 3,406,233.
Petersen, Alfred W. 3,405,689.

Steele, Carl E.: *See*—
Coburn, Herbert D., Shear, and Steele. 3,405,780.

Stein, Joseph L., to General Refractories Co. Refractory brick suspension arrangement. 3,405,668, 10–15–68, Cl. 110—99.

Steinbach, Georgette, to Compagnie de Saint-Gobain. Polymerization of vinyl chloride in the presence of ammonia complex of a lower trialkylboron as catalyst therefor. 3,406,157, 10–15–68, Cl. 260—87.5.

Steinthal, M., and Co. Inc.: *See*—
Jantzen, George H. 3,405,660.

Stemmler, Herbert, to Aktiengesellschaft Brown, Boveri & Cie. Frequency changer employing parallel connected main and auxiliary groups of rectifiers and a commutation and quenching device connected therebetween. 3,406,326, 10–15–68, Cl. 321—43.

Stengle, William B., and F. B. Schelhorn, to Tennessee River Pulp and Paper Co. Method of forming multi-ply board with plies of different consistencies. 3,406,088, 10–15–68, Cl. 162—125.

Stephan-Werke G.m.b.H. & Co.: *See*—
Bielert, Hans-Georg. 3,405,880.

Steppan, Hartmut, A. Rebenstock, and W. Neugebauer, to Azoplate Corp. Method for the manufactrue of polyfunctional diazonium phosphates. 3,406,159, 10–15–68, Cl. 260—141.

Sterling Drug Inc.: *See*—
Lesher, George Y. 3,406,175.
Surrey, Alexander R., and Mayer. 3,406,176.

Stewart, Alfred W., to Datron Systems, Inc. Time interval measuring and recording device. 3,405,867, 10–15–68, Cl. 234—58.

Stolle, Mark A.: *See*—
Marquart, Vernon L., and Stolle. 3,406,334.

Stonebraker, George, to Austin Powder Co. Rotary swivel. 3,405,980, 10–15–68, Cl. 308—207.

Stoner, James A., Jr. Tracer vehicle wad structure. 3,405,638, 10–15–68, Cl. 102—87.

Strieck, Gerhard: *See*—
Schroder, Egbert, Kuppers, Strieck, and Beerens. 3,405,885.

Stromberg Carlson Corp.: *See*—
Redman, James H. 3,406,312.

Strommen, Lawrence A., to Bell Telephone Laboratories, Inc. Coin telephone emergency service. 3,406,256, 10–15–68, Cl. 179—6.3.

Strong, Bernard, to Strong Plastics Inc. Fluid driven processing machine. 3,405,455, 10–15–68, Cl. 34—20.

Strong Plastics Inc.: *See*—
Strong, Bernard. 3,405,455.

Stuart, Fred E., Sr. Washer agitator for filter beds. 3,405,872, 10–15–68, Cl. 239—254.

Stuart, Robert W.: *See*—
Wisenbaker, John D., and Stuart. 3,405,772.

Studtmann, George H., to Borg-Warner Corp. Static inverter carrier system. 3,406,328, 10–15–68, Cl. 321—45.

Stulber, Walter, and G. Mueller, to Max Grundig. Magnetic type head actuating arrangement. 3,405,793, 10–15–68, Cl. 197—16.

Sullivan, Jack E., to Futura Roofs, Inc. Form structure for roof slab and truss. 3,405,903, 10–15–68, Cl. 249—28.

Sullivan, Norman D., to Jack L. Bohan. Method for unloading a truck using an iced surface. 3,405,534, 10–15–68, Cl. 62—74.

Sullivan, Robert E.: *See*—
Holderreed, Francis L., and Sullivan. 3,406,010.

Sun Oil Co.: *See*—
Fletcher, Wayne B. 3,406,188.
Wynkoop, Raymond, and Bartlett. 3,406,111.

Sundstrom, James W., to The Wurlitzer Co. Flange bushing machine. 3,406,083, 10–15–68, Cl. 156—423.

Sunkist Growers, Inc.: *See*—
Zwiacher, Wayne E., Kaser, and Johnson. 3,405,801.

Surrey, Alexander R., and J. R. Mayer, to Sterling Drug Inc. 7-halo-4-carbamylimino-1,4-dihydroquinolines. 3,406,176, 10–15–68, Cl. 260—287.

Sus, Osnar, and H. Schafer, to Keuffel & Esser Co. Naphthol sulfonamides as coupling components for light-sensitive diazotype materials. 3,406,071, 10–15–68, Cl. 96—91.

Sushan, Frank M. Entrance door jamb with guarded striker plate and improved guarded latch face plate for lock-sets. 3,405,962, 10–15–68, Cl. 292—346.

Sutliff, Wayne N., and J. L. Downen. Sleeve valve and oil well tool embodying the same. 3,405,773, 10–15–68, Cl. 175—297.

Sutowski, Walter S. Process for making bearing devices. 3,405,435, 10–15–68, Cl. 29—148.4.

Suverkrop, Don, to Hopper Machine Works, Inc. Corn harvester. 3,405,513, 10–15–68, Cl. 56—15.

Svensson, Klas J. V.: *See*—
Axelsson, Sten S., and Svensson. 3,405,703.

Swain, James E., and J. B. Truher, to United States of America, Atomic Energy Commission. Ion beam generator having laser-activated ion source. 3,406,349, 10–15–68, Cl. 328—233.

Swanson-Erie Corp.: *See*—
Lewis, James W. 3,405,800.

Swarfsky, Walter, to Voigtlander A.G. Light exposure meter with angularly adjustable light conducting means for varying the angle of light acceptance. 3,406,294, 10–15–68, Cl. 250—237.

Sylvania Electric Products Inc.: *See*—
Peters, Charles J. 3,406,356.

Sylwan, Mark C. Building sets. 3,405,458, 10–15–68, Cl. 35—16.

Symington Wayne Corp.: *See*—
Cope, Goeffrey W. 3,405,811.

Takanohashi, Kunio: *See*—
Masuda, Toru, Honjo, Fujii, Imai, and Takanohashi. 3,406,166.

Takeda Chemical Industries, Ltd.: *See*—
Masuda, Toru, Honjo, Fujii, Imai, and Takanohashi. 3,406,166.

Takekawa, Toshio. Variable speed mechanical hydraulic transmission mechanism especially suitable for heavy vehicles. 3,405,573, 10–15–68, Cl. 74—687.

Tanaka, Akira, to General Motors Corp. Flexible rotary joint. 3,405,539, 10–15–68, Cl. 64—11.

Tarcza, Walter H.: *See*—
Asher, John W., Martin, and Tarcza. 3,405,441.

Tate, Clarence R. Multicolored micromagnets. 3,406,363, 10–15–68, Cl. 335—302.

Taylor, John E.: *See*—
Barlow, Ronald J., Brandstadter, Taylor, and Wroble. 3,405,599.

Taylor, John E., Jr. Modular shielded patchcord programming system. 3,406,369, 10–15–68, Cl. 339—18.

Taylor Publishing Co.: *See*—
Shepherd, Max A. 3,405,456.

Taylor, Richard G., to CDC Industries, Inc. Alpha-chloro-alpha-thymoxy-propionic acid. 3,406,195, 10–15–68, Cl. 260—521.

Teale, Ronald, to Coal Industry (Patents) Ltd. Control of underground mining machines. 3,405,608, 10–15–68, Cl. 91—412.

Technicon Corp.: *See*—
Rosin, Seymour, and Isreeli. 3,406,018.

Teletype Corp.: *See*—
Arko, Robert E. 3,406,254.
Zenner, Walter J. 3,406,253.

Temperaft Tool & Mold, Inc.: *See*—
Stanciu, Virgil. 3,405,639.

Tennessee River Pulp and Paper Co.: *See*—
Stengle, William B., and Schelhorn. 3,406,088.

Teno, Joseph, and M. E. Novack, to Avco Corp. High temperature electrode for MHD devices. 3,406,360, 10–15–68, Cl. 310—11.

Terry, Jack H., H. N. Johnston, R. W. Jones, and H. O. Schoen, to Xerox Corp. Imaging material. 3,406,137, 10–15–68, Cl. 260—28.5.

Terwilliger, Paul L., to Gulf Research & Development Co. Well stimulation by solvent injection. 3,405,762, 10–15–68, Cl. 166—42.

Teutschbein, Karl-Heinz: *See*—
Kochmann, Werner, Seelmann, Wetzke, Duschek, Frotscher, Muller, Springer, Liedmann, Schmidt, Sass, Armbruster, Triems, and Teutschbein. 3,406,226.

Teves, Alfred, KG: *See*—
Bertell, Siegfried. 3,405,776.
Meier, Ernst, and Selp. 3,405,787.

Texaco Inc.: *See*—
Sensel, Eugene E., and Cole. 3,406,123.

Texas Instruments, Inc.: *See*—
Coburn, Herbert D., Shear, and Steele. 3,405,780.
Ehrlich, Burney J. 3,406,272.
Jones, Morton E. 3,406,251.
Shortes, Samuel R. 3,406,050.

Tharpe, Verle M.: *See*—
Whitfield, Carroll J., and Tharpe. 3,405,541.

Theadle, Freddrick G., to Hi-Shear Corp. Flexible transmission shaft. 3,405,537, 10–15–68, Cl. 64—2.

Thiokol Chemical Corp.: *See*—
Morrow, Scott I., Fein, and Perry. 3,406,203.

Thoma, Oswald H., to Unipat A.G. Hydraulic pumps or motors. 3,405,646, 10–15–68, Cl. 103—162.

Thoma, Otto: *See*—
Zeile, Karl, Thoma, and Mentrup. 3,406,237.

Thomas, Carlton E., to Conductron Corp. Fiber optic output transformation for multiple electron discharge devices. 3,406,252, 10–15–68, Cl. 178—6.7.

Thomas, Edward M. Hydraulic brake system. 3,405,525, 10–15–68, Cl. 60—54.6.

Thomas, James P., Jr. Roasting and slicing rack with serving platter. 3,405,631, 10–15–68, Cl. 99—426.

Thomas, James W.: *See*—
Cachat, John F., and Thomas. 3,406,271.

Thompson, Blair C.: *See*—
Bradley, Richard E., Sankin, Barnes, Beauregard, Murtaugh, Rosenblatt, and Thompson. 3,406,380.

Thompson, Howard G., to Massey-Ferguson Inc. Torsion bar mounting for coulter discs. 3,405,767, 10–15–68, Cl. 172—572.

Thompson Mfg. Co., Inc.: *See*—
Dame, Stanley P. 3,405,932.

Thompson, Ralph L. Protective hat rack. 3,405,808, 10–15–68, Cl. 211—31.

Thompson, Wendell L.: *See*—
Parr, Edward L. 3,405,751.

Thomson National Press Co., Inc.: *See*—
Remington, Leonard F. 3,405,933.

Thornberg, Dean S., R. M. Jepperson, and M. W. Loosle, to LFV Electrosystems, Inc. Capacitive peak power indicator circuit gated by peak sensing circuit. 3,406,337, 10–15–68, Cl. 324—103.

Tiganik, Leonhard, to Uddeholms Aktiebolag. Manufacture of hexachlorobenzene and pentachlorobenzene by the chlorination of benzene. 3,406,211, 10–15–68, Cl. 260—650.

Tillotson, Le Roy C., to Bell Telephone Laboratories, Inc. Communication satellite system. 3,406,401, 10–15–68, Cl. 343—100.

Todeschini, Eugenio, to Landini S.p.A. Tractor hydraulic control system. 3,405,766, 10–15–68, Cl. 172—10.

Tomita, Tamaki, to Toyoda Machine Works Ltd. Hydraulic motor control circuit. 3,405,522, 10–15–68, Cl. 60—52.

Tomlin, Robert D., to Magnatex Ltd. Windscreen wipers. 3,405,421, 10–15–68, Cl. 15—250.42.

Toyo Boseki Kabushiki Kaisha: *See*—
Anahara, Meiji, Ezaki, Nakagawa, Tsutsui, and Okazaki. 3,405,517.

Toyoda Machine Works Ltd.: *See*—
Tomita, Tamaki. 3,405,522.

Trachtenberg, Leonard, and P. W. Vehicle dashboard thermos bottle and utility clamp holder. 3,405,899, 10–15–68, Cl. 248—229.

Trachtenberg, Peter W.: *See*—
Trachtenberg, Leonard, and P. W. 3,405,899.

Tracy, James F.: *See*—
Polestak, Walter J., and Tracy. 3,406,140.

Treff, Conrad C.: *See*—
Ballard, Josn S., Garnjost, Hague, Moog, and Treff. 3,405,600.

Triax Co., The: *See*—
Atwater, Wayne C. 3,405,819.

Trico Products Corp.: *See*—
Smithers, Phillip G. K., and Mower. 3,405,420.

Triems, Brigitte: *See*—
Kochmann, Werner, Seelmann, Wetzke, Duschek, Frotscher, Muller, Springer, Liedmann, Schmidt, Sass, Armbruster, Triems, and Teutschbeln. 3,406,226.

Trogdon, Thomas, J. R. Fore, and J. O. Pettigrew, to Dayco Corp. Method and apparatus for manufacturing foam rubber cushioning. 3,406,235, 10–15–68, Cl. 264—321.

Truher, John B.: *See*—
Swain, James E., and Truher. 3,406,349.

Trujillo, Anthony, to Borg-Warner Corp. Oscillator circuit. 3,406,355, 10–15–68, Cl. 331—111.

Tscharner, Christopher J., and R. J. Pichler, to Geigy Chemical Corp. Brigl.tener agent solutions. 3,406,118, 10–15–68, Cl. 252—301.2.

Tsutsui, Nobuhiro: *See*—
Anahara, Meiji, Ezaki, Nakagawa, Tsutsui, and Okazaki. 3,405,517.

Tuit, John, to McInerney Spring & Wire Co. Positioning mechanism. 3,405,664, 10–15–68, Cl. 294—65.5.

Tully, Geoffrey R., Jr., and W. V. Goeddel, to Gulf General Atomic Inc. Method of fabricating low permeability nuclear fuel bodies. 3,406,227, 10–15–68, Cl. 264—.5.

Turnes, Henry E., and C. Horvath, Jr. Cathodic protection of piping in cooling systems for oscillators and the like. 3,406,110, 10–15–68, Cl. 204—197.

Tweedale, Ralph L., to Massey-Ferguson Inc. Mounting for material handling masts. 3,405,824, 10–15–68, Cl. 214—138.

Twin Disc, Inc.: *See*—
Aschauer, George R. 3,405,526.

Udall, Anthony J. S., to Electric & Musical Industries Ltd. Electrical smoothing circuits. 3,406,348, 10–15–68, Cl. 328—165.

Uddeholms, Aktiebolag: *See*—
Tiganik, Leonhard. 3,406,211.

Uemura, Soxaburo, to Hokkai Seikan Kabushiki Kaisha. Method of making synthetic resin receptacles. 3,405,439, 10–15–68, Cl. 29—509.

Ueno, Yoshito: *See*—
Ito, Sukehiro, and Ueno. 3,406,345.

Ugine Kuhlman (Societe Anonyme): *See*—
Van Den Steen, Antonine J., Vanlaer, and Joly. 3,406,007.

Uhlig, Fritz, to Azoplate Corp. Process for the reversal development of reproduction coatings containing O-naphthoquinone diazide compounds. 3,406,065, 10–15–68, Cl. 96—33.

Ullman, William L., J. C. Baxter, A. J. Pearson, R. E. Davis, and W. B. Hullhorst, to Owens-Corning Fiberglas Corp. Method for production of tubular fibrous bodies. 3,406,231, 10–15–68, Cl. 264—143.

Ulrich, Henri, to The Upjohn Co. Transition metal carbonyl catalysts for converting organic isocyanates to carbodiimides. 3,406,197, 10–15–68, Cl. 260—551.

Union Carbide Corp.: *See*—
Cook, Gerhard A. 3,406,117.
D'Alessandro, William J. 3,406,020.
Hamling, Bernard H. 3,406,025.
Klun, Godfrey H. 3,405,846.

Union Tank Car Co.: *See*—
Burkhardt, Kenneth J. 3,405,807.

Unipat A.G.: *See*—
Thoma, Oswald H. 3,405,646.

Unipress Co., Inc., The: *See*—
Carpenter, Virgil R., and Jennings. 3,405,853.

United Aircraft Corp.: *See*—
Davidson, Arthur P., and Mangum. 3,406,246.
Holland, Robert C. 3,406,273.
Moffatt, Elbert M. 3,405,559.
Ruttenberg, Kenneth A. 3,406,400.

United Kingdom, Atomic Energy Authority: *See*—
Dugdale, Ronald A. 3,406,307.
Dunn, Peter D., Whitby, and Rice. 3,406,090.

United Silver and Cuttery Co.: *See*—
Ishibashi, Shozo. 3,406,001.

United States of America
Agriculture: *See*—
Whitfield, Robert E., Pittman, and Wasley. 3,406,005.
Army: *See*—
Close, Richard N., and Sard. 3,406,392.
Kulik, John J. 3,406,393.
Atomic Energy Commission: *See*—
Lefevre, Harlan W., and Wieber. 3,406,313.
Swain, James E., and Truher. 3,406,349.
Williams, Charlie. 3,406,283.
National Aeronautics and Space Administration: *See*—
Mixson, John S. 3,405,887.
Vykukal, Hubert C. 3,405,406.
Navy: *See*—
Easton Roger L., and McCaskill. 3,406,397.

Universal Oil Products Co.: *See*—
Schmerling, Louis. 3,406,210.

Universal Shoe Machinery Corp.: *See*—
Haas, Edgar. 3,406,276.

University of Illinois Foundation: *See*—
Blitzer, Donald L. 3,405,457.

Upjohn Co., The: *See*—
Rudnick, Edward G. 3,406,198.
Hogg, John A., and Nathan. 3,406,190.
Ulrich, Henri. 3,406,197.

Vacu-Dry Co.: *See*—
Williams L. G. 3,406,078.

Vagias, Ernest. Apparatus for the production of music. 3,405,585, 10–15–68, Cl. 84—187.

Vago, Robert E., to Computing Devices of Canada Ltd. Coordinate destination computer. 3,406,280, 10–15–68, Cl. 235—150.27.

Van De Kerke, Dirk, to W. J. van de Kerke & Zoon N.V. Arched skylight with attachment flanges. 3,405,487, 10–15–68, Cl. 52—200.

Van de Kerke & Zoon, W. J., N.V.: *See*—
Van de Kerke, Dirk. 3,405,487.

Van den Broek d'Obrenan, Marie E.: *See*—
Bosc, Henri J., Schneider, and Van den Broek d'Obrenan. 3,406 396.

Van Den Steen, Antonine J., M. Vanlaer, and F. H. E. Joly, to Ugine Kuhlman (Societe Anonyme). Manufacture of molybdenum trioxide. 3,406,007, 10–15–68, Cl. 23—16.

Van der Meer, Wybe J., to Intermountain Lumber Co. Panel structural components for building construction. 3,405,496, 10–15–68, Cl. 52—615.

Van Goethem, Jan: *See*—
Peeters, Andreas M. C. C., Van Goethem, and De Cleyn. 3,406 258.

Van Horn, Wilmer E.: *See*—
Freyermuth, Harlan B., and Van Horn. 3,406,238.

Van Tittelboom, Marcel L. E., to Corn Products Co. Process for crystallizing dextrose. 3,406,046, 10–15–68, Cl. 127—60.

Vanlaer, Marcel: *See*—
Van Den Steen, Antonine J., Vanlaer, and Joly. 3,406,007.

Varga, Leroy M., to Stapling Machine Co. Tape applicator. 3,406,084, 10–15–68, Cl. 156—522.

Varian Associates: *See*—
Mueller, Louis F., Jr. 3,406,353.
Nelson Forrest A. 3,406,333.

Varrin Andre J., to International Telephone and Telegraph Corp. Socket contact and method of manufacture. 3,406,376, 10–15–68, Cl. 339—258.

Vayssiere, Pierre: *See*—
Kindelan y Gomez de Bonilla, Juan M., and Vayssiere. 3,406,027.

Vazquez, Francisco B. Fastening and locking device. 3,405,429, 10–15–68, Cl. 24—137.

Veb Elecktrochemisches Kombinat Bitterfeld: *See*—
Kochmann, Werner, Seelmann, Wetzke, Duschek, Frotscher, Muller, Springer, Liedmann, Schmidt, Sass, Armbruster, Triems, and Teutschbein. 3,406,226.

Veb Lokomotivbau-Elektrotechnisch Werke Hans Beimler: *See*—
Schiller, Siegfried, and Lenk. 3,406,305.

Velsicol Chemical Corp.: *See*—
Raden, Daniel S. 3,406,225.
Richter, Sidney E., and Mayer. 3,406,024.
Wilks, Louis P. 3,406,181.
Wilks, Louis P. 3,406,182.

Verdier, Henri to Compagnie Generale des Etablissements Michelin, raison sociale Michelin & Cie. Pneumatic tire treads. 3,405,753, 10–15–68, Cl. 152—209.

Verdier, Henri, to Compagnie Generale des Etablissements Michelin, raison sociale Michelin & Cie. Vehicle wheels. 3,405,755, 10–15–68, Cl. 152—381.

Vernco Corp.: *See*—
Jordan, Trueman P., Weed, and Wiseman. 3,405,894.

Vertegaal, Jacobus G., to Gebroeders Stork & Co.'s Apparatenfabriek N.V. Device for severing the ankle joint of a leg of a bird. 3,405,423, 10–15–68, Cl. 17—11.

Vickers Seerdrum Ltd.: *See*—
Gothard, Sydney A., Rees, and Brunt. 3,405,873.

Vickers-Zimmer Aktiengesellschaft Planung und Bau von Indsutrieanlagen: *See*—
Jacobey, Olaf. 3,405,847.

Vinogradov, Alexandr S., J. M. Kapustin, I. N. Marjutenko, V. N. Kiselnikov, I. S. Borisov, and I. M. Mazalov. Card. 3,405,427, 10–15–68, Cl. 19—107.

Vitale, Peter T., to Colgate-Palmolive Co. Abrasive detergent compositions. 3,406,116, 10–15–68, Cl. 252—99.

Vogel, Herward A., to Minnesota Mining and Mfg. Co. Polysulfones and process for making. 3,406,149, 10–15–68, Cl. 260—49.

Vohwinkel, Kurt: *See*—
Ley, Kurt, Redetsky, Seydel, and Vohwinkel. 3,406,146.

Voigtlander A.G.: *See*—
Swarfsky, Walter. 3,406,294.

Volth, J. M., G.m.b.H.: *See*—
Bähr, Theodore, and Müller-Rid. 3,405,803.

Voltsekhovsky, Rostislav I., G. G Malik, and G. V. Rodionov. Working equipment of the straight shovel type. 3,405,822, 10–15–68, Cl. 214—134.

Vollbehr, Harald E., to Robertshaw Controls Co. Multi-position fluidic controlled actuator. 3,405,607, 10–15–68, Cl. 91—357.

Von Gunten, Lee L., to The Seeburg Corp. Apparatus for electrically actuating a musical instrument. 3,405,584, 10–15–68, Cl. 84—147.

Von Kemenczky, Miklos. Dragging or pulling device especially for skiers. 3,405,777, 10–15–68, Cl. 180—7.

Vykukal, Hubert C., to United States of America, National Aeronautics and Space Administration. Hard space suit. 3,405,406, 10–15–68, Cl. 2—2.1.

Wadefelt, Carl I. Device for loading and unloading ships. 3,405,815, 10–15–68, Cl. 214—15.

Wagle, Joseph A., to General Motors Corp. Vertical lift vehicle. 3,405,889, 10–15–68, Cl. 244—12.

Wagner Electric Corp.: *See*—
Du Bois, Richard, Jr., Johnson, and Pessin. 3,406,288.

Wahl, Eugene A., A. M. Lawner, and R. J. Winters, said Lawner and said Winters assors to said Wahl. Gravimetric belt feeder 3,405,842, 10–15–68, Cl. 222—55.

Wajda, Edward S.: *See*—
Kontrimas, Richard, Krohl, and Wajda. 3,406,366.

Walbridge, Lyman H., to Fenwal Inc. Ignition and flame monitoring control apparatus for fuel burners. 3,405,998, 10–15–68, Cl. 431—25.

Wales, Nathaniel B., Jr.: *See*—
Grady, Charles B., Jr., and Wales. 3,405,775.

Walker, Gordon R., to Filton Ltd. Fluid sealing means. 3,405,959, 10–15–68, Cl. 285—276.

Walker, Wythe F., and C. W. Demarest, to International Telephone and Telegraph Corp. Air mixing apparatus with auxiliary air outlet. 3,405,758, 10–15–68, Cl. 165—16.

Wall Industries, Inc.: *See*—
Lauretl, Remo J. 3,405,516.

Wallace, Bruce A., M. O. Faukhanel, and W. Leitner, to Pullman Inc. Zoned furnace. 3,405,691, 10–15–68, Cl. 122—240.

Wallace, Theodore C.: *See*—
Stacy, Charles L., Jr., Hanson, and Wallace. 3,406,143.

Walmsley, James H.: *See*—
Kiehart, Lawrence R., Doyle, and Walmsley. 3,405,566.

Wanlass, Frank M., to General Instrument Corp. Shift register system. 3,406,346, 10–15–68, Cl. 328—37.

Wargo, Steve M., to The Mills Co. Latch mechanism. 3,405,960, 10–15–68, Cl. 292—145.

Wasley, William L.: *See*—
Whitfield, Robert E., Pittman, and Wasley. 3,406,005.

Waters, John R.: *See*—
Richardson, Donald A., and Waters. 3,405,468.

Watkins, Roland H. W., to British Insulated Callender's Cables Ltd. Electric cable installations. 3,406,245, 10–15–68, Cl. 174—15.

Watson, Cornelius B., Jr. Container-dispenser for collapsible tubes. 3,405,843, 10–15–68, Cl. 222—95.

Watson, John J.: *See*—
Anas, Thomas, Larkin, and Watson. 3,406,138.

Waugh Equipment Co.: *See*—
Dilg, Walter C. 3,405,654.

Weatherby, Inc.: *See*—
Weatherby, Roy E. 3,405,448.

Weatherby, Roy E., to Weatherby, Inc. Dovetail type scope mount. 3,405,448, 10–15–68, Cl. 33—50.

Weaver, Ronald A.: *See*—
Weller, John J., and Weaver. 3,405,799.

Webb, Jervis B., Co.: *See*—
Kohls, James P. 3,406,267.

Weber, Helmut, W. Aumuller, R. Weyer, K. Muth, and F. H. Schmidt, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Benzenesulfonyl ureas and process for their manufacture. 3,406,199, 10–15–68, Cl. 260—553.

Weber, Robert L., III, to Scovill Mfg. Co. Coffee maker. 3,405,630, 10–15–68, Cl. 99—282.

Webster, Wilton W., Jr. Blood flow measuring apparatus. 3,405,708, 10–15–68, Cl. 128—2.05.

Weed, Don W.: *See*—
Jordan, Trueman P., Weed, and Wiseman. 3,405,894.
Weimuch, Bruno, to Maschinenfabrik August Herbort K.G. Apparatus for the treatment of beans and the like. 3,405,750, 10–15–68, Cl. 146—1.
Weise, Johannes: *See*—
Zirngibl, Hans, Dornemann, Gerken, Heine, Meyer, and Weise. 3,406,011.
Welch, Walter J., to GAF Corp. One-component diazotypes. 3,406,072, 10–15–68, Cl. 96—91.
Weller, John J., and R. A. Weaver, to Cryo-Therm, Inc. Shock mount for shipping television tubes. 3,405,799, 10–15–68, Cl. 206—65.
Wellworthy Ltd., Radial Works: *See*—
Hill, Harold T., and Nossiter. 3,405,610.
Welz, Wilbur C., and J. G. Lee, to Schlumberger Technology Corp. Methods and apparatus for computing a function of sampled well logging measurements derived from multiple investigating devices. 3,406,359, 10–15–68, Cl. 324—1.
Werme, John V., to Bailey Meter Co. Chronological trend recorder with updated memory and CRT display. 3,406,387, 10–15–68, Cl. 340—324.
Werner, Frank D., to Rosemount Engineering Co. Ski boot having a hinged door. 3,405,463, 10–15–68, Cl. 36—2.5.
Werner Machinery Co.: *See*—
Brunson, Bruce W. 3,405,680.
Werries, Horst, to Schering AG. Method of producing methyl isothiocyanate. 3,406,191, 10–15–68, Cl. 260—454.
Wesemann, Fred. Pneumatic recoil buffer attachment for a firearm. 3,405,470, 10–15–68, Cl. 42—74.
West, Wilson H.: *See*—
Feles, Nick, and West. 3,405,968.
Western Electric Co. Inc.: *See*—
Balde, John W. 3,406,043.
McAlexander, Joseph C., Jr., and Monahan. 3,405,671.
Westinghouse Air Brake Co.: *See*—
Buckeridge, Roger M. 3,406,371.
Feucht, Jacob E. 3,405,768.
Westinghouse Brake and Signal Co., Ltd.: *See*—
Pelly, Brian R. 3,406,330.
Westinghouse Electric Corp.: *See*—
Benbow, Eugene C. 3,406,338.
Berkovitz, Harry, and Rissler. 3,405,782.
Cannon, Lloyd M. 3,405,986.
Clark, Myron A., and Fosburg. 3,405,783.
Fischer, William H. 3,406,269.
Gardenghi, Robert A. 3,406,352.
Gault, Robert L. 3,406,277.
Gill, Joseph, and Rouvalis. 3,406,317.
Gosnell, Charles N., and Saulson. 3,405,886.
Hobbs, Milton M., and Podelsky. 3,405,676.
Krasberg, Alan R. 3,405,629.
Lanyi, Ronald J., and Heim. 3,406,302.
Manlero, Daniel A., and Kemeny. 3,406,306.
Newell, William E. 3,406,350.
Nicholson, James F. 3,406,311.
Pulaski, John W. 3,405,987.
Rosa, John. 3,406,325.
Sattler, Frank A. 3,406,045.
Scorgie, Donald G., and Kerns. 3,406,285.
Yamasaki, George K. 3,406,308.
Wetzke, Gerda: *See*—
Kochmann, Werner, Seelmann, Wetzke, Duschek, Frotscher, Muller, Springer, Liedmann, Schmidt, Sass, Armbruster, Triems, and Teutschbein. 3,406,226.
Weyer, Rudi: *See*—
Weber Helmut, Aumuller, Weyer, Muth, and Schmidt. 3,406,199.
Whisner, William O., to William Hagen Co., Inc. Variable stroke mechanism. 3,405,563, 10–15–68, Cl. 74—56.
Rice, Graham: *See*—
Dunn, Peter D., Whitby, and Rice. 3,406,090.
White, Donald L.: *See*—
Seidel, Harold, and White. 3,406,358.
White, James L., ½ interest to J. W. Rumsey, Jr. Pre-fab wall of pre-cast concrete construction. 3,405,494, 10–15–68, Cl. 52—495.
White, Jerry L., to The Dow Chemical Co. Method of lessening friction in moving oil-base liquids. 3,406,115, 10–15–68, Cl. 252—8.5.
Whitfield, Carroll J., and V. M. Tharpe, to Lilliston Implement Co. Shear pin coupling. 3,405,541, 10–15–68, Cl. 64—28.
Whitfield, Robert E., A. G. Pittman, and W. L. Wasley, to United States of America, Agriculture. Fibrous material having a polyamide bound thereto by a polyfunctional fixative. 3,406,005, 10–15–68, Cl. 8—115.5.
Whitmer, Joseph C.: *See*—
Magee, Hubert E., and Whitmer. 3,406,335.
Whittaker Corp.: *See*—
Jaenicke, Virgil W. 3,406,053.
Nallen, James C. 3,406,389.
Wicki, Heinz, to Sandoz Ltd., (also known as Sandoz A.G.). Metal complex trisazo dyes. 3,406,160, 10–15–68, Cl. 260—145.
Wieber, Donald L.: *See*—
Lefevre, Harlan W., and Wieber. 3,406,313.
Wiener, William. Tooth color matching apparatus. 3,405,446, 10–15–68, Cl. 32—1.
Wiggins, Richard F.: *See*—
Norris, Edward O., and Wiggins. 3,405,679.
Wilding, James: *See*—
Hundley, Clarence L., Jr. and V., McCue, Ross, and Wilding. 3,405,974.
Wilks, Louis P., to Velsicol Chemical Corp. 1,4,5,6,7,7-hexabromo-N-(methylmercuri)-5-norbornene-2,3 - dicarboximide. 3,406,181, 10–15–68, Cl. 260—326.
Wilks, Louis P., to Velsicol Chemical Corp. 1,4,5,6,7,7-hexabromo-N-(ethylmercuri)-5-norbornene - 2,3 - dicarboximide. 3,406,182, 10–15–68, Cl. 260—326.
William Hagen Co., Inc.: *See*—
Whisner, William O. 3,405,563.
Williams, Charlie, to United States of America, Atomic Energy Commission. Means for controlling calutron filament activation. 3,406,283, 10–15–68, Cl. 250—41.9.
Williams, Chester I. Tie rod for accurately spacing wall forms. 3,405,904, 10–15–68, Cl. 249—40.
Williams, Chester I. Articulating clamp for securing form panels in rectangular configuration. 3,405,930, 10–15–68, Cl. 269—124.
Williams, Derrick G., to Massey-Ferguson Services N.V. Hydraulic locking means for shiftable backhoe .3,405,823, 10–15–68, Cl. 214—138.
Williams, Earl P.: *See*—
Azoriosa, Julian L., and Williams. 3,406,155.
Williams, L. G., to Vacu-Dry Co. Process for coating low moisture fruits. 3,406,078, 10–15–68, Cl. 99—168.
Williams, Thruston V., to The O.K. Tool Co., Inc. Rotary machining tool. 3,405,433, 10–15–68, Cl. 29—105.
Wilmer, Richard K., to International Business Machines Corp. Random access film strip storage system. 3,406,382, 10–15–68, Cl. 340—173.
Wilson, Donald R., to E. I. du Pont de Nemours and Co. Copolyester products. 3,406,153, 10–15–68, Cl. 260—78.3.
Wilson, Lee Engineering Co., Inc.: *See*—
Magor, James K., and Gaydosh. 3,406,047.
Winegartner, Edgar C., to Esso Research and Engineering Co. Method of preparing phenolic accelerator/aromatic hydrocarbon/formaldehyde condensation product/filler/acid catalyst thermosetting molding resins. 3,406,132, 10–15–68, Cl. 260—17.2.
Winig, Norbert, to Winig Slipper Corp. Shoe upper roughening templet. 3,405,416, 10–15–68, Cl. 12—103.
Winig Slipper Corp.: *See*—
Winig, Norbert. 3,405,416.
Winters, Ralph J.: *See*—
Wahl, Eugene A., Lawner, and Winters. 3,405,842.
Wintz, Donald E., to Aladdin Mfg. Co. Burner for hand warmer. 3,405,704, 10–15–68, Cl. 126—208.
Wiseman, Everett D.: *See*—
Jordan, Trueman P., Weed, and Wiseman. 3,305,894.
Wisenbaker, John D., and R. W. Stuart, ½ to American Coldset Corp., and ½ to Core Laboratories, Inc. Sampling device. 3,405,772, 10–15–68, Cl. 175—77.
Wiskow, Gary J.: *See*—
Backe, Eugene K., and Wiskow. 3,406,059.
Wissinger, Robert R., and G. H. Ehrhardt, to Pacific Industries Inc. Method and apparatus for testing paper. 3,405,555, 10–15–68, Cl. 73—159.
Wolfe, Ezra F. Wheelchair standing bar apparatus. 3,405,954, 10–15–68, Cl. 280—289.
Woock, Herbert J. Hard-facing matrix composition and method of preparing same. 3,406,028, 10–15–68, Cl. 106—1.
Wood, Orin L., to Sperry Rand Corp. Pure fluid logic memory device. 3,405,726, 10–15–68, Cl. 137—81.5.
Woodling, George V. Fluid pressure device and valve system therefor with improved valve drive mechanism. 3,405,603, 10–15–68 Cl. 91—56.
Woods, Henry B.: *See*—
Galle, Edward M., and Woods. 3,405,770.
Wright, Howard J., and M. B. Prenosil, to Cook Paint & Varnish Co. Interpolymers containing vinyl acetate, hydroxy esters of dicarboxylic acids, an ester plasticizing monomer and an alkyl acid maleate or fumarate. 3,406,221, 10–15–68, Cl. 260—856.
Wright, Ivan A., to Jacques Kreisler Mfg. Corp. Liquefied normally gaseous fuel control system for miniature burners. 3,406,000, 10–15–68, Cl. 431—130.
Wright, Robert J.: *See*—
Matkan, Josef, and Wright. 3,406,063.
Wroble, Arthur J.: *See*—
Barlow, Ronald J., Brandstadter, Taylor, and Wroble. 3,405,599.
Wroble, Francis N., to Skinner Precision Industries, Inc. Control apparatus for axially shiftable shaft. 3,405,569, 10–15–68, Cl. 74—527.
Wurlitzer Co., The: *See*—
Sundstrom, James W. 3,406,083.
Wyeth, Nathaniel C.: *See*—
Barker, Arthur F., and Wyeth. 3,405,851.
Wynkoop, Raymond, and S. C. Bartlett, Jr., to Sun Oil Co. Transformer oil. 3,406,111, 10–15–68, Cl. 208—14.
Xerox Corp.: *See*—
King, Paul F., and Donalies. 3,405,682.
Liva, Robert H. 3,405,564.
Liva, Robert H., and Jendrick. 3,405,635.
Terry, Jack H., Johnston, Jones, and Schoen. 3,406,137.
Yamasaki, George K., to Westinghouse Electric Corp. Electron discharge device for generation of spectral radiation having an auxiliary discharge of low current. 3,406,308, 10–15–68, Cl. 313—306.
Yanase, Akira: *See*—
Hirota, Hozumi, and Yanase. 3,406,057.
Yanow, Harold H. Weather tent for cargo hatches. 3,405,814, 10–15–68, Cl. 214—15.
Yellow Springs Instrument Co., Inc., The: *See*—
Molloy, Everett W. 3,406,100.
Yerkes, William D., Jr., to Kimberly-Clark Corp. Process for the digestion of cellulosic material by enzymatic action of trametes suaveolens. 3,406,089, 10–15–68, Cl. 162—199.

Yin, Paul H. C. Slide rule. 3,405,868, 10–15–68, Cl. 235—70.
Yli-Paavola, Antti J., to Oy Tampella Ab. Defibrator. 3,405,876, 10–15–68, Cl. 241—255.
Yoho, Clayton W., to S. C. Johnson & Son, Inc. N-(meta-toluyl)-methylpiperidines. 3,406,177, 10–15–68, Cl. 260—294.7.
Young, John A. I., to Canadian General Electric Co. Ltd. Circuit for modifying an electrical signal. 3,406,347, 10–15–68, Cl. 328—143.
Young, Marcus C., 50% each to Cardinal Surveys Co., and Well Reconnaissance, Inc. Method of determining direction and velocities of fluid flow into a well by means of radioactive tracer introduction into the well. 3,406,284, 10–15–68, Cl. 250—43.5.
Young, Stephen A., and G. E. Christiansen; said Christiansen, assor. to said Young. Valve with two way shut-off. 3,405,729, 10–15–68, Cl. 137—329.2.
Zaruba, Karl, to General Motors Corp. Individual cylinder head for internal combustion engine. 3,405,696, 10–15–68, Cl. 123—41.82.
Zavody Jana Svermy: *See*—
Koucky, Josef and F. 3,405,471.
Zeff, Jack D., to Arde, Inc. Waste management system. 3,405,454, 10–15–68, Cl. 34—10.
Zelle, Karl: *See*—
Heusner, Alex, Zelle, and Danneberg. 3,406,173.
Zelle, Karl, O. Thoma, and A. Mentrup, to Boehringer Ingelheim G.m.b.H. Composition and a method for relieving broncho-spasms which use 1-ρ-hydroxyphenyl-2-(β-3′,5′-dihydroxyphenyl-β-hydroxy) - ethylamino-propane. 3,406,237, 10–15–68, Cl. 424—45.
Zenner, Walter J., to Teletype Corp. Magneto-mechanical transmitter distributor. 3,406,253, 10–15–68, Cl. 178—17.
Zimmerman, Robert C.: *See*—
Butler, De Forest D., and Zimmerman. 3,405,834.
Zimmermann, Hans-George, and U. Schaller, to NSU Motorenwerke Aktiengesellschaft and Wankel G.m.b.H. Rotary combustion engine. 3,405,694, 10–15–68, Cl. 123—8.
Zirngibl, Hans, A. Dornemann, R. Gerken, H. Heine, H. Meyer, and J. Weise, to Farbenfabriken Bayer Aktiengesellschaft. Process for the manufacture of hydroxylammonium salts. 3,406,011, 10–15–68, Cl. 23—190.
Zito, George V., and E. A. Chilton, to The Bendix Corp. Radiation sensitive device for detecting sun in a selected field of view. 3,406,287, 10–15–68, Cl. 250—209.
Ziver, Garo M., to Corning Glass Works. Cooking surfaces. 3,406,279, 10–15–68, Cl. 219—464.
Zofchak, James T.: *See*—
Maul, John A., Zofchak, and Anderson. 3,405,634.
Zukerman, Harold W., to National Dairy Products Corp. Method of treating fruit. 3,406,075, 10–15–68, Cl. 99—102.
Zupanick, Joseph E., to Sperry Rand Corp. Vehicle characteristic sensing and measuring apparatus for vehicular traffic control. 3,406,395, 10–15–68, Cl. 343—8.
Zwiacher, Wayne E., L. D. Kaser, and M. V. Johnson, Jr., to Sunkist Growers, Inc. Fruit sizing machine. 3,405,801, 10–15–68, Cl. 209—84.

CLASSIFICATION OF PATENTS

ISSUED OCTOBER 15, 1968

NOTE.—First number, class; second number, subclass; third number, patent number

2— 2.1 : 3,405,406
132 : 3,405,407
145 : 3,405,408
4—142 : 3,405,409
172 : 3,405,410
254 : 3,405,411
5—100 : 3,405,412
8—115.5 : 3,406,004
3,406,005
125 : 3,406,006
9—309 : 3,405,413
338 : 3,405,414
11— 2 : 3,405,415
12—103 : 3,405,416
13— 9 : 3,406,239
10 : 3,406,240
11 : 3,406,241
22 : 3,406,242
15— 21 : 3,405,417
147 : 3,405,418
250.32: 3,405,419
.35: 3,405,420
.42: 3,405,421
17— 1 : 3,405,422
11 : 3,405,423
18— 8 : 3,405,424
13 : 3,405,425
3,405,426
19—107 : 3,405,427
23— 16 : 3,406,007
56 : 3,406,008
93 : 3,406,009
143 : 3,406,010
190 : 3,406,011
202 : 3,406,012
203 : 3,406,013
221 : 3,406,014
230 : 3,406,015
3,406,016
232 : 3,406,017
253 : 3,406,018
361 : 3,406,019
24— 90.5 : 3,405,428
137 : 3,405,429
204 : 3,405,430
221 : 3,405,431
274 : 3,405,432
29—105 : 3,405,433
148.4 : 3,405,434
3,405,435
432.1 : 3,405,436
450 : 3,405,437
471.9 : 3,405,438
509 : 3,405,439
604 : 3,405,440
627 : 3,405,441
3,405,442
628 : 3,405,443
30—106 : 3,405,444
148 : 3,405,445
32— 1 : 3,405,446
33— 41 : 3,405,447
50 : 3,405,448
145 : 3,405,449
217 : 3,405,450
226 : 3,405,451
34— 1 : 3,405,452
9 : 3,405,453
10 : 3,405,454
20 : 3,405,455
155 : 3,405,456
35— 9 : 3,405,457
16 : 3,405,458
31 : 3,405,459
3,405,460
35 : 3,405,461
46 : 3,405,462
36— 2.5 : 3,405,463
40— 28 : 3,405,464
68 : 3,405,465
104 : 3,405,466
124.1 : 3,405,467
130 : 3,405,468
42— 1 : 3,405,469
74 : 3,405,470
75 : 3,405,471
43— 6 : 3,405,472
21 : 3,405,473
26.2 : 3,405,474
42.08: 3,405,475
43— 43.12: 3,405,476
44.6 : 3,405,477
46— 1 : 3,405,478
25 : 3,405,479
49—293 : 3,405,480
51— 9 : 3,405,481
101 : 3,405,482
163 : 3,405,483
165 : 3,405,484
298 : 3,406,020
52— 60 : 3,405,485
190 : 3,405,486
200 : 3,405,487
222 : 3,405,489
223 : 3,405,490
236 : 3,405,491
281 : 3,405,492
287 : 3,405,488
480 : 3,405,493
495 : 3,405,494
562 : 3,405,495
615 : 3,405,496
699 : 3,405,497
53— 29 : 3,405,498
37 : 3,405,500
51 : 3,405,501
3,405,502
53 : 3,405,503
74 : 3,405,504
183 : 3,405,505
331.5 : 3,405,499
54— 82 : 3,405,506
55— 62 : 3,405,507
73 : 3,405,508
160 : 3,405,509
208 : 3,405,510
440 : 3,405,511
56— 1 : 3,405,512
15 : 3,405,513
25.4 : 3,405,514
328 : 3,405,515
57—144 : 3,405,516
157 : 3,405,517
58— 20 : 3,405,518
60— 13 : 3,405,519
23 : 3,405,520
24 : 3,405,521
52 : 3,405,522
3,405,523
54 : 3,405,524
.6 : 3,405,525
221 : 3,405,526
61— 1 : 3,405,527
3,405,528
3,405,529
72.6 : 3,405,533
62— 28 : 3,405,530
63 : 3,405,531
66 : 3,405,532
74 : 3,405,534
202 : 3,405,535
218 : 3,405,536
64— 2 : 3,405,537
5 : 3,405,538
11 : 3,405,539
19 : 3,405,540
28 : 3,405,541
65— 1 : 3,406,021
114 : 3,406,022
66— 38 : 3,405,542
86 : 3,405,543
70— 74 : 3,405,544
71— 92 : 3,406,023
98 : 3,406,024
72— 88 : 3,405,545
348 : 3,405,546
469 : 3,405,547
73— 1 : 3,405,548
23.1 : 3,405,549
3,405,550
3,405,551
37.7 : 3,405,552
38 : 3,405,553
114 : 3,405,554
159 : 3,405,555
160 : 3,405,556
162 : 3,405,557
170 : 3,405,558
398 : 3,405,559
401 : 3,405,560
73—432 : 3,405,561
74— 10.2 : 3,405,562
56 : 3,405,563
230.18: 3,405,564
405 : 3,405,565
440 : 3,405,566
502 : 3,405,567
522.5 : 3,405,568
527 : 3,405,569
661 : 3,405,570
674 : 3,405,571
675 : 3,405,572
687 : 3,405,573
720.5 : 3,405,574
868 : 3,405,575
75— .5 : 3,406,025
42 : 3,406,026
51 : 3,406,027
84 : 3,406,056
123 : 3,406,057
171 : 3,406,058
222 : 3,406,059
82— 40 : 3,405,576
83— 1 : 3,405,577
13 : 3,405,578
102 : 3,405,579
305 : 3,405,580
563 : 3,405,581
568 : 3,405,582
588 : 3,405,583
84— 1.27: 3,406,243
147 : 3,405,584
187 : 3,405,585
414 : 3,405,586
421 : 3,405,587
3,405,588
457 : 3,405,589
458 : 3,405,590
85— 9 : 3,405,591
14 : 3,405,592
33 : 3,405,593
37 : 3,405,594
45 : 3,405,595
47 : 3,405,596
62 : 3,405,597
87— 7 : 3,405,598
89— 41 : 3,405,599
90— 21.5 : 3,405,600
91— 4 : 3,405,601
28 : 3,405,602
56 : 3,405,603
84 : 3,405,604
173 : 3,405,605
306 : 3,405,606
357 : 3,405,607
412 : 3,405,608
92— 99 : 3,405,609
223 : 3,405,610
93— 49 : 3,405,611
94— 1 : 3,405,612
44 : 3,405,613
95— 1 : 3,405,614
4.5 : 3,405,615
3,405,616
13 : 3,405,617
3,405,618
3,405,619
3,405,620
31 : 3,405,621
53 : 3,405,622
3,405,623
59 : 3,405,624
89 : 3,405,625
94 : 3,405,626
3,405,627
100 : 3,405,628
96— 1 : 3,406,060
3,406,061
3,406,062
.5 : 3,406,063
29 : 3,406,064
33 : 3,406,065
34 : 3,406,066
35.1 : 3,406,067
36.1 : 3,406,068
74 : 3,406,069
82 : 3,406,070
91 : 3,406,071
3,406,072
98— 1.5 : 3,405,629
99— 61 : 3,406,073
71 : 3,406,074
102 : 3,406,075
116 : 3,406,076
143 : 3,406,077
168 : 3,406,078
171 : 3,406,079
3,406,080
194 : 3,406,081
225 : 3,406,082
282 : 3,405,630
426 : 3,405,631
100— 41 : 3,405,632
101— 37 : 3,405,633
45 : 3,405,634
132 : 3,405,635
148 : 3,405,636
244 : 3,405,637
102— 87 : 3,405,638
103— 5 : 3,405,639
3,405,640
49 : 3,405,641
50 : 3,405,642
3,405,643
97 : 3,405,644
152 : 3,405,645
162 : 3,405,646
232 : 3,405,647
238 : 3,405,648
104— 17 : 3,405,649
119 : 3,405,650
173 : 3,405,651
204 : 3,405,652
105—199 : 3,405,653
3,405,654
250 : 3,405,655
253 : 3,405,656
282 : 3,405,657
367 : 3,405,658
369 : 3,405,659
3,405,660
371 : 3,405,661
106— 1 : 3,406,028
66 : 3,406,029
86 : 3,406,030
171 : 3,406,031
271 : 3,406,032
107— 1 : 3,405,662
9 : 3,405,663
27 : 3,405,664
108— 55 : 3,405,665
58 : 3,405,666
110— 14 : 3,405,667
99 : 3,405,668
111— 7.2 : 3,405,669
112— 2 : 3,405,670
173 : 3,405,671
252 : 3,405,672
412 : 3,405,673
420 : 3,405,674
114— 67 : 3,405,675
115— .5 : 3,405,676
70 : 3,405,677
116—114 : 3,405,678
117— 7 : 3,406,033
33.5 : 3,406,034
3,406,035
45 : 3,406,036
60 : 3,406,037
62.1 : 3,406,038
76 : 3,406,039
93.31: 3,406,040
101 : 3,406,041
134 : 3,406,042
212 : 3,406,043
215 : 3,406,044
218 : 3,406,045
118— 2 : 3,405,679
24 : 3,405,680
25 : 3,405,681
637 : 3,405,682
3,405,683
119— 53 : 3,405,684
61 : 3,405,685
75 : 3,405,686
78 : 3,405,687
156 : 3,405,688
122— 39 : 3,405,689
136 : 3,405,690
240 : 3,405,691
123— 8 : 3,405,692
3,405,693
3,405,694
3,405,695
41.82: 3,405,696
78 : 3,405,697
3,405,698
97 : 3,405,699
140 : 3,405,700
190 : 3,405,701
125— 11 : 3,405,702
126— 38 : 3,405,703
208 : 3,405,704
343.5 : 3,405,705
127— 60 : 3,406,046
128— 2 : 3,405,706
.05: 3,405,707
3,405,708
33 : 3,405,709
66 : 3,405,710
130 : 3,405,711
218 : 3,405,712
221 : 3,405,713
295 : 3,405,714
418 : 3,405,715
129— 16 : 3,405,716
131— 94 : 3,405,717
170 : 3,405,718
235 : 3,405,719
134—140 : 3,405,720
135— 7.1 : 3,405,721
137— 2 : 3,405,722
43 : 3,405,723
81.5 : 3,405,724
3,405,725
3,405,726
3,405,736
83 : 3,405,727
251 : 3,405,728
329.2 : 3,405,729
510 : 3,405,730
561 : 3,405,731
614.19: 3,405,732
624.14: 3,405,733
625.46: 3,405,734
.69: 3,405,735
138— 39 : 3,405,737
3,405,738
97 : 3,405,739
139— 1 : 3,405,740
183 : 3,405,741
140—103 : 3,405,742
112 : 3,405,743
141— 12 : 3,405,744
142— 1 : 3,405,745
144— 2 : 3,405,746
145— 3.8 : 3,405,747
50 : 3,405,748
63 : 3,405,749
146— 1 : 3,405,750
148— 12.1 : 3,406,047
175 : 3,406,048
3,406,049
179 : 3,406,050
149— 56 : 3,406,051
151— 14 : 3,405,751
41.72: 3,405,752
152—209 : 3,405,753
330 : 3,405,754
381 : 3,405,755
156—198 : 3,406,052
250 : 3,406,054
275 : 3,406,055
309 : 3,406,053
423 : 3,406,083
522 : 3,406,084
160—229 : 3,405,756
161— 45 : 3,406,085
183 : 3,406,086
184 : 3,406,087
162—125 : 3,406,088
199 : 3,406,089
164— 87 : 3,405,757
165— 16 : 3,405,758
39 : 3,405,759
94 : 3,405,760
166— 11 : 3,405,761
42 : 3,405,762
46 : 3,405,763
145 : 3,405,764
170—173 : 3,405,765
172— 10 : 3,405,766
572 : 3,405,767
173— 52 : 3,405,768
174— 15 : 3,406,244
3,406,245
68.5 : 3,406,246
88 : 3,406,247
121 : 3,406,248
175— 4.53: 3,405,769
56 : 3,405,770
73 : 3,405,771
77 : 3,405,772
297 : 3,405,773
176— 28 : 3,406,091
35 : 3,406,092
36 : 3,406,093
73 : 3,406,090
79 : 3,406,094
177— 46 : 3,405,774
229 : 3,405,775
178— 5.4 : 3,406,249
3,406,250
3,406,251
6.7 : 3,406,252
17 : 3,406,253
27 : 3,406,254
67 : 3,406,255
179— 6.3 : 3,406,256
15 : 3,406,257
18 : 3,406,258
22 : 3,406,259
37 : 3,406,260
42 : 3,406,261
84 : 3,406,262
100 : 3,406,263
.4 : 3,406,264
170 : 3,406,265
180— 6.3 : 3,405,776
7 : 3,405,777
24 : 3,405,778
108 : 3,405,779
181— .5 : 3,405,780
187— 8.41: 3,405,781
58 : 3,405,782
188— 5 : 3,405,783
18 : 3,405,784
73 : 3,405,785
264 : 3,405,786
265 : 3,405,787
190— 49 : 3,405,788
192— 56 : 3,405,789
3,405,790
81 : 3,405,791
98 : 3,405,792
195— 28 : 3,406,095
197— 16 : 3,405,793
55 : 3,405,794
198—138 : 3,405,795
200— 34 : 3,406,266
61.41: 3,406,267
144 : 3,406,268
148 : 3,406,269
153 : 3,406,270
202—172 : 3,406,096
190 : 3,406,097
263 : 3,406,098
203— 50 : 3,406,099
78 : 3,406,100
204— 1 : 3,406,101
3,406,102
3,406,103
6 : 3,406,104
16 : 3,406,105
37 : 3,406,106
46 : 3,406,107
82 : 3,406,108
195 : 3,406,109
197 : 3,406,110
206— 46 : 3,405,796
52 : 3,405,797
3,405,798
65 : 3,405,799
208— 14 : 3,406,111
153 : 3,406,112
209— 75 : 3,405,800
84 : 3,405,801
166 : 3,405,802
211 : 3,405,803
210— 30 : 3,406,113

210 –	54	3,406,114	236 –	15	3,405,869	260 –	13	3,406,130	260 – 615	3,406,208	
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	130	3,405,805	239 –	236	3,405,871		22	3,406,134	648	3,406,210	
	203	3,405,806		254	3,405,872		23	3,406,135	650	3,406,211	
	232	3,405,807	240 –	7.1	3,406,282		.7	3,406,136	652	3,406,212	
211 –	31	3,405,808	241 –	38	3,405,873		28.5	3,406,133	.5	3,406,213	
	87	3,405,809		174	3,405,874			3,406,137	653	3,406,214	
	126	3,405,810		207	3,405,875		29.4	3,406,138	655	3,406,215	
213 –	100	3,405,811		255	3,405,876		.6	3,406,139	664	3,406,216	
214 –	1	3,405,812	242 –	35.5	3,405,877		33.4	3,406,140	666	3,406,217	
	5.5	3,405,813		54	3,405,878		41.5	3,406,141	.5	3,406,218	
	15	3,405,814		55	3,405,879			3,406,142	669	3,406,219	
		3,405,815		56.8	3,405,880		45.75	3,406,145	677	3,406,220	
	16.1	3,405,816		68.3	3,405,881		.8	3,406,143	856	3,406,221	
		3,405,817		74	3,405,882			3,406,144	857	3,406,222	
	.4	3,405,818		75.5	3,405,883		.95	3,406,146		3,406,223	
		3,405,819		76	3,405,884		47	3,406,147	860	3,406,224	
	17	3,405,820		83	3,405,885			3,406,148	953	3,406,225	
	26	3,405,821	244 –	1	3,405,886		49	3,406,149	981	3,406,226	
	134	3,405,822			3,405,887		54	3,406,150	261 – 23	3,405,917	
	138	3,405,823		3.14	3,405,888		67	3,406,151	62	3,405,918	
		3,405,824		12	3,405,889		75	3,406,152	64	3,405,919	
	778	3,405,825		17.23	3,405,890			3,406,153	123	3,405,920	
215 –	1	3,405,826		43	3,405,891		78.3	3,406,154	263 – 19	3,405,921	
	9	3,405,827		83	3,405,892		80.3	3,406,155		3,405,922	
		3,405,828		119	3,405,893		82	3,406,156	40	3,405,923	
	13	3,405,829	248 –	13	3,405,894		87.5	3,406,157	41	3,405,924	
	40	3,405,830		44	3,405,895		137	3,406,158	264 – .5	3,406,227	
	43	3,405,831			3,405,896		141	3,406,159		3,406,228	
	47	3,405,832		188.7	3,405,897		145	3,406,160	45	3,406,229	
	96	3,405,833		204	3,405,898			3,406,161	51	3,406,230	
219 –	8.5	3,406,271		229	3,405,899			3,406,162	145	3,406,231	
	109	3,406,272		396	3,405,900		162	3,406,163	162	3,406,232	
	121	3,406,273		400	3,405,901		207	3,406,164	257	3,406,234	
	234	3,406,274		419	3,405,902		.1	3,406,165	321	3,406,235	
	406	3,406,275	249 –	28	3,405,903		211.5	3,406,166	338	3,406,236	
	421	3,406,276		40	3,405,904		239.3	3,406,167	266 – 31	3,405,925	
	444	3,406,277			3,405,905			3,406,168	37	3,405,926	
	450	3,406,278	250 –	41.9	3,406,283		240	3,406,169	267 – 1	3,405,927	
	464	3,406,279		43.5	3,406,284		246	3,406,170		3,405,928	
220 –	3.4	3,405,834		71	3,406,285		247.1	3,406,171		3,405,929	
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	23	3,405,836		209	3,406,287		256.4	3,406,173	328	3,405,931	
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	44	3,405,838			3,406,289		281	3,406,175	271 – 3	3,405,933	
	46	3,405,839		219	3,406,290		287	3,406,176		3,405,934	
	114	3,405,840		220	3,406,291		294.7	3,406,177	11	3,405,935	
221 –	24	3,405,841		224	3,406,292		309.2	3,406,178	19	3,405,936	
222 –	55	3,405,842		226	3,406,293		.7	3,406,179	79	3,405,937	
	95	3,405,843		237	3,406,294		325	3,406,180	272 – 61	3,405,938	
	162	3,405,844	251 –	30	3,405,906		326	3,406,181	70.1	3,405,939	
	387	3,405,845		124	3,405,907			3,406,182	273 – 44	3,405,940	
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	481.5	3,405,848			3,405,910		332.2	3,406,185	135	3,405,943	
	498	3,405,849		172	3,405,911		343.2	3,406,186	274 – 1	3,405,944	
		3,405,850	252 –	8.5	3,406,115		349	3,406,187	4	3,405,945	
	505	3,405,851		99	3,406,116		396	3,406,188	47	3,405,946	
223 –	67	3,405,852		186	3,406,117		397.3	3,406,189	277 – 110	3,405,947	
	74	3,405,853		301.2	3,406,118		.4	3,406,190	137	3,405,948	
	85	3,405,854		316	3,406,119		454	3,406,191	279 – 9	3,405,949	
226 –	1	3,405,855		397	3,406,120		455	3,406,192	103	3,405,950	
	154	3,405,856		408	3,406,121		465	3,406,193	280 – 11.35	3,405,951	
	195	3,405,857			3,406,122		479	3,406,194	124	3,405,952	
229 –	2.5	3,405,858		455	3,406,123		521	3,406,195	150	3,405,953	
	5.6	3,405,862			3,406,124		524	3,406,196	289	3,405,954	
	22	3,405,859			3,406,125		551	3,406,197	475	3,405,955	
	34	3,405,860		511	3,406,126			3,406,198	285 – 90	3,405,956	
	51	3,405,861	253 –	3	3,405,912		553	3,406,199	93	3,405,957	
	57	3,405,863		26	3,405,913		555	3,406,200	162	3,405,958	
	92.9	3,405,864	256 –	59	3,405,914			3,406,201	276	3,405,959	
230 –	120	3,405,865		65	3,405,915		558	3,406,205	292 – 145	3,405,960	
233 –	14	3,405,866	259 –	1	3,405,916		578	3,406,202	207	3,405,961	
234 –	58	3,405,867	260 –	2.3	3,406,127		583	3,406,203	346	3,405,962	
235 –	70	3,405,868		.5	3,406,128			3,406,204	294 – 16	3,405,963	
	150.27	3,406,280			3,406,131		606	3,406,206	65.5	3,405,964	
	193	3,406,281		13	3,406,129		613	3,406,207	83	3,405,965	
	294 – 83	3,405,966	328 – 143	3,406,347
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		3,405,967	165	3,406,348
		3,405,968	233	3,406,349
296 –	28	3,405,969	330 – 5.5	3,406,350
	97	3,405,970	15	3,406,351
	117	3,405,971	31	3,406,352
297 –	216	3,405,972	331 – 3	3,406,353
	385	3,405,973	94.5	3,406,354
299 –	4	3,405,974	111	3,406,355
	59	3,405,975	332 – 7.51	3,406,356
302 –	14	3,405,976	333 – 14	3,406,357
	29	3,405,977	71	3,406,358
303 –	22	3,405,978	335 – 20	3,406,360
307 –	132	3,406,295	178	3,406,361
	215	3,406,296	216	3,406,362
	235	3,406,297	302	3,406,363
	251	3,406,298	336 – 69	3,406,364
	306	3,406,299	337 – 211	3,406,365
308 –	6	3,405,979	338 – 25	3,406,366
	207	3,405,980	184	3,406,367
	213	3,405,981	339 – 17	3,406,368
	236	3,405,982	18	3,406,369
310 –	11	3,406,300	60	3,406,370
		3,406,301	92	3,406,371
	26	3,406,302	95	3,406,372
	40	3,406,303	97	3,406,373
312 –	39	3,405,983	103	3,406,374
	102	3,405,984	176	3,406,375
	114	3,405,985	258	3,406,376
	214	3,405,986	340 – 166	3,406,377
		3,405,987	172.5	3,406,378
	254	3,405,988		3,406,379
313 –	74	3,406,304		3,406,380
	83	3,406,305		3,406,381
	156	3,406,306	173	3,406,382
	231	3,406,307	207	3,406,383
	306	3,406,308	227	3,406,384
314 –	75	3,406,309	258	3,406,385
315 –	12	3,406,310	274	3,406,386
		3,406,311	324	3,406,387
	13	3,406,312	373	3,406,388
	22	3,406,313	411	3,406,389
	209	3,406,314	343 – 5	3,406,390
	334	3,406,315	6.5	3,406,391
317 –	2	3,406,316	7.3	3,406,392
	5	3,406,317	4	3,406,393
	43	3,406,318	.5	3,406,394
318 –	18	3,406,319	8	3,406,395
		3,406,320	9	3,406,396
	33	3,406,322	16	3,406,398
	45	3,406,327	915	3,406,404
		3,406,328	346 – 1	3,406,405
		3,406,329	350 – 10	3,405,989
323 –	22	3,406,331	15	3,405,990
	75	3,406,332	36	3,405,991
324 –	.5	3,406,333	147	3,405,992
	1	3,406,359	177	3,405,993
	32	3,406,334	351 – 14	3,405,994
	65	3,406,335	168	3,405,995
	70	3,406,336	355 – 42	3,405,996
	103	3,406,337	401 – 46	3,405,997
		3,406,338	424 – 45	3,406,237
	151	3,406,339	70	3,406,238
	154	3,406,340	202	3,406,233
	158	3,406,341	431 – 25	3,405,998
325 –	2	3,406,342	42	3,405,999
	40	3,406,343	130	3,406,000
	50	3,406,344	255	3,406,001
	346	3,406,345	265	3,406,002
328 –	37	3,406,346	307	3,406,003

Classification of Designs

D 9 –	39	212,410	D23 –	58	212,418	D33 –	21	212,426	D34 – 5	212,434	
	187	212,411		84	212,419		30	212,427		212,435	
	194	212,412		150	212,420	D34 –	4	212,428	15	212,436	
	223	212,413	D26 –	14	212,421			212,429	D35 – 3	212,437	
	258	212,414			212,422			212,430		212,438	
D14 –	3	212,415			212,423			212,431	D40 – 1	212,439	
	27	212,416	D28 –	1	212,424			212,432	D44 – 1	212,440	
D23 –	3	212,417	D33 –	3	212,425			212,433			
D48 –	4	212,441	D66 –	2	212,448
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	16	212,442	D71 –	1	212,449
	20	212,443	D81 –	10	212,450
D49 –	1	212,444	D83 –	1	212,451
D52 –	2	212,445			212,452
D54 –	1	212,446		12	212,453
	13	212,447	D90 –	9	212,454

Classification of Plants

P. –	41	2,839	

GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

(NOTE.—CODES ARE CHANGED AS OF JANUARY 1, 1967)

Alabama	1	Kentucky	21	Oregon	41
Alaska	2	Louisiana	22	Pennsylvania	42
American Samoa	3	Maine	23	Puerto Rico	43
Arizona	4	Maryland	24	Rhode Island	44
Arkansas	5	Massachusetts	25	South Carolina	45
California	6	Michigan	26	South Dakota	46
Canal Zone	7	Minnesota	27	Tennessee	47
Colorado	8	Mississippi	28	Texas	48
Connecticut	9	Missouri	29	Utah	49
Delaware	10	Montana	30	Vermont	50
District of Columbia	11	Nebraska	31	Virginia	51
Florida	12	Nevada	32	Virgin Islands	52
Georgia	13	New Hampshire	33	Washington	53
Guam	14	New Jersey	34	West Virginia	54
Hawaii	15	New Mexico	35	Wisconsin	55
Idaho	16	New York	36	Wyoming	56
Illinois	17	North Carolina	37	U.S. Air Force	57
Indiana	18	North Dakota	38	U.S. Army	58
Iowa	19	Ohio	39	U.S. Navy	59
Kansas	20	Oklahoma	40		

(First number in listing denotes location according to above key. Refer to patent number in body of the Official Gazette to obtain details as to inventor name, location, etc.)

Patents

1	3,406,336	6	3,405,897	9	3,405,498	13	3,405,518	18	3,405,809	25	3,405,623
4	3,405,613		3,405,906		3,405,559		3,405,541		3,405,889		3,405,627
6	3,405,406		3,405,938		3,405,560		3,405,934		3,405,894		3,405,705
	3,405,408		3,405,939		3,405,569	17	3,405,457		3,405,896		3,405,732
	3,405,442		3,405,944		3,405,580		3,405,459		3,405,898		3,405,741
	3,405,448		3,405,954		3,405,630		3,405,479		3,405,955		3,405,836
	3,405,450		3,406,005		3,405,679		3,405,504		3,406,002		3,405,866
	3,405,455		3,406,028		3,405,699		3,405,505		3,406,110		3,405,924
	3,405,480		3,406,053		3,405,711		3,405,506		3,406,248		3,405,933
	3,405,490		3,406,054		3,405,748		3,405,589		3,406,256		3,405,998
	3,405,513		3,406,078		3,405,843		3,405,601		3,406,318		3,406,055
	3,405,519		3,406,079		3,405,864		3,405,602	19	3,405,555		3,406,060
	3,405,532		3,406,080		3,405,916		3,405,625		3,405,712		3,406,064
	3,405,534		3,406,087		3,405,948		3,405,654		3,405,844		3,406,097
	3,405,537		3,406,096		3,405,972		3,405,702	20	3,405,418		3,406,102
	3,405,549		3,406,212		3,405,982		3,405,730		3,405,605		3,406,126
	3,405,554		3,406,227		3,406,014		3,405,739		3,405,818		3,406,138
	3,405,558		3,406,229		3,406,042		3,405,743		3,405,917		3,406,147
	3,405,591		3,406,233		3,406,105		3,405,854	21	3,405,428		3,406,194
	3,405,596		3,406,242		3,406,197		3,405,862		3,405,447		3,406,206
	3,405,597		3,406,255		3,406,246		3,405,946		3,405,760		3,406,228
	3,405,611		3,406,268		3,406,270		3,406,015		3,405,834		3,406,232
	3,405,631		3,406,275		3,406,295		3,406,016		3,405,895		3,406,234
	3,405,641		3,406,281		3,406,360		3,406,024	22	3,406,099		3,406,297
	3,405,645		3,406,293		3,406,400		3,406,039		3,406,156		3,406,300
	3,405,661		3,406,310	10	3,405,838		3,406,075	24	3,405,460		3,406,301
	3,405,681		3,406,312		3,405,851		3,406,181		3,405,481		3,406,353
	3,405,686		3,406,315		3,405,973		3,406,182		3,405,552		3,406,356
	3,405,708		3,406,324		3,406,023		3,406,210		3,405,629		3,406,368
	3,405,723		3,406,333		3,406,033		3,406,219		3,405,728		3,406,388
	3,405,737		3,406,349		3,406,154		3,406,225		3,405,886	26	3,405,426
	3,405,751		3,406,364		3,406,170		3,406,239		3,405,892		3,405,440
	3,405,752		3,406,367		3,406,179		3,406,241		3,406,302		3,405,500
	3,405,757		3,406,372		3,406,184		3,406,249		3,406,352		3,405,524
	3,405,758		3,406,376		3,406,196		3,406,250	25	3,405,425		3,405,528
	3,405,771		3,406,378		3,406,215		3,406,253		3,405,482		3,405,529
	3,405,773		3,406,379		3,406,223		3,406,254		3,405,499		3,405,539
	3,405,786		3,406,383	11	3,406,397		3,406,262		3,405,501		3,405,557
	3,405,796		3,406,385	12	3,405,412		3,406,273		3,405,520		3,405,566
	3,405,798		3,406,389		3,405,515		3,406,303		3,405,531		3,405,575
	3,405,801		3,406,391		3,405,685		3,406,328		3,405,545		3,405,599
	3,405,814		3,406,404		3,405,714		3,406,355		3,405,547		3,405,628
	3,405,827	8	3,405,470		3,405,794		3,406,363		3,405,562		3,405,659
	3,405,828		3,405,778		3,405,872		3,406,371		3,405,568		3,405,680
	3,405,839		3,405,871		3,405,903	18	3,405,443		3,405,612		3,405,696
	3,405,841		3,405,881		3,405,935		3,405,475		3,405,617		3,405,697
	3,405,845		3,405,984		3,405,962		3,405,574		3,405,618		3,405,698
	3,405,849		3,406,114		3,406,121		3,405,729		3,405,619		3,405,727
	3,405,869		3,406,282		3,406,261		3,405,756		3,405,620		3,405,767
	3,405,870	9	3,405,461		3,406,381		3,405,779		3,405,621		3,405,804

26	3,405,824	34	3,405,807	36	3,405,590	36	3,406,309	39	3,406,286	48	3,405,456
	3,405,856		3,405,842		3,405,595		3,406,311		3,406,323		3,405,472
	3,405,900		3,405,850		3,405,600		3,406,322		3,406,335		3,405,497
	3,405,902		3,405,857		3,405,622		3,406,327		3,406,387		3,405,507
	3,405,904		3,405,867		3,405,624		3,406,329	40	3,405,509		3,405,511
	3,405,930		3,405,899		3,405,626		3,406,341		3,405,527		3,405,533
	3,405,964		3,405,918		3,405,633		3,406,343		3,405,690		3,405,647
	3,405,968		3,405,921		3,405,635		3,406,346		3,405,759		3,405,648
	3,405,969		3,405,922		3,405,637		3,406,366		3,405,761		3,405,747
	3,405,970		3,405,941		3,405,658		3,406,382		3,405,831		3,405,763
	3,405,971		3,405,992		3,405,660		3,406,384		3,405,908		3,405,764
	3,405,981		3,406,020		3,405,678		3,406,386		3,405,909		3,405,769
	3,405,985		3,406,029		3,405,682		3,406,392		3,405,910		3,405,770
	3,405,997		3,406,031		3,405,691		3,406,394		3,406,101		3,405,772
	3,406,106		3,406,043		3,405,707		3,406,395		3,406,115		3,405,780
	3,406,113		3,406,051		3,405,709		3,406,405		3,406,217		3,405,808
	3,406,122		3,406,052		3,405,710	37	3,405,444		3,406,220		3,405,848
	3,406,143		3,406,058		3,405,713		3,405,538	41	3,405,733		3,405,852
	3,406,190		3,406,068		3,405,716		3,405,543		3,405,805		3,405,911
	3,406,202		3,406,069		3,405,719		3,405,674		3,406,304		3,405,956
	3,406,218		3,406,084		3,405,721		3,405,744		3,406,313		3,405,963
	3,406,252		3,406,108		3,405,745		3,405,813	42	3,405,414		3,405,976
	3,406,267		3,406,124		3,405,791		3,405,859		3,405,422		3,406,008
	3,406,277		3,406,125		3,405,811		3,406,047		3,405,464		3,406,050
	3,406,339		3,406,129		3,405,817		3,406,235		3,405,493		3,406,103
	3,406,351		3,406,130		3,405,835		3,406,338		3,405,563		3,406,120
27	3,405,463		3,406,140		3,405,837		3,406,357		3,405,576		3,406,127
	3,405,593		3,406,142		3,405,860		3,406,361		3,405,585		3,406,132
	3,405,643		3,406,174		3,405,863	38	3,405,477		3,405,607		3,406,150
	3,405,651		3,406,185		3,405,865		3,405,983		3,405,638		3,406,189
	3,405,677		3,406,187		3,405,868	39	3,405,407		3,405,671		3,406,251
	3,405,704		3,406,198		3,405,905		3,405,435		3,405,676		3,406,272
	3,405,715		3,406,201		3,405,929		3,405,436		3,405,731		3,406,284
	3,405,720		3,406,203		3,405,961		3,405,437		3,405,736		3,406,359
	3,405,853		3,406,216		3,405,989		3,405,452		3,405,762	49	3,405,724
	3,406,149		3,406,231		3,405,990		3,405,567		3,405,799		3,405,725
	3,406,331		3,406,257		3,405,991		3,405,577		3,405,800		3,405,726
28	3,405,411		3,406,260		3,405,993		3,405,592		3,405,826		3,406,337
	3,406,083		3,406,274		3,405,994		3,405,603		3,405,855	50	3,405,689
29	3,405,653		3,406,287		3,405,996		3,405,634		3,405,884	51	3,405,417
	3,405,858		3,406,288		3,406,000		3,405,636		3,405,915		3,405,429
	3,406,044		3,406,292		3,406,004		3,405,639		3,405,977		3,405,503
	3,406,076		3,406,296		3,406,006		3,405,657		3,405,999		3,405,615
	3,406,077		3,406,299		3,406,009		3,405,666		3,406,012		3,405,717
	3,406,192		3,406,321		3,406,017		3,405,754		3,406,019		3,405,887
	3,406,195		3,406,344		3,406,018		3,405,768		3,406,045		3,406,145
	3,406,207		3,406,358		3,406,025		3,405,781		3,406,082		3,406,265
	3,406,221		3,406,375		3,406,036		3,405,797		3,406,086		3,406,369
	3,406,390		3,406,393		3,406,040		3,405,810		3,406,111		3,406,377
30	3,405,486		3,406,399		3,406,041		3,405,819		3,406,133	52	3,405,875
	3,406,010		3,406,401		3,406,049		3,405,825		3,406,139	53	3,405,485
33	3,405,433	35	3,405,496		3,406,062		3,405,833		3,406,155		3,405,494
	3,405,932		3,406,289		3,406,066		3,405,840		3,406,180		3,405,514
34	3,405,413	36	3,405,409		3,406,067		3,405,846		3,406,188		3,405,594
	3,405,449		3,405,410		3,406,072		3,405,919		3,406,238		3,405,669
	3,405,466		3,405,416		3,406,085		3,405,923		3,406,247		3,405,746
	3,405,474		3,405,430		3,406,100		3,405,943		3,406,269		3,405,931
	3,405,510		3,405,431		3,406,107		3,405,947		3,406,285		3,406,224
	3,405,516		3,405,438		3,406,112		3,405,949		3,406,290	54	3,405,974
	3,405,530		3,405,441		3,406,116		3,405,950		3,406,306	55	3,405,445
	3,405,544		3,405,446		3,406,117		3,405,957		3,406,317		3,405,526
	3,405,546		3,405,454		3,406,119		3,405,958		3,406,325		3,405,535
	3,405,550		3,405,462		3,406,123		3,405,960		3,406,330		3,405,632
	3,405,570		3,405,476		3,406,135		3,405,980		3,406,334		3,405,861
	3,405,614		3,405,488		3,406,137		3,405,986		3,406,350		3,405,975
	3,405,649		3,405,491		3,406,167		3,405,987		3,406,370		3,405,979
	3,405,650		3,405,495		3,406,169		3,405,988		3,406,373		3,406,037
	3,405,662		3,405,521		3,406,172		3,406,021		3,406,380		3,406,059
	3,405,668		3,405,525		3,406,175		3,406,074		3,406,403		3,406,081
	3,405,672		3,405,536		3,406,176		3,406,109	44	3,405,829		3,406,089
	3,405,695		3,405,542		3,406,244		3,406,134		3,406,118		3,406,177
	3,405,775		3,405,564		3,406,276		3,406,153		3,406,374		3,406,291
	3,405,777		3,405,581		3,406,279		3,406,222	45	3,405,684		3,406,320
	3,405,782		3,405,583		3,406,298		3,406,271	47	3,406,088		3,406,362
	3,405,783		3,405,584		3,406,308		3,406,278		3,406,283		

Design Patents

5	212,424	6	212,433	6	212,452	17	212,454	26	212,439	36	212,436
6	212,416		212,435		212,453	20	212,412	27	212,415		212,444
	212,428		212,437	8	212,450		212,440	29	212,420	37	212,417
	212,429		212,438	9	212,411	25	212,443		212,446	42	212,425
	212,430		212,441		212,422		212,445	34	212,442		212,434
	212,431		212,447	12	212,449	26	212,410	36	212,426	55	212,418
	212,432		212,451	17	212,414						

Plant Patents

34	2,839

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

October 15, 1968 Volume 855 Number 3

TRADEMARKS

NOTICES

Order

Registration No. 851,040, HI-DRI, for Kimberly-Clark Corporation is canceled as inadvertently issued on June 18, 1968, and Serial No. 160,711 is reinstated in accordance with First Assistant Commissioner Reynolds' Order of Sept. 17, 1968.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 231,389 (ALCOA) Aluminum Company of America, Ingots of aluminum and aluminum base alloys; **Reg. No. 284,996,** same, Aluminum sand mold and permanent mold castings, aluminum billets and ingots, aluminum forgings and extruded shapes, aluminum foil and sheet, aluminum solder, and granulated aluminum; **Reg. No. 288,976,** same, Aluminum shingles, corrugated roofing, down spouts, and gutters and flashings; **Reg. No. 756,313** (GEOMETRIC DESIGN), same, Aluminum ingots, aluminum sheet, aluminum plate, aluminum extruded shapes, aluminum castings, aluminum rod, aluminum bar, and aluminum tubing, **filed** June 20, 1968, D.C.N.J. (Camden), Doc. C-631-68, *Aluminum Company of America v. Melmar Industries, Inc.* **Same, filed** June 20, 1968, D.C., E.D.N.Y. (Brooklyn), Doc. 68-C-631, *Aluminum Co. of America v. Syra Industries, Inc.*

Reg. No. 284,996. (See Reg. No. 231,389.)

Reg. No. 288,976. (See Reg. No. 231,389.)

Reg. No. 304,880 (HOLLAND HOUSE), W. Sheinker & Son, Inc., Wines with not more than the legal alcoholic content; **Reg. No. 310,546,** same, Whiskey, gin, distilled alcoholic cordials, and other potable distilled liquors; **Reg. No. 349,892,** same, Bitters for medicinal purposes; **Reg. No. 350,740,** same, Nonalcoholic grenadine syrups and nonalcoholic cocktail mixes; **Reg. No. 528,591,** same, Non-alcoholic grenadine syrups and non-alcoholic maltless cocktail mixes used in making alcoholic and non-alcoholic drinks; **Reg. No. 633,738,** same, Maraschino cherries and pitted olives sold in bottles; **Reg. No. 655,591** (HOLLAND HOUSE TASTE-E CHAR), same, Charcoal seasoning; **Reg. No. 656,546** (HOLLAND HOUSE), same, Dehydrated gravy mix; **Reg. No. 719,744,** same, Flavoring extracts for food purposes; **Reg. No. 727,288,** same, Bottled fruit juice food beverages, **filed** Feb. 24, 1967, D.C. Conn. (New Haven), Doc. 11833, *Holland House Brands, Inc. v. Holland Dry Corporation.* Dismissed on stipulation, May 2, 1968.

Reg. No. 310,546. (See Reg. No. 304,880.)

Reg. No. 349,892. (See Reg. No. 304,880.)

Reg. No. 350,740. (See Reg. No. 304,880.)

Reg. No. 528,591. (See Reg. No. 304,880.)

Reg. No. 620,557 ("MISS UNIVERSE"), Miss Universe Beauty Pageant, Inc., Promoting the sale of goods and services by others through the medium of a beauty contest conducted on a national and regional basis; **Reg. No. 847,875**

CONDITION OF TRADEMARK APPLICATIONS AS OF AUGUST 31, 1968

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	15,629
Date of oldest new application	August 1, 1967
Date of oldest amended application (filing date)	April 28, 1965

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	1- 9-68	10-27-65
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	11-22-67	6- 6-66
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	11- 6-67	4-28-65
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	8- 1-67	1-17-66
Renewals (All Classes)	7-22-68	----------
Sec. 12(c) Publications (All Classes)	7-29-68	----------

Applications filed during the month of August 1968—2,487

Registrations Issued ---------- 260—No. 858,453 to No. 858,712
Renewals Issued ---------- 100

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

(MISS UNIVERSE BEAUTY PAGEANT), Miss Universe, Inc., Publication, filed July 3, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68-1094-PH, *Miss Universe, Inc.* v. *Harcourt Melville Hocker, doing business as Oakdale Guest Ranch.*

Reg. No. 633,738. (See Reg. No. 304,880.)

Reg. No. 655,591. (See Reg. No. 304,880.)

Reg. No. 656,546. (See Reg. No. 304,880.)

Reg. No. 700,490 (MIDAS AND OVAL DESIGN), Midas, Inc., Mufflers for internal combustion engines and parts thereof—namely, tail pipes, exhaust pipes, and muffler clamps; **Reg. No. 716,626**, same, Inspection of automotive exhaust systems and installation of automotive mufflers and exhaust system parts; **Reg. No. 722,195** (MIDAS MUFFLER AND DESIGN), same, Mufflers for internal combustion engines and parts thereof—namely, tail pipes, exhaust pipes, and muffler clamps; **Reg. No. 726,350** (MIDAS MUFFLER SHOPS AND DESIGN), same, Inspection of automotive exhaust systems and installation of automotive mufflers and exhaust system parts; **Reg. No. 733,724**, same, Mufflers for internal combustion engines and parts thereof—namely, tail pipes, exhaust pipes, and muffler clamps; **Reg. No. 749,922** (MIDAS BRAKE SHOPS AND DESIGN), same, Inspection of automotive brake systems and parts therefor and installation of automotive brake systems and parts; **Reg. No. 753,876**, same; **Reg. No. 798,254** (REPRESENTATION OF AN ARROW AND OVAL), same, Inspection of automotive exhaust systems and installation of automotive mufflers and exhaust system parts; **Reg. No. 803,611** (MIDAS MUFFLER SHOPS AND DESIGN), same, Adjusting of brakes; alignment and balancing of wheels; inspection and installation of automotive brake systems and parts therefor; inspection and installation of shock absorbers; inspection and installation of seat belts and accessories therefor; inspection and installation of front end parts; and inspection and installation of positive crankcase valves and systems used in internal combustion engines for eliminating crankcase emissions; **Reg. No. 803,612** (MIDAS AND DESIGN), same, filed June 12, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c983, *Midas, Inc.* v. *McCord.* Plaintiff's complaint for trademark infringement and unfair competition dismissed without prejudice, June 24, 1968.

Reg. No. 709,385 (KIKI), Kiki Undies Corporation, Ladies' panties; **Reg. No. 767,232** (KIKI KONTROL), same; **Reg. No. 767,242** (KIKI MAGIC), same; **Reg. No. 774,624** (KIKI SATINETTE), same, filed Mar. 15, 1966, D.C., S.D.N.Y., Doc. 66-C-747, *Kiki Undies Corporation* v. *Promenade Hosiery Mills, Inc.* Judgment in favor of defendant dismissing plaintiff's complaint and dismissing defendant's counterclaims, June 17, 1968.

Reg. No. 716,626. (See Reg. No. 700,490.)

Reg. No. 719,744. (See Reg. No. 304,880.)

Reg. No. 722,195. (See Reg. No. 700,490.)

Reg. No. 726,350. (See Reg. No. 700,490.)

Reg. No. 727,288. (See Reg. No. 304,880.)

Reg. No. 733,724. (See Reg. No. 700,490.)

Reg. No. 736,479. (See Reg. No. 770,899.)

Reg. No. 749,922. (See Reg. No. 700,490.)

Reg. No. 753,876. (See Reg. No. 700,490.)

Reg. No. 754,276. (See Reg. No. 770,899.)

Reg. No. 756,313. (See Reg. No. 231,389.)

Reg. No. 767,232. (See Reg. No. 709,385.)

Reg. No. 767,242. (See Reg. No. 709,385.)

Reg. No. 770,899 (LEANING FIGURE (DESIGN)), Klopman Mills, Inc., Greige and finished fabrics in the piece of all types for use in men's, women's and children's apparel, in home furnishings, and in the industrial field; **Reg. No. 754,276** (LEAN ON KLOPMAN), same, Greige and finished fabrics in the piece of all types for use in men's, women's and children's apparel; **Reg. No. 819,166** (A FABRIC YOU CAN LEAN ON BY KLOPMAN), same, Greige and finished fabrics in the piece of all types for use in men's, women's and children's apparel, in home furnishings, and in the industrial field; **Reg. No. 736,479** (A MAN YOU CAN LEAN ON THAT'S KLOPMAN), same; **Reg. No. 823,446** (LOOK BEFORE YOU LEAN—MAKE SURE IT'S A FABRIC YOU CAN LEAN ON BY KLOPMAN), same, filed July 11, 1968, D.C., S.D.N.Y., Doc. 68-C-2861, *Klopman Mills, Inc.* v. *Wilson Shirt Co., Inc.*

Reg. No. 774,624. (See Reg. No. 709,385.)

Reg. No. 798,254. (See Reg. No. 700,490.)

Reg. No. 800,993. (See Reg. No. 825,488.)

Reg. No. 802,461 (LITE-COLA), Progress for Vending, Inc., Concentrate for a soft drink beverage, filed July 3, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c1250, *Progress for Vending, Inc.* v. *Meister Brau, Inc.*

Reg. No. 803,611. (See Reg. No. 700,490.)

Reg. No. 803,612. (See Reg. No. 700,490.)

Reg. No. 819,166. (See Reg. No. 770,899.)

Reg. No. 823,446. (See Reg. No. 770,899.)

Reg. No. 825,455 (TACO TOWNE ETC. AND DESIGN), Taco Towne Franchises, Inc., Drive-in restaurant services, filed Apr. 8, 1968, D.C., E.D. Mo. (St. Louis), Doc. 68C169(1), *Taco Towne International, Inc.* v. *Taco Town, Inc.* Stipulation of dismissal filed. Defendant having changed its name and having agreed to discontinue all use of the name Taco Town, etc., case dismissed without prejudice, June 18, 1968.

Reg. No. 825,488 (WEEKEND), Ritter Productions, Title of a television show; **Reg. No. 800,993**, same, Bob and Ruth Ritter, doing business as Ritter Productions, Periodical publication, filed Sept. 5, 1967, D.C., E.D. Mich. (Detroit), Doc. 30340, *Bob and Ruth Ritter, doing business as Ritter Productions* v. *National Broadcasting Co., Inc., WWJ-TV; United Artists Television.* Consent judgment with prejudice and injunction as to United Artists Television, Inc. only, July 18, 1968.

Reg. No. 833,700 (SUNSET STRINGS), Synthetic Plastics Company, Grooved phonograph records, filed Apr. 30, 1968, D.C.N.J. (Newark), Doc. 409-68, *Liberty Records, Inc.* v. *Synthetic Plastics Company.*

Reg. No. 847,875. (See Reg. No. 620,557.)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 253,583. Northwest Airlines, Inc., St. Paul, Minn. Filed Sept. 1, 1966.

NORTHWEST

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Flight Bags (Int. Cl. 18).

Class 105—Transportation and Storage

For Passenger, Freight, and Mail Transportation Services (Int. Cl. 39).

First use Oct. 1, 1926.

SN 255,252. C. M. McClung & Co., Inc., Knoxville, Tenn. Filed Sept. 28, 1966.

1884

Class 22—Games, Toys, and Sporting Goods

For Minnow Buckets (Int. Cl. 28).
First use October 1958.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Stainless Steel Knives, Forks, and Spoons; Hammers, Hand Saws, Pruning Saws, Trowels, Wrecking Bars, Hammer Handles, Axes, Lopping Shears, Hedge Shears, Grass Hooks, Post Hole Diggers, Weed Cutters, Axe Handles, Sledge Hammer Handles, and Grass Shears (Int. Cl. 8).
First use January 1955.

Class 26—Measuring and Scientific Appliances

For Rules, Levels, and Squares (Int. Cls. 8 and 9).
First use December 1951.

Class 29—Brooms, Brushes, and Dusters

For Paint Brush Assortments, Wall Paint Brushes, Masonry Brushes, and Acid Brushes (Int. Cls. 16 and 21).
First use 1963.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

For Garden Hoses (Int. Cl. 17).
First use 1964.

SN 255,701. Finnigan Enterprises, Inc., San Diego, Calif. Filed Oct. 4, 1966.

MICKIE FINN'S

Class 100—Miscellaneous

For Restaurant and Bar Services (Int. Cl. 42).

Class 107—Education and Entertainment

For Entertainment in the Form of Shows Rendered in a Cabaret or Theater Setting, on Television, and in Musical Performing Groups (Int. Cl. 41).

First use Oct. 28, 1960.

SN 260,795. Groendyk Manufacturing Company, Inc., Buchanan, Va. Filed Dec. 15, 1966.



Class 1—Raw or Partly Prepared Materials

For Charcoal and Logilghters (Int. Cl. 4).
First use Apr. 14, 1966.

Class 5—Adhesives

For Glue (Int. Cl. 1).
First use Jan. 6, 1966.

Class 12—Construction Materials

For Cellular Rubber Overhead Door Seals (Int. Cl. 17).
First use Feb. 16, 1966.

Class 19—Vehicles

For Automotive Fender Cover Pads and Protective Material for Boat Docks (Int. Cl. 22).
First use Nov. 23, 1965.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Trolling Motors and Battery Chargers (Int. Cls. 7 and 9).
First use Mar. 8, 1966.

Class 22—Games, Toys, and Sporting Goods

For Athletic and Sports Equipment—Namely, Hand Exercisers, Ski Belts, Arrow Holders, Inflatable Fishing Floats Comprising a Covered Inner Tube With Shoulders Straps Used To Support Fishermen in Lakes, Ponds and Other Bodies of Water, and Metal Fins for the Feet Used by Fishermen in Connection With Inflatable Fishing Floats (Int. Cl. 28).
First use Jan. 21, 1966.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Carpet Lining (Int. Cl. 27).
First use Aug. 26, 1965.

SN 261,723. Elpo Industries Inc., Fair Lawn, N.J. Filed Dec. 30, 1966.

ELPO

Class 2—Receptacles

For Paper Towel Holders, Napkins Holders, Holders for Memo Paper, Towel Racks, Utility Boxes, Cutlery Boxes,

Letter and Key Racks, Coasters, Spoon Stands, and Storage Racks for Kitchen Utensils (Int. Cl. 21).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Kitchen Tools—Namely, Spaghetti Tongs, Food Beaters, Ice Cream Scoops, Cheese Cutters, Ice Cube Crushers, Condiment Shakers, Nut Crackers, Crumb Sweepers, Knives, Spoons, Can Openers, Hamburger Presses, Egg Rings, Egg Slicers, Egg Separators, Spatulas, Meat Tenderizers, Shears, Basters, Pastry Forms, Tongs, Pastry Blenders, Vegetable Peelers, Jar Wrenches, Cutting Boards, Saws, Pinking Shears, Carving Utensils, and Pastry Cloth Sets for Rolling Pins (Int. Cls. 8 and 21).

First use Aug. 3, 1955.

SN 262,738. The Coleman Company, Inc., Wichita, Kans. Filed Jan. 18, 1967.

Coleman

Owner of Reg. Nos. 516,713, 726,393, and others.

Class 2—Receptacles

For Jugs and Coolers for Picnic and Camping Use, and for Camping Water Bags (Int. Cl. 21).
First use at least as early as December 1954.

Class 6—Chemicals and Chemical Compositions

For Packaged Liquefied Hydrocarbon Gas Fuels for Lanterns and Outdoor Cookers (Int. Cl. 4).
First use at least as early as August 1955.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Camp Stove Cooking Utensils (Int. Cl. 21).
First use at least as early as 1961.

Class 15—Oils and Greases

For Packaged Hydrocarbon Liquid Fuels for Lanterns, Portable Radiant Heaters, and Outdoor Cookers (Int. Cl. 4).
First use at least as early as May 1956.

Class 22—Games, Toys, and Sporting Goods

For Camping Sleeping Bags and Tents (Int. Cls. 20 and 22).
First use on or before Sept. 15, 1965.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Liquid and Gas Fuel Burning Lanterns and Lamps, Replacement Parts Therefor, Accessories and Supplies—Namely, Generators, Globes, Filter Funnels, and Mantles; Liquid and Gas Fuel Burning Cooking Stoves for Picnic and Camping Use, Replacement Parts Therefor, Accessories and Supplies for Use Therewith—Namely, Camp Stove Ovens, Camp Stove Stands, Camp Stove Griddles, and Camp Stove Heat Drums, Portable Radiant Heaters Using Catalytic Combustion for Outdoor or Camping Use, Gas, Oil, and Electric Furnaces and Wall Heaters, Air Conditioners, Heat Pumps, Coil Blower Units, and Electric Duct Heaters (Int. Cl. 11).
First use at least as early as January 1902.

SN 268,120. Roffler Sculptur-Kut National Franchised System, Inc., Ambridge, Pa. Filed Apr. 3, 1967.



Class 51—Cosmetics and Toilet Preparations

For Men's Hair Setting Lotion, Hair Cream, Hair Fixative, Hair Stlyling Gel, Hair Spray, Personal Deodorant, and After Shave Lotion (Int. Cls. 3 and 5).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use January 1966.

SN 268,625. Stanley Gibbons Limited, London, England. Filed Apr. 7, 1967.

SG

Class 22—Games, Toys, and Sporting Goods

For Stamp Envelopes and Stamp Hinges (Int. Cl. 16).

Class 38—Prints and Publications

For Philatelic Articles—Namely, Albums, Catalogues, Price Lists, Handbooks, and Printed Gummed Labels (Int. Cl. 16).

First use on or about July 10, 1963; in commerce in or about the latter part of 1963.

SN 269,009. North American Rockwell Corporation, Pittsburgh, Pa., by merger and change of name from Rockwell-Standard Corporation, Pittsburgh, Pa. Filed Apr. 13, 1967.

AIR-MAZE

Owner of Reg. Nos. 255,632, 523,092, and 536,611.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Inertia Sepearators for Removing Entrained Solids From an Air Stream (Int. Cl. 7).

Class 31—Filters and Refrigerators

For Gas and Liquid Filters, Filter Silencers, Filter Arrestors for Commercial, Domestic, Industrial, and Automotive Use (Int. Cls. 11 and 12).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Baffle Units for Directing Flow of Air and Separation of Dirt Particles From Air (Int. Cl. 11).

First use Sept. 1, 1925.

SN 269,611. Agpro, Inc., Santa Rosa, Calif. Filed Apr. 20, 1967.

AGPRO

Class 100—Miscellaneous

For Planning, Design and Engineering of Hydraulic Systems for the Collection, Processing and Disposal of Animal Wastes (Int. Cl. 42).

Class 103—Construction and Repair

For Installation and Maintenance of Hydraulic Systems for the Collection, Processing and Disposal of Animal Wastes (Int. Cl. 37).

First use June 1964.

SN 271,927. Dillard Paper Company, Inc., Greensboro, N.C. Filed May 19, 1967.

DILPACO

Class 2—Receptacles

For Paper Bags (Int. Cl. 16).

Class 37—Paper and Stationery

For Paper Products—Namely, Printing Paper, Wrapping Paper, Shipping Tags, Paper Tape, Corrugated Paper, and Paper Hosiery Inserts (Int. Cl. 16).

First use at least in June of 1926.

SN 272,444. Benthos, Inc., North Falmouth, Mass. Filed May 26, 1967.



Class 21—Electrical Apparatus, Machines, and Supplies

For Oceanographic and Deep Sea Components and Equipment—Namely, Electrical Feed-Throughs, Electronic Flashing Lights for Oceanographic Buoys, AC Power Packs, Battery Chargers and Control Units, Ball Bearing Electrical Swivels, Flash Beacons, Television Camera Housings, Lighting Equipment, Motors, Magnetic Switches, Solenoids, Electrical Switches Including Tilt Switches, Mercury Switches and Time Switches, and Radio Beacons (Int. Cl. 9).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Oceanographic and Deep Sea Components and Equipment—Namely, Coral and Sediment Pipe Dredging Machines, Rock Dredging Machines, Electrically Driven Pumps for Oceanographic Purposes and Automatic Opening and Closing Multiple Plankton Nets (Int. Cl. 7).

Class 26—Measuring and Scientific Appliances

For Oceanographic and Deep Sea Components and Equipment—Namely, Time Depth Recorders, Telemetering Pingers, Electrical Depth Sensors, Net Monitors, Digital Equipment and Displays, Hydrostatic Pressure Testing Systems Consisting of Pressure Control Centers and Pressure Chambers, Piston Corers, Pressure Actuated Safety Arming Devices, Core Catchers, Piston Immobilizers, Gravity Corers, Weak Links, Glass Instrument Housings, Pingers, Swallow Floats, Event Recorders, Pressure-Depth Calibrating Systems, Remote Wire Metering Systems, Organic Free Water Samplers, Large Volume Water Samplers, Tilt Sensors, and Test Tanks (Int. Cl. 9).

First use in or about September 1963.

SN 276,191. Traverse Bay Woolen Company, Traverse City, Mich. Filed July 17, 1967.

SOO

Class 39—Clothing

For Ladies' Outerwear—Namely, Jackets, Ponchos, Coats, Suits, Sweaters, Blouses, Skirts, Slacks, and Socks; Men's Outerwear—Namely, Jackets, Coats, Pants, Sweaters, Socks, Ties, and Shirts (Int. Cl. 25).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Yard Goods (Wool, Synthetic Fibers, Cotton), and Blankets (Int. Cl. 24).

First use June 20, 1967.

SN 277,099. The Parmalux Company, Aurora, Ill. Filed July 31, 1967.

P

Class 1—Raw or Partly Prepared Materials

For Printed and Unprinted Vinyl Film for Use in the Industrial Arts (Int. Cl. 17).

Class 11—Inks and Inking Materials

For Screen Process Inks (Int. Cl. 16).

Class 38—Prints and Publications

For Decalcomania Labels (Int. Cl. 16).

First use during June 1967.

SN 277,847. North American Philips Company, Inc., New York, N.Y. Filed Aug. 9, 1967.

Norelco

Owner of Reg. Nos. 589,203, 678,103, 836,243, and others.

Class 21—Electrical Apparatus, Machines, and Supplies

For Radio-Receiving Sets, Sound Columns, Microphones and Automatic Telephone Systems (Int. Cl. 9).
First use on radio-receiving sets October 1948.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Electric Shavers, Hair Clipping and Trimming Attachments for Electric Shavers, and Machines for Liquifying Gases (Int. Cls. 7 and 8).
First use on electric shavers October 1948.

Class 36—Musical Instruments and Supplies

For Tape Recorders and Dictation Machines (Int. Cl. 9).
First use on tape recorders Dec. 5, 1957.

Class 44—Dental, Medical, and Surgical Appliances

For Medical X-Ray Apparatus and Hearing Aid Devices (Int. Cl. 10).
First use in 1948 on medical X-ray apparatus.

SN 280,612. The Mailing House, Inc., Los Angeles, Calif. Filed Sept. 18, 1967.

THE MAILING HOUSE

Class 100—Miscellaneous

For Consulting Services in the Field of Mailing and Publishing (Int. Cl. 42).

Class 101—Advertising and Business

For Direct Mail Advertising Services Including Preparation of Mailing Lists, Private Mailing List Maintenance, Addressing, Mimeographing, Multigraphing, Automatic Typing, Addressing, Mailings to Occupants, List Compiling, Label Affixing, Collating, Folding, Enclosing, Sealing, Metering, Sorting, Stamping, Bundling, Third Class Mailing, Hand Addressing, and Premium Handling (Int. Cl. 35).

First use prior to Jan. 23, 1956.

SN 284,156. Big Chief of Nebraska, Inc., Grand Island, Neb. Filed Nov. 6, 1967.

CHIEF

Class 2—Receptacles

For Bulk Feed Tanks, Being Self-Contained Metal Tanks With Metal Legs for Erection on Farms and at Feed Lots for the Purpose of Storage of Large Quantities of Cattle Feed (Int. Cl. 6).

Class 12—Construction Materials

For Prefabricated Metal Buildings and Prefabricated Metal Grain Bins, Being Large All-Metal Structures Constructed With Steel Framework Covered by Sheet Metal (Int. Cl. 6).

First use Feb. 1, 1966.

SN 286,849. St. Marys Carbon Company, St. Marys, Pa. Filed Dec. 13, 1967.



The term "Products" is disclaimed apart from the mark as shown.

Class 1—Raw or Partly Prepared Materials

For Carbon Plate and Rod Stock for Use in the Industrial Arts (Int. Cl. 1).

Class 9—Explosives, Firearms, Equipments, and Projectiles

For Carbon and Metal Graphite Parts for Rifles and Pistols—Namely, Triggers, Levers, Bars, and Catches (Int. Cl. 13).

Class 21—Electrical Apparatus, Machines, and Supplies

For Carbon and Metal Graphite Brushes for Industrial, Automotive, Railway Motors and Generators; Low-Friction Carbon and Metal Contacts for All Types of Circuit Making and Breaking Apparatus; Lead Cables, Fractional Horsepower Brushes for Electrical Tools, Accessory Motors and Appliances (Int. Cls. 7 and 9).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Sleeve Flange, Thrust, Self-Aligning, and Self-Lubricating Bearings; Carbon and Metal Graphite Machinery Parts—Namely, Cogs, Gears, Wheels, and Cams (Int. Cl. 7).

Class 31—Filters and Refrigerators

For Gas and Liquid Filters for Controlling Flow Rate (Int. Cl. 11).

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

For Carbon and Metal Graphite Seal Rings (Int. Cl. 17).

First use June 1, 1955.

SN 289,863. Roper Research Associates, Incorporated, New York, N.Y. Filed Jan. 30, 1968.



The mark is comprised of a fanciful representation of two R's.

Class 100—Miscellaneous

For Public Opinion Survey Services (Int. Cl. 42).

Class 101—Advertising and Business

For Marketing Research Services (Int. Cl. 35).

First use during July 1967.

SN 293,072. American Tack & Hardware Co., Inc., New York, N.Y. Filed Mar. 13, 1968.



Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Tacks, Nails, Screws, Bolts, Brads; Washers; Rivets; Cotter Pins; Insulated Wire Staples and Clamps; Furniture Glides; Ball Bearing Casters; Glazier's Points; Picture Hangers, Utility Hangers, Picture Hanging Kits; Ornamental Hooks; Door Knob Covers, Door Knockers; Shade Pulls; and Bathroom Accessories—Namely, Towel Rings, Towel Bars, Towel Hooks, Towel Chains, Soap Dishes, Tumbler Holders, Toothbrush Holders, Toilet Paper Holders, and Robe Hooks (Int. Cls. 6, 20, and 21).

Class 21—Electrical Apparatus, Machines, and Supplies

For Switch Plates (Int. Cl. 9).

First use June 9, 1966.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 270,880. Louis S. Besso, d.b.a. Pakon Manufacturing Company, Oakland, Calif. Filed May 8, 1967.

RESISTA-PAK

For Expanded Thermoplastic Loose Fill Packaging Material (Int. Cl. 17).
First use Nov. 4, 1966.

SN 291,999. National Spinning Co., Inc., New York, N.Y. Filed Feb. 27, 1968.

CRIMPILAC

For Fibers of Synthetic Materials (Int. Cl. 22).
First use Jan. 12, 1968.

Class 2—Receptades

SN 261,136. American Hospital Supply Corporation, Evanston, Ill. Filed Dec. 20, 1966.

NARCOTI-GUARD

Owner of Reg. No. 697,273.
For Plastic Compartmented Containers for Holding and Dispensing Pills (Int. Cl. 21).
First use on or before Oct. 15, 1966.

SN 269,116. Societe Generale de Conditionnement d'Air (Societe Anonyme), Monaco. Filed Apr. 13, 1967.

COLDRINK

Owner of Monacan Reg. No. 66/3538, dated Aug. 26, 1966.
For Household and Camping Containers, Insulated Bottles, and Champagne Buckets (Int. Cl. 21).

SN 277,975. Atlantic Golf Equipment Company, West Palm Beach, Fla. Filed Aug. 10, 1967.

CADDY COOLER

No claim is made to the word "Cooler," apart from the mark as shown.
For Clip-On Plastic Insulated Beverage Container for Attachment to a Golf Cart (Int. Cl. 21).
First use on or about June 1, 1961.

SN 294,782. Packaging Corporation of America, Evanston, Ill. Filed Apr. 3, 1968.

MAPES UNITRAY

For Receptacles Used in the Packaging of Fragile or Perishable Articles To Maintain the Articles in Spaced Relationship With Respect to One Another (Int. Cl. 20).
First use on or about Mar. 19, 1968.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 277,938. Sirco Products Company, Inc., Mount Vernon, N.Y. Filed Aug. 9, 1967.

SPACE SAVER

For Clutch Purses and Wallets (Int. Cl. 18).
First use Aug. 3, 1967.

SN 293,854. Samsonite Corporation, Denver, Colo. Filed Mar. 21, 1968.

PINNACLE

For Luggage (Int. Cl. 18).
First use Mar. 12, 1968.

SN 294,938. Jana Accessories Ltd., New York, N.Y. Filed Apr. 4, 1968.

GRANSCALE

For Handbags (Int. Cl. 18).
First use Dec. 7, 1967.

SN 302,559. M. Fortunoff of Westbury Corp., Westbury, N.Y. Filed July 12, 1968.

2ND CHOICE

For Luggage (Int. Cl. 18).
First use on or about Apr. 23, 1968.

Class 4—Abrasives and Polishing Materials

SN 289,818. M & M Industrial Services, Inc., Bricktown, N.J. Filed Jan. 29, 1968.

kem'kal action

For Chemical Deburring and Polishing Solutions for Metals (Int. Cl. 3).
First use Jan. 6, 1968.

SN 296,395. Bristol-Myers Company, New York, N.Y. Filed Apr. 24, 1968.

SENSE

For Paste Wax for All Floors (Int. Cl. 3).
First use Mar. 4, 1968.

SN 296,917. Empire Silver Company, Inc., Brooklyn, N.Y. Filed Apr. 30, 1968.

SILVA-MIT

For Chemically Impregnated Gloves for Cleaning and Polishing Silverware (Int. Cl. 2[illegible]).
First use Apr. 1, 1968.

Class 5 — Adhesives

SN 277,410. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Aug. 3, 1967.



The drawing is lined for the color red.
For Contact Cement, Structural Adhesives, Glue, Epoxy Adhesives and Hardeners, Palletizing Adhesive, and Pressure-Sensitive Adhesives (Int. Cl. 1).
First use Dec. 15, 1952.

SN 280,995. Woburn Chemical Corp., Harrison, N.J. Filed Sept. 22, 1967.

WOTHANE

For Adhesive of Polyurethane (Int. Cl. 1).
First use July 24, 1967.

SN 294,024. Doall Company, Des Plaines, Ill. Filed Mar. 25, 1968.

DoALL

Owner of Reg. Nos. 339,329, 679,957, and others.
For Crystal Mounting Cement, and Diamond Mounting Adhesive Used To Bond Industrial Diamonds to Grinding Wheels (Int. Cl. 1).
First use October 1962, on crystal mounting cement.

Class 6 — Chemicals and Chemical Compositions

SN 258,800. Foseco Trading AG, Chur, Switzerland. Filed Nov. 16, 1966.

KALMINEX

Priority claimed under Sec. 44(d) on Swiss Reg. No. 217,634, dated May 17, 1966.
For Chemical Compositions for Use in the Metallurgical Industry—Namely, Exothermic and Heat Conserving Preparations Used as Feeding Aids in the Casting of Molten Metals (Int. Cl 1).

SN 266,780. Paramount Chemical Corporation, Montebello, Calif. Filed Mar. 15, 1967.

PERFORM

For Aerosol Spray-On Starch, Aerosol Fabric Finisher Preparation for Ironing, and Liquid Fabric Softener for Household Consumption Only (Int. Cl. 3).
First use Nov. 4, 1963, on spray-on starch.

SN 267,866. Ugine Kuhlmann, Paris, France. Filed Mar. 29, 1967.

CELLOIDE

Owner of French Reg. No. 480,830, dated June 5, 1959 (Paris); Natl. Inst. No. 126,995.
For Dyestuffs (Int. Cl. 2).

SN 268,393. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius and Bruning, Frankfurt am Main, Germany. Filed Apr. 5, 1967.

ALUGAN

Owner of German Reg. No. 565,822, dated Nov. 14, 1942.
For Insecticides and Acaricides (Int. Cl. 5).

SN 273,284. Imperial Chemical Industries Limited, Millbank, London, England. Filed June 7, 1967.

SILCOCELL

Owner of British Reg. No. 801,627, dated Feb. 12, 1960.
For Cell Control Agent and Stabilizer for Urethane Foam (Int. Cl. 1).

SN 274,011. Witco Chemical Company, Inc., New York, N.Y. Filed June 15, 1967.

LUBRAZINC

For Zinc Stearate Dispersions for Use in Papermaking Processes (Int. Cl. 1).
First use May 1959.

SN 274,012. Witco Chemical Company, Inc., New York, N.Y. Filed June 15, 1967.

LUBRACAL

For Calcium Stearate Dispersions for Use in Papermaking Processes (Int. Cl. 1).
First use May 10, 1967.

SN 276,600. Photocircuits Corporation, Glen Cove, N.Y. Filed July 24, 1967.

NT

For Copper Plating Solutions for the Manufacture of Printed Circuit Boards (Int. Cl. 1).
First use May 19, 1967.

SN 280,442. Madison Chemical Corporation, Maywood, Ill. Filed Sept. 15, 1967.

"SIZZLE"

For Spray Insecticide (Int. Cl. 5).
First use Mar. 26, 1964.

SN 282,626. Ralston Purina Company, St. Louis, Mo. Filed Oct. 16, 1967.

STARLICIDE

For Avicide for the Control of Starlings and Blackbirds (Int. Cl. 5).
First use Oct. 2, 1967.

SN 284,697. Maywood Distributing Company, Independence, Mo. Filed Nov. 13, 1967.

CARPETIZE

For Chemical Preparation for Use on Carpets To Prolong Wear, Beautify, Deodorize, and Reduce Pile Crushing and Static Electricity (Int. Cl. 1).
First use Oct. 27, 1967.

SN 291,891. Nott Manufacturing Co., Inc., Pleasant Valley, N.Y. Filed Feb. 26, 1968.

SMOKE'em

For Gas Producing Rodenticides for Extermination of Moles, Woodchucks, and Other Pests Living in a Tunnel or Hole in the Ground (Int. Cl. 5).
First use on or about Jan. 31, 1968.

SN 292,301. Roberts and Porter, Inc., Chicago, Ill. Filed Mar. 1, 1968.

OBI-ETCH

For Etchant Compound for Fountain Solutions of an Offset Press (Int. Cl. 1).
First use Sept. 19, 1966.

SN 292,302. Roberts and Porter, Inc., Chicago, Ill. Filed Mar. 1, 1968.

DENSO-DEV

For Solution for Developing Photographic Film (Int. Cl. 1).
First use Feb. 9, 1967.

SN 292,370. Fisons Pest Control Limited, Harston, England. Filed Mar. 4, 1968.

NORTRON

Owner of British Reg. No. 910,569, dated June 10, 1967.
For Herbicides (Int. Cl. 5).

SN 292,431. Technic, Inc., Cranston, R.I. Filed Mar. 4, 1968.

TECHNI-NICKEL

For Plating Solutions for Nickel (Int. Cl. 1).
First use Feb. 26, 1968.

SN 292,432. Technic, Inc., Cranston, R. I. Filed Mar. 4, 1968.

TECHNI-WHITE

For Plating Solutions for Rhodium (Int. Cl. 1).
First use Feb. 28, 1968.

SN 292,561. The FR Corporation, Bronx, N.Y. Filed Mar. 6, 1968.

VITAMAT

For Photographic Developers, Replenishers, and Fixers (Int. Cl. 1).
First use Nov. 13, 1967.

SN 294,786. Versatek Industries, Inc., Indianapolis, Ind. Filed Apr. 3, 1968.

AIRE-MATE

For Solid Bar, Room Odor Counteractants (Int. Cl. 5).
First use at least as early as Dec. 30, 1966.

SN 297,615. Sun Oil Company, Philadelphia, Pa. Filed May 7, 1968.

FOLICOTE

For Moisture Suppressant Liquid Preparation for Foliage and Stems of Flowers, Trees, Evergreens, Shrubs, and Vegetable Crops (Int. Cl. 1).
First use Oct. 22, 1964.

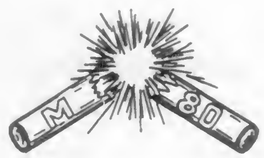
Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 289,804. Hodgdon Powder Company, Inc., Shawnee Mission, Kans. Filed Jan. 29, 1968.



For Rifle, Pistol, and Shotgun Powder (Int. Cl. 13).
First use on or about Jan. 1, 1965; on or about Mar. 1, 1962, in a different form.

SN 289,815. L. W. Loyd Company, Inc., South Pittsburg, Tenn. Filed Jan. 29, 1968.



No claim is made to the representation of the goods apart from the mark as shown.
For Firecrackers (Int. Cl. 13).
First use Jan. 18, 1968.

SN 292,319. Central Specialties Company, Chicago, Ill. Filed Mar. 4, 1968.

CESCO

For Gun Wall Mounts, Gun Trigger Locks, Pistol Wall Mounts, and Safety Keys Therefor (Int. Cl. 13).
First use on or before June 1, 1964.

Class 10 — Fertilizers

SN 285,852. Radiant Color Company, Richmond, Calif. Filed Nov. 29, 1967.

RADIANT

Owner of Reg. Nos. 793,495 and 852,337.
For Organic Fluorescent Colorants for Accelerating Germination and Increasing Plant Growth (Int. Cl. 1).
First use on or about Nov. 17, 1966.

SN 297,215. Clarence R. Rex, Toledo, Ohio. Filed May 2, 1968.

BASIC

For Phosphateless Combinations of Soil Conditioning and Chemical Ingredients, and as a Supplement for Fertilizers (Int. Cl. 1).
First use February 1935.

Class 11 — Inks and Inking Materials

SN 286,085. Bowers Printing Ink Company, Chicago, Ill. Filed Dec. 4, 1967.

BOWERS

For Printing Inks (Int. Cl. 2).
First use March 1932.

Class 12 — Construction Materials

SN 258,641. V. E. Anderson Mfg. Co., Owensboro, Ky. Filed Oct. 31, 1966.

ANDERSON

Owner of Reg. No. 715,973.
For Windows and Doors Made of Metal, Wood, Combination of Wood and Metal, and Combination of Wood, Metal and Plastic (Int. Cls. 6 and 19).
First use Aug. 1, 1954.

SN 268,610. National Gypsum Company, Buffalo, N.Y. Filed Apr. 7, 1967.

ECONATONE

Owner of Reg. Nos. 382,005 and 849,251.
For Ceiling Tile (Int. Cl. 19).
First use Mar. 8, 1967.

SN 279,227. Structural Fasteners, Inc., Bloomfield, Conn. Filed Aug. 28, 1967.

PEG STUDS

For Polyethylene Shell Containing Threaded Bolt (Int. Cl. 19).
First use September 1966.

SN 280,712. Melvin L. Jontz Company, South Pasadena, Calif. Filed Sept. 19, 1967.

arp
ABRASION RESISTANT PRODUCTS

The drawing is lined for the color red. Applicant disclaims the words "Abrasion Resistant Products."
For Two-Component Conveyor Belting Repair Compound With Primer (Int. Cl. 1).
First use June 20, 1967.

SN 284,923. Kenron Aluminum & Glass Corporation, Niles, Ill. Filed Nov. 15, 1967.

RETRACTA WAL

For Aluminum and Flexible Transparent Wall Sections, Architectural Enclosures, and Parts Thereof (Int. Cl. 6).
First use July 1958.

SN 285,429. Johns-Manville Corporation, New York, N.Y. Filed Nov. 22, 1967.

EN GARDE

For Underground Pipeline Joint Tape (Int. Cl. 17).
First use at least on or about May 19, 1967.

SN 294,085. Spartan-Aqualon Corporation, South El Monte, Calif. Filed Mar. 25, 1968.

MINI-DOME

For Inflatable Dome-Shaped Swimming Pool Covers (Int. Cl. 22).
First use August 1967.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 269,355. Sani-Jon of America, Inc., Warren, Mich. Filed Apr. 17, 1967.

FOR HEALTH'S SAKE!

For Portable Toilets and Portable Toilet Cabanas (Int. Cl. 11).
First use on or about Nov. 30, 1966.

SN 285,181. Allied Tube & Conduit Corporation, Harvey, Ill. Filed Nov. 20, 1967.

FLO-COAT

For Galvanized Metal Tubing (Int. Cl. 6).
First use February 1966.

SN 288,222. Moline Malleable Iron Company, St. Charles, Ill. Filed Jan. 5, 1968.

TAURIUM

For Metal Chains, Chain Links and Flights, and Metal Parts Used in Connection With the Movement or Conveyance of Materials Normally Likely To Affect, or React With, Metals, Including Chemicals, Foodstuffs, and Food Components (Int. Cl. 6).
First use Nov. 27, 1967.

SN 302,286. Racine Hydraulics, Inc., Racine, Wis. Filed July 9, 1968.

ACCU-TRIM

For Valves for the Control of Fluids (Int. Cl. 6).
First use June 6, 1968.

Class 14 — Metals and Metal Castings and Forgings

SN 290,088. Fuji Seitetsu Kabushiki Kaisha (Fuji Iron & Steel Co., Ltd.), Chiyoda-ku, Tokyo, Japan. Filed Feb. 1, 1968.

MAGNE CORE

No claim is made to the use of the word "Core" apart from and in association with the rest of the mark shown. Owner of Japanese Reg. No. 677,190, dated May 28, 1965.
For Electrical Steel Sheet (Int. Cl. 6).

SN 295,121. Cyclops Corporation, Pittsburgh, Pa. Filed Apr. 8, 1968.

HX

For Alloys for Use at High Temperatures in the Form of Ingots, Blooms, Billets, Bars, Rods, Wire, Plates, Sheets, Strip, Forgings and Wrought or Cast Shapes (Int. Cl. 6).
First use in the fall of 1957.

Class 16 — Protective and Decorative Coatings

SN 257,803. Vistron Corporation, Cleveland, Ohio, assignee of The Standard Oil Company, Cleveland, Ohio. Filed Nov. 2, 1966.

VISTRON

For Paint (Int. Cl. 2).
First use Oct. 25, 1966.

SN 266,155. Iddings Paint Company, Inc., Long Island City, N.Y. Filed Mar. 7, 1967.

AQUA-PROCESS

For Water Soluble Paints (Int. Cl. 2).
First use May 1, 1950.

SN 269,640. Color-Tone Mfg. Corp., Lynbrook, N.Y. Filed Apr. 20, 1967.

TILE MAGIC

The word "Tile" is disclaimed apart from the mark as shown.
For White and Colored Liquid Preparations for Coloring Grout and Cement on New and Existing Glazed and Unglazed Ceramic Wall and Floor Tile, Quarry and Slate (Int. Cl. 2).
First use Apr. 7, 1966.

SN 290,451. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Feb. 7, 1968.

SCOTCH-CLAD

Owner of Reg. No. 838,222.
For Protective Coatings To Be Applied to Various Surfaces (Int. Cl. 2).
First use Dec. 30, 1966.

SN 290,485. GAF Corporation, New York, N.Y., by change of name from General Aniline & Film Corporation, New York, N.Y. Filed Feb. 7, 1968.

gaf

Owner of Reg. Nos. 509,124, 837,005, and others.
For Paints, Varnishes and Other Protective Coatings, Particularly Asphalt Paints; Asphalt, Acrylic, and Coal-Tar Base Coatings; and Paint Thinners (Int. Cl. 2).
First use Oct. 20, 1967.

Class 17 — Tobacco Products

SN 300,712. Lane Limited, New York, N.Y. Filed June 18, 1968.

FJORD

For Smoking Tobacco (Int. Cl. 34).
First use May 1968.

Class 18 — Medicines and Pharmaceutical Preparations

SN 270,798. Merck & Co., Inc., Rahway, N.J. Filed May 5, 1967.

REDI-DOSE

For Anthelmintic Preparation for Veterinary Use (Int. Cl. 5).
First use Apr. 24, 1967.

SN 277,899. Dunhall Inc., Gravette, Ark. Filed Aug. 9, 1967.

DONNAPRIN

For Pharmaceuticals—Namely, Oral Tablets for the Relief of Headaches, Muscular Aches and Pains as an Analgesic, Antispasmodic Sedative Product (Int. Cl. 5).
First use June 1, 1967.

SN 281,314. Reed & Carnrick, Kenilworth, N.J. Filed Sept. 27, 1967.

BARICONE

For Diagnostic Reagent for Use on the Person (Int. Cl. 5).
First use on or about Sept. 15, 1967.

SN 283,498. Arday International Corp., Bergenfield, N.J. Filed Oct. 27, 1967.

DOLORINA

For Pain Reliever Tablets for Headache, Colds, Body Ache, and Neuralgia (Int. Cl. 5).
First use July 12, 1967.

Class 19—Vehicles

SN 285,684. Thunderbird Products Corporation, Miami, Fla. Filed Nov. 27, 1967.

Formula

For Boats (Int. Cl. 12).
First use September 1963.

SN 286,254. Ferrari S.p.A. Esercizio Fabbriche Automobili e Corse, Modena, Italy. Filed Dec. 5, 1967.



For Automobiles (Int .Cl. 12).
First use Nov. 14, 1965; in commerce Aug. 13, 1967.

SN 286,256. Ferrari S.p.A. Esercizio Fabbriche Automobili e Corse, Modena, Italy. Filed Dec. 5, 1967.



For Automobiles (Int. Cl. 12).
First use Nov. 14, 1965; in commerce Nov. 25, 1965.

SN 286,257. Ferrari S.p.A. Esercizio Fabbriche Automobili e Corse, Modena, Italy. Filed Dec. 5, 1967.



For Automobiles (Int. Cl. 12).
First use Nov. 14, 1965; in commerce Nov. 25, 1965.

SN 288,648. Spartans Industries, Inc., New York, N.Y. Filed Jan. 11, 1968.

Young-Mate

For Baby Carriages and Strollers (Int. Cl. 12).
First use Dec. 1, 1967.

SN 290,776. S. G. Tilden, Incorporated, Garden City, N.Y. Filed Feb. 9, 1968.

TILDEN

For Brake Shoes With Linings Thereon, Power Brake Units and Power Steering Units (Int. Cl. 12).
First use in 1935.

SN 291,535. Sunset Traveler, Inc., Omaha, Nebr. Filed Feb. 20, 1968.

STYRO·CORE

For Wall and Ceiling Panels for Mobile Homes and Travel Trailers Sold as a Part Thereof (Int. Cl. 12).
First use on or about Dec. 1, 1967.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 261,598. Societe d'Electronique et d'Automatisme, Paris, France. Filed Dec. 28, 1966.

SEA

Owner of French Reg. No. 711,183, dated June 14, 1966.
For Dynamoelectric Machines—Namely, Electric Motors and Generators (Int. Cl. 7).

SN 270,393. Klenatron Incorporated, West Boxford, Mass. Filed May 1, 1967.

KLENATRON

For Insect Electrocuting Traps (Int. Cl. 9).
First use June 14, 1964.

SN 284,397. SCM Corporation, New York, N.Y. Filed Nov. 8, 1967.

TELESCRIPTER

For Compact High Speed Teleprinter Designed for Mobile Operation (Int. Cl. 9).
First use Sept. 20, 1966.

SN 288,167. Anaconda Wire and Cable Company, New York, N.Y. Filed Jan. 5, 1968.

DURALL-T

For Electric Wires and Cables (Int. Cl. 9).
First use in or about 1948.

SN 288,988. Sunbeam Lighting Company, Los Angeles, Calif. Filed Dec. 20, 1967.

air beam

For Ceiling Fluorescent Fixtures Combined With Air Conditioning Vents (Int. Cl. 11).
First use on or about Feb. 1, 1967.

SN 289,266. Brunswick Corporation, Chicago, Ill. Filed Jan. 22, 1968.

LIGHTNING

Owner of Reg. No. 541,350.
For Ignition Systems and Parts Therefor for Internal Combustion Engines (Int. Cl. 7).
First use on or about Nov. 6, 1967.

SN 291,174. National Presto Industries, Inc., Eau Claire, Wis. Filed Feb. 15, 1968.

PRESTO

Owner of Reg. Nos. 236,795, 821,410, and others.
For Portable Electrical Radiant Heaters (Int. Cl. 11).
First use May 8, 1967.

SN 292,350. Charles Colston Limited, High Wycombe, England. Filed Mar. 4, 1968.

COLSTON TURBO-JET

Owner of British Reg. No. B886,720, dated Nov. 10, 1965.
For Dishwashing Machines and Parts Thereof (Int. Cl. 7).

SN 292,354. Cornell-Dubilier Electric Corporation, Newark, N.J. Filed Mar. 4, 1968.

COLOR-LYTIC

For Capacitors (Int. Cl. 9).
First use at least as early as Aug. 1, 1967.

SN 293,979. Continental Instruments Corp., Lynbrook, N.Y. Filed Mar. 25, 1968.

EAGLE-EYE

For Photocell Detecting Devices (Int. Cl. 9).
First use Mar. 20, 1968.

SN 294,228. Duro-Test Corporation, North Bergen, N.J. Filed Mar. 27, 1968.

HAPPY LITE

The word "Lite" is disclaimed apart from the mark as shown.
For Decorative Glow Lamps (Int. Cl. 11).
First use Feb. 14, 1968.

SN 294,421. Sunbeam Corporation, Chicago, Ill. Filed Mar. 28, 1968.

SUNBEAM

For Electric Batteries (Int. Cl. 9).
First use Aug. 4, 1960.

SN 300,318. T. B. Wood's Sons Company, Chambersburg, Pa. Filed June 13, 1968.

ULTRACON

For Electrical Control Which Transforms Alternating Current to Direct Current for a D.C. Motor Producing Controllable Variable Speed Output From the Motor (Int. Cl. 9).
First use Mar. 18, 1968.

SN 300,395. Continental Instruments Corp., Lynbrook, N.Y. Filed June 14, 1968.

JAMB-GARD

For Electrically Operated Burglar Alarms (Int. Cl. 9).
First use 1967.

SN 302,363. Radio Corporation of America, New York, N.Y. Filed July 10, 1968.

RCA

Owner of Reg. Nos. 167,591, 402,468, and others.
For Combination Radio Receiving Sets and Television Receiving Sets, Combination Television Receiving Sets and Phonographs, Combination Radio Receiving Sets, Phonographs and Television Sets, Combination Radio Receiving Sets and Phonographs, and Parts for the Foregoing; Clock and Radio Combinations, Transceivers, Radio and Television Tubes, Television Monitors, Television Relay Transmitters and Receivers, Antennas, Microphones, Headphones, Rotators, Electronic Amplifiers, Electric Current Testing Equipment, Parts and Accessories for Electronic Equipments—Namely, Spacers, Cams, Rollers, Springs, Bearings, Boards, Breakers, Shafts, Pads, Drivers, Switches, Modules, Cushions, Adapters and Transistors (Int. Cl. 9).
First use on or about Jan. 26 1968; at least as early as Aug. 15, 1922, in another form.

SN 302,365. Radio Corporation of America, New York, N.Y. Filed July 10, 1968.

RCA

Owner of Reg. Nos. 167,591, 402,468, and others.
For Combination Radio Receiving Sets and Television Receiving Sets, Combination Television Receiving Sets and Phonographs, Combination Radio Receiving Sets, Phonographs and Television Sets, Combination Radio Receiving Sets and Phonographs, and Parts for the Foregoing; Clock and Radio Combinations, Transceivers, Radio and Television Tubes, Television Monitors, Television Relay Transmitters and Receivers, Antennas, Microphones, Headphones, Rotators, Electronic Amplifiers, Electric Current Testing Equipment, Parts and Accessories for Electronic Equipments—Namely, Spacers, Cams, Rollers, Springs, Bearings, Boards, Breakers, Shafts, Pads, Drivers, Switches, Modules, Cushions, Adapters and Transistors (Int. Cl. 9).
First use Aug. 15, 1922, on microphones.

SN 302,560. M. Fortunoff of Westbury Corp., Westbury, N.Y. Filed July 12, 1968.

2ND CHOICE

For Electrical Lighting Fixtures, Including Electrical Lamps (Int. Cl. 11).
First use on or about May 8, 1968.

Class 22 — Games, Toys, and Sporting Goods

SN 274,336. Nils Master, Inc., New York, N.Y. Filed June 26, 1967.



For Fishing Lures (Int. Cl. 28).
First use June 1966.

SN 274,728. Ephraim Hertzano, Tel-Aviv, Israel. Filed June 29, 1967.

RUMMIKUB

For Set of Slab-Shaped, Plastic, Playing Pieces Having Markings in Accordance With a Deck of Playing Cards, and Holders for the Playing Pieces, All Sold as a Unit for Use Instead of Cards for Playing Card Games (Int. Cl. 28).
First use before September 1960; in commerce September 1960.

SN 275,369. Charles C. Edwards, Mancos, Colo. Filed July 5, 1967.



Without relinquishing any of his common law rights, applicant disclaims the word "Hoop" apart from the mark as shown.
For Toy Hoop (Int. Cl. 28).
First use Apr. 12, 1967.

SN 284,710. Multi-State Industries, Inc., Newark, N.J. Filed Nov. 13, 1967.

STACK-A-CLOWN

For Educational Clown Toy Figures (Int. Cl. 28).
First use January 1958.

SN 284,808. Daz-E-Mae Lure Company, Oklahoma City, Okla. Filed Nov. 14, 1967.

DAZ-E-BLAZER

For Fishing Lures (Int. Cl. 28).
First use April 1967.

SN 285,109. Dan Brechner & Company, Inc., New York, N.Y. Filed Nov. 17, 1967.

Dee Bee Co

The abbreviation "Co" is disclaimed apart from the mark as shown.
For Toys Comprising Plastic Guns, Plastic Dolls, Plastic Jewelry Sets, and Plastic and Metal Cars and Trucks (Int. Cl. 28).
First use early 1960.

SN 286,028. 1-2-Kangaroo, Inc., New York, N.Y. Filed Dec. 1, 1967.

1-2-kangaroo

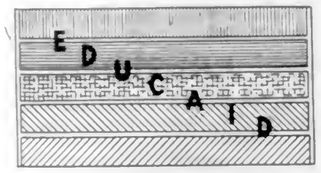
For Toys—Namely, Dolls and Other Figurines; Stuffed Animals and Other Stuffed Figurines; Blocks and Other Three-Dimensional Shapes; Balls; Puzzles; Toy Dishes, Pots and Pans; Kaleidoscopes; Pull Toys; Toy Trains, Trucks and Other Wheeled Vehicles; Toy Boats; Toy Banks; Tops; Rattles; Toy Bows and Arrows; and Dominoes (Int. Cl. 28).
First use in or about November 1963.

SN 286,485. A to Z Ideas, Inc., Santa Clara, Calif. Filed Dec. 8, 1967.

PSYKONOSIS

The drawing is lined for red and blue but color is not claimed as a feature of the mark.
For Playing Pieces Sold as a Unit for a Puzzle-Type Game (Int. Cl. 28).
First use Sept. 22, 1967.

SN 292,590. Aloysius F. Magewick, Livonia, Mich. Filed Mar. 6, 1968.



The drawing is lined for red, blue, yellow, green and brown.
For Equipment for Playing an Educational Game (Int. Cl. 28.
First use on or about Jan. 22, 1968.

SN 292,947. Milton Bradley Company, East Longmeadow, Mass. Filed Mar. 11, 1968.

STUMP

For Equipment for Playing a Card Game (Int. Cl. 28).
First use Mar. 4, 1968.

SN 294,137. Mattel, Inc., Hawthorne, Calif. Filed Mar. 26, 1968.

ASTROPODS

For Make and Play Toys Comprising Plastic Materials Which When Heated Change to a Predesigned Shape (Int. Cl. 28).
First use Feb. 13, 1968.

SN 294,138. Mattel, Inc., Hawthorne, Calif. Filed Mar. 26, 1968.

CREATURELINGS

For Make and Play Toys Comprising Plastic Materials Which When Heated Change to a Predesigned Shape (Int. Cl. 28).
First use Feb. 13, 1968.

SN 294,139. Mattel, Inc., Hawthorne, Calif. Filed Mar. 26, 1968.

GOOGLI

For Toy Animals (Int. Cl. 28).
First use Aug. 26, 1966.

SN 294,141. Mattel, Inc., Hawthorne, Calif. Filed Mar. 26, 1968.

VENUSEEDS

For Make and Play Toys Comprising Plastic Materials Which When Heated Change to a Predesigned Shape (Int. Cl. 28).
First use Feb. 13, 1968.

SN 294,143. Mattel, Inc., Hawthorne, Calif. Filed Mar. 26, 1968.

LOST LINGS

For Make and Play Toys Comprising Plastic Materials Which When Heated Change to a Predesigned Shape (Int. Cl. 28).
First use Feb. 13, 1968.

SN 294,857. Remco Industries, Inc., Harrison, N.J. Filed Apr. 3, 1968.

REMCRAFT

For Children's Craft Kits (Int. Cl. 28).
First use Jan. 19, 1968.

SN 294,891. Mattel, Inc., Hawthorne, Calif. Filed Apr. 4, 1968.

SEE 'N SAY

Owner of Reg. No. 832,462.
For Educational Toys Incorporating Phonographs, Toy Storybooks, and Toy Vehicles (Int. Cl. 28).
First use Dec. 18, 1964.

SN 295,489. York, Feather & Down Corp., Brooklyn, N.Y. Filed Apr. 12, 1968.

YORK

Owner of Reg. No. 756,602.
For Down and/or Feathers Sold as a Component Part of Sleeping Bags (Int. Cl. 20).
First use as early as 1950.

SN 301,495. Rainbow Crafts, Inc., Cincinnati, Ohio. Filed June 27, 1968.



For Toys—Namely, Modeling Compounds and Molds (Int. Cl. 28).
First use on or prior to March 1958.

SN 301,889. Mattel, Inc., Hawthorne, Calif. Filed July 3, 1968.

SKEDIDDLER

Owner of Reg. No. 843,158.
For Actuator for Moving Miniature Toy Doll and Doll Accessory (Int. Cl. 28).
First use May 17, 1968.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 251,551. MacGregor-Comarain, Paris, France. Filed Aug. 2, 1966.

TORK-PAK

Owner of French Reg. No. 705,284, dated Feb. 8, 1966.
For Hydraulically-Powered Rotary Hinges for All Purposes (Int. Cl. 7).

SN 264,312. Eaton Yale & Towne Inc., Cleveland, Ohio. Filed Feb. 9, 1967.

EATON

For In Line Pulsation Damper and Hydraulic Desurger for Fluid Systems (Int. Cl. 7).
First use on or about Dec. 1, 1966.

SN 266,546. Jet Sew Inc., Barneveld, N.Y. Filed Mar. 13, 1967.



The black rectangle shown in the drawing forms no part of the mark.
For Sewing Machines (Int. Cl. 7).
First use July 1, 1960.

SN 270,356. Colorado Leisure Products, Inc., Broomfield, Colo. Filed May 1, 1967.



Exclusive rights in and to the terms "Colorado" and "Products" are disclaimed apart from the mark as shown.
For Camper Jacks (Int. Cl. 8).
First use Apr. 1, 1965.

SN 279,406. Mix-Mill, Inc., Bluffton, Ind. Filed Aug. 30, 1967.



The drawing is lined for the color green but color is not claimed as a feature of the mark.

For Mixer-Grinders, Augers and Auger Systems, Pre-Mixers, Feed Medicators, and Complete Feed Supply Systems—Namely, Feed Ingredient Storage Bins and Custom Designed Installations Associated Therewith Comprising Some or All of the Foregoing Goods in Various Combinations To Meet the Needs of the Individual User for Storing, Mixing, Grinding and Delivering Feed for Various Sorts of Livestock—and Parts Thereof (Int. Cl. 7).

First use on or about Aug. 8, 1966.

SN 283,993. Deep Steam Extraction Ltd., Montreal, Quebec, Canada. Filed Nov. 2, 1967.

DEEP STEAM

No claim is made to the word "Steam" apart from the mark as shown.

For Steam Cleaning Machines and Parts Thereof for Cleaning Carpets and Upholstery (Int. Cl. 7).

First use at least as early as January 1966; in commerce at least as early as April 1967.

SN 283,994. Deep Steam Extraction Ltd., Montreal, Quebec, Canada. Filed Nov. 2, 1967.



For Steam Cleaning Machines and Parts Thereof for Cleaning Carpets and Upholstery (Int. Cl. 7).

First use at least as early as January 1966; in commerce at least as early as April 1967.

SN 284,231. Oneida Ltd., Oneida, N.Y. Filed Nov. 6, 1967.

Owner of Reg. No. 323,628.

BERKELEY SQUARE

For Stainless Steel Flatware (Int. Cl. 8).

First use Oct. 1, 1965.

SN 284,470. General Fire Extinguisher Corporation, Northbrook, Ill. Filed Nov. 9, 1967.

GUARD-LINE

For Portable Fire Extinguishers (Int. Cl. 9).

First use on or before Dec. 31, 1964.

SN 284,518. Triple Clean, Inc., Oklahoma City, Okla. Filed Nov. 9, 1967.



For Automatic Car Washing Units (Int. Cl. 7).

First use Mar. 1, 1966.

SN 284,851. Van Dorn Company, Cleveland, Ohio. Filed Nov. 14, 1967.

THERMO-JECT

For Plastic Molding Machines, Particularly, Injection Molding Machines (Int. Cl. 7).

First use at least as early as Sept. 30, 1967.

SN 285,080. William M. Wilson's Sons, Inc., Lansdale, Pa. Filed Nov. 16, 1967.

REEL-A-MATIC

For Hose Reel for Fuel Pumps (Int. Cl. 7).

First use Apr. 12, 1966.

SN 286,084. E. W. Bliss Company, Canton, Ohio. Filed Dec. 4, 1967.

BLISSTEEL

Owner of Reg. Nos. 363,435, 745,759, and others.

For Power Presses (Int. Cl. 7).

First use at least as early as May 26, 1967.

SN 291,516. Master Tank & Welding Co., Dallas, Tex. Filed Feb. 20, 1968.

THE TIME SAVER

For Automotive Hoists (Int. Cl. 7).

First use on or about Nov. 23, 1965.

SN 291,991. Kelly Industrial Company, Beresford, S. Dak. Filed Feb. 27, 1968.

SCREEDMATIC

For Portable Vibratory Concrete Leveling Machines (Int. Cl. 7).

First use at least as early as June 1957.

SN 294,293. Lomag Corporation, Roosevelt, N.Y. Filed Mar. 27, 1968.



For Presses for Cold-Forming Metal Products (Int. Cl. 7).

First use August 1965.

SN 298,387. J. K. Smit & Sons, Inc., Murray Hill, N.J. Filed May 17, 1968.



For Diamond Drill Bits (Int. Cl. 7).

First use Jan. 1, 1944.

SN 298,388. J. K. Smit & Sons, Inc., Murray Hill, N.J. Filed May 17, 1968.

DYKON

For Diamond-Pointed Wheel Dressing Tools and Parts Thereof (Int. Cl. 7).

First use May 10, 1924.

SN 298,773. The International Silver Company, Meriden, Conn. Filed May 22, 1968.

ANNIVERSARY

Owner of Reg. Nos. 502,078 and 741,283.

For Flatware Made of Non-Precious Material (Int. Cl. 8).

First use at least as early as Apr. 8, 1968.

SN 301,487. Diesel Sales & Service, Inc., South Charleston, W. Va. Filed June 27, 1968.

TERRAMITE

For Backhoes (Int. Cl. 7).

First use Feb. 19, 1968.

Class 26—Measuring and Scientific Appliances

SN 271,007. Zenith Radio Corporation, Chicago, Ill. Filed May 8, 1967.

ZENITH

Owner of Reg. Nos. 164,341, 828,809, and others.

For Dial Scales; Lenses Adapted for Radio and Television Receivers and the Like; Spectacle Temple Bars; and Parts for Dial Scales Including Discs, Plates, Drums and Pointers (Int. Cl. 9).

First use at least as early as 1942.

SN 278,404. Al Nyman & Son, Inc., New York, N.Y. Filed Aug. 16, 1967.



For Drawing Compasses and Pocket Calculators (Int. Cls. 9 and 16).

First use Nov. 18, 1966.

SN 281,456. Conrac Corporation, New York, N.Y. Filed Sept. 29, 1967.

SEMIDUCER

For Solid State Pressure Transducers (Int. Cl. 9).

First use on or about May 12, 1967.

SN 284,350. Credit Systems Mfg. Co., Inc., Philadelphia, Pa. Filed Nov. 8, 1967.

CSI

For Computerized System Installed in Retail Stores and Other Mercantile Establishments for Verifying the Credit Status of Customers, and Components Thereof—in Particular, Information-Transmitting and Imprinting Units Installable at the Work Stations of Sales Clerks, Central Memory Units in Which Credit Information Is Stored, and Connecting Lines Therebetween Over Which Credit Information Is Electrically Transmitted (Int. Cl. 9).

First use Sept. 29, 1967.

SN 286,560. Societe des Lunetiers, Temkine & Cie, Paris (Seine), France. Filed Dec. 8, 1967.

CENTROMATIC

Owner of French Reg. No. 709,557, dated Apr. 8, 1966.

For Apparatus for Measuring and Fitting the Frames and Lenses of Ophthalmic Spectacles and for Correctly Positioning the Lenses Thereof Preparatory to Grinding and Mounting (Int. Cl. 9).

SN 290,774. Technicon Corporation, Ardsley, N.Y. Filed Feb. 9, 1968.

CSM

For Water Analysis Apparatus (Int. Cl. 9).

First use Apr. 10, 1967.

SN 290,984. Arthur H. Thomas Company, Philadelphia, Pa. Filed Feb. 13, 1968.

MAGNE-FLASH

For Laboratory Evaporators (Int. Cl. 9).

First use Apr. 12, 1967.

SN 292,318. Brown & Sharpe Manufacturing Company, North Kingstown, R.I. Filed Mar. 4, 1968.

INTRIMIK

For Micrometers (Int. Cl. 9).

First use Apr. 4, 1952.

SN 293,675. Vernitron Corporation, Farmingdale, N.Y. Filed Mar. 20, 1968.

VERNIDEX

For Electromagnetic Readout Devices (Int. Cl. 9).

First use Feb. 29, 1968.

Class 27—Horological Instruments

SN 294,074. The Pan American Barter Co., Inc., New York, N.Y. Filed Mar. 25, 1968.

LEVERETTE

For Watches and Clocks (Int. Cl. 14).

First use April 1959.

Class 28—Jewelry and Precious-Metal Ware

SN 293,136. Helzberg's Diamond Shops, Inc., Kansas City, Mo. Filed Mar. 13, 1968.



Applicant disclaims the word "Diamonds" apart from the mark as shown.

For Diamond Rings, Diamond Pendants, Diamond Earrings, Mounted Diamonds and Diamond Jewelry Items (Int. Cl. 14).

First use Feb. 1, 1968.

SN 293,187. Irving Weinberger, d.b.a. Bouche Jewelers, New York, N.Y. Filed Mar. 13, 1968.

BOU

For Jewelry (Int. Cl. 14).

First use September 1967.

SN 294,091. Sunbell Corporation, Albuquerque, N. Mex. Filed Mar. 25, 1968.

Silverado

For Jewelry (Int. Cl. 14).
First use Sept. 1, 1965.

Class 32 — Furniture and Upholstery

SN 294,380. Dayco Corporation, Dayton, Ohio. Filed Mar. 28, 1968.

SANITAIRE

For Compounds To Inhibit Allergies, Germs, Fungi and Mildew Sold as a Component of Mattresses and Pillows (Int. Cl. 20).
First use on or about Mar. 4, 1968.

SN 302,562. M. Fortunoff of Westbury Corp., Westbury, N.Y. Filed July 12, 1968.

2ND CHOICE

For Bedroom, Living Room, Dining Room, Kitchen, and Occasional Furniture, Including Antique Furniture; and Decorative Wall Accessories—Namely, Framed Paintings and Pictures, Wall Racks, and Mirrors (Int. Cls. 16 and 20).
First use on or about Apr. 24, 1968.

Class 33 — Glassware

SN 288,369. Standard Packaging Corporation, New York, N.Y. Filed Jan. 8, 1968.



Owner of Reg. Nos. 595,308, 604,047, and others.
For Glassware—Namely, Wine and Cordial Sets and Tableware Glasses (Int. Cl. 21).
First use at least as early as Apr. 12, 1967; Sept. 17, 1953, as to "Stanpack."

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 287,341. Modine Manufacturing Company, Racine, Wis. Filed Mar. 22, 1967.

LIQUICOOLER

For Heat Exchangers (Int. Cl. 11).
First use Jan. 12, 1967.

SN 267,342. Modine Manufacturing Company, Racine, Wis. Filed Mar. 22, 1967.

ALBRAZE

For Heat Exchangers (Int. Cl. 11).
First use Sept. 19, 1966.

SN 278,707. Lok-Products Co., Fullerton, Calif. Filed Aug. 21, 1967.

LokAIR

Owner of Reg. Nos. 663,984, 668,932, and 672,375.
For Air Distributors for Ceiling Systems and Components Thereof (Int. Cl. 11).
First use Sept. 14, 1966.

SN 282,252. Anchor Hocking Glass Corporation, Lancaster, Ohio. Filed Oct. 11, 1967.



Owner of Reg. Nos. 369,485, 817,381, and others.
For Oil Lamps (Int. Cl. 11).
First use during 1938.

SN 282,254. Anchor Hocking Glass Corporation, Lancaster, Ohio. Filed Oct. 11, 1967.

ANCHOR HOCKING

Owner of Reg. Nos. 756,056, 780,225, and others.
For Oil Lamps (Int. Cl. 11).
First use during 1938.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 290,837. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Feb. 12, 1968.

CAMINERO IV

The term "Caminero" is taken from the Spanish word "camino" meaning "pertaining to road."
For Resilient Vehicle Tires (Int. Cl. 12).
First use Jan. 23, 1968.

SN 294,029. Doall Company, Des Plaines, Ill. Filed Mar. 25, 1968.

DoALL

Owner of Reg. Nos. 339,329, 679,957, and others.
For V-Belts (Int. Cl. 7).
First use January 1963.

SN 294,178. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Mar. 26, 1968.

GlasSport

For Resilient Vehicle Tires (Int. Cl. 12).
First use Feb. 22, 1968.

SN 294,183. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Mar. 26, 1968.

CUSTOM CRUISER

Owner of Reg. No. 291,996.
For Tires (Int. Cl. 12).
First use Jan. 15, 1968.

SN 294,186. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Mar. 26, 1968.

POLYSTEEL

For Tires (Int. Cl. 12).
First use Feb. 20, 1968.

Class 36 — Musical Instruments and Supplies

SN 222,351. Emco, Inc., Washington, D.C. Filed June 30, 1965.

RESPONSER

For Tape Recorders and Playback Machines (Int. Cl. 9).
First use on or about Sept. 17, 1962.

SN 275,377. Independence Records, Hollywood, Calif. Filed July 5, 1967.

Independence



For Phonograph Records and Phonograph Record Albums (Int. Cl. 9).
First use Apr. 2, 1967.

SN 287,803. Columbia Broadcasting System, Inc., New York, N.Y. Filed Dec. 29, 1967.

HARMONY
A PRODUCT OF COLUMBIA RECORDS

The words "A product of Columbia Records" are disclaimed apart from the mark as shown. Owner of Reg. No. 668,989.
For Grooved Phonograph Records (Int. Cl. 9).
First use Nov. 6, 1967.

SN 288,347. Quixonic, Inc., Plymouth, Mich. Filed Jan. 8, 1968.

QUIXONIC

For Magnetic Tape Cartridges (Int. Cl. 9).
First use no later than June 27, 1967.

SN 289,990. Institute of Applied Hypnosis, Inc., Orlando, Fla. Filed Jan. 31, 1968.



For Phonograph Recordings (Int. Cl. 9).
First use Sept. 26, 1966.

Class 37 — Paper and Stationery

SN 255,926. Stafford-Lowdon Company, Fort Worth, Tex. Filed Oct. 6, 1966.



Owner of Reg. Nos. 362,473 and 718,250.
For Blank Forms for Bank Drafts, Checks and Negotiable Instruments (Int. Cl. 16).
First use on or about Apr. 20, 1937.

SN 279,543. Eaton Allen Corp., Brooklyn, N.Y. Filed Sept. 1, 1967.

STACK-O-MATIC

For Spindle Type Holder for Memoranda and the Like (Int. Cl. 16).
First use July 31, 1967.

SN 280,945. Fort Howard Paper Company (Delaware corporation), Green Bay, Wis., assignee of Fort Howard Paper Company (Wisconsin corporation), Green Bay, Wis. Filed Sept. 22, 1967.

Shur-Wipe

Owner of Reg. No. 720,359.
For Disposable Wipers (Int. Cl. 16).
First use Aug. 18, 1967.

SN 284,466. GAF Corporation, New York, N.Y., by change of name from General Aniline & Film Corporation, New York, N.Y. Filed Nov. 9, 1967.

GAFORMS

For Paper Business Forms and Envelopes (Int. Cl. 16).
First use Aug. 31, 1967.

SN 284,528. Textron Inc., Fort Madison, Iowa. Filed Nov. 3, 1967.

TRIUMPH

For Fountain Pens and Pencils (Int. Cl. 16).
First use Mar. 1, 1922.

SN 288,884. Swanee Paper Corporation, New York, N.Y. Filed Jan. 15, 1968.



Owner of Reg. No. 774,544.
For Bathroom Tissues, Facial Tissues, Paper Napkins, and Paper Towels (Int. Cl. 16).
First use Nov. 30, 1967.

SN 292,143. Union Pen & Pencil Corp., Mount Vernon, N.Y. Filed Feb. 28, 1968.

UNIPECO

For Pens and Pencils (Int. Cl. 16).
First use May 1, 1914.

SN 292,228. Union Pen & Pencil Corp., Mount Vernon, N.Y. Filed Feb. 29, 1968.

UNIPECO

For Pens and Pencils (Int. Cl. 16).
First use May 1, 1914.

SN 292,230. Westab Inc., Dayton, Ohio. Filed Feb. 29, 1968.

PLASTICOLOR

For Stationery Products—Namely, Coloring Crayons (Int. Cl. 16).
First use Jan. 5, 1968.

Class 38 — Prints and Publications

SN 255,557. The Thomas More Association, Chicago, Ill. Filed Sept. 30, 1966.

OVERVIEW

For Bi-Weekly News Letter (Int. Cl. 16).
First use Sept. 15, 1966.

SN 282,090. The Irving-Cloud Publishing Company, Chicago, Ill. Filed Oct. 9, 1967.

WD

The drawing is lined for the color grey but color is not a part of the mark. Owner of Reg. No. 841,818.
For Magazine (Int. Cl. 16).
First use Oct. 2, 1967.

SN 285,597. Unistrut Corporation, Wayne, Mich. Filed Nov. 24, 1967.



For Manufacturer's House Organ, Distributed Periodically to Employees, Dealers, Dictributors, Service Centers and Customers (Int. Cl. 16).
First use September 1954.

SN 288,691. GAF Corporation, New York, N.Y., by change of name from General Aniline & Film Corporation, New York, N.Y. Filed Jan. 12, 1968.

SAWYER'S

Owner of Reg. No. 756,923.
For Photographic Transparencies and Trade Publications—Namely, Trade Magazines (Int. Cls. 9 and 16).
First use Apr. 19, 1962.

SN 293,674. Success Motivation Institute, Inc., Waco, Tex. Filed Mar. 20, 1968.

Exitodinamia

For Educational and Training Courses Comprising Books, Booklets and Related Printed Instructional Material, and Sound Recordings Pertaining Thereto (Int. Cl. 16).
First use at least as early as Oct. 6, 1967.

SN 296,366. Theodore H. White, New York, N.Y. Filed Apr. 23, 1968.

THE MAKING OF THE PRESIDENT

For Series of Books and Paperback Books Published From Time to Time About United States Presidential Elections (Int. Cl. 16).
First use July 1961.

SN 302,469. Field Enterprises, Inc., Chicago, Ill. Filed July 11, 1968.

GRIN AND BEAR IT

For Cartoon Panels (Int. Cl. 16).
First use Mar. 20, 1932.

SN 302,563. M. Fortunoff of Westbury Corp., Westbury, N.Y. Filed July 12, 1968.

2ND CHOICE

For Unframed Paintings and Prints (Int. Cl. 16).
First use on or about May 1, 1968.

Class 39 — Clothing

SN 263,701. Santoron Co., Ltd., Ichinomiya-shi, Aichi-ken, Japan. Filed Jan. 31, 1967.

WOLFER

Priority claimed under sec. 44(d) on Japanese application filed Aug. 25, 1966; Reg. No. 774,939, dated Mar. 19, 1968.
For Trousers, Sweaters, Jeans, Slacks and Jackets (Int. Cl. 25).

SN 268,334. Phillips-Van Heusen Corporation, New York, N.Y. Filed Apr. 4, 1967.

ARISTO-BLEND

For Men's and Boys' Shirts, Cuffs, Collars, Pajamas, Sports Shirts, Underwear, Knit Shirts and Slacks and Sweaters (Int. Cl. 25).
First use Feb. 17, 1967.

SN 269,194. H. Mendel & Co., Inc., Atlanta, Ga. Filed Apr. 14, 1967.

LADY MENDEL

For Ladies' Blouses, Skirts, Slacks, Sweaters, Dresses, and Swimsuits (Int. Cl. 25).
First use Mar. 13, 1967.

SN 271,057. Mangel Stores Corporation, New York, N.Y. Filed May 9, 1967.

PERMA BUILT

For Work Pants and Work Shirts (Int. Cl. 25).
First use at least as early as November 1965.

SN 271,998. Alamo Manufacturing Co., Inc., New York, N.Y. Filed May 22, 1967.

SILTRON

For Dresses (Int. Cl. 25).
First use May 1, 1967.

SN 272,377. Fredelle Footwear, Inc., Miami Beach, Fla. Filed May 25, 1967.

fredelle

For Shoes (Int. Cl. 25).
First use August 1954.

SN 273,367. The British Bata Shoe Company Limited, East Tilbury, Essex, England. Filed June 8, 1967.

WAYFINDERS

Owner of British Reg. No. 878,382, dated Apr. 15, 1965.
For Footwear Having Patterned Soles and Heels of Mouldable Materials (Int. Cl. 25).
First use Aug. 26, 1965; in commerce Jan. 17, 1967.

SN 274,581. Baybrook, Inc., Boston, Mass. Filed June 23, 1967.

BAYBROOK

For Women's Sportswear—Namely, Dresses, Jackets, Slacks, Outer Shorts, Shirts and Blouses (Int. Cl. 25).
First use February 1960.

SN 275,686. Puritan Fashions Corporation, New York, N.Y. Filed July 10, 1967.

ZEUS

For Pajamas, Togas, and Kilts (Int. Cl. 25).
First use March 1967.

SN 277,877. William Bagry, d.b.a. William Bagry Hosiery Co., New York, N.Y. Filed Aug. 9, 1967.

NILLY MILLY

For Hosiery and Panty Hose (Int. Cl. 25).
First use Aug. 2, 1967.

SN 278,130. Mina Sala, Olgaite Molgora (Como), Italy. Filed Aug. 11, 1967.

MINA SALA

Owner of Italian Reg. No. 194,884, dated Apr. 13, 1964.
For Knitted Underwear and Hosiery for Men, Women and Boys; Jumpers, Kimonos, Shirts, Trousers, Shawls, Scarfs, Gloves and Caps (Int. Cl. 25).

SN 278,295. Fortuna Foundations, Inc., New York, N.Y. Filed Aug. 15, 1967.

THE LEAST

For Foundation Garments—Namely, Girdles, Panty-Girdles, and Brassieres (Int. Cl. 25).
First use May 19, 1967.

SN 280,218. Diana Stores Corporation, North Bergen, N.J. Filed Sept. 13, 1967.



The lining shown on the drawing is merely used to reproduce the lining shown on the specimens and does not represent color.
For Men's and Women's Jeans (Int. Cl. 25).
First use June 1966.

SN 281,858. Altshul, Stern & Co., Inc., d.b.a. Young Sport Fashions, New York, N.Y. Filed Oct. 5, 1967.

STRETCH-O-RAMA

For Children's and Infants' Clothing—Namely, Creepers, Jumpers, Pants and Suits (Int. Cl. 25).
First use April 1967.

SN 282,992. Federated Department Stores, Inc., Columbus, Ohio. Filed Oct. 20, 1967.

GOLD CIRCLE

For Men's Wear—Namely, Swimwear, Underwear, Hosiery, Shirts, Neckwear and Pants (Int. Cl. 25).
First use Oct. 17, 1967.

SN 283,328. Emsold-Gesellschaft Gert Helmers KG, Niedersachsen, Germany. Filed Oct. 25, 1967.

EMSOLD

For Insoles, Heel-Protectors, Synthetic Plastic Shoe Inserts, Shoe Cushions, Heel and Tip Caps, Insole Cushions, and Sock Linings (Int. Cl. 25).
First use October 1957; in commerce October 1957.

SN 283,513. Federated Department Stores, Inc., Columbus, Ohio. Filed Oct. 27, 1967.

GOLD CIRCLE

For Women's Underwear, Sweaters, Hosiery, Skirts, and Slacks and Children's Underwear, Hosiery, Shirts, and Coveralls (Int. Cl. 25).
First use Oct. 23, 1967.

SN 284,061. Zayre Corp., Natick, Mass. Filed Nov. 2, 1967.

BILLY BEST

The name "Billy Best" is fanciful and not the name of any particular individual.
For Dungarees, Slacks, Jackets, Sweat Shirts, T-Shirts, Briefs, Hose, Pajamas, Bathrobes, Shirts, Sweaters, Slack Sets, and Coveralls (Int. Cl. 25).
First use Oct. 16, 1967.

SN 285,463. Shadowline, Incorporated, Morganton, N.C. Filed Nov. 22, 1967.

Pimatiste

For Lingerie (Int. Cl. 25).
First use Sept. 19, 1967.

SN 286,266. Hilb Manufacturing Company, Denver, Colo. Filed Dec. 5, 1967.

SNOWMASS SKIWEAR

Applicant disclaims exclusive right to use of the word "Skiwear" apart from the mark as shown.
For Men's, Women's, and Children's Ski Jackets, Men's, Women's and Children's Ski Pants, Men's, Women's and Children's Sweaters, and Other Ski Garments—Namely, Shirts, Socks, and Headwear (Int. Cl. 25).
First use Nov. 28, 1967.

SN 287,023. Lees Manufacturing Co., Cannon Falls, Minn. Filed Dec. 15, 1967.

DEB DUDS

Without waiver of common law rights, applicant disclaims any exclusive rights in the word "Duds" apart from the mark as shown. Owner of Reg. No. 548,877.
For Young Junior Sleep, Lounge and Sportswear—Namely, Pajamas, Nightgowns, Robes, Peignoirs and Shifts (Int. Cl. 25).
First use about October 1955.

SN 287,464. Sawyer-Tower Products, Inc., Watertown, Mass. Filed Dec. 22, 1967.

TUFFGARD

Owner of Reg. No. 794,491.
For Industrial Protective and Safety Clothing—Namely, Jackets, Pants, Hoods, Coveralls and Aprons (Int. Cl. 9).
First use Aug. 10, 1961.

SN 287,881. J. W. Bray Company, Inc., Dalton, Ga. Filed Jan. 2, 1968.



No claim is made to the word "Mules" apart from the mark as shown.
For Slippers (Int. Cl. 25).
First use Nov. 24, 1967.

SN 287,883. J. W. Bray Company, Inc., Dalton, Ga. Filed Jan. 2, 1968.



For Slippers (Int. Cl. 25).
First use Nov. 24, 1967.

SN 289,066. Allied Stores Corporation, New York, N.Y. Filed Jan. 18, 1968.

MR. ALMO

For Women's Hats (Int. Cl. 25).
First use Apr. 12, 1964.

SN 289,967. Charmose, Inc., Hatboro, Pa. Filed Jan. 31, 1968.

MILADY MAGOO

For Children's Dresses (Int. Cl. 25).
First use Dec. 6, 1967.

SN 290,086. The Enro Shirt Company, Inc., Louisville, Ky. Filed Feb. 1, 1968.

Featherlock

For Men's and Women's Shirts (Int. Cl. 25).
First use July 12, 1954.

SN 290,121. World Import Co., Inc., St. Louis, Mo. Filed Feb. 1, 1968.

TURINA

For Shoes (Int. Cl. 25).
First use April 1965.

SN 290,169. Verna G. Hager, Conrad, Mont. Filed Feb. 2, 1968.

DEB-BELL-A

For Dresses, Maternity Dresses, Jumpers, Housecoats, Blouses, Coulottes, Smocks, Slips and Gowns (Int. Cl. 25).
First use Dec. 19, 1967.

SN 290,537. Russell Hosiery Mills, Inc., Star, N.C. Filed Feb. 7, 1968.

CADENCE

For Men's, Boys', Girls' and Children's Hosiery (Int. Cl. 25).
First use Jan. 24, 1968.

SN 290,605. Robert Hall Clothes, Inc., d.b.a. Robert Hall Clothes, New York, N.Y. Filed Feb. 8, 1968.

Juilliard
The Aristocrat of Slacks

The word "Slacks" is disclaimed apart from the mark as shown. Owner of Reg. No. 502,513.
For Men's Slacks (Int. Cl. 25).
First use on or about Aug. 9, 1963.

SN 290,847. Grant Industries Incorporated, Los Angeles, Calif. Filed Feb. 12, 1968.

GRANT

For Men's Safety Gear—Namely, Motorcyclists' Crash Helmets (Int. Cl. 9).
First use 1954.

SN 290,978. Robert Hall Clothes, Inc., d.b.a. Robert Hall Clothes, New York, N.Y. Filed Feb. 13, 1968.

designed by
SALVATORE

For Men's Suits and Sport Coats (Int. Cl. 25).
First use on or about Oct. 11, 1967.

SN 291,170. Mid-Atlantic Footwear Corp., New York, N.Y. Filed Feb. 15, 1968.

LaTinas

"Latinas" is a coined word. Owner of Reg. No. 812,227.
For Ladies' and Misses' Shoes, Slippers and Boots (Int. Cl. 25).
First use May 20, 1965.

SN 292,411. Norstan Industries, Inc., New York, N.Y. Filed Mar. 4, 1968.

INDUSTRIAL CORNER

For Women's Clothing and Sportswear—Namely, Slacks, Pantsuits, Skirts, Jumpers, Shorts, Blouses, Shifts, Sweaters, Jackets and Shirts (Int. Cl. 25).
First use on or about Feb. 21, 1968.

SN 292,717. S. Augstein & Co., Inc., New York, N.Y. Filed Mar. 7, 1968.

PACK AGE PEOPLE

For Women's and Children's Dresses, Suits, Jackets, Skirts, Blouses and Slacks, Bathing Suits (Int. Cl. 25).
First use on or about Jan. 2, 1968.

SN 293,349. Blue Bell, Inc., Greensboro, N.C. Filed Mar. 15, 1968.

MAVERICK

Owner of Reg. Nos. 608,371 and 818,312.
For Work and Casual Wear Socks (Int. Cl. 25).
First use Oct. 7, 1964.

SN 293,461. Associated Dry Goods Corporation, New York, N.Y. Filed Mar. 18, 1968.

TRUE MERIT

Owner of Reg. Nos. 730,142 and 761,401.
For Men's Shirts (Int. Cl. 25).
First use Nov. 27, 1895.

SN 293,929. Kati Screenprints Inc., New York, N.Y. Filed Mar. 22, 1968.



For Handkerchiefs and Scarves (Int. Cl. 25).
First use 1959.

SN 294,055. Kimberly-Clark Corporation, Neenah, Wis. Filed Mar. 25, 1968.

KIMBIES

For Infants' Disposable Diapers (Int. Cl. 25).
First use Mar. 15, 1968.

SN 294,251. Bel-Mor Knitwear, Inc., New York, N.Y. Filed Mar. 27, 1968.

ty-ups

For Ladies' Sweaters, Suits, Skirts and Pants (Int. Cl. 25).
First use Mar. 20, 1968.

SN 294,605. Encore Shoe Corporation, Everett, Mass. Filed Apr. 1, 1968.

Alyta

For Women's Shoes (Int. Cl. 25).
First use Feb. 29, 1968.

SN 294,734. Robert Hall Clothes, Inc., d.b.a. Robert Hall Clothes, New York, N.Y. Filed Apr. 2, 1968.

Juilliard

The Aristocrat of Suits

The word "Suits" is disclaimed apart from the mark as shown. Owner of Reg. No. 502,513.
For Suits (Int. Cl. 25).
First use on or about May 8, 1964.

SN 294,754. Ship 'N Shore, Inc., Upland, Pa. Filed Apr. 2, 1968.

LIMITED EDITION

Owner of Reg. Nos. 329,864, 408,765, and 413,964.
For Ladies' Blouses, Shorts, Shirts, Skirts, Ties, Kerchiefs, Vests, Shells, Sweaters, Jumpers, Slacks, and Dresses (Int. Cl. 25).
First use June 11, 1935.

SN 295,131. Exquisite Form Industries, Inc., New York, N.Y. Filed Apr. 8, 1968.

GREAT LEGS

For Panty Hose (Int. Cl. 25).
First use Apr. 1, 1968.

SN 295,252. Proudfoot Hosiery Corp., New York, N.Y. Filed Apr. 9, 1968.

Surelli

Owner of Reg. No. 810,481.
For Boys' and Men's Shirts and Sweaters (Int. Cl. 25).
First use Mar. 28, 1968.

SN 295,731. Robert Hall Clothes, Inc., d.b.a. Robert Hall Clothes, New York, N.Y. Filed Apr. 16, 1968.

Juilliard

THE ARISTOCRAT OF Sweaters

The word "Sweaters" is disclaimed apart from the mark as shown. Owner of Reg. No. 502,513.
For Sweaters (Int. Cl. 25).
First use on or about July 3, 1963.

SN 296,239. Standard Oil Company, Flemington, N.J. Filed Apr. 23, 1968.

ENJAY

For Hosiery (Int. Cl. 25).
First use Jan. 17, 1968.

SN 296,276. Standard Oil Company, Flemington, N.J. Filed Apr. 23, 1968.

ENCO

For Hosiery (Int. Cl. 25).
First use Oct. 20, 1967.

SN 298,818. Federated Department Stores, Inc., Columbus, Ohio. Filed May 22, 1968.

GOLD CIRCLE

For Clothing—Namely, Men's Wear, Women's Wear and Children's Wear (Int. Cl. 25).
First use Dec. 19, 1967.

SN 301,034. John C. Boswell, Salem, Oreg. Filed June 21, 1968.

ALASKAIRKOAT

For Raincoats and Rain Trousers (Int. Cl. 25).
First use Jan. 17, 1968.

SN 301,213. Endicott Johnson Corporation, Endicott, N.Y. Filed June 24, 1968.

Astro

Owner of Reg. No. 830,615.
For Boys' and Girls' Shoes (Int. Cl. 25).
First use Apr. 30, 1968.

SN 301,924. Eloesser-Heynemann Company, South San Francisco, Calif. Filed July 3, 1968.

ARGONAUTS

For Trousers and Slacks (Int. Cl. 25).
First use in or about 1957.

SN 302,575. Terry Sue Casuals, Inc., Miami, Fla. Filed July 12, 1968.

TERRY SUE

For Girls' and Women's Dresses, Slacks, Shorts, Skirts, Blouses and Coats (Int. Cl. 25).
First use Aug. 17, 1962.

Class 40—Fancy Goods, Furnishings, and Notions

SN 279,189. B. B. Greenberg Co., Cranston, R.I. Filed Aug. 28, 1967.

Tip Toe

For Ornamental Shoe Attachments—Namely, Bows and Buckles (Int. Cl. 26).
First use on or about Aug. 5, 1967.

SN 282,095. Mr. Jerome, Inc., Columbus, Ohio. Filed Oct. 9, 1967.

MR. Jerome

"Jerome" is the given name of Jerome S. Epstein whose consent is of record.
For Wigs (Int. Cl. 26).
First use Nov. 1, 1966.

SN 287,902. Dynasty Enterprises, Inc., Los Angeles, Calif. Filed Jan. 2, 1968.

VENUS

For False Eye Lashes (Int. Cl. 26).
First use Dec. 1, 1965.

SN 289,067. Allied Stores Corporation, New York, N.Y. Filed Jan. 18, 1968.

MR. ALMO

For Women's Wigs, Wiglets and Falls (Int. Cl. 26).
First use Apr. 12, 1964.

SN 290,494. Ideal Wig Company, Inc., New York, N.Y. Filed Feb. 7, 1968.

WIGS BY DIANA

The word "Wigs" is disclaimed apart from the mark as shown.
For Wigs (Int. Cl. 26).
First use Jan. 23, 1968.

SN 296,614. Fashion Tress, Inc., Hialeah, Fla. Filed Apr. 26, 1968.

GABRIELLE

For Ladies' Wigs and Hairpieces (Int. Cl. 26).
First use on or about Feb. 1, 1968.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 267,266. Rayflex Fabrics, Inc., New York, N.Y. Filed S.R. Mar. 21, 1967; Am. P.R. June 4, 1968.

ELASTICOOL

Owner of Reg. No. 432,190.
For Woven Elastic Fabrics in the Piece (Int. Cl. 24).
First use Apr. 12, 1946.

SN 267,664. Rayflex Fabrics, Inc., New York, N.Y. Filed S.R. Mar. 27, 1967; Am. P.R. June 4, 1968.

TISSUEFLEX

Owner of Reg. No. 432,774.
For Woven Elastic Fabrics in the Piece (Int. Cl. 24).
First use Feb. 1, 1946.

SN 279,865. Saxylle-Kilsund AB, Kilsundsgatan, Boras, Sweden. Filed Sept. 7, 1967.

KILSUND ORIGINAL DUBBEL STRETCH

No claim is made to the exclusive use of the words "Original" and "Dubbel Stretch" apart from the mark as a whole.
For Worsted Fabrics Mainly for the Manufacture of Clothes (Int. Cl. 24).
First use Mar. 17, 1964; in commerce Feb. 15, 1966.

SN 284,217. Mohasco Industries, Inc., d.b.a. Mohawk Carpet Mills Division, Amsterdam, N.Y. Filed Nov. 6, 1967.

HOUSE 'N GARDEN

For Carpets (Int. Cl. 27)..
First use June 14, 1967.

SN 284,473. Harper Manufacturing Company, East Point, Ga. Filed Nov. 9, 1967.

HARTEX

For Carpet Cushion (Int. Cl. 27).
First use Apr. 15, 1967.

SN 289,327. Noonoo Rug Co. Inc., New York, N.Y. Filed Jan. 22, 1968.

TAI MING

For Floor Coverings—Namely, Rugs (Int. Cl. 27).
First use on or before Aug. 1, 1967.

SN 289,475. Burberrys Limited, London, England. Filed Jan. 24, 1968.



Applicant disclaims the letter "B" apart from the mark as shown. Owner of British Reg. No. 901,847, dated Nov. 21, 1966.
For Textile Piece Goods Made of Wool and Man-Made Fibres and Combinations Thereof (Int. Cl. 24).

SN 290,237. Annin & Co., New York, N.Y. Filed Feb. 5, 1968.



No claim is made to the words "Flagmakers to the World Since 1847" and "The Name Guarantees Quality" apart from the mark as shown. Owner of Reg. No. 514,934.
For Bunting (Int. Cl. 24).
First use January 1963; Jan. 3, 1847 as to "Annin."

SN 292,605. North American Mills, Inc., Gastonia, N.C. Filed Mar. 6, 1968.

OLYMPIC-NORTH AMERICAN

Applicant disclaims rights to the word "Olympic" apart from the mark as shown.
For Carpets (Int. Cl. 27).
First use Feb. 2, 1968.

SN 296,240. Standard Oil Company, Flemington, N.J. Filed Apr. 23, 1968.

ENJAY

For Synthetic Textile Fabrics in the Piece (Int. Cl. 24).
First use Jan. 17, 1968.

SN 296,241. Standard Oil Company, Flemington, N.J. Filed Apr. 23, 1968.

ENJAY

For Carpeting, Rugs and Floor Coverings Manufactured in Whole or Part or Synthetic Fibers (Int. Cl. 27).
First use Jan. 17, 1968.

SN 296,278. Standard Oil Company, Flemington, N.J. Filed Apr. 23, 1968.

ENCO

For Carpeting, Rugs and Floor Coverings Manufactured in Whole or Part of Synthetic Fibers (Int. Cl. 27).
First use Oct. 17, 1967.

Class 43—Thread and Yarn

SN 296,242. Standard Oil Company, Flemington, N.J. Filed Apr. 23, 1968.

ENJAY

For Synthetic Fibrous Material—Namely, Yarn (Int. Cl. 23).
First use Jan. 17, 1968.

Class 44—Dental, Medical, and Surgical Appliances

SN 254,692. Koberloy, Inc., La Mesa, Calif. Filed Sept. 19, 1966.

DISPOS-A-CAP

For Dental Restorative, or Tooth Filling Materials, Such as Silver Amalgum and Silica Powder Mixed With Resins Which Are Forced Into Tooth Cavities by a Dentist (Int. Cl. 5).
First use Nov. 1, 1965.

SN 268,205. Lumex, Inc., Bay Shore, N.Y. Filed Apr. 3, 1967.

"SAFE-TIE"

For Vests and Belts Used by Invalids (Int. Cl. 10).
First use Feb. 1, 1966.

SN 271,882. Zeigler Electronics, Inc., Gardena, Calif. Filed May 18, 1967.



The word "Facial Exerciser" is disclaimed apart from the mark as shown.
For Electronic Muscle Activator (Int. Cl. 10).
First use Nov. 20, 1958.

SN 275,873. Sarole, Inc., Pompano Beach, Fla. Filed July 12, 1967.



For Stretchers (Int. Cl. 10).
First use Sept. 15, 1962.

SN 291,635. Professional Positioners, Inc., Racine, Wis. Filed Feb. 21, 1968.

PROsitioner

For Orthodontic Tooth Positioners Cast from Resilient Material and Mouth Guards Cast From Resilient Material (Int. Cl. 10).
First use Jan. 22, 1968.

SN 292,254. Bird Space Technology, Inc., Palm Springs, Calif. Filed Mar. 1, 1968.

999

Owner of Reg. No. 834,396.
For Cardiorespiratory, Pulmonary Therapy, Topical Chemotherapy, Inhalation and Anesthesia Equipment for Assisting and Controlling Respiration and Applying Anesthetic Agents to Mammals—Namely, Medical Positive Phase Respirators, Medical Automatic Leak Compensating Respirators, Physiological Volume Limiting Respirators for Intensive Care, Complete Volume Limiting Ventilators for Intensive Care, Including a Sensing Device Connected to the Patient, Anesthesia Ventilators, Portable Respirators and Air Compressors, Humidifiers and Nebulizers, Automatic Resuscitators, Emergency Hand Resuscitators, Pressure Reducing Regulators, Intensive Care Stands, Infant and Adult Breathing Circles, Wall Outlet Valves, Pedestals, Wheel Sets, Support Arms, Cooling and Filtration Coils, Spirometers, Portable Cases, Dispensing Bottles, and Masks, Tracheotomy Fittings, Endotrachael Adapters, Intubation Adapters, and Component Parts and Accessories for Use With Apparatus for the Cyclic and Non-Cyclic Delivery of Gases for Inspiratory and Expiratory Breathing Patterns (Int. Cl. 10).
First use on or before Jan. 8, 1965.

SN 297,145. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed May 2, 1968.

SCRUBTEAM

For Surgical Spongebrushes and Disposable Nail Cleaning Implements (Int. Cl. 5).
First use Apr. 12, 1968.

SN 297,146. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed May 2, 1968.

3M

For Surgical Spongebrushes and Disposable Nail Cleaning Implements (Int. Cl. 5).
First use Apr. 12, 1968.

Class 45—Soft Drinks and Carbonated Waters

SN 263,690. PepsiCo, Inc., New York, N.Y. Filed Jan. 31, 1967.



Owner of Reg. No. 679,047.
For Carbonated Soft Drinks (Int. Cl. 32).
First use June 9, 1955.

SN 283,909. Ma Cherie Sales Corporation of America, St. Louis, Mo. Filed Nov. 1, 1967.

A Sweetheart of a Cola

Applicant disclaims exclusive rights to the term "Cola" apart from the mark as shown. Owner of Reg. No. 704,712.
For Cola-Type Soft Drinks (Int. Cl. 32).
First use Sept. 15, 1967.

Class 46—Foods and Ingredients of Foods

SN 255,983. Huntleys of Lancaster, Inc., Lancaster, Pa. Filed Oct. 7, 1966.



HAMBURGERS

The drawing is lined for blue and red but no claim is made as to color. The word "Hamburgers" is disclaimed apart from the mark as shown.
For Take Out Foods—Namely, Hamburger and Cheeseburger Sandwiches, Apple Tarts, French Fried Potatoes, Hot Chocolate, Milk Shakes and Coffee (Int. Cls. 29 and 30).
First use Nov. 1, 1965.

SN 280,242. Delite Foods, Inc., Lebanon, N.J. Filed Dec. 7, 1966.

SOUR TREAT

For Sour Cream Substitute Utilized as a Cultured, Non-Butter-Fat Sour Food Dressing (Int. Cl. 29).
First use June 9, 1966.

SN 272,578. Bush Boake Allen Inc., Emerson, N.J. Filed May 29, 1967.

NOMEL

For Food Flavors in Concentrate Form (Int. Cl. 3).
First use 1963.

SN 274,265. Trafalgar Foods Ltd., Rye, N.Y. Filed June 19, 1967.

TRAFALGAR

For Frozen Crumpets (Int. Cl. 30).
First use June 5, 1967.

SN 278,763. International Milling Company Inc., Minneapolis, Minn. Filed Aug. 22, 1967.

MONOGRAM

For Wheat Flour for Sale to Commercial Bakers (Int. Cl. 30).
First use at least as early as Mar. 19, 1935.

SN 279,105. Senor Pico, Inc., d.b.a. Senor Pico's and Senor Pico's Restaurants, San Francisco, Calif. Filed Aug. 25, 1967.

SEÑOR PICO RANCH BREAD

The word "Bread" is disclaimed apart from the mark as shown.
For Ranch Bread (Int. Cl. 30).
First use May 13, 1966.

SN 288,234. R. J. Reynolds Foods, Inc., New York, N.Y. Filed Jan. 5, 1968.

DIVIDER-PAK

For Canned Beef Chop Suey, Canned Pork Chop Suey, Canned Shrimp Chow Mein, Canned Chicken Chow Mein and Canned Mushroom Chow Mein (Int. Cl. 29).
First use January 1954.

SN 289,343. Shoreline Seafoods Limited, Tampa, Fla. Filed Jan. 22, 1968.

SEA BRAND

The words "Sea Brand" are disclaimed apart from the mark shown, without, however, waiving any common law rights thereto. The drawing is lined for red but no claim is made thereto.
For Frozen Fresh Oysters, Frozen Breaded Oysters, Frozen Fried Breaded Shrimp, Frozen Peeled and Cleaned Shrimp, Frozen Scallops and Frozen Shrimp (Int. Cl. 29).
First use 1957.

SN 291,262. Gilliam Candy Company, Incorporated, Paducah, Ky. Filed Feb. 16, 1968.

CAT-TAIL

For Candy (Int. Cl. 30).
First use June 1932.

SN 291,980. Gandara y Haz, Ltda., Vigo (Pontevedra) Spain. Filed Feb. 27, 1968.

CEDEIRA

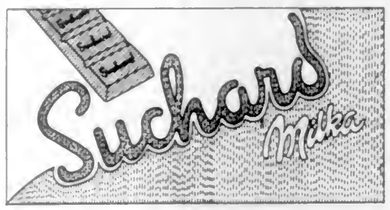
For Canned Fish (Int. Cl. 29).
First use Apr. 9, 1953; in commerce Apr. 9, 1953.

SN 292,768. Dofo, A.M.B.A. (Danske Ostemejeriers Faellessalg og Osteeksport), Hadersiev, Denmark. Filed Mar. 8, 1968.



Owner of U.S. Reg. No. 730,502.
For Dairy Products—Namely, Cheese, Processed Cheese and Cheese Spreads (Int. Cl. 29).
First use in or about April 1958; in commerce in or about September 1962.

SN 293,648. Suchard Holding Societe Anonyme, Lausanne, Switzerland. Filed Mar. 19, 1968.



The drawing is lined for brown, gold, and purple or mauve. Applicant disclaims the representation of the goods apart from the mark as shown. Owner of U.S. Reg. Nos. 54,480, 569,481, and 772,452.
For Prepared Edible Chocolate (Int. Cl. 30).
First use Oct. 9, 1967; in commerce Oct. 9, 1967.

SN 293,669. Unox Naamlooze Vennootschap, Oss, Netherlands. Filed Mar. 20, 1968.

UNOX

Owner of U.S. Reg. No. 565,062.
For Canned Prepared Meat and Meat Dishes (Int. Cl. 29).
First use Apr. 25, 1966; in commerce Apr. 25, 1966.

SN 296,291. Anderson, Clayton & Co., Dallas, Tex. Filed Apr. 23, 1968.

LITE 'N LOW

For Margarine (Int. Cl. 29).
First use Jan. 15, 1968.

Class 47 — Wines

SN 288,924. Affiliated Distillers Brands Corp., New York, N.Y. Filed Jan. 16, 1968.

WINE LAKES

Applicant disclaims the exclusive right to the word "Wine" but otherwise reserves all right at common law and under the Act of 1946.
For Wines and Champagne (Int. Cl. 33).
First use Sept. 20, 1967.

Class 49 — Distilled Alcoholic Liquors

SN 273,639. Heublein, Inc., Hartford, Conn. Filed June 12, 1967.

Smirnoff LEAVES YOU BREATHLESS!

Owner of Reg. Nos. 328,594, 757,957, and others.
For Vodka (Int. Cl. 33).
First use May 12, 1967.

SN 288,688. Flagstaff Liquor Co., Perth Amboy, N.J. Filed Jan. 12, 1968.

HEATHER MIST

The word "Mist" is disclaimed apart from the mark shown.
For Scotch Whisky (Int. Cl. 33).
First use Aug. 8, 1966.

SN 294,011. William P. Cashman, d.b.a. Marita and Marita Spirits & Wine Company, Cleveland Ohio. Filed Mar. 25, 1968.

CONFEDERATE FLAG

For Vodka and Whiskies (Int. Cl. 33).
First use Jan. 23, 1968.

Class 50 — Merchandise Not Otherwise Classified

SN 254,689. Interlake Steel Corporation, Chicago, Ill. Filed Sept. 19, 1966.

INTERLAKE

For Reusable, Inflatable, Rubber Dunnage; Disposable, Inflatable Dunnage; Pallet Racks and Skid Retarders (Int. Cls. 17 and 20).
First use at least as early as Mar. 2, 1966.

SN 266,221. General Numismatics Corporation, Yeadon, Pa. Filed Mar. 8, 1967.

FRANKLIN

For Non-Ferrous Alloys Made Into Commemorative Medals and Tokens (Int. Cl. 14).
First use on or about Apr. 28, 1965.

SN 268,568. Automatic Dust Prevention, San Francisco, Calif. Filed Apr. 7, 1967.

ADP

For Chemically Treated Door Mats (Int. Cl. 27).
First use Mar. 10, 1967.

SN 286,553. Plexode, Inc., Chicago, Ill. Filed Dec. 8, 1967.

POUR-N-SEAL

For Combination Closure and Pouring Spout With Cap (Int. Cl. 21).
First use Apr. 17, 1961.

SN 287,215. Accro Systems, Inc., Richmond, Va. Filed Dec. 19, 1967.

ACCRO-MAGNETIC

For Information Display and Control Boards Including Magnetic Means for Attachment of Information (Int. Cl. 20).
First use Nov. 17, 1967.

SN 288,107. Midwest Industries, Inc., Ida Grove, Iowa. Filed Jan. 4, 1968.

Shore Steps

For Unitary, Adjustable Stair Steps for Access to and Egress From a Lake or River to an Embankment Thereabout (Int. Cl. 20).
First use Oct. 11, 1967.

SN 291,906. Stout Sign Company, St. Louis, Mo. Filed Feb. 26, 1968.

STOUT-LITE

For Sheet Aluminum Treated With Transparent Colors for High Reflectivity Incorporated in Finished Signs (Int. Cl. 6).
First use Jan. 30, 1968.

SN 293,890. Adler Silhouette Letter Co., Los Angeles, Calif. Filed Mar. 22, 1968.

AD-ALUM

For Tracks for 3-Dimensional Changeable Letters, Signs and Displays (Int. Cl. 20).
First use Mar. 7, 1968.

SN 295,979. Sur-Lock Pallet, Inc., Kansas City, Kans. Filed Apr. 18, 1968.

SUR-LOCK

For Pallets (Int. Cl. 20).
First use Nov. 22, 1967.

SN 296,581. San Diego Aircraft Engineering, Inc., d.b.a. QC Division, San Diego Aircraft Engineering, Inc., San Diego, Calif. Filed Apr. 25, 1968.

QC

For Industrial Planning Display Charts With Changeable Markers (Int. Cl. 16).
First use Jan. 29, 1968.

Class 51 — Cosmetics and Toilet Preparations

SN 254,516. Clairol Incorporated, New York, N.Y. Filed Sept. 15, 1966.

NATURALLY BLONDE

For Hair Tinting, Dyeing and Coloring Preparation (Int. Cl. 3).
First use July 8, 1966.

SN 269,702. Textron Inc., Providence, R.I. Filed Apr. 20, 1967.

Spanish Guitar

For Men's Cologne and After Shave Lotion (Int. Cl. 3).
First use Mar. 15, 1967.

SN 270,226. Caron Corporation, New York, N.Y. Filed Apr. 28, 1967.

FRENCH CANCAN

The word "French" is disclaimed apart from the mark as a whole, while retaining all common law rights therein. Owner of Reg. No. 351,665.
For Perfume, Toilet Water, Cologne, and Bath Oil (Int. Cl. 3).
First use April 1936.

SN 271,880. Yardley of London, Inc., Totowa, N.J. Filed May 18, 1967.

COUNTRY SLICKER

Owner of Reg. Nos. 824,581, 824,583, and 825,886.
For Lip Polish (Int. Cl. 3).
First use May 11, 1967.

SN 277,768. Avon Products, Inc., New York, N.Y. Filed Aug. 8, 1967.

THE SURE SHADES

The word "Shades" is disclaimed apart from the mark as shown.
For Nail Enamel, Lipstick and Filled Powder Compact (Int. Cl. 3).
First use July 24, 1967.

SN 277,788. Avon Products, Inc., New York, N.Y. Filed Aug. 8, 1967.

SEA GARDEN

For Bubble Bath, After Bath Freshener, Bath Oil, Skin Softener, Cream Moisturizing Lotion, Dusting Powder, and Talcum Powder (Int. Cl. 3).
First use July 24, 1967.

SN 289,729. The 'A, Inc., Austin, Tex. Filed Jan. 26, 1968.

The 'A

The drawing is lined for the color gold but applicant makes no claim to color as a feature of the mark.
For Cleansing Creams, Night Creams, Liquid Makeup-Moisturizing Lotion, Liquid Mask, Skin Freshener, Herbal Astringent, After Bath Lotion, Eye Shadow, Mascara, Eyeliners, Lipsticks, Rouges, Powders, Eyebrow Pencils, Colognes and Personal Deodorants (Int. Cls. 3 and 5).
First use on or about Dec. 12, 1967.

SN 289,875. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Jan. 30, 1968.

GOTHAM Gold Stripe

Owner of Reg. Nos. 331,320, 802,777, and others.
For Leg Cosmetic—Namely, Skin Softener for Use on Legs (Int. Cl. 3).
First use Aug. 31, 1967.

SN 298,504. Colgate-Palmolive Company, New York, N.Y. Filed May 20, 1968.

COLGATE JR.

Owner of Reg. Nos. 57,034, 790,614, and others.
For Dentifrice (Int. Cl. 3).
First use May 8, 1968.

SN 300,893. Boyer-Uecker Ent., Atlanta, Ga. Filed June 20, 1968.

all pro

For Hair Spray, Cologne, Personal Deodorant and After Shave Lotion (Int. Cls. 3 and 5).
First use May 9, 1968.

Class 52 — Detergents and Soaps

SN 266,427. The Johnson Rubber Company, Middlefield, Ohio. Filed Mar. 10, 1967.

JOHNSONITE

The drawing is lined for red, but color is not claimed as a feature of the mark.
For Waterless Hand Cleaner Containing Lanolin (Int. Cl. 3).
First use at least as early as September 1966.

SN 291,594. The Diversey Corporation, Chicago, Ill. Filed Feb. 21, 1968.

ACCEL

For Granular Manual Equipment Cleaner Used in the Transportation Industry for Cleaning Cars, Buses, Trucks, Railroad Cars, Airplanes and Equipment Associated Therewith (Int. Cl. 3).
First use Feb. 8, 1968.

SN 291,617. Madison Chemical Corporation, Maywood, Ill. Filed Feb. 21, 1968.

BI-PHAZE

For Tank Cleaner (Int. Cl. 1).
First use Feb. 15, 1965.

SN 293,236. Colgate-Palmolive Company, New York, N.Y. Filed Mar. 14, 1968.

DEMOLISH

For All Purpose Cleaner (Int. Cl. 3).
First use Jan. 15, 1968.

SN 293,379. Helene Curtis Industries, Inc., Chicago, Ill. Filed Mar. 15, 1968.

BOWS & ARROWS

For Hair Shampoo (Int. Cl. 3).
First use on or about Feb. 29, 1968.

SN 298,182. Ralston Purina Company, St. Louis, Mo. Filed May 15, 1968.

PURINA HEALTH PRODUCTS

The drawing is lined for the colors red and blue, but no claim is made to color. The words "Health Products" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 289,064 and 523,420.
For Cleaner and Sanitizer for Dairy Use (Int. Cl. 3).
First use May 3, 1968.

SERVICE MARKS

Class 100 — Miscellaneous

SN 247,311. Cyrus F. Bell and Sally Bell (joint owners), Langley Park, Md. Filed June 6, 1966.

LEONIE'S BAR RESTAURANT

For purposes of registration only, applicant disclaims the use of the words "Bar" and "Restaurant" apart from the mark as shown.
For Restaurant Services (Int. Cl. 42).
First use Sept. 12, 1959.

SN 253,114. Joseph Bosilevas, d.b.a. The Garden Club Plan of America, Cos Cob, Conn. Filed Aug. 25, 1966.

THE GARDEN CLUB PLAN OF AMERICA

Applicant disclaims "of America," retaining his common law rights thereto.
For Miscellaneous Garden, Nursery and Lanscaping Services (Int. Cl. 42).
First use 1946.

SN 253,283. Creative Design Board, Chicago, Ill. Filed Aug. 29, 1966.

creative design board

No claim is made to the terms "Creative Design" apart from the mark as shown. The drawing is lined for the color blue.
For Design Services—Namely, Preparation of Mechanical, Brochure, Graphic, Display, and Packaging Art Work (Int. Cl. 42).
First use on or before Oct. 19, 1964.

SN 261,719. Clover Farm Stores Corporation, Cleveland, Ohio. Filed Dec. 30, 1966.

FRESHBEST

For Distributorship Services—Namely, Distribution of Fresh Fruits and Vegetables on a Wholesale and Retail Basis (Int. Cl. 42).
First use May 17, 1966.

SN 270,623. Tippy's Taco House of America, Inc., Dallas, Tex. Filed May 3, 1967.



Without prejudice to any comomn law rights, the words "Taco House" are disclaimed apart from the mark as shown.
For Restaurant Services (Int. Cl. 42).
First use Sept. 20, 1966.

SN 276,846. Medicenters of America, Inc., Memphis, Tenn. Filed July 26, 1967.



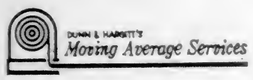
Applicant disclaims the phrase "A Nice Place To Get Well" apart from the mark as shown.
For Medical and Skilled Nursing Care Services (Int. Cl. 42).
First use Sept. 16, 1966.

SN 281,424. Reid-Meredith, Inc., Lawrence, Mass., by merger from Reid-Meredith, Inc., Lawrence, Mass. Filed Sept. 29, 1967.

BEAUTY LIFE

For Reconditioning Wigs and Hairpieces (Int. Cl. 42).
First use Nov. 4, 1965.

SN 286,792. Financial Services, Inc., Lafayette, Ind. Filed Dec. 13, 1967.



Applicant disclaims "Moving Average Services" apart from the mark as shown.
For Stock Market and Commodity Market Advisory Services (Int. Cl. 42).
First use July 1, 1967.

SN 293,512. Golden Door Motels, Inc., Portland, Oreg. Filed Mar. 18, 1968.

Golden door

For Motel Services (Int. Cl. 42).
First use on or about Nov. 4, 1967.

SN 301,493. Kunian Beauty Salons Incorporated, Minneapolis, Minn. Filed June 27, 1968.

REGIS

For Complete Service Beauty Parlors or Salons (Int. Cl. 42).
First use on or about Jan. 1, 1954.

SN 302,692. Red Carpet Inns, Inc., Daytona Beach, Fla. Filed July 15, 1968.

RED CARPET INN

Without waiver of any of its common law rights, applicant disclaims exclusive right to use of the word "Inn" apart from the mark as shown.
For Providing Lodging in Tourist Courts (Int. Cl. 42).
First use May 1, 1968.

Class 101 — Advertising and Business

SN 249,807. Kaiser Aluminum & Chemical Corporation, Oakland, Calif., assignee of Southern Nitrogen Company, Inc., Savannah, Ga. Filed July 7, 1966.



For Services to Farmers in Pulling Soil Samples, Analyzing Soil Samples, and in Providing Technical Advice and Counseling on Crop Selection (Int. Cl. 35).
First use Sept. 29, 1965.

SN 252,966. The Public Relations Board, Inc., Chicago, Ill. Filed Aug. 23, 1966.

PUBLIC RELATIONS NETWORK INTERNATIONAL

Owner of Reg. No. 778,312.
For Public Relations Work (Int. Cl. 35).
First use on or before Feb. 8, 1966.

SN 259,843. Needaplane, Inc., Highland Park, Ill. Filed Dec. 1, 1966.

NEEDAPLANE

For Aircraft Brokerage Services (Int. Cl. 35).
First use Oct. 25, 1966.

SN 262,519. Terra Chemicals International, Inc., Sioux City, Iowa. Filed Jan. 13, 1967.

FARM PROFIT CENTER

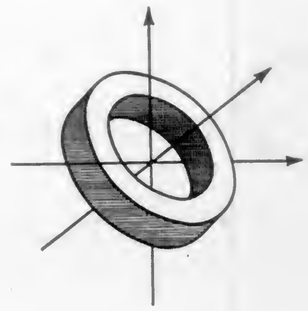
No claim is made to the words "Farm" and "Center" apart from the mark as shown, without waiver of any common law rights.
For Retail Farm Store Services Featuring Chemicals, Fertilizers, Farm Equipment and the Like; Rendering Technical Assistance to Farmers in All Matters Pertaining to the Growing of Crops (Int. Cl. 35).
First use during December 1965.

SN 265,363. United Theatre Owners of the Heart of America, d.b.a. United Motion Picture Association, Kansas City, Mo. Filed Feb. 23, 1967.

SHOW-A-RAMA

For Operating Annual Trade Shows for Movie Theatre Operators and Film Distributors (Int. Cl. 35).
First use Mar. 24, 1959.

SN 275,175. Sci-Tek Computer Center, Inc., Wilmington, Del. Filed June 30, 1967.



The drawing is lined for blue and a claim is made to that color.
For Services in the Computer Field, Being Data Processing and Computer Services for Others (Int. Cl. 35).
First use on or about Apr. 18, 1967.

SN 275,875. Sci-Tek Computer Center, Inc., Wilmington, Del. Filed July 12, 1967.

SCI-TEK

For Services in the Computer Field, Being Data Processing and Computer Services for Others (Int. Cl. 35).
First use on or about Apr. 18, 1967.

SN 276,830. Fitzsimmons, Inc., Pittsburgh, Pa. Filed July 26, 1967.

ZIP-O-MATED

For Compiling Direct Mail Lists for Others (Int. Cl. 35).
First use in or about June 1967.

SN 285,044. National Income Tax Service, Inc., Wilmington, Del. Filed Nov. 16, 1967.

NATIONAL

For Tax Consulting and Tax Return Preparing Service (Int. Cl. 35).
First use January 1965.

SN 294,131. All Points Relocation Service, Inc., Atlanta, Ga. Filed Mar. 26, 1968.



The representation of the map is disclaimed apart from the mark as shown.
For Real Estate Services—Namely, Real Estate Prospect Referral Service for Relocating Home Owners Who Have Been Transferred or Who Are Moving From One Location to Another (Int. Cl. 35).
First use Mar. 8, 1968.

Class 102 — Insurance and Financial

SN 267,755. Interbank Card, Inc., Buffalo, N.Y. Filed Mar. 28, 1967.



For Arranging for the Exchanging of Charging Privileges Among Banks Through Mutual Recognition of Each Other's Charge Cards (Int. Cl. 36).
First use at least as early as Mar. 13, 1967.

SN 268,282. Atlantic Associates, Inc., Providence, R.I. Filed Apr. 4, 1967.



For Debt Consolidation Services (Int. Cl. 36).
First use on or about Feb. 23, 1967.

SN 278,680. First National City Bank, New York, N.Y. Filed Aug. 21, 1967.

THE EVERYTHING CARD

Applicant disclaims the word "Card" apart from the mark as shown.

For Credit Financing Services Including Central Billing of Customers' Charges and Collection of Accounts (Int. Cl. 36).

First use May 18, 1967.

SN 284,725. The Philadelphia National Bank, Philadelphia, Pa. Filed Nov. 13, 1967.

PNB for everything you need a bank for

Applicant disclaims the words "For Everything You Need a Bank for" apart from the mark as shown.

For Commercial Banking Services (Int. Cl. 36).

First use Dec. 28, 1964.

Class 103 — Construction and Repair

SN 263,815. The Cessna Aircraft Company, Wichita, Kans. Filed Feb. 2, 1967.



The drawing is lined for the colors red and blue.

For Services Performed on Aircraft—Namely, Repair and Maintenance Service Rendered in Aircraft (Int. Cl. 37).

First use Dec. 5, 1958.

SN 277,277. Handi-Clean Products, Inc., Greensboro, N.C. Filed Aug. 1, 1967.

odorcon

The drawing is lined for green but no claim is made to color. Owner of Reg. Nos. 811,113 and 825,447.

For Cleaning and Maintaining Restrooms and Toilet Facilities for Others (Int. Cl. 37).

First use on or about July 1, 1963.

Class 104 — Communication

SN 271,555. The Western Union Telegraph Company, New York, N.Y. Filed May 15, 1967.

DIAL-PAK

For Computer-To-Computer Switched Communication Services (Int. Cl. 38).

First use on or about Apr. 30, 1967.

Class 105 — Transportation and Storage

SN 259,888. Alaska Airlines, Inc., d.b.a. Alaska Airlines, Seattle, Wash. Filed Dec. 2, 1966.

ALASKA AIRLINES

For Air Transportation of Passengers and Freight (Int. Cl. 39).

First use June 1942.

SN 266,313. The Edwards Transfer and Storage Company, Columbus, Ohio. Filed Mar. 9, 1967.

ALL STAR SERVICES

Applicant disclaims the word "Services" apart from the mark. The drawing is lined for red, but color is not claimed as a feature of the mark.

For Transportation of Freight by Truck and Storage of Same (Int. Cl. 39).

First use Apr. 20, 1966.

SN 271,505. Kenneth Narrod Moving Company, Waukegan, Ill. Filed May 15, 1967.

EXEC-O-VAN

For Transportation of Household Goods by Truck and Storage of the Same (Int. Cl. 39).

First use October 1966.

SN 273,040. Colpitts Tourist Co., Inc., Boston, Mass. Filed June 5, 1967.

For Travel Agency Services (Int. Cl. 39).

First use Jan. 1, 1966.

SN 287,805. Courtesy Associates, Inc., Washington, D.C. Filed Dec. 29, 1967.

Courtesy Travel Service

The words "Travel Service" are disclaimed apart from the mark as shown. Owner of Reg. No. 620,124.

For Travel Agency Services (Int. Cl. 39).

First use on or about Oct. 1, 1967; on or about June 6, 1963, as to the words "Courtesy Travel Service."

Class 107 — Education and Entertainment

SN 264,520. The Cues, Incorporated, Milbank, S. Dak. Filed Feb. 13, 1967.

The Cue
FAMILY RECREATION

Applicant disclaims the words "Family Recreation" apart from the mark as shown.

For Operating Family Recreation Centers (Int. Cl. 41).

First use October 1965.

SN 264,521. The Cues, Incorporated, Milbank, S. Dak. Filed Feb. 13, 1967.

The Cue

For Operating Family Recreation Centers (Int. Cl. 41).

First use October 1965.

SN 272,074. Brian E. Lake, d.b.a. Prophets Production Ltd., West Allis, Wis. Filed May 22, 1967.

THEE PROPHETS

For Providing Musical Entertainment to the General Public by a Musical Band, a "Rock-n-Roll" Group (Int. Cl. 41).

First use Apr. 3, 1965.

SN 276,465. Dennis A. Picasso, Baltimore, Md. Filed July 20, 1967.

DENNY AND THE HITCHHIKERS

For Musical Entertainment Services Consisting of Popular Music Performed by a Small Group (Int. Cl. 41).

First use July 1, 1965.

SN 277,304. The Rumbles, Ltd., Omaha, Nebr. Filed Aug. 1, 1967.

The Rumbles LTD.

For Entertainment Services—Namely, the Vocal and Instrumental Rendering of Popular Music (Int. Cl. 41).

First use Jan. 1, 1962.

SN 280,880. New Orleans Buccaneers, Inc., New Orleans, La. Filed Sept. 21, 1967.

BUCCANEERS NEW ORLEANS

The term "New Orleans" as well as the pictorial representation of a basketball are disclaimed apart from the mark as shown.

For Furnishing Entertainment Services in the Nature of Professional Basketball Games (Int. Cl. 41).

First use June 15, 1967.

SN 283,317. C-E-I-R, Inc., Washington, D.C. Filed S.R. Oct. 25, 1967; Am. P.R. Jan. 19, 1968.

ai AUTOMATION INSTITUTE COURSES

Applicant disclaims the use of the words "Automation Institute Courses." Owner of Reg. No. 676,136.

For Education and Training Services in Connection With Automation Data Processing Systems (Int. Cl. 41).

First use 1961.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

858,453. VANTEL. Interchemical Corporation. SN 280,232. Pub. 7-30-68. Filed 9-13-67.

858,454. TAYLORCLAD. Taylor Corporation. SN 280,648. Pub. 7-30-68. Filed 9-18-67.

858,455. HI-TUFF. United Elastic Corporation. SN 282,842. Pub. 7-30-68. Filed 10-18-67.

858,456. SCULPTA-MIKE. Mary Mikel Stockwood Fish, d.b.a. Stockwood Studio. SN 283,119. Pub. 7-30-68. Filed 10-23-67.

858,457. PIPPITY. Wolverine World Wide, Inc. SN 283,184. Pub. 7-30-68. Filed 10-23-67.

858,458. ULANO. Ulano Products Company, Inc. MULTIPLE CLASS (Classes 1, 5, and 26). SN 283,380. Pub. 7-30-68. Filed 10-26-67.

858,459. SCULPTA-MIKE AND DESIGN. Mary Mikel Stockwood Fish, d.b.a. Stockwood Studio. SN 294,609. Pub. 7-30-68. Filed 4-1-68.

858,460. SQUARE CHECKERBOARD (DESIGN). Ralston Purina Company. SN 294,712. Pub. 7-30-68. Filed 4-2-68.

Class 2 — Receptacles

858,461. DUBL-VAC. Studley Paper Company, Inc. SN 243,926. Pub. 12-12-67. Filed 4-20-66.

858,462. G AND DESIGN. Glacier Ware, Inc., by change of name from Aldco, Inc. SN 248,952. Pub. 3-19-68. Filed 6-27-66.

858,463. MISCELLANEOUS DESIGN. C. Erwin Ellett, Jr. MULTIPLE CLASS (Classes 2 and 26). SN 262,930. Pub. 7-30-68. Filed 1-20-67.

858,464. MEAD POLAR-CORR AND DESIGN. The Mead Corporation. MULTIPLE CLASS (Classes 2 and 37). SN 264,562. Pub. 7-30-68. Filed 2-13-67.

858,465. MISCELLANEOUS DESIGN. Lerner Manufacturing, Inc. MULTIPLE CLASS (Classes 2, 13, 32, and 50). SN 267,832. Pub. 7-30-68. Filed 3-29-67.

858,466. MOO-ZOO. Weyerhaeuser Company. SN 271,556. Pub. 7-30-68. Filed 5-15-67.

858,467. PRESTON. J. A. Preston Corporation. MULTIPLE CLASS (Classes 2, 8, 12, 13, 21, 22, 23, 24, 26, 27, 32, 34, 36, 40, 44, and 50). SN 273,714. Pub. 7-30-68. Filed 6-12-67.

858,468. PROTECTITE. All-State Welding Alloys Co., Inc. SN 274,295. Pub. 7-30-68. Filed 6-20-67.

858,469. CAI (DESIGN). Cope Allman International Limited. SN 279,173. Pub. 7-30-68. Filed 8-28-67.

858,470. WAYNE. Symington Wayne Corporation. MULTIPLE CLASS (Classes 2, 15, and 23). SN 283,189. Pub. 7-30-68. Filed 10-24-67.

858,471. NESTPRIDE. Lily-Tulip Cup Corporation. SN 287,563. Pub. 7-30-68. Filed 12-26-67.

858,472. STANDACASE. Becton, Dickinson and Company. SN 288,075. Pub. 7-30-68. Filed 1-4-68.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

858,473. BERNELE AND DESIGN. Bernele Handbag Co., Inc. SN 277,609. Pub. 7-30-68. Filed 8-7-67.

858,474. MINI-FOLD. The Noymer Mfg. Company. SN 278,235. Pub. 7-30-68. Filed 8-14-67.

858,475. BLOCK. Charles E. Block Inc. SN 281,543. Pub. 7-30-68. Filed 10-2-67.

858,476. SUPERBA. Samsonite Corporation. SN 285,150. Pub. 7-30-68. Filed 11-17-67.

858,477. SUPERBIA. Samsonite Corporation. SN 285,151. Pub. 7-30-68. Filed 11-17-67.

Class 5 — Adhesives

858,458. (See Class 1 for this trademark.)

858,478. BIRMA. Birma Products Corporation. MULTIPLE CLASS (Classes 5, 12, 23, and 31). SN 258,886. Pub. 7-30-68. Filed 11-17-66.

Class 6 — Chemicals and Chemical Compositions

858,479. KNOLL AND DESIGN. Knoll Aktiengesellschaft. SN 256,287. Pub. 7-30-68. Filed 10-12-66.

858,480. QU-SOL. Sterling Drug Inc., assignee of Ciba Corporation, d.b.a. The Gland-O-Lac Company. SN 265,169. Pub. 1-16-68. Filed 2-21-67.

858,481. HI PER-15. FMC Corporation. SN 268,174. Pub. 7-30-68. Filed 4-3-67.

858,482. TIEZENE. Montecatini Edison S.p.A. SN 271,269. Pub. 7-30-68. Filed 5-11-67.

858,483. DYNACOR. Dynamit Nobel Aktiengesellschaft. SN 274,595. Pub. 7-30-68. Filed 6-23-67.

858,484. DYNARIT. Dynamit Nobel Aktiengesellschaft. SN 274,598. Pub. 7-30-68. Filed 6-23-67.

858,485. GAF AND DESIGN. General Aniline & Film Corporation. SN 278,592. Pub. 7-30-68. Filed 8-18-67.

858,486. LONCO. London Chemical Company, Inc. MULTIPLE CLASS (Classes 6, 11, 16, 34, and 52). SN 279,133. Pub. 7-30-68. Filed 8-28-67.

858,487. CMC AND DESIGN. Communication Mfg. Co. MULTIPLE CLASS (Classes 6, 13, 21, 23, 26, 32, and 50). SN 279,592. Pub. 6-11-68. Filed 9-5-67.

858,488. HYDRO-TEL. Madison Chemical Corporation. SN 280,441. Pub. 7-30-68. Filed 9-15-67.

858,489. MOLYCORP. Molybdenum Corporation of America. MULTIPLE CLASS (Classes 6 and 14). SN 281,345. Pub. 7-30-68. Filed 9-28-67.

858,490. NULOTAB. Sucrest Corporation. SN 281,852. Pub. 7-30-68. Filed 10-5-67.

858,491. REVERDOL. Geigy Chemical Corporation. SN 284,354. Pub. 7-30-68. Filed 11-8-67.

858,492. I-WAY ETC. AND DESIGN. W. E. Lahr Co. MULTIPLE CLASS (Classes 6, 15, 19, and 21). SN 289,441. Pub. 7-30-68. Filed 1-24-68.

Class 7 — Cordage

858,493. PTT. International Harvester Company. SN 276,018. Pub. 7-30-68. Filed 7-14-67.

Class 8 — Smokers' Articles, Not Including Tobacco Products

858,467. (See Class 2 for this trademark.)

Class 9 — Explosives, Firearms, Equipments, and Projectiles

858,494. REC-O-CHEK AND DESIGN. Fred Wesemann. SN 288,656. Pub. 7-30-68. Filed 1-11-68.

858,495. VERELITE. Pacific Gun Sight Co. SN 289,526. Pub. 7-30-68. Filed 1-24-68.

Class 11 — Inks and Inking Materials

858,486. (See Class 6 for this trademark.)

858,496. SUNKEM. Sun Chemical Corporation. SN 268,437. Pub. 7-30-68. Filed 4-5-67.

858,497. ALUMASHEEN. Sun Chemical Corporation. SN 269,581. Pub. 7-30-68. Filed 4-19-67.

Class 12 — Construction Materials

858,467. (See Class 2 for this trademark.)

858,478. (See Class 5 for this trademark.)

858,498. SEA SPRITE AND DESIGN. Sea Sprite Pools, Inc. SN 264,596. Pub. 7-30-68. Filed 2-13-67.

858,499. ISLECRAFT AND DESIGN. Island Steel & Welding, Ltd. SN 274,523. Pub. 7-30-68. Filed 6-22-67.

858,500. ULTRA STILE. The Alumiline Corporation. SN 278,654. Pub. 7-30-68. Filed 8-21-67.

858,501. DRAVEL. Compagnie de Saint-Gobain. SN 280,210. Pub. 7-30-68. Filed 9-13-67.

858,502. FIBR-GARD. Cascade Pole Company, d.b.a. Cascade Pole Co. SN 287,276. Pub. 7-30-68. Filed 12-20-67.

858,503. MANOR. Pacific Wood Products Company. SN 288,635. Pub. 4-23-68. Filed 1-11-68.

858,504. WINDSOR. Clopay Corporation. SN 289,277. Pub. 7-30-68. Filed 1-22-68.

858,505. ELMCO. Lumbermens Merchandising Corporation. SN 289,817. Pub. 7-30-68. Filed 1-29-68.

858,506. VEREX. General Refractories Company. SN 294,438. Pub. 7-30-68. Filed 3-29-68.

858,507. KRINKLGLAS. S. Ronald Barnette. SN 296,508. Pub. 7-30-68. Filed 4-25-68.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

858,465. (See Class 2 for this trademark.)

858,467. (See Class 2 for this trademark.)

858,487. (See Class 6 for this trademark.)

858,508. TRI-WELD. Ladish Co. SN 227,040. Pub. 6-7-66. Filed 9-2-65.

858,509. MISCELLANEOUS DESIGN. Sumitomo Metal Industries, Ltd. MULTIPLE CLASS (Classes 13, 14, 19, and 23). SN 261,903. Pub. 7-30-68. Filed 1-4-67.

858,510. MISCELLANEOUS DESIGN. United-Carr Incorporated, assignee, by mesne assignment, of United-Carr Incorporated. MULTIPLE CLASS (Classes 13, 21, and 40). SN 269,375. Pub. 7-30-68. Filed 4-18-67.

858,511. M AND DESIGN. International Horseshoe Company, Inc., d.b.a. Multi-Products Company. SN 270,253. Pub. 7-30-68. Filed 4-28-67.

858,512. MULTI-PRODUCTS CO. ETC. AND DESIGN. International Horseshoe Company, Inc., d.b.a. Multi-Products Company. SN 270,254. Pub. 7-30-68. Filed 4-28-67.

858,513. HYDRO-MOVE. Edward J. Franzwa, d.b.a. Western Irrigation & Equipment Co. SN 271,248. Pub. 7-30-68. Filed 5-11-67.

858,514. UTC AND DESIGN. United Aircraft Corporation. SN 272,989. Pub. 7-30-68. Filed 6-5-67.

858,515. DOURO. Benjamin & Medwin, Inc. SN 277,608. Pub. 7-30-68. Filed 8-7-67.

858,516. ELECTROFLUSH AND DESIGN. Palleon Electronics Limited. SN 277,930. Pub. 7-30-68. Filed 8-9-67.

858,517. BABY-BIRD. Airko Manufacturing Co. SN 278,458. Pub. 7-30-68. Filed 8-17-67.

858,518. OVALLAV. Lippert Tile, Inc. SN 295,827. Pub. 7-30-68. Filed 4-17-68.

Class 14 — Metals and Metal Castings and Forgings

858,489. (See Class 6 for this trademark.)

858,509. (See Class 13 for this trademark.)

858,519. SKRINET. Trefilerles Leon Bekaert, PVBA. SN 265,225. Pub. 7-30-68. Filed 2-21-67.

Class 15 — Oils and Greases

858,470. (See Class 2 for this trademark.)

858,492. (See Class 6 for this trademark.)

Class 16 — Protective and Decorative Coatings

858,486. (See Class 6 for this trademark.)

858,520. SPECTO-TILE. Rite-Way Coatings Co. SN 250,688. Pub. 7-30-68. Filed 7-20-66.

858,521. NU KOTE. Pressure Pak, Inc. SN 271,959. Pub. 6-11-68. Filed 5-19-67.

Class 18 — Medicines and Pharmaceutical Preparations

858,479. (See Clas 6 for this trademark.)

858,522. R RACHELLE AND DESIGN. Rachelle Laboratories, Inc. SN 257,983. Pub. 7-30-68. Filed 11-4-66.

858,523. UNIGESIC. Arco Pharmaceuticals, Inc. SN 267,595. Pub. 5-7-68. Filed 3-27-67.

858,524. TRADENAL. Knoll A.G. Chemische Fabriken. SN 268,316. Pub. 7-30-68. Filed 4-4-67.

858,525. PROGRAM. Bristol-Myers Company. SN 270,885. Pub. 4-9-68. Filed 5-8-67.

858,526. ERBACETINE. Carlo Erba S.p.A. SN 272,539. Pub. 7-30-68. Filed 5-29-67.

858,527. ASPERGESIC. Polamer Drug Co., Inc. SN 275,300. Pub. 6-11-68. Filed 7-3-67.

858,528. PLAY MATE. S.S.S. Co. SN 276,252. Pub. 7-30-68. Filed 7-18-67.

858,529. AM. Bristol-Myers Company. SN 279,530. Pub. 7-30-68. Filed 9-1-67.

858,530. SIDONNA. Reed & Carnrick. SN 279,860. Pub. 7-30-68. Filed 9-7-67.

858,531. PETROCEL. Roth Laboratories, assignee of Herbert J. Roth, d.b.a. Roth Drug Company. SN 280,638. Pub. 7–30–68. Filed 9–18–67.

858,532. SEDALOTION. Roth Laboratories, assignee of Herbert J. Roth, d.b.a. Roth Drug Company. SN 280,639. Pub. 7–30–68. Filed 9–18–67.

858,533. KERI. Foster Milburn Company. SN 296,234. Pub. 7–30–68. Filed 4–23–68.

858,534. MICRO-NOVUM. Ortho Pharmaceutical Corporation. SN 296,386. Pub. 7–30–68. Filed 4–24–68.

Class 19 — Vehicles

858,492. (See Class 6 for this trademark.)

858,509. (See Class 13 for this trademark.)

858,535. DUPREE. Walbro Corporation. MULTIPLE CLASS (Classes 19, 23, and 50). SN 255,247. Pub. 7–30–68. Filed 9–27–66.

Class 20 — Linoleum and Oiled Cloth

858,536. CUSHIONCORD. Armstrong Cork Company. SN 247,307. Pub. 3–7–67. Filed 6–6–66.

Class 21 — Electrical Apparatus, Machines, and Supplies

858,467. (See Class 2 for this trademark.)

858,487. (See Class 6 for this trademark.)

858,492. (See Class 6 for this trademark.)

858,510. (See Class 13 for this trademark.)

858,537. SUN SET. Sony Corporation of America. SN 260,891. Pub. 7–30–68. Filed 12–15–66.

858,538. MOBIL-MAG. Joseph F. Taraba, Inc. SN 267,452. Pub. 7–30–68. Filed 3–23–67.

858,539. DELMATIC. Delmatic Limited. SN 274,502. Pub. 7–30–68. Filed 6–22–67.

858,540. CHEMFLAT. Semimetals, Inc., assignee of Elmat Corporation. SN 275,437. Pub. 7–30–68. Filed 7–6–67.

858,541. ZI AND DESIGN. Zaring Industries, Inc. SN 295,490. Pub. 7–30–68. Filed 4–12–68.

Class 22 — Games, Toys, and Sporting Goods

858,467. (See Class 2 for this trademark.)

858,542. DURESTA. Krafft & Schüll. SN 258,309. Pub. 7–30–68. Filed 11–9–66.

858,543. ARMORED ATTACK. Andrew L. Peabody. SN 269,096. Pub. 7–30–68. Filed 4–13–67.

858,544. HOMER THE HUGGABLE HOUND. Edward L. Mobley, Jr., d.b.a. The Edward Mobley Co. SN 272,842. Pub. 7–30–68. Filed 6–1–67.

858,545. BAMBINO. Kunstharsverwerkende Industrie D.S. Plastics N.V. SN 274,635. Pub. 7–30–68. Filed 6–23–67.

858,546. WEDGE O MATIC. Brunswick Corporation. SN 278,947. Pub. 7–30–68. Filed 8–24–67.

858,547. FANTASIA. Raybestos-Manhattan, Inc. SN 282,724. Pub. 7–30–68. Filed 10–17–67.

858,548. ITS TIME FOR A CHANGING OF THE GUARD AND DESIGN. Right-Gard Corporation. SN 283,279. Pub. 7–30–68. Filed 10–24–67.

858,549. IRON MASTER. Brunswick Corporation. SN 283,619. Pub. 7–30–68. Filed 10–30–67.

858,550. CRAZY BLOCKS. Harvey-Janice Enterprises, Inc., d.b.a. Harvey Enterprises. SN 284,370. Pub. 7–30–68. Filed 11–8–67.

858,551. JUGGLE-HEAD. Toplay Products, Inc. SN 285,272. Pub. 7–30–68. Filed 11–20–67.

858,552. KRIS MOUSE. Sprouse-Reitz Co., Inc. SN 287,839. Pub. 7–30–68. Filed 12–29–67.

858,553. AFRIKANER. Mattel, Inc. SN 296,923. Pub. 7–30–68. Filed 4–30–68.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

858,467. (See Class 2 for this trademark.)

858,470. (See Class 2 for this trademark.)

858,478. (See Class 5 for this trademark.)

858,487. (See Class 6 for this trademark.)

858,509. (See Class 13 for this trademark.)

858,535. (See Class 19 for this trademark.)

858,554. SERTA. Imperial International Corp. SN 244,491. Pub. 7–4–67. Filed 4–28–66.

858,555. STAC-PAC. William Taylor, d.b.a. Coil Equipment Company. SN 251,016. Pub. 7–30–68. Filed 7–25–66.

858,556. DM AND DESIGN. The Dyson-Kissner Corporation. SN 264,308. Pub. 7–30–68. Filed 2–9–67.

858,557. ACE 90. Farm Chemicals of Oregon, Inc., d.b.a. Pacific Basin Trading Company. SN 273,387. Pub. 7–30–68. Filed 6–9–67.

858,558. SI AND DESIGN. Serena Industries. SN 281,723. Pub. 7–30–68. Filed 10–3–67.

858,559. QUICKLINE. Oglebay Norton Company. SN 282,714. Pub. 7–30–68. Filed 10–17–67.

858,560. HERCULEZE. Jim-Dee Co. SN 293,278. Pub. 7–30–68. Filed 3–14–68.

858,561. ROMPER. Raygo, Inc. SN 296,619. Pub. 7–30–68. Filed 4–26–68.

Class 24 — Laundry Appliances and Machines

858,467. (See Class 2 for this trademark.)

Class 25 — Locks and Safes

858,562. DETEX. Detex Corporation. SN 262,029. Pub. 7–30–68. Filed 1–6–67.

Class 26 — Measuring and Scientific Appliances

858,458. (See Class 1 for this trademark.)

858,463. (See Class 2 for this trademark.)

858,467. (See Class 2 for this trademark.)

858,487. (See Class 6 for this trademark.)

858,563. T AND DESIGN. Transducers, Inc. SN 243,043. Pub. 7–30–68. Filed 4–8–66.

858,564. UNIGOGGLE. Air Reduction Company, Incorporated. SN 240,931. Pub. 7–30–68. Filed 7–11–66.

858,565. ACCURAPID. Accura, Ltd. SN 252,528. Pub. 7–30–68. Filed 8–17–66.

858,566. MONOSET. Carlo Gavazzi, S.p.A. SN 258,357. Pub. 7–30–68. Filed 11–10–66.

858,567. MISCELLANEOUS DESIGN. Tomoe Soroban Kabushiki Kaisha. SN 259,276. Pub. 7–30–68. Filed 11–22–66.

858,568. MILTON. Milton Manufacturing Company, Inc. SN 270,594. Pub. 7–30–68. Filed 5–3–67.

858,569. NESCO. Nelson Sales Company. SN 274,448. Pub. 7–30–68. Filed 6–21–67.

858,570. THERMARTROL. Thiokol Chemical Corporation. SN 274,787. Pub. 7–30–68. Filed 6–26–67.

858,571. PARTY GLASSES BY RIVIERA AND DESIGN. Riviera Trading Corp. SN 277,706. Pub. 7–30–68. Filed 8–7–67.

858,572. TOUCH-TEMP. Transmation, Inc. SN 282,839. Pub. 7–30–68. Filed 10–18–67.

858,573. SUNSCREEN. Eastman Kodak Company. SN 288,090. Pub. 7–30–68. Filed 1–4–68.

Class 27 — Horological Instruments

858,467. (See Class 2 for this trademark.)

858,574. MILLENIA. Bulova Watch Company, Inc. SN 285,989. Pub. 7–30–68. Filed 12–1–67.

Class 28 — Jewelry and Precious-Metal Ware

858,575. AC AND ANCHOR (DESIGN). Anchor Casting Co., Inc. SN 283,756. Pub. 7–30–68. Filed 10–31–67.

Class 29 — Brooms, Brushes, and Dusters

858,576. AUDIOTEX AND DESIGN. Hydrometals, Inc., d.b.a. G.C. Electronics Company. SN 264,546. Pub. 7–30–68. Filed 2–13–67.

Class 31 — Filters and Refrigerators

858,478. (See Class 5 for this trademark.)

Class 32 — Furniture and Upholstery

858,465. (See Class 2 for this trademark.)

858,467. (See Class 2 for this trademark.)

858,487. (See Class 6 for this trademark.)

858,577. ANGELA'S ANGELS. Angela's Angels, Inc. SN 258,208. Pub. 7–30–68. Filed 11–8–66.

858,578. STOW-AWAY. Safco Products Co. SN 282,930. Pub. 7–30–68. Filed 10–19–67.

858,579. POP AND DESIGN. Pop-Op Designs, Inc. SN 284,101. Pub. 7–30–68. Filed 11–3–67.

858,580. FIRST STEP TO BEAUTY. Bercy Industries, Inc. SN 284,582. Pub. 7–30–68. Filed 11–13–67.

858,581. LULL-A-PEDIC. Antiseptic Mattress Co. Inc. SN 284,884. Pub. 7–30–68. Filed 11–15–67.

Class 33 — Glassware

858,582. ODD BALL. Morgantown Glassware Guild, Incorporated. SN 285,343. Pub. 7–30–68. Filed 11–21–67.

Class 34 — Heating, Lighting, and Ventilating Apparatus

858,467. (See Class 2 for this trademark.)

858,486. (See Class 6 for this trademark.)

858,583. MAR-TEC. AND DESIGN. Mar-Tec International, Inc. SN 231,165. Pub. 7–30–68. Filed 10–22–65.

858,584. BRIGHTON 80-10 HEAD. Brighton Corporation. SN 245,676. Pub. 7–30–68. Filed 5–16–66.

858,585. COBALIDE. Cobalide (Industrial) Pty. Limited. SN 274,496. Pub. 7–30–68. Filed 6–22–67.

858,586. RAINBOW. Sunroc Corporation. SN 278,717. Pub. 7–30–68. Filed 8–21–67.

858,587. BERNARD. Bernard Welding Equipment Company. SN 286,789. Pub. 7–30–68. Filed 12–13–67.

Class 36 — Musical Instruments and Supplies

858,467. (See Class 2 for this trademark.)

858,588. RUSTIC. Lewis E. Matthew. SN 260,060. Pub. 7–30–68. Filed 12–5–66.

858,589. AN ACE PRODUCT AND DESIGN. Charm Belt Co., Inc., d.b.a. Ace Musical Strap Co. SN 267,815. Pub. 7–30–68. Filed 3–29–67.

858,590. ROWE AMI. Rowe International, Inc., assignee of Canteen Corporation. SN 270,115. Pub. 7–30–68. Filed 4–27–67.

858,591. TAPE IT EASY. Philco-Ford Corporation. SN 274,984. Pub. 7–30–68. Filed 6–28–67.

858,592. MICRO-TRAK. The Poly-Choke Company, Incorporated. SN 288,029. Pub. 7–30–68. Filed 1–3–68.

858,593. CAROUSEL. Allen Organ Company. SN 292,238. Pub. 7–30–68. Filed 3–1–68.

Class 37 — Paper and Stationery

858,464. (See Class 2 for this trademark.)

858,594. K AND DESIGN. Eugene Dietzgen Co. SN 253,637. Pub. 7–30–68. Filed 9–1–66.

858,595. QUIK-DRAW. School House Products, Inc. SN 272,106. Pub. 7–30–68. Filed 5–22–67.

858,596. HARVARD. School House Products, Inc. SN 272,108. Pub. 7–30–68. Filed 5–22–67.

858,597. KINGS SUPERFINE PARCHMENT. Kings Card & Paper Co., Inc. SN 274,402. Pub. 7–30–68. Filed 6–22–67.

858,598. CREST (DESIGN). A. W. Faber-Castell Pencil Co., Inc. SN 278,957. Pub. 7–30–68. Filed 8–24–67.

858,599. DATA SETS. Uarco Incorporated. SN 279,506. Pub. 7–30–68. Filed 8–31–67.

858,600. SNOWMAN. Norihiko Mizutani. SN 281,712. Pub. 7–30–68. Filed 10–3–67.

858,601. CENTURY WHITE WOVE. Quality Park Envelope Company. SN 283,277. Pub. 7–30–68. Filed 10–24–67.

858,602. SPRA WHITE. Albemarle Paper Company. SN 287,869. Pub. 7–30–68. Filed 1–2–68.

858,603. TRI-RITE. Riverside Paper Corporation. SN 287,953. Pub. 7–30–68. Filed 1–2–68.

858,604. BLACK CAT. Joe Daley & Son, Inc. SN 288,797. Pub. 7–30–68. Filed 1–15–68.

858,605. BLACK CAT (DESIGN). Joe Daley & Son, Inc. SN 288,798. Pub. 7–30–68. Filed 1–15–68.

858,606. PEN WHEELS AND DESIGN. Lasky Printing & Publishing Co. SN 292,489. Pub. 7–30–68. Filed 3–5–68.

858,607. ANTI-ROLL. Binney & Smith Inc. SN 295,790. Pub. 7–30–68. Filed 4–17–68.

Class 38 — Prints and Publications

858,608. REALITY. Dr. Paul Rader, d.b.a. The Paul Rader Evangelistic Association. SN 260,957. Pub. 7–30–68. Filed 12–16–66.

858,609. SURVEYOR. American Bureau of Shipping. SN 286,135. Pub. 7-30-68. Filed 3-7-67.

858,610. DISCOVER. Geo. A. Pflaum, Publisher, Inc. SN 270,704. Pub. 7-30-68. Filed 5-4-67.

858,611. REFEREE. District of Columbia Association of the Amateur Athletic Union of the United States. SN 274,051. Pub. 7-30-68. Filed 6-16-67.

858,612. THE ARMY-NAVY STORE MAGAZINE. Lathrop M. Aroniss, d.b.a. Commercial Circular Co. SN 277,875. Pub. 7-30-68. Filed 8-9-67.

858,613. OVERGROUND. Overground Art, Inc. SN 290,223. Pub. 7-30-68. Filed 2-5-68.

858,614. PERIODICUBES. Donald D. Hedberg, d.b.a. Dyna-Slide Company. SN 292,784. Pub. 7-30-68. Filed 3-8-68.

858,615. WINDMILL BOOKS AND DESIGN. Windmill Books, Incorporated. SN 292,871. Pub. 7-30-68. Filed 3-11-68.

858,616. ALL-BIBLE AND DESIGN. Scripture Press Publications, Inc. SN 296,620. Pub. 7-30-68. Filed 4-26-68.

Class 39 — Clothing

858,617. JUST FOR ME AND DESIGN. Just For Me, Inc. SN 255,330. Pub. 7-30-68. Filed 9-28-66.

858,618. GEMINI. Superba Cravats, Inc. SN 265,445. Pub. 7-30-68. Filed 2-24-67.

858,619. BLACK DEVIL. Central Clothing Company. SN 269,398. Pub. 7-30-68. Filed 4-18-67.

858,620. BLACK DEVIL AND DESIGN. Central Clothing Company. SN 269,399. Pub. 7-30-68. Filed 4-18-67.

858,621. AMY NEW YORK. AMY Hats, Inc. MULTIPLE CLASS (Classes 39 and 40). SN 271,679. Pub. 7-30-68. Filed 5-17-67.

858,622. JOLIE GIRL BY BIEN JOLIE. Benjamin & Johnes, Inc. SN 272,005. Pub. 7-30-68. Filed 5-22-67.

858,623. IT TAKES YEARS TO BECOME A GOLF PRO IT TAKES 60 SECONDS TO LOOK LIKE ONE. Izod, Ltd. SN 272,066. Pub. 7-30-68. Filed 5-22-67.

858,624. MAGGIE CARROLL. Bayard Shirt Corp. SN 272,156. Pub. 7-30-68. Filed 5-23-67.

858,625. PERSIAN RUG COLLECTION. Damon Creations, Inc. SN 272,174. Pub. 7-30-68. Filed 5-23-67.

858,626. WHINNYS AND DESIGN. Foster Industries, Inc. SN 272,638. Pub. 7-30-68. Filed 5-29-67.

858,627. LONDON FOG. The Londontown Manufacturing Company. SN 273,966. Pub. 7-30-68. Filed 6-15-67.

858,628. THE KNITTER! AND DESIGN. Kniteraft Corporation. SN 275,533. Pub. 7-30-68. Filed 7-7-67.

858,629. RUDI GERNREICH. Rudi Gernreich. SN 276,012. Pub. 7-30-68. Filed 7-14-67.

858,630. SPLENDORE. McCallie Shoe Co. SN 278,312. Pub. 7-30-68. Filed 8-15-67.

858,631. DULOTTES. Serbin, Inc. SN 279,335. Pub. 7-30-68. Filed 8-29-67.

858,632. JOYCE ANN. E. Borgenicht & Co., Inc. SN 279,618. Pub. 7-30-68. Filed 9-5-67.

858,633. GOLO. Golo Footwear Corporation. SN 281,072. Pub. 7-30-68. Filed 9-25-67.

858,634. HONDO. Blue Bell, Inc. SN 282,417. Pub. 7-30-68. Filed 10-13-67.

858,635. RHODES. Garan, Incorporated. SN 285,918. Pub. 7-30-68. Filed 11-30-67.

858,636. MARTIN & SCOTT. Genesco Inc. SN 286,121. Pub. 7-30-68. Filed 12-4-67.

858,637. PEALE & CARR. Genesco Inc. SN 286,122. Pub. 7-30-68. Filed 12-4-67.

858,638. K MART AND DESIGN. S. S. Kresge Company. SN 286,155. Pub. 7-30-68. Filed 12-4-67.

858,639. ROYAL CONTINENTALS. Uniroyal, Inc. SN 286,212. Pub. 7-30-68. Filed 12-4-67.

858,640. SOFT PETALS AND DESIGN. Interco Incorporated. SN 288,958. Pub. 7-30-68. Filed 1-16-68.

858,641. TIK-TOK. Superba Cravats, Inc. SN 289,044. Pub. 7-30-68. Filed 1-17-68.

858,642. K MART. S. S. Kresge Company. SN 289,699. Pub. 7-30-68. Filed 1-26-68.

858,643. POWER-PLAY. Browns Hosiery Mills, Inc. SN 293,018. Pub. 7-30-68. Filed 3-12-68.

858,644. NEOLITE. The Goodyear Tire & Rubber Company. SN 294,179. Pub. 7-30-68. Filed 3-26-68.

858,645. TURTLE TUCKER. Glensder Corporation. SN 294,491. Pub. 7-30-68. Filed 3-20-68.

858,646. FREAQUE BOUTIQUE AND DESIGN. Sklar Enterprises, Inc. SN 294,756. Pub. 7-30-68. Filed 4-2-68.

Class 40 — Fancy Goods, Furnishings, and Notions

858,467. (See Class 2 for this trademark.)

858,510. (See Class 13 for this trademark.)

858,621. (See Class 39 for this trademark.)

858,647. DEMICOIF. General Wig Manufacturers, Inc. SN 276,744. Pub. 7-30-68. Filed 7-25-67.

858,648. CAPUCHE. General Wig Manufacturers, Inc. SN 276,746. Pub. 7-30-68. Filed 7-25-67.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

858,649. AVRILIN. FMC Corporation. SN 284,182. Pub. 7-30-68. Filed 11-6-67.

858,650. FLUFFY STUFF. Mass Market Corporation. SN 285,567. Pub. 7-30-68. Filed 11-24-67.

858,651. CRYSTAL KNIT. Heidenberg Textile Fabrics Co., Inc., assignee of Heidenberg Textile Fabrics Co. SN 287,400. Pub. 5-14-68. Filed 12-22-67.

858,652. MEDI-GARD. Medical Plastics Corporation of America. SN 289,561. Pub. 7-30-68. Filed 1-25-68.

Class 44 — Dental, Medical, and Surgical Appliances

858,467. (See Class 2 for this trademark.)

858,653. PARAMAX. Whaledent, Inc. SN 248,752. Pub. 7-30-68. Filed 6-22-66.

858,654. LAIRD TIP. Donald R. Laird. SN 263,277. Pub. 7-30-68. Filed 1-25-67.

858,655. PRE-OP. American Cyanamid Company. SN 275,358. Pub. 7-30-68. Filed 7-5-67.

858,656. STAR-SEAL. American Hospital Supply Corporation. SN 279,610. Pub. 7-30-68. Filed 9-5-67.

858,657. ROTHENE. Electro-Catheter Corporation. SN 279,936. Pub. 7-30-68. Filed 9-8-67.

858,658. SAFTI-J. Cook, Inc. SN 282,032. Pub. 5-21-68. Filed 10-9-67.

858,659. ABDO-FIT. Sturm & Scheinberg, Inc. SN 287,595. Pub. 7-30-68. Filed 12-26-67.

Class 46 — Foods and Ingredients of Foods

858,660. VIKING. The Nestlé Company, Inc. SN 249,554. Pub. 10-10-67. Filed 7-5-66.

858,661. ROYAL DUTCHY. Triumph Meat Packers, Ltd. SN 267,078. Pub. 5-7-68. Filed 3-17-67.

858,662. GOLDEN. Ward Foods, Inc. SN 274,679. Pub. 5-7-68. Filed 6-23-67.

858,663. O.C.F. Rod's Food Products, Inc. SN 292,059. Pub. 7-30-68. Filed 2-28-68.

858,664. DRAGO. Bison Canning Co., Inc. SN 292,543. Pub. 7-30-68. Filed 3-6-68.

Class 50 — Merchandise Not Otherwise Classified

858,465. (See Class 2 for this trademark.)

858,467. (See Class 2 for this trademark.)

858,487. (See Class 6 for this trademark.)

858,535. (See Class 19 for this trademark.)

858,665. FROM JD & S. John Dias and Sons. SN 264,395. Pub. 7-30-68. Filed 2-10-67.

858,666. ARTINI. Artini Arts, Inc. SN 277,974. Pub. 7-30-68. Filed S.R. 8-10-67; Am. P.R. 4-25-68.

858,667. NIGG. Nigg AG Bern. SN 289,205. Pub. 7-30-68. Filed 1-19-68.

858,668. MERRY GLOW. Guilden Development Company, Inc. SN 289,241. Pub. 7-30-68. Filed 1-22-68.

858,669. ELECTRO-CLAD. Polychrome Corporation. SN 294,853. Pub. 7-30-68. Filed 4-3-68.

858,670. BIO. Bio Bielefelder Offset-Druckplatten und Zubehoer B. Krause. SN 294,911. Pub. 7-30-68. Filed 4-4-68.

858,671. TRANSON. The Firestone Tire & Rubber Company. SN 295,222. Pub. 7-30-68. Filed 4-9-68.

858,672. PLASTO-LOK. Aluminum Company of America. SN 295,292. Pub. 7-30-68. Filed 4-10-68.

858,673. CCC AND DESIGN. Christmas Creations Corp. SN 295,510. Pub. 7-30-68. Filed 4-12-68.

Class 51 — Cosmetics and Toilet Preparations

858,674. INKA. Inka Cosmetic G.m.b.H. SN 240,178. Pub. 7-30-68. Filed 3-4-66.

858,675. MAN SPRAY. L.B. Laboratories, Inc. SN 242,025. Pub. 2-7-67. Filed 3-28-66.

858,676. VARI-LITE. Roux Laboratories, Inc. SN 268,529. Pub. 7-30-68. Filed 4-6-67.

858,677. PINKADINKADEW. Yardley of London, Inc. SN 268,642. Pub. 7-30-68. Filed 4-7-67.

858,678. ACROSS THE BORDER. Yardley of London, Inc. SN 268,643. Pub. 7-30-68. Filed 4-7-67.

858,679. CANOTIER. Societe Anonyme Rose Valois. SN 272,413. Pub. 7-30-68. Filed 6-12-67.

858,680. CHARMAINE. Charmaine & Company. MULTIPLE CLASS (Classes 51 and 52). SN 275,745. Pub. 7-30-68. Filed 7-11-67.

858,681. ADONIS AND DESIGN. Deluxol Laboratories, Inc. SN 276,418. Pub. 7-30-68. Filed 7-20-67.

Class 52 — Detergents and Soaps

858,486. (See Class 6 for this trademark.)

858,680. (See Class 51 for this trademark.)

858,682. BLAST-OFF. American Better Chemicals. SN 259,515. Pub. 6-11-68. Filed 11-28-66.

858,683. PEDISOAK. Thomas Gill Soap Company. SN 281,731. Pub. 6-4-68. Filed 10-3-67.

858,684. FLUSHOUT. The C. B. Dolge Company. SN 285,284. Pub. 7-30-68. Filed 11-20-67.

858,685. DARCEL. Mercantile Stores Company, Inc. SN 295,001. Pub. 7-30-68. Filed 4-5-68.

Service Marks

Class 100 — Miscellaneous

858,686. JOLLY KING (DESIGN). Royal Inns of America, Inc. SN 257,513. Pub. 7-30-68. Filed 10-28-66.

858,687. LANCER AND DESIGN. Donald R. Ford. SN 259,722. Pub. 7-30-68. Filed 11-30-66.

858,688. GWM WORKS "SCIENCE WITH INDUSTRY." G. William Martin, d.b.a. GWM Works "Science With Industry." SN 261,664. Pub. 7-30-68. Filed 12-29-66.

858,689. WINDSOR ESTATES AND DESIGN. Professional Nursing Homes of America, Inc. SN 267,445. Pub. 7-30-68. Filed 3-23-67.

858,690. YOU 'BOUT TO ORDER DA BESTA PIZZA INNA DA WORL'. AND DESIGN. Donald A. Hunt, d.b.a. Wholesale Pizza Co. SN 272,186. Pub. 7-30-68. Filed 5-23-67.

858,691. MISCELLANEOUS DESIGN. Mister Donut of America, Inc. MULTIPLE CLASS (Classes 100 and 101). SN 274,820. Pub. 7-30-68. Filed 6-26-67.

858,692. STS. Soil Testing Services, Inc. SN 275,794. Pub. 7-30-68. Filed 7-11-67.

858,693. DESIGN OF TWO HUMANS. Selectra-Date Corporation. SN 278,735. Pub. 7-30-68. Filed 8-21-67.

858,694. MISCELLANEOUS DESIGN. R. I. Weiner, Associates, Inc. SN 281,148. Pub. 7-30-68. Filed 9-25-67.

858,695. THE MIXER AND DESIGN. Calcium Chloride Institute. SN 281,766. Pub. 7-30-68. Filed 10-4-67.

858,696. CHEF'S ORCHID. Chef's Orchid Airline Caterers, Inc. SN 289,383. Pub. 7-30-68. Filed 1-23-68.

858,697. W SERVING ALL FAITHS AND DESIGN. Sumner James Waring, Inc., d.b.a. Waring Funeral Home. SN 289,866. Pub. 7-30-68. Filed 1-30-68.

Class 101 — Advertising and Business

858,691. (See Class 100 for this trademark.)

Class 102 — Insurance and Financial

858,698. AMERICAN MATURITY. American Maturity Insurance Company. SN 276,081. Pub. 7-30-68. Filed 7-17-67.

858,699. MISCELLANEOUS DESIGN. Participating Annuity Life Insurance Company. SN 276,167. Pub. 7-30-68. Filed 7-17-67.

Class 103 — Construction and Repair

858,700. BAGAT BROS. Bagat Bros. SN 254,913. Pub. 7-30-68. Filed 9-22-66.

858,701. ACL AND DESIGN. American Commercial Lines, Inc. MULTIPLE CLASS (Classes 103 and 105). SN 265,382. Pub. 7-30-68. Filed 2-24-67.

Class 105 — Transportation and Storage

858,701. (See Class 103 for this trademark.)

858,702. ALLIED VAN LINES, WORLD'S NO. 1 MOVER AND DESIGN. Allied Van Lines, Inc. SN 260,807. Pub. 7-30-68. Filed 12-15-66.

Class 107 — Education and Entertainment

858,703. NATIONAL SHRINE TO THE JEWISH WAR DEAD. Jewish War Veterans, U.S.A., National Memorial, Incorporated. SN 252,957. Pub. 7-30-68. Filed 8-23-66.

858,704. COFFEE CLINIC AND DESIGN. Samuel L. Greenspan, Inc. SN 255,800. Pub. 5-7-68. Filed 10-5-66.

858,705. MIKE FINNIGAN AND THE SERFS. Mike Finnigan and the Serfs. SN 257,601. Pub. 7-30-68. Filed 10-31-66.

858,706. MISCELLANEOUS DESIGN. Reading Guidance Center, Inc. SN 266,454. Pub. 7-30-68. Filed 3-10-67.

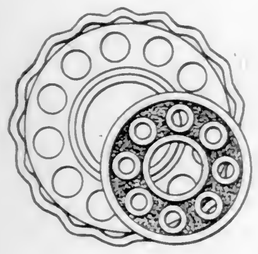
858,707. NBI AND DESIGN. Nathaniel Branden Institute Incorporated. SN 271,122. Pub. 7-30-68. Filed 5-10-67.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

858,708. Sumitomo Machinery Corporation of America, Carlstadt, NJ. SN 283,042. Filed P.R. 10-20-67; Am. S.R. 8-1-68.



For Speed Reducers (Int. Cl. 7).
First use June 6, 1967.

Class 29 — Brooms, Brushes, and Dusters

858,709. All-American Brush Mfg. Corp., Newark, N.J. SN 262,252. Filed P.R. 1-10-67; Am. S.R. 7-18-68.

Lā PETITE

For Hair Brush (Int. Cl. 21).
First use July 1, 1964.

Class 37 — Paper and Stationery

858,710. Nightwriter Corporation, Inc., d.b.a. Nirico, Alexandria, Va. SN 244,167. Filed P.R. 4-21-66; Am. S.R. 6-5-68.

PENPOINTER

For Combination Telescoping Pens and Pointers and the Like (Int. Cl. 16).
First use Feb. 3, 1965.

Class 38 — Prints and Publications

858,711. Pittway Corporation, Cleveland, Ohio, by change of name from Pittsburgh Railways Company, Cleveland, Ohio. SN 252,277. Filed P.R. 8-12-66; Am. S.R. 7-15-68.

PRESIDENTIAL ISSUE

For Trade Magazine (Int. Cl. 16).
First use on or about Apr. 24, 1965.

Class 46 — Foods and Ingredients of Foods

858,712. Gregg's Food Products, Inc., Portland, Oreg. SN 286,130. Filed P.R. 12-4-67; Am. S.R. 8-5-68.

Gold-n-Soft

For Margarine (Int. Cl. 29).
First use May 25, 1967.

TRADEMARK REGISTRATIONS RENEWED

70,260. BOLSTERS. Cl. 46 (Int. Cl. 30). 8-18-68.
70,322. STROH'S. Cl. 48 (Int. Cl. 32). 10-13-68.
71,606. REPRESENTATION OF LION WITHIN OVAL FRAME SURMOUNTED BY CROWN. Cl. 48 (Int. Cl. 32). 12-1-68.
239,384. FRIGIDINE. Cl. 44 (Int. Cl. 26). 3-6-28.
244,600. NUGGET. Cl. 46 (Int. Cl. 31). 7-24-28.
245,678. "DEERFIELD GROVES" REPRESENTATION OF DEER HEAD AND CIRCULAR DESIGN. Cl. 46 (Int. Cl. 31). 8-21-28.
246,618. FAMILY TREAT. Cl. 46 (Int. Cl. 30). 9-11-28.
247,742. HYCOE. Cl. 35 (Int. Cl. 17). 10-2-28.
248,040. MASONITE. Cl. 12 (Int. Cl. 19). 10-16-28.
248,120. DROMORECIDE. Cl. 18 (Int. Cl. 5). 10-16-28.

248,535. "RADIANT" AND DESIGN. Cl. 16 (Int. Cl. 3). 10-23-28.
248,827. LADY LINDY. Cl. 27 (Int. Cl. 14). 10-30-28.
248,935. "GRAN' PA'S" ETC. AND REPRESENTATION OF EAR OF CORN. Cl. 46 (Int. Cl. 30). 11-6-28.
248,963. VETEMUST. Cl. 46 (Int. Cl. 30). 11-6-28.
249,027. "SUPER TEST" ETC. AND DESIGN. Cl. 7 (Int. Cl. 22). 11-6-28.
249,335. LINEN. Cl. 46 (Int. Cl. 31). 11-13-28.
249,809. "BLUE CHAIN" AND REPRESENTATION OF CHAIN. Cl. 46 (Int. Cl. 31). 11-20-28.
250,079. VITAVOSE. Cl. 18 (Int. Cl. 5). 11-27-28.
250,286. BRITONIAN. Cl. 39 (Int. Cl. 25). 12-4-28.
250,427. RADIANT. Cl. 29 (Int. Cl. 21). 12-11-28.
250,691. "FEEN-A-MINT" AND DESIGN. Cl. 18 (Int. Cl. 5). 12-11-28.
251,048. MONOGRAM "WM" AND SHIELD DESIGN. Cl. 39 (Int. Cl. 25). 12-25-28.
251,049. "WALTER MORTON" ETC. AND REPRESENTATION OF A SHIELD AND RECTANGULAR DESIGN. Cl. 39 (Int. Cl. 25). 12-25-28.
251,277. SATIN. Cl. 46 (Int. Cl. 31). 1-1-29.
252,009. PIEDMONT. Cl. 46 (Int. Cls. 29 and 30). 1-22-29.
252,204. RED COACH INN. Cl. 46 (Int. Cl. 31). 1-29-29.
252,221. TWEED. Cl. 46 (Int. Cl. 31). 1-29-29.
438,928. OKERIN. Cl. 6 (Int. Cl. 4). 5-18-48.
439,122. NEEDLE MOLDED CLOTHES AND DESIGN. Cl. 39 (Int. Cl. 25). 6-1-48.
439,218. AMERICAN INFORMAL. Cl. 32 (Int. Cl. 20). 6-8-48.
439,246. HALOWAX. Cl. 21 (Int. Cl. 9). 6-8-48.
439,297. BANOX. Cl. 6 (Int. Cl. 1). 6-15-48.
440,095. TYPOGRAVED. Cl. 38 (Int. Cl. 16). 8-10-48.
440,108. DEAD-LITE. Cl. 6 (Int. Cl. 5). 8-10-48.
440,648. ELIZABETH. Cl. 27 (Int. Cl. 14). 9-14-48.
440,651. CRAFTSMAN. Cl. 27 (Int. Cl. 14). 9-14-48.
440,842. PYRO AND TRIANGLE DESIGN. Cl. 22 (Int. Cl. 28). 10-5-48.
440,911. PROCER AND DESIGN. Cl. 49 (Int. Cl. 33). 10-12-48.
441,043. SUNTAC. Cl. 15 (Int. Cl. 4). 10-19-48.
441,117. DIRECTOR. Cl. 27 (Int. Cl. 14). 10-19-48.
441,120. AKU. Cl. 1 (Int. Cl. 22). 10-19-48.
441,121. ENKA. Cl. 1 (Int. Cl. 22). 10-19-48.
441,122. ENKA AND DESIGN. Cl. 1 (Int. Cl. 22). 10-19-48.
441,124. FIBRENKA. Cl. 1 (Int. Cl. 22). 10-19-48.
441,161. DIVCO. Cl. 14 (Int. Cl. 6). 10-26-48.
441,181. FIBRENKA. Cl. 43 (Int. Cls. 22 and 23). 10-26-48.
441,182. TENAX. Cl. 43 (Int. Cls. 22 and 23). 10-26-48.
441,358. SHERWIN-WILLIAMS. Cl. 29 (Int. Cl. 16). 11-16-48.
441,400. WORSTED-TEX IMPERIAL. Cl. 39 (Int. Cl. 25). 11-23-48.
441,581. OREGON TRAIL. Cl. 46 (Int. Cl. 29). 12-14-48.
441,754. TRIANGLE (DESIGN). Cl. 3 (Int. Cl. 18). 1-4-49.
441,842. TRIANGLE (DESIGN). Cl. 33 (Int. Cl. 21). 1-18-49.
500,684. CRAG. Cl. 6 (Int. Cl. 5). 6-15-48.
501,149. LAWSON V RAY AND DESIGN. Cl. 34 (Int. Cl. 11). 7-27-48.
501,397. DOWRY. Cl. 28 (Int. Cl. 8). 8-3-48.
501,431. KAY-TITE. Cl. 12 (Int. Cl. 19). 8-10-48.
501,478. PERMANENTE. Cl. 12 (Int. Cl. 19). 8-10-48.
501,608. RAZZLE DAZZLE. Cl. 22 (Int. Cl. 28). 8-17-48.
501,609. YALE. Cl. 22 (Int. Cl. 28). 8-17-48.
501,696. AJAX. Cl. 40 (Int. Cl. 21). 8-17-48.
501,697. VULCO. Cl. 40 (Int. Cl. 21). 8-17-48.
501,698. DESIGN OF HEAD. Cl. 40 (Int. Cl. 21). 8-17-48.
501,738. BEST EVER. Cl. 40 (Int. Cl. 21). 8-17-48.
501,830. A & P AND DESIGN. Cl. 46 (Int. Cl. 29). 8-24-48.
501,921. COCOA ALMOND. Cl. 52 (Int .Cl. 3). 8-31-48.
502,024. TRUMATIC. Cl. 24 (Int. Cl. 7). 9-7-48.
502,157. SILVER. Cl. 6 (Int. Cl. 5). 9-14-48.
502,270. CONWAY. Cl. 23 (Int. Cl. 7). 9-21-48.
502,314. VAC. Cl. 39 (Int. Cl. 25). 9-21-48.
502,514. HOMOCORD. Cl. 35 (Int. Cl. 17). 9-28-48.
502,740. OHIO. Cl. 6 (Int. Cl. 1). 10-5-48.
502,808. YANKEE NITE CAP. Cl. 39 (Int. Cl. 25). 10-12-48.
502,944. SIECO. Cl. 23 (Int. Cls. 7 and 12). 10-12-48.
503,087. COUNTESS MARA COPPER AND DESIGN. Cl. 51 (Int. Cl. 3). 10-19-48.
503,259. HARF. Cl. 51 (Int. Cls. 1, 3, and 5). 10-19-48.
503,459. STACO. Cl. 46 (Int. Cl. 29). 10-26-48.
503,519. WESTLAKE. Cl. 6 (Int. Cls. 1 and 3). 10-26-48.
503,607. KOPALD. Cl. 46 (Int. Cl. 29). 11-2-48.
503,738. FLEX-BEAM. Cl. 12 (Int. Cl. 6). 11-9-48.
503,824. THE ARUNDEL CORP. AND DESIGN. Cl. 1 (Int. Cl. 19). 11-9-48.
503,850. BENELEX. Cl. 21 (Int. Cl. 9). 11-16-48.
503,890. GUMROK. Cl. 6 (Int. Cl. 3). 11-16-48.
503,917. ROLL-WAVE. Cl. 29 (Int. Cl. 21). 11-16-48.
504,050. SOUTHLAND. Cl. 34 (Int. Cl. 11). 11-23-48.
504,111. BALL-BAND. Cl. 39 (Int. Cl. 25). 11-23-48.
504,499. DE ROOSE. Cl. 39 (Int. Cl. 25). 11-30-48.
504,545. MASONEX. Cl. 5 (Int. Cl. 1). 12-7-48.
504,653. WURLITZER. Cl. 36 (Int. Cl. 15). 12-7-48.
504,859. EMBLEM (DESIGN). Cl. 101 (Int. Cl. 35). 12-14-48.
504,949. VARIETY OVEN. Cl. 34 (Int. Cl. 11). 12-21-48.
505,038. MALE FIGURE (DESIGN). Cl. 12 (Int. Cl. 19). 12-21-48.
505,074. SERAX. Cl. 1 (Int. Cl. 20). 12-21-48.
505,220. TIMESAVER. Cl. 21 (Int. Cl. 9). 12-28-48.
505,247. BORO-STIK. Cl. 18 (Int. Cl. 5). 12-28-48.
505,415. MILL-RACE. Cl. 46 (Int. Cl. 29). 1-4-49.
505,479. 5 MINUTE. Cl. 35 (Int. Cl. 7). 1-4-49.
506,048. OLD BOSTON AND DESIGN. Cl. 46 (Int. Cl. 30). 1-25-49.
506,051. BLACAULK. Cl. 12 (Int. Cl. 19). 1-25-49.
506,075. GOLD LABEL ETC. AND DESIGN. Cl. 17 (Int. Cl. 34). 1-25-49.
506,171. CRYSTAL. Cl. 39 (Int. Cl. 25). 2-1-49.

TRADEMARK REGISTRATIONS CANCELED

Section 8

The following registrations issued Aug. 28, 1962

736,599. TRAIL BLAZER. Cl. 1.
736,603. PALODOZ. Cl. 1.
736,604. PALAIGRETTE. Cl. 1.
736,605. ODENE. Cl. 1.
736,606. PAILLODE. Cl. 1.
736,608. PRIMAGEN. Cl. 1.
736,609. TRINTREL. Cl. 1.
736,617. SNAP-LOK. Cl. 2.
736,618. READI-PAKT. Cl. 2.
736,623. PACK-A-BOND. Cl. 2.
736,627. RUG-SHIELD. Cl. 6.
736,628. BONARIL. Cl. 6.
736,636. ST. JOE LEAD-FREE ZINC OXIDE AND DESIGN. Cl. 6.
736,637. ST. JOE LEAD-FREE ZINC OXIDE AND DESIGN. Cl. 6.
736,641. PALCOTAN. Cl. 6.
736,642. PALCONATE. Cl. 6.
736,643. RHODIAMIDE. Cl. 6.
736,646. GAME GETTER. Cl. 9.
736,652. DESIGNED FOR LIVING AND DESIGN. Cl. 12.
736,653. PD. Cl. 12.
736,654. PEACHTREE DOOR. Cl. 12.
736,656. AMWAY. Cl. 12.
736,657. HANOVER GREEN. Cl. 13.
736,661. ABA SLANGKLAMMOR AND HOSE CLIP DESIGN. Cl. 13.
736,666. HUNTER COLORPLY AND DESIGN. Cl. 14.
736,667. ANSCO. Cl. 14.
736,670. GREAT LAKES. Cl. 16.
736,672. SHINING ARMOR AND DESIGN. Cl. 16.
736,674. KAM KO. Cl. 16.
736,675. MARCAR. Cl. 16.
736,676. CARLOS MURIAS Y CA. AND DESIGN. Cl. 17.
736,680. CHAMPS ELYSEES. Cl. 17.
736,681. REBEL. Cl. 17.
736,685. ABBOTT AND DESIGN. Cl. 18.
736,697. LIQUALOR. Cl. 18.
736,698. CDC. Cl. 18.
736,704. POLY-DIODE. Cl. 21.
736,706. NAE. Cl. 21.

736,707. NAE. Cl. 21.
736,709. BOC AND DESIGN. Cl. 21.
736,710. VEN-VAC. Cl. 21.
736,711. HOPE. Cl. 21.
736,713. USI ROBODYNE AND DESIGN. Cl. 21.
736,715. FLUXLINK. Cl. 21.
736,716. HONEYTONE. Cl. 21.
736,717. EVANS AND DESIGN. Cl. 22.
736,719. TUM-BLIN DOWNS. Cl. 22.
736,720. SCOTCH HORSEHIDE. Cl. 22.
736,721. PORT-A-RAFT AND DESIGN. Cl. 22.
736,725. DIAL-BOWL. Cl. 22.
736,730. ENSIGN. Cl. 23.
736,732. VONELL. Cl. 23.
736,737. GREEN DEMON. Cl. 23.
736,739. SERVICE CLEAN. Cl. 23.
736,747. PORTA-HOLE. Cl. 23.
736,749. MO (DESIGN). Cl. 23.
736,758. DATA-FLEX. Cl. 26.
736,760. TELESCHOLAR. Cl. 26.
736,762. FLEXI-CARD. Cl. 26.
736,764. DYNAPOINT. Cl. 26.
736,769. AGOPLAN. Cl. 26.
736,770. AGEPHOT. Cl. 26.
736,776. REPRESENTATION OF A QUESTION MARK. Cl. 26.
736,788. MSCC JOY AND DESIGN. Cl. 28.
736,790. HAREM. Cl. 28.
736,792. MAGLAFOM. Cl. 29.
736,793. TUFTY. Cl. 29.
736,794. MAGIC CRADLE. Cl. 32.
736,795. DUREDGE. Cl. 32.
736,796. MOLDWOOD. Cl. 32.
736,798. MIDLINER. Cl. 32.
736,799. STAFCO AND DESIGN. Cl. 32.
736,801. APART-MATES. Cl. 32.
736,802. FRENCH ACCENT. Cl. 32.
736,807. GR GUILD. Cl. 36.
736,808. ACME. Cl. 36.
736,813. BINDEMATIC. Cl. 37.
736,817. "SCHOOL-TERM CALENDAR." Cl. 38.
736,819. SOURCE. Cl. 38.
736,820. CALL FOR MR. S.P.I. Cl. 38.
736,823. MUSIC REPORT. Cl. 38.
736,825. INTEREST. Cl. 38.
736,826. THREE RIVERS PRESS. Cl. 38.
736,828. OUTDOOR PEOPLE. Cl. 38.
736,830. U.S. EDITOR. Cl. 38.
736,832. CHRONO-LIST. Cl. 38.
736,837. PEAU DE VELOURS. Cl. 39.
736,841. CAROL ADAMS. Cl. 39.
736,849. SIMPLEX STRATE LINE. Cl. 39.
736,851. STAFCO AND DESIGN. Cl. 39.
736,857. CHROM-CHALLIS. Cl. 42.
736,858. LUXURIA SPORTSLAINE. Cl. 43.
736,860. TORSO-TONE. Cl. 44.
736,863. DUROLAST. Cl. 44.
736,864. GUARDSMAN. Cl. 44.
736,868. OREOZONE. Cl. 44.
736,869. SONALGENIC. Cl. 44.
736,871. VIGH-OR-FLO AND DESIGN. Cl. 44.
736,875. LIO-LATTE. Cl. 46.
736,877. PERSIAN PEARL. Cl. 46.
736,878. PICT-RITE AND DESIGN. Cl. 46.
736,880. KOROYAL. Cl. 46.
736,891. SUN-FLUFF BY SKOL. Cl. 51.
736,892. DESIGN OF TWO TRIANGLES. Cl. 51.
736,894. HESITATION SET. Cl. 51.
736,897. YACHT-VALVE "FIX." Cl. 52.
736,898. B'LASTER. Cl. 52.
736,901. FENCO. Cl. 100.
736,902. KEY AND KEYHOLE DESIGN. Cl. 100.
736,903. CMA CONTINENTAL · MOTORISTS · ASSOCIATION AND DESIGN. Cl. 100.
736,905. DESIGN OF TWO INTERLOCKING SQUARES. Cl. 100.
736,906. HILTON HOTELS INTERNATIONAL AND DESIGN. Cl. 100.
736,909. HANNAGRAM AND ARROW DESIGN. Cl. 101.
736,912. THE NATIONALPLAN OF CHURCH FINANCING NP AND DESIGN. Cl. 102.
736,918. SUNBURST (DESIGN). Cl. 102.
736,919. GOLBE (DESIGN). Cl. 102.
736,920. SRI AND REPRESENTATION OF FLAG. Cl. 102.
736,922. NATIV. Cl. 103.
736,923. "THEM THAT HAS GETS" MOORE AND DESIGN. Cl. 103.
736,926. MARTINSON'S. Cl. 105.
736,931. PARA-VIS. Cl. 106.
736,936. FEMALE FIGURE AND FLOWER DESIGN. Cl. 2.
736,940. E-Z LOADER. Cl. 19.

INDEX OF REGISTRANTS

OCTOBER 15, 1968

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

Abbott Laboratories, North Chicago, Ill. 736,685, canc. Cl. 18.
Accura, Ltd., Flushing, N.Y. 858,565, pub. 7–30–68. Cl. 26.
Ace Musical Strap Co.: *See*—
Charm Belt Co., Inc.
Acme Records Inc., Manchester, Ky. 736,808, canc. Cl. 36.
Adams, Carol, Inc., from Formtex, Inc., Chicago, Ill. 736,841, canc. Cl. 39.
Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 736,769–70, canc. Cl. 26.
Aine, Harry E., & Arthur Leinwohl, d.b.a. Mini-Beacon Co., Palo Alto, Calif. 736,711, canc. Cl. 21.
Air Reduction Co., Inc.: *See*—
Ohio Chemical & Mfg. Co., The.
Air Reduction Co., Inc., New York, N.Y. 858,564, pub. 7–30–68. Cl. 26.
Airko Mfg. Co., Clermont, Fla. 858,517, pub. 7–30–68. Cl. 13.
Albermarle Paper Co., Richmond, Va. 858,602, pub. 7–30–68. Cl. 37.
Aldco, Inc.: *See*—
Glacier Ware, Inc.
Algemeene Kunstzijde Unie, N.V., Arnhem, Netherlands. 441,120–2, ren. 10–15–68. Cl. 1.
Algemeene Kunstzijde Unie, N.V., Arnhem, Netherlands. 441,124, ren. 10–15–68. Cl. 1.
Algemeene Kunstzijde Unie, N.V., Arnhem, Netherlands. 441,181–2, ren. 10–15–68. Cl. 43.
All-American Brush Mfg. Corp., Newark, N.J. 858,709. Cl. 29.
Allen Organ Co., Macungie, Pa. 858,593, pub. 7–30–68. Cl. 36.
Alles & Fisher, Inc.: *See*—
Waitt & Bond, Inc.
Allied Industries Co.: *See*—
Lux, G. Louis.
Allied Van Lines, Inc., Broadview, Ill. 858,702, pub. 7–30–68. Cl. 105.
Allman, Cope, International Ltd., London, England. 858,469, pub. 7–30–68. Cl. 2.
Allmanna Brandredskapsaffaren Aktiebolag, Stockholm, Sweden. 736,661, canc. Cl. 13.
All-State Welding Alloys Co., Inc., White Plains, N.Y. 858,468, pub. 7–30–68. Cl. 2.
Aluminline Corp., The, Pawtucket, R.I. 858,500, pub. 7–30–68. Cl. 12.
Aluminum Co. of America, Pittsburgh, Pa. 858,672, pub. 7–30–68. Cl. 50.
American Better Chemicals, Inglewood, Calif. 858,682, pub. 6–11–68. Cl. 52.
American Bureau of Shipping, New York, N.Y. 858,609, pub. 7–30–68. Cl. 38.
American Commercial Lines, Inc., Jeffersonville, Ind. 858,701, pub. 7–30–68. Multiple Class (Classes 103 and 105).
American Cyanamid Co., Wayne, N.J. 858,655, pub. 7–30–68. Cl. 44.
American Home Products Corp.: *See*—
Boyle-Midway Inc.
Midway Chemical Co.
American Hospital Supply Corp., Evanston, Ill. 858,656, pub. 7–30–68. Cl. 44.
American Kylon Corp., Denver Colo. 736,674, canc. Cl. 16.
American Laundry Machinery Co., The, Cincinnati, Ohio, to McGraw-Edison Co., Elgin, Ill. 502,024, ren. 10–15–68. Cl. 24.
American Maturity Insurance Co., Philadelphia, Pa. 858,698, pub. 7–30–68. Cl. 102.
American Music Guild, Inc., Washington, D.C. 736,807, canc. Cl. 36.
American Rolling Mill Co., The, now by change of name Armco Steel Corp., to Armco Steel Corp., Middletown, Ohio. 503,738, ren. 10–15–68. Cl. 12.
Amway Sales Corp., Ada, Mich. 736,656, canc. Cl. 12.
Amy Hats, Inc., New York, N.Y. 858,621, pub. 7–30–68. Multiple Class (Classes 39 and 40).
Anchor Casting Co., Inc., New York, N.Y. 858,575, pub. 7–30–68. Cl. 28.
Angela's Angels, Inc., New York, N.Y. 858,577, pub. 7–30–68. Cl. 32.
Antiseptic Mattress Co. Inc., Salem, Mass. 858,581, pub. 7–30–68. Cl. 32.
Arco Pharmaceuticals, Inc., Plainview, N.Y. 858,523, pub. 5–7–68. Cl. 18.
Armco Steel Corp.: *See*—
American Rolling Mill Co., The.
Armstrong Cork Co., Lancaster, Pa. 858,536, pub. 3–7–67. Cl. 20.
Aroniss, Lathrop M., d.b.a. Commercial Circular Co., New York, N.Y. 858,612, pub. 7–30–68. Cl. 38.
Arrow-Hart & Hegeman Electric Co., The, to Arrow-Hart, Inc., Hartford, Conn. 505,220, ren. 10–15–68. Cl. 21.
Arrow-Hart, Inc.: *See*—
Arrow-Hart & Hegeman Electric Co., The.
Artini Arts, Inc., Bronx, N.Y. 858,666, pub. 7–30–68. Cl. 50.
Arundel Corp., The, Baltimore, Md. 503,824, ren. 10–15–68. Cl. 1.
Asch, Joseph, Co., Inc.: *See*—
Crystal Hosiery Co.
Associated Importers, San Francisco, Calif. 736,716, canc. Cl. 21.
Astor Boisseller & Lawrence Ltd., London, England. 438,928, ren. 10–15–68. Cl. 6.
Atlantic Furniture Products Co., Inc., Baltimore, Md. 736,795, canc. Cl. 32.
Atomium Corp., Waltham, Mass. 736,776, canc. Cl. 26.
Bagat Bros., Forest Park, Ill. 858,700, pub. 7–30–68. Cl. 103.
Bair, O. B., & Sons Co., Craley, Pa. 736,681, canc. Cl. 17.
Barnette, S. Ronald, Hialeah, Fla. 858,507, pub. 7–30–68. Cl. 12.
Bayard Shirt Corp., New York, N.Y. 858,624, pub. 7–30–68. Cl. 39.
Beagle, Boyd M., d.b.a. Thomas-Andrew Co., Sayre, Pa. 440,095, ren. 10–15–68. Cl. 38.
Becton, Dickinson & Co., East Rutherford, N.J. 858,472, pub. 7–30–68. Cl. 2.
Bendix Corp., The, Detroit, Mich. 736,764, canc. Cl. 26.
Benjamin & Johnes, Inc., Newark, N.J. 858,622, pub. 7–30–68. Cl. 39.
Benjamin & Medwin, Inc., New York, N.Y. 858,515, pub. 7–30–68. Cl. 13.
Bercy Industries, Inc., Venice, Calif. 858,580, pub. 7–30–68. Cl. 32.
Bernard Welding Equipment Co., Beecher, Ill. 858,587, pub. 7–30–68. Cl. 34.
Bernat, Emile, & Sons Co., Jamaica Plain, Mass. 736,858, canc. Cl. 43.
Bernele Handbag Co., Inc., New York, N.Y. 858,473, pub. 7–30–68. Cl. 3.
Bigg of California, Los Angeles, Calif. 736,709, canc. Cl. 21.
Bindematic Corp., Columbus, Ohio. 736,813, canc. Cl. 37.
Binney & Smith Inc., New York, N.Y. 858,607, pub. 7–30–68. Cl. 37.
Bio Bielefelder Offset-Druckplatten und Zubehoer B. Krause, Bielefeld, Germany. 858,670, pub. 7–30–68. Cl. 50.
Bird & Son, Inc., East Walpole, Mass. 736,623, canc. Cl. 2.
Birma Products Corp., Sayreville, N.J. 858,478, pub. 7–30–68. Multiple Class (Classes 5, 12, 23, and 31).
Bison Canning Co., Inc., Angola, N.Y. 858,664, pub. 7–30–68. Cl. 46.
Block, Charles E., Inc., New York, N.Y. 858,475, pub. 7–30–68. Cl. 3.
Blue Bell, Inc., Greensboro, N.C. 858,634, pub. 7–30–68. Cl. 39.
Borden Co., The: *See*—
Hendler Creamery Co., The.
Borgenicht, E., & Co., Inc., New York, N.Y. 858,632, pub. 7–30–68. Cl. 39.
Bowl-Magic, Inc., Jericho, N.Y. 736,725, canc. Cl. 22.
Boyle-Midway Inc., Jersey City, N.J., to American Home Products Corp., New York, N.Y. 502,157, ren. 10–15–68. Cl. 6.
Branden, Nathaniel, Institute Inc., New York, N.Y. 858,707, pub. 7–30–68. Cl. 107.
Briardale Co., Richmond, Calif. 503,519, ren. 10–15–68. Cl. 6.
Brighton Corp., Cincinnati, Ohio. 858,584, pub. 7–30–68. Cl. 34.
Brinkmann, Martin, Bremen, Germany. 736,680, canc. Cl. 17.
Bristol-Myers Co., New York, N.Y. 858,525, pub. 4–9–68. Cl. 18.
Bristol-Myers Co., New York, N.Y. 858,529, pub. 7–30–68. Cl. 18.
Brosch, Pringle A., d.b.a. E-Z Loader Co., Akron, Ohio. 736,940, canc. Cl. 19.
Brown, W. B.: *See*—
Brown, Winfred B.
Brown, Winfred B., d.b.a. W. B. Brown, Pompano Beach, Fla. 736,878, canc. Cl. 46.
Browns Hosiery Mills, Inc., Burlington, N.C. 858,643, pub. 7–30–68. Cl. 39.
Brunswick Corp., Chicago, Ill. 858,546, pub. 7–30–68. Cl. 22.
Brunswick Corp., Chicago, Ill. 858,549, pub. 7–30–68. Cl. 22.
Bulova Watch Co., Inc., Flushing, N.Y. 248,827, ren. 10–15–68. Cl. 27.
Bulova Watch Co., Inc., Flushing, N.Y. 440,648, ren. 10–15–68. Cl. 27.
Bulova Watch Co., Inc., Flushing, N.Y. 440,651, ren. 10–15–68. Cl. 27.
Bulova Watch Co., Inc., Flushing, N.Y. 441,117, ren. 10–15–68. Cl. 27.
Bulova Watch Co., Inc., Flushing, N.Y. 858,574, pub. 7–30–68. Cl. 27.
Butcher Polish Co., The, Malden, Mass. 736,793, canc. Cl. 29.
Calcium Chloride Institute, Washington, D.C. 858,695, pub. 7–30–68. Cl. 100.
Calgon Corp.: *See*—
Calgon, Inc.
Calgon, Inc., to Calgon Corp., Pittsburgh, Pa. 439,297, ren. 10–15–68. Cl. 6.
Canteen Corp.: *See*—
Rowe International, Inc.
Carbide & Carbon Chemicals Corp., to Union Carbide Corp., New York, N.Y. 500,684, ren. 10–15–68. Cl. 6.

Carbonell y de Cordoba S.A., Cordoba, Spain. 440,911, ren. 10–15–68. Cl. 49.
Cargill, Inc.: *See*—
Nutrena Feed Mills, Inc.
Carter, Mary, Paint Co., Tampa, Fla. 736,675, canc. Cl. 16.
Cascade Pole Co., d.b.a. Cascade Pole Co., Tacoma, Wash. 858,502, pub. 7–30–68. Cl. 12.
Centerpiece Flower Arranger, Inc., White Plains, N.Y. 736,-934, canc. Cl. 2.
Central Clothing Co., Boston, Mass. 858,619–20, pub. 7–30–68. Cl. 39.
Charm Belt Co., Inc., d.b.a. Ace Musical Strap Co., Chicago, Ill. 858,589, pub. 7–30–68. Cl. 36.
Charmaine & Co., Fullerton, Calif. 858,680, pub. 7–30–68. Multiple Class (Classes 51 and 52).
Chef's Orchid Airline Caterers, Inc., Jamaica, N.Y. 858,696, pub. 7–30–68. Cl. 100.
Cherokee Molded Products Co., Inc., Fort Smith, Ark. 736,796, canc. Cl. 32.
Chopak-Kittenplan Corp., New York, N.Y. 736,857, canc. Cl. 42.
Christmas Creations Corp., New York, N.Y. 858,673, pub 7–30–68. Cl. 50.
Church, Bruce, Inc.: *See*—
Church & Knowlton.
Church & Knowlton, to Bruce Church, Inc., Salinas, Calif. 252,204, ren. 10–15–68. Cl. 46.
Ciba Corp.: *See*—
Sterling Drug Inc.
Clairol Inc., New York, N.Y. 736,892, canc. Cl. 51.
Clopay Corp., Cincinnati, Ohio. 858,504, pub. 7–30–68. Cl. 12.
Cobalide (Industrial) Pty. Ltd., Alexandria, New South Wales, Australia. 858,585, pub. 7–30–68. Cl. 34.
Codan House (N.Z.) Ltd., Auckland, New Zealand. 736,710, canc. Cl. 21.
Cohen, Goldman & Co. Inc., New York, N.Y., to House of Worsted-Tex, Inc., Philadelphia, Pa. 441,400, ren. 10–15–68. Cl. 39.
Coil Equipment Co.: *See*—
Taylor, William.
Commercial Circular Co.: *See*—
Aroniss, Lathrop M.
Communication Mfg. Co., Huntington Park, Calif. 858,487, pub. 6–11–68. Multiple Class (Classes 6, 13, 21, 23, 26, 32, and 50).
Compagnie de Saint-Gobain, Hauts-de-Seine, France. 858,-501, pub. 7–30–68. Cl. 12.
Continental Copper & Steel Industries, Inc., Middle Street, Hanover, Pa. 736,657, canc. Cl. 13.
Continental Motorists Association, Inc., Atlanta, Ga. 736,-903, canc. Cl. 100.
Cook, Inc., Bloomington, Ind. 858,658, pub. 5–21–68. Cl. 44.
Countess Mara Cosmetics, Inc.: *See*—
Countess Mara Inc.
Countess Mara Inc., assor. to Countess Mara Cosmetics, Inc., to Countess Mara Inc., New York, N.Y. 503,087, ren. 10–15–68. Cl. 51.
Cove Vitamin & Pharmaceutical, Inc., Glen Cove, N.Y. 736,-698, canc. Cl. 18.
Cream of Wheat Co., Minneapolis, Minn., to National Biscuit Co., New York, N.Y. 248,963, ren. 10–15–68. Cl. 46.
Cross Mfg. Co.: *See*—
Cross Mfg., Inc.
Cross Mfg., Inc., d.b.a. Cross Mfg. Co., Lewis, Kans. 736,747, canc. Cl. 23.
Crown Cork & Seal Co., Inc., Philadelphia, Pa. 505,074, ren. 10–15–68. Cl. 1.
Crystal Hosiery Co., to Joseph Asch Co., Inc., New York, N.Y. 506,171, ren. 10–15–68. Cl. 39.
Daley, Joe, & Son, Inc., Los Angeles, Calif. 858,604–5, pub. 7–30–68. Cl. 37.
Damon Creations, Inc., New York, N.Y. 858,625, pub. 7–30–68. Cl. 39.
Davies, M. Hortense: *See*—
Sharland, Ernest W.
Dayco Corp., Dayton, Ohio. 736,798, canc. Cl. 32.
Daystrom, Inc., from Daystrom, Inc., Murray Hill, N.J. 736,758, canc. Cl. 26.
Delmatic Ltd., London, England. 858,539, pub. 7–30–68. Cl. 21.
Delta Semiconductors, Inc., Newport Beach, Calif. 736,704, canc. Cl. 21.
Deluxol Laboratories, Inc., Chicago, Ill. 858,681, pub. 7–30–68. Cl. 51.
Designed for Living, Inc., Mercer County, N.J. 736,652, canc. Cl. 12.
Detex Corp. New York, N.Y. 858,562, pub. 7–30–68. Cl. 25.
Dias, John, & Sons, Pescadero, Calif. 858,665, pub. 7–30–68. Cl. 50.
Dietzgen, Eugene, Co., Chicago, Ill. 858,594, pub. 7–30–68. Cl. 37.
Di Gaeta Ottavio e Poggioli Allero, Salerno, Italy. 736,875, canc. Cl. 46.
District of Columbia Association of The Amateur Athletic Union of The United States, Washington, D.C. 858,611, pub. 7–30–68. Cl. 38.
Division Lead Co., Summit, Ill. 441,161, ren. 10–15–68. Cl. 14.
Dolge, C. B., Co., The, Westport, Conn. 858,684, pub. 7–30–68. Cl. 52.
Dorsett Electronics Laboratories, Inc., Norman, Okla. 736,-760, canc. Cl. 26.
Douglass, R. Spencer, d.b.a. Your Future Unlimited, Los Angeles, Calif. 736,902, canc. Cl. 100.
Dow Chemical Co., The, Midland, Mich. 736,628, canc. Cl. 6.
Drexel Enterprises, Inc., Drexel, N.C. 736,801–2, canc. Cl. 32.
Dromore Kennels Reg.: *See*—
Sharland, Ernest W.
Dusharme Products, Inc., Minneapolis, Minn. 736,894, canc. Cl. 51.
Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany. 858,-483–4, pub. 7–30–68. Cl. 6.
Dyna-Slide Co.: *See*—
Hedberg, Donald D.
Dyson-Kissner Corp., The, Milltown, N.J. 858,556, pub. 7–30–68. Cl. 23.
E-Z Loader Co.: *See*—
Brosch, Pringle A.
Earnhardt, Adrienne R.: *See*—
Porcher, E. P.
Eastman Kodak Co., Rochester, N.Y. 858,573, pub. 7–30–68. Cl. 26.
Electro-Catheter Corp., Rahway, N.J. 858,657, pub. 7–30–68. Cl. 44.
Ellett, C. Erwin, Jr., El Paso, Tex. 858,463, pub. 7–30–68. Multiple Class (Classes 2 and 26).
Elliott, T. (Canada), Ltd., Port Hope, Ontario, Canada. 736,-730, c nc. Cl. 23.
Elmat Corp.: *See*—
Semimetals, Inc.
Erba, Carlo, S.p.A., Milan, Italy. 858,526, pub. 7–30–68. Cl. 18.
Evans Products Co., Plymouth, Mich., 736,717, canc. Cl. 22.
FMC Corp., New York, N.Y. 858,481, pub. 7–30–68. Cl. 6.
FMC Corp., Philadelphia, Pa. 858,649, pub. 7–30–68. Cl. 42.
Faber-Castell, A. W., Pencil Co., Inc., Newark, N.J. 858,598, pub. 7–30–68. Cl. 37.
Farm Chemicals of Oregon, Inc., d.b.a. Pacific Basin Trading Co., Athena, Oreg. 858,557, pub. 7–30–68. Cl. 23.
Ferguson, Stanley W., Inc.: *See*—
Hall, Martin L., Co.
Flanigan, Mike, & The Serfs, Wichita, Kans. 858,705, pub. 7–30–68. Cl. 107.
Firestone Tire & Rubber Co., The, Akron, Ohio. 858,671, pub. 7–30–68. Cl. 50.
Fish, Mary M. S., d.b.a. Stockwood Studio, Independence, Mo. 858,456, pub. 7–30–68. Cl. 1.
Fish, Mary M. S., d.b.a. Stockwood Studio, Independence, Mo. 858,459, pub. 7–30–68. Cl. 1.
Five M Nurseries, Inc., Lindale, Tex. 736,599, canc. Cl. 1.
Ford, Donald R., Brighton, Mich. 858,687, pub. 7–30–68. Cl. 100.
Formtex, Inc.: *See*—
Adams, Carol, Inc.
Foster Industries, Inc., New York, N.Y. 858,626, pub. 7–30–68. Cl. 39.
Foster-Milburn Co., Buffalo, N.Y. 858,533, pub. 7–30–68. Cl. 18.
Foundation of Canada Engineering Corp. Ltd., Montreal, Quebec, Canada. 736,901, canc. Cl. 100.
Frankenberger, Bertram: *See*—
Newman, Mortimer, Co., The.
Franzwa, Edward J., d.b.a. Western Irrigation & Equipment Co., Eugene, Oreg. 858,513, pub. 7–30–68. Cl. 13.
G.C. Electronics Co.: *See*—
Hydrometals, Inc.
GWM Works "Science With Industry": *See*—
Martin, G. William.
Garan, Inc., New York, N.Y. 858,635, pub. 7–30–68. Cl. 39.
Gavazzi, Carlo, S.p.A., Milan, Italy. 858,566, pub. 7–30–68. Cl. 26.
Geigy Chemical Corp., Ardsley, N.Y. 858,491, pub. 7–30–68. Cl. 6.
General Aniline & Film Corp., New York, N.Y. 736,667, canc. Cl. 14.
General Aniline & Film Corp., New York, N.Y. 858,485, pub. 7–30–68. Cl. 6.
General Cigar Co., Inc.: *See*—
Gradiaz, Annis, & Co., Inc.
General Refractories Co., Philadelphia, Pa. 858,506, pub. 7–30–68. Cl. 12.
General Wig Manufacturers, Inc., Miami, Fla. 858,647–8, pub. 7–30–68. Cl. 40.
Genesco Inc., Nashville, Tenn. 858,636–7, pub. 7–30–68. Cl. 39.
Gernreich, Rudi, Los Angeles, Calif. 858,629, pub. 7–30–68. Cl. 39.
Gill, Thomas, Soap Co., White Plains, N.Y. 858,683, pub. 6–4–68. Cl. 52.
Glacier Ware, Inc., from Aldco, Inc., Clinton, Conn. 858,462, pub. 3–19–68. Cl. 2.
Gland-O-Lac Co., The: *See*—
Sterling Drug Inc.
Glatt, Herbert, d.b.a. Magla Products, Newark, N.J. 736,792, canc. Cl. 29.
Glensder Corp., New York, N.Y. 858,645, pub. 7–30–68. Cl. 39.
Globe Tailoring Co., The, Cincinnati, Ohio. 439,122, ren. 10–15–68. Cl. 39.
Golo Footwear Corp., New York, N.Y. 858,633, pub. 7–30–68. Cl. 39.
Goodman Mfg. Co., to Westinghouse Air Brake Co., Chicago, Ill. 502,270, ren. 10–15–68. Cl. 23.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 858,644, pub. 7–30–68. Cl. 39.
Gradiaz, Annis, & Co., Inc., Tampa, Fla., to General Cigar Co., Inc., New York, N.Y. 506,075, ren. 10–15–68. Cl. 17.
Grady-Travers Co., The, to The Grady-Travers Co., Inc., New York, N.Y. 249,027, ren. 10–15–68. Cl. 7.

Grady-Travers Co., Inc., The: *See*—
Grady-Travers Co., The.
Great Atlantic & Pacific Tea Co., The, to The Great Atlantic & Pacific Tea Co., Inc., New York, N.Y. 501,830, ren. 10–15–68. Cl. 46.
Great Atlantic & Pacific Tea Co., Inc., The: *See*—
Great Atlantic & Pacific Tea Co., The.
Great Lakes Paint & Varnish Co., Chicago, Ill. 736,670, canc. Cl. 16.
Greene, Henry H., d.b.a. Yankee Nite Cap, to Henry H. Greene, d.b.a. Yankee Nite Cap, New York, N.Y. 502,808, ren. 10–15–68. Cl. 39.
Greenspan, Samuel L., Inc., New York, N.Y. 858,704, pub. 5–7–68. Cl. 107.
Gregg's Food Products, Inc., Portland, Oreg. 858,712. Cl. 46.
Guilden Development Co., Inc., Richmond Hill, N.Y. 858,668, pub. 7–30–68. Cl. 50.
Hall, Martin L., Co., to Stanley W. Ferguson, Inc., d.b.a. Victor Coffee Co., Boston, Mass. 506,048, ren. 10–15–68. Cl. 46.
Hamelin-Harvard Associated Co.: *See*—
Szoeke, George.
Hannaford, Mark W., Lakewood, Calif. 736,909, canc. Cl. 101.
Harf, Inc., Hatfield, Pa. 503,259, ren. 10–15–68. Cl. 51.
Harman-Kardon, Inc., Plainview, N.Y. 736,762, canc. Cl. 26.
Harvey Enterprises: *See*—
Harvey-Janice Enterprises, Inc.
Harvey-Janice Enterprises, Inc., d.b.a. Harvey Enterprises, Cincinnati, Ohio. 858,550, pub. 7–30–68. Cl. 22.
Hawkins, Orville L., to Doyle T. Miskell, executor of the Estate of Nora Hawkins, deceased, Indianapolis, Ind. 248,-935, ren. 10–15–68. Cl. 46.
Hawthorne, Herb J., Inc.: *See*—
Hughes-Hawthorne, Inc.
Health Products Corp., Newark, to White Laboratories, Inc., Kenilworth, N.J. 250,691, ren. 10–15–68. Cl. 18.
Hedberg, Donald D., d.b.a. Dyna-Slide Co., Evanston, Ill. 858,-614, pub. 7–30–68. Cl. 38.
Heidenberg Textile Fabrics Co.: *See*—
Heidenberg Textile Fabrics Co., Inc.
Heindenberg Textile Fabrics Co., Inc., New York, N.Y., from Heidenberg Textile Fabrics Co., Closter, N.J. 858,651, pub. 5–14–68. Cl. 42.
Hendler Creamery Co., The, to The Borden Co., New York, N.Y. 246,618, ren. 10–15–68. Cl. 46.
Hickey-Freeman Co., to Hickey-Freeman Co., Inc., Rochester, N.Y. 250,286, ren. 10–15–68. Cl. 39.
Hickey-Freeman Co., to Hickey-Freeman Co., Inc., Rochester, N.Y. 251 048–9, ren. 10–15–68. Cl. 39.
Hickey-Freeman Co., Inc.: *See*—
Hickey-Freeman Co.
Higley Chemical Co., The, Dubuque, Iowa. 440,108, ren. 10–15–68. Cl. 6.
Hilton Hotels International, Inc., New York, N.Y. 736,906, canc. Cl. 100.
House of Worsted-Tex, Inc.: *See*—
Cohen, Goldman & Co. Inc.
Hughes-Hawthorne, Inc., from Herb J. Hawthorne, Inc., Houston, Tex. 736,737, canc. Cl. 23.
Hunko Co., The, Memphis, Tenn., to National Dairy Products Corp., New York, N.Y. 503,607, ren. 10–15–68. Cl. 46.
Hunt, Donald A., d.b.a. Wholesale Pizza Co., Nashville, Tenn. 858,690, pub. 7–30–68. Cl. 100.
Hunter Engineering Co., Riverside, Calif. 736,666, canc. Cl. 14.
Hydrometals, Inc., d.b.a. G. C. Electronics Co., Rockford, Ill. 858,576, pub. 7–30–68. Cl. 29.
Illinois Bronze Powder Co., Inc., Chicago, Ill. 736,672, canc. Cl. 16.
Imperial International Corp., New York, N.Y. 858,554, pub. 7–4–67. Cl. 23.
Inka Cosmetic G.m.b.H., Hannover, Germany. 858,674, pub. 7–30–68. Cl. 51.
Interchemical Corp., New York, N.Y. 858,453, pub. 7–30–68. Cl. 1.
Interco Inc., St. Louis, Mo. 858,640, pub. 7–30–68. Cl. 39.
International Harvester Co., Chicago, Ill. 858,493, pub. 7–30–68. Cl. 7.
International Horseshoe Co., Inc., d.b.a. Multi-Products Co., Lodi, Calif. 858,511–12, pub. 7–30–68. Cl. 13.
International Resources Fund, Inc., Los Angeles, Calif. 736,-918–19, canc. Cl. 102.
Irvine Valencia Growers, Irvine, Calif. 249,335, ren. 10–15–68. Cl. 46.
Irvine Valencia Growers, Irvine, Calif. 251,277, ren. 10–15–68. Cl. 46.
Irvine Valencia Growers, Irvine, Calif. 252,221, ren. 10–15–68. Cl. 46.
Island Steel & Welding, Ltd., Kailua, Hawaii. 858,499. pub. 7–30–68. Cl. 12.
Izod, Ltd., New York, N.Y. 858,623, pub. 7–30–68. Cl. 39.
Jewish War Veterans, U.S.A., National Memorial, Inc., Washington, D.C. 858,703, pub. 7–30–68. Cl. 107.
Jim-Dee Co., South Bend, Ind. 858,560, pub. 7–30–68. Cl. 23.
Just for Me, Inc., Rego Park, N.Y. 858,617, pub. 7–30–68. Cl. 39.
Kaiser Cement & Gypsum Corp.: *See*—
Permanente Cement Co.
Kay, George, West Orange, to Kay-Tite Co., Orange, N.J. 501,431, ren. 10–15–68. Cl. 12.
Kay-Tite Co.: *See*—
Kay, George.
Kennel Kraft: *See*—
Sharland, Ernest W.
Keystone Impex, Inc., Lansdale, Pa. 736,790, canc. Cl. 28.
Kings Card & Paper Co., Inc., New York, N.Y. 858,597, pub. 7–30–68. Cl. 37.
Knitcraft Corp., Winona, Minn. 858,628, pub. 7–30–68. Cl. 39.
Knoll A.G. Chemische Fabriken, Ludwigshafen Rhine, Germany. 858,524, pub. 7–30–68. Cl. 18.
Knoll Aktiengesellschaft, Ludwigshafen Rhine, Germany. 858,479, pub. 7–30–68. Multiple Class (Classes 6 and 18).
Koppers Co., Inc.: *See*—
Union Carbide & Carbon Corp.
Krafft & Schull, Duren Rhineland, Germany. 858,542, pub. 7–30–68. Cl. 22.
Kresge, S. S., Co., Detroit, Mich. 858,638, pub. 7–30–68. Cl. 39.
Kresge, S. S., Co., Detroit, Mich. 858,642, pub. 7–30–68. Cl. 39.
Kunstharsverwerkende Industrie D.S. Plastics N.V., 's-Heerenberg, Netherlands. 858,545, pub. 7–30–68. Cl. 22.
L. B. Laboratories, Inc., Glendale, Calif. 858,675, pub. 2–7–67. Cl. 51.
Ladish Co., Cudahy, Wis. 858,508, pub. 6–7–66. Cl. 13.
Lahr, W. E., Co., Minneapolis, Minn. 858,492, pub. 7–30–68. Multiple Class (Classes 6, 15, 19, and 21).
Laird, Donald R., Portland, Oreg. 858,654, pub. 7–30–68. Cl. 44.
Lasky Printing & Publishing Co., Washington, D.C. 858,606, pub. 7–30–68. Cl. 37.
Legge, Walter G., Co., Inc., to Walter G. Legge Co., Inc., New York, N.Y. 503,899, ren. 10–15–68. Cl. 6.
Lerner Mfg., Inc., Melville, N.Y. 858,465, pub. 7–30–68. Multiple Class (Classes 2, 13, 32, and 50).
Lily-Tulip Cup Corp., New York, N.Y. 858,471, pub. 7–30–68. Cl. 2.
Lippert Tile, Inc., Menomonee Falls, Wis. 858,518, pub. 7–30–68. Cl. 13.
Lohmann Kommanditgesellschaft, Fahr, Rhineland, Germany. 736,863, canc. Cl. 44.
London Chemical Co., Inc., Melrose Park, Ill. 858,486, pub. 7–30–68. Multiple Class (Classes 6, 11, 16, 34, and 52).
Londontown Mfg. Co., The, Baltimore, Md. 858,627, pub. 7–30–68. Cl. 39.
Los Angeles Soap Co., Los Angeles, Calif. 501,921, ren. 10–15–68. Cl. 52.
Lumbermens Merchandising Corp., Wayne, Pa. 858,505, pub. 7–30–68. Cl. 12.
Lux, G. Louis, d.b.a. Allied Industries Co., Detroit, Mich. 736,609, canc. Cl. 1.
Lytton, Harold R., North Hollywood, Calif. 736,860, canc. Cl. 44.
Madison Chemical Corp., Maywood, Ill. 858,488, pub. 7–30–68. Cl. 6.
Madison Sales Corp., Chicago, Ill. 736,788, canc. Cl. 28.
Magla Products: *See*—
Glatt, Herbert.
Maigu: *See*—
Maigu Co., Inc.
Maigu Co., Inc., d.b.a. Maigu, Tehran, Iran. 736,877, canc. Cl. 46.
Manhattan Rubber Mfg. Co., The, to Raybestos-Manhattan, Inc., Passaic, N.J. 247,742, ren. 10–15–68. Cl. 35.
Manufactures de Produits Chimiques du Nord Etablissements Kuhlmann, Paris, France. 736,603–6, canc. Cl. 1.
Marble Arms Corp., d.b.a. Marble Arms & Mfg. Co., Gladstone, Mich. 736,646, canc. Cl. 9.
Marble Arms & Mfg. Co.: *See*—
Marble Arms Corp.
Marinelli, Joseph V., Brooklyn, N.Y. 736,823, canc. Cl. 38.
Mar-Tec International, Inc., Seattle, Wash. 858,583, pub. 7–30–68. Cl. 34.
Martin, G. William, d.b.a. GWM Works "Science With Industry," Wallops Island, Va. 858,688, pub. 7–30–68. Cl. 100.
Martin Oven Co., Inc., Rochester, N.Y. 504,949, ren. 10–15–68. Cl. 34.
Martinson's Cleaners: *See*—
Price Cleaners, Inc.
Masonite Corp., Chicago, Ill. 505,038, ren. 10–15–68. Cl. 12.
Masonite Corp., Chicago, Ill. 248,040, ren. 10–15–68. Cl. 12.
Masonite Corp., Chicago, Ill. 504,545, ren. 10–15–68. Cl. 5.
Masonite Corp., Chicago, Ill. 503,850, ren. 10–15–68. Cl. 21.
Mass Market Corp., Newton, Mass. 858,650, pub. 7–30–68. Cl. 42.
Mattel, Inc., Hawthorne, Calif. 858,553, pub. 7–30–68. Cl. 22.
Matthew, Lewis E., Hayward, Calif. 858,588, pub. 7–30–68. Cl. 36.
McBurnie, William T., Los Angeles, Calif. 736,832, canc. Cl. 38.
McCallie Shoe Co., Knoxville, Tenn. 858,630, pub. 7–30–68. Cl. 39.
McGraw-Edison Co.: *See*—
American Laundry Machinery Co., The.
Mead Corp., The, Dayton, Ohio. 858,464, pub. 7–30–68. Multiple Class (Classes 2 and 37).
Medical Plastics Corp. of America, Greensboro, N.C. 858,652, pub. 7–30–68. Cl. 42.
Mercantile Stores Co., Inc., New York, N.Y. 858,685, pub. 7–30–68. Cl. 52.
Merchandising Consultants, Inc., Chicago, Ill. 736,627, canc. Cl. 6.
Mesa Scientific Corp., from Marc Shlowitz and Associates Inc., Hawthorne, Calif. 736,905, canc. Cl. 100.
Midland Shoe Co., to Midland Shoe Co., St. Louis, Mo. 504,499, ren. 10–15–68. Cl. 39.
Midway Chemical Co., Chicago, Ill., to American Home Products Corp., New York, N.Y. 248,535, ren. 10–15–68. Cl. 16.
Midway Chemical Co., Chicago, Ill., to American Home Products Corp., New York, N.Y. 250,427, ren. 10–15–68. Cl. 29.

Milton Mfg. Co., Inc., Chicago, Ill. 858,568, pub. 7–30–68. Cl. 26.
Mini-Beacon Co.: *See*—
Abne, Harry E., and Leinwohl.
Mishawaka Rubber Co., Inc.: *See*—
Mishawaka Rubber & Woolen Mfg. Co.
Mishawaka Rubber & Woolen Mfg. Co., to Mishawaka Rubber Co., Inc., Mishawaka, Ind. 502,314, ren. 10–15–68. Cl. 39.
Mishawaka Rubber & Woolen Mfg. Co., to Mishawaka Rubber Co., Inc., Mishawaka, Ind. 504,111, ren. 10–15–68. Cl. 39.
Miskell, Doyle T.: *See*—
Hawkins, Orville L.
Mississippi Council of Commercial Plant Breeders, Indianola, Miss. 736,608, canc. Cl. 1.
Mister Donut of America, Inc., Westwood, Mass. 858,691, pub. 7–30–68. Multiple Class (Classes 100 and 101).
Mobley, Edward, Co., The: *See*—
Mobley, Edward L., Jr.
Mobley, Edward L., Jr., d.b.a. The Edward Mobley Co., Wadsworth, Ohio. 858,544, pub. 7–30–68. Cl. 22.
Molybdenum Corp. of America, New York, N.Y. 858,489, pub. 7–30–68. Multiple Class (Classes 6 and 14).
Moneco Co., The: *See*—
Newman, Mortimer, Co., The.
Montecatini Edison S.p.A., Milan, Italy. 858,482, pub. 7–30–68. Cl. 6.
Moore, L. A., & Co., Inc., Utica, N.Y. 736,923, canc. Cl. 103.
Morgantown Glassware Guild, Inc., Morgantown, W. Va. 858,582, pub. 7–30–68. Cl. 33.
Motec Industries, Inc., Hopkins, Minn. 736,749, canc. Cl. 23.
Multi-Products Co.: *See*—
International Horseshoe Co., Inc.
Mutual Stores, Inc., to Safeway Stores, Inc., Oakland, Calif. 252,009, ren. 10–15–68. Cl. 46.
National Association of Real Estate Boards, Chicago, Ill. 504,859, ren. 10–15–68. Cl. 101.
National Biscuit Co.: *See*—
Cream of Wheat Co.
National Dairy Products Corp.: *See*—
Humko Co., The.
National Lock Co., Rockford, Ill. 736,819, canc. Cl. 38.
National Plan, Inc., Fort Worth, Tex. 736,912, canc. Cl. 102.
Nelson Sales Co., Kansas City, Mo. 858,569, pub. 7–30–68. Cl. 26.
Nestle Co., Inc., The, White Plains, N.Y. 858,660, pub. 10–10–67. Cl. 46.
Nestle-LeMur Co., The: *See*—
Townsend Mfg. Co., Inc.
New England Confectionery Co., Portland, Maine, and Boston, Mass., to New England Confectionery Co., Cambridge, Mass. 70,200, ren. 10–15–68. Cl. 46.
Newberry, J. J., Co., New York, N.Y. 736,880, canc. Cl. 46.
Newman, Mortimer, Co., The, d.b.a. The Moneco Co., to Bertram Frankenberger, New Haven, Conn. 501,608–9, ren. 10–15–68. Cl. 22.
Nigg Ag Bern, Bern, Switzerland. 858,667, pub. 7–30–68. Cl. 50.
Nightwriter Corp., Inc., d.b.a. Nirico, Alexandria, Va. 858,710. Cl. 37.
Nirico: *See*—
Nightwriter Corp., Inc.
Norihiko Mizutani, Osaka, Japan. 858,600, pub. 7–30–68. Cl. 37.
North American Electronics Inc., West Lynn, Mass. 736,706–7, canc. Cl. 21.
Northwest Packing Co., Portland, Oreg. 441,581, ren. 10–15–68. Cl. 46.
Norton, Oglebay, Co., Cleveland, Ohio. 858,559, pub. 7–30–68. Cl. 22.
Noyman Mfg. Co., The, Boston, Mass. 858,474, pub. 7–30–68. Cl. 3.
Nutrena Feed Mills, Inc., Kansas City, Kans., to Cargill, Inc., Minneapolis, Minn. 244,600, ren. 10–15–68. Cl. 46.
Ohio Chemical & Mfg. Co., The, Cleveland, Ohio, to Air Reduction Co., Inc., New York, N.Y. 502,740, ren. 10–15–68. Cl. 6.
Oneida Ltd., Oneida, N.Y. 501,397, ren. 10–15–68. Cl. 28.
Ortho Pharmaceutical Corp., Raritan, N.J. 858,534, pub. 7–30–68. Cl. 18.
Overground Art, Inc., New York, N.Y. 858,613, pub. 7–30–68. Cl. 38.
Pacific Basin Trading Co.: *See*—
Farm Chemicals of Oregon, Inc.
Pacific Gun Sight Co., Lincoln, Nebr. 858,495, pub. 7–30–68. Cl. 9.
Pacific Lumber Co., The, San Francisco, Calif. 736,641–2, canc. Cl. 6.
Pacific Wood Products Co., Los Angeles, Calif. 858,503, pub. 4–23–68. Cl. 12.
Palleon Electronics Ltd., Cornwall, Ontario, Canada. 858,516, pub. 7–30–68. Cl. 13.
Paramount Laboratories, Inc., Portland, Oreg. 736,931, canc. Cl. 106.
Participating Annuity Life Insurance Co., McLean, Va. 858,699, pub. 7–30–68. Cl. 102.
Payne, P. M., d.b.a. Payne Publishers, Washington, D.C. 736,817, canc. Cl. 38.
Payne Publishers: *See*—
Payne, P. M.
Peabody, Andrew L., Natchez, Miss. 858,543, pub. 7–30–68. Cl. 22.
Peachtree Doors, Inc., Atlanta, Ga. 736,653–4, canc. Cl. 12.
Permanente Cement Co., to Kaiser Cement & Gypsum Corp., Oakland, Calif. 501,478, ren. 10–15–68. Cl. 12.
Pfeiffer Co., The: *See*—
Pfeiffer, S., Mfg. Co.
Pfeiffer, S., Mfg. Co., to The Pfeiffer Co., St. Louis, Mo. 505,247, ren. 10–15–68. Cl. 18.
Pflaum, Geo. A., Publisher, Inc., Dayton, Ohio. 858,610, pub. 7–30–68. Cl. 38.
Philco-Ford Corp., Philadelphia, Pa. 858,591, pub. 7–30–68. Cl. 36.
Philips Electronics Industries Ltd., Toronto, Ontario, Canada. 736,869, canc. Cl. 44.
Pittsburgh Railways Co.: *See*—
Pittway Corp.
Pittway Corp., from Pittsburgh Railways Co., Cleveland, Ohio. 858,711. Cl. 38.
Plischke, Heinz W., San Francisco, Calif. 736,820, canc. Cl. 38.
Polamer Drug Co., Inc., South River, N.J. 858,527, pub. 6–11–68. Cl. 18.
Poly-Choke Co., Inc., The, East Hartford, Conn. 858,592, pub. 7–30–68. Cl. 36.
Polychrome Corp., Yonkers, N.Y. 858,669, pub. 7–30–68. Cl. 50.
Pop-On Designs, Inc., Boston, Mass. 858,579, pub. 7–30–68. Cl. 32.
Porcher, E. P., to Adrienne R. Earnhardt, successor Trustee of the Estate of E. P. Porcher, deceased, Cocoa, Fla. 245,678, ren. 10–15–68. Cl. 46.
Press Communications, Inc., New York, N.Y. 736,830, canc. Cl. 38.
Pressure Pak, Inc., West Palm Beach, Fla. 858,521, pub. 6–11–68. Cl. 16.
Preston, J. A., Corp., New York, N.Y. 858,467, pub. 7–30–68. Multiple Class (Classes 2, 8, 12, 13, 21, 22, 23, 24, 26, 27, 32, 34, 36, 40, 44, and 50).
Price Cleaners, Inc., d.b.a. Martinson's Cleaners, New York, N.Y. 736,926, canc. Cl. 105.
Progress Mfg. Co., Inc., Philadelphia, Pa. 736,618, canc. Cl. 2.
Professional Nursing Homes of America, Inc., Kansas City, Mo. 858,689, pub. 7–30–68. Cl. 100.
Pro-Phy-Lac-Tic Brush Co., Northampton, Mass., to Vistron Corp., Cleveland, Ohio. 503,917, ren. 10–15–68. Cl. 29.
Province of the Most Holy Name of Jesus Inc., New York, N.Y. 736,825, canc. Cl. 38.
Pyro Plastics Corp., Union, N.J. 440,842, ren. 10–15–68. Cl. 22.
Quality Park Envelope Co., St. Paul, Minn. 858,601, pub. 7–30–68. Cl. 37.
Rachelle Laboratories, Inc., Long Beach, Calif. 858,522, pub. 7–30–68. Cl. 18.
Rader, Paul, Dr., d.b.a. The Paul Rader Evangelistic Association, Minneapolis, Minn. 858,608, pub. 7–30–68. Cl. 38.
Rader, Paul, Evangelistic Association, The: *See*—
Rader, Paul, Dr.
Rakes, Joe, Construction Co.: *See*—
Rakes, Joe F.
Rakes, Joe F., d.b.a. Joe Rakes Construction Co., Tulsa, Okla. 736,922, canc. Cl. 103.
Ralston Purina Co., St. Louis, Mo. 858,460, pub. 7–30–68. Cl. 1.
Raybestos-Manhattan, Inc.: *See*—
Manhattan Rubber Mfg. Co., The.
Raybestos-Manhattan, Inc., Passaic, N.J. 502,514, ren. 10–15–68. Cl. 35.
Raybestos-Manhattan, Inc., Passaic, N.J. 858,547, pub. 7–30–68. Cl. 22.
Raygo, Inc., Minneapolis, Minn. 858,561, pub. 7–30–68. Cl. 23.
Reading Guidance Center, Inc., Garden Grove, Calif. 858,706, pub. 7–30–68. Cl. 107.
Reed & Carnrick, Kenilworth, N.J. 858,530, pub. 7–30–68. Cl. 18.
Right-Gard Corp., Philadelphia, Pa. 858,548, pub. 7–30–68. Cl. 22.
Rite-Way Coatings Co., Addison, Ill. 858,520, pub. 7–30–68. Cl. 16.
Riverside Paper Corp., Appleton, Wis. 858,603, pub. 7–30–68. Cl. 37.
Riviera Trading Corp., New York, N.Y. 858,571, pub. 7–30–68. Cl. 26.
Rod's Food Products, Inc., Los Angeles, Calif. 858,663, pub. 7–30–68. Cl. 46.
Roth Drug Co.: *See*—
Roth Laboratories.
Roth, Herbert J.: *See*—
Roth Laboratories.
Roth Laboratories, Newton, from Herbert J. Roth, d.b.a. Roth Drug Co., Philadelphia, Pa. 858,531–2, pub. 7–30–68. Cl. 18.
Roux Laboratories, Inc., New York, N.Y. 858,676, pub. 7–30–68. Cl. 51.
Rowe International, Inc., Whippany, N.J., from Canteen Corp., Chicago, Ill. 858,590, pub. 7–30–68. Cl. 36.
Royal Inns of America, Inc., La Mesa, Calif. 858,686, pub. 7–30–68. Cl. 100.
SRI Corp., North Hollywood, Calif. 736,920, canc. Cl. 102.
S.S.S. Co., Atlanta, Ga. 858,528, pub. 7–30–68. Cl. 18.
Safco Products Co., Minneapolis, Minn. 858,578, pub. 7–30–68. Cl. 32.
Safeway Stores, Inc.: *See*—
Mutual Stores, Inc.
St. Joseph Lead Co., New York, N.Y. 736,636–7, canc. Cl. 6.
Saks & Co., New York, N.Y. 736,837, canc. Cl. 39.
Samsonite Corp., Denver, Colo. 858,476–7, pub. 7–30–68. Cl. 3.
School House Products, Inc., New York, N.Y. 858,595–6, pub. 7–30–68. Cl. 37.
Schulte, Louis G., d.b.a. Tum-Blin Downs Co., St. Louis, Mo. 736,719, canc. Cl. 22.
Scripture Press Publications, Inc., Wheaton, Ill. 858,616, pub. 7–30–68. Cl. 38.
Sea Sprite Pools, Inc., St. Louis, Mo. 858,498, pub. 7–30–68. Cl. 12.

Sears, Roebuck & Co., Chicago, Ill. 736,864, canc. Cl. 44.
Selectra-Date Corp., Fort Lauderdale, Fla. 858,693, pub. 7–30–68. Cl. 100.
Semimetals, Inc., Westbury, N.Y., from Elmat Corp., Mountain View, Calif. 858,540, pub. 7–30–68. Cl. 21.
Serbin, Inc., Miami, Fla. 858,631, pub. 7–30–68. Cl. 39.
Serena Industries, Dolton, Ill. 858,558, pub. 7–30–68. Cl. 23.
Service Clean Inc., Janesville, Wis. 736,739, canc. Cl. 23.
Shaler Co., The, Waupun, Wis. 505,479, ren. 10–15–68. Cl. 35.
Sharland, Ernest W., d.b.a. Dromore Kennels Reg., Baltimore, Md., to M. Hortense Davies, d.b.a. Kennel Kraft, Westborough, Mass. 248,120, ren. 10–15–68. Cl. 18.
Shaw, David E., Pittsburgh, Pa. 736,828, canc. Cl. 38.
Sherwin-Williams Co., The, Cleveland, Ohio. 441,358, ren. 10–15–68. Cl. 29.
Shlowitz, Marc, and Associates Inc.: *See*—
Mesa Scientific Corp.
Simplex Shoe Mfg. Co., Milwaukee, Wis. 736,849, canc. Cl. 39.
Sklar Enterprises, Inc., Boston, Mass. 858,646, pub. 7–30–68. Cl. 39.
Societe Anonyme Rose Valois, Paris, France. 858,679, pub. 7–30–68. Cl. 51.
Societe des Usines Chimiques Rhone-Poulenc, Paris, France. 736,643, canc. Cl. 6.
Societe l'Oreal, Paris, France. 736,868, canc. Cl. 44.
Soil Testing Services, Inc., Northbrook, Ill. 858,692, pub. 7–30–68. Cl. 100.
Sony Corp. of America, Long Island City, N.Y. 858,537, pub. 7–30–68. Cl. 21.
Southern Heater Co., Inc., New Orleans, La. 504,050, ren. 10–15–68. Cl. 34.
Southern Iron & Equipment Co., Chemblee, Ga. 502,944, ren. 10–15–68. Cl. 23.
Space Components Inc., Washington, D.C. 736,715, canc. Cl. 21.
Spaulding & Co., Chicago, Ill. 441,754, ren. 10–15–68. Cl. 3.
Spaulding & Co., Chicago, Ill. 441,842, ren. 10–15–68. Cl. 33.
Sprouse-Reitz Co., Inc., Portland, Oreg. 858,552, pub. 7–30–68. Cl. 22.
Squibb, E. R., & Sons, to E. R. Squibb & Sons, Inc., New York, N.Y. 250,079, ren. 10–15–68. Cl. 18.
Squibb, E. R., & Sons, Inc.: *See*—
Squibb, E. R., & Sons.
Stafco, Inc., San Antonio, Tex. 736,799, canc. Cl. 32.
Stafco, Inc., San Antonio, Tex. 736,851, canc. Cl. 39.
Stauffer Reducing, Inc., Los Angeles, Calif. 736,794, canc. Cl. 32.
Stayton Canning Co., Cooperative, Stayton, Oreg. 503,459, ren. 10–15–68. Cl. 46.
Stayton Canning Co., Cooperative, Stayton, Oreg. 505,415, ren. 10–15–68. Cl. 46.
Sterling Drug Inc., from Ciba Corp., d.b.a. The Gland-O-Lac Co., New York, N.Y. 858,480, pub. 1–16–68. Cl. 6.
Stockwood Studio: *See*—
Fish, Mary M. S.
Stroh Brewery Co., The, to The Stroh Brewery Co., Detroit, Mich. 70,922, ren. 10–15–68. Cl. 48.
Stroh Brewery Co., The, to The Stroh Brewery Co., Detroit, Mich. 71,606, ren. 10–15–68. Cl. 48.
Studley Paper Co., Inc., Far Rockaway, N.Y. 858,461, pub. 12–12–67. Cl. 2.
Sturm & Scheinberg, Inc., New York, N.Y. 858,659, pub. 7–30–68. Cl. 44.
Styro Fabricators, Inc., Kansas City, Kans. 736,721, canc. Cl. 22.
Sucrest Corp., New York, N.Y. 858,490, pub. 7–30–68. Cl. 6.
Sumitomo Machinery Corp. of America, Carlstadt, N.J. 858,708. Cl. 23.
Sumitomo Metal Industries, Ltd., Higashi-Ku, Osaka, Japan. 858,509, pub. 7–30–68. Multiple Class (Classes 13, 14, 19, and 23).
Sun Chemical Corp., New York, N.Y. 858,496–7, pub. 7–30–68. Cl. 11.
Sun Oil Co., Philadelphia, Pa. 441,043, ren. 10–15–68. Cl. 15.
Sunroc Corp., Chicago, Ill. 858,586, pub. 7–30–68. Cl. 34.
Superba Cravats, Inc., Rochester, N.Y. 858,618, pub. 7–30–68. Cl. 39.
Superba Cravats, Inc., Rochester, N.Y. 858,641, pub. 7–30–68. Cl. 39.
Swoboda, H., & Son, Inc., Philadelphia, Pa. 736,720, canc. Cl. 22.
Symington Wayne Corp., Salisbury, Md. 858,470, pub. 7–30–68. Multiple Class (Classes 2, 15, and 23).
Szoeke, George, d.b.a. Hamelin-Harvard Associated Co., New York, N.Y. 736,617, canc. Cl. 2.
Taraba, Joseph F., Inc., Portland, Oreg. 858,538, pub. 7–30–68. Cl. 21.
Taylor Corp., Valley Forge, Pa. 858,454, pub. 7–30–68. Cl. 1.
Taylor, William, d.b.a. Coil Equipment Co., Elkhart, Ind. 858,555, pub. 7–30–68. Cl. 23.
Thiokol Chemical Corp., Bristol, Pa. 858,570, pub. 7–30–68. Cl. 26.
Thomas-Andrew Co.: *See*—
Beagle, Boyd M.
Thomas & Thompson Co. of Baltimore City, Inc., Baltimore, Md. 736,697, canc. Cl. 18.
Tomlinson of High Point, High Point, N.C. 439,218, ren. 10–15–68. Cl. 32.
Tomoe Soroban Kabushiki Kaisha, Chiyoda-ku, Tokyo, Japan. 858,567, pub. 7–30–68. Cl. 26.
Toplay Products, Inc., New York, N.Y. 858,551, pub. 7–30–68. Cl. 22.
Townsend Mfg. Co., Inc., to The Nestle-Le Mur Co., New York, N.Y. 239,384, ren. 10–15–68. Cl. 44.
Transducers, Inc., Santa Fe Springs, Calif. 858,563, pub. 7–30–68. Cl. 26.
Transmation, Inc., Rochester, N.Y. 858,572, pub. 7–30–68. Cl. 26.
Trefileries Leon Bekaert, PVBA, Zwevegem, Belgium. 858,519, pub. 7–30–68. Cl. 14.
Tremco Mfg. Co., The, Cleveland, Ohio. 506,051, ren. 10–15–68. Cl. 12.
Triumph Meat Packers, Ltd., Nykobing, Falster, Denmark. 858,661, pub. 5–7–68. Cl. 46.
Tum-Blin Downs Co.: *See*—
Schulte, Louis G.
Turco Inc., Barrington, Ill. 858,599, pub. 7–30–68. Cl. 37.
Ulano Products Co. Inc., Brooklyn, N.Y. 858,458, pub. 7–30–68. Multiple Class (Classes 1, 5, and 26).
Union Carbide & Carbon Corp., New York, N.Y., to Koppers Co., Inc., Pittsburgh, Pa. 439,246, ren. 10–15–68. Cl. 21.
Union Carbide Corp.: *See*—
Carbide & Carbon Chemicals Corp.
Uniroyal, Inc., New York, N.Y. 858,639, pub. 7–30–68. Cl. 39.
United Aircraft Corp., Sunnyvale, Calif. 858,514, pub. 7–30–68. Cl. 13.
United Elastic Corp., East Hampton, Mass. 858,455, pub. 7–30–68. Cl. 1.
United-Carr Inc., from United-Carr Inc., Boston, Mass. 858,510, pub. 7–30–68. Multiple Class (Classes 13, 21, and 40).
U.S. Industries, Inc., New York, N.Y. 736,713, canc. Cl. 21.
United States Stove Co., South Pittsburgh, Tenn. 501,149, ren. 10–15–68. Cl. 34.
University of Pittsburgh, Pittsburgh, Pa. 736,826, canc. Cl. 38.
Victor Coffee Co.: *See*—
Hall, Martin L., Co.
Vigh, John, Brooklyn, N.Y. 736,871, canc. Cl. 44.
Vistron Corp.: *See*—
Pro-Phy-Lac-Tic Brush Co.
Vonell Transmission, Inc., Bucyrus, Ohio. 736,732, canc. Cl. 23.
Vulcanized Rubber & Plastics Co., Morrisville, Pa. 501,696–8, ren. 10–15–68. Cl. 40.
Vulcanized Rubber & Plastics Co., Morrisville, Pa. 501,738, ren. 10–15–68. Cl. 40.
Waitt & Bond, Inc., Newark, N.J., from Alles & Fisher, Inc., Boston, Mass. 736,676, canc. Cl. 17.
Walbro Corp., Cass City, Mich. 858,535, pub. 7–30–68. Multiple Class (Classes 19, 23, and 50).
Ward Foods, Inc., New York, N.Y. 858,662, pub. 5–7–68. Cl. 46.
Waring Funeral Home: *See*—
Waring, Sumner J., Inc.
Waring, Sumner J., Inc., d.b.a. Waring Funeral Home, Fall River, Mass. 858,697, pub. 7–30–68. Cl. 100.
Weiner, R. I., Associates, Inc., Pikesville, Md. 858,694, pub. 7–30–68. Cl. 100.
Wesemann, Fred, Sterling, Colo. 858,494, pub. 7–30–68. Cl. 9.
Western Irrigation & Equipment Co.: *See*—
Franzwa, Edward J.
Westinghouse Air Brake Co.: *See*—
Goodman Mfg. Co.
Westley, William K., d.b.a. The William K. Westley Co., Rocky River, Ohio. 736,897–8, canc. Cl. 52.
Westley, William K., Co., The: *See*—
Westley, William K.
Weyerhaeuser Co., Tacoma, Wash. 858,466, pub. 7–30–68. Cl. 2.
Whaledent, Inc., Brooklyn, N.Y. 858,653, pub. 7–30–68. Cl. 44.
White Laboratories, Inc.: *See*—
Health Products Corp.
Wholesale Pizza Co.: *See*—
Hunt, Donald A.
Williams, J. B., Co., Inc., The, New York, N.Y. 736,891, canc. Cl. 51.
Windmill Books, Inc., New York, N.Y. 858,615, pub. 7–30–68. Cl. 38.
Wolverine World Wide, Inc., Rockford, Mich. 858,457, pub. 7–30–68. Cl. 1.
Wood, E. B.: *See*—
Wood Fruit Co., Inc.
Wood Fruit Co.: *See*—
Wood Fruit Co., Inc.
Wood Fruit Co., Inc., to E. B. Wood, d.b.a. Wood Fruit Co., Atwater, Calif. 249,809, ren. 10–15–68. Cl. 46.
Wurlitzer Co., The: *See*—
Wurlitzer, Rudolph, Co., The.
Wurlitzer, Rudolph, Co., The, to The Wurlitzer Co., Chicago, Ill. 504,653, ren. 10–15–68. Cl. 36.
Yankee Nite Cap: *See*—
Greene, Henry H.
Yardley of London, Inc., Totowa, N.J. 858,677–8, pub. 7–30–68. Cl. 51.
Your Future Unlimited: *See*—
Douglass, R. Spencer.
Zaring Industries, Inc., Carmel, Ind. 858,541, pub. 7–30–68. Cl. 21.

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U.S. DEPARTMENT OF COMMERCE
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October 22, 1968 Volume 855 Number 4

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of August 1968

Examiner affirmed	146
Examiner affirmed in part	18
Examiner reversed	41
Total	205

[Republication of 847 O.G. 331 Notice]

Joint United States-Republic of the Philippines Program

I am pleased to announce the availability of an exchange program on examination results between the United States and the Republic of the Philippines. The program involves patent applications filed in the United States which are subsequently followed by corresponding applications filed in the Republic of the Philippines and patent applications filed in the Philippines subsequently followed by corresponding applications filed in the United States.

The program would operate as follows:

The applicant would file his application in the U.S. Patent Office which would process the application in the normal manner and examine the application in the usual time sequence.

If the applicant should later file a corresponding application in the Philippines Patent Office, he may elect to use the special filing procedure. Under this special filing procedure, applicant files his application in the Philippines accompanied by a notice of election to participate in the special procedure; which notice of election contains a certification that the description (excluding references to related applications), claims and drawings are identical to those of the corresponding application originally filed in the United States. The earlier filed application must be fully identified; and, in applications without a claim of priority, a certified copy of the earlier filed U.S. application must be submitted to the Philippines Patent Office. In addition, applicant must also agree that all amendments to his U.S. application will also be made with respect to his application filed in the Philippines.

In the U.S. Patent Office, applicant will regularly file two copies of each amendment, one copy must be marked "Copy for Philippines Patent Office." Upon termination of prosecution the U.S. Patent Office shall remove all copies so marked from the U.S. file and promptly forward the same to the Philippines Patent Office.

Election forms for participation in this special program must be signed in duplicate and simultaneously accompany the application to be filed in the Philippines.

Upon receipt of properly filed notice of election, the Philippines Patent Office would notify the U.S. Patent Office of the election by forwarding one copy of the election forms to the U.S. Patent Office. The Philippines Office would defer action on the Philippines application pending receipt of information as to the disposition of the application by the U.S. Patent Office. If no such information is received by the Philippines Office within a reasonable amount of time from the date of filing in the Philippines, the Philippines Office may, either on its own initiative, or at applicant's request, inquire as to the status of the U.S. application and, if desired, proceed with its own independent examination.

Upon disposal of the application by the U.S. Patent Office, appropriate information will be sent to the Philippines Patent Office which will include all necessary identifying data, whether allowed or abandoned, notice of allowance, copies of documents cited during examination, a copy of the last office action and, when necessary, any earlier actions which may be included by reference in the last action. The Philippines Office would then make their own complete office action based upon the claims as amended with the U.S. Patent Office, performing whatever checks desired and search for copending interfering applications. Alternatively, the Philippines may request applicant to show cause why the results of the U.S. examination should not be accepted in the Philippines. All avenues of appeal would remain open to the applicant.

Where copending applications are cited and applied during examination in the U.S. Patent Office, full examination would not be forwarded to the Philippines Patent Office, and the fact that a U.S. copending application was cited would be noted as a matter of information, since such references would be inapplicable in the Philippines.

Where the application originates in the Philippines Patent Office and is subsequently filed in the U.S. Patent Office, a similar procedure as outlined above consonant with U.S. Law will be followed.

It is believed that this program will facilitate the handling of U.S. origin applications filed in the Republic of the Philippines resulting in a savings in time and expense of prosecution to U.S. applicants.

Election forms for participation in this special program are now available from The Foreign Exchange Section, Office of Patent Services.

GERALD D. O'BRIEN,
Assistant Commissioner.

Oral Hearings Under Rule 194

Effective September 1, 1968, for a trial period of six months, new procedures will be initiated which will permit Primary Examiners to present an oral argument before the Board of Appeals in appeals where the applicant has been granted an oral hearing.

After the attorney or agent representing the appellant has made his presentation, the Examiner will be allowed fifteen minutes to reply as well as to present a statement which clearly sets forth his position with respect to the issues and rejections of record. Appellant may utilize any allotted time not used in the initial presentation for rebuttal.

RICHARD A. WAHL,
Assistant Commissioner.

July 26, 1968.

Concur:
EDWIN L. REYNOLDS,
First Assistant Commissioner.

New Applications Received During July 1968

Patents	7961
Designs	427
Plant Patents	14
Reissues	50
Total	8452

Issue—October 22, 1968

Patents	1000	No. 3,406,406 to No.	3,407,405, incl.
Designs	66	No. 212,455 to No.	212,520, incl.
Plant Patents	2	No. 2,840 to No.	2,841, incl.
Reissues	4	No. 26,478 to No.	26,481, incl.
Total	1072		

Patents Available for Licensing or Sale

3,301,228. MOTORS. Edwin O. Winans, 4812 Edgefield Road, Bethesda, Md., 20014.

3,387,852. DETACHABLE AND REMOVABLE ROLLER SKATES. Emma De Sarro, 620 Palmetto St., West Palm Beach, Fla., 33405.

3,397,935. LIQUID CUP AND CONTAINER ASSEMBLY USABLE AS A BINOCULAR TELESCOPE. Michitoshi Natsume, Tokyo, Japan. Correspondence to: Sughrue, Rothwell, Mion, Zinn & Macpeak, Munsey Bldg., Washington, D.C., 20004.

The Interior Department of the United States of America is prepared to grant non-exclusive, essentially royalty-free licenses under the following patent in accordance with the Department's Patent Licensing Regulations (43 CFR 6).

Inquiries and all requests for licenses should be addressed to the Assistant Solicitor, Branch of Patents, Department of the Interior, Washington, D.C., 20240.

3,404,655. DEPTH CONTROLLER.

Radio Corporation of America offers to grant non-exclusive licenses on reasonable terms and conditions under the following 17 patents.

Inquiries respecting licenses should be addressed to: Radio Corporation of America, Staff Vice President, Domestic Licensing, 30 Rockefeller Plaza, New York, N.Y., 10020.

3,393,282. TIME DELAY CIRCUIT EMPLOYING LOGIC GATE.

3,393,283. SEMICONDUCTOR DEVICES AND CIRCUITS USING THE PINCH EFFECT.

3,396,314. OVERDRIVE CIRCUIT FOR INDUCTIVE LOADS.

3,396,394. DIRECTIVE ANTENNAS.

3,396,890. TAPE TRANSPORT DRIVE MEANS.

3,397,325. SENSOR ARRAY COUPLING CIRCUITS.

3,398,275. SIGNALING LOOP INCLUDING UNBROKEN RAILROAD TRACK.

3,398,298. TRANSISTORIZED SYNC STRIPPER.

3,398,300. GATED FLIP-FLOP EMPLOYING PLURAL TRANSISTORS AND PLURAL CAPACITORS COOPERATING TO MINIMIZE FLIP-FLOP RECOVERY TIME.

3,398,318. HORIZONTAL DEFLECTION LINEARITY CONTROL CIRCUIT.

3,398,319. ENERGIZING SYSTEM FOR COLOR PURITY APPARATUS.

3,398,320. DYNAMIC COLOR PURITY APPARATUS.

3,398,910. TAPE CUSHIONING APPARATUS FOR TAPE TRANSPORTS.

3,399,277. SIGNAL TRANSLATING CIRCUIT.

3,399,353. FM COUNTER-TYPE DETECTOR ESPECIALLY SUITED FOR INTEGRATED CIRCUIT FABRICATION.

3,399,390. INTEGRATED SEMICONDUCTOR DIODE MATRIX.

3,399,405. VEHICLE IDENTIFIER SYSTEM.

General Electric Company is prepared to grant non-exclusive licenses under the following 27 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following patent may be addressed to: Patent Counsel, Specialty Control Department, General Electric Company, Waynesboro, Va.

3,319,153. AUTOMATIC VOLTAGE CONTROL CIRCUIT EMPLOYING ELECTRONIC TAP CHARGER.

Applications for license under the following patent may be addressed to: Patent Counsel, Housewares Division, General Electric Company, 1285 Boston Ave., Bridgeport, Conn., 06602.

3,351,736. PORTABLE ELECTRIC CIGARETTE LIGHTER.

Applications for license under the following patent may be addressed to: Patent Counsel, Laminated Products Department, General Electric Company, 1285 Boston Ave., Bldg. 23EE, Bridgeport, Conn., 06602.

3,388,036. METAL-COATED PLASTIC LAMINATE.

Applications for license under the following 2 patents may be addressed to: Department Patent Counsel, Apollo Systems Department, General Electric Company, P.O. Box 2500, Daytona Beach, Fla., 32015.

3,381,555. CABLE SHEATH SLIDE BACK MACHINE.

3,377,877. ADJUSTABLE-INDEX GEAR TRAIN.

Applications for license under the following 2 patents may be addressed to: Patent Counsel, Contractor Equipment Division, General Electric Company, 1285 Boston Ave., Bldg. 21ES, Bridgeport, Conn., 06602.

3,264,427. ELECTRIC CIRCUIT PROTECTIVE DEVICE WITH ENERGY DIVERTING MEANS.

3,394,616. ELECTRIC SWITCH OPERATING APPARATUS.

Applications for license under the following 3 patents may be addressed to: Division Patent Counsel, Power Transmission Division, General Electric Company, 6901 Elmwood Ave., Philadelphia, Pa., 19142.

3,207,974. INVERTER CIRCUITS.

3,343,063. VARIABLE FREQUENCY CONVERTER WITH VOLTS PER CYCLE PER SECOND REGULATION.

3,392,326. COIL WINDING BUFFER CONDUCTORS HAVING IMPEDANCE MEANS.

Applications for license under the following 7 patents may be addressed to: General Electric Company, Patent Attorney, Instrument Department, 40 Federal St., West Lynn, Mass., 01905.

2,982,915. HIGH-SHOCK MOVING-COIL ELECTRICAL INSTRUMENT.

3,026,715. LEAK DETECTOR TEST TABLE.

3,076,139. LEAK DETECTOR.

3,199,023. METHOD AND APPARATUS FOR NON-DESTRUCTIVELY TESTING ELECTRICAL INSULATION BY SENSING LEVELS OF IONIZATION OCCURRING IN THE INSULATION.

3,260,931. DIAMAGNETIC GAUSSMETER.

3,302,545. AUTOMATIC EXPOSURE CONTROL FOR CAMERA.

3,304,468. REPLACEABLE ELECTRONIC MODULE FOR MASTER CIRCUIT BOARDS.

Applications for license under the following 11 patents may be addressed to: Patent Counsel, Appliance and Television, General Electric Company, Appliance Park, Louisville, Ky., 40225.

3,335,969. CONTROL MEANS FOR A FOOD WASTE DISPOSER.

3,378,933. DRYING SYSTEM FOR DISHWASHER.

3,381,620. MEANS TO ACHIEVE CLOSE CLEARANCE BETWEEN STATIONARY AND MOVING MEMBERS.

3,383,148. PROTECTIVE DEVICE FOR DISHWASHER DOOR.

3,384,098. CONTROL MEANS FOR AUTOMATIC DISHWASHER.

3,386,454. DISHWASHER WITH INTEGRAL WATER SOFTENER.

3,386,582. WATER SOFTENER FOR USE WITH AN AUTOMATIC WISHING MACHINE.

3,392,741. MEANS TO CONTROL THE ADMISSION OF LIQUID INTO A CONTAINER.

3,393,021. BEARING UNIT.

3,393,025. LUBRICATION SYSTEM FOR BEARING.

3,394,725. DISHWASHER WITH IMPROVED SIDE LIQUID INLET AND HOSE SUPPORT.

Adjudicated Patents

(C.A. Ill.) Wallerstein Patent No. 2,531,999 (195—11), for MANUFACTURE OF CRYSTALLINE DEXTROSE, *Held* valid and infringed. *Baxter Laboratories, Inc.* v. *Corn Products Co.*, 294 F.2d 892; 147 USPQ 482.

(C.A. Mass.) Grim Patent No. 2,673,194 (260—93.5), for SUSPENSION POLYMERIZATION, *Held* invalid. *Koppers Co.* v. *Foster Grant Co.*, 396 F.2d 370; 158 USPQ 241.

(C.A. Tex.) Wright and Swofford Patent No. 2,826,253 (166—173), for BORE WALL CLEANER. Claims 1 to 7 *Held* invalid. *Swofford* v. *B. & W. Inc.*, 395 F.2d 362; 158 USPQ 72.

(C.A.S.C.) Karnofsky Patent No. 2,840,459 (23—310), for CONTINUOUS SOLVENT EXTRACTOR SYSTEM. Claims 8 and 32 *Held* valid but not infringed. *Blaw-Knox Co.* v. *Hartsville Oil Mill*, 394 F.2d 877; 157 USPQ 475.

(C.A. Ohio) Ward Patent No. 2,841,414 (280—104.5), for ANTI-BRAKE-HOP STRUCTURES FOR WHEELED VEHICLES. Claims 7 and 8 *Held* invalid. *A.J. Industries, Inc.* v. *Dayton Steel Foundry Co.*, 294 F.2d 357; 157 USPQ 545.

(C.A. Wis.) Podlesak Patent No. 2,919,990 (99—178), for METHOD OF CONTINUOUSLY PRODUCING PACKAGED UNITS, *Held* invalid. *National Dairy Products Corp.* v. *Borden Co.*, 294 F.2d 887; — USPQ —.

(C.A. Del.) Martin Patent No. 3,004,893 (425—35), for ENTERIC COATED TRYPSIN AND CHYMOTRYPSIN ANTI-INFLAMMATORY COMPOSITIONS, *Held* invalid. *Armour Pharmaceutical Co.* v. *Richardson-Merrell, Inc.*, 396 F.2d 70; 158 USPQ 9.

Rules of Practice in Patent Cases

[37 CFR Part 1]

Increase of Miscellaneous Fees and Charges

The time for submission of written data, views, arguments, or suggestions for consideration in connection with the proposed revision of Section 1.21 of Title 37 of the Code of Federal Regulations as published in the Federal Register of August 3, 1968 (33 F.R. 11092), is extended to November 15, 1968.

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: September 18, 1968.

JOHN F. KINCAID,
Assistant Secretary for Science and Technology.

[F.R. Doc. 68-11561; Filed, Sept. 20, 1968; 8:50 a.m.]

[*Pub. in 33 F.R. 14327, Sept. 21, 1968*]

Rules of Practice in Patent Cases

[37 CFR Part 1]

Increase of Miscellaneous Fees and Charges

Notice is hereby given that, pursuant to the authority contained in sections 6, 31, and 41 of the Act of July 19, 1952 (66 Stat. 793, 795, 796; 35 U.S.C. 6, 31, 41), the U.S. Patent Office proposes to revise paragraphs (h) and (i) of § 1.21 (37 CFR 1.21 (h) and (i) to read as follows:

§ 1.21 *Patent and miscellaneous fees and charges.*

• • • • • •

(h) For registration of an attorney, agent, or firm:

For admission to examination for registration to practice, fee payable upon application	$35.00
On registration to practice	25.00
On application for registration of a firm	25.00
(i) For certificate of good standing as an attorney or agent	5.00

• • • • • •

The purpose of the proposed revision is to enable the Patent Office to recover a greater proportion of the expenses incurred in rendering the identified services.

All persons who desire to submit written data, views, arguments, or suggestions for consideration in connection with the proposed revision are invited to forward the same to the Commissioner of Patents, Washington, D.C. 20231, on or before September 16, 1968. An oral hearing will not be scheduled.

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: July 25, 1968.

JOHN F. KINCAID,
Assistant Secretary for Science and Technology.

[F.R. Doc. 68-9287; Filed Aug. 2, 1968; 8:45 a.m.]

[*Pub. in 33 F.R. 11092, Aug. 3, 1968*]

Rules of Practice in Patent Cases

[37 CFR Part 1]

Proposed Changes Relating to the Issuance of Certificates of Correction

The Patent Office is currently giving consideration to the desirability of changing two of its rules dealing with the issuance of certificates of correction. The contemplated changes are intended to simplify and expedite the processing of requests for certificates of correction by permitting such certificates, when issued, to be physically attached to existing patents by the patentees or other parties in interest. Under present regulations this function is performed by the Patent Office.

Notice is hereby given, therefore, that under the authority contained in section 6 of the Act of July 19, 1952 (66 Stat. 792; 35 U.S.C. 6), the Patent Office proposed to amend Part I of Title 37 of the Code of Federal Regulations as follows:

(1) By amending paragraph (a) of § 1.322 to delete from the first sentence the words "and endorsed on the patent itself". As thus amended, paragraph (a) would read as follows:

§ 1.322 *Certificate of Correction of Office mistake.*

(a) A certificate of correction under 35 U.S.C. 254 may be issued at the request of the patentee or his assignee. Such certificate will not be issued at the request or suggestion of anyone not owning an interest in the patent, nor on motion of the Office, without first notifying the patentee (including any assignee of record) and affording him an opportunity to be heard.

• • • • • •

(2) By amending § 1.323 to delete therefrom the words "which shall be endorsed on the patent itself,". As thus amended, § 1.323 would read as follows:

§ 1.323 *Certificate of correction of applicant's mistake.*

Whenever a mistake of a clerical or typographical nature or of minor character which was not the fault of the Office, appears in a patent and a showing is made that such mistake occurred in good faith, the Commissioner may, upon payment of the required fee, issue a certificate of correction, if the correction does not involve such changes in the patent as would constitute new matter or would require re-examination.

All persons who desire to present their views, objections, recommendations or suggestions in connection with the proposed changes are invited to do so by forwarding the same to the Commissioner of Patents, Washington, D.C., 20231, on or before November 19, 1968, on which day a hearing will be held at 9:00 a.m. in Room 3D50 Crystal Plaza Building 3—4, Arlington, Virginia.

All persons wishing to be heard orally are requested to notify the Commissioner of their intended appearance in advance of the hearing date.

EDWARD J. BRENNER,
Commissioner of Patents.

Oct. 10, 1968.

Approved:

JOHN F. KINCAID,
Assistant Secretary for Science and Technology.

Guidelines to Examination of Applications for Patents on Computer Programs

Pursuant to the Notice of July 6, 1966, published in the OFFICIAL GAZETTE of August 16, 1966; 829 O.G. 865, and to the hearing held on October 4, 1966, and upon consideration of the statements made at the said hearing, as well as the written comments filed in response to the notice, the following guidelines to examination of computer programs are adopted, effective immediately.

EDWARD J. BRENNER,
Commissioner of Patents.

In considering these guidelines, it should be understood that they must be considered as a tentative analysis of applicable statutory law and judicial precedents and hence subject to modification on the basis of later decisions.

While there may be some question as to exactly what is meant by a computer program, it is believed that the essential meaning of that term is generally understood and that no specific definition is necessary here.

Process

Special problems of patentability arise in the computer and data processing fields revolving around logical processes and mathematical equations. Mental processes may not be patented although they may be of enormous importance; *In re Abrams*, 1951 C.D. 264, 38 C.C.P.A. 945, 89 U.S.P.Q. 266. A process or method is directed to patentable subject matter only if it is performed on physical materials and produces some appreciable change in their character or condition; *In re Shao Wen Yuan*, 1951 C.D. 286, 38 C.C.P.A. 967, 89 U.S.P.Q. 324; *Cochrane* v. *Deener*, 94 U.S. 780, 1877 C.D. 242. Accordingly,

a computer programming process which produces no more than a numerical, statistical or other informational result is not directed to patentable subject matter. Such a process may, however, form a part of a patentable invention if it is combined in an unobvious manner with physical steps of the character above referred to as, for example, in the knitting of a pattern or the shaping of metal.

Apparatus

In accordance with 35 U.S.C. 112, the claims of an application must point out the invention. If the actual invention resides in a series of steps which can be performed mentally, or which are otherwise not directed to subject matter which is patentable under the statutes, a patent cannot properly be obtained merely by reciting broadly a means for performing each of those steps. To permit this would be tantamount to granting a patent on the unpatentable process, since the process could not be performed unless some means are provided for carrying out each of the steps.

Further, it is well settled that a patent cannot be granted merely on the broad basis of doing automatically what has previously been done by hand; *In re Hamilton*, 17 U.S.P.Q. 245, and cases there cited, and for similar reasons, it would not be proper to patent apparatus, broadly, for doing what it is not patentable to do mentally.

Moreover, if, given the process to which an application relates, it would be obvious to a skilled programmer what tape or other apparatus was necessary to carry out the process, then the invention, if any, resides in the process and not in the apparatus; *Nestle-Lemur Co.* v. *Eugene, Ltd.*, 12 U.S.P.Q. 335, 54 F.(2d) 854; *Whitman* v. *Andrus et al.*, 92 U.S.P.Q. 291. As was said in the former case:

> "Where one discovers a new and useful process for accomplishing a given result, is the obvious mechanical or electrical device, obvious to anyone to whom the proposed method is disclosed patentable apart from the process? We are constrained to the opinion that it is not."

However, as in the case of a corresponding process, a programmed computer may be part of a patentable combination if unobviously combined with other elements to produce a physical result of the character referred to above.

The basic principle set forth in the foregoing guidelines is that computer programming per se, whether defined in the form of process or apparatus, shall not be patentable

PROPOSED INTERNATIONAL NON-PROPRIETARY NAMES (PROP. INN) LIST 20[1]

In accordance with article 3 of the Procedure for the Selection of Recommended International Non-Proprietary Names for Pharmaceutical Preparations,[2] notice is hereby given that the following names are under consideration by the World Health Organization as Proposed International Non-Proprietary Names.

Comments on, or formal objections to the proposed names may be forwarded by any person to the Pharmaceuticals Unit of the World Health Organization within four months of the date of their publication in *WHO Chronicle*.

The inclusion of a name in the lists of proposed international non-proprietary names does not imply any recommendation for the use of the substance in medicine or pharmacy.

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION, MOLECULAR AND GRAPHIC FORMULAE
acidum canrenoicum canrenoic acid	17-hydroxy-3-oxo-17α-pregna-4,6-diene-21-carboxylic acid $C_{22}H_{30}O_4$
acidum cicrotoicum cicrotoic acid	β-methylcyclohexaneacrylic acid $C_{10}H_{16}O_2$
acidum clofibricum clofibric acid	2-(*p*-chlorophenoxy)-2-methylpropionic acid $C_{10}H_{11}ClO_3$
acidum clorindanicum clorindanic acid	7-chloro-4-hydroxy-5-indancarboxylic acid $C_{10}H_9ClO_3$
acidum iobutoicum iobutoic acid	4-[2,4,6-triiodo-3-(morpholinocarbonyl)phenoxy]butyric acid $C_{15}H_{16}I_3NO_5$
acidum metiazinicum metiazinic acid	10-methylphenothiazine-2-acetic acid $C_{15}H_{13}NO_2S$
benmoxinum benmoxin	benzoic acid 2-(α-methylbenzyl)hydrazide $C_{15}H_{16}N_2O$
boldenonum boldenone	17β-hydroxyandrosta-1,4-dien-3-one $C_{19}H_{26}O_2$
bromhexinum bromhexine	3,5-dibromo-N^6-cyclohexyl-N^6-methyltoluene-α-2-diamine $C_{14}H_{20}Br_2N_2$
bufexamacum bufexamac	2-(*p*-butoxyphenyl)-acetohydroxamic acid $C_{12}H_{17}NO_3$
canrenoatum kalium canrenoate potassium	3-oxo-17α-pregna-4,6-diene-21-carboxylate $C_{22}H_{29}KO_4$
canrenonum canrenone	17-hydroxy-3-oxo-17α-pregna-4,6-diene-21-carboxylic acid T-lactone $C_{22}H_{28}O_3$
carbazochromum carbazochrome	3-hydroxy-1-methyl-5,6-indolinedione semicarbazone $C_{10}H_{12}N_4O_3$
carbenicillinum carbenicillin	*N*-(2-carboxy-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]hept-6-yl)-2-phenylmalonamic acid $C_{17}H_{18}N_2O_6S$
cingestolum cingestol	19-nor-17α-pregn-5-en-20-yn-17-ol $C_{20}H_{28}O$
cletoquinum cletoquine	2-({4-[(7-chloro-4-quinolyl)amino]pentyl}amino)ethanol $C_{18}H_{26}ClN_3O$
clinimycinum clinimycin	methyl 7-chloro-6,7,8-trideoxy-6-*trans*-(1-methyl-4-propyl-*L*-2-pyrrolidinecarboxamido)-1-thio-*L-threo*-α-*D-galacto*-octopyranoside $C_{18}H_{33}ClN_2O_5S$
clomegestonum clomegestone	6-chloro-17-hydroxy-16α-methylpregna-4,6-diene-3,20-dione $C_{22}H_{29}ClO_3$
clopidolum clopidol	3,5-dichloro-2,6-dimethyl-4-pyridinol $C_7H_7Cl_2NO$
cloprothiazolum cloprothiazole	5-(3-chloropropyl)-4-methylthiazole $C_7H_{10}ClNS$
clotioxonum clotioxone	2-phenyl-4-[(trichloromethyl)thio]-Δ^2-1,3,4-oxadiazolin-5-one $C_9H_5Cl_3N_2O_2S$
creatinolfosfatum creatinolfosfate	1-(2-hydroxyethyl)-1-methylguanidine dihydrogen phosphate (ester) $C_4H_{12}N_3O_4P$
danazolum danazol	17α-pregna-2,4-dien-20-yno[2,3-*d*]isoxazol-17-ol $C_{22}H_{27}NO_2$
daunorubicinum daunorubicin	a glucosidic antibiotic obtained from cultures of *Streptomyces peuceticus* or *Streptomyces coeruleorubidus*, or the same substance obtained by any other means $C_{27}H_{29}NO_{10}$
decoquinatum decoquinate	ethyl 6-(decyloxy)-7-ethoxy-4-hydroxy-3-quinoline-carboxylate $C_{24}H_{35}NO_5$
deprodonum deprodone	11β,17-dihydroxypregna-1,4-diene-3,20-dione $C_{21}H_{28}O_4$
desoximetasonum desoximetasone	9-fluoro-11β,21-dihydroxy-16α-methylpregna-1,4-diene-3,20-dione $C_{22}H_{29}FO_4$
dexivacainum dexivacaine	(+)-1-methyl-2',6'-pipecoloxylidide $C_{15}H_{22}N_2O$
etolorexum etolorex	2-[(*p*-chloro-α,α-dimethylphenethyl)amino]ethanol $C_{12}H_{18}ClNO$
filipinum filipin	3,5,7,9,11,13,15,26,27-nonahydroxy-2-(1-hydroxyhexyl)-16-methyl-16,18,20,22,24-octacosapentaenoic acid 1,27-lactone $C_{35}H_{58}O_{11}$
fipexidum fipexide	1-[(*p*-chlorophenoxy)acetyl]-4-piperonylpiperazine $C_{20}H_{21}ClN_2O_4$
fualamidum fualamide	2-(allyloxy)-*N*-[2-diethylamino)ethyl]-α,α,α-trifluoro-*p*-toluamide $C_{17}H_{23}F_3N_2O_2$
flurazepamum flurazepam	7-chloro-1-[2-(diethylamino)ethyl]-5-(*o*-fluorophenyl)-1,3-dihydro-2*H*-1,4-benzodiazepin-2-one $C_{21}H_{23}ClFN_3O$

[1] Other lists of proposed international non-proprietary names can be found in *Chron. Wld Hlth Org.*, 1953, *7*, 299; 1954, *8*, 216, 313; 1956, *10*, 28; 1957, *11*, 231; 1958, *12*, 102; 1959, *13*, 105; *WHO Chronicle*, 1959, *13*, 152; 1960, *14*, 168, 244; 1961, *15*, 314; 1962, *16*, 385; 1963, *17*, 389; 1964, *18*, 433; 1965, *19*, 446; 1966, *20*, 216; 1967, *21*, 70, 478; 1968, *22*, 112.

Lists of recommended international non-proprietary names were published in *Chron. Wld Hlth Org.*, 1955, *9*, 185; 1959, *13*, 106; *WHO Chronicle*, 1959, *13*, 463; 1962, *16*, 101; 1965, *19*, 165, 206, 249; 1966, *20*, 421; 1967, *21*, 538.

[2] *Off Rec. Wld Hlth Org.*, *60*, 3 and 55 (resolution EB15.R7).

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION, MOLECULAR AND GRAPHIC FORMULAE
topirtolinum topirtoline	4-[2-[(6-chloro-2-pyridyl)thio]ethyl]morpholine $C_{11}H_{16}ClN_2OS$
geroquinolum geroquinol	2-geranylhydroquinone $C_{16}H_{22}O_2$
gloxazonum gloxazone	3-ethoxy-2-oxobutyraldehyde bis(thiosemicarbazone) $C_8H_{16}N_6OS_2$
guanadrelum guanadrel	(1,4-dioxaspiro[4.5]dec-2-ylmethyl)guanidine $C_{10}H_{19}N_3O_2$
halofenatum halofenate	(*p*-chlorophenyl)[(*a,a,a*-trifluoro-*m*-tolyl)oxy]acetic acid ester with *N*-(2-hydroxyethyl)acetamide $C_{19}H_{17}ClF_3NO_4$
homopipramolum homopipramol	4-[3-(5*H*-dibenz[*b,f*]azepin-5-yl)propyl]hexahydro-1*H*-1,4-diazepine-1-ethanol $C_{24}H_{31}N_3O$
kalafunginum kalafungin	an antibiotic obtained from cultures of *Streptomyces tanashiensis* strain *kala*, or the same substance obtained by any other means
lidimycinum lidimycin	an antibiotic obtained from cultures of *Streptomyces lydicus*, or the same substance obtained by any other means
mecloralurea mecloralurea	1-methyl-3-(2,2,2-trichloro-1-hydroxyethyl)urea $C_4H_7Cl_3N_2O_2$
medazepamum medazepam	7-chloro-2,3-dihydro-1-methyl-5-phenyl-1*H*-1,4-benzodiazepine $C_{16}H_{15}ClN_2$
metampicillinum metampicillin	3,3-dimethyl-6-[2-(methyleneamino)-2-phenylacetamido]-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid $C_{17}H_{19}N_3O_4S$
metoserpatum metoserpate	methyl *O*-methyl-18-epireserpate $C_{24}H_{32}N_2O_5$
mianserinum mianserin	1,2,3,4,10,14b-hexahydro-2-methyldibenzo[*c,f*]pyrazino[1,2-*a*]azepine $C_{18}H_{20}N_2$
millipertinum millipertine	5,6-dimethoxy-3-[2-[4-(o-methoxyphenyl)-1-piperazinyl]ethyl]-2-methylindole $C_{24}H_{31}N_3O_2$
mitobronitolum mitobronitol	1,6-dibromo-1,6-dideoxy-*D*-mannitol $C_6H_{12}Br_2O_4$
mitoguazonum mitoguazone	1,1'-[(methylethanediylidene)dinitrilo]diguanidine $C_5H_{12}N_8$
moquizonum moquizone	2,3-dihydro-1-(morpholinoacetyl)-3-phenyl-4(1*H*)-quinazolinone $C_{20}H_{21}N_3O_3$
niclofolanum niclofolan	4,4'-dichloro-6,6'-dinitro-*o,o*-biphenol $C_{12}H_6Cl_2N_2O_6$
nifurfolinum nifurfoline	3-(morpholinomethyl)-1-[(5-nitrofurfurylidene)amino]hydantoin $C_{13}H_{16}N_4O_6$
nifurpiponum nifurpipone	4-methyl-1-piperazineacetic acid (5-nitrofurfurylidene) hydrazide $C_{12}H_{17}N_5O_4$
nifursolum nifursol	3,5-dinitrosalicylic acid (5-nitrofurfurylidene) hydrazide $C_{12}H_7N_5O_9$
nimazonum nimazone	3-(*p*-chlorophenyl)-4-imino-2-oxo-1-imidazolidineacetonitrile $C_{11}H_9ClN_4O$
norfluranum norflurane	1,1,1,2-tetrafluoroethane $C_2H_2F_4$
nortetrazepamum nortetrazepam	7-chloro-5-(1-cyclohexen-1-yl)-1,3-dihydro-2*H*-1,4-benzodiazepin-2-one $C_{15}H_{15}ClN_2O$
noxiptilinum noxiptiline	10,11-dihydro-5*H*-dibenzo[*a,d*]cyclohepten-5-one *O*-[2-(dimethylamino)ethyl]oxime $C_{19}H_{22}N_2O$
orpressinum orpressin	8-ornithinevasopressin $C_{51}H_{63}N_{13}O_{12}S_2$
oxiferitorexum oxiferitorex	*N*-benzyl-*N,a*-dimethylphenethylamine *N*-oxide $C_{17}H_{21}NO$
oxprenololum oxprenolol	1-(o-allyloxyphenoxy)-3-(isopropylamino)-2-propanol $C_{15}H_{23}NO_3$
phoximum phoxim	phenylglyoxylnitrile oxime *O,O*-diethyl phosphorothioate $C_{12}H_{15}N_2O_3PS$
pimeclonum pimeclone	2-(piperidinomethyl)cyclohexanone $C_{12}H_{21}NO$
pipratecolum pipratecol	a-(3,4-dihydroxyphenyl)-4-(2-methoxyphenyl)-1-piperazineethanol $C_{19}H_{24}N_2O_4$
prifinii bromidum prifinium bromide	3-(diphenylmethylene)-1,1-diethyl-2-methylpyrrolidinium bromide $C_{22}H_{28}BrN$
profadolum profadol	*m*-(1-methyl-3-propyl-3-pyrrolidinyl)phenol $C_{14}H_{21}NO$
quazolinum quazoline	4-ethyl-6,7-dimethoxyquinazoline $C_{12}H_{14}N_2O_2$
racefenicolum racefenicol	(+)-*threo*-2,2-dichloro-*N*-[β-hydroxy-a-(hydroxymethyl) *p*-(methylsulfonyl) phenethyl]acetamide $C_{12}H_{15}Cl_2NO_5S$
ranimycinum ranimycin	an antibiotic obtained from cultures of *Streptomyces lincolnensis*, or the same substance obtained by any other means $C_{12}H_{15}O_6$
ribopinum ribopine	*N*-(3-methyl-2-butenyl)adenosine $C_{15}H_{21}N_5O_4$
salbutamolum salbutamol	a-[(*tert*-butylamino)methyl]-4-hydroxy-*m*-xylene-, '-diol $C_{13}H_{21}NO_3$
saletamidum saletamide	*N*-[2-(diethylamino)ethyl]salicylamide $C_{13}H_{20}N_2O_2$
soterenolum soterenol	2'-hydroxy-5'-[1-hydroxy-2-(isopropylamino)ethyl]methanesulfonanilide $C_{12}H_{20}N_2O_4S$
steffimycinum steffimycin	an antibiotic obtained from cultures of *Streptomyces steffisburgensis* var. *steffisburgensis*, sp. n., or the same substance obtained by any other means.
sumetizidum sumetizide	6-chloro-3,4-dihydro-3-succinimidomethyl-2*H*-1,2,4-benzothiadiazine-7-sulfonamide 1,1-dioxide $C_{12}H_{13}ClN_4O_6S_2$
tetridamminum tetridamine	4,5,6,7-tetrahydro-2-methyl-3-(methylamino)-2*H*-indazole $C_9H_{15}N_3$
tigestolum tigestol	19-nor-17a-pregn-5(10)-en-20-yn-17-ol $C_{20}H_{28}O$
tribenosidum tribenoside	ethyl 3,5,6-tri-*O*-benzyl-*D*-glucofuranoside $C_{29}H_{34}O_6$
tropinum tropine	3a[(5*H*-benzo[4,5]cyclohepta[1,2-*b*]pyridyl)-5-oxy]tropane $C_{22}H_{24}N_2O$

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF OCTOBER 8, 1968

PATENT EXAMINING OPERATIONS AND GROUPS * Denotes date of oldest application for each Operation.	Actual Filing Date of Oldest Case Awaiting Action: New	Amended
CHEMICAL EXAMINING OPERATION		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	6-07-66	1-27-64
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	5-10-66	*6-03-63
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	7-18-66	2-05-64
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Director Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	*1-04-66	6-17-63
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	5-04-66	4-23-64
ELECTRICAL EXAMINING OPERATION		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—W. S. COLE, Director Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	7-27-66	3-05-64
SECURITY, GROUP 220—S. BOYD, Director Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	5-18-67	4-26-65
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Director Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*8-25-65	*10-23-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	1-11-66	8-07-63
PHYSICS, GROUP 280—R. L. EVANS, Director Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	10-24-66	4-21-65
DESIGNS, GROUP 290—S. BOYD, Director Industrial Arts; Household, Personal and Fine Arts.	1-26-68	4-12-67
MECHANICAL EXAMINING OPERATION		
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	3-15-67	9-24-65
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Director Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	12-01-66	12-01-65
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	11-14-66	7-15-64
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Director Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	10-04-67	12-05-66
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Director Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	5-01-67	1-18-65
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—F. H. BRONAUGH, Director Fluid Handling, Including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	*6-01-66	*5-31-63

Total number of pending applications (excluding Designs)	188,709
Total number of Design applications pending	2,564

Expiration of patents: The patents within the range of numbers indicated below expire during October 1968, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their term curtailed by disclaimer under the provisions of 35 U.S.C. 253.

Patents	Numbers 2,569,436 to 2,573,673, inclusive
Plant Patents	Numbers 1,042 to 1,047, inclusive

U.S. Court of Customs and Patent Appeals

IN RE HARTMUT STEPPAN, AUGUST REBENSTOCK, AND WILHELM NEUGEBAUER

No. 7831. Decided December 28, 1967

[— CCPA —: 394 F.2d 1013; 156 USPQ 143]

1. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—BASIS FOR REJECTION—35 U.S.C. 102.

Appellants, in their brief, emphasize language in the Board's opinion in which the Board recognized that no diazonium phosphates having the structure set forth in appealed claims 17–22 are disclosed in the prior art. This argument is directed to an issue under 35 U.S.C. 102 which is not here before us. As pointed out in *Graham* v. *John Deere Co.*, 383 U.S. 1, 12, 148 USPQ 459, 464–65 (1966), novelty of the claimed compound over the prior art, 35 U.S.C. 102, is but one of the explicit requirements for patentability, each of which must be satisfied.

2. PATENTABILITY—COMPOUND—OBVIOUSNESS—PATENTABILITY OF PROCESS NOT CONTROLLING—35 U.S.C. 103.

The issue here is obviousness of the claimed invention under 35 U.S.C. 103. The argument in appellants' brief directed to this issue is that: (1) despite the novelty of the claimed compounds, and (2) despite the fact that process claims for producing these compounds have been allowed in the present application, the Board incorrectly held the claimed compounds "obvious nevertheless." This argument does not stand analysis. The inquiry into the "nonobviousness" of the claimed compounds under 35 U.S.C. 103 is an inquiry separate and distinct from the inquiry made by the Examiner into the "nonobviousness" of the claimed process. We therefore regard appellants' argument that process claims have been allowed in the same application as not controlling on the issue of whether the claimed compounds are "nonobvious."

3. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—BURDEN ON APPELLANTS—REJECTION ON COMBINATION OF REFERENCES—35 U.S.C. 103.

In appraising the issue under 35 U.S.C. 103, it is not proper to take such a restricted view of what the references fairly teach one of ordinary skill in the art [by discussing "the alleged insufficiencies of *each* of the references considered individually"]. In appealing that rejection, it was appellants' burden to convince us that the Board erred in affirming the Examiner. Appellants have failed to do so. We therefore agree with the Board that the claimed phosphate salts would have been obvious within the meaning of 35 U.S.C. 103 in view of the admitted prior art disclosures of known salts of the same diphenylamine-4-diazonium compounds and the May patent.

4. PATENTABILITY—COMPOUND—OBVIOUSNESS.

The factual differences between the claimed compounds and these known compounds reside primarily in the presence of a phosphate substitutent in a diphenylamine-4-diazonium compound which had previously been known to contain sulfate, zinc chloride, sulfonate, and hydrochloride substitutents. The teachings of May are directed to the desirability of a phosphate salt of an aromatic diazonium compound as a dye intermediate, primarily because of its increased solubility over the corresponding salts such as metal chlorides and acid sulfates. We agree with the Board that, given the fair teachings of the May patent and the diphenylamine-4-diazonium compounds which were known, appellants' invention considered as a whole and here claimed as compounds would, when made, have been obvious to one of ordinary skill in the art.

5. CLAIM—CONSTRUCTION—PARTICULARITY—35 U.S.C. 112.

By statute, 35 U.S.C. 112, Congress has placed no limitations on *how* an applicant claims *his invention*, so long as the specification concludes with claims which particularly point out and distinctly claim that invention.

6. CLAIM—CONSTRUCTION—ADDED CLARIFYING LANGUAGE.

Parsing claim 25 (rejected "as being an improper product-by-process claim"), we find first that it is directed to an "acid phosphate." We note that the penultimate word grouping set off by commas advises that the acid phosphate has

a general formula $ArN_2H_2PO_4.H_3PO_4$. The ultimate word grouping of the claim states what ArN_2 is, namely, the diphenylamine-4-diazonium base condensed with formaldehyde. We find nothing inherently improper, nor statutorily proscribed, by the noted word groupings which merely add clarifying language to the definition of an acid phosphate, even though its structural formula is known, as exemplified by claims 17–22.

7. SAME—SAME—PRODUCT-BY-PROCESS.

The claim further limits the invention claimed, i.e., an acid phosphate, to a particular one of that class. As claimed in claim 25, it is the acid phosphate of the condensation product of formaldehyde and a salt of a certain compound. In our view, the term "condensation product," within the context of claim 25, particularly points out and distinctly claims appellants' invention. Finally, the compound whose salt is reacted with formaldehyde is definitely recited as a diphenylamine-4-diazonium base where the base is substituted in at least one of five specified positions by a substitutent selected from a group of ten specified substitutents. In our view, the language of claim 25 points out, with some precision, that which is applicants' invention. Thus, we think analysis of claim 25 shows it to be a product claim sufficiently definitive to achieve the purposes for which it was drafted, i.e., to particularly point out and distinctly claim applicants' invention, and not a "product-by-process" claim per se, as we understand the meaning of those terms.

8. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—RECORD—OMISSION OF RELEVANT MATTER—EXAMINER'S ANSWER.

The record before us as presented by appellants [which did not include the Examiner's answer] has been adequate to permit us to decide the merits of the appeal. We so decide with a distinct word of caution, however, to all counsel who would have this court decide the issues of patentability of a claimed invention on a record where the sole statement of the Examiner's rejection must be derived from the Board's opinion. Here we have found an adequate basis to decide the case in a statement in the decision of the Board. In many instances, however, the opinion of the Board may adopt portions of the Examiner's answer in its opinion without reproducing them. It is generally unsatisfactory to omit from the record here any portion of the proceedings below which may be relevant to the appealed issues. The Examiner's answer is normally a most important paper. *In re Arbeit*, 41 CCPA 719, 206 F.2d 947, 99 USPQ 123 (1953).

9. PATENTABILITY—PARTICULAR SUBJECT MATTER—"METHOD FOR THE MANUFACTURE OF POLYFUNCTIONAL DIAZONIUM PHOSPHATES."

The refusal of certain claims in an application entitled "Method for the Manufacture of Polyfunctional Diazonium Phosphates," as unpatentable over the prior art, is affirmed; the refusal of a particular claim "as being an improper product-by-process claim" is reversed.

APPEAL from the Patent Office. Serial No. 124,777.

MODIFIED.

James E. Bryan for appellants.

Joseph Schimmel (*Jack E. Armore*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, RICH, SMITH, ALMOND, *Associate Judges*, and WILLIAM H. KIRKPATRICK [1]

SMITH, *J.*, delivered the opinion of the court.

The principal issues for decision are: (1) whether the compounds defined in appealed claims 17 through 22 would have been obvious to one of ordinary skill in the art within the meaning of 35 U.S.C. 103; and (2) whether claim 25 is an improper "product-by-process" claim. The Patent Office Board of Appeals [2] affirmed the Examiner's rejection of the claims in issue presented in appellants' application.[3]

[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

[2] The board consisted of Messrs. Federico and Rosa, Examiners-in-Chief, and Stone, Acting Examiner-in-Chief. Mr. Rosa wrote the opinion of the board.

[3] Serial No. 124,777, filed July 18, 1961, entitled "Method for the Manufacture of Polyfunctional Diazonium Phosphates." Claims 1 to 12, 14 to 16, 23, 24, 26 and 27 have been allowed.

The invention

Appellants' claimed invention is directed to condensation products of substituted or unsubstituted diphenylamine-4-diazonium salts with formaldehyde. The condensation products, which are polyfunctional diazonium salts, are obtained as phosphates free from metal salts. Appellants' specification admits that certain polyfunctional diazonium salts are known to the prior art. It states:

> It is known to the art to prepare polyfunctional diazonium salts by condensing diphenylamine-4-diazonium salts with carbonyl compounds in the presence of mineral acids. In most instances, condensation of diazonium salts with formaldehyde is effected in sulfuric acid of high concentration; hydrochloric acid has also been used as a condensation medium. Isolation of the products produced by condensation in sulfuric acid is accomplished according to a variety of methods, e.g. by precipitation as zinc chloride double salt, as an acid sulfate, or as a diazo sulfonate. The isolation of the condensation products produced in hydrochloric acid has not been specifically described.

Appellants urge that the known methods of isolation of the diazonium condensation products considerably limit the technical application of these compounds.[4]

According to appellants' method, substituted or unsubstituted diphenylamine-4-diazonium salts of acids having a boiling point below 150° C. are condensed with formaldehyde in a phosphoric acid condensation medium. Either before or after condensation, the anions of the original diphenylamine-4-diazonium salts are removed from the reaction mixture. The polyfunctional diazonium phosphates thus formed are precipitated from the reaction mixture, after dilution of the mixture if necessary, by means of organic solvents, in which the phosphates are either insoluble or soluble with some difficulty. After precipitation, the diazonium phosphates are separated by filtration and dried.

Appellants point out that it is not necessary to effect the actual condensation of the diazonium salts with formaldehyde in phosphoric acid to obtain the polyfunctional diphenylamine-4-diazonium phosphates of the invention. Alternatively, the polyfunctional diazonium salts of acids having a boiling point below 150° C., obtained by condensation of diphenylamine-4-diazonium salts with formaldehyde, are dissolved in phosphoric acid and the anions of the dissolved salts are removed from the solution, after dilution if necessary. The formed polyfunctional diazonium phosphates are precipitated by the addition of organic solvents in which the phosphates are either insoluble or soluble with some difficulty and the products are thereafter filtered and dried.

The resultant polyfunctional diazonium salts are acid phosphates which are obtained as solids. Neutral phosphates are obtained by treating solutions of the acid phosphates with an anion exchanger. Upon evaporation of the filtered solution, the neutral phosphates corresponding to the acid polyfunctional diazonium phosphates are isolated. Appellants state that the products prepared according to the invention are useful as dyestuff intermediates.

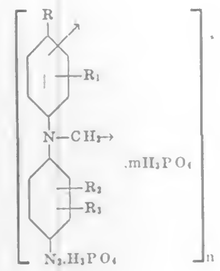
Appellants' claims

Claim 22 is representative of claims 17 to 22 and is drawn to a class of polyfunctional diphenylamine-4-diazonium acid phosphates,

[4] Appellants do not state how or why the applications of these compounds are so limited. Nor do the appellants assert either that particular problems were encountered in making their invention, or that unexpected or peculiar results are derived from it.

where m is 1, or to neutral phosphates where m is 0. The compound is claimed in claim 22 as follows:

22. A compound having the formula



in which n is an integer from 2 through 10, m is a number from 0 to 1, and R, R_1, R_2, and R_3 are selected from the group consisting of hydrogen and alkoxy groups, at least three of R, R_1, R_2, and R_3 being hydrogen.

Claims 17 through 21 vary from claim 22 only as to the presence or absence of alkoxy substituents on the diphenylamine moiety.

The references

The rejection of the foregoing claims under 35 U.S.C. 103 is based upon the disclosures in the following references:

May, 2,266,229, Dec. 16, 1941.
Mellan, 3,050,502, Aug. 21, 1962 (filed Jan. 29, 1959).
I. G. Farben (German), 604,278, Oct. 18, 1934.
Saunders, "The Aromatic Diazo Compounds" (1949), page 41.

The May patent relates to a process for forming dihydrogen diazonium phosphate and comprises the steps of adding dihydrogen phosphate salt to an aqueous solution of diazotized ortho aminoazo toluene and separating the solid diazo salt thus obtained. May points out that solid stable diazo salts may be used in printing. In such use, May states that it is desirable that such salts should have a "good solubility," so that heavy, as well as light shades, may be obtained. May specifically suggests that one of the important advantages of the dihydrogen *phosphate* salt of diazotized ortho aminoazo toluene is that its solubility exceeds that of the acid *sulfate* salt of diazotized ortho aminoazo toluene, which is in turn more soluble than the zinc *chloride*, cadmium *chloride*, and naphthalene *disulfonic* acid salts of diazotized ortho aminoazo toluene. May further teaches that a solution of certain soluble phosphates used in conjunction with mineral acids will yield, upon admixture with the diazo solution, a solution having a pH falling within the range in which the diazo compound is stable and from which the desired salt is precipitated.

The Mellan patent relates to the preparation of high molecular weight photosensitive diazo compounds. Mellan teaches that diazonium compounds may react with formaldehyde to form certain high molecular weight products in polymer form. Mellan further describes the preparation of a diazo nitroso compound which is "salted out of solution" as the zinc chloride salt. The salts thus described include a nitroso group bonded to the diphenylamine nitrogen atom and are recovered by precipitation with zinc chloride in the form of zinc chloride double salts.

The German Farben patent discloses the diazotization of 4-amino diphenylamine and its derivatives, including alkoxy substituted compounds, to form corresponding diazonium salts, such as double zinc chloride salts of diarylamine-4-diazonium chloride. Farben further teaches that decomposition can be avoided by performing diazotization in the absence of acids and in the presence of zinc chloride. Farben further teaches that bases of the 4-aminodiaryl amine series are useful for the purpose of dye manufacture.

The particular page of the Saunders article which was specifically referred to by the Board of Appeals discloses that diazo compounds form salts with all strong inorganic acids, as well as a number of organic acids. Saunders points out that the diazo compound must appear as the salt of the acid used in the diazotization reaction, unless some form of internal salt formation occurs. Because two molecules of the acid are required, the choice of acid is generally determined by cost and handling convenience.

The section 103 rejection of claims 17–22

Appellants have provided us with but a skeletal record which does not contain the necessary materials from which we can determine the exact proceedings prior to the decision of the Board. Thus, according to the Board, the Examiner had rejected claims 17 to 22 as "unpatentable over" Mellan in view of May, Saunders and I. G. Farben. As stated by the Board, the Examiner's position was that:

> • • • varying the anion of an old diazonium salt is a matter of choice and obvious when diazonium phosphates are known and when the anion has little effect on the behavior of the diazonium cation in solution.

The Board affirmed that position, stating:

> • • • We recognize that no diazonium phosphates having the structure as recited in the appealed claims is disclosed in the prior art, but are of the opinion that the claimed phosphate salts are obvious variations of the salts of the same diphenylamine-4-diazonium compounds conceded by appellants to be known. It is clearly evident from May that phosphate salts of a diazonium compound, albeit not the same as claimed, are more soluble than other salts which are also useful as dyestuff intermediates, and the particular salts claimed, i.e., the phosphates, would thus be obvious when it is desired to utilize a diazonium salt having this particular property. We note, however, that appellants' specification does not allege any special property for the claimed salts attributable to the specific anion as claimed. Appellants' argument is apparently based only on the assertion that the references would not suggest the corresponding phosphate salts. We are, however, of the view that the claimed compounds are obvious and suggested by the art.

[1] Appellants, in their brief, emphasize language in the Board's opinion in which the Board recognized that no diazonium phosphates having the structure set forth in appealed claims 17–22 are disclosed in the prior art. This argument is directed to an issue under 35 U.S.C. 102 which is not here before us. As pointed out in *Graham* v. *John Deere Co.*, 383 U.S. 1, 12, 148 USPQ 459, 464–65 (1966), novelty of the claimed compound over the prior art, 35 U.S.C. 102, is but one of the explicit requirements for patentability, each of which must be satisfied.

[2] The issue here is obviousness of the claimed invention under 35 U.S.C. 103. The argument in appellants' brief directed to this issue is that: (1) despite the novelty of the claimed compounds, and (2) despite the fact that process claims for producing these compounds have been allowed in the present application, the Board incorrectly

held the claimed compounds "obvious nevertheless." This argument does not stand analysis. The inquiry into the "nonobviousness" of the claimed compounds under 35 U.S.C. 103 is an inquiry separate and distinct from the inquiry made by the Examiner into the "nonobviousness" of the claimed process. We therefore regard appellants' argument that process claims have been allowed in the same application as not controlling on the issue of whether the claimed compounds are "nonobvious."

The appellants' remaining arguments likewise are based on an incorrect legal premise as to the nature of the rejection on review. They proceed from a discussion directed to the alleged insufficiencies of *each* of the references considered individually. Thus, appellants urge that Mellan is directed to the preparation of a diazo nitroso compound which is "salted out of solution" as the zinc chloride salt, whereas the claimed invention does not relate to any nitroso compound. Moreover, appellants urge that there is no teaching or suggestion in the Mellan patent of a polyfunctional diazonium phosphate.

Appellants also criticize the teachings of the May patent, urging that it relates only to the diacid diazonium phosphate of ortho aminoazo toluene, a compound which, in appellants' view, bears no relationship to the compounds of the claims on appeal. Appellants urge that the claims on appeal define a condensation product in which at least two of the groups within the brackets of the claims are linked together, while May is not a condensation product. Furthermore, appellants urge that the formula of the compound described in the May patent is significantly different from the structural formulae of the compounds of the claims on appeal.

As to the Saunders publication and the Farben patent, appellants argue that they contain no method for the production of phosphate salts of polyfunctional diazonium compounds nor indeed any suggestion of such compounds. On this basis, appellants argue Saunders relates only to the preparation of salts other than the polyfunctional diazonium phosphates and that Farben relates to the preparation of compounds obtained as zinc chloride double salts.

[3] In appraising the issue raised under 35 U.S.C. 103, it is not proper to take such a restricted view of what the references fairly teach one of ordinary skill in the art. In appealing that rejection, it was appellants' burden to convince us that the Board erred in affirming the Examiner. Appellants have failed to do so. We therefore agree with the Board that the claimed phosphate salts would have been obvious within the meaning of 35 U.S.C. 103 in view of the admitted prior art disclosures of known salts of the same diphenylamine-4-diazonium compounds and the May patent.

[4] The factual differences between the claimed compounds and these known compounds reside primarily in the presence of a phosphate substituent in a diphenylamine-4-diazonium compound which had previously been known to contain sulfate, zinc chloride, sulfonate, and hydrochloride substituents. The teachings of May are directed to the desirability of a phosphate salt of an aromatic diazonium compound as a dye intermediate, primarily because of its increased solubility over the corresponding salts such as metal chlorides and acid sulfates. We agree with the Board that, given the fair teachings of the May patent and the diphenylamine-4-diazonium compounds which were known, appellants' invention considered as a whole and here claimed as compounds would, when made, have been obvious to one of ordinary skill in the art.

The rejection of claim 25

Claim 25 stands rejected "as being an improper product-by-process claim." This presents an issue separate and distinct from that which we have found to be dispositive of claims 17–22. Claim 25 defines the following product:

> 25. An acid phosphate of a condensation product of formaldehyde with a salt of a compound selected from the group consisting of a diphenylamine-4-diazonium base and the base substituted in at least one of the positions 2, 3, 2′, 3′, and 4′, by a substituent selected from the group consisting of methyl, ethyl, methoxy, ethoxy, propoxy, isopropoxy, butoxy, isoamyloxy, carboxy and chloro, the acid phosphate having the general formula $ArN_2H_2PO_4.H_3PO_4$, in which ArN_2 is the diphenylamine-4-diazonium base condensed with formaldehyde.

As to claim 25, the Board stated:

> * * * It is abundantly clear to us that this claim is in fact in product-by-process form since the expressions "An acid phosphate of a *condensation product* of formaldehyde with a salt of a compound * * * " and "in which ArN_2 is the diphenylamine-4-diazonium base *condensed* with formaldehyde" are manifestly *process limitations*. Formula claims and product-by-process claims concurrently presented are inconsistent and improper. Note section 706.03(e) Manual of Patent Examining Procedure.[5] [Emphasis and footnote added.]

It is appellants' position that these quoted portions of claim 25 do not constitute process limitations. They urge that the expression "condensation product" merely defines "what the acid phosphate is" and that the equivalent process recitation would be "condensing" not "condensation." Likewise, appellants urge that the claim recitation that the base is "condensed with formaldehyde" "merely states what ArN_2 is," and that the equivalent process recitation would be "condensing," rather than "condensed." In summary, appellants' position is that claim 25 is nothing more than a different and permissible way of claiming a novel composition of matter without employing the structural formulae set forth in claims 17–22.

The Solicitor argues that the rejection is based upon the established rule that, where the structural formulae of the chemical compounds are known, as in the case before us, product-by-process claims are improper. In support of his position, the Solicitor cites and we have considered *In re Bridgeford*, 53 CCPA 1182, 357 F.2d 679, 149 USPQ 55 (1966), especially footnote 5; *In re Lifton*, 38 CCPA 1119, 189 F.2d 261, 89 USPQ 641 (1951); and *In re Shortell*, 36 CCPA 1013, 173 F.2d 993, 81 USPQ 359 (1949).

The Solicitor further responds to appellants' argument by asserting that each of the above quoted portions of the claim is a definition of the product in terms of the reactants which are condensed to form it. In the Solicitor's view, the "implications" arising from appellants' choice of the past tense to describe an element of a compound in the claim imports a process limitation into the claim. From this, it is concluded by the Solicitor that the claimed product is clearly defined in terms of a process for its production.

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[5] M.P.E.P. 706.03(e) Product by Process
An article which cannot be described in any other manner, may be claimed by a process of making it. * * * Applicant must, however, make a showing that the product cannot be described except by reference to the process of making it, * * *. Accordingly both product claims described by characteristics and product-by-process claims concurrently presented are inconsistent. As a rule, the product-by-process claims should be limited to one, unless it appears that there are material differences between the products produced by the processes recited in the different claims. * * * [Citations omitted.]

On the issue thus raised as to claim 25 we agree with appellants' position. Initially, we note there has been no explicit rejection of this claim by reason of any failure to meet the pertinent requirements of 35 U.S.C. 112.[6] Tested by the statutory requirement, it seems to be the Patent Office view that claim 25 particularly points out and distinctly claims appellants' invention.

Thus, the issue relating to claim 25 turns on the single question of whether the claim is an "improper" claim, presumably on the basis of some "policy" requirements here imposed by the Examiner and the Board. There is no question that the Patent Office will, in a "proper" case, permit an applicant to claim a product or an article of manufacture by its process of manufacture when certain "conditions" imposed by the Patent Office are met. See *In re Bridgeford*, supra. The Manual of Patent Examining Procedure (M.P.E.P.) sets forth these "conditions" in section 706.03(e), relied upon by the Board.

The rationale for imposing such "conditions" was enunciated, as we noted in *Bridgeford*, supra, as long ago as 1891 in *Ex parte Painter*, 1891 C.D. 200, 57 O.G. 999. As here applied, the effect of the conditions imposed is that the right to claim 25 is being improperly denied solely because of limitations of the English language.[7] The problem, in essence, is thus one of determining who shall decide how best to state what the invention *is*. **[5]** By statute, 35 U.S.C. 112, Congress has placed no limitation on *how* an applicant claims *his invention*, so long as the specification concludes with claims which particularly point out and distinctly claim that invention.

However, we do not consider the stated "policy" dispositive of the rejection here in question. Assuming *arguendo* that the practice of rejecting claims as drawn to an "improper product-by-process" is somehow implicitly permitted by the 1952 Act, without citation or reliance upon a stated statutory basis for the rejection, the dispositive inquiry, it seems to us, is whether the construction of the claim itself shows it to be of the type proscribed by that "policy."

[6] Parsing claim 25, we find first that it is directed to an "acid phosphate." We note that the penultimate word grouping set off by commas advises that the acid phosphate has a general formula $ArN_2H_2PO_4.H_3PO_4$. The ultimate word grouping of the claim states what ArN_2 is, namely, the diphenylamine-4-diazonium base condensed with formaldehyde. We find nothing inherently improper, nor statutorily proscribed, by the noted word groupings which merely add clarifying language to the definition of an acid phosphate, even though its structural formula is known, as exemplified by claims 17–22.

[7] The claim further limits the invention claimed, i.e., an acid phosphate, to a particular one of that class. As claimed in claim 25, it is the acid phosphate of the condensation product of formaldehyde and a salt of a certain compound. In our view, the term "condensation product," within the context of claim 25, particularly points out and distinctly claims appellants' invention. Finally, the compound whose salt is reacted with formaldehyde is definitely recited as a diphenylamine-4-diazonium base where the base is substituted in at least one of five specified positions by a substituent selected from a group of ten specified substituents. In our view, the language of claim 25 points out, with some precision, that which is applicants' invention. Thus, we think analysis of claim 25 shows it to be a product claim sufficiently definitive to achieve the purposes for which it was drafted, i.e., to particularly point out and distinctly claim applicants' invention, and not a "product-by-process" claim per se, as we understand the meaning of those terms.

An ancillary matter remains to be determined. It arises from a motion by the Solicitor under Rule 13 of this court for certiorari to correct diminution of record to include the Examiner's answer. That motion was based on the stated belief that the answer was material and necessary to a fair trial of the case on its merits.

Appellants opposed that motion and moved to strike the Commissioner's brief on the basis that the paper submitted by the Solicitor which purported to be the Examiner's answer had been altered and thus was not a true copy of the Examiner's answer as filed in the application by the Examiner and as received by appellants from the Patent Office during the course of prosecution. It appears that the Examiner, in a portion of the answer in question, had stated that "I. G. Farben teach the conventionality of diazonium phosphate." On that basis, appellants apparently had taken their appeal to the Board of Appeals. However, the copy which was certified here by the Patent Office shows a line drawn through the words "I. G. Farben" and the word "May," obviously referring to the May patent, substituted therefor. It should be noted that, in describing the May reference at another point in his answer, the Examiner had stated:

> The patent to May teaches the conventionality of the diazonium phosphate * * *

Upon preliminary consideration of these motions this court denied both without prejudice to a renewal thereof at oral agrument, on the basis that neither motion could be disposed of without a consideration of the merits of the case.

In view of the lengthy discussion at oral argument, we assume that parties have renewed both motions. We now deny both motions after a full consideration of the case on its merits. **[8]** The record before us as presented by appellants has been adequate to permit us to decide the merits of the appeal. We so decide with a distinct word of caution, however, to all counsel who would have this court decide the issues of patentability of a claimed invention on a record where the sole statement of the Examiner's rejection must be derived from the Board's opinion. Here we have found an adequate basis to decide the case in a statement in the decision of the Board. In many instances, however, the opinion of the Board may adopt portions of the Examiner's answer in its opinion without reproducing them. It is generally unsatisfactory to omit from the record here any portion of the proceedings below which may be relevant to the appealed issues. The Examiner's answer is normally a most important paper, *In re Arbeit*, 41 CCPA 719, 206 F.2d 947, 99 USPQ 123 (1953).

[9] Accordingly, we *affirm* the rejection of claims 17–22 and *reverse* the rejection of claim 25. The Solicitor's motion under Rule 13 for certiorari to correct diminution of the record and the appellants' motion to strike the brief for the Commissioner of Patents from the record are *denied*.

MODIFIED.

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[6] In pertinent part, 35 U.S.C. 112 provides:

* * * * * * * * *

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject mater which the applicant regards as his invention. * * *

* * * * * * * * *

[7] On the basis of the reasoning in *Painter*, supra, a chemical compound could be claimed as a product by the process of making it, if certain conditions were met. *Ex parte Fesenmeier*, 1922 C.D. 18, 302 O.G. 199.

United States Court of Appeals
District of Columbia Circuit

EDWARD J. BRENNER, COMMISSIONER OF PATENTS, APPELLANT
v.
ROBERT J. EBBERT AND DESIGN PRODUCTS CORPORATION, APPELLEES

No. 21,346. Decided May 23, 1968

[—U.S.App.D.C. —; —F.2d —; 156 USPQ 609]

1. ISSUE FEE—DELAYED PAYMENT—35 U.S.C. 133 AND 151 ARE MUTUALLY EXCLUSIVE.

"The fourth paragraph of § 151 specifically authorizes the Commissioner to accept issue fees if they are tendered with a fee for delayed payment, 'within three months after the due date . . .' and if 'sufficient cause is shown for the late payment . . .' Thus it is clear that the section does not authorize acceptance of the issue fee here, tendered more than six months after the due date. Appellees argue—and the District Court found—that § 133 allows the acceptance of issue fees without time limitation, if the more strict standard of 'unavoidable delay' is met. This position is premised on a conclusion that that section's phrase 'prosecute the application' encompasses all action taken by an applicant up to and including securing issuance of a patent. The Commissioner says the two sections are mutually exclusive, that § 151 is clearly applicable and that he has no authority to accept the issue fee more than three months after the due date. We agree."

2. SAME—DICHOTOMY OF SECTIONS 133 AND 151.

"Sections 133 and 151 are contained in separate chapters of Title 35. Chapter 12, titled 'Examination of Application,' contains § 133, while Chapter 14, titled 'Issue of Patent,' contains § 151. This dichotomy is strong evidence that the phrase 'prosecute the application,' in § 133 comprehends any action taken by an applicant through gaining allowance of his application because examination of the application is completed at that point. Congress established a separate statutory framework for what remains—issuance of the patent. It is a relatively ministerial act; if the issue fee is timely tendered, the patent must issue."

3. SAME—TIMELY PAYMENT REQUIRED BY STATUTE—SECTION 151.

"Because little legal work of consequence is involved in tendering the issue fee, there is no need for an unlimited time within which to 'respond.' Thus there is nothing inherently unreasonable in § 151 and its requirement that the issue fee be paid within three months after the due date. In contrast, it is not uncommon before an application is allowed for considerable legal work requiring substantial amounts of time and attendant delays to be involved. For all the foregoing reasons, we hold § 151 to be exclusively applicable to this situation [where the issue fee was tendered more than six months after the due date]."

4. APPLICATION—PROPERTY—DUE PROCESS OF LAW—FIFTH AMENDMENT.

"We have considerable doubt whether appellees' allowed but unissued patent is 'property' as that term is used in the fifth amendment. See for example, *De Ferranti* v. *Lyndmark*, 30 App.D.C. 417, 425 (1908) where we noted that 'in a patent, no vested right of which the applicant cannot be deprived is acquired under the preliminary proceedings leading up to its issuance. The condition, however, is different after the patent is issued.' Also in *Mullins Mfg. Co.* v. *Booth*, 125 F.2d 660, 664 (6th Cir. 1942), the court said: 'The right of Booth to his invention while his application is pending is an inchoate right, which matures as property when the patent issues, and it may have great prospective value.'"

5. ISSUE FEE—NOTICE OF ALLOWANCE AND ISSUE FEE—DUE PROCESS OF LAW.

Held, with respect to a notice of allowance captioned "Notice Of Allowance And Issue Fee Due," that "Assuming for the sake of argument, however, that a property right exists here, we concude that the notice fully satisfied due process requirements."

6. SAME—DELAYED PAYMENT—DUE PROCESS OF LAW.

"The Commissioner's notice specifically stated that 'payment must be made within three months of the date of this notice or the patent will become abandoned (forfeited).' Appellees concede it was received. Indeed they responded to it by paying the issue fee in another pending application, because of a clerical error. The Constitution requires notice reasonably designed to forewarn against approaching default; but it does not insure against the effects of a mistaken response to timely notice knowlingly received."

APPEAL from the United States District Court for the District of Columbia.

REVERSED.

Mr. S. William Cochran for appellant.
Mr. John A. Blair for appellees.

Before BAZELON, *Chief Judge* and WRIGHT and TAMM, *Circuit Judges*

TAMM, *Circuit Judge*.

This case concerns a question of procedure in the Patent Office. After applying for a patent, appellee Ebbert received from the Patent Office a notice of allowance, dated April 21, 1966. It was captioned "Notice of Allowance and Issue Fee Due," and among other things stated: "With the allowance of the application, the above indicated issue fee becomes due and payment must be made *within three months of the date of this notice or the patent will become abandoned (forfeited)*." [Emphasis supplied.] Joint Appendix at 54. The issue fee was not paid within three months because of a clerical error on the part of appellees' counsel. On February 10, 1967, appellees tendered the fee, but appellant Commissioner of Patents rejected the tender on the ground that he had no authority to accept the fee after October 21, 1966, *id est*, more than an *additional* three months after the due date of July 21, 1966, set in the notice of allowance. The Patent Office practice had been—and is now—to send applicants a "Notice of Forfeited Application" when the issue fee was not paid within the initial three month period after issuance of the notice of allowance. However, the practice was suspended from August 4, 1966 until March 1, 1967, as a result of an unusually heavy workload, and no such notice was sent to appellees.

When they tendered the fee, appellees petitioned the Commissioner to revive the abandoned application. The Commissioner dismissed the petition and appellees brought suit in the District Court to set aside that dismissal. They also sought to compel revival, acceptance of the issue fee and issuance of a patent. Cross motions for summary judgment were made, appellees' motion was granted and this appeal was taken.

Two statutes, 35 U.S.C. § 133 (1964) and 35 U.S.C. § 151 (Supp. II, 1965–66), are involved. They provide:

§ 133. Time for prosecuting application

Upon failure of the applicant to prosecute the application within six months after any action therein, of which notice has been given or mailed to the applicant, or within such shorter time, not less than thirty days, as fixed by the Commissioner in such action, the application shall be regarded as abandoned by the parties thereto, unless it be shown to the satisfaction of the Commissioner that such delay was unavoidable.

§ 151. Issue of patent

If it appears that applicant is entitled to a patent under the law, a written notice of allowance of the application shall be given or mailed to the applicant. The notice shall specify a sum, constituting the issue fee or a portion thereof, which shall be paid within three months thereafter.

Upon payment of this sum the patent shall issue, but if payment is not timely made, the application shall be regarded as abandoned.

Any remaining balance of the issue fee shall be paid within three months from the sending of a notice thereof and, if not paid, the patent shall lapse

at the termination of this three-month period. In calculating the amount of a remaining balance, charges for a page or less may be disregarded.

If any payment required by this section is not timely made, but is submitted with the fee for delayed payment within three months after the due date and sufficient cause is shown for the late payment, it may be accepted by the Commissioner as though no abandonment or lapse had ever occurred.

[1] The fourth paragraph of § 151 specifically authorizes the Commissioner to accept issue fees if they are tendered with a fee for delayed payment, "within three months after the due date . . ." and if "sufficient cause is shown for the late payment . . . ." Thus it is clear that the section does not authorize acceptance of the issue fee here, tendered more than six months after the due date. Appellees argue—and the District Court found—that § 133 allows the acceptance of issue fees without time limitation, if the more strict standard of "unavoidable delay" is met.[1] This position is premised on a conclusion that that section's phrase "prosecute the application" encompasses all action taken by an applicant up to and including securing issuance of a patent. The Commissioner says the two sections are mutually exclusive, that § 151 is clearly applicable and that he has no authority to accept the issue fee more than three months after the due date.[2] We agree.

A stated purpose of the 1965 amendments to § 151 was "to expedite the prosecution of patent applications and thus make new technology available to the public at an earlier date." S. Rep. No. 301, 89th Cong., 1st Sess. 1 (1965). The prior time limit fixed the due date for payment of the issue fee at six months after the notice of allowance but authorized the Commissioner to accept late payment for one year after the due date. The 1965 amendments modified these time limits, making the due date three months after the notice of allowance and authorizing the Commissioner to accept the fee for an additional three months after the due date on a showing of "sufficient cause." (The statute did not theretofore require such a showing.) If § 133 were construed as allowing an abandonment to be revived at any time, the purpose of hastening the beginning—and hence the expiration—of the seventeen year monopoly period would be frustrated.

[2] Sections 133 and 151 are contained in separate chapters of Title 35. Chapter 12, titled "Examination of Application," contains § 133, while Chapter 14, titled "Issue of Patent," contains § 151. This dichotomy is strong evidence that the phrase "prosecute the application" in § 133 comprehends only action taken by an applicant through gaining allowance of his application, because examination of the application is completed at that point. Congress established a separate statutory framework for what remains—issuance of the patent. It is a relatively ministerial act; if the issue fee is timely tendered, the patent must issue.

[3] Because little legal work of consequence is involved in tendering the issue fee, there is no need for an unlimited time within which to "respond." Thus there is nothing inherently unreasonable in § 151 and its requirement that the issue fee be paid within three months after the due date. In contrast, it is not uncommon before an application is allowed for considerable legal work requiring substantial amounts of time and attendant delays to be involved. For all the foregoing reasons, we hold § 151 to be exclusively applicable to this situation.

[1] It was conceded that appellees' delay in tendering the issue fee was "unavoidable." Joint Appendix at 19.

[2] Although their validity is not in issue, Patent Office intraoffice procedures clearly construe § 151 as being exclusively applicable to the late payment of issue fees. *See* Manual of Patent Examining Procedure § 712 (current ed.).

We are now confronted with appellees' contention that if § 151 is exclusively applicable it deprives them of property without due process of law. Such a deprivation requires two elements: (1) the application here, though a patent had not been issued, must have amounted to a property right and (2) deprivation of the right following the notice given here must have denied appellees due process.

[4] We have considerable doubt whether appellees' allowed but unissued patent is "property" as that term is used in the fifth amendment. See for example, *De Ferranti* v. *Lyndmark*, 30 App.D.C. 417, 425 (1908) where we noted that "in a patent, no vested right of which the applicant cannot be deprived is acquired under the preliminary proceedings leading up to its issuance. The condition, however, is different after the patent is issued." Also in *Mullins Mfg. Co.* v. *Booth*, 125 F.2d 660, 664 (6th Cir. 1942), the court said: "The right of Booth to his invention while his application is pending is an inchoate right, which matures as property when the patent issues, and it may have great prospective value."

[5] Assuming for the sake of argument, however, that a property right exists here, we conclude that the notice fully satisfied due process requirements. Those requirements were spelled out by the Supreme Court in *Mullane* v. *Central Hanover Bank & Trust Co.*, 339 U.S. 306, 314–15 (1950):

> An elementary and fundamental requirement of due process in any proceeding which is to be accorded finality is notice reasonably calculated, under all the circumstances, to apprise interested parties of the pendency of the action and afford them an opportunity to present their objections. *Milliken* v. *Meyer*, 311 U.S. 457; *Grannis* v. *Ordean*, 234 U.S. 385; *Priest* v. *Las Vegas*, 232 U.S. 604; *Roller* v. *Holly*, 176 U.S. 398. The notice must be of such a nature as reasonably to convey the required information, *Grannis* v. *Ordean*, supra, and it must afford a reasonable time for those interested to make their appearance, *Roller* v. *Holly*, supra, and Cf. *Goodrich* v. *Ferris*, 214 U.S. 71. But if with due regard for the practicalities and peculiarities of the case these conditions are reasonably met, the constitutional requirements are satisfied.

[6] The Commissioner's notice specifically stated that "payment must be made within three months of the date of this notice or the patent will become abandoned (forfeited)." Appellees concede it was received. Indeed they *responded* to it by paying the issue fee in another pending application, because of a clerical error. The Constitution requires notice reasonably designed to forewarn against approaching default; but it does not insure against the effects of a mistaken response to timely notice knowingly received.

The judgment of the District Court appealed from is reversed.

REVERSED.

U.S. Court of Customs and Patent Appeals

IN RE PAUL W. MOORE AND ROBERT L. MCCLAIN

No. 7867. Decided March 7, 1968

[55 CCPA —; 390 F.2d 1003; 156 USPQ 677]

1. PATENTABILITY—OBVIOUSNESS.

"In the first place, Kilner's use of limited edge reinforcing would make it obvious to a person of ordinary skill in the art to confine the reinforcing of either Benedict or Spratt to the longitudinal marginal edges in cases where the weakness to be avoided was confined to the edges. We also think that such person, on observing that newsprint paper is subject to tearing and that the

tearing starts at the edges, would find it obvious to embed continuous reinforcing threads of tension-resisting material along only the edges of such paper for the sake of economy and in order to retain the normal print-receiving properties of the main portion of the paper. Moreover, it would be obvious to make the paper of uniform thickness as would be expected to result from the rolling operation performed on the combined pulp and reinforcing threads in the paper-making machines of the references. It would further be obvious to select the material for the thread from common materials of adequate strength, such as silk and nylon."

2. SAME—EVIDENCE—LONG OUTSTANDING PROBLEM.

"While evidence that an inventor has solved a problem long outstanding in the art is to be weighed in determining the question of obviousness, we find nothing significant on that point in the present case. There is no evidence that appellants' structure has been used or accepted as a practical solution of the problem. The record thus fails to indicate that the absence of earlier use of the claimed structure resulted from anything more than practical or business considerations, as, for example, the economic factor of its increased cost over ordinary newsprint paper. Since the prior art suggests what appellants have done, *In re Shaffer*, 43 CCPA 758, 229 F.2d 476, 108 USPQ 326 (1956) and other authorities cited by appellants are not controlling."

3. SAME—PARTICULAR SUBJECT MATTER—"REINFORCED PAPER."

The refusal of certain claims in an application entitled "Reinforced Paper," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 240,577.

AFFIRMED.

John Cyril Malloy, Meredith Sparks for appellants.

Joseph Schimmel (*Joseph F. Nakamura*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, JUSTICE CLARK [1] and Judges RICH, SMITH, ALMOND, KIRKPATRICK [2]

KIRKPATRICK, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Board of Appeals affirming the Examiner's rejection on prior art of the two remaining claims in appellants' patent application Serial No. 240,577, filed November 28, 1962, entitled "Reinforced Paper."

The invention is directed to the problem of newsprint paper tearing as it is fed from large supply rolls through newspaper printing machines. The application discloses that such tearing can be avoided by using paper which is reinforced by longitudinally extending strands or threads embedded in and extending along the opposite margins. The reinforcing threads are incorporated into the paper during manufacture by feeding them onto a moving screen on which paper pulp has been deposited and pressing them into the pulp between rollers to shape the finished product. The threads do not appreciably change the thickness, absorption characteristics or flexibility of the paper and do not interfere with its adaptability for use in newspaper printing.

The appealed claims read:

6. As an article of manufacture, an elongated strip of newsprint paper having first and second parallel side edges and of uniform thickness over its entire area, and first and second reinforcing threads of tension-resisting material, each said thread being imbedded in said strip along, and contiguous to a respective one of said side edges to extend continuously therealong, the area of said strip between said threads being free and clear of reinforcement.

7. The article of claim 6, said material being selected from the group consisting of silk and nylon.

[1] Associate Justice, retired, Supreme Court of the United States, sitting by designation.
[2] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

The claims stand rejected on the following references:

Willcox, 80,105, July 21, 1868.
Benedict, 1,766,096, June 24, 1930.
Kilner, 1,994,396, March 12, 1935.
Spratt (British), 2,694, of 1858.

Willcox discloses paper for use in making articles such as paper collars. During manufacture of the paper, continuous linear strips of suitable strengthening materials are incorporated in the paper at locations which form those parts of the collars cut therefrom which require strengthening.

Benedict discloses a paper sheet formed on a paper-making machine by feeding paper pulp and reinforcing strands onto the moving screen of the machine and consolidating the pulp and strands between rollers. The resulting paper has spaced longitudinally-extending strands embedded in it. The strands are described as "of any suitable fibrous or flexible material, such as cords formed from paper stock, twine, etc." It is pointed out that paper so formed cannot readily be torn and that, "even if the reinforcement strands be widely spaced, any breaking or tearing at points intermediate the strands will be localized and prevented from spreading, by the strands."

The Kilner patent points out that films made from viscose or other cellulosic solutions passed through a fine slit into a coagulating bath often break under tension, particularly at the marginal edges. It teaches prevention of such breaking by reinforcing the marginal edges with narrow strips of material introduced into the solution during production of the film. The strips are "of fabric, paper or other suitable material capable of withstanding the tensile strain to which the film is liable to be subjected during its production."

Spratt discloses combining yarn, threads or other similar materials with paper pulp as the pulp is formed into a sheet in a paper-making machine in order to add strength to the paper. The reinforcing elements, also described as "wires, threads, or fibres," become embedded in the paper in straight lines parallel to its length and a smooth uniform surface is attained.

The Examiner, plainly relying on 35 U.S.C. 103, rejected the claimed subject matter as obvious over either Benedict or Spratt in view of either Willcox or Kilner. The Board sustained the Examiner's rejection, although regarding Willcox as "no better than cumulative to Kilner." We agree with the Board.

[1] In the first place, Kilner's use of limited edge reinforcing would make it obvious to a person of ordinary skill in the art to confine the reinforcing of either Benedict or Spratt to the longitudinal marginal edges in cases where the weakness to be avoided was confined to the edges. We also think that such person, on observing that newsprint paper is subject to tearing and that the tearing starts at the edges, would find it obvious to embed continuous reinforcing threads of tension-resisting material along only the edges of such paper for the sake of economy and in order to retain the normal print-receiving properties of the main portion of the paper. Moreover, it would be obvious to make the paper of uniform thickness as would be expected to result from the rolling operation performed on the combined pulp and reinforcing threads in the paper-making machines of the references. It would further be obvious to select the material for the thread from common materials of adequate strength, such as silk and nylon.

Appellants emphasize that the reference patents do not refer to newsprint paper and urge that they have solved a long outstanding problem in connection with printing on such paper.

The very contention that tearing of newsprint paper has been a long outstanding problem accepts it as a fact that the tendency for such paper to tear has been common knowledge. In our opinion, one of ordinary skill in the art would have such knowledge and would, for the reasons pointed out above, be led by the prior art to appellants' arrangement for preventing tearing of the paper.

[2] While evidence that an inventor has solved a problem long outstanding in the art is to be weighed in determining the question of obviousness,[3] we find nothing significant on that point in the present case. There is no evidence that appellants' structure has been used or accepted as a practical solution of the problem. The record thus fails to indicate that the absence of earlier use of the claimed structure resulted from anything more than practical or business considerations, as, for example, the economic factor of its increased cost over ordinary newsprint paper. Since the prior art suggests what appellants have done, *In re Shaffer*, 43 CCPA 758, 229 F.2d 476, 108 USPQ 326 (1956) and other authorities cited by appellants are not controlling.

[3] The decision is affirmed.

AFFIRMED.

RICH, *J.*, and SMITH, *J.*, dissent.

[3] *Graham* v. *John Deere Co.*, 383 U.S. 1, 35 (1966).

U.S. Court of Customs and Patent Appeals

IN RE THE W. E. BASSETT COMPANY
v.
THE SCHOLL MANUFACTURING COMPANY, INC.

No. 7873. Decided January 11, 1968

[55 CCPA —; 388 F.2d 1014; 156 USPQ 244]

1. TRADEMARK—USE—NON-TRADEMARK USE—"CHIROPEDIC."

We think that the only reasonable conclusion fairly deducible from these exhibits is that Bassett was offering and selling the product, toenail clippers, under the trademark TRIM and not claiming or asserting trademark use and rights in the term "chiropedic." The fact that the term ["chiropedic"] appears in quotes was not of itself sufficient to charge Mr. Brons of Scholl with notice of adverse trademark usage. We have examined the other Bassett exhibits and do not find them persuasive of a different conclusion. The advertisement clearly proclaims TRIM as the trademark identifying and distinguishing the toenail clipper with a "chiropedic" cutting edge which "cuts right" while in contradistinction thereto the "ordinary" edge "cuts wrong."

2. SAME—SAME—SAME—SAME.

In deciding that there had not been a trademark use of the term in question, *Held* that "In our view, the word 'chiropedic' as employed in the advertisements of record and the letter of December 22, 1954 conveys an adjectival connotation denoting a specific quality of the TRIM toenail clipper"; and that "The use of the term ['chiropedic'] was therefore descriptive of a particular form of cutting edge."

3. SAME—OPPOSITION—LACHES—USE APART FROM GOODS.

"This court stated in *Powermatics, Inc.* v. *Globe Roofing Products Co., Inc.*, 52 CCPA 950, 341 F.2d 127, 144 USPQ 430, that 'mere advertising and documentary use of a notation apart from the goods do not constitute technical trademark use.' It would seem, therefore, to follow logically that the letter of December 22, 1954 and the advertisements of record would not be sufficient to put Scholl on notice of trademark usage of the term 'chiropedic.' We are unable to agree with the argument advanced by Bassett that these circumstances imposed upon Scholl a duty to register a complaint or else be charged with inexcusable delay in the assertion of its rights. See *Purex Corporation, Ltd., Etc.* v. *Maryland Paper Products Co., Inc.*, 48 CCPA 848, 287 F.2d 186, 129 USPQ 59."

4. SAME—SAME—CONFUSING SIMILARITY—PROOF OF ACTUAL CONFUSION UNNECESSARY—15 U.S.C. 1052(d).

"We have noted Bassett's argument relative to a lack of confusion or trade mix-up with respect to the identity of the parties relative to their products. It is well settled that it is not incumbent upon an opposer to prove actual confusion. All that the statute requires is that the mark sought to be registered so resembles a previously used mark 'as to be *likely*, when applied to the goods of the applicant, to cause confusion, or to cause mistake, or to deceive.'" (15 U.S.C. 1052(d).) [Emphasis supplied.]

APPEAL from the Patent Office. Opposition No. 41,876.

AFFIRMED.

Hopgood and Calimafde (*Roy C. Hopgood, Paul H. Blaustein*, of counsel) for appellant.

Hill, Sherman, Meroni, Gross & Simpson, Carlton Hill, Max R. Chambers for appellee.

Before WORLEY, *Chief Judge*, RICH, SMITH, ALMOND, *Associate Judges*, and WILLIAM H. KIRKPATRICK [1]

ALMOND, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Trademark Trial and Appeal Board [2] sustaining an opposition brought by The Scholl Mfg. Co., Inc. (Scholl) against the registration of the trademark "CHIROPEDIC" for Toenail Clippers, filed by The W. E. Bassett Company (Bassett), asserting use since April 1954.

Scholl is the registrant of KIROPEDIC for arch supports,[3] and of KIRO for pads, plasters, and medicated shields for corns, calli, bunions, and other foot troubles and irritations.[4] Scholl also alleged prior use of the mark KIROPEDIC for corn and callous files, such use extending over a period of more than thirty years.

The record, consisting of testimony in chief and depositions, shows that Scholl is a large manufacturer of foot comfort remedies and appliances which are sold countrywide in drug stores, variety and department stores, grocery stores, and in a chain of "Dr. Scholl's Foot Comfort Shops." On most of its line of products, Scholl uses the house mark DR. SCHOLL'S, together with a secondary or product mark. Scholl's large line of products, including its KIROPEDIC and KIRO products are displayed in its trade catalogs and extensively advertised in trade publications. Current sales of KIROPEDIC corn and callous files approximate 40,000 packages a year, and sales in the mid-nineteen forties were well in excess of 100,000 packages per year. It is noted that since April 1954 School has marketed a toenail clipper, although under a different mark from those here involved.

The record reveals that Bassett is engaged in the manufacture and sale of fingernail and toenail clippers, some made with a nail file and some without. Since 1954 it has marketed these products under the mark TRIM or marks including TRIM as a component. The term CHIROPEDIC is used either to identify the cutting edge of the toenail clippers and, at times, as an additional means of identifying the

[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.
[2] 147 USPQ 499, decided October 11, 1965.
[3] Reg. No. 116,369, issued April 24, 1917; re-renewed.
[4] Reg. No. 215,226, issued July 13, 1926; renewed.

clipper itself. Bassett's products, including fingernail and toenail clippers and the TRIM fingernail file are sold worldwide at retail through such outlets as drug stores, variety, grocery, and department stores. These products have been promoted through various national consumer magazines, trade journals, trade shows, and direct mail advertising. In a two-year advertising campaign beginning in about 1954, Bassett expended something in excess of $250,000 in the promotion of its TRIM clippers. It is noted that in addition to using the mark CHIROPEDIC in association with the mark TRIM, Bassett also promotes CHIROPEDIC fingernail clippers through sheets from its catalog directed to a special line of customers.

From the above, it clearly appears that Scholl's use of the marks KIROPEDIC and KIRO is prior to Bassett's use of CHIROPEDIC.

In its disposition of the issues disclosed by the record, the Board observed that Bassett's "primary defense" to Scholl's opposition is based on the assertion that Scholl "by its actions during its contacts with applicant since 1954 is now barred by laches from claiming that it could be damaged by applicant's use of the mark 'CHIROPEDIC.'" The Board resolved this issue by holding Scholl guilty of laches:

> • • • in that it had knowledge for a period of over some eight years that applicant was claiming rights in "CHIROPEDIC" as a trademark, and failed to take any affirmative action during such time either to protest against or enjoin such use while applicant was continuing to conduct a substantial business under its mark. • • •

However, the Board did not feel that finding the existence of laches automatically disposed of the issue:

> Where laches exists, and there are differences between either the mark or the goods of the parties sufficient to create reasonable doubts as to a likelihood of confusion, such doubts will be resolved in favor of the applicant. [Citations omitted.] On the other hand, if a continuing likelihood of confusion or mistake is clearly present the defense of laches is insufficient to overcome an otherwise valid cause of action. • • •

In support of this proposition of law, the Board cited *Menendez* v. *Holt*, 128 U.S. 514 (1888); *The Williamson-Dickie Manufacturing Co.* v. *Mann Overall Company, Inc.*, 141 USPQ 934 (TT & A Bd., 1964); and *American Brake Shoe Co.* v. *R. B. Denison Mfg. Co.*, 146 USPQ 605 (TT & A Bd., 1965). Applying this principle to the instant case, the Board held that:

> • • • there is an obvious and continuing likelihood of confusion when the phonetic and legally equivalent marks "CHIROPEDIC" and "KIROPEDIC" are used on the respective products here involved.

While we agree with the ultimate result reached by the Board, as will hereinafter appear, we are not persuaded that the record supports the Board's primary finding that Scholl is guilty of laches.

In the main, Bassett predicates the allegation of laches upon a letter dated December 22, 1954, with an advertisement attached, addressed to Mr. Brons of Scholl and signed by Collins T. Dawson.[5] The purpose of the letter was to solicit Scholl's interest in the purchase of Bassett toenail clippers. In the letter the word "chiropedic" appears twice, in small type and enclosed in quotation marks. In the advertisement the same word appears twice in the same manner, and twice in block letters immediately above a picture of the cutting edge of a clipper.

[5] This letter AX–40, AX–40–1 with advertisement which was attached thereto appears on pages 21–24 of the Bassett brief.

Scholl's analysis of the advertisement, as set forth in its brief, is amply supported, pointing out the following significant details:

> 1. The word TRIM is prominently displayed in the largest type • • •, and underneath that word is the legend "trademark."
> 2. The trademark TRIM appears on the illustrated product itself.
> 3. The word "chiropedic" appears only in relatively fine type in the descriptive body portion of the advertisement.
> 4. In the descriptive portion of the advertisement, the word TRIM is repeatedly emphasized and in larger type than the other words.
> 5. The following legend appears on the advertisement "Because only TRIM has the 'chiropedic' cutting edge!"
> 6. The advertisement also contains the legend "Its exclusive 'chiropedic' * cutting edge is shaped just the opposite of a fingernail clipper."
> 7. The asterisk in the above legend refers to the lower left-hand corner of the advertisement where the legend "pat. pending" appears.
> 8. In the illustration in the lower right-hand portion of the advertisement the word "chiropedic" is not emphasized any more than the word "ordinary."

[1] We think that the only reasonable conclusion fairly deducible from these exhibits is that Bassett was offering and selling the product, toenail clippers, under the trademark TRIM and not claiming or asserting trademark use and rights in the term "chiropedic." The fact that the term appeared in quotes was not of itself sufficient to charge Mr. Brons of Scholl with notice of adverse trademark usage. We have examined the other Bassett exhibits and do not find them persuasive of a different conclusion. The advertisement clearly proclaims TRIM as the trademark identifying and distinguishing the toenail clipper with a "chiropedic" cutting edge which "cuts right" while in contradistinction thereto the "ordinary" edge "cuts wrong."

We think that the reasoning applied in *In re Walker Process Equipment Inc.*, 43 CCPA 913, 233 F.2d 329, 110 USPQ 41, is relevant here. The court stated:

> Since the word "Proquip" is a trademark, it must necessarily identify and distinguish the goods to which it is applied, and being the most prominent feature of the specimens presented, it is obviously intended to be the principal means of identification. The words "Walker Process Equipment Inc." are therefore clearly unnecessary so far as any trademark purpose is concerned, since the goods are sufficiently identified without them by an arbitrary word which would normally be considered to be a trademark. *While it may be that two or more distinct trademarks may be applied simultaneously to the same goods, that is clearly not the usual practice, and where, as here, the most prominent feature of a label is a word which is unquestionably a trademark, the natural inference would be that the remaining words on the label are not to be considered a trademark.* [Emphasis added.]

[2] In our view, the word "chiropedic" as employed in the advertisements of record and the letter of December 22, 1954 conveys an adjectival connotation denoting a specific quality of the TRIM toenail clipper. The use of the term was therefore descriptive of a particular form of cutting edge. This construction is clearly supported by Mr. Dawson, the author of the letter, with advertisement attached, to Mr. Brons of Scholl. In direct examination, Mr. Dawson was asked why he put quotes on chiropedic in this letter. He replied:

> A. Because of the fact that we used it as a descriptive term, as a term of identification for this particular type of clipper which we manufactured in this design.

The witness reiterated on cross-examination that "chiropedic" was used in the advertisement "to describe or indicate the type of cutting edge."

[3] This court stated in *Powermatics, Inc.* v. *Globe Roofing Products Co., Inc.*, 52 CCPA 950, 341 F.2d 127, 144 USPQ 430, that "mere

advertising and documentary use of a notation apart from the goods do not constitute technical trademark use." It would seem, therefore, to follow logically that the letter of December 22, 1954 and the advertisements of record would not be sufficient to put Scholl on notice of trademark usage of the term "chiropedic." We are unable to agree with the argument advanced by Bassett that these circumstances imposed upon Scholl a duty to register a complaint or else be charged with inexcusable delay in the assertion of its rights. See *Purex Corporation, Ltd., Etc.* v. *Maryland Paper Products Co., Inc.*, 48 CCPA 848, 287 F.2d 186, 129 USPQ 59.

We are unable to find evidentiary circumstances of record sufficient to foreclose by way of estoppel Scholl's right to maintain its opposition. In fact, the record supports the conclusion that Scholl had knowledge of Bassett's trademark usage of "chiropedic" only a short time before filing notice of opposition. Scholl's advertising director testified that he had been aware of Bassett's use of "CHIROPEDIC" "[j]ust in the last few days." Brons testified that upon seeing the term "chiropedic" in the letter of 1954 he did not know the meaning or implication of the term in quotes. Mr. Coldiron, Scholl's executive vice-president, who had seen a Bassett display on the West Coast some years previously testified that the only thing he noticed was the mark TRIM and that he was aware of Bassett's trademark usage of the term in issue "within the last month."

We deem it unnecessary to catalog other circumstances of record which but serve to support the conclusion that Scholl acted with reasonable promptness in asserting its opposition to Bassett's trademark use of CHIROPEDIC at the first opportunity. We are, therefore, unable to reconcile the facts of record with the primary determination of the Board that Scholl is guilty of laches. This finding obviates the necessity of discussing the principle relied on by the Board that where a "continuing likelihood of confusion or mistake is clearly present the defense of laches is insufficient to overcome an otherwise valid cause of action."

The record supports the finding and conclusion of the Board relative to the phonetic and legal equivalence of the marks CHIROPEDIC and KIROPEDIC and that:

> • • • "CHIROPEDIC" toenail clippers are sold through the identical channels of trade and to the same class of purchasers as are opposer's "KIROPEDIC" corn and callous files. Further, we cannot ignore the fact that both products are reasonable priced over-the-counter items for the care and treatment of the feet; that some of applicant's toenail clippers have a built-in file; and that applicant sells nail files and opposer sells toenail clippers. Under all these circumstances, we must conclude that there is an indisputable likelihood of confusion or mistake. • • •

[4] We have noted Bassett's argument relative to a lack of confusion or trade mix-up with respect to the identity of the parties relative to their products. It is well settled that it is not incumbent upon an opposer to prove actual confusion. All that the statute requires is that the mark sought to be registered so resembles a previously used mark "as to be *likely*, when applied to the goods of the applicant, to cause confusion, or to cause mistake, or to deceive." (15 U.S.C. 1052(d).) [Emphasis supplied.]

The decision of the Board is affirmed.

AFFIRMED.

WORLEY, *Chief Judge*, concurs in the result.

U.S. Court of Customs and Patent Appeals

IN RE SHAWNEE MILLING COMPANY
v.
SIDNEY WANZER & SONS, INC., D.B.A. WANZER'S

No. 7926. Decided March 14, 1968

[55 CCPA —; 390 F.2d 1002; 157 USPQ 57]

1. TRADEMARK—CONFUSING SIMILARITY—SIMILAR MARKS ON DIFFERENT FOOD PRODUCTS.

"We have previously had occasion to consider the use of the same or similar marks on various food products. Where we have found it likely that the public would associate the two types of products involved and have some basis for assuming that a single manufacturer might be the source of both products, we have denied registration. See *Cream Wipt Foods, Inc.* v. *General Foods Corp.*, 47 CCPA 968, 278 F.2d 521, 126 USPQ 55; and cases cited therein."

2. SAME—SAME—SAME.

"We have, for example, denied registration of the mark WHITE HOUSE for ice cream in view of registration of the identical mark for tea and coffee. *Dwinell-Wright Co.* v. *Gundlach*, 28 CCPA 1348, 121 F.2d 639, 50 USPQ 141 We have denied registration of a mark for *fresh* vegetables when a *similar* mark was in use for syrup, relish, pickles, and peanut butter. *W. B. Roddenbery Co.* v. *Kalich*, 34 CCPA 745, 158 F.2d 289, 72 USPQ 138."

3. SAME—SAME—DIVERSIFICATION OF GOODS.

"Our previous decisions have recognized that diversification and consolidation of food manufacturing and distributing companies often lead to widely diversified products being distributed by the same company."

4. SAME—SAME—"SILVER SPOON" FOR WHEAT FLOUR AND ICE CREAM.

"The expert testimony in this case indicates that businessmen familiar with the food processing industry would realize that ice cream and wheat flour are not generally made by the same company. But the vast majority of shoppers are not aware of such a distinction of product lines. If they were to see SILVER SPOON flour on one shelf and SILVER SPOON ice cream around the corner in a freezer, it seems more than likely that many of them would ascribe a common sponsorship."

APPEAL from the Patent Office. Opposition No. 44,073.

REVERSED.

Robert G. McMorrow, Atkins, Law & McMorrow for appellant.
Lawrence W. Brugman, Horton, Davis & McCaleb for appellee.

Before WORLEY, *Chief Judge*, and RICH, SMITH and ALMOND, *Associate Judges*

ALMOND, *J.*, delivered the opinion of the court.

Sidney Wanzer & Sons, trading as Wanzer's (appellee), filed application to register "SILVER SPOON" for ice cream,[1] alleging use since May 22, 1963. Shawnee Milling Company (appellant) filed notice of opposition alleging use and registration of "SILVER SPOON" for wheat flour[2] and asserting that the marketing of ice cream and wheat flour under the identical mark is likely to cause confusion, mistake or deception in trade within the purview of section 2(d) of the Trademark Act of 1946.

The record discloses the testimony of two witnesses on behalf of appellee. The appellant took no testimony and made no appearance for the purpose of cross-examination, relying only on the allegations of its notice of opposition and its pleaded prior registration. Prior use is not in issue, concededly residing in appellant. The only issue pre-

[1] Serial No. 172,535, filed July 5, 1963.
[2] Reg. No. 537,707, issued February 13, 1951, to a predecessor.

sented for resolution is whether or not wheat flour and ice cream are of such nature that their sale under the identical mark SILVER SPOON is likely to cause confusion under section 2(d), supra.

The testimony of two witnesses was adduced by appellee. Neither of the witnesses was related by employment or otherwise to the parties. One witness had long experience in the field of flour milling and the other had many years of familiarity and close contact with the sale and manufacture of ice cream. Both witnesses expressed their personal opinion that they could not visualize any likelihood of confusion if the mark were used on the two types of goods in question.

After a review of the factual aspects of the testimony of record, aside from the opinion expressed by these witnesses, the Trademark Trail and Appeal Board, in an opinion published at 149 USPQ 900, concluded that:

> Ice cream is a highly perishable product requiring constant refrigeration. Wheat flour is a stable product sold on an open shelf, and is generally utilized in the production of finished food products. Products in these categories pertain to unrelated fields of production, and are distributed and marketed under dissimilar conditions, even though they may be frequently sold through the same retail food establishments. There is, moreover, well qualified and uncontradicted testimony that producers of flour do not ordinarily produce or in any way engage in the marketing of ice cream. Accordingly, it is concluded upon the record presented that there would be no reason to assume or believe that such different goods would be attributed to the same source or that the manufacturer of one in any way sponsored the other.

[1] We have previously had occasion to consider the use of the same or similar marks on various food products. Where we have found it likely that the public would associate the two types of products involved and have some basis for assuming that a single manufacturer might be the source of both products, we have denied registration. See *Cream Wipt Foods, Inc.* v. *General Foods Corp.*, 47 CCPA 968, 278 F.2d 521, 126 USPQ 55; and cases cited therein.

[2] We have, for example, denied registration of the mark WHITE HOUSE for ice cream in view of registration of the identical mark for tea and coffee. *Dwinell-Wright Co.* v. *Gundlach*, 28 CCPA 1348, 121 F.2d 639, 50 USPQ 141. We have denied registration of a mark for *fresh* vegetables when a *similar* mark was in use for syrup, relish, pickles, and peanut butter. *W. B. Roddenbery Co.* v. *Kalich*, 34 CCPA 745, 158 F.2d 289, 72 USPQ 138.

[3] Our previous decisions have recognized that diversification and consolidation of food manufacturing and distributing companies often lead to widely diversified products being distributed by the same company.

[4] The expert testimony in this case indicates that businessmen familiar with the food processing industry would realize that ice cream and wheat flour are not generally made by the same company. But the vast majority of shoppers are not aware of such a distinction of product lines. If they were to see SILVER SPOON flour on one shelf and SILVER SPOON ice cream around the corner in a freezer, it seems more than likely that many of them would ascribe a common sponsorship.

The decision of the Trademark Trial and Appeal Board is, therefore, reversed.

REVERSED.

U.S. Court of Customs and Patent Appeals

IN RE PRODUCTION AND MARKETING COMPANY AND SELCHOW & RICHTER COMPANY
v.
E. S. LOWE COMPANY, INC.

No. 7914. Decided March 7, 1968

[55 CCPA —; 390 F.2d 1013; 156 USPQ 688]

1. TRADEMARK—CONFUSING SIMILARITY—"SCRABBLE" AND "SCRIBBAGE" FOR WORD GAMES.

"The instant marks are both applied to word games sold at relatively inexpensive prices through the same channels of trade to common purchasers. It seems to us that the similarities between "SCRABBLE" and "SCRIBBAGE" are such as to be likely to cause confusion or mistake or to deceive."

2. SAME—SAME—DOUBT RESOLVED IN FAVOR OF FIRST USER.

"With due regard to the specific differences in the marks and goods pointed out by appellee, we feel obliged to resolve the doubt raised by the record in favor of the first user."

APPEAL from the Patent Office. Opposition No. 43,844.

REVERSED.

F. M. de Rosa, Watson, Cole, Grindle & Watson, for appellants.

David B. Kirschstein, Morris Kirschstein, Kirschstein, Kirschstein & Ottinger for appellee.

Before WORLEY, *Chief Judge*, and Judges RICH, SMITH, ALMOND, and KIRKPATRICK [1]

WORLEY, *Chief Judge*, delivered the opinion of the court.

Relying on undisputed prior use and registration of the trademark "SCRABBLE" [2] for "Game Including Board and Playing Pieces," Production & Marketing Co. opposes the application of Lowe Co., Inc. for registration of "SCRIBBAGE" for "equipment sold as a unit for playing a word game."

In dismissing the opposition, the Trademark Trial and Appeal Board stated:

> Since opposer's priority of use is not disputed, this case turns solely on whether or not the resemblances between the marks here involved are such as to be likely, when applied to crossword games, to cause confusion or mistake or to deceive.
>
> * * * * * * *
>
> The marks "SCRABBLE" and "SCRIBBAGE" do not look like, they do not sound alike, and neither has any suggestive meaning, unless it can be said that the latter would be likely to suggest the card game cribbage. In view thereof, it is concluded that the contemporaneous use of these marks is not reasonably calculated to cause confusion or mistake or to deceive.

Here appellant agrees that "SCRABBLE" and "SCRIBBAGE" obviously have certain dissimilarities, but urges that, when viewed in the market place, their similarities are entitled to greater weight than accorded them by the Board, and that doubt should be resolved in favor of the first user, relying on *The United States Time Corp.* v. *Jacob Tennenbaum* (*Tennenbaum & Co., Telix Watch, assignee, substituted*), 46 CCPA 895, 267 F.2d 327, 122 USPQ 15 (1959).

There this court stated:

> * * * We appreciate those differences, but are not convinced that they are of such a sharp nature as to avoid a likelihood of confusion. True, the words do not look alike *except* that, as observed below they begin and end with the same

[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.
[2] Reg. No. 524,505, issued Apr. 25, 1950; Reg. No. 589,217, issued Apr. 27, 1954; Reg. No. 600,016, issued Dec. 28, 1954; and Reg. No. 617,871, issued Dec. 20, 1955.

letters, "T" and "x." When, as here, two marks contain only five letters, it seems to us that such an arrangement is just as likely to result in a similarity as in a pronounced dissimilarity. * * *

* * * * * * *

We respect the reasoning and conclusions below and *reverse* only on the well-established principle of trademark law of resolving doubt in favor of the first user who, here, as shown by the record, has over a long period spent considerable time and money in establishing and promoting its mark. The newcomer is free to choose another mark, but not one which comes so close to appellant's mark as we think is the case here.

[1] The instant marks are both applied to word games sold at relatively inexpensive prices through the same channels of trade to common purchasers. It seems to us that the similarities between "SCRABBLE" and "SCRIBBAGE" are such as to be likely to cause confusion or mistake or to deceive.

[2] With due regard to the specific differences in the marks and goods pointed out by appellee, we feel obliged to resolve the doubt raised by the record in favor of the first user. Accordingly, the decision is reversed.

REVERSED.

PATENT SUITS

Notices under 35 U.S.C. 290: Patent Act of 1952

2,602,751, D. M. Robinson, METHOD FOR STERILIZING SUBSTANCES OR MATERIALS SUCH AS FOOD AND DRUGS; 2,680,815, E. A. Burrill, METHOD OF AND APPARATUS FOR TREATING SUBSTANCES WITH HIGH ENERGY ELECTRONS; 2,729,748, D. M. Robinson, APPARATUS FOR STERILIZING FOODS, DRUGS AND OTHER SUBSTANCES BY SCANNING ACTION OF HIGH-ENERGY ELECTRONS; 2,887,584, J. C. Nygard, ELECTRON IRRADIATION APPARATUS, filed May 24, 1968, D.C., Del. (Wilmington), Doc. 3549, *High Voltage Engineering Corporation* v. *Boise-Cascade Corporation et al.*

2,614,386, E. C. Kiekhaefer, WATER COOLING SYSTEM FOR OUTBOARD MOTORS; 2,639,699, same, TWO-CYCLE ENGINE AND IMPROVED CRANKCASE INDUCTION MEANS THEREFOR; 2,718,792, same, REVERSIBLE LOWER GEAR UNIT FOR OUTBOARD MOTORS; 2,916,007, same, RESILIENT MOUNTING FOR AN OUTBOARD MOTOR; 2,948,252, C. F. Alexander, Jr., PROPELLER HUB EXHAUST SYSTEM; 3,310,022, D. K. Kollman, EXHAUST SYSTEM FOR OUTBOARD MOTORS; 3,350,879, Boda and Kollman, INSULATED OUTBOARD MOTOR HOUSING, filed Apr. 8, 1968, D.C., N.D. Ill. (Chicago), Doc. 67c639, *Outboard Marine Corp.* v. *Brunswick Corp.* Cause dismissed without prejudice pursuant to memorandum opinion, May 28, 1968.

2,639,699. (See 2,616,386.)

2,680,815. (See 2,602,751.)

2,717,726. (See 3,023,939.)

2,718,792. (See 2,616,386.)

2,729,748. (See 2,602,751.)

2,823,895. (See 3,023,939.)

2,861,369, E. W. Simons, AIR CONDITIONED DISPLAY COMPARTMENT AND METHOD; 3,128,609, Beckwith and Vogel, REFRIGERATED ENCLOSURE; 3,134,243, Hagen and Anderson, REFRIGERATED DISPLAY CASE, filed Mar. 10, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c388, *Dual Jet Refrigeration Co. and Dualjet Corporation* v. *Emhart Corporation*. Dismissing complaint and counterclaim with prejudice as to plaintiff Dualjet Corp. and as to Pat. No. 2,862,369, May 6, 1968.

2,887,584. (See 2,602,751.)

2,916,007. (See 2,616,386.)

2,948,252. (See 2,616,386.)

3,023,939, H. A. Gustafson, DISPENSING CLOSURES; 2,823,895, H. A. Mart, COMBINED SPOUT AND COCK FOR A DISPENSING TYPE RECEPTACLE; 2,717,726, same, COMBINED SPOUT AND COCK; 3,111,245, Libit and Newby, DISPENSING-TYPE CLOSURE; D. 195,603, A. W. Newby, DISPENSING CLOSURE, filed Sept. 15, 1967, D.C., N.D. Ill. (Chicago), Doc. 67c1586, *Polytop Corporation* v. *U.S. Cap & Closure Inc.*

3,076,576, R. T. Cornelius, CLOSURE OPERATOR; 3,322,300, same, VESSEL HAVING STACKING CONSTRUCTION, filed May 20, 1968, D.C. Minn. (St. Paul), Doc. 3-68-134C, *The Cornelius Company* v. *John Wood Company.*

3,111,245. (See 3,023,939.)

3,128,609. (See 2,862,369.)

3,131,243. (See 2,862,369.)

3,197,204, Holkesvick, Hudnall and Adams, EXERCISING DEVICE; Reg. No. 749,723 (EXER-GENIE), Exer-Genie, Inc., Exerciser device—namely, mechanical device which can be fastened to a support and which includes a flexible member such as a rope which is partially restrained and which can be actuated by a man, woman or child in order to exercise and/or develop various muscles in the user's body, filed May 7, 1968, D.C., C.D. Calif. (Los Angeles), Doc. 68-751-IH, *Exer-Genie, Inc., and E. E. Holkesvick* v. *Alexander G. McDonald et al.*

3,243,098, R. E. Jacke, LINED RECLOSABLE CONTAINER HAVING OPENING AND RECLOSING MEANS; 3,263,899, Collura, Hurley and Robinson, CARTON TEAR STRIP ARRANGEMENT WITH RECLOSURE FEATURE; D. 196,883, M. H. Robinson, ICE CREAM CARTON, filed May 14, 1968, D.C., S.D.N.Y., Doc. 68-C-1958, *St. Regis Paper Company* v. *Container Corporation of America.*

3,263,899. (See 3,243,098.)

3,310,022. (See 2,616,386.)

3,322,300. (See 3,076,576.)

3,350,879. (See 2,616,386.)

D. 195,603. (See 3,023,939.)

D. 196,883. (See 3,243,098.)

Reg. No. 749,723. (See 3,197,204.)

Erratum

In the OFFICIAL GAZETTE of Sept. 10, 1968, vol. 854, page 313, under the heading Patent Suits, first column, line 36 thereof, for "I. U. Bronislaus" read *B. I. Ulinski.*

REISSUES

OCTOBER 22, 1968

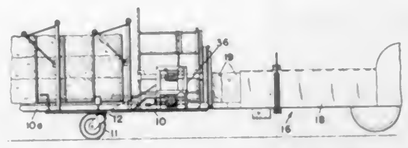
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,478
BALED HAY STACKER, CARRIER AND DELIVERY APPARATUS

Howard R. Stroup, Rte. 1, Box 71, Artesia, N. Mex. 88210

Original No. 3,159,287, dated Dec. 1, 1964, Ser. No. 241,929, Dec. 3, 1962. Application for reissue Mar. 18, 1966, Ser. No. 538,146

16 Claims. (Cl. 214—6)



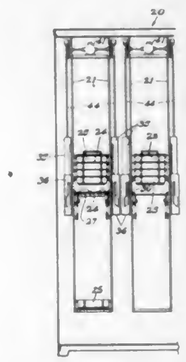
Mobile apparatus for accumulating and stacking bales having a bale carrying platform, means to receive individual bales and build a vertical stack of individual bales from the bottom up, and means to accumulate a plurality of said vertical bale stacks on said platform for discharge in the form of a larger stack several bales high.

26,479
FOOD DISPENSING APPARATUS

William W. Cease, Fredonia, N.Y., assignor to Cease Central, Inc., Dunkirk, N.Y.

Original No. 3,189,217, dated June 15, 1965, Ser. No. 301,025, Aug. 9, 1963. Application for reissue June 12, 1967, Ser. No. 651,638

16 Claims. (Cl. 221—69)



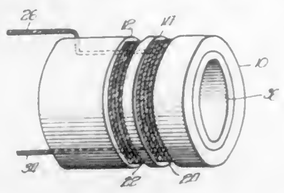
Apparatus for dispensing food packages from a stack of packages wherein the stack is supported by the lowermost package resting upon a pair of spaced rails. Vertically movable members engage the package above the lowermost package and raise the stack from the lowermost package whereby the latter may be dispensed and the vertically movable members move downwardly to again deposit the stack upon the spaced rails. The vertically movable members are gravity biased to withdrawn positions and are movable inwardly to engage a package and thus lift the stack by cam means operable upon upward movement of the vertically movable members.

26,480
ROTARY ELECTRICAL CONTACT ASSEMBLY

Kenly C. Bugg, Fort Wayne, Ind., assignor to Kendick Manufacturing Company, Fort Wayne, Ind., a corporation of Indiana

Original No. 3,286,069, dated Nov. 15, 1966, Ser. No. 479,216, Aug. 12, 1965. Application for reissue Nov. 13, 1967, Ser. No. 693,028

13 Claims. (Cl. 200—166)



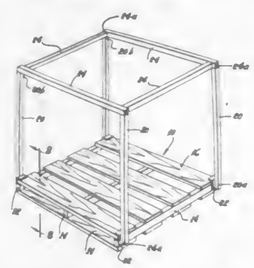
A rotary electrical contact assembly which includes an elongated electrical conductor supported by a substantially cylindrical housing of electrically insulating material, the conductor being formed into an electrically conducting contact surface adapted to be associated with an electrical contact brush at least in selected positions of rotation of said housing, the ends of the conductor being threaded into the interior of the housing and formed as a twisted pair to form an electrical lead integral with and electrically connected to the contact surface.

26,481
STACKING FRAME ASSEMBLY FOR A PALLET

George Q. Evans, 204 S. Locust St., Compton, Calif. 90221

Original No. 3,289,613, dated Dec. 6, 1966, Ser. No. 482,756, Aug. 26, 1965. Application for reissue Apr. 21, 1967, Ser. No. 641,721

6 Claims. (Cl. 108—53)



1. An integral stacking frame assembly for mounting on a pallet, said pallet including [a] *an upper* generally flat platform having a top and bottom surface and a plurality of parallel stringers secured to said bottom surface, ends of said stringers being flush with [the] marginal edges of said platform comprising: upright independent leg sections which are longitudinally rigid and resilient laterally of their own planes, said leg sections each being spaced apart so as to resiliently [engage] *press toward* at least two opposing sides of the periphery of a pallet on which said stacking frame is to be mounted; rigid arm sections interconnecting the upper ends of said leg sections and disposed in a plane substantially perpendicular

to said leg sections so as to provide a unitary assembly therewith; foot brackets secured to the lower end of at least two of said leg sections and adapted to be detachably secured to said pallet; each of said foot brackets comprising a generally L-shaped inverted section of flat rigid material; the base of the inverted L comprising a horizontal plate adapted to seat upon the top surface of the platform; and the leg of the inverted L comprising a vertical plate adapted to bear against the marginal edge of said platform and a subjacent portion of a stringer; a vertical flat wing extending from and generally normal to the vertical plate; *a vertical flange extending from the wing at an angle thereto and* having an upper straight edge spaced downwardly from the bottom of said horizontal plate [the approximate] *a distance slightly greater than the* thickness of the platform, whereby the platform may be frictionally held between said *wing and said flange and engaged against the* bottom of said horizontal plate [and said upper straight edge] and the inner surface of said wing is adapted to bear against a surface of said stringer normal to the portion of the stringer which the vertical plate is adapted to bear against whereby said foot brackets are disengaged from a pallet by direct lateral movement outwardly generally in alignment with the axis of said stringers and are engaged with a pallet by direct lateral movement inwardly so that said foot brackets, leg sections and arm sections provide a vertically rigid unitary stacking frame structure.

PLANT PATENTS

GRANTED OCTOBER 22, 1968

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,840
MYOPORUM PLANT
Ronald Pecoff, 9200 Pershing Drive, Playa Del Rey, Calif. 90291
Filed Feb. 20, 1967, Ser. No. 617,406
1 Claim. (Cl. Plt.—54)

1. A new and distinct variety of Myoporum plant, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a more compact, prostrate, dense, lower growing (2 inches to 3 inches), flat and more spreading (14 feet wide) plant habit in comparison with the parent variety which grows up to 18 inches tall and spreads only about 4 feet wide, absence of die-back and less care required than most ground cover plants, non-deciduous, glossy, dark green leaves which are larger than those of the parent variety, with the leaves being almost twice as long and being more serrated, with the serrations extending about half of each leaf while the leaves of the parent variety are serrated at the apex only, said leaves also having resinous glands and being sessile, while the glands of the parent variety are pellucid and have petioles, greater resistance to insect and virus infestations, a more prolific rooting habit, even in clay and gravel soils, larger white flowers, with purple spots on the corolla, with the flowers borne in scattered clusters, contrary to the small white flowers without spots and which blanket the plant of the parent variety and which are only about half the size, greater tolerance to alkalinity and salinity, with a pH ranging from 9.5 to 10.0+ in a salt conductivity of from 10,000 to 30,000 p.p.m., as compared with a pH tolerance of from 6.5 to 7.5 for the parent variety, and greater tolerance to cold and hot weather, ranging from as low as 15° F. to as high as 140° F.

2,841
AZALEA PLANT
Alfred Nill, Wantagh, N.Y., assignor to Dauerheim, Inc., Wantagh, N.Y., a corporation of New York
Filed May 8, 1967, Ser. No. 637,015
1 Claim. (Cl. Plt.—55)

1. A new and distinct variety of azalea plant of the indicum type, substantially as herein shown and described, characterized particularly as to novelty by its general similarity to its parent variety "Roberta" (Plant Patent No. 1,772) in all respects except for its flower color, while differing therefrom by a distinctive and attractive variegated red-pink-white flower color corresponding to Jasper Red near the edges of the petals, shading inwardly to La France Pink, with white areas at the tips of the petals (particularly the outer petals) and in the center of each flower, and with some yellow tints in the white areas of the flower centers.

PATENTS

GRANTED OCTOBER 22, 1968

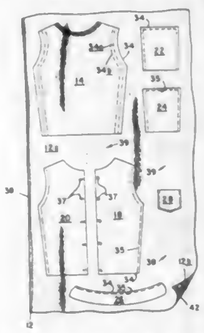
GENERAL AND MECHANICAL

3,406,406
JOINT SUPPORT
Dolores M. Lutz, 3680–A Montana Ave., St. Louis, Mo. 63116
Filed Oct. 22, 1965, Ser. No. 501,784
2 Claims. (Cl. 2—24)



A flexible wrap-about protective and supporting structure particularly for the knee and elbow joints of the human body including an inner flexible base of substantial area, a metal force distributing member and a flexible member in contiguous relation and encased in inner and outer cover pieces disposed against the flexible base, cover pieces enclosing the base and encased members, and means uniting all of said elements.

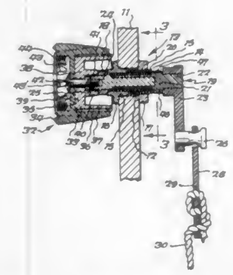
3,406,407
METHOD AND MEANS FOR MAKING A LINED GARMENT
Theodora Nina Parlanti, 132 S. Almont Drive, Beverly Hills, Calif. 90211
Filed Feb. 1, 1966, Ser. No. 524,282
7 Claims. (Cl. 2—243)



A kit for making an article of wearing apparel of the type having an outer fabric and a lining contains a sheet of cloth lining material sold as a separate article of manufacture from the fabric. Cutting indicia are imprinted on one side of the lining material and the opposite side of the material is treated so that it will adhere to the outer fabric. The lining material is adhered to the outer fabric and the material and fabric are cut and sewed simultaneously following the instructions imprinted on the lining material to form the finished lined garment. Preferably, also, the selvages of the lining material and outer fabric are aligned so that both the lining material and fabric are oriented properly for cutting.

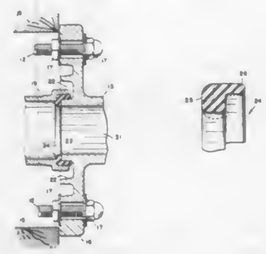
3,406,408
FLUSH VALVE TRIPPING DEVICE
Harry W. Hudson, Littleton, Colo., assignor to Twentieth Century Products Corp., Englewood, Colo.
Filed June 10, 1966, Ser. No. 556,602
9 Claims. (Cl. 4—67)

1. A flush valve tripping device adapted to trip a flush valve in a water closet comprising a bushing adapted for insertion through an opening in the wall of a water closet together with means securing said bushing in the opening, said bushing having a stop projecting from the interior end thereof, a cylindrical stem rotatably received within said bushing with the ends thereof projecting beyond opposite ends of said bushing, means carried by said stem adjacent the interior end thereof and abutting said interior end of said bushing to prevent outward axial displacement of said stem, a radially projecting stop carried by said stem for engagement with said first mentioned



stop upon rotation of said stem in either direction, a crank arm extending generally normal to the axis of rotation of said stem and having one end thereof carried by the interior end of said stem, means carried by the extreme end of said crank arm for connecting said crank arm with a flush valve, and a handle secured to the exterior end of said stem and abutting said bushing to prevent inward axial displacement of said stem whereby rotation of said handle in either direction rotates said crank arm between stop engaging positions to thereby actuate a connected flush valve.

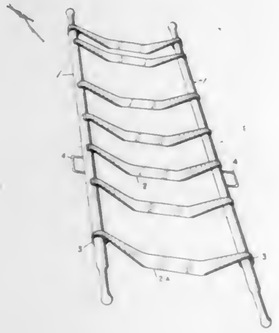
3,406,409
OUTLET CONNECTION FOR WATER CLOSET
Robert F. Burns, Indianapolis, Ind., assignor to Hoffman Specialty Mfg. Corp., Indianapolis, Ind., a corporation of Indiana
Filed Feb. 25, 1966, Ser. No. 530,156
4 Claims. (Cl. 4—252)



A connection between the annular horn of a water-closet bowl and a sleeve-like element communicating with a drain line and having a counterbore receiving the horn comprises a gasket of relatively soft rubber-like material having an annular body disposed between the end of the horn and the base of said counterbore, and an integral

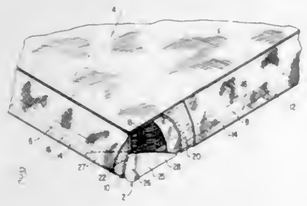
annular flange projecting axially from said body into the space between the horn and the circumferential wall of the counterbore. Means are provided for axially compressing the gasket-body to such an extent that some of the material thereof will be displaced into the flange to thicken it radially and thereby effect a seal between the horn and the counterbore wall.

3,406,410
AMBULANCE STRETCHERS
William Henry Bidgood, 8 S. Morton St., Portobello, Edinburgh 15, Scotland
Filed Feb. 7, 1967, Ser. No. 614,480
Claims priority, application Great Britain, Feb. 16, 1966, 6,703/66
1 Claim. (Cl. 5—82)



An ambulance stretcher having two rigid sides and members for spacing the sides a predetermined distance apart. The upper surface of the two sides are smooth for receiving, at any location therealong, removable downwardly curved cross bars having downwardly facing concave ends for engaging the upper surfaces of the sides.

3,406,411
CORNER REINFORCEMENT FOR AN UPHOLSTERED ARTICLE
Joseph I. La Reis, 1031 N. Holly, Rm. 3, Tucson, Ariz. 85716
Filed Sept. 29, 1966, Ser. No. 582,829
11 Claims. (Cl. 5—345)



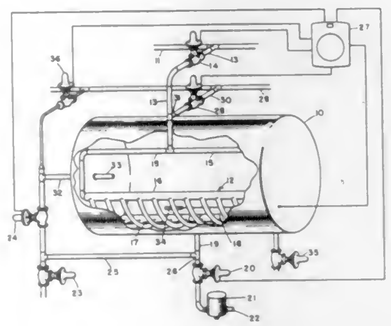
A corner reinforcement for an upholstered article of the type including a frame having at least one corner defined by two intersecting, mutually inclined, elongate rigid frame members. The corner reinforcement includes a self-supporting member extending around one corner of the frame with the member having flexible wall means overlapping the frame adjacent the corner and extending vertically from a base surface of the frame to a point spaced above the frame. The wall means is resiliently deflectable in response to external forces applied to edge means of the member. The edge means is spaced above the frame corner. Upholstered portions of the article overlie and enclose the wall means on a side thereof remote from the frame.

3,406,412
PICK
Milo Kottas, Box 187, Milligan, Nebr. 68406
Filed Feb. 1, 1967, Ser. No. 613,213
3 Claims. (Cl. 7—17)



A pronged hand tool for breaking and removing the seal of a container and removing packing therefrom, having a curved shaft terminating in spaced prongs with a restricted neck to the open space between the prongs.

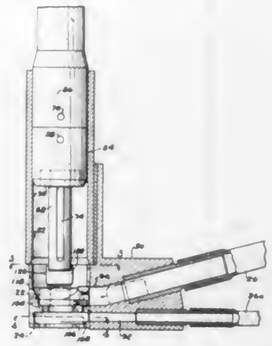
3,406,413
METHOD AND APPARATUS FOR COOLING AND RINSING
Walter H. Ridley, Foxboro, Mass., assignor to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts
Filed Oct. 25, 1966, Ser. No. 589,779
7 Claims. (Cl. 8—158)



A heat exchanger is mounted in a dye vat in heat exchanging relationship with the dye liquor. Steam is admitted to the heat exchanger to raise the temperature of the dye liquor for the dyeing step. The dyeing step is terminated by circulating cold water through the heat exchanger directly into the dye liquor.

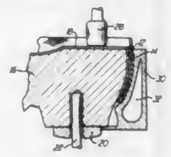
3,406,414
APPARATUS FOR ASSEMBLING NUTS AND WASHERS OR THE LIKE ON BOLTS OR THE LIKE
Sylvester Kulaga and Richard T. Coapman, Utica, and Murdo A. MacDonald, Bloomfield Hills, Mich., assignors to Tru-Tork, Inc., Troy, Mich., a corporation of Michigan
Filed May 12, 1966, Ser. No. 549,657
18 Claims. (Cl. 10—155)

A pair of opposed jaws define a nut-receiving chamber and a washer-receiving chamber axially aligned with a rotatable nut-running socket. Nuts are fed one at a time through an inlet into the nut chamber, the inlet being provided with a deflectable barrier which contains the nut against rebound when the nut enters the chamber. A sec-



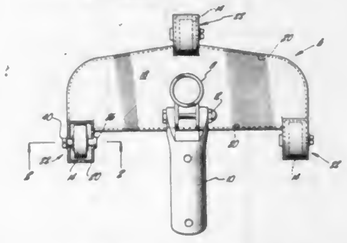
ond barrier between the nut chamber and socket contains the nut against tilting in the chamber. Both barriers and the jaws retract responsive to advancement of the nut-running socket to release the nut and washer for advancement and assembly on a bolt.

3,406,415
METHOD OF STIFFENING A SHOE UPPER
Michael M. Becka, Norwell, and Robert B. Field, Cambridge, Mass., assignors to Jacob S. Kamborian, West Newton, Mass.
Filed Feb. 27, 1967, Ser. No. 618,786
5 Claims. (Cl. 12—146)



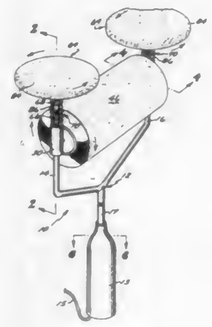
There is disclosed herein the stiffening of a shoe upper by incorporating interiorly of the upper a mixture of two starting liquids that are so constituted that the liquids rigidify with the passage of time without any dissipation of gas or vapor and without any loss of weight.

3,406,416
WHEEL FOR SWIMMING POOL VACUUM CLEANER HEAD
Edwin E. Presby, West Covina, and Kenneth E. Price, El Monte, Calif., assignors to Rainbow Plastics, El Monte, Calif., a partnership
Filed May 5, 1967, Ser. No. 636,332
6 Claims. (Cl. 15—1.7)



For a swimming pool vacuum cleaner head, a non-corrosive, self-lubricating support wheel composed of a polymeric resin rotatably mounted on a polymeric resin axle. The axle is recessed to engage the cleaner head and is held to the head in axial tension by a screw engaged axially of the axle.

3,406,417
COMBINATION WASHER AND BUFFER
Cris L. Niles and Wayne M. Niles, Westminster, Calif. (both of P.O. Box 293, Midway City, Calif. 92655)
Filed Dec. 20, 1966, Ser. No. 603,291
6 Claims. (Cl. 15—4)



This invention pertains to a combination washer and buffer for walls and ceilings of a room.

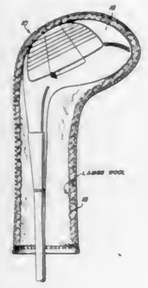
It is characterized by having a housing, one end of which is bifurcated to provide a pair of support arms, a cylindrical washer member being rotatably mounted between such arms. Power transmission means from a source of power is operable within the houisng to rotate such washer member.

There is also provided a buffer element on one of the arms for rotation by the power transmission means. Such buffer element is removable to expose the washer member for use.

3,406,418
LENS-CLEANING PAPER
Harry J. Hurley, Jr., 4119 Echo Valley Lane, Newtown Square, Pa. 19073, and Walter B. Shelley, 505 County Line Road, Radnor, Pa. 19087
No Drawing. Filed Sept. 27, 1967, Ser. No. 671,102
9 Claims. (Cl. 15—104.93)

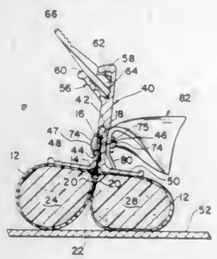
Herein are disclosed improved paper or cloth materials for cleaning lenses and the like. The improved cleaning materials contain adhering and dispersed particles of a finely-divided, waxy, fluorocarbon telomer, such as tetrafluoroethylene telomer. Certain tissue papers, particularly those known in the art as wrapping tissue paper, Type I lens tissue paper, Type II lens tissue paper, and cigarette paper, preferably are employed as the base cellulosic sheet material matrix for preparing the improved lens cleaning materials of the invention. Fluorocarbon telomers available commercially under the designation, "Vydax" fluorotelomers, and particularly that designated "Vydax 201G," conveniently are employed. The improved lens cleaning materials are prepared by briefly contacting, such as by spraying or by immersion, the paper or cloth matrix with a dispersion of the solid, particulate fluorocarbon telomer in a liquid medium, and then substantially removing the liquid medium. The improved lens cleaning materials are substantially superior in cleaning effectiveness to conventional and currently available lens cleaning materials such as untreated lens tissue papers and a lens tissue paper treated with silicones.

3,406,419
SELF-POLISHING COVER FOR GOLF CLUB HEADS
Chester W. Young, 354 West End Ave., Ridgewood, N.J. 07450
Filed Aug. 30, 1966, Ser. No. 576,149
1 Claim. (Cl. 15—104.94)



A cover for a golf club head having an inner relatively absorbent soft lining impregnated with an organosiloxane to effect cleaning and polishing of a golf club head received within the cover. The cover is sized so as to normally engage substantial portions of the head of the golf club received therein, particularly the driving face of the club head, whereby the golf club head will be cleaned and polished by the action of removing and replacing the impregnated cover.

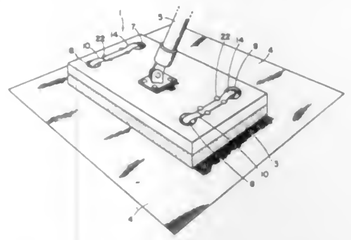
3,406,420
COMBINATION WINDOW WASHER, SCRAPER AND SQUEEGEE
Herbert A. Siemund, Skokie, Ill., assignor to Greenview Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Nov. 1, 1966, Ser. No. 591,219
6 Claims. (Cl. 15—121)



A light weight cleaning implement having a manipulating handle, a rubber squeegee and a pair of absorbent roll shaped sponges covered with a tight encircling reticulated member capable of rendering an abrasive action against the surface being cleaned while the sponges exude water or other cleaning liquid to lubricate the surface thereof.

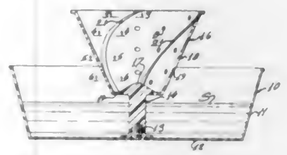
3,406,421
ATTACHMENT MEANS FOR MOP HEAD
Milton J. Fuerst, New London, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Aug. 9, 1967, Ser. No. 659,437
8 Claims. (Cl. 15—231)

A dust mop having gripping means for a wiper cooperating with the mop head. The mop head has openings through the thickness of the head. The gripping means include a ribbon of resilient material reversely bent upon itself in an opening to provide a spring action deformable component. Each opening, suitably four in number, has



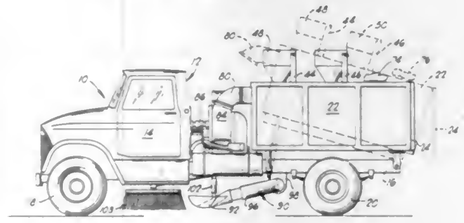
such a component and each opening is of a size to receive a finger of a human hand so that the wipe may be readily poked into each opening and retained by the cooperative action of the ribbon and mop head.

3,406,422
MOP WRINGER
Joseph J. Nichols, 1613 26th St. W., Birmingham, Ala. 35204
Filed Aug. 22, 1966, Ser. No. 574,014
3 Claims. (Cl. 15—263)



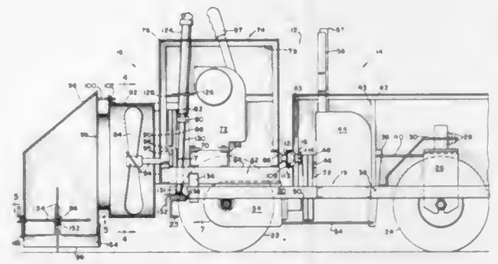
A mop wringer embodying an upwardly flaring receptacle having drainage passageways therethrough and a spiral-like mop engaging member projecting inwardly thereof with the distance the innermost edge of the spiral-like member projects inwardly progressively increasing toward the lower end of the receptacle.

3,406,423
STREET CLEANING MACHINE
Werner W. Young, 301 NE. 13th St., Oklahoma City, Okla. 73104
Filed Jan. 30, 1967, Ser. No. 612,715
13 Claims. (Cl. 15—340)



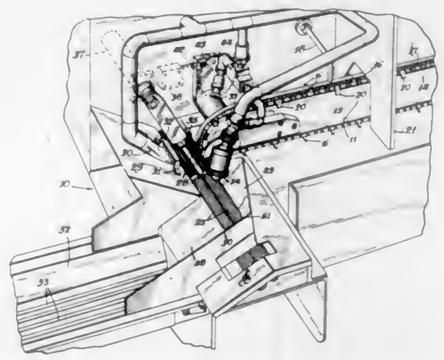
A street cleaning machine of the self-propelled vehicle type which includes frame-mounted brushes positioned for contact with the street, a vacuum assembly mounted to the rear of the brushes to receive debris therefrom, and a debris collection bin carried on the frame and receiving debris discharged from the vacuum assembly. The collection bin is divided by a longitudinally extending partition panel into a pair of collection chambers, and screen and baffle means are interposed between each of the collection chambers and discharge openings formed in the collection bin. Cyclone separators may be connected to the discharge openings to effect an enhanced separatory action.

3,406,424
LAWN AND PARKING LOT CLEANER
Roy C. Rush, 6129 NE. Skidmore, Portland, Oreg. 97218
Filed Aug. 1, 1966, Ser. No. 569,254
3 Claims. (Cl. 15—340)



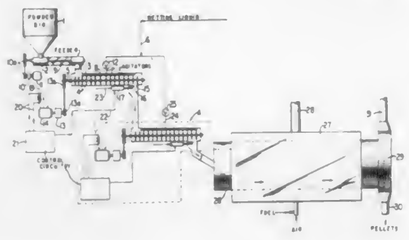
A lawn and parking lot cleaner having a propelling or driving vehicle and a cleaning vehicle, which latter includes beating and suction equipment. The driving vehicle and the cleaning vehicle are joined together by a universal joint which permits the suction and beating vehicle to move independently in the vertical and transverse directions or "float" with respect to the driving vehicle. The method of attachment disclosed wherein the cleaning vehicle is articulated to the driving vehicle permits the cleaning vehicle to adjust to a continuously varying ground contour as the apparatus is driven along.

3,406,425
POULTRY GIZZARD PROCESSING MACHINE
Carl J. Hill, Box 409, Canton, Ga. 30114
Filed Oct. 20, 1966, Ser. No. 588,177
11 Claims. (Cl. 17—11)



1. In a poultry gizzard processing machine wherein the cut gizzards are moved sequentially along a conveyor to a discharge station with the open interior of the gizzard upwardly and wherein there are roll means having a portion thereof below the top of the conveyor at the discharge station, said portion of roll means being adapted to pull down on the stomach, if any, of the gizzard deposited on the top thereof from the conveyor, said roll means having a second portion adapted to remove the lining from the interior of the cut gizzard, the improvement comprising: means for contacting the gizzard at the discharge station and for depositing the gizzard with the exposed interior of the gizzard downwardly on said first portion; and pusher means movable between the top of the first portion and the top of the second portion for moving the gizzard so deposited on the first portion to the second portion.

3,406,426
APPARATUS FOR FORMING AGGREGATES OF POWDERED MATERIALS
David F. Pobst, Jr., and Bobby J. Rowlett, Franklin, La., assignors to Columbian Carbon Company, New York, N.Y., a corporation of Delaware
Original application June 6, 1963, Ser. No. 286,042, now Patent No. 3,304,355, dated Feb. 14, 1967. Divided and this application Oct. 25, 1966, Ser. No. 601,258
8 Claims. (Cl. 18—1)

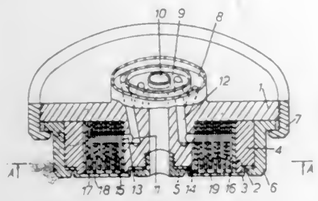


This invention relates to aggregating or pelletizing apparatus of the general type in which a finely powdered material is converted into discrete, pasty aggregates by vigorous mechanical agitation of the powder with a liquid pelletizing agent e.g. water. The present invention is an improvement on prior apparatus since novel means are provided for regulating the amount of work transferred into the wetted powdered material during the agitation thereof to form the pasty aggregates.

3,406,427
APPARATUS FOR SPINNING COMPOSITE FIBERS
Michio Tsuji, Saidaiji, Japan, assignor to Japan Exlan Company Limited, Kita-ku, Osaka, Japan
Filed Nov. 3, 1966, Ser. No. 591,853
Claims priority, application Japan, Nov. 4, 1965, 40/89,875
1 Claim. (Cl. 18—8)

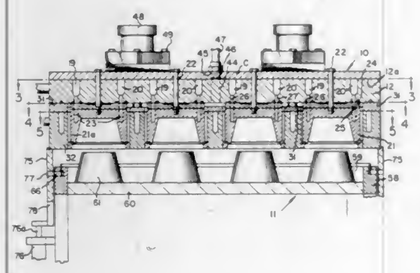
An apparatus for producing a composite fiber from at least two fiber forming liquids. A raw spinning liquid supplying block, a central depending portion with a coagulating liquid bore extending therethrough and a distributing plate spirally wound therearound with a spinneret plate against the bottom edge of said spirally wound distributing plate. The distributing plate has a first and second plurality of liquid introducing holes spaced along the length thereof at distances such that when the plate is spirally wound the holes are aligned to form a first and a second bore, the bores being in communication with the respective inlets. A first and second plurality of liquid introducing notches and a plurality of liquid bonding notches lie along the bottom edge of the distributing plate with the liquid distributing notches lying adjacent

each other and separated by the portion of the plate above a corresponding bonding notch and the said corresponding bonding notch joining the distributing notches to form



a liquid bonding space above the spinneret plate. The spinneret plate has the orifices along the liquid bonding spaces.

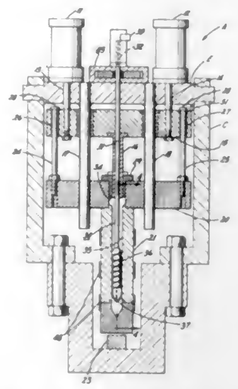
3,406,428
MOLD CONSTRUCTION FOR DIFFERENTIAL PRESSURE PLASTIC MOLDING MACHINES
Gaylord W. Brown, Beaverton, Mich., assignor to Brown Machine Company of Michigan, Inc., Beaverton, Mich., a corporation of Michigan
Filed Apr. 11, 1966, Ser. No. 541,589
15 Claims. (Cl. 18—19)



13. A mold construction comprising: support plate means; circulant passage means in said support plate means including an intake portion and an exit portion; female mold block means having cavity means therein connected with said support plate means; and passage means formed in said support plate means and female mold block means extending from said intake portion into said female mold block means and back to said exit portion.

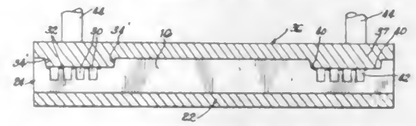
3,406,429
THERMO-PLASTIC MOLDING MACHINE WITH FLOATING SCREW SPREADER
Donald A. Draudt, 27180 Pompton Drive, and Herbert T. Draudt, 28520 Lynhaven, both of North Olmsted, Ohio 44070
Filed May 19, 1966, Ser. No. 551,386
7 Claims. (Cl. 18—30)

1. Apparatus for injecting plastic material into a mold comprising a plasticizing cylinder having a bore with a rearward feed end and a forward outlet end, a rotatable member mounted for free axial movement and having a screw portion adapted to work plastic material in said bore, means for turning said rotatable member in a manner tending to screw said member axially rearwardly through said material in said bore, a plunger mounted for reciprocating movement relative to said bore and said member, adjacent the feed end of said bore, and adapted to push plastic material forwardly in said bore and induce said screw portion to move forwardly with said material



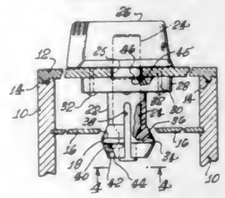
toward the outlet end of said bore, and means for reciprocating said plunger in said bore.

3,406,430
MOLD FOR MOLDING STRIPS
Alvin J. Furstenburg, Chicago, and Edmund J. Kujawa, Wilmette, Ill., assignors to Felt Products Mfg. Co., a corporation of Delaware
Filed Apr. 13, 1966, Ser. No. 542,343
9 Claims. (Cl. 18—42)



1. A mold comprising a pair of complementary mold members, each having a generally flat surface portion, said flat surface portions being in opposed relationship, at least one of said molding members defining a helical molding groove having a plurality of convolutions in said flat surface portion and means for urging said molding members together to define a closed helical molding tunnel groove between said complementary mold members.

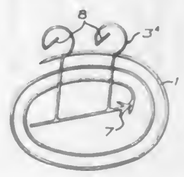
3,406,431
RELEASABLE FASTENER FOR CAMERA COVER
Lee B. Armstrong, Newport Beach, and Marvin A. Reid, Placentia, Calif., assignors to Coleman Engineering Company, Inc., Santa Ana, Calif., a corporation of California
Filed May 25, 1967, Ser. No. 641,376
10 Claims. (Cl. 24—73)



A releasable fastener comprises a tubular body with a manually rotatable spindle therein, the tubular body extending from a first member into releasable engagement with an inwardly facing shoulder of an opening in a second member for the purpose of interconnecting the two members. The leading end of the tubular body is longitudinally split for radial expansion and is expanded by

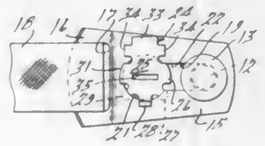
90° of rotation of a noncircular leading end portion of the spindle within a corresponding noncircular end portion of the tubular member.

3,406,432
FASTENING DEVICES FOR BUTTONS AND LIKE ELEMENTS
Ida Martina Johansson, Karralundsgatan 57, Goteborg, Sweden
Filed July 25, 1966, Ser. No. 567,563
Claims priority, application Sweden, July 27, 1965, 9,951/65
3 Claims. (Cl. 24—112)



A button fastening device of plastic material having a spiral whose inner end is bent to extend diametrically across the spiral. It has an integral attaching element for a button, which element extends outwardly from the spiral. The attaching element has a bent end portion whose extremity is bent inwardly.

3,406,433
SEAT BELT COUPLING DEVICE
Stuart M. Frey, Birmingham, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 5, 1967, Ser. No. 607,555
1 Claim. (Cl. 24—223)



A quick acting and positive coupling device for attaching a seat belt to a vehicle body member comprising an elongated plate having a keyhole slot which is adapted to receive a headed stud. A retaining clip is insertable and positionable in the keyhole slot to prevent displacement of the plate radially of the stud, the stud head preventing displacement of the plate axially of the stud. The arrangement, however, permits the belt attaching plate to swivel about the stud axis as necessary.

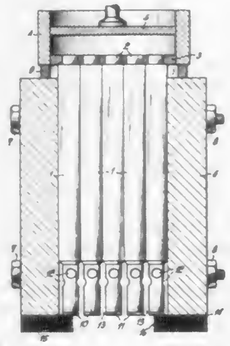
3,406,434
GARTER CLASP
Murray Moskowitz, Westfield, N.J., assignor to Maidenform, Inc., New York, N.Y., a corporation of New York
Filed Sept. 19, 1967, Ser. No. 668,795
1 Claim. (Cl. 24—245)

The garter clasp of the invention comprises two members of flexible material, preferably plastic, and composed of a front member having a T-slot laterally bounded by inset narrow guide walls at the top of which are inwardly-directed spaced projections. The front member is formed with an opening to receive a channeled button of a fabric gripping member, and the opening continues to a lower area laterally bounded with inset walls adapted to enter the channels of the button. At its top the fabric gripping member has a short neck with a forwardly extending hinge head adapted to be pressed into said T-slot of the front member and to slide along the inset guide walls thereof. In one form, the front member at its lower end has a



camming projection adapted to engage the lower end of the gripping member to pull the area of the button at its front face toward flush relation with the outer face of the front member.

3,406,435
APPARATUS FOR MANUFACTURING CERAMIC ELEMENTS HAVING A HONEYCOMB STRUCTURE
Hans-Joachim Dietzsch, Chalet Sunny Val, Switzerland, assignor to Firma Schneider & Co., Frechen, Germany, a corporation of Germany
Filed Aug. 12, 1965, Ser. No. 479,260
Claims priority, application Germany, Aug. 21, 1964, D 45,250
7 Claims. (Cl. 25—17)

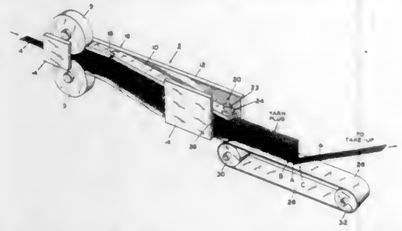


Apparatus for manufacturing ceramic elements having a honeycomb structure in which the die plate of the extruder has a plurality of holes through which plastic material is extruded. Parallel sleeves are associated with the holes and each sleeve has an extension provided with a closed outer end and lateral orifices so that the material flows in the form of parallel individual streams which becomes reshaped into a coherent element having a honeycomb structure. The holding means for the sleeves has an apertured member in the region of the lower ends of the sleeve extensions for enabling lubricant to be delivered for facilitating the feed of the honeycomb structure.

3,406,436
CRIMPING PROCESS
George R. Clarke, Jr., Petersburg, Va., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Nov. 30, 1965, Ser. No. 510,591
5 Claims. (Cl. 28—72)

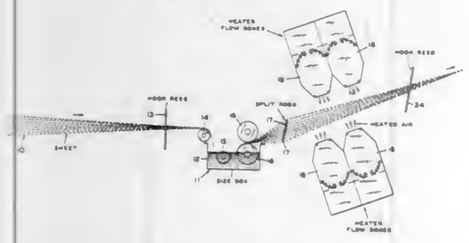
A process for regulating the crimp frequency of compaction-crimped yarn. Uncrimped yarn is fed into a stuffer box at a constant rate and emerges in the form of a plug from which crimped yarn is taken up at a constant rate. The crimp frequency (crimps per inch) imparted to the yarn in the stuffer box inversely determines the distance

downstream from the discharge port at which the crimped yarn unfolds from the plug. This distance (and hence also the crimp frequency) can be kept within a fixed control



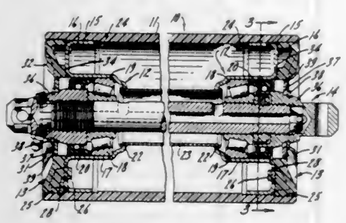
region by controlling the amount of resistance offered by the gate of the stuffer box to the compressive force of the compacted yarn therewithin, e.g., by varying the weight placed on the gate.

3,406,437
PROCESS FOR TREATING YARN
Wilson W. Tew, Columbia, S.C., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Mar. 29, 1966, Ser. No. 538,406
6 Claims. (Cl. 28—72.6)



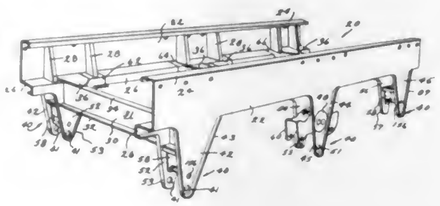
A process for slashing yarns which comprises passing said yarns through a sizing bath, removing excess sizing liquid, wet-splitting said yarns, passing said wet-split yarns through a heating zone of hot turbulent air established by impinging hot air streams directed toward said wet-split yarns at an air stream velocity sufficient to agitate the individual yarns and produce momentary separation but insufficient to cause yarn entanglement, until said yarns are dried, passing said dried yarns through a separating zone and thereafter through a tensioning zone.

3,406,438
PLASTIC-METAL BELT CONVEYOR ROLLER ASSEMBLY
Donald C. Reilly, Downers Grove, Ill., assignor to Westinghouse Air Brake Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 19, 1966, Ser. No. 580,288
10 Claims. (Cl. 29—116)



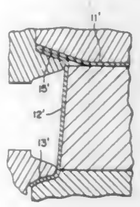
A belt conveyor roller having a plastic shell, a steel shaft, bearing assembly and bearing retainer, and a plastic locking member fixed to the plastic shell which locks the bearing retainer to the plastic shell to prevent loosening of the bearing retainer, and relative rotation between it and the shell, due to the differing thermal expansion rates of plastic and steel.

3,406,439
METHOD OF CONSTRUCTING SUSPENSION ASSEMBLIES
Charles T. Hutchens, 1131 S. Kentwood, Springfield, Mo. 65804
Application June 15, 1965, Ser. No. 464,166, now Patent No. 3,279,815, dated Oct. 18, 1966, which is a continuation-in-part of application Ser. No. 179,328, Mar. 13, 1962, now abandoned. Divided and this application Sept. 16, 1966, Ser. No. 579,929
10 Claims. (Cl. 29—155)



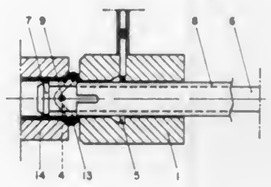
1. A process for producing a suspension component which comprises the steps of providing a single sheet of substantially flat metal plate, blanking a tandem side rail from said plate, said side rail comprising a substantially flat plane of substantially rectangular shape, said side rail including a plurality of hanger sections depending therefrom with a hanger section substantially disposed at each end thereof, each hanger section having a shape that decreases in cross section from top to bottom, ending in a rounded bottom edge; simultaneously forming an integral lining flange on each of said hanger sections by turning the bottom and side edges such that in cross section the lining flange comprises a curve that sweeps from the plane of the hanger section and terminates in a straight line that is oriented at an angle approaching 90° with respect to the plane of the hanger section; and then forming upper and lower rigidifying channels on the side rail by braking the upper edge of the side rail, and by braking the lower edge of the side rail in areas other than said hanger sections, said rigidifying channels being disposed in a direction that is opposite to the direction of said lining flange.

3,406,440
METHOD OF FORMING MULTI-GROOVE PULLEYS
William C. Trute, Warren, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Feb. 24, 1966, Ser. No. 529,885
18 Claims. (Cl. 29—159)



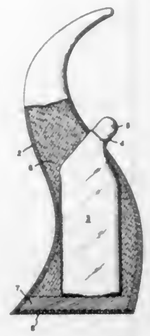
Method of making V-pulleys from sheet metal by a progressive die stamping operation in which all operations are accomplished by external compression forces applied to the blank in an axial direction.

3,406,441
METHOD AND ARRANGEMENT FOR MOUNTING ELASTICALLY FLEXIBLE SEALING RINGS IN INTERNAL GROOVES
Gunnar Larsson, Halsingborg, Sweden, assignor to Aga-Platforadling Aktiebolag, Halsingborg, Sweden, a corporation of Sweden
Filed Sept. 27, 1965, Ser. No. 490,187
Claims priority, application Sweden, Oct. 2, 1964, 11,843/64
6 Claims. (Cl. 29—451)



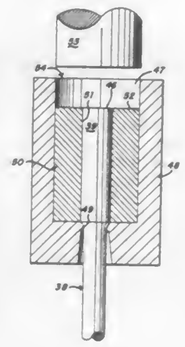
Method and apparatus for mounting an elastically flexible sealing ring into an internal groove. The ring is placed into an enlarged portion of a channel, another portion of which channel has an internal diameter equal to the inner diameter of the ring. Radially inward bends are formed in the ring and these bends are re-oriented to axial bends as the ring is pushed through the said portion of the channel by bosses on a push rod which is movably mounted in the channel. The internal groove to be fitted with the ring is located at the end of the said portion of the channel. An enlarged head on the end of the push rod and a sleeve surrounding the push rod are used for pressing the ring into the internal groove.

3,406,442
MANUFACTURE OF CONTAINERS FOR LIQUIDS
Antonio Rosat Gonzalez, 6 c/Bismarck, Barcelona, Spain
Filed May 17, 1966, Ser. No. 550,661
3 Claims. (Cl. 29—455)



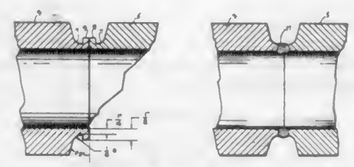
1. A process for the manufacture of containers for liquids comprising emptying and curing an animal horn, forming a hole in the side thereof, fixing a recipient inside said horn conforming to the internal configuration of said horn having a mouth projecting outwardly through said hole so that only the occluding medium for said mouth is visible.

3,406,443
METHOD OF PROVIDING AN ENLARGED END ON A MEMBER
Ernst J. De Ridder, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Aug. 28, 1963, Ser. No. 305,059
4 Claims. (Cl. 29—472.3)



1. A method for providing an enlarged end on a rod comprising the steps of:
(a) placing said rod having a given diameter in a chamber,
(b) disposing a hollow billet around an end of said rod and within said chamber,
(c) heating the end of said rod and said billet within said chamber,
(d) axially impacting adjacent ends of said billet and said rod to pressure weld said billet to said rod end to provide an enlarged end on said rod while supporting said billet and said rod so as to prevent extrusion,
(e) placing said enlarged heated end in an extruding apparatus,
(f) and thereafter extruding at least part of the inner portion of said enlarged heated end through a die means having an extrusion aperture larger than said given diameter of said rod to reduce and elongate said enlarged end to the desired dimensions.

3,406,444
METHOD OF MAKING A JOINT
Angus R. Parker, 121 Oak Ave., Bellmawr, N.J. 08030, and Earl W. Rudolph, 440 N. Coles Ave., Maple Shade, N.J. 08052
Filed Aug. 12, 1965, Ser. No. 479,352
5 Claims. (Cl. 29—482)



1. A process of butt welding the adjoining ends of a pair of tubular members, said process comprising:
(a) machining the ends of the tubular members which are to be adjoined so as to form a root wall portion

of reduced thickness with a flanged end portion of a predetermined increased thickness;

(b) aligning the adjoining ends of the tubular members to be butt welded;

(c) fusing the flanged portions of the adjoining ends of the tubular members;

(d) and filling with weld metal the machined space between adjoining ends of the tubular members.

3,406,445
METHOD FOR COATING STEEL WITH WHITE METAL

Günter Köpke, Heilbronn (Neckar), and Friedrich Wilhelm Rabenau, Neckarsulm, Wurttemberg, Germany, assignors to Karl Schmidt G.m.b.H., Neckarsulm, Wurttemberg, Germany, a corporation of Germany

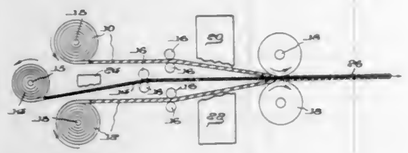
No Drawing. Filed Sept. 20, 1965, Ser. No. 488,794
Claims priority, application Germany, Oct. 17, 1964, Sch 35,977
8 Claims. (Cl. 29—492)

Coating white metal onto a tinned steel sheet by heating the tinned steel sheet to a temperature higher than the melting point of the white metal, applying solid white metal at ambient temperature to the heated tinned steel sheet and pressing the two together between nip rollers.

3,406,446
METHOD OF MANUFACTURING LAMINATED METAL PANEL

Stephen A. Muldovan, 1080 Willowdale Road, Morgantown, W. Va. 26505

Filed Oct. 29, 1963, Ser. No. 319,765
4 Claims. (Cl. 29—497.5)



1. The method of manufacturing a laminated metal panel comprising the steps of:

(a) placing a wire mesh screen with a mesh opening of from 1/16 to 1 inch formed of a first metal selected from the group consisting of stainless steel and carbon steel between two solid sheets formed of a second metal selected from the group consisting of aluminum and aluminum alloys;

(b) heating said wire mesh screen to an elevated temperature between 1200° F.–1500° F. so that upon contact with said two solid sheets said sheets become semiplastic;

(c) applying pressure on the outer surfaces of said sheets to force them toward each other while in said semi-plastic state so that said sheets contact each other through the interstices in said wire mesh screen; and

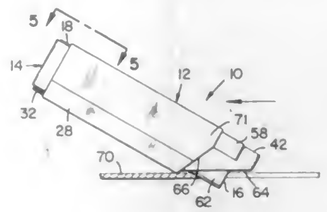
(d) thereafter allowing said sheets to cool to form solid phase bonds between said sheets at the points of contact between said sheets.

3,406,447
CARTON CUTTER

Constantine J. Travlos, 1813 Ray Drive, Burlingame, Calif. 94010

Filed Oct. 19, 1966, Ser. No. 587,885
9 Claims. (Cl. 30—2)

A carton cutter having a blade holder receivable within a sheath to position a blade carried by the holder in a cutting position. Means is provided to permit insertion of the holder in the sheath in only one way and the holder has structure for mounting a reserve blade thereon. The

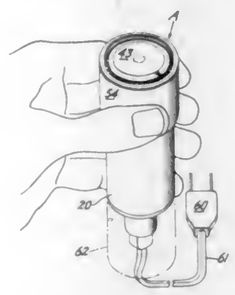


holder and sheath also have means which cooperate to permit mounting of a blade in a scraping position.

3,406,448
CIRCULAR BLADE RAZOR WITH TOOTHED BACK-UP RING HAVING RELATIVE ROTATIVE AND OSCILLATIVE MOVEMENT

Richard W. MacCarthy, Los Gatos, Calif. (1445 Calaveras Ave., San Jose, Calif. 95126)

Filed May 31, 1967, Ser. No. 642,429
7 Claims. (Cl. 30—43.8)

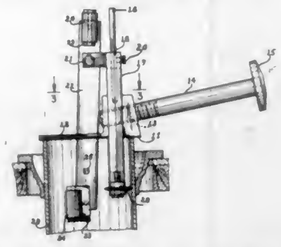


A small electric motor is mounted in a hand-held housing and a circular blade is mounted on one end of the housing. A toothed back-up ring is mounted co-axially of, and in light, conforming contact with, a marginal portion of the blade. In one illustrative form of the invention the motor is operatively connected to oscillate the back-up ring in recurring small, circular orbits. This oscillative movement of the back-up ring, by means of an epicyclic drive mechanism, also simultaneously rotates the back-up ring. In the other illustrative form of the invention the circular blade is oscillated in recurring small circular orbits and the toothed back-up ring is rotatively driven by a worm gear and pinion. In both illustrative forms of the invention the teeth of the blade back-up ring are inclined with a forward rake with respect to the direction of relative rotation between the blade and the back-up ring, and the radially inward edges of the teeth are sharpened to a cutting edge, so that whiskers encountered by the rotating ring of teeth are urged, cam-like, into the cutting zone between the edge of the blade and the teeth, where the relative oscillative movement between the blade and the back-up ring alternately moves the peripheral cutting edge of the circular blade radially outwardly across the inclined, radially inwardly directed cutting edges of the teeth of the back-up ring, thereby to exert a combined slicing, shearing action which severs the whiskers interposed therebetween at the skin level, and then moves said cutting edge of the blade radially inwardly preparatory to the next cutting stroke.

3,406,449
INTERNAL PIPE CUTTER WITH SCREW-THREADED ADJUSTMENT MEANS

Ralph W. Doerner, 516 Oak St., Boonton, N.J. 07005

Filed July 31, 1967, Ser. No. 657,236
5 Claims. (Cl. 30—107)

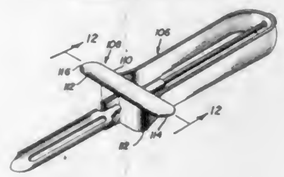


My invention relates to pipe cutters generally and specifically to an internal pipe cutter adjustable with respect to both the depth of cut and the diameter of the pipe and which may be easily operated by an elongated handle from without the pipe.

3,406,450
POTATO PEELER WITH EYE REMOVAL CUTTING EDGE

Mike E. Grotz, 48 Swan, Sheridan, Wyo. 82801

Filed June 1, 1966, Ser. No. 554,382
2 Claims. (Cl. 30—279)



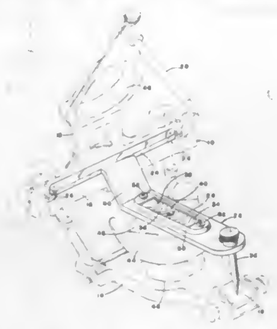
An elongated peeling blade member projecting longitudinally outwardly of one end portion of a handle and supported from the latter for oscillation about its longitudinal axis and including generally parallel, laterally spaced and opposing edges extending longitudinally of the blade member, the elongated handle portion including an arcuate potato eye removing blade portion at said one end portion thereof spaced laterally to one side of the longitudinal axis of the blade member and including arcuate cutting edge portions adapted to cut the area of a potato disposed about an eye.

3,406,451
GOTHIC ARCH BISECTOR AND RELATOR

Gus L. Anderson, York, Pa., assignor to The Dentists' Supply Company of New York, York, Pa., a corporation of New York

Filed Apr. 19, 1966, Ser. No. 543,744
9 Claims. (Cl. 32—32)

1. A fixture for use in positioning stabilized baseplates and casts in a mechanical articulator having relatively movable upper and lower bow members and an incisal table and a back frame on said lower bow member, said fixture comprising in combination a relatively rigid member, means thereon engageable with an articulator to position the fixture in fixed relation to said articulator, and comparing means fixed relative to said rigid member and positionable above the lower bow member of said articulator and also above a cast and stabilized baseplate for a lower denture having a Gothic arch tracing affixed thereto, said comparing means having a series of spaced typical Gothic arch tracings thereon progressively differing in angularity for matching of the Gothic arch tracing on said stabilized baseplate with one of said series of tracings

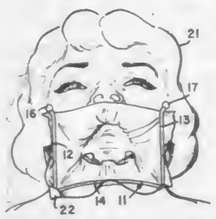


to establish the preferred operative position of said lower cast and baseplate relative to said articulator.

3,406,452
DENTAL RUBBER DAM FRAME

Richard S. McConville, 100 O'Connor Drive, San Jose, Calif. 95128

Filed Sept. 2, 1966, Ser. No. 577,058
6 Claims. (Cl. 32—35)



A dental dam frame which includes a contoured, rigid, U-shaped frame having an elongated base portion and a stem portion emanating from each end of the base portion. A plurality of lines are attached to the U-shaped frame to enable dental dam material to be attached thereto. The stem portions have substantially equal lengths and their longitudinal axes are substantially parallel. Also, each stem portion is provided with a hook to engage fastening means which enable the U-shaped frame to be retracted against the face of a patient, thus inhibiting turning of the U-shaped frame when it is properly positioned for use. The base portion of the frame is curved outwardly away from the longitudinal axes of the stem portions a sufficient distance to prevent the base portion from pressing against the patient's chin when the frame is properly positioned for use.

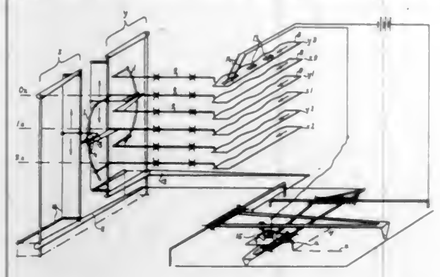
3,406,453
METHOD AND APPARATUS FOR GRAPHICALLY ILLUSTRATING THE CONTINUOUS MOVEMENT OF AN OBJECT

Ladislavo Halada, Prague, Czechoslovakia, assignor to Ustredni reditelstvi ceskoslovenskeho filmu, Prague, Czechoslovakia, a corporation

Filed Apr. 4, 1967, Ser. No. 628,398
7 Claims. (Cl. 33—23)

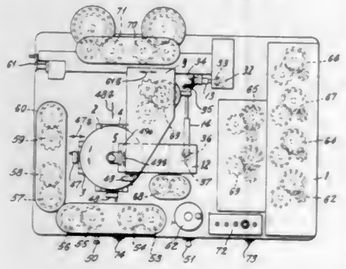
A method and apparatus for drawing which is derived by way of a pair of swingable bows which are operatively connected through suitable lever transmissions with a drawing means which provides a drawing according to a pair of mutually perpendicular axes, each bow being operatively connected with a carriage means which moves with respect to a given programming structure to derive from the latter a program for controlling

the swinging movement of the bows. These bows are respectively guided by a guide means which includes at least one elongated strip which is operatively connected through the lever transmission to the drawing means, so



that as the bow moves with respect to the latter guide means the drawing means will be controlled to provide an illustration of a given movement in accordance with respect the programming derived for the control of the movement of the carriage means.

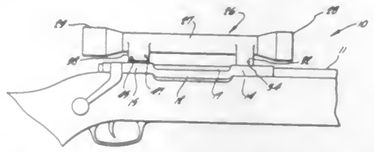
3,406,454
GUILLOCHE MACHINE
Wilhelm Brandstätter, Frankfurt am Main, Germany, assignor to Firma Maschinenfabrik Michael Kampf KG, Bad Homburg vor der Hohe, Germany
Filed Jan. 7, 1965, Ser. No. 424,082
Claims priority, application Germany, Jan. 16, 1964, M 59,570
12 Claims. (Cl. 33—27)



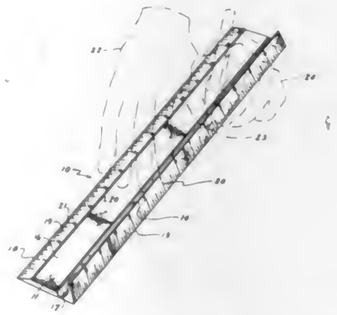
A device in a guilloching machine for imparting to the tool, relative to the workpiece, an additional reciprocating movement whereby the tool will be selectively horizontally or vertically displaced to effect a selected widening of the line scribed. This additional movement will supplement the conventional longitudinal and transverse movements imparted to the tool.

3,406,455
TELESCOPE MOUNTING FOR FIREARMS
Alfred A. Akin, Jr., West Covina, Calif., assignor to David P. Bushnell
Continuation-in-part of application Ser. No. 534,117, Mar. 14, 1966. This application Aug. 1, 1966, Ser. No. 573,742
30 Claims. (Cl. 33—50)

A mounting apparatus for securing a telescope sight to a firearm such as a rifle. The apparatus includes a pin which threads into a factory-tapped hole in the firearm. The pin has a portion which extends from the firearm, and the telescope has a socket which receives the pin in clamping engagement, the pin and socket being closely fitted longitudinally so the pin locks the telescope in position longitudinally during recoil shock of the firearm. A separate clamp means is longitudinally spaced from the pin, and is secured to the telescope and engaged in another tapped hole in the firearm. The apparatus is characterized by being directly mountable on a variety of different firearms without any need for auxiliary spacers or adapters, and can be installed by the firearm user without any need for skilled services of a gunsmith.

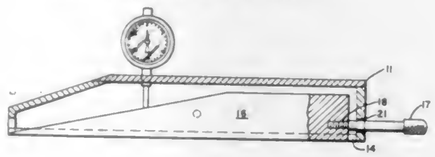


3,406,456
GUIDE FOR CUTTING PAPER AND THE LIKE
Harold N. Schleich, Lake Hopatcong, N.J., assignor to QPS Inc., New York, N.Y., a corporation of New York
Filed May 12, 1967, Ser. No. 638,076
3 Claims. (Cl. 33—107)



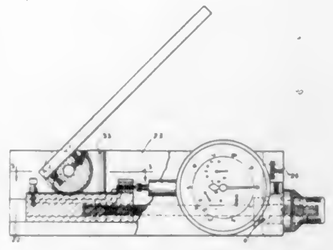
A guide for use in cutting paper, cardboard and the like consists of an extruded, elongated body having a flat bottom surface with a straight guiding edge along at least one side thereof and a flange directed upwardly from the guiding edge and presenting an outer flange surface which is inclined, at an angle of 30° to 45°, away from the perpendicular to the bottom surface so that the user's fingers can engage the upper surface of the body immediately in back of the flange, particularly in a shallow locating groove there provided, to securely position the guide on paper or the like as the latter is cut by a sharp tool moved along the guiding edge, while the flange protects the fingers therebehind from injury by the cutting tool jumping the guiding edge.

3,406,457
SPACEOMETER
Arthur J. Poulin, 3 Sturtevant St., Waterville, Maine 04901
Filed Aug. 19, 1966, Ser. No. 573,548
3 Claims. (Cl. 33—162)



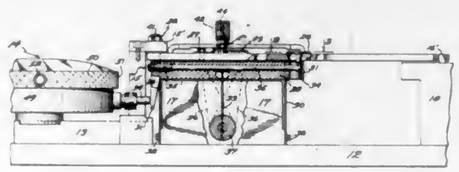
An extendable wedge gauge for measuring an opening between two surfaces.

3,406,458
SINE BAR GAGE
Gerald C. Welch, 44 Titus Court, Apt. E, Titus Villa, Rochester, N.Y. 14617
Filed Aug. 9, 1967, Ser. No. 659,407
1 Claim. (Cl. 33—174)



Angle measuring gage having heavy channel body member, a gage bar mounted on a cylindrical drum pivoted between the flanges of the channel member, and a slide block in the channel movable longitudinally by a screw and knob at one end, the block having tangential contact with the drum, and being grooved to receive opposed hairpin like piano wires secured on opposite sides of the drum, and extending oppositely in the grooves of the block to connect rectilinear movement of the block to angular movement of the drum and gage bar, and a dial gage directly indicating movement of the block.

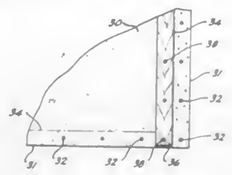
3,406,459
METHOD AND MEANS FOR EVALUATING HOLE DIAMETERS
George E. Sorensen, 217 Chipman Drive, Cheshire, Conn. 06410
Filed Jan. 23, 1967, Ser. No. 611,016
10 Claims. (Cl. 33—178)



Method and instrument for measuring and/or comparing with a standard dimension the diameter of a round hole in a workpiece by shifting a probe in a plane of movement coincident with the hole diameter sequentially from one and then to the other of opposite borders of the hole combined with testing for true coincidence of the hole diameter with such plane of probe movement.

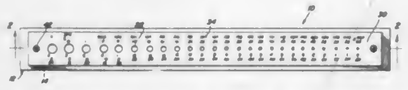
3,406,460
BOLT HOLE MARKER
Walter R. Colwell, 1853 Jay St., Ontario, Calif. 91762
Filed June 17, 1965, Ser. No. 464,649
1 Claim. (Cl. 33—189)

1. A method of marking bolt holes on a base plate member in slab construction wherein foundation bolts are provided at spaced intervals along and back from the edge of a concrete slab, said distance back being about one-half the width of said base plate, which comprises; marking said concrete slab with a chalk line along the entire edge of said concrete slab, said chalk line being spaced back from the edge of said concrete slab a distance equal to the width of said base plate; placing said base plate edge on the inside of and next to said chalk



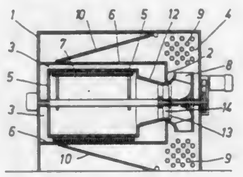
line; measuring the width of the base plate distance back from said foundation bolt toward said base plate; and marking said location with a punch to define the point where the base bolt is to be drilled.

3,406,461
THREAD-IDENTIFYING DEVICE
B. Harry Gunderson, 1115 S. Jay St., Aberdeen, S. Dak. 57401
Filed Dec. 3, 1965, Ser. No. 511,445
10 Claims. (Cl. 33—199)



1. A device for identifying threads on fastener elements or the like comprising an elongated mounting assembly having at least one exposed surface and a plurality of internally threaded bores opening through said exposed surface in longitudinally spaced relation to each other, said bores being different from each other in either diameter or screw pitch, indicia means mounted on said exposed surface to identify the threads associated with each of said bores, a replaceable marking surface mounted adjacent said bores on the mounting assembly, said mounting assembly including a pair of assembled bars of different transverse dimension, said bores comprising two series, one series through each of said bars, one of said bars having a second exposed surface spaced from the one exposed surface on the other of said bars, second indicia means mounted on said second exposed surface, and means for holding the bars in position with said exposed surfaces abutting each other sandwiching the indicia means therebetween.

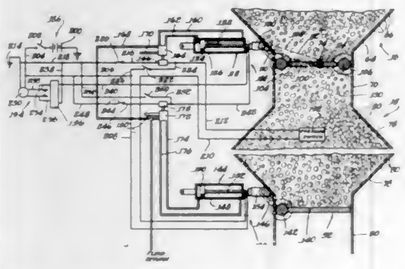
3,406,462
PROCESS AND APPARATUS FOR DRYING AND SHRINKING TEXTILE MATERIALS
Heinz Fleissner, Egelsbach, near Frankfurt, Germany, assignor to Vepa AG, Basel, Switzerland
Filed Nov. 22, 1966, Ser. No. 596,224
Claims priority, application Germany, Nov. 22, 1965, A 50,840
32 Claims. (Cl. 34—15)



The present disclosure relates to a process and apparatus for drying and shrinking textile materials, such as for example, knit goods, fabrics and the like, wherein a treatment medium, for example, air is brought into con-

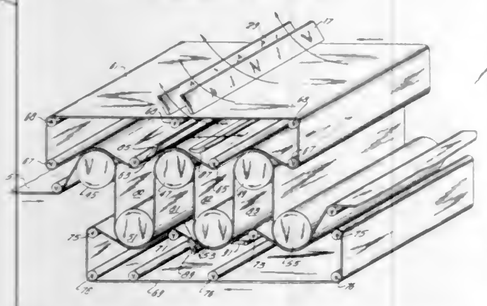
tact with, and advantageously drawn through the tensionless guided textile material as it is guided through a heat treating apparatus. The apparatus is provided with means for achieving a pulsating treatment medium flow and in a fluttering of the material to be treated.

3,406,463
GRAIN DRIER
Arthur Arnold Andersen, Box 247, Pine Crest, Republic, Mich. 49879
Filed Aug. 5, 1966, Ser. No. 570,553
12 Claims. (Cl. 34—56)



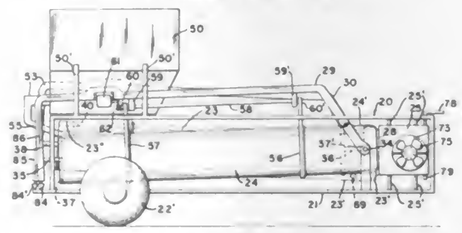
This invention relates generally to a drier and more particularly to a drier structure for automatically drying grain according to a predetermined method. The apparatus disclosed in this application contemplates the delivery of moisture laden grain to an upper drying chamber into which preheated air is passed, and a second adjacent lower drying chamber for receiving grain from the upper chamber in timed sequence with respect to discharge of dried grain from said second chamber to a third cooling chamber. Air drawn through this cooling chamber absorbs any residual heat which may be released by the grain, and means is provided for directing air from said cooling chamber to the upper chambers after passing said air through a heating unit, the entire cycle of grain drying operation being automatically controlled by an electrical circuit and valve arrangement to assure proper sequential movement of predetermined quantities of grain in step by step fashion from one position to another, resulting in the sequential discharge of uniformly dried grain from the cooling chamber.

3,406,464
VENTILATION SYSTEM FOR A PAPERMAKING MACHINE
Raymond C. Clark, Orange, Conn., assignor to Huyck Corporation, Stamford, Conn., a corporation of New York
Filed May 9, 1967, Ser. No. 637,238
9 Claims. (Cl. 34—111)



This invention is directed to an improved apparatus for uniformly drying a continuous web of material such as paper or other sheet-like materials. In accordance with this invention, a plurality of stationary deflecting elements are positioned adjacent to a fluid permeable fabric used to guide the continuous web through the dryer such that gases entrained by the fabric are deflected away therefrom. As such, the stationary deflecting elements may be combined with rolls over which the porous backing fabric travels to ensure that substantial amounts of entrained gases are deflected through and away from the fabric.

3,406,465
ROTATING DRUM GRAIN DRYER
Walter Dahlund, Kenmare, N. Dak. 58746
Filed Oct. 28, 1966, Ser. No. 590,333
5 Claims. (Cl. 34—129)



The invention comprises a drying device having a pair of elongated drums mounted in reverse inclination to one another with means to rotate the drums. The device has a hopper mounted above the drums to feed commodities into one of the drums at its upper end, with lifting means in the drums to lift the commodities as the drums rotate to expose the commodities to the air and mix and dry the commodities with means at the lower end of the one drum to transfer the commodities to the upper end of the other drum.

3,406,466
DRYING APPARATUS
Horace L. Smith, Jr., Richmond, Va., assignor to White Consolidated Industries, Inc., a corporation of Delaware
Filed July 12, 1967, Ser. No. 652,887
5 Claims. (Cl. 34—155)

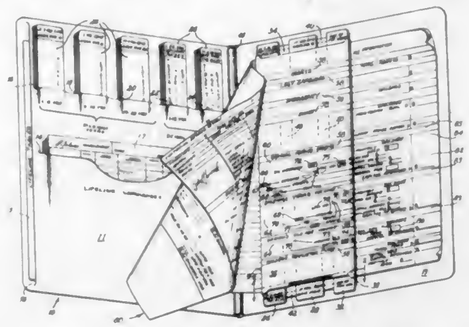


Drying apparatus for sheet and web type material including a belt type carrier having a material supporting leg disposed betwen the radiant heating-fluid impingement unit and an array of radiant heaters with the material supporting surface of the carrier facing the heating-impingement unit. This surface is polished and may have a release type coating thereon, and the opposite surface is treated to produce a high coefficient of absorption for radiant energy. Provision is made for pressing the material to be dried onto the carrier at one end and for separating it from the carrier at the opposite end.

3,406,467
INSURANCE EVALUATION
Samuel Lufkin Davis, Acton, Mass., assignor to John Hancock Mutual Life Insurance Company, Boston, Mass., a corporation of Massachusetts
Filed June 30, 1966, Ser. No. 561,865
5 Claims. (Cl. 35—24)

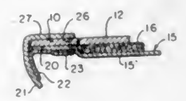
Device for calculating and displaying information relating to insurance comprising indicia bearing slides movable

in a display member attached at two places to a backing and having indicators arranged to cooperate with the slide



indicia, and a page for data recordation arranged to slide between the display member and the backing.

3,406,468
SHOE WITH CUSHION INSOLE
Jaime Pujol, Calle F. Krug 56, Terraza del Parque, Santurce, Puerto Rico 00911
Original application July 3, 1963, Ser. No. 292,648, now Patent No. 3,314,092, dated Apr. 18, 1967. Divided and this application Feb. 8, 1967, Ser. No. 614,743
4 Claims. (Cl. 36—2.5)



A light flexible shoe including a two-ply insole recessed to contain a cushion element therein and having its upper and its lining secured respectively to the inner and outer faces of the insole.

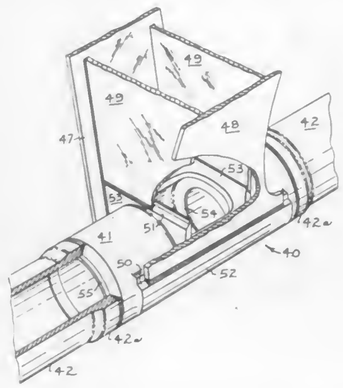
3,406,469
SLANT TOE FOOTBALL SHOE
Frank P. Dani, 46 S. Midland, Mundelein, Ill. 60060
Filed Apr. 24, 1967, Ser. No. 633,196
4 Claims. (Cl. 36—2.5)



A football shoe having a square, flat toe at its front end and which is rearwardly inclined at its upper edge to about 20 degrees so as to permit a football to be kicked higher from placement and thus over a longer distance.

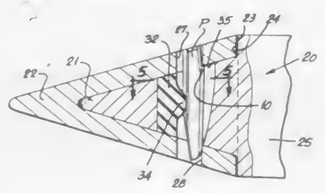
3,406,470
DRAFT FRAMES FOR SCRAPERS
Harry W. Fall, Morton, and Lawrence J. Miller, Joliet, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed May 25, 1966, Ser. No. 552,860
7 Claims. (Cl. 37—129)

In conventional earthmoving scrapers employing a rigid draft frame having a hitch member connected to a gooseneck and the gooseneck in turn connected to the central portion of the transverse spreader tube which has draft arms connected to the outboard ends for pivotally attaching the draft frame to the bowl, an improved frame



employing a casting in the central portion of the transverse spreader tubes so the gooseneck can be joined to the transverse spreader tube with a plurality of flat joints to better distribute the loads interchanged between the rigidly connected gooseneck and transverse spreader tube.

3,406,471
DIGGER TOOTH LOCKING PIN
Gerard Duplessis, 10806 St. Denis St., Montreal, Quebec, Canada
Filed Dec. 1, 1966, Ser. No. 598,451
Claims priority, application Canada, Aug. 11, 1966, 967,684
5 Claims. (Cl. 37—142)

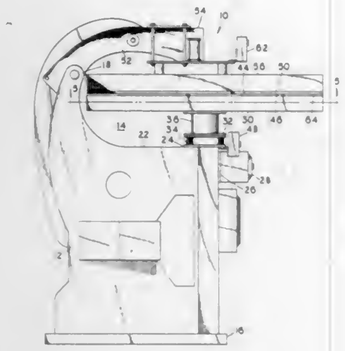


1. A locking pin for a two-part excavating tooth, comprising an elongated solid four-sided body having substantially flat lateral faces and having front and back faces, a pointed lower end and a top end face, said back face having a recessed upper face portion defining an upwardly facing step located nearer said top face than said lower end, a longitudinal rib protruding medially of said front face and extending from said top end face downwardly toward said lower end below the level of said step, said rib having a notch made therein intermediate its ends and disposed below the level of said step, the bottom of said notch coinciding with a surface extending substantially the full width of said pin.

3,406,472
ELECTRICALLY HEATED PRESSING MACHINE
Alvin I. Solomon, 112—24 68th Ave., Forest Hills, N.Y. 11375
Filed Aug. 15, 1966, Ser. No. 581,410
9 Claims. (Cl. 38—17)

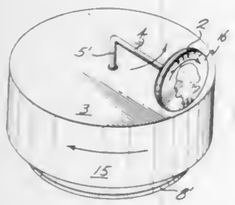
1. A garment pressing machine comprising a frame, a lower press buck mounted on said frame, an electrically heated lower press pad connected to said lower press buck,

a first temperature control device connected to said lower press pad for controlling the temperature thereof, a support arm pivotably mounted on said frame, an upper press buck connected to said support arm and capable of being lowered into engagement with said lower press buck, an upper press pad connected to said upper press buck, said upper press pad being electrically heated, a second temperature control device in communication with said upper press pad for controlling the temperature thereof, cylinder



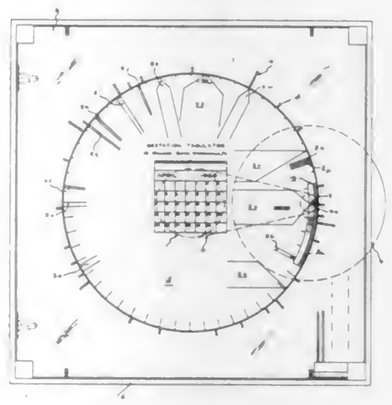
means in communication with said support arm for lifting and lowering said upper press buck into and out of pressing engagement with said lower press buck, a fluid control valve connected to said cylinder means, a microswitch connected to said frame and in communication with said cylinders and said fluid control valve, a timing mechanism connected to said fluid control valve for timing the length of time of the pressing engagement of the upper and lower press pads, and a control panel disposed on said frame.

3,406,473
ORBITING ROLLING DISPLAY
Robert E. Dudley, Bellevue, Wash., assignor of one-third each to Richard M. Tracey, Seattle, Wash., and Gerald R. Brunstrom, Dalkeith, Western Australia, Australia
Filed Apr. 5, 1966, Ser. No. 540,319
9 Claims. (Cl. 40—34)



A disk is rotatively mounted on the horizontal leg of a dead cantilever axle of elbow shape the upright leg of which supports the horizontal leg. The upright leg is mounted concentrically of a turntable the surface of which is engaged by the rim of the disk. Common drive means turn the upright leg of the elbow axle about its own axis and the turntable in opposite directions so that the disk rolls on the turntable. Alternatively, the surface engaged by the disk edge is stationary and the upright leg of the axle is translated along the surface alternately in a linear path and in a curved path to complete a loop along which the upright leg is moved with the rim of the disk in engagement with the surface to effect rotation of the disk. The horizontal leg is swung correspondingly as the upright leg moves in the curved portions of its path.

3,406,474
GESTATION TABULATOR
Willard Bates, Stevensville, Pa. 18845
Filed Apr. 20, 1965, Ser. No. 450,572
6 Claims. (Cl. 40—110)



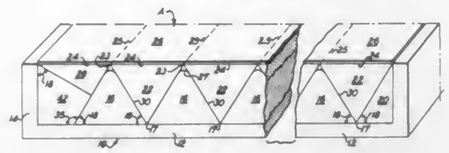
A gestation tabulator for dairy cows having two superposed concentrically mounted disks housed within a frame. The disks contain information and dates which are related to the gestation cycle of a cow. The rear disk is rotated incrementally with respect to the front disk to expose calendar dates carried by the rear disk.

3,406,475
ILLUMINATED SIGN
John R. O'Donnell, 415 Kirsch Drive, Mattydale, N.Y. 13211
Filed July 11, 1966, Ser. No. 564,207
1 Claim. (Cl. 40—130)



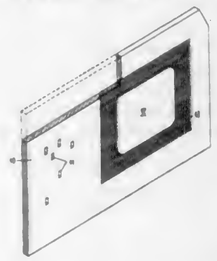
A rectangular illuminated sign comprising a slab of transparent light transmitting plastic having spaced parallel planar faces with indicia applied to one surface, and illumination means including a small incandescent electric lamp disposed in an elongate transparent tubular glass heat spreading shield fully embedded in the slab, the shield contacting the plastic over a sufficient area to avoid heat softening of the plastic. The slab may be composed of three layers the center layer being opaque and the shield in contact with all three layers.

3,406,476
METHOD AND APPARATUS FOR EXHIBITING ORNAMENTAL DESIGNS
Lucia Wilcox, Box 534, Amagansett, N.Y. 11930
Filed Mar. 3, 1966, Ser. No. 531,596
2 Claims. (Cl. 40—137)



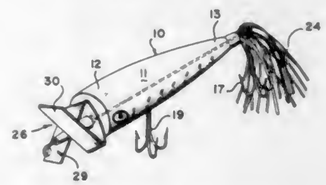
A method of forming and exhibiting a combination of ornamental designs arranged to be viewed from different angular positions, involving the use of rotatable triangular displays integrated with triangular supports.

3,406,477
FILM RECORD CARD AND METHOD FOR MAKING SAME
Ernest P. Kollar, Broomfield, Colo., and Stanley M. Jensen and Darwyn L. Tiley, Apalachin, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Feb. 13, 1967, Ser. No. 615,786
3 Claims. (Cl. 40—158)



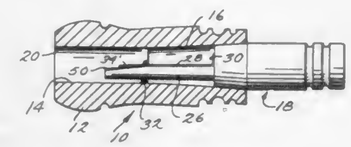
A method for making a film record card, and the card made by the method. A trench is formed in one face of the card surrounding an area to be apertured. A series of slits is cut in the bottom of the trench. The trench and slits are filled by a frame made of a matte which has been coated and impregnated by a thermoplastic material. The portion of the card defined by the inner periphery of the slits is removed leaving an aperture into which the edge portions of the frame partially extend. A film insert is positioned in the aperture and bonded to the edge portions of the frame.

3,406,478
FISHING LURE
John R. Hudson, Tar Springs Drive, Greenville, Ky. 42345
Filed Sept. 28, 1965, Ser. No. 490,786
6 Claims. (Cl. 43—42.17)



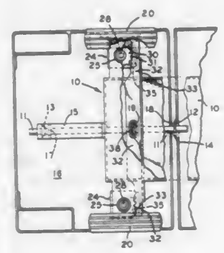
A fishing lure comprising an elongated body having front and rear end portions, hook means carried by said body, a spinner, means journaling said spinner for rotating forwardly of the said front end portion. The spinner includes a pair of blade portions which are in diverging relationship to each other in a direction away from the said front end of the elongated body. The purpose of this construction is to attain a spluttering, splashing action as the lure is retrieved through the water.

3,406,479
GAME CALL
Paul D. Faulk, 616 18th St., Lake Charles, La. 70601
Filed Aug. 23, 1966, Ser. No. 574,408
6 Claims. (Cl. 46—180)



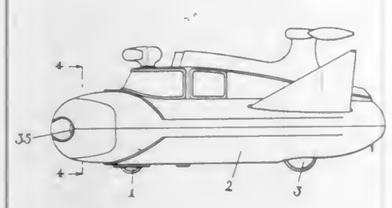
1. A game call comprising: an elongated trough element having means defining a longitudinally elongated upwardly opening trough therein; a flexible reed overlying said trough, means securing said reed to said trough element in the region of one end of each, the opposite end region of each being a free end region; said trough element and said reed being so constructed and arranged that said reed free end region is spaced above said trough free end region; a generally tubular mouth piece peripherally enclosing said reed and said trough element in the free end region of each; and a resilient annular pitch adjuster received on said trough element and reed in resilient circumferential engagement therewith and being manually movable therealong to increase and decrease the pitch of the simulated call producible by blowing on said mouth piece.

3,406,480
TOY VEHICLE
Edward J. Joffe, Summit, N.J., assignor to Park Plastics Co., Inc., Linden, N.J., a corporation of New Jersey
Filed Apr. 5, 1966, Ser. No. 540,238
4 Claims. (Cl. 46—201)



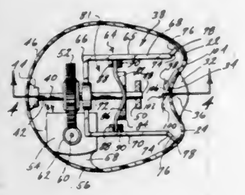
A toy vehicle has two steered wheels, each of which is pivoted on a vertical steering axis through a shaft having a portion thereof formed as a pinion. A rack bar has rack teeth at each end in engagement with the pinions of both shafts, the rack bar being movable transversely of the vehicle in a guided path. The vehicle has a cab pivoted thereon so as to swing on an axis longitudinal of the vehicle and when it swings on this axis, it moves the rack bar to steer the vehicle through actuation of the pinions.

3,406,481
MOVING TOY DIRECTION-VARIABLE BY A MODULATING RAY
Ichiro Tachi, Tokyo, Japan, assignor to Asakusa Toy Co. Ltd., Tokyo, Japan, a corporation of Japan
Filed Jan. 20, 1966, Ser. No. 521,834
Claims priority, application Japan, Nov. 2, 1965, 40/66,879
5 Claims. (Cl. 46—244)



A moving toy, directionally variable to automatically seek and advance toward the instantaneous position of a directed beam of modulating rays, the latter readily distinguished from the ambient, which comprises a body, and a support frame rotatably mounted in the body about a vertical axis. A pair of photoconductive cells are laterally spaced on and secured to the tower and are adapted to operate as light receivers, and circuit means are connected between the pair of photo-conductive cells and the first and second motor means for automatically turning on and off the first and second motor means for causing the toy to turn and advance towards the directed beam of modulating rays.

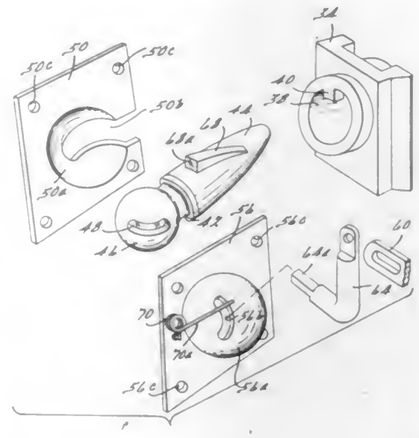
3,406,482
FACIAL ANIMATING MEANS FOR A FIGURE TOY
John W. Ryan, Bel Air, and Robert Lynn Cowell, Manhattan Beach, Calif., assignors to Mattel, Inc., Hawthorne, Calif., a corporation of California
Filed Dec. 6, 1966, Ser. No. 599,570
4 Claims. (Cl. 46—247)



Reciprocal arms are connected to the flexible cheeks of a doll to flex them in simulation of a nursing action. The arms are carried by the bight portion of a U-shaped member slidably mounted on a rotatable shaft which carries a cam operatively associated with said arms for reciprocating them when the shaft is rotated by an electric motor.

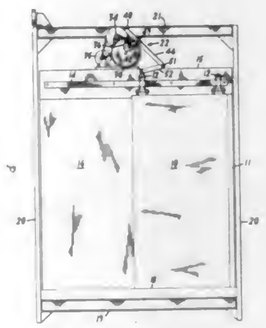
3,406,483
COMBINATION HINGE-LATCH DEVICE
Herbert C. Mitchell, St. Clair Shores, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Mar. 16, 1967, Ser. No. 623,608
8 Claims. (Cl. 49—192)

A combination hinge-latch device securing a dual action door-tailgate to the vehicle body members framing a vehicle body opening. One end of an elongated latch member is pivotally secured to the door by means of bearing members that allow rotation of the latch member about its longitudinal axis. The other end of the latch member is held in a keeper aperture on the body members by a bayonet coupling means formed on the latch member



and keeper. The bayonet coupling means are yieldably biased into a latched position but may be urged manually into an unlatched position. Cam means automatically urges the coupling into an unlatched position during insertion of the latch member into the keeper aperture.

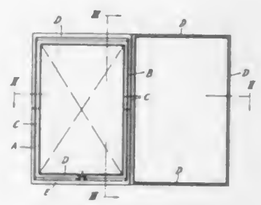
3,406,484
DOOR OPERATOR MECHANISM
Richard Edwin Atkey and Lawrence Flower Jaseph, Memphis, Tenn., assignors to Dover Corporation, Memphis, Tenn., a corporation of Delaware
Filed Dec. 22, 1966, Ser. No. 609,705
13 Claims. (Cl. 49—363)



1. In a powered operator for doors and the like adapted to selectively move a door between a plurality of different positions relative to a frame, the combination comprising an elongated rigid operator arm pivotally mounted about a first fixed reference point on the frame and having an end spaced apart from said first fixed reference point and coupled to the door for controlling the position of the door as a function of the angular displacement of said operator arm about said first fixed reference point, a slider element

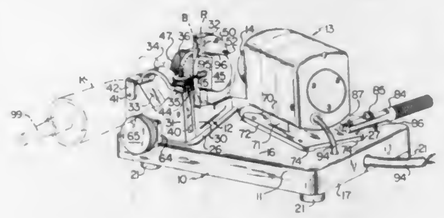
slidably mounted on said operator arm for sliding engagement therewith intermediate said first fixed reference point and said operator arm end, and a driving element adapted to be rotatably driven about a second fixed reference point spaced a predetermined distance from said first fixed reference point, said driving element being pivotally coupled to said slider element for controlling the angular displacement of said operator arm.

3,406,485
FRAMES AND FRAMEWORK MEMBERS FOR WINDOWS, PARTITIONS AND THE LIKE
William Ovens, Glasgow, Scotland, assignor to Bull's Metal & Marine Limited, Glasgow, Scotland, a corporation of Great Britain
Filed Nov. 7, 1966, Ser. No. 592,415
Claims priority, application Great Britain, Nov. 11, 1965, 47,894/65
2 Claims. (Cl. 49—504)



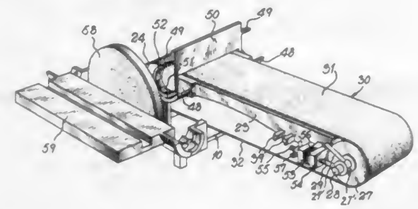
A frame for a window, ventilator, partition, doorway or the like, made up of a plurality of frame members secured to one another to form a frame, each of the frame members being formed from structural bars having a rigid core member of continuous, uniform cross section throughout its length, the bars being clad or sheathed with cladding which encloses the core and comprises two channel shaped sections mounted on either side of the core, and in which the cladding is externally shaped to provide an abutment or abutments for engaging glazing, sealing, supporting, or other parts of the frame.

3,406,486
SHARPENING DEVICE FOR ROTARY KNIVES
Louis A. Bettcher, Amherst, Ohio, assignor to Bettcher Industries, Inc., Vermilion, Ohio, a corporation of Ohio
Filed Dec. 13, 1965, Ser. No. 513,379
3 Claims. (Cl. 51—5)



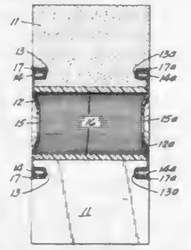
A sharpener for an annular blade of a rotary knife, including a knife holder and a grinding wheel on a common base, the grinding wheel and knife holder being relatively movable to sharpen the annular blade while the blade is rotated. The knife holder includes a dressing tool selectively movable to a wheel dressing position.

3,406,487
BELT SANDERS
Abraham Pollak, Fort Pierce, Fla. (% American Machine and Tool Company Inc., Royersford, Pa. 19468); Henry Martin Pollak and Robert Samuel Pollak, co-executors of said Abraham Pollak, deceased
Filed Mar. 12, 1965, Ser. No. 439,211
20 Claims. (Cl. 51—147)



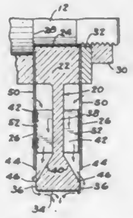
A belt sander apparatus having a base for receiving a platen carrying a pair of tension-adjustable belt carrying pulleys. The platen is indexed to either a vertical or horizontal orientation.

3,406,488
ABRASIVE FLAP WHEEL
Kenley J. Rykken, Richfield, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Sept. 23, 1965, Ser. No. 489,575
10 Claims. (Cl. 51—337)



The useful life of coated abrasive flap wheels is improved by the presence of elastomeric material at and between the flaps where they are gripped by the radially outer portion of the mounting side flanges. The elastomeric material should be located radially outward of any other flap-contacting means which unifies the radially inner ends of the flaps.

3,406,489
ABRADING WHEEL STRUCTURE
William H. Harris, Jr., Detroit, Mich., assignor to Dexco Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 22, 1966, Ser. No. 603,825
18 Claims. (Cl. 51—356)



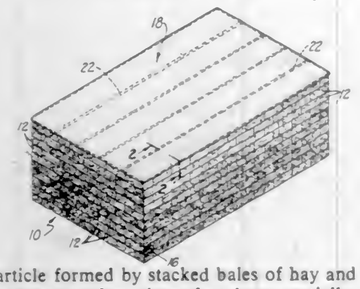
1. Abrading wheel structure which comprises:
a wheel having a central portion adapted to be mounted on a shaft and having a peripheral abrasive surface,

said wheel having a rim portion adjacent said surface which extends in a generally radial direction,

means defining a passageway having an axially disposed outlet adjacent the inner radial edge of said rim portion and having an inlet radially inward of said outlet,

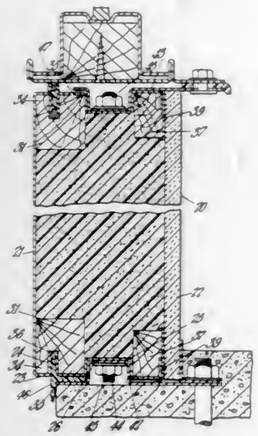
and vane means effective to promote radially outward movement of air in said passageway responsive to rotation of said wheel.

3,406,490
ARTICLE WITH SEALED COVER AND METHOD OF FORMING SAME
David L. Mudd, 2445 Sierra Drive, Upland, Calif. 91786
Filed Nov. 7, 1966, Ser. No. 592,585
10 Claims. (Cl. 52—3)



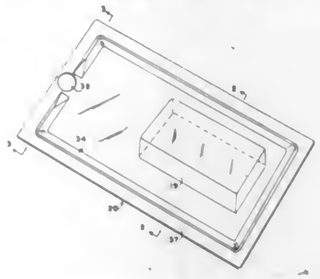
An article formed by stacked bales of hay and the like has the upper surface thereof at least partially covered by a nonadhering flexible membrane. A preferably foamed plastic, ultimately stiffening, is sprayed over the membrane and substantially totally around the membrane extremities onto the stacked bales, adhering to the bales and sealing the membrane extremities. The foamed plastic preferably extends down over sides of the bales at the article periphery.

3,406,491
PANELLING ARRANGEMENTS
Brian Harding, West Bromwich, England, assignor to Metal Sections Limited, Oldbury, Birmingham, England
Filed June 20, 1966, Ser. No. 558,819
Claims priority, application Great Britain, June 25, 1965, 26,971/65; Sept. 30, 1965, 41,504/65; Dec. 1, 1965, 50,931/65
13 Claims. (Cl. 52—238)



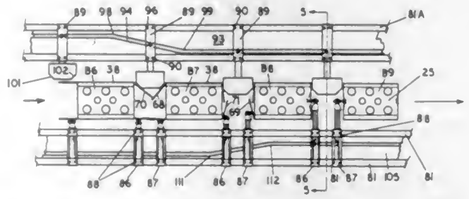
A panel for building construction comprises two spaced parallel extended sheet members defining the inner and outer surfaces of the panel. A rigid metal edge frame defines the entire peripheral edge of the panel and is interposed between the sheet members. There is a filling of foamed thermal insulation material bonded to the sheet members and to the edge frame. The metal edge frame is connected to at least one of the sheet members by means of a plurality of timber members interposed therebetween to separate the sheet member from thermal contact with the edge frame.

3,406,492
METHODS USING ONE EQUIPMENT FOR BUBBLE-PACKAGING DIFFERENTLY-SIZED ARTICLES
Walter Ludwig, East Orange, N.J., assignor to Pentapco, Inc., Elizabeth, N.J., a corporation of New Jersey
Filed Mar. 1, 1966, Ser. No. 530,837
2 Claims. (Cl. 53—30)



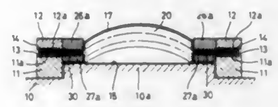
Method for bubble-packaging articles of different sizes, by use without change therein, of a single heat-sealing equipment. The bubbles for a plurality of different items are of identical size and shape, though their wells are formed of different sizes. Each bubble is formed with a flat, narrow perimetrical zone which is to be heat sealed onto a card of bubble area, after the wells are laden. The inward boundary of said marginal zone is the same on all bubbles, and each bubble is formed with locating structure which starts at said inward boundary and away from said zone; such structure being a channel whose depth is in the same direction as the depth of the wells. The said channel is formed with straight aligned interruptions in opposite portions thereof to define a line whereby the package can be folded.

3,406,493
MACHINE FOR CLOSING THE END PANELS OF A CLOSED END TUBULAR TYPE ARTICLE CARRIER
Michael Katogir, Atlanta, Ga., assignor to The Mead Corporation, a corporation of Ohio
Filed Feb. 16, 1966, Ser. No. 527,867
5 Claims. (Cl. 53—285)



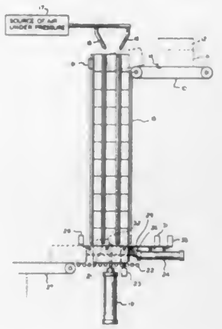
For closing end panels which are foldably joined to the end edges of the side wall of a tubular type article carrier, the carrier is moved along a predetermined path and transversely reciprocable plungers are movably mounted on each side of the path of movement of the carrier. Suitable guides are arranged to engage and impart transverse movement to the plungers whereby the end panels are sequentially folded transversely to closed positions and thereafter secured closed.

3,406,494
GUIDING ARRANGEMENT FOR MATERIAL TO BE WRAPPED BETWEEN MOVING FOILS
Hans Beck, Urbanstrasse 27, Nurtingen, Wurttemberg, Germany
Filed May 12, 1966, Ser. No. 549,677
Claims priority, application Germany, May 15, 1965, B 81,945
7 Claims. (Cl. 53—372)



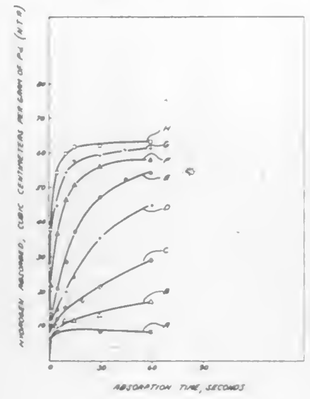
1. An arrangement for wrapping goods in foils, which includes: a bed, a connecting station supported by said bed for joining foils around goods, guiding means supported by said bed for guiding webs of foil together with the goods to be wrapped therebetween to said connecting station, said guiding means including a restriction ahead of said connecting station and defining a passage for the goods to be wrapped of a width less than the normal extension of said goods in the direction transverse to the direction of the movement of said goods toward said connecting station whereby said goods is forced to bulge upwardly, means arranged at said connecting station for maintaining said goods in bulged condition while passing said connecting station, and means arranged at said connecting station for producing a connection of the foils which confine said goods therebetween, said connection being effected along at least one line in the longitudinal direction of said guiding means.

3,406,495
CARTON CLOSER AND SEALER
Robert L. Beninger and Herbert H. Weber, Sheboygan, Wis., assignors to H. G. Weber and Company, Inc., a corporation of Wisconsin
Filed Jan. 24, 1966, Ser. No. 522,636
7 Claims. (Cl. 53—374)



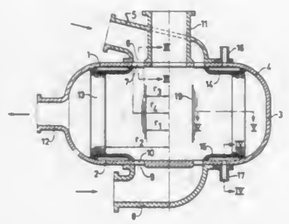
Carton sealer and closer in which cartons having adhesive applied to their flaps are successively supplied to a compression column and the flaps are closed by air or mechanical closures, as supplied to the column, and are lowered by a hydraulic cylinder and piston. The weight of the cartons in the column as passed in a downward direction serves to bond the adhesive so the cartons are ejected from the bottom of the column in a fully sealed condition.

3,406,496
SEPARATION OF HYDROGEN FROM OTHER GASES
Walter Betteridge, Beckenham, and James Hope, Ickenham, England, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 6, 1966, Ser. No. 577,328
Claims priority, application Great Britain, Sept. 6, 1965, 37,950/65; Nov. 26, 1965, 50,388/65
11 Claims. (Cl. 55—58)



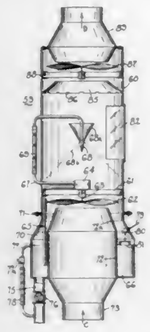
Hydrogen is separated from gaseous mixture by process comprising selective absorption of hydrogen into particulate palladium at elevated temperature and pressure, removing gases other than hydrogen from around the palladium, thereafter decreasing the pressure around the palladium to desorb hydrogen from the palladium and collecting the desorbed hydrogen.

3,406,497
STEAM GENERATOR AND SEPARATOR
Olof Harald Vilhelm Lange, Malmo, Sweden, assignor to Aktiebolaget Atomenergi, Stockholm, Sweden
Filed Mar. 20, 1967, Ser. No. 624,590
Claims priority, application Sweden, Mar. 31, 1966, 4,342/66
3 Claims. (Cl. 55—204)



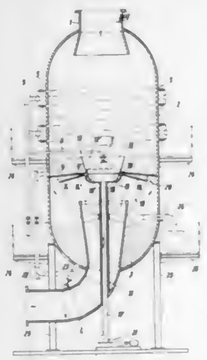
A steam generator and separator which receives hot pressurized water from a heating apparatus, such as a nuclear reactor, generates steam from and centrifugally separates said steam from said hot pressurized water, and returns the water to the heating apparatus without the use of a pump.

3,406,498
AIR TREATING APPARATUS
Walter L. Wisting, Madison, Conn., assignor to Cen-Trific-Air Products, Inc., New Haven, Conn.
Continuation-in-part of application Ser. No. 381,178, July 8, 1964. This application May 17, 1965, Ser. No. 461,587
11 Claims. (Cl. 55—227)



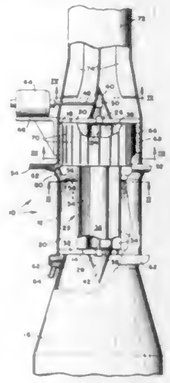
Gas treating apparatus including a casing having inlet and outlet openings. A scrubber fan is rotatably mounted adjacent the inlet opening and driven by gas flow into the casing. Liquid is sprayed onto the blades of the scrubber fan while its speed of rotation is controlled to establish a moving screen of liquid between the blades thereof. The eliminator fan is rotatably mounted adjacent the outlet opening and is freely driven by gas flow impinging thereon and centrifugally throws liquid particles to the walls of the casing.

3,406,499
APPARATUS FOR THE WET TREATMENT OF DUST-LADEN GASES
Jean Wiemer, Oberhochstadt, Taunus, Germany, assignor to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany
Filed Aug. 15, 1966, Ser. No. 572,508
Claims priority, application Germany, Aug. 14, 1965, M 66,325
3 Claims. (Cl. 55—230)



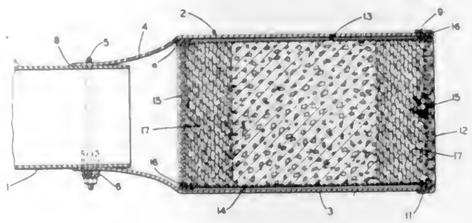
Apparatus for wet treatment of dust-laden gases including a vessel having therein nozzles for spraying a liquid into said gases and a flow regulating adjustable annular venturi-like slot through which gases are directed substantially at right angles to the axis of the vessel after the wet treatment.

3,406,500
SOOT ELIMINATOR
Le Roy F. Deming, 1512 17th St. N., Arlington, Va. 22209
Filed Sept. 22, 1965, Ser. No. 489,438
4 Claims. (Cl. 55—241)



A soot eliminator which is adapted to remove soot particles which are heavier than the gases which entrain such particles. The eliminator utilizes an impeller which rotates in a smoke column within a hollow cylindrical collector. The impeller throws, by centrifugal force, the soot particles against the inner wall of the collector where a wall of water is provided to entrain the particles and carry them to a disposal area.

3,406,501
AUTOMOBILE ENGINE EXHAUST FILTER
David R. Watkins, 3210 E. Diamond St., Middlebranch, Ohio 44652
Filed July 6, 1967, Ser. No. 651,621
5 Claims. (Cl. 55—316)



An automobile engine exhaust filter having a cylindrical shell with means for attaching one end thereof to a tailpipe, and a perforate cap detachably connected to the other end. A replaceable cartridge is located within the shell having foraminous end members at each end and containing alternate layers of fibrous filtering material and a filtering material consisting largely of activated charcoal.

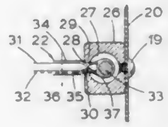
3,406,502
BAGHOUSE APPARATUS
Einar Wlik, Los Angeles, Calif., assignor to Menardi & Company, Torrance, Calif., a corporation of California
Filed May 2, 1967, Ser. No. 635,555
4 Claims. (Cl. 55—341)

A baghouse for cleaning dust-laden gases in which vertically elongated tubular filter bags are each formed by a number of releasably connected vertically aligned sections which are individually replaceable when damaged from within the bag or filter chamber. The bag section



connecting means also serve to oppose the collapse of the bags when the gas flow through the bags is reversed for cleaning purposes.

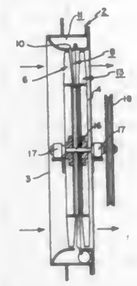
3,406,503
AUTOMATIC FABRIC AIR FILTER
Frederick Floyd, Strood, Kent, England, assignor to Ozonair Engineering Company Ltd., Kent, England, a corporation of England
Filed July 23, 1965, Ser. No. 474,418
1 Claim. (Cl. 55—354)



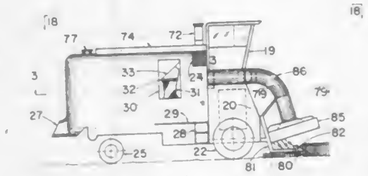
A filter web consisting of compressible material reinforced with cotton netting is moved across the path of air or fluid to be cleansed in a zigzag fashion, guided by a series of rollers. The edges of the web are provided with a bead or piping held in position by tapes. Channels are provided along the sides of the path of the web having a recess in which the bead may slide, with inturned lips to contact the web inside of the bead and form an air or fluid-tight enclosure. This effectively seals the web and prevents bypassage of the material around the edges of the web.

3,406,504
COMBINED GAS MOVING AND GAS CLEANING APPARATUS
Stig G. Sylvan, Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Dec. 13, 1966, Ser. No. 601,491
8 Claims. (Cl. 55—408)

A gas moving and gas cleaning apparatus which includes a flow-through housing having disposed therein spaced alignment an axial flow fan means and a particulate separating louver means with the blades of the fan means and louver means being inclined in the same direction to provide both gas movement and gas cleaning with maximum particulate separation and minimum flow energy loss.



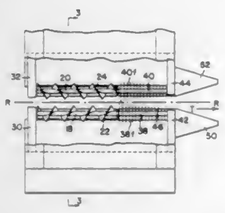
3,406,505
HARVESTING AND THRESHING COMBINE
Carl M. Hanson, 6422 S. Montgomery St., Tacoma, Wash. 98405
Continuation-in-part of application Ser. No. 440,432, Mar. 17, 1965. This application Aug. 16, 1967, Ser. No. 661,017
18 Claims. (Cl. 56—21)



The structure of this harvesting and threshing combine includes a mobile vehicle having a grain cutter at its forward end and cut grain delivery ducts leading from over the cutting station where there are two suction fans that deliver the cut grain to a threshing machine having a generally cylindrical housing. This housing has a discharge for straw at its rear end. The cylindrical housing in the illustration is about four feet in diameter. It has connected therewith a grain cleaner and surrounding the cylindrical housing and grain cleaner is an outside tank for temporary storage of grain provided with the necessary conveyors. The threshing is carried out in the cylindrical housing that is disposed horizontally and has a forward and rear end. Within the housing is an impeller extending from the front to the rear and it is equipped with longitudinal paddles spaced radially from the impeller shaft. Mounted on the radial arms which hold the forward ends of the paddles are flailing bars that contact the incoming cut grain to be threshed. Between the impeller and the inside of the cylindrical housing is a radially extending spiral plate about six inches in radial width attached to the inside of the housing and extending from the front end to the rear end. Its first spiral is about twenty-four inches and the others are about sixteen inches. Viewing the housing by looking into the front end there are attached to the housing in the lower right quadrant and between the spirals, a plurality of spaced apart zigzagging sheet metal plates called grain stoppers that are spaced about one inch from each other and which increase in radial height clockwise to about three inches at the bottom of the cylinder. Extending radially and partly into the housing at the bottom and adjacent the bottom ends of the grain stoppers is a screw conveyor which discharges at the forward end to a debearder and grain

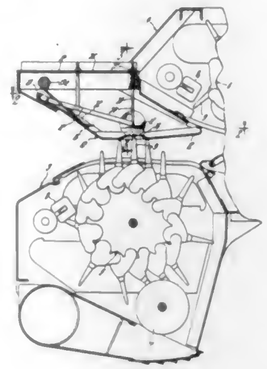
cleaner. There is a longitudinally extending flat booster plate about one and one-half feet wide that extends from adjacent the screw conveyor opposite from the grain stoppers to where it meets the inside wall of the housing. Separate booster plates may be used between the spirals or the spirals may be cut to accommodate a single booster plate. Straw carry over spaced apart fingers extend over a quarter of the upper half of the conveyor and they are attached to and supported from the inside wall of the cylinder between the grain stoppers. Over the rear end elongated portion of the conveyor there is an arcuate plate that extends opposite the carry over fingers and serves as a skimmer plate to catch the grain kernels and direct them into the screw conveyor. Straw separator fingers extend inward from the inside of the cylindrical housing and in the direction of operative rotation of the impeller along a longitudinal portion of the cylinder in spaced relation above the ends of the grain catcher plates. A debearder is attached to the cylindrical housing at the discharge end of the screw conveyor and consists of a stationary annular plate with spaced apart raised knobs and a cooperating closely spaced rotary like plate mounted on a forward extension of the screw conveyor shaft. The grain cleaner is at the discharge end of the conveyor and below the debearder. It has a suction hood extending thereover and leading to the cylindrical housing to pick up pieces of straw and chaff. A weed seed pick up station is located below the cleaner oscillating screen and a conveyor picks up the weed seed and carries it to a weed seed bag filling station at the upper forward right side of the thresher. A kernel collector bin is located below the discharge end of the grain cleaner and conveyors transport the grain to the top of the storage bins where it is discharged uniformly into the bin sections. A conversion adapter is provided to convert the thresher into a corn or fodder chopper. Suitable fodder chopper knives are installed on the rotary impeller, at its forward end portion and a feed supplies the cylindrical housing at its forward end, where normally cut grain enters, with corn and fodder to be chopped. A plate is removed from the side of the housing where the weed seed sacker is located and a blower housing is installed to receive and convey the chopped fodder from the cylindrical housing.

3,406,506
TOBACCO HARVESTER WITH MECHANISM FOR ORIENTING LEAVES BEFORE DEFOLIATION
George Harvey Shriver, Moline, and Clarence Lee Shaeffer, East Moline, Ill., assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed July 25, 1966, Ser. No. 567,663
9 Claims. (Cl. 56—27.5)



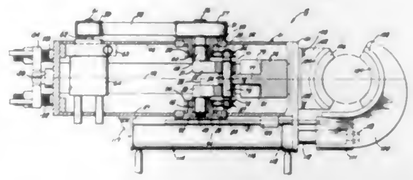
1. A tobacco harvester having priming means for removing selected tobacco leaves from a row of tobacco plants, leaf orienting means adjacent the priming means to engage said selected tobacco leaves on the plants prior to their removal and to orient them with respect to each other, and means for conveying said removed tobacco leaves away from said priming means to a receiving station.

3,406,507
COTTON PICKER COMPRESSOR ASSEMBLY
Mack A. West, P.O. Box 101, Paragould, Ark. 72450
Filed July 14, 1966, Ser. No. 565,167
6 Claims. (Cl. 56—44)



1. In a cotton picker machine having vertical rotary drums carrying horizontal sets of picker spindles, and a spring biased compressor sheet for guiding plants into engagement with the spindles: presser means associated with the sheet and operative independently thereof to pass horizontally between adjacent sets of the spindles and force the plant foliage into engagement with the spindles; said sheet having apertures for passage therethrough of said presser means.

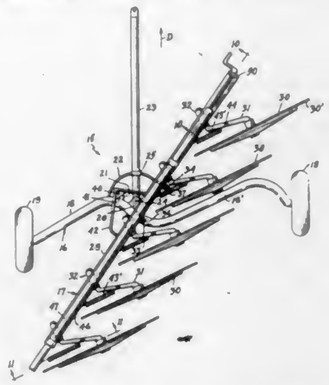
3,406,508
LIMB SHAKER FOR ATTACHMENT TO A TREE
Robert B. Fridley, Davis, Calif., assignor to the Regents of the University of California, Berkeley, Calif.
Filed Aug. 6, 1965, Ser. No. 477,819
7 Claims. (Cl. 56—328)



A limb shaker for attachment to a tree is mounted on a mobile boom and includes a frame housing carrying a motor driving a crank shaft journalled in the frame for rotation about a first axis. A crank pin to which a weight is fastened is journalled in the crank shaft for relative rotation about a second, parallel axis. A sprocket on the crank pin is connected by a chain to a sprocket of twice the diameter on the crank shaft so that the weight moves in a straight line and shakes a tree clamp mounted on the frame in the same straight line.

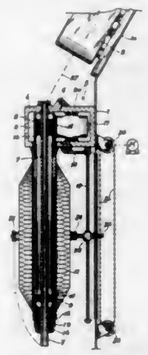
3,406,509
ROTARY SIDE DELIVERY RAKES
George C. Wood, % Darf Corporation, Edenton, N.C. 27932
Filed June 7, 1965, Ser. No. 461,861
16 Claims. (Cl. 56—377)

In a rotary side delivery rake, the combination of a wheeled chassis member disposed generally transversely to the direction of rake travel, a draft bar connected to an intermediate portion of said chassis member and extending forwardly therefrom, an elongated rake frame extending obliquely to said direction of travel and crossing the intermediate portion of said chassis member to project both forwardly and rearwardly therefrom, removable means securing said rake frame to said chassis member, a plurality of rotatable raking wheels, and means mounting said raking wheels on said rake frame for raising and lowering movement of the wheels in mutually parallel



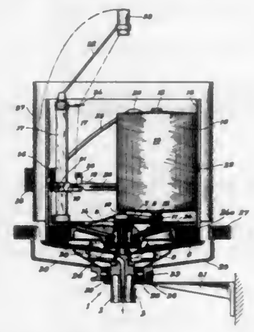
planes oblique to said direction of travel, said removable securing means including adjustable pivot means to permit swinging said rake frame about an axis parallel to itself relative to the chassis member and correspondingly tilting said planes of raising and lowering movement of said raking wheels, and means for adjustably rocking said rake frame about said parallel axis.

3,406,510
METHOD AND APPARATUS FOR USE IN CONNECTION WITH PRESPINNING, SPINNING AND TWISTING
Johann Jacob Keyser, Grabenallee 16, Aarau, Switzerland
Filed Apr. 1, 1966, Ser. No. 539,570
Claims priority, application Germany, Apr. 7, 1965, K 55,746
10 Claims. (Cl. 57—58.49)



A thread guiding arrangement for use in connection with prespinning, spinning and twisting operations in which a thread processed by drafting means is fed directly from said drafting means in a first direction axially through the rotating thread receiving bobbin and then is passed in a second direction opposite to said first direction and outside of the bobbin to and through rotary thread guiding means such as a spinning ring and from there is directly wound onto the bobbin, the thread receiving and supporting means extending into the spindle rail carrying driving means and being adapted selectively to be moved into and out of engagement with said driving means.

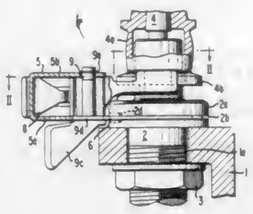
3,406,511
TWO-FOR-ONE TWISTING SPINDLE WITH INTERIOR WINDING-UP OF THE THREAD
Klaus Nimtz, Krefeld, Gustav Franzen, Neersen, near Krefeld, and Ulrich Lossa, Krefeld, Germany, assignors to Palltex Project-Company GmbH, Krefeld, Germany
Filed July 27, 1967, Ser. No. 656,404
4 Claims. (Cl. 57—58.65)



The present invention relates to a two-for-one twisting spindle with interior winding-up of the thread, in which the spindle rotor has journalled thereon a winding-up bobbin carrier which by magnetic means is secured against rotating together with said spindle rotor, and in which said winding-up bobbin carrier is adapted to support a winding-up bobbin on a displaceable bobbin mandrel and is also adapted to support a slide rail having slidably mounted thereon traversing thread guiding means, said thread guiding means and said bobbin being surrounded by a cylinder rotatable independently of said spindle rotor.

The invention is characterized primarily in that the inner mantle surface of said cylinder has a curved guiding groove extending at the same time around the inner periphery of said cylinder and in the direction of the longitudinal extension of said cylinder over the height of the bobbin to be supported by the bobbin carrier which groove is engaged by and guides the said traversing thread guiding means.

3,406,512
SPINDLE FOR SPINNING OR TWISTING MACHINES
Hans Stahlecker, Sussen, Wurttemberg, Germany, assignor to Spindelfabrik Sussen, Schurr, Stahlecker & Grill G.m.b.H., Sussen, Wurttemberg, Germany
Filed Mar. 14, 1967, Ser. No. 623,006
Claims priority, application Germany, Dec. 27, 1966, S 107,617
18 Claims. (Cl. 57—88)



A spindle with spindle brake which acts upon the wharve on the center shaft and may be removably se-

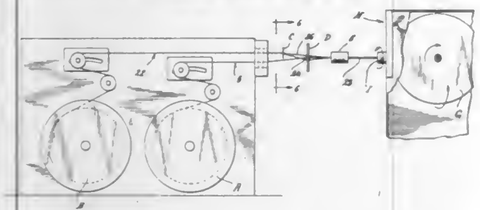
cured to the spindle by a supporting member which includes a bifurcated plate which is inserted from one side into an annular groove or a pair of opposite transverse grooves in the outer surface of the bearing housing surrounding the center shaft.

3,406,513
DEAD END
Tom E. Butz, Chagrin Falls, and Seymour N. Schlein, University Heights, Ohio, assignors to The Fanner Manufacturing Company, a division of Textron Inc., Cleveland, Ohio, a corporation of Rhode Island
Continuation-in-part of application Ser. No. 511,604, Dec. 6, 1965. This application Dec. 21, 1966, Ser. No. 603,605
18 Claims. (Cl. 57—145)



An anchoring means for anchoring a fiber glass line having a plurality of lengths of resilient metal in side-by-side relationship with a straight portion in the middle and the ends twisted in a configuration having a lay length of between 50–85%.

3,406,514
COMMUNICATION CABLE QUAD AND METHOD OF MAKING SAME
George Andrew Hanlon, Branford, and Albert James Garde, Milford, Conn., assignors to The Whitney Blake Company, New Haven, Conn.
Original application Jan. 27, 1966, Ser. No. 523,320, now Patent No. 3,364,305, dated Jan. 16, 1968. Divided and this application July 18, 1967, Ser. No. 654,156
7 Claims. (Cl. 57—156)

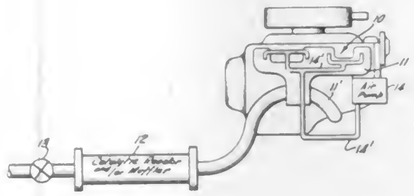


Disclosed herein is a quad cable construction made from two joined wire pairs by slitting the web joining one wire pair and then nesting the separate wires thus formed in juxtaposition to one another along and across the web of the other joined wire pair. The quad cable construction is held intact by twisting thereof to entwine the one joined wire pair with the two separate wires.

Quad cable thus formed exhibits minimal resistance unbalance since the lengths of the pair wires cannot vary and drawdown is minimized due to the joined condition of the pair wires during processing.

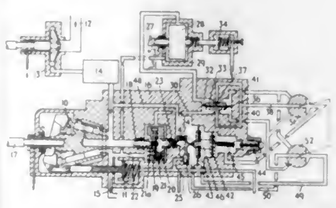
3,406,515
INTERNAL COMBUSTION ENGINE SYSTEM FOR EXHAUST EMISSIONS CONTROL
Milton D. Behrens, Hopewell Junction, N.Y., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 119,571, June 26, 1961. This application Jan. 2, 1964, Ser. No. 335,122
20 Claims. (Cl. 60—30)

1. In an internal combustion engine having a cylinder, means for reducing the amount of residual combustibles in the products of combustion from said cylinder comprising an exhaust system leading from an exhaust port of said cylinder, means for providing air in at least stoichiometric ratio at said exhaust port for combustion of said residual combustibles among the exhaust products in said exhaust system, and means for controlling the back pressure in said exhaust system comprising valve means positioned therein downstream from said exhaust port having provisions restricting mass flow of said exhaust products at the lower speeds above idle thereby maintaining from shortly after initiation of combustion in said internal combustion engine a substantially constant back pressure higher than the normal back pressure of said exhaust system without said valve means and opening at the higher speeds and mass flow rates when said normal back pressure without said valve means is above the imposed back pressure.



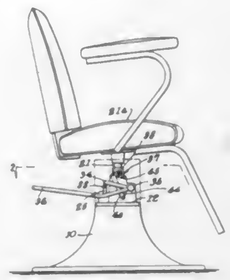
20. In an internal combustion engine, an exhaust pipe; throttling means provided in said pipe; a suction conduit; and an operative connection between said conduit and said throttling means for regulating the throttling action in dependency on the extent of suction in said conduit during idling and during relatively low load operation of the engine so that such throttling action is a function of said suction, said operative connection comprising resilient means for transmitting motion to said throttling means.

3,406,516
SPEED CONTROL DEVICES FOR GAS TURBINE ENGINES
Thomas Charles Yates, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed Mar. 20, 1967, Ser. No. 624,438
Claims priority, application Great Britain, Mar. 24, 1966, 13,117/66
5 Claims. (Cl. 60—39.28)



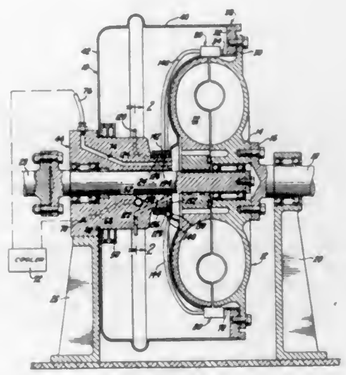
A fuel control device for a gas turbine engine having two independently rotatable shafts, a speed responsive device driven by each shaft and arranged to provide fluid pressure signals to valve means which applies the higher of the two signals to a valve closure member which controls the output of a pump through a servo device.

3,406,517
CHAIR-ADJUSTING MEANS
Raoul H. de Gaston, Lynwood, Calif., assignor to Henri L. Valette, Inglewood, Calif.
Filed Jan. 25, 1967, Ser. No. 611,646
6 Claims. (Cl. 60—52)



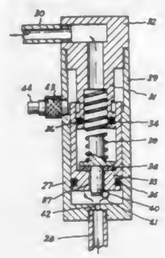
Chair-adjusting means having an hydraulic pump that is foot-operable, the fluid reservoir thereof being sealed off at all times, even during shipment of the chair, except at the bottom of the pump stroke when said reservoir is vented, the chair being provided with a position-retaining brake that is settable by foot operation when the pump is at the top of its stroke and is released on the down or power stroke of the pump plunger so that hydraulic fluid will be effective to raise the chair during said power stroke. A single foot-engageable pedal means, when depressed, causes simultaneous release of the brake and hydraulically raising the chair, and pedal means, when raised by the foot, effecting setting of the brake.

3,406,518
FLUID DRIVE CENTRIFUGAL VALVE CONTROL MEANS
Richard M. Nelden, Southfield, Mich., assignor to American Standard Inc., a corporation of Delaware
Filed Oct. 19, 1966, Ser. No. 587,722
9 Claims. (Cl. 60—54)



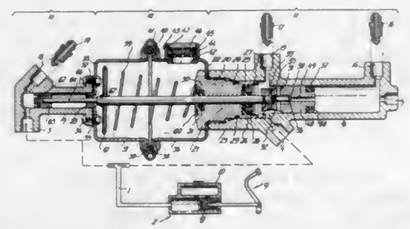
A fluid coupling of the type comprising impeller and runner elements defining a working circuit in which provision is made for varying the degree of filling of the working circuit to vary the torque-transmitting capability of the coupling and therewith the slip in the coupling, and in which during operation of the coupling there is flow of working liquid from the working circuit through restricted ports.

3,406,519
BOOSTER UNIT FOR VEHICLE HYDRAULIC BRAKE SYSTEMS
Norman Henry Hackett, 19 Imperial Ave., Bondi, near Sydney, New South Wales, Australia
Filed Mar. 16, 1966, Ser. No. 534,774
Claims priority, application Australia, Apr. 8, 1965, 57,420/65; Aug. 24, 1965, 63,194/65
25 Claims. (Cl. 60—54.5)



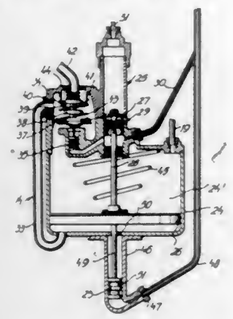
A pressure booster unit for vehicle hydraulic brake systems of the type having a master cylinder and brake applying means associated with each vehicle wheel to be braked, which booster includes a cylinder with a piston therein adapted for reciprocating movement therein in response to fluid pressure. The piston has differential pressure surfaces so that fluid introduced into the inlet side of the piston, the pressure surface of relatively larger variant, displaces the piston and simultaneously increases the pressure of the fluid on the discharge side of the piston, which discharge side of the piston has a surface area smaller than that of the inlet side of the piston, so as to multiply or amplify the pressure of the fluid on the outlet side. Means, which are inoperative when the device is in use, and in part comprise a valved piston, are provided for permitting fluid to by-pass the piston, without pressure intensification therein, so as to permit bleeding of the pressure piston unit to purge condensible fluids therefrom when servicing the vehicle hydraulic brake system within which the booster unit is utilized.

3,406,520
HYDRAULIC FORCE BOOSTERS FOR BRAKING EQUIPMENT AND THE LIKE
Juan Casellas, Mendoza, Argentina, assignor to Clemente F. Martin, Mendoza, Argentina
Filed Dec. 23, 1966, Ser. No. 604,261
3 Claims. (Cl. 60—54.5)



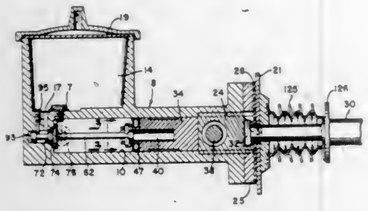
A hydraulic force booster connectable into a hydraulic circuit, and having two pistons of different diameters, one of which has associated valve means controlled by the other piston, for increasing the force exerted on the fluid of the hydraulic circuit once the pressure thereof overpasses a predetermined value.

3,406,521
HYDRAULIC BOOSTERS
Juan Casellas, Mendoza, Argentina, assignor to Clemente F. Martin, Mendoza, Argentina
Filed Dec. 30, 1966, Ser. No. 606,322
4 Claims. (Cl. 60—54.5)



A booster connectable into a hydraulic circuit, for example the braking system of a vehicle, and comprising a pressure actuated servomechanism and a piston connected to act thereupon and cooperate therewith so as to draw part of the fluid from the fluid pressure generating source and thereby produce the actuation of, for example, the brakes of the vehicle with an increased displacement of the means generating the hydraulic pressure.

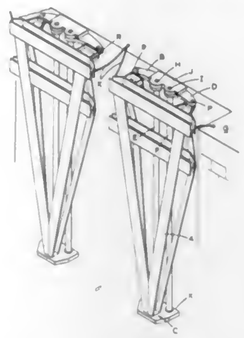
3,406,522
MASTER PISTON ACTUATOR
Clarence C. Fay, 17211 Edgewater Drive, Lakewood, Ohio 44107
Filed Feb. 6, 1967, Ser. No. 619,497
12 Claims. (Cl. 60—54.6)



This invention relates to a master piston actuator for use with a hydraulic subsystem to actuate one or more hydraulic fluid responsive devices, e.g., a master piston for actuating brake cylinders in an automotive vehicle. These actuators are characterized by a fluid pressurizing piston movable in a cylinder communicating with a fluid reservoir and a valve and a valve seat at one end of the cylinder, said valve having a stem extending toward and into the piston for relative movement with respect to the piston. Stop means are provided for limiting the axial travel of the valve-valve stem assembly. The actuator itself is free of internal springs.

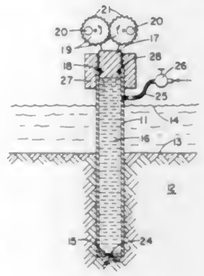
3,406,523
BUFFERS OR ENERGY ABSORBERS
John Fleetwood Baker and Philip Wilson Turner, Cambridge, England, assignors to Cambridge Fender & Engineering Company Limited, London, England, a British company
Filed July 11, 1966, Ser. No. 564,267
Claims priority, application Great Britain, Jan. 14, 1966, 1,953/66
8 Claims. (Cl. 61—48)

The buffer device includes a substantially vertically extending steel torque bar having one end thereof anchored to a base against rotation and an upwardly extending shock absorbing structure having its lower portion pivotally connected to the base. The upper end of the bar is free to rotate and the upper portion of the shock absorbing structure is movable in two directions. Means are



employed to connect the upper portion of the shock absorbing structure to the upper end of the bar for imparting a torsional force to the torque bar when the upper portion of the shock absorbing structure is moved in one direction by the contacting force of a moving object.

3,406,524
FLUID-SONIC PILE DRIVING
Kenneth A. Blenkarn and Arthur Lubinski, Tulsa, Okla., assignors to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed May 3, 1967, Ser. No. 635,918
10 Claims. (Cl. 61—53.5)

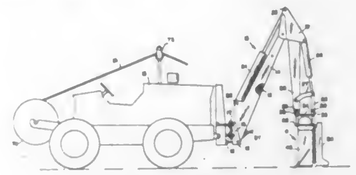


In the present invention a column of liquid (ordinarily water) is confined within the pile and extends substantially to its bottom. Sonic pressure is applied to this column, preferably setting up a standing quarter wave which applies alternating stress hydraulically at the bottom of the pile. This alternating pressure changes the transverse pile dimensions in the region of maximum interest, i.e., near the bottom of the pile. This markedly decreases skin friction and permits easier driving of the pile under any type of axial driving force.

3,406,525
MACHINE FOR LAYING CABLE
Frank R. Kinnan, Camas Valley, Oreg., assignor to Henkels and McCoy, Inc., Blue Bell, Pa., a corporation of Pennsylvania
Filed June 28, 1965, Ser. No. 467,491
4 Claims. (Cl. 61—72.6)

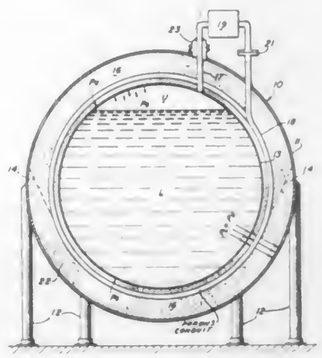
A cable plow for burying conduits of various types operatively carried by the linked arms of a backhoe-type machine and including a vibratory unit located above the

blade of the plow to induce vibration therein to advantageously lessen the ground resistance to advance of the plow therethrough. The cable plow includes means for



offsetting the vibratory unit to induce rocking motion in the blade. Cable means in addition to the linked arms of the vehicle are utilized to transmit a part of the vehicle's pulling power to the cable plow.

3,406,526
DOUBLE WALLED CRYOGENIC VESSEL
Dudley T. Lusk, Westmont, Ill., assignor to Chicago Bridge & Iron Company, Oak Brook, Ill., a corporation of Illinois
Filed Aug. 10, 1966, Ser. No. 571,565
7 Claims. (Cl. 62—50)

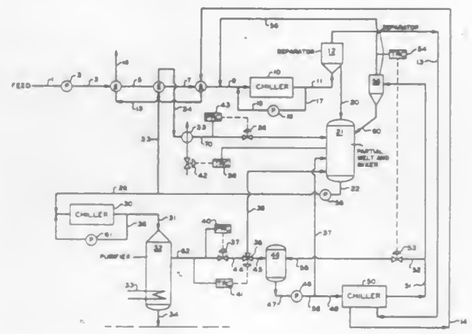


A double walled tank for the storage of cryogens where the pressure in the ullage space in the inner tank is counteracted by a pressure maintained in the space between the inner tank and the outer tank so that the inner tank can be designed to withstand the forces created by the weight of the stored liquid only without considering the force created by the ullage pressure and designing the outer tank to withstand the forces created by the weight of the inner tank and the pressure in the annulus.

3,406,527
SEPARATION BY CRYSTALLIZATION
Dwight L. McKay and Francis M. Brinkmeyer, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 11, 1966, Ser. No. 571,790
9 Claims. (Cl. 62—58)

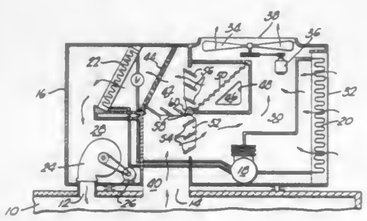
1. A process of separation and purification of at least one of the components of a fluid mixture comprising steps of:

(a) cooling said mixture in a first cooling zone sufficient to cause a portion thereof to crystallize and to thereby form a first crystal slurry;
(b) passing the said first crystal slurry to a first fluid solids separation zone and separating the crystals from the fluid phase therein;
(c) passing the said crystals to a heating zone and melting a portion of the said crystals therein to form a second crystal slurry;
(d) passing the said second crystal slurry to a second cooling zone and causing a further portion thereof to crystallize and to thereby form a third crystal slurry;
(e) passing the said third crystal slurry to a crystal purification zone wherein the crystalline portion of the said third crystal slurry is countercurrently contacted with melt resulting from heating thereof;



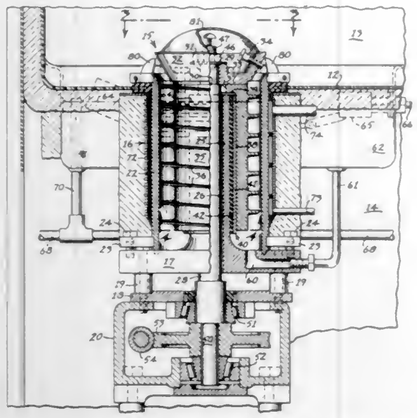
(f) withdrawing said melt as product of the process;
(g) withdrawing the fluid portion of said third crystal slurry from said crystal purification zone, and passing the said fluid portion to a third cooling means wherein the said fluid portion is cooled sufficient to cause a portion thereof to crystallize and to thereby form a fourth crystal slurry;
(h) passing the said fourth crystal slurry to a second fluid solids separation zone and separating the crystals from the fluid phase; and
(i) passing the said crystals to the said heating zone of step (c), and the fluid to the said feed mixture entering the first cooling zone.

3,406,528
AIR-CONDITIONING SYSTEM
John C. Dijt, Jackson, Mich., assignor to Acme Industries, Inc., Jackson, Mich., a corporation of Delaware
Filed Dec. 22, 1966, Ser. No. 603,891
5 Claims. (Cl. 62—89)



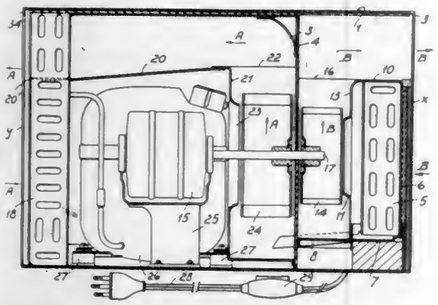
An air-conditioning system and apparatus particularly concerned with the method of controlling condenser pressure in a refrigerating air conditioning system capable of using ventilating air. The apparatus of the invention being capable of accurately mixing ventilating and cooled air, as well as providing conditioning solely with ventilating air or cooled air, depending upon the type of conditioning required and the outside air temperatures.

3,406,529
AUGER MOUNTING FOR ICEMAKING MACHINE
Jordan Stokes III, 1206 Sudekum Bldg., Nashville, Tenn. 37219
Filed Mar. 17, 1967, Ser. No. 624,085
4 Claims. (Cl. 62—188)



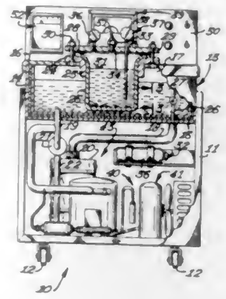
An icemaking apparatus having an upright freezing chamber including a concentric standpipe projecting upwardly from the bottom of the freezing chamber, a driven shaft extending concentrically through the standpipe with an auger suspended from the shaft and about the standpipe, with a water-lubricated bearing between the auger and the standpipe.

3,406,530
AIR CONDITIONER
Giordano Riello, Legnago, Verona, Italy
Filed Sept. 13, 1966, Ser. No. 579,128
Claims priority, application Italy, Sept. 16, 1965, 9,076
4 Claims. (Cl. 62—262)



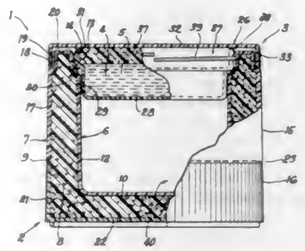
Appartaus for selectively heating or cooling air in a room. The apparatus includes an elongated casing which has opposed open ends of identical dimensions. The casing has in its interior a first chamber which communicates with one of these open ends and a second chamber which communicates with the other of these open ends. A condenser unit is located in the first chamber, while an evaporator unit is located in the second chamber, and a compressor which is in the case communicates with both of these units for circulating refrigerant therethrough. An impeller means is situated in the casing for inducing flow of air past the condenser unit and past the evaporator unit, and a motor is provided for driving the impeller means. The apparatus further includes an inner cover member for communicating with the interior of the room and an outer cover member for communicating with the outer atmosphere, and these cover members are removably carried by the casing for interchangeably covering the open ends thereof. Thus, in order to convert the apparatus from a heating unit to a cooling unit, and from a cooling unit to a heating unit, it is only necessary to reverse the casing relative to the inner and outer cover members.

3,406,531
APPARATUS FOR MAINTAINING ORGANS IN A COMPLETELY VIABLE STATE
Emil S. Swenson, 247 106th Ave. NW., Coon Rapids, Minn. 55433, and William L. Koski, 3905 Halifax Ave. N., Minneapolis, Minn. 55422
Filed Aug. 25, 1964, Ser. No. 391,931
4 Claims. (Cl. 62—306)



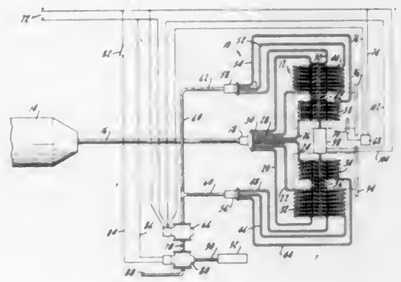
The invention is concerned with providing a device for storing body organs in a viable state preparatory to transplanting and consists of a sealed pressure tight container in which preserving liquid and the organ are stored. The container is kept at an optimum temperature range of 0° C. to 4° C. by an indirect refrigeration system in which holdover liquid such as alcohol solution transfers heat from the container to the evaporator of a refrigeration system. Oxygen under pressure is admitted to the container so as to keep the organ in a viable condition.

3,406,532
FOOD AND BEVERAGE CONTAINERS HAVING INTEGRAL COMPARTMENTS CONTAINING A FREEZABLE LIQUID
Robert M. Rownd and John A. Bridges, Nashville, Tenn., assignors to Aladdin Industries Incorporated, Chicago, Ill., a corporation of Illinois
Filed Nov. 9, 1966, Ser. No. 593,162
8 Claims. (Cl. 62—457)



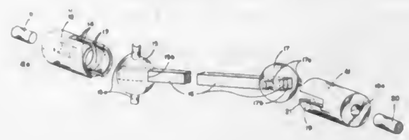
A container, comprising an insulated receptacle having a mouth portion surmounted by an annular shoulder, a closure including a cup-shaped plastic stopper member having an enlarged cylindrical upper portion and a reduced cylindrical lower portion, a body of freezable liquid in said lower portion, a closure disc mounted in said upper portion and against the shoulder between said upper and lower portions to confine the freezable liquid, insulating material in said upper portion, and a plastic top member secured to the upper end of said stopper member. In certain embodiments, the receptacle is made of plastic and is formed with a skirt projecting downwardly below the bottom wall. A bottom closure is welded or otherwise secured to the lower end of the skirt. A body of freezable liquid is contained within the chamber formed by the skirt, the bottom wall, and the closure.

3,406,533
REFRIGERATION SYSTEM INCLUDING LIQUIFIED GAS TANK
James F. Watkins, Chicago, Ill., assignor to Cryo-Cool Corporation, Chicago, Ill., a corporation of Illinois
Filed Feb. 13, 1967, Ser. No. 615,819
10 Claims. (Cl. 62—217)



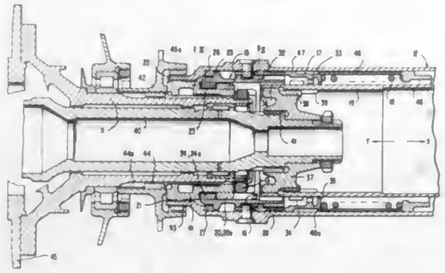
A refrigeration system having a tank or container which acts as a cold reservoir and releases a liquid gas into a system of conduits wherein the liquid gas is substantially vaporized in an evaporator and passed through a first solenoid valve and a second solenoid valve at a controlled rate and either discharged through a muffler to the space to be refrigerated or discharged through a conduit to the atmosphere. In addition a means of ventilating the air across the evaporator is provided so that the refrigerated air may circulate.

3,406,534
UNIVERSAL COUPLING
John Chapper, 44 Linden Ave., Swampscott, Mass. 01907
Filed Oct. 10, 1966, Ser. No. 585,613
3 Claims. (Cl. 64—7)



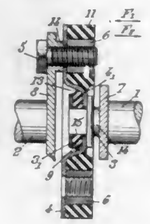
The invention comprises a universal coupling suitable for use with small component devices such as model trains. It can connect one drive shaft to another, is easily adaptable to different lengths, expandable for normal changes in distances between the shafts and quiet in operation. Its structure includes a ball which snap fits into a resilient socket having side slots and a transverse locking groove.

3,406,535
COUPLING BETWEEN THE SHAFT OF THE COMPRESSOR DRIVE TURBINE AND THE COMPRESSOR SHAFT OF GAS TURBINE DRIVE UNITS
Rudolf Suderow, deceased, late of Stuttgart-Degerloch, Germany, by Käthe Suderow, Sigrun Suderow, and Birgit Suderow, Stuttgart-Degerloch, Germany, sole heirs, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed June 27, 1966, Ser. No. 561,320
Claims priority, application Germany, July 1, 1965, D 47,625
34 Claims. (Cl. 64—9)



A coupling arrangement, especially for use in gas turbine drive units, wherein the turbine drive shaft and the compressor shaft are releasably coupled by means of a form-locking connection which provides for transmission of driving torque in the circumferential direction and for absorption of thrust in the axial direction, while allowing for angular movement of one shaft with respect to the other while in the coupled condition. The coupling, according to the present invention, can be actuated, i.e., engaged or disengaged, by manipulation of an assembly key or wrench positioned within the turbine drive shaft, thereby obviating disassembly of the combustion chamber to effect coupling actuation. The present invention further contemplates that the assembly key or wrench might be in the form of a shaft of an output or load turbine, where such second turbine is employed, said shaft being disposed coaxially within the hollow turbine drive shaft. Further, the output or load turbine shaft may itself be of hollow construction, thus permitting the operating media to be conducted therethrough.

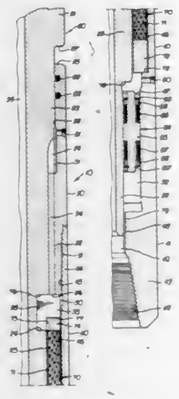
3,406,536
RESILIENT COUPLING DEVICES
Michel André François Domer, Montigny-les-Cormeilles, France, assignor to Paulstra, Levallois-Perret, France, a French society
Filed Feb. 23, 1967, Ser. No. 618,012
Claims priority, application France, Mar. 2, 1966, 51,685
9 Claims. (Cl. 64—14)



For resiliently coupling, for instance, a shaft rigid with a vehicle steering wheel with the shaft of the steering gear of said vehicle, the device comprises two strips extending transversely to the common axis of said shafts

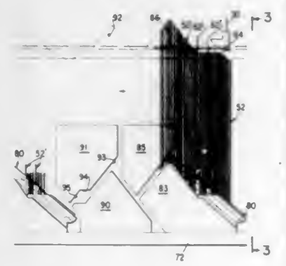
and in directions at right angles to each other, said strips being fixed to said shafts, respectively, a rubber block being interposed between said two strips so as partly to absorb axial forces exerted on said steering wheel shaft, torques being transmitted from the steering wheel shaft to the steering gear shaft through rubber blocks in the form of cylindrical sectors interposed between said strips.

3,406,537
SHOCK ABSORBING SUBASSEMBLY
Chester B. Falkner, Jr., Whittier, Calif., assignor to Schaffer Tool Works, Brea, Calif., a corporation of California
Filed Feb. 21, 1966, Ser. No. 529,109
6 Claims. (Cl. 64—23)



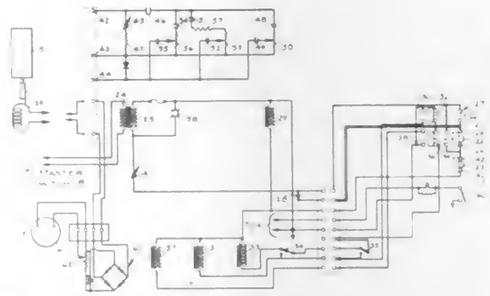
A shock absorbing subassembly for a well drilling string in which a force dampening and cushioning means of metal mesh is adapted to be compressed within an annular chamber filled with a non-compressible fluid. A floating seal at one end of the chamber retains the non-compressible fluid within the chamber and also seals the chamber from well fluids to prevent contamination of the force dampening means by such well fluids.

3,406,538
METHOD AND APPARATUS FOR KNITTING TIE-IN FLEECE FABRICS
Leonard A. Beckenstein, Farmingdale, N.Y., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 7, 1966, Ser. No. 532,142
1 Claim. (Cl. 66—9)



Knitting machine apparatus for making tie-in fleece fabric is disclosed. Each course of such fabric is produced according to the following set of operations: (1) certain selected needles are first raised, fleece yarn laid in, and the remainder of such needles elevated to draw tie-in yarn, such fleece yarn being woven among the selected needles and the remainder thereof by sinker action; (2) all needles are lowered to a given level to knock over the fleece yarn, but such needles are not lowered to cast-off level; (3) all needles are elevated to draw base yarn, and are then lowered to such given level; (4) after a dwell at such given level, the needles are all lowered to cast-off level.

3,406,539
SPEED CONTROL SYSTEM FOR KNITTING MACHINE
Frederick C. Wiesinger, Feasterville, and Michael A. Petko, Philadelphia, Pa., and Joseph W. Fleming, Ramsey, N.J.; said Wiesinger and said Petko assignors, by mesne assignments, to John Donald Marshall and Horace L. Bomar, trustees, and said Fleming assignor to Ramsey Controls, Inc., Ramsey, N.J., a corporation of New Jersey
Filed May 2, 1966, Ser. No. 546,865
2 Claims. (Cl. 66—56)

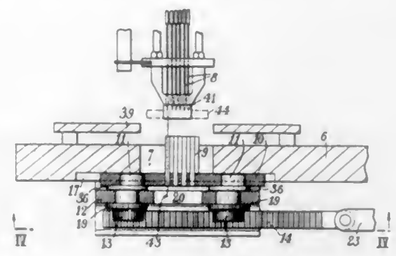


A speed control device for a circular knitting machine. A series of manually movable buttons cause, when certain of their numbers are pushed, energization of either a high, low, or jog speed relay. When a relay is energized it completes a circuit by closure of contacts to include one of three potentiometers in the control circuit of a direct current motor which drives the machine. Thus one of three operating speed ranges are selectable and the speeds within each range are variable through potentiometer control.

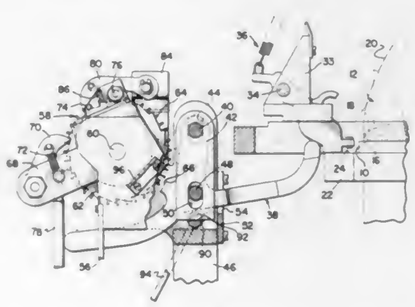
3,406,540
DEVICE FOR MECHANICALLY FORMING A KNITTED BORDER
Chil Dancygier, 28 Rue du Docteur Blanche, Paris, France
Continuation-in-part of application Ser. No. 327,213, Dec. 2, 1963. This application Sept. 23, 1965, Ser. No. 496,233
Claims priority, application France, Dec. 3, 1962, 917,322, Patent 1,352,173; May 27, 1963, 936,067
6 Claims. (Cl. 66—85)

1. A device for mechanically forming a knitted border or the like on knitwear and any other flexible material, comprising a work bed, an aperture in said bed, a presser foot for guiding the work, a series of knitting needles, means for carrying a series of yarn guide passages of tubular configuration disposed in said aperture beneath said needles, means adapted to impart to said needles a vertical reciprocating motion and means adapted to impart to said means for carrying said tubular yarn guides an alternating part-circular motion causing the winding of said yarns around the corresponding needles, each needle in said row of needles serving to form a row of chain stitches in the knitted border contemplated, the number

of said tubular yarn guides exceeding that of said needles by at least one unit, and said tubular yarn guide carrier means being adapted to accomplish a reciprocating movement of translation in a plane parallel to said bed, the amplitude of said last-named movement being equal to a discrete multiple of the distance between the two axes of any pair of adjacent needles with a cycle twice that of the reciprocatory needle motion.



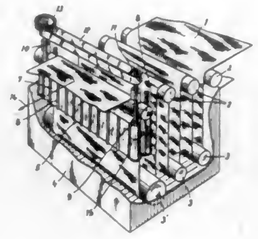
3,406,541
YARN FEED INDEXING APPARATUS
Leroy Robbins, High Point, N.C., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed May 31, 1966, Ser. No. 553,976
1 Claim. (Cl. 66—138)



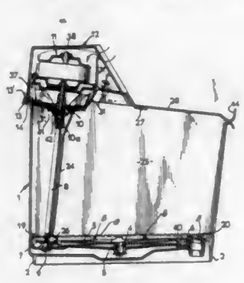
A yarn feed controller for knitting machines is disclosed as employing two counter oriented ratchets on a pattern drum. One ratchet is for indexing the controller, and the other ratchet is for preventing override thereof. The controller uses a pair of pawls in cooperation respectively with the ratchets, the pawl to prevent controller override being normally disengaged from its ratchet, but being engageable therewith in response to driving of the controller by the other, or indexing, pawl.

3,406,542
DEVICE FOR THE WIDTH TREATMENT OF TEXTILE BREADTHS WITH A LIQUID
Eduard Küsters, Gladbacherstrasse 457, Krefeld, Germany, and Valentin Appenzeller, Am Hagelkreuz 13, Kempen (Lower Rhine), Germany
Filed June 6, 1966, Ser. No. 555,523
Claims priority, application Germany, Dec. 16, 1965, K 57,929
10 Claims. (Cl. 68—175)

The disclosure is a textile breadth washing or liquid treating machine of the type having a liquid container and guide rolls which cause the breadth, which is continuously traveling, to pass through the liquid in the form of a span. Flat belts having projections on their outsides continuously rotate while also submerged in the liquid and have linear spans which face the breadth span and travel transversely to and substantially parallel with the breadth span. The belts act as liquid driving means which drive the liquid transversely with respect to the traveling breadth span.



3,406,543
WASHING MACHINES, NOTABLY LAUNDRY MACHINES
Maurice Marie Achille Trouilhet, Lyon, France, assignor to Calor Apparells Electro-Domestiques, Lyon, France, a company of France
Filed Jan. 20, 1967, Ser. No. 610,628
Claims priority, application France, Jan. 24, 1966 46,998
11 Claims. (Cl. 68—132)

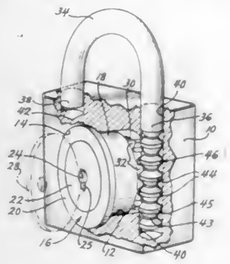


The present invention essentially relates to a washing machine, notably for linen, of the type comprising a vat containing the linen, said vat having disposed in the vicinity of its bottom and rotatably driven for relatively slow rotation a wheel constituting a large-diameter turbine which extends over the greater part of the vat bottom and revolves in a substantially horizontal plane, this machine comprising the improvements consisting in that said wheel is rotatably mounted about a pivot pin in a bearing solid with a detachable supporting plate fastened to the bottom of said vat by means of lugs, ribs or like means, said wheel being rotatably driven through the medium of gear means from a substantially vertical driving shaft dipping into the vat, the upper end of said shaft emerging from the top portion of the vat and coacting with the shaft of an electric driving motor disposed above the vat.

3,406,544
PADLOCK
Joseph Schreiber, 18507 Forrer, Detroit, Mich. 48235
Filed June 10, 1966, Ser. No. 556,644
6 Claims. (Cl. 70—38)

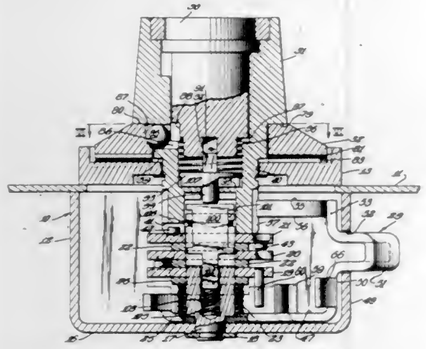
A padlock having a U-shaped shackle provided with a long leg projecting within the body of the padlock. An

integral rack disposed proximate the end of the long leg within the body of the padlock has cylindrically shaped teeth which mesh with a gear mounted on the end of the



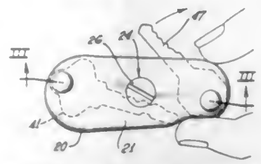
plug of the lock. When the plug is unlocked, the rotation of the plug drives the rack on the end of the shackle leg and opens the padlock.

3,406,545
LOCK FOR LOCKER DOORS AND THE LIKE
Burton L. Siegal and Jay S. Waxman, Skokie, Ill., assignors to Junkunc Bros. American Lock Company, Crete, Ill., a corporation of Illinois
Filed Jan. 17, 1966, Ser. No. 520,978
8 Claims. (Cl. 70—156)



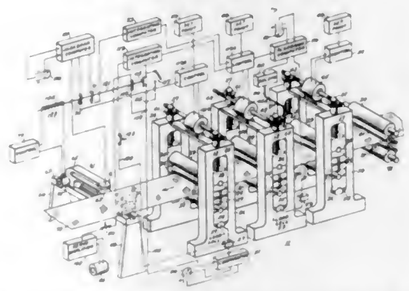
Combined key operated and combination lock for locker doors in which the key cylinder is separate from the center post for the tumblers and the center post for the lock is pivoted to the lock casing and is driven from the key cylinder to effect release of the latch bolt. The latch bolt is spring biased into a latching position and is held in this position by a latch dog held in a dogging position by a relatively weak spring. A release rocker is biased to release the latch dog by a relatively strong spring and is held from release movement by the tumblers of the lock. As the slots in the tumbler are aligned, the strong spring will overbias the weak spring and accommodate a tongue on the release member to move into the slots of the tumblers and release the latch dog to effect opening of the door. A radial ball driving connection is provided between the dial and dial knob. A detent indexing connection indexes the knob in the proper relation with respect to the dial and is held in engagement by a spring, and is released by the pressure on the dial against the spring. The radial ball driving connection is released upon turning of the key cylinder to accommodate a ball to move into engagement with a flat spot on the key cylinder and rotate the dial relative to the knob, to change the combination.

3,406,546
KEY CASE
John H. Clement, 340 Wanaao Road, Kailua, Hawaii 96734
Filed Feb. 9, 1967, Ser. No. 614,931
13 Claims. (Cl. 70—456)



An inexpensive plastic key case having an oval teardrop shape; a thin deformable portion adjacent mounted keys to digitally eject same; side walls which will return to a closed position after having been spread apart to remove or add keys; side walls which are color and digitally coded so as to locate any key contained in the case; an adjustment screw to adjust the thickness of the key case, depending upon the number of keys contained therein; key posts and sleeves which are adjacent to the outer ends but offset from the center of the key case; and deformable marginal lips in order to retain the keys in the key case.

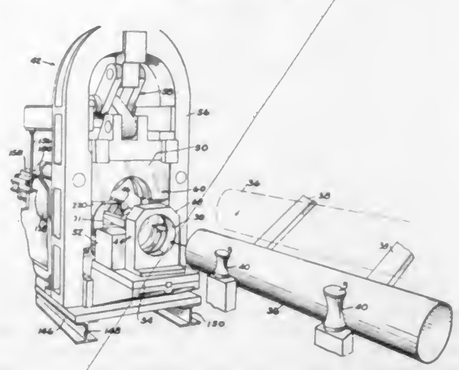
3,406,547
AUTOMATIC GAGE CONTROL AND METHOD OF OPERATING FOR ROLLING MILL
Harold A. List, Bethlehem, Pa., assignor to Bethlehem Steel Corporation, a corporation of Delaware
Filed Aug. 2, 1966, Ser. No. 569,745
10 Claims. (Cl. 72—8)



1. A method of operating a rolling mill wherein strip gage regulating mechanism is controlled at least partially by a gage signal from a succeeding radiation type gage which measures the gage of the strip in the mill comprising:
(a) controlling the adjustment of said strip gage regulating mechanism at least partially from a strip gage indicating radiation type signal,
(b) interrupting said strip gage indicating radiation signal, and
(c) substituting therefor during said interruption a load cell signal from a rolling mill stand of said rolling mill succeeding said strip gage regulating mechanism to control said mechanism to regulate the gage of the strip during said interruption while the radiation signal is unavailable for control purposes.

5. A control system for continuous regulation of strip gage in a rolling mill comprising:
(a) a control circuit to control the operation of a strip gage regulating mechanism on the mill in response to an externally received gage control signal indicative of the gage of the strip passing said regulating mechanism,
(b) a traversing radiation gage to provide a strip gage indicating control signal to said control circuit,
(c) a load cell located on a mill stand succeeding said gage regulating mechanism to provide a strip gage indicating control signal to the control circuit, and
(d) switching control means operative to remove the radiation gage signal from the control circuit when the radiation gage traverses from the central portion of the strip and substitute therefor the said load cell signal.

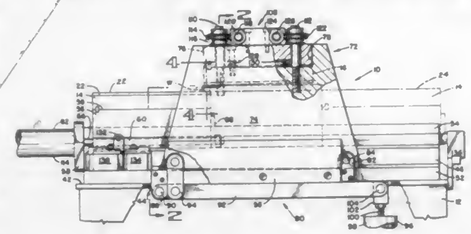
3,406,548
METHOD AND APPARATUS FOR MAKING WHEEL RIMS
Raymond J. Wilcox, Bloomfield Hills, Mich., assignor to Motor Wheel Corporation, Lansing, Mich., a corporation of Ohio
Filed Nov. 2, 1965, Ser. No. 506,081
5 Claims. (Cl. 72—71)



A method and machine for manufacturing wheel rims in which a rim blank, in the form of a tube having a length in excess of that required to form a wheel rim, is fed endwise into an opened die adapted to encompass the exterior of the blank and contoured when closed to impart the desired exterior rim contour to the blank when the blank is roll formed against the internal forming surface of the die. A shearing die is also provided which closely encircles the leading end of the blank adjacent the entrance side of the forming die. A plurality of freely rotatable form rolls are expanded from inside the blank as they are revolved about the axis of the blank to thereby expand the blank, causing it to be first severed as it expands past the cutting edge of the shearing die, thus cutting off a portion of the blank to the proper length for formation into a wheel rim, and then causing the severed portion to be further expanded as it is roll formed against the forming surface of the forming die into a semi-finished or finished wheel rim.

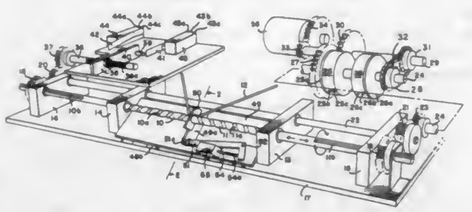
3,406,549
STRAIGHTENING MACHINE
John H. Rohlfs, Sr., Torrington, Conn., assignor to The Turner and Seymour Manufacturing Company, Torrington, Conn., a corporation of Connecticut
Filed Apr. 28, 1966, Ser. No. 545,904
12 Claims. (Cl. 72—88)

1. A machine for straightening elongated workpieces of generally circular cross section said machine comprising a first tool having two elongated parallel and laterally spaced work surfaces located substantially in the same plane and facing in the same direction for engaging one side of a workpiece, a second tool having a third elongated work surface located laterally between said first tool surfaces and spaced from and facing said first tool surfaces so as to engage the generally opposite side of said workpiece, and means for moving one of said tools relative to the other to move said surfaces in such a manner as to roll said workpiece therealong between first and second positions and so as to gradually increase the spac-



ing between said first and second tool surfaces at the location of said workpiece, said tools being so arranged that in said first position the workpiece is held in a bowed condition between said two work surfaces by said third work surface.

3,406,550
APPARATUS FOR FORMING WIRE CABLE GRIPS
George Wesley Taylor, P.O. Box 573, Cupertino, Calif. 95014
Filed Dec. 19, 1966, Ser. No. 602,672
9 Claims. (Cl. 72—141)

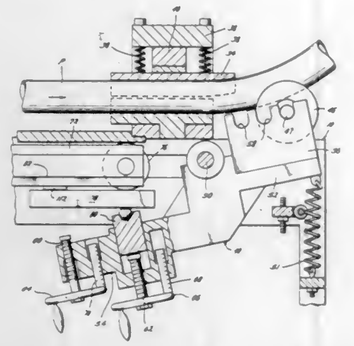


1. In apparatus for forming a wire spiral grip for use in anchoring or holding insulated cable without impairing the insulation thereof, the combination comprising a pair of grooved wire forming mandrels, one of said mandrels having a right hand spiral groove with the wire receiving opening thereof at one end of the mandrel and the other one of said mandrels having a left hand spiral groove with the wire receiving opening thereof at one end of this mandrel, means supporting said mandrels with the axes thereof in alignment, said mandrels being movable toward and away from each other so that the wire receiving openings of said grooves face each other when said mandrels are moved toward each other, means rotating said mandrels in the forward direction, means holding the cusp portion of a V-shaped wire in predetermined position with respect to said openings of said grooves when said one end of said mandrels are adjacent to each other so that said wire enters said grooves as said mandrels are rotated in the forward direction, whereby said wire is formed into spirals of opposing hands on opposite sides of said cusp portion as rotation of said mandrels in the forward direction is continued.

3,406,551
PIPE BENDING MACHINE
John L. Coody, 7106 Quince St., Houston, Tex. 77017
Filed Apr. 18, 1966, Ser. No. 543,427
5 Claims. (Cl. 72—166)

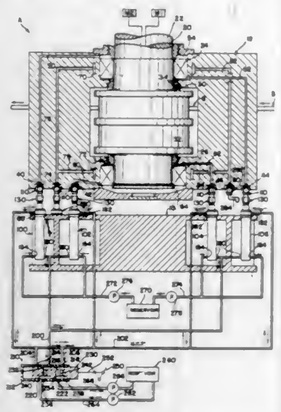
A pipe bending machine of the type having a supporting bed, along which a pipe is movable along its longitudinal axis and having a bending die positioned for en-

gagement with the pipe and about which the pipe may be bent, and including a bending roller movably mounted for movement toward and away from said longitudinal axis, to position the roller for coaction with the pipe and die to bend the pipe as the pipe moves longitudinally in one direction along said axis. The invention further includes means for moving the pipe longitudinally in said



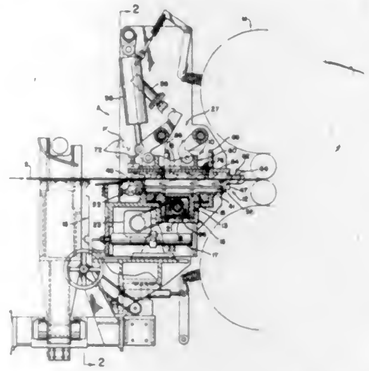
one direction, and means positioned for coaction with the pipe moving means and the roller to move the roller in a direction transversely of said axis in engagement with the pipe, during an initial longitudinal movement of the pipe, to position the roller for such coaction with the die to bend the pipe, and thereafter to hold the roller in its adjusted position during subsequent longitudinal movement of the pipe.

3,406,552
REMOTELY OPERATED FLUID COUPLING MECHANISM FOR A ROLLING MILL OR A SIMILAR DEVICE
Carl F. Krauss and James K. Wingard, Salem, Ohio, assignors to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Jan. 6, 1966, Ser. No. 519,153
8 Claims. (Cl. 72—236)



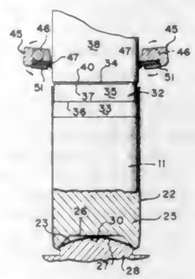
There is provided a device for coupling and uncoupling the coolant and lubricant lines between the removable work roll supporting housing and the fixed frame of an edging mill. This device includes a first set of nipples on the housing and a matching second set of nipples on the frame. These nipples are the type which seal themselves when the nipples are separated. A fluid system on the fixed frame shifts the second set of nipples between a first position with the nipples joined and a second position with the nipples separated. When the nipples are separated, the housing may be removed from the frame without interference from the nipples on the frame.

3,406,553
CLAMPING AND STICKING GUIDE
John Gross and Joseph James Hiegel, Salem, Ohio, assignors to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Apr. 28, 1966, Ser. No. 546,081
5 Claims. (Cl. 72—252)



A strip clamping and guiding apparatus of the type having opposed platens at least one of which is movable relative to the other to grip a strip positioned therebetween. The apparatus includes strip edge guide members mounted on at least one of the platens and provided with first power means for traversing the members tranversely of the platen for engaging and laterally controlling strip of varying widths. Additionally, second power means are provided for selectively giving the strip edge guide members rapid short stroke gripping or ungripping movements irrespective and independent of the position of the gripping members and without regard to energization or deenergization of the first power means.

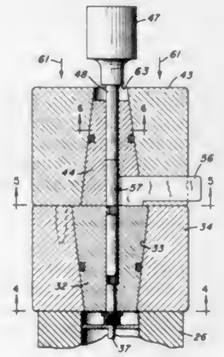
3,406,554
APPARATUS FOR AND METHOD OF FORMING CONTAINERS
Henry E. Frankenberg, Berwyn, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed July 6, 1965, Ser. No. 469,622
21 Claims. (Cl. 72—333)



This invention relates to a novel apparatus for and method of forming containers, and in particular, it is directed to a novel die assembly which includes a male

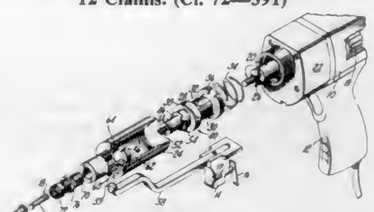
plunger reciprocal relative to a female die between which a cup-shaped article is formed. Means are provided for shifting the article axially relative to the male plunger to form a circumferential gap into which is received a stripping and flanging mechanism. In addition, the plunger is provided with means which deflect a peripheral edge radially outwardly upon the axial movement of the container body relative to the plunger forming a pronounced gap for the reception of the flanging and stripping mechanism.

3,406,555
COLD FORMING OF ARTICLES
Francis Joseph Fuchs, Jr., Princeton Junction, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 5, 1966, Ser. No. 540,382
6 Claims. (Cl. 72—377)



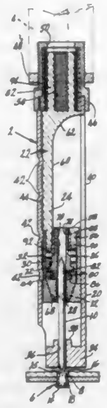
An article is cold formed from a single length of material which increases in ductility when hydrostatic pressure is built up therein, the length of material is subjected to forces sufficiently great to build up hydrostatic pressure in the material, so as to increase the ductility thereof, and a forming member is advanced into engagement with at least a portion of the material, while the material is in the state of increased ductility, to shape the portion into an irregular configuration.

3,406,556
SPIN FASTENER INSERTERS
C Walton Musser, Palos Verdes Estates, Calif., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Mar. 15, 1966, Ser. No. 532,000
12 Claims. (Cl. 72—391)



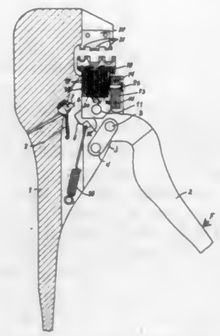
A hand-held power tool for installing a tubular fastener by spinning and axially retracting a progressive forming mandrel. The arrangement shown employs a trigger which energizes a motor to rotate the mandrel through a clutch, the trigger being further operative through force multiplier means to control retraction of the mandrel as it spins to set a blind end of the fastener.

3,406,557
RIVET TOOL
Frederick J. Harris, Ansonia, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Aug. 31, 1966, Ser. No. 576,440
8 Claims. (Cl. 72—391)



1. In a rivet tool for use with a rivet assembly including a breakable mandrel having axially spaced tail flaring means and grippable means and which includes a tubular rivet on said mandrel having a tail portion adjacent the tail flaring means and a head portion adjacent the grippable means, the combination of housing means, drawbolt means within said housing means, floating jaw means within said drawbolt means, a jaw follower for urging said jaw means into gripping engagement with a mandrel, and resilient buffer means disposed between said drawbolt means and said jaw follower to absorb the impact of said jaw follower on said drawbolt upon relative rearward movement of said jaw follower after said mandrel breaks.

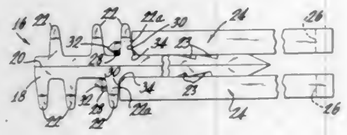
3,406,558
CRIMPING TOOL
Hans Peter Gustav Tillmann, Keerbergen, Brabant, and Paul Gustaaf Phlips, Hombeek, Antwerp, Belgium, assignors to Burndy Corporation, a corporation of New York
Filed Feb. 23, 1966, Ser. No. 529,469
Claims priority, application Belgium, Nov. 29, 1965, 672,995
6 Claims. (Cl. 72—416)



A compression tool of the type employed in crimping or compressing articles such as electrical connectors is disclosed, in which a fixed jaw is disposed in opposition

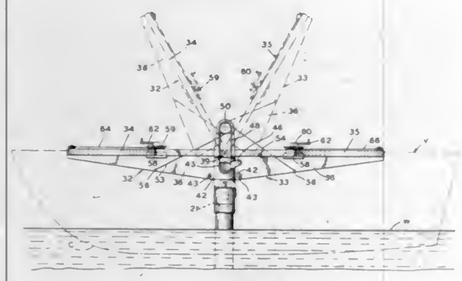
to a movable jaw, and a spring loaded retainer is positioned between the two jaws so as to grip small articles against one of the jaws.

3,406,559
PUSH RODS FOR FLOWER-STEMMING MACHINE
Konrad Kinkel, Brooklyn, N.Y., assignor to B. & K. Tool Die & Stamping Co., Inc., Woodhaven, N.Y.
Continuation-in-part of application Ser. No. 362,063, Apr. 23, 1964. This application Dec. 14, 1966, Ser. No. 601,698
3 Claims. (Cl. 72—420)



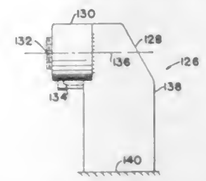
1. In an improved machine for applying a deformable pick to the stem of a flower, the machine having a pair of ways, feed means for supplying picks to the ways, means to linearly displace successive picks, crimping jaws to deform the pick about a flower stem placed on the pick and a cam to actuate the crimping jaws, the improvement comprising a pair of improved push rods disposed in the ways, each of said push rods comprising an elngated body portion having longitudinal axis, a first end coupled to the pick displacement means and a cylindrical second end formed integrally with and extending longitudinally from said body portion, the juncture of said second end and said body portion defining an interface.

3,406,560
METHOD AND APPARATUS FOR COMPENSATING MARINE COMPASSES
Raymond F. Michael, 4153 Yorkshire, Detroit, Mich. 48224
Filed Mar. 15, 1965, Ser. No. 439,580
5 Claims. (Cl. 73—1)



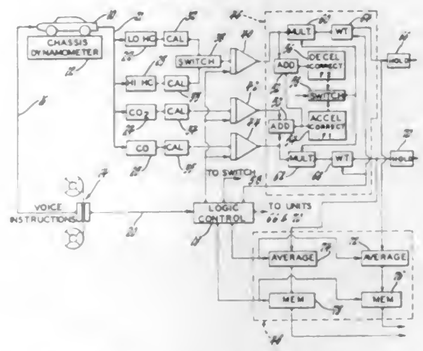
A method and apparatus for the calibrating and determining the magnetic deviation of marine compasses. The marine craft on which the compass is mounted is tethered to a part of a structure pivoted to swing horizontally about an upright pile or post. The tethering is accomplished by cables to for and aft points on the craft so as to bring the keel line parallel to the center line of the elongated pivoted structure. After being tethered the craft is pointed in a known azimuth direction, an adjustable indicator of the swingable compensating structure is set to indicate the known direction, and the craft is then swung progressively employing its own power so that observation of true azimuth can be made as the craft is swung and compared with readings of a compass on the craft.

3,406,561
GEAR TEETH CHECKING GAGE
Dominic J. Persichini, Garden City, and Reginald F. Freeman, Warren, Mich., assignors to Air Gage Company, Southfield, Mich., a corporation of Michigan
Filed Feb. 1, 1966, Ser. No. 524,277
1 Claim. (Cl. 73—1)



An air operated gage for checking gear parameters, such as tooth crown and lead is disclosed. In accordance with the invention separate cantilevered sensing fingers are movable into and out of contact with a member, such as a gear tooth to be checked, whereby the sensing fingers are displaced an amount depending on the parameter checked. The cantilevered sensing fingers regulate air orifices connected to air gages to separately indicate the deflection of the separate cantilevered fingers. The cantilevered sensing fingers may be mounted on a rotatable head, whereby gear teeth having selected leads may be readily checked.

3,406,562
ON-LINE EXHAUST DATA ANALYSIS SYSTEM
Frank Perna, Jr., St. Clair Shores, and Anthony A. Sperling, Warren, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 14, 1966, Ser. No. 520,758
4 Claims. (Cl. 73—23)

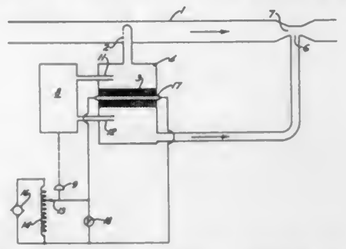


An exhaust analyzer for use with a vehicle on a test stand. Signals representing various exhaust constituents are produced during sequential periods of various operating modes, weighted in accordance with the character of the mode, e.g., acceleration and deceleration, and averaged over at least one full sequence of operating modes in an analog type computer.

3,406,563
METHOD AND APPARATUS FOR MEASURING THE QUALITY OF A GASEOUS FLUID
Thomas A. Clarlariello, Zelienople, Pa., assignor to Mine Safety Appliances Company, a corporation of Pennsylvania
Filed Dec. 6, 1965, Ser. No. 511,731
8 Claims. (Cl. 73—29)

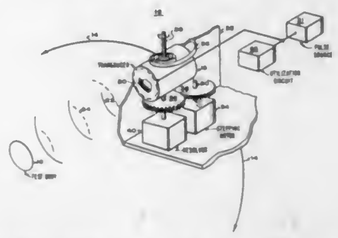
Relative dryness of a double phase gaseous fluid composed of a dry vapor and an entrained liquid of the same chemical composition is measured by trapping a sample

of the entrained liquid in a filter, causing a pressure drop across the filter. A pressure sensor maintains a predetermined pressure drop by regulating the current to a heater



and thereby maintaining a balance between the liquid trapped and driven off. The heat necessary to maintain this balance is proportional to the liquid input and a measure of the relative dryness of the fluid.

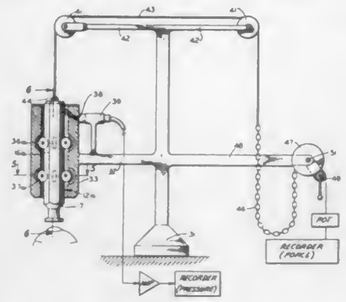
3,406,564
ULTRASONIC TRANSDUCER SCANNING SYSTEM
Edward H. Phillips and Richard B. Osgood, Los Altos, Calif., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Sept. 13, 1965, Ser. No. 486,969
12 Claims. (Cl. 73—67.8)



An oscillatory mass including an ultrasonic transducer is supported on a chassis mounted for movement along an arcuate scanning path. A torsion spring coupled at one end to the chassis and at the other end to the oscillatory mass provides the oscillatory mass with a natural frequency of oscillation. The energy lost by the oscillatory mass during oscillation is supplied by a stepping motor. A resolver continuously indicates the position of the transducer during oscillation of the oscillatory mass. An electrical pulse source energizes the transducer to send ultrasonic energy to a body being scanned. The ultrasonic energy reflected back from this body is received by the transducer and applied to a utilization circuit for relation to the time domain.

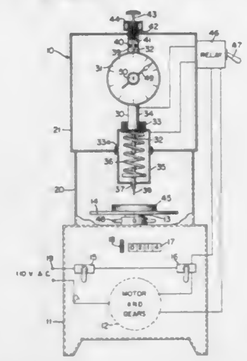
3,406,565
APPARATUS AND METHOD FOR TONOGRAPHY
William C. Murr, El Sobrante, Calif., assignor to Berkeley Tonometer Company, Berkeley, Calif.
Filed Sept. 25, 1964, Ser. No. 399,161
6 Claims. (Cl. 73—80)

As an aid in the diagnosis of glaucoma, impedance to expression of fluid from the anterior chamber of the eye is measured. An aplanation tonometer is pressed against the cornea with varying force to maintain the intraocular pressure of the eye, as measured by the tonometer, constant. The resting pressure is recorded and may be compared with normal eye condition recordings for diagnosis. Immediately thereafter the preselected pressure, greater than the resting pressure of the eye, is produced by additional tonometer force on the cornea. The difference, which is apparent on the continuous pressure recording, is the instrumental "over-pressure." This over-pressure is the independent variable which is instrumentally correlated with the measured dependent variable—"force on the eye"—to allow an inference of the relationship over time of a given overpressure with eye



volume change. Eye volume is an inferred measure from force on the eye which is the only other apparatus measure besides the pressure. Means is provided for supporting the tonometer and for controlling the force imparted thereto and recording such force.

3,406,566
PUNCTURE STRENGTH TESTER
Daniel I. Livingston and Samuel D. Gehman, Akron, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Sept. 25, 1964, Ser. No. 399,188
7 Claims. (Cl. 73—81)

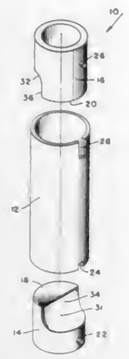


Testing apparatus for moving a specimen of elastic polymeric rubbery or rubber-like materials into puncturing engagement with a small straight round stiff spring loaded indenter, with dial indicators showing the puncturing force on the indenter and the distance of its penetration at the instant of internal rupture within the specimen under the indenter, an electrical circuit energizing motor driven movement is disconnected at the instant of rupture, so as to determine rupture strength of the material.

3,406,567
PORTABLE SHEAR TEST DEVICE
Cyrl W. Terry, Oxnard, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 27, 1965, Ser. No. 428,590
2 Claims. (Cl. 73—101)

The present invention is a device for testing the shear strength of materials such as snow and soil. The shear test device may include a hollow cylinder which has slidably

mounted therein a pair of cylindrical-like die members. The die members are disposed at opposite ends of the hollow cylinder and may have substantially semicircular die faces which are in a complementary relationship with



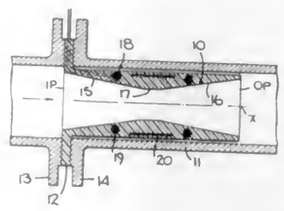
respect to one another. A material under test is placed in the hollow cylinder between the die members and upon applying a force on the die members the material may be sheared along a longitudinal plane.

3,406,568
FILM INSPECTION MACHINE
John J. Sadowski, 5788 Kenmoor Road, Birmingham, Mich. 48010
Filed Apr. 19, 1966, Ser. No. 543,665
11 Claims. (Cl. 73—159)

The structure of this invention comprises means for moving a movie film or the like past a fault sensing structure. When a fault is sensed in the film, means are provided for automatically stopping the movement of the film and for automatically moving the film and fault sensing structure out of contact with each other.

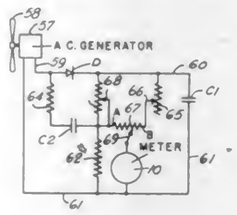
3,406,569
MAGNETIC FLOWMETER OF IMPROVED LINEARITY
Charles P. Rohmann, Hatboro, Pa., assignor to Fischer & Porter Co., Warminister, Pa., a corporation of Pennsylvania
Filed July 7, 1965, Ser. No. 469,984
6 Claims. (Cl. 73—194)

A magnetic flowmeter adapted to operate in conjunction with a pipe section through which fluid is flowable in a range of flow rate values including low flow rates below the level at which a linear response is ordinarily obtainable. The flowmeter comprises a flow tube which is insertable in the pipe section, the tube having a constricted throat section serving to increase the velocity of flow therethrough to a level producing a linear response. An electromagnet surrounds the throat section within the pipe and is sealed from the fluid to produce a magnetic



field perpendicular to the flow direction, voltages induced in the fluid being picked up by electrodes secured to the throat section.

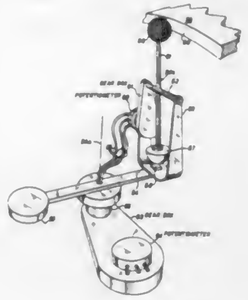
3,406,570
ELECTRIC ANEMOMETERS
Wilfrid Gordon White, Cricket Hill Drive, Amherst, N.H. 03031
Filed June 23, 1967, Ser. No. 648,395
10 Claims. (Cl. 73—229)



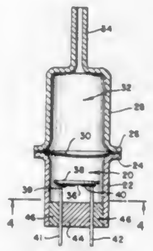
A wind-driven generator is connected to a D'Arsonval, pivoted-coil type meter having a scale calibrated in terms of wind velocity. The meter has the usual pointer connected near one end to the coil, and having its other end opposite the scale, and is used to indicate current wind velocity. The meter has another pointer pivoted near one end, and having its other end opposite the scale. The two pointers are arranged to rotate in spaced-apart paths, and the tip of the maximum wind velocity indicator pointer is bent to extend across the path of rotation of the current wind velocity indicator pointer. The generator is so connected to the meter that when current wind velocity is to be indicated, DC which varies conformably with the wind velocity is applied to the meter. When maximum wind velocity is to be indicated, AC is superimposed on the DC, causing the current wind velocity indicator meter to oscillate about its current wind velocity position, and to strike hammer-like blows against the tip of the maximum wind velocity indicator pointer, driving the latter to a maximum wind velocity position. Reset means is provided for moving the maximum wind velocity indicator pointer towards the zero end of the scale.

3,406,571
GOLF PRACTICE DEVICE INCLUDING DISTANCE AND DEVIATION MEASUREMENT INDICATORS
Donald Hackey, Hazel Grove, near Stockport, England, assignor to Standon Associates Limited, Salford, England, a British company
Filed Jan. 14, 1964, Ser. No. 337,606
Claims priority, application Great Britain, Jan. 15, 1963, 1,704/63
7 Claims. (Cl. 73—379)

1. Apparatus for practising golf comprising a base; a frame; means journalling said frame to said base for rotation about a vertical axis; a rotor; means journalling said rotor on said frame for rotation about a horizontal axis offset from said vertical axis, said rotor including a dummy golf ball and a first counterweight which are radially spaced from said horizontal axis on opposite sides thereof whereby said rotor is dynamically balanced about said horizontal axis, said golf ball being positioned on said rotor for movement in a vertical plane passing through said vertical axis, said frame including a second counterweight statically balancing said frame and said rotor journalled thereon; a first electro-mechanical transducer; first means mechanically coupling said first transducer to said rotor so that said first transducer is continuously responsive to angular displacement of said rotor about said horizontal axis from an initial position; a second electro-mechanical transducer; second means mechanically coupling said second transducer to said frame so that said second transducer is continuously responsive to angular displacement of said frame about said vertical axis from an initial position; and means responsive to said transducers for representing the angular displacement of said rotor about said horizontal axis as a distance and the angular displacement of said frame about said vertical axis as an angular deviation.

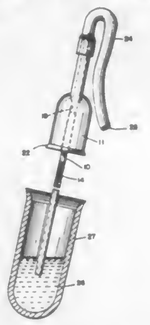


3,406,572
PRESSURE TRANSDUCER
Jean J. A. Robillard, 381 Elliot St., Newton, Mass. 02158
Filed Nov. 25, 1964, Ser. No. 413,744
12 Claims. (Cl. 73—398)



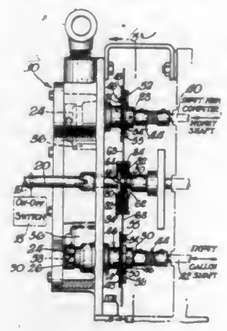
1. A pressure transducer, comprising a thin film of semi-conductor material containing an acceptor impurity, the thickness of said thin film being such that the adsorption of gas molecules on the surface of said thin film substantially affects the resistance thereof, at least one surface of said film being exposed to said gas, and electrode means for passing a current through a portion of said semi-conductor material in which molecules of said gas have been adsorbed, whereby the pressure of said gas may be measured as a function of the conductivity of said semi-conductor portion due to the exchange of electrons between said adsorbed molecules and acceptor material.

3,406,573
CAPILLARY PIPETTE AND ADAPTER-HOLDER THEREFOR
Robert C. Burke, Miami, Fla., assignor to Dade Reagents, Inc., Miami, Fla., a corporation of Delaware
Filed Mar. 10, 1967, Ser. No. 622,210
10 Claims. (Cl. 73—425.6)



An adapter-holder to be used in combination with capillary pipettes. The adapter is provided with a central tapered bore which receives and frictionally grips the pipette, and the configuration of the adapter facilitates holding of the adapter and pipette in operative positions. The end of the adapter opposite the pipette-receiving end is of relatively small diameter and is received within a piece of flexible tubing. After the pipette is filled with the fluid to be tested, the fluid may be discharged and the pipette rinsed by alternately blowing and sucking on the tubing.

3,406,574
SHAFT ROTATION PULSING DEVICE
Roy E. Crothers and William J. Gerstenmaier, Salisbury, Md., assignors to Symington Wayne Corporation, Salisbury, Md., a corporation of Maryland
Filed July 26, 1966, Ser. No. 567,913
10 Claims. (Cl. 74—1)



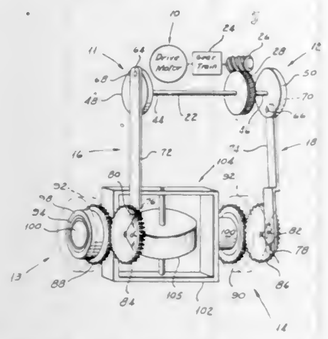
Signal pulses corresponding to angular phases of a rotating shaft are generated by a ridged cam which actuates a switch. Erroneous repetition of pulses in successive cycles is prevented by connecting the camshaft to a control elements (actuating the starting and stopping of rotation of the rotating shaft) in a manner which uniformly centers or zeroes it after each cycle of rotation of the rotating shaft is completed and before it is restarted. The camshaft is accordingly connected to the rotating shaft through a first one-way overrunning drive, and the con-

trol element is connected to the camshaft through a second one-way overrunning drive by a linkage having a motion-permitting coupling. This motion-permitting coupling allows the centering or zero setting movement ahead of the cam to be accomplished after the rotating shaft is stopped and before it is restarted. This centering is conveniently accomplished during the "off" movement of the control element after the rotating shaft is stopped during the freely moving or take-up phase of the linkage.

3,406,575
GYRO BEARING FRICTION MINIMIZING MEANS

Charles E. Hurlburt, River Edge, N.J., assignor to The Bendix Corporation, a corporation of Delaware

Filed Mar. 3, 1966, Ser. No. 531,390
12 Claims. (Cl. 74—5.5)

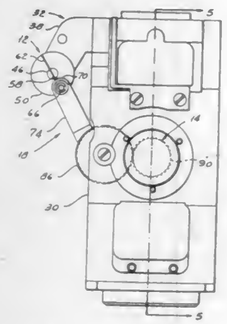


A gyro bearing friction minimizing means for a gyroscope having a pair of opposed bearings supporting a gyro gimbal, together with oscillating intermediate races in each of said opposed bearings, and means operatively connecting a continuously rotating actuating means to the intermediate races of the opposed bearings so as to produce a reverse bicyclic effect for oscillating said intermediate races of said pair of opposed bearings in opposite directions to each other at an equal displacement over an angular range of less than 180 degrees and more than 90 degrees and at an equal period of oscillation.

3,406,576
INDEXING GYRO BEARING FRICTION MINIMIZING MEANS

Anthony E. Scotti, Pompton Lakes, N.J., assignor to The Bendix Corporation, a corporation of Delaware

Filed Mar. 3, 1966, Ser. No. 531,557
10 Claims. (Cl. 74—5.5)

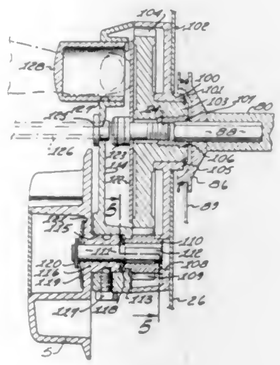


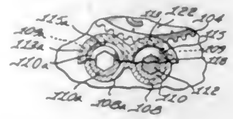
In a gyro bearing friction minimizing means, an indexing means for precisely setting a rotatable actuating means in relation to an oscillating mechanism for counter actuation of intermediate races of opposed bearings supporting a gyro gimbal so as to provide for an exact same travel and an exact same time of actuation in both directions of the intermediate races of the opposed bearings.

3,406,577
OPERATOR MEANS FOR ROTARY ADJUSTOR SHAFTS

Don Heyer, 1019 N. Raymond, Fullerton, Calif. 92631

Original application May 11, 1964, Ser. No. 366,350, now Patent No. 3,287,988. Divided and this application Apr. 25, 1966, Ser. No. 544,896
7 Claims. (Cl. 74—10.8)





Manually operable mechanism for rotating an adjusting shaft having a gear thereon, wherein one of a pair of pinions meshes with the gear while the other pinion meshes with said one pinion, these pinions being selectively movable by a manually operable knob having a frictionally clutched drive shaft which is connectable with the respective pinions, when the knob is shifted from one to the other, to reverse the driving direction effect by the knob with respect to said shaft. The adjusting shaft has a connected graduated dial for visibly indicating the angular rotative position of the adjusting shaft.

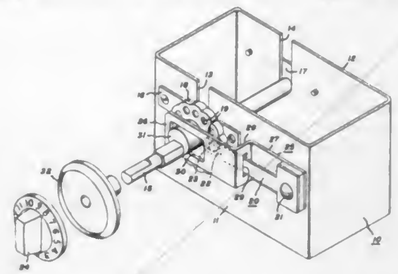
3,406,578
SHAFT-POSITIONING MECHANISM

Julius Kemeny, Liverpool, N.Y., assignor to General Electric Company, a corporation of New York

Filed July 15, 1966, Ser. No. 565,528
6 Claims. (Cl. 74—10.54)

A coarse and fine tuning mechanism comprising a shaft carrying a wheel with a plurality of detents or holes and a first arm member pivoted about a point at one end thereof and beyond the periphery of the wheel. The other end of the first arm member includes a slot which traps a ball bearing in each of the detents. A coarse tuning knob

is mounted on the shaft for moving various detents into engagement with the ball and a fine tuning knob mounted

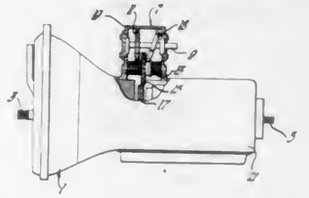


concentric with the shaft is coupled to the pivot end of the arm through a second arm.

3,406,579
POWER TRANSMISSION WITH POWER TAKEOFF

Mark E. Fisher, Carmel, and Marion D. Smith, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 3, 1966, Ser. No. 583,626
16 Claims. (Cl. 74—15.84)

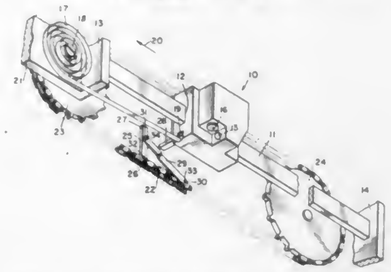


Power transmission having transmission input and output members and a power takeoff unit. There is a power takeoff gear selectively movable by control means between a ground position in which the gear is retarded from rotation and a drive position in which the gear is frictionally and drivingly engaged with a drive member driven by the transmission input. The power takeoff unit includes a control operated sliding gear which can be moved into engagement with the power takeoff gear to provide a power path to a power takeoff output.

3,406,580
SCANNER DRIVE DEVICE

Joseph M. Zappia, Hialeah, Fla., assignor to Datatype Corporation, Hialeah, Fla., a corporation of Florida

Filed Jan. 23, 1967, Ser. No. 611,114
12 Claims. (Cl. 74—37)

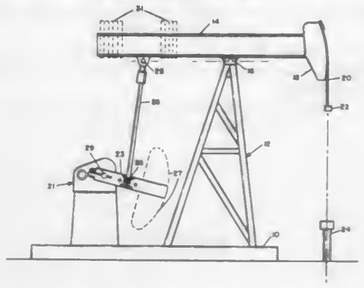


A device for moving an element in one direction along a predetermined path and automatically releasing said element at the end of its travel comprising a pusher arm carried by an endless, flexible means which is trained about a pair of support means. The pusher arm engages the element and moves it until the pusher arm is moved about one of the support means, whereby the pusher arm is pivoted to release the element.

3,406,581
PUMPING APPARATUS

George Eyler and William G. Easley, Pampa, and James D. Black, Miami, Tex., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware

Continuation of application Ser. No. 404,707, Oct. 19, 1964. This application Apr. 10, 1967, Ser. No. 629,833
6 Claims. (Cl. 74—41)



An improved well pumping unit is provided of the walking beam type in which the rotary drive means is located for maximum ease of servicing, optimum efficiency of power delivery and most consistent overall operating smoothness while the rotary counterbalancing weights are simultaneously mounted in specific geometrical relationship with respect to the exact timing of the well pumping stroke so as to exert maximum effect at the time of greatest need. The end result is a pumping unit constructed so that, without undue extension of the pitman arm length, the crank shaft is placed back completely out from under the normal area under the tail bearing connection on the walking beam while simultaneously minimizing peak torque factors and the mass of rotary counterweights needed.

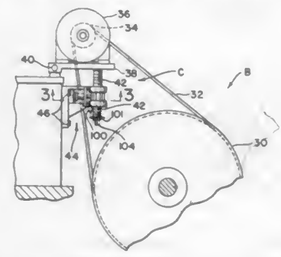
ERRATUM

For Class 74—57 see:
Patent No. 3,407,262

3,406,582
AUTOMATIC BELT TENSIONING DEVICE

Karl O. Frentzel, Canton, Ohio, assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware

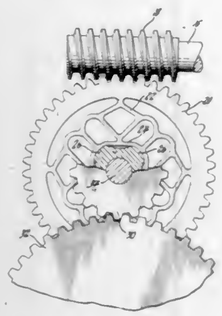
Filed July 31, 1967, Ser. No. 657,371
6 Claims. (Cl. 74—242.14)



An apparatus for constantly maintaining any desired predetermined tension in a power transmitting drive belt, conveyor belt, or roller chain. The apparatus disclosed in-

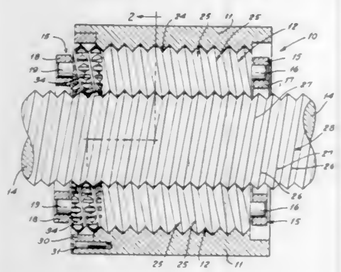
cludes a screw shaft mounted in threaded openings in a bracket and arranged to move against a belt tensioning member. A ratchet wheel surrounds the screw shaft and is in rotary driving engagement therewith through a drive pin which engages a longitudinal groove in the shaft. This allows the shaft to move longitudinally of the ratchet wheel during rotation. The means for rotating the ratchet wheel includes an air cylinder having a reciprocated piston driving a drive pawl which engages the ratchet wheel. Means are also provided for indicating excessive movement of the shaft to, thus, give an indication of excessive "stretch" of the belt being tensioned.

3,406,583
DRIVE MECHANISM HAVING OVERLOAD RELEASE MEANS
John P. Baier, Rochester, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 30, 1967, Ser. No. 612,719
6 Claims. (Cl. 74—411)



In a preferred form, this disclosure relates to a clutch arrangement which includes a gear having a deformable center portion that is resilient which frictionally engages an output member to act as a direct drive until a predetermined load force is exceeded when a clutching action takes place.

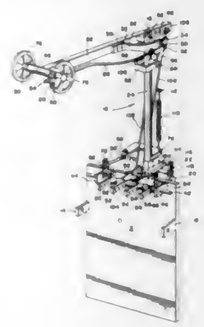
3,406,584
DIFFERENTIAL ROLLER NUT
William J. Roantree, Port Washington, N.Y., assignor to Roantree Electro-Mech Corporation, Port Washington, N.Y., a corporation of New York
Filed Aug. 21, 1967, Ser. No. 661,860
9 Claims. (Cl. 74—424.8)



A mechanism for translating rotary motion to linear motion, and having a driven lead screw and a carriage mounted on the screw. The carriage includes an internally threaded external member or nut, and at least one threaded roller rotatably mounted on the nut to travel therewith, the thread on the roller having meshing driving engagement with the threads on the nut and the screw. The effective lead of the mechanism is a function of the radius of contact of the roller relative to the external member, the radius of contact of the roller relative to the lead screw member, the radius of contact of the lead screw, the lead of the lead screw thread, and the lead of the roller thread.

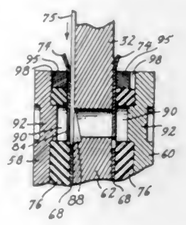
The radius of the zone of the roller engaging the thread on the lead screw is made to differ from the radius of the zone of the roller engaging the thread on an external member or nut. In a first embodiment the two sets of meshing threads have flank engagement with each other, and the flank angle of the thread on the lead screw is made different from that of the thread on the external member. In a second embodiment, both sets of threads have engagement between the external surface or crest of the land of one and the root of the other.

3,406,585
EIGHT-WAY MOVEMENT CONTROL
Marshall Atwater, 2 East St., Pittsboro, N.C. 27312
Filed Mar. 24, 1967, Ser. No. 625,701
7 Claims. (Cl. 74—471)



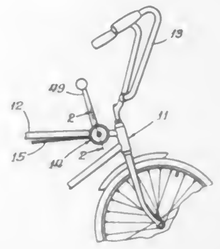
An eight way movement control of the type adapted for actuation of the hydraulic relief valves in hydraulic control systems of the type used in powering a back hoe or earth digger.

3,406,586
SOUND AND VIBRATION INSULATED GEAR SHIFT STICK
James F. Hobbins, Philadelphia, Pa., assignor to Hurst-Campbell, Inc., Warminster, Pa., a corporation of Pennsylvania
Filed May 6, 1966, Ser. No. 548,273
10 Claims. (Cl. 74—473)



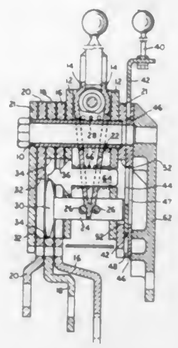
A resilient, compressible mounting connecting the gear shift stick to the selector pin which is engageable to the gear shifting levers, to prevent the transmitting of vibrations and noises from the transmission and adjacent parts to the shift stick.

3,406,587
BICYCLE GEAR SHIFT MECHANISM
Frank P. Brilando, Niles, and Rudolph G. Blaho, Franklin Park, Ill., assignors to Schwinn Bicycle Company, a corporation of Illinois
Filed Sept. 23, 1966, Ser. No. 581,619
6 Claims. (Cl. 74—475)



Manually operable mechanism for shifting a planetary gear hub transmission for a bicycle, comprising a shift lever supported on mounting means for selective movement between low, intermediate and high positions, means for positionally restraining the shaft lever in each of those positions, and spring means interconnected between the mounting means and the shift lever having a dead center position when the shift lever is in intermediate position and operable when the latter is moved manually therefrom toward either low or high positions to assist such manual movement of the shift lever.

3,406,588
REVERSE GEAR LOCKOUT LEVER
James F. Hobbins, Philadelphia, Pa., assignor to Hurst-Campbell, Inc., Warminster, Pa., a corporation of Pennsylvania
Filed Mar. 2, 1967, Ser. No. 620,122
7 Claims. (Cl. 74—476)



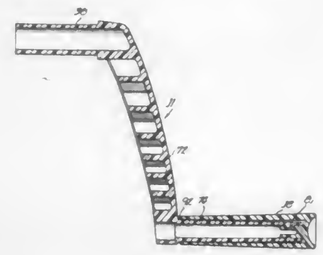
Means for positively preventing unintended shifting of a transmission into reverse gear including a plurality of gear shifting levers, a pin selectively engageable with any lever, obstructing means for preventing the engagement of said pin with one of said levers, said obstructing means being selectively movable to a position obstructing the movement of said pin into engagement with one of said levers and also movable to a position wherein the movement of said pin into engagement with one of said levers is unobstructed.

3,406,589
PUSH-PUSH SWITCH STRUCTURES
Richard B. Gaber, Crystal Lake, Ill., assignor to F&F Enterprises, Inc., Chicago, Ill., a corporation of Illinois
Filed Oct. 18, 1967, Ser. No. 676,298
11 Claims. (Cl. 74—503)



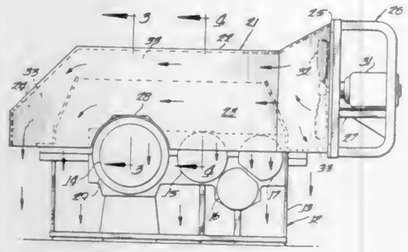
A push-push switch structure which includes an actuator member situated between cam surfaces. Arms extend outwardly from the actuator member for engagement with one or the other of the cam surfaces, depending upon whether the switch is in the latched or unlatched position. Pushing of the actuator in the latched position results in camming of an arm and corresponding pivotal movement to the extent that release of the actuator will cause the actuator to spring to an unlatched position. Pushing of the actuator when in the unlatched position results in a similar camming action by the other cam surface whereby release will cause the actuator to spring to a latched position.

3,406,590
FOOD PROCESSOR
Samuel J. Popeil, 2920 N. Commonwealth, Chicago, Ill. 60657
Original application Nov. 26, 1965, Ser. No. 509,695. Divided and this application July 28, 1967, Ser. No. 667,875
3 Claims. (Cl. 74—545)



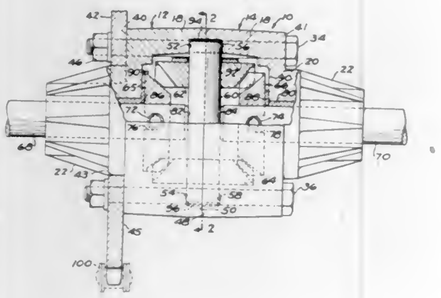
1. For use with a rotatable driven member, a plastic molded two-piece handle, said handle comprising a crank arm, a connecting shaft extending from one end of the crank arm and handle grip shaft extending from the other end of the crank arm each in parallel offset relation to the other, the connecting shaft having non-cylindrical means for locking insertion into a driven member, a handle rotatably mounted on the handle grip shaft, the crank arm having an isoceles cross section defined by side walls and a back, a diamond latticed ribbing within the arm opening away from the back and terminating in the back, one axis of the diamonds being along the long axis of the arm and the end of each diamond being integral with the next diamond, and a plurality of wall ribs extending the other axis of each diamond to a side wall connection.

3,406,591
COOLING APPARATUS
Irvin H. Homiller, Philadelphia, Pa., assignor to FMC Corporation, a corporation of Delaware
Filed Sept. 27, 1965, Ser. No. 490,605
1 Claim. (Cl. 74—606)



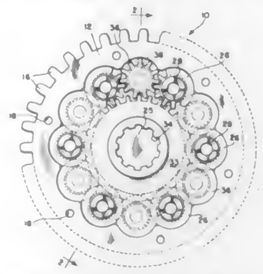
An apparatus for air cooling a gear housing employing an electrically driven fan arranged to force air into a shroud attached to and supported over the upper portions of the gear housing so as to direct the air flow from the fan over the exterior top, side, and end surfaces of the gear housing.

3,406,592
DIFFERENTIAL
Roland L. von Kaler, Tecumseh, Mich., assignor to Tecumseh Products Company, Tecumseh, Mich., a corporation of Michigan
Filed Oct. 7, 1966, Ser. No. 585,167
6 Claims. (Cl. 74—710)



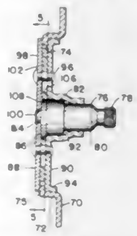
1. A differential mechanism comprising a rotatable housing, a pair of coaxial output shafts journaled in said housing coincident with the rotational axis thereof, first and second members extending through said housing parallel to the rotational axis thereof, drive means directly connected to said members for revolving said members with said housing about the rotational axis thereof in a given direction of rotation, said first member being disposed diametrically opposite from said second member in said housing, a drive pin disposed within said housing and extending perpendicular to the axis thereof between said output shafts with one end of said drive pin in driven engagement with said first member and the other end of said pin in driven engagement with said second member whereby said members transmit torque from said drive means to said pin, a pair of pinion gears rotatably mounted on said drive pin and a pair of side gears secured one on each of said output shafts and meshing with said pinion gears.

3,406,593
LIMITED SLIP DIFFERENTIAL MECHANISM
Gary L. Vesey, Elk Grove Village, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Sept. 15, 1966, Ser. No. 579,730
7 Claims. (Cl. 74—711)



Limited slip differential increases inefficiency of planetary gear type differential wherein pinions are arranged in two orbits in full circle mesh with each other and with their teeth and ends in frictional engagement with a carrier member, by providing a resilient biasing means for exerting compressive forces against the pinions so as to increase the friction force between the pinions and their supports.

3,406,594
WINDOW REGULATOR MECHANISM
Joseph Pickles, Dearborn, Mich., assignor to Ferro Manufacturing Corporation, Detroit, Mich., a corporation of Michigan
Filed Aug. 15, 1966, Ser. No. 572,265
5 Claims. (Cl. 74—801)

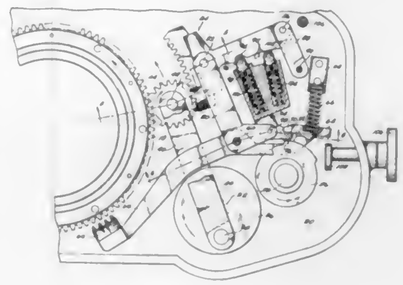


A gear reducer particularly for use in a window regulator comprising a mounting bracket having an enlarged opening provided with teeth forming an internal gear, a pair of plates abutting and slidingly engaging opposite sides of the mounting plate, and a shaft extending through all of said plates. The shaft has an eccentric portion intermediate the pair of plates mounting a gear in mesh with the internal gear and having a few less teeth. The pair of plates are rigidly interconnected by pins extending through separate openings in the gear so that rotation and gyration of the gear results in rotation of the pair of plates.

3,406,595
INDEX UNIT
Lyell C. Tullis, Janesville, Wis., assignor to Giddings & Lewis Machine Tool Company, Fond du Lac, Wis., a corporation of Wisconsin
Filed Apr. 13, 1967, Ser. No. 630,611
9 Claims. (Cl. 74—814)

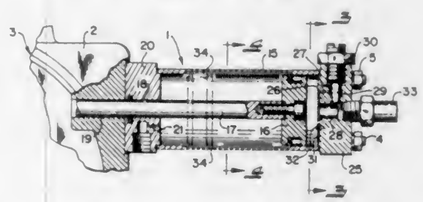
The index table is carried on a ring gear which is indexed when a rack segment is positioned so an idler pinion on a connecting rod engages the rack and ring gear. On the return stroke and during dwell a cam moves the rack segment to inactive position and a shot-pin gear segment holds the ring. If the ring jams, a spring loaded overload

arrangement withdraws the rack segment which will be returned to operation on the next index stroke. The ring gear permits a large center opening and large bearing



surfaces. The ratio between the connecting rod shaft and cam shaft speed determines the portion of the cycle for indexing. The stroke of the connecting rod determines the number of indexes.

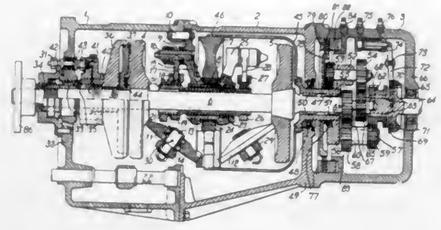
3,406,596
CUSHIONING CYLINDER FOR INDEX FIXTURES AND THE LIKE
Milton L. Benjamin and David D. Walker, Chagrin Falls, Ohio, assignors to Erickson Tool Company, Solon, Ohio, a corporation of Ohio
Filed Feb. 14, 1966, Ser. No. 527,361
5 Claims. (Cl. 74—821)



A cushioning cylinder vented at one end and provided with longitudinal grooves in the inner wall intermediate the ends thereof permitting free flow of gas from one side of the piston to the other through such longitudinal grooves during an initial portion of its stroke toward the other end. A restriction in the other end permits restricted flow therefrom during the remainder of the piston stroke beyond the longitudinal grooves for cushioning the end movement of the piston.

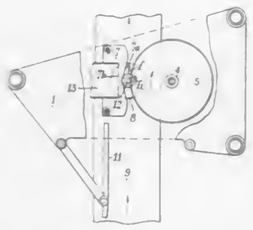
3,406,597
CONTINUOUSLY VARIABLE RATIO TRANSMISSION SYSTEM AND CONTROL SYSTEM THEREFOR
Forbes George De Brie Perry, East Grinstead, Thomas George Fellows, London, and John William Ledward Petty, Haywards Heath, England, assignors to National Research Development Corporation, London, England, a corporation of Britain
Filed Nov. 26, 1965, Ser. No. 509,773
Claims priority, application Great Britain, Dec. 1, 1964, 48,737/64
26 Claims. (Cl. 74—865)

An infinitely variable transmission having two ranges of speed. The first range is effected through two power paths to a planetary gear set with an infinitely variable friction drive in one of the power paths. The second range, or regime, is provided solely by the friction drive, the low end of the second range overlapping the high end of the



first range. A one way clutch may be utilized in one path of the first range and an automatic control is provided, responsive to engine speed and torque demand, to vary the transmission within each range and between ranges.

3,406,598
DEVICES FOR CIRCULARLY SECTIONING PLASTIC OBJECTS, NOTABLY FOR TRIMMING BOTTLES
Gilles Doucet, Saint-Jean-Vedas, France, assignor to Georges Lesieur & Ses Fils, Societe Anonyme, Paris, France, a French company
Filed Feb. 7, 1966, Ser. No. 525,567
Claims priority, application France, Feb. 9, 1965, 4,846
8 Claims. (Cl. 82—46)

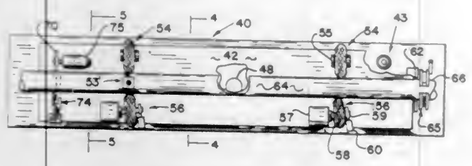


Device for circularly cutting plastic objects having formed in their walls a circular groove adapted to constitute a supporting groove, notably for trimming bottles, which comprises a fixed guide member and a rotatably movable guide member, said circular groove being adapted to be inserted between said guide members, and a cutting blade penetrating into said object during its movement between said guide members.

3,406,599
APPARATUS FOR CUTTING AND GROOVING CEMENT LINED PIPE
Herbert D. Horton, 3011 Lakeview Drive, Odessa, Tex. 79760
Filed Nov. 24, 1967, Ser. No. 685,518
7 Claims. (Cl. 82—101)

Apparatus for cutting and grooving pipe, and especially cement lined pipe, comprising a floating platform which rotatably supports the pipe and which is adapted to move about in order to conform to irregularities produced by a bent pipe during its rotational movement. The floating platform rotatably supports the pipe while at the same time forces the pipe toward a stop means. Means are provided for cutting a butt joint at one end of the pipe.

Means for cutting a circumferentially extending groove are located a spaced apart distance from the butt end cutting means. Stop means cooperate with the butt of the pipe to maintain alignment of the groove with the groove cutting means during the cutting operation.



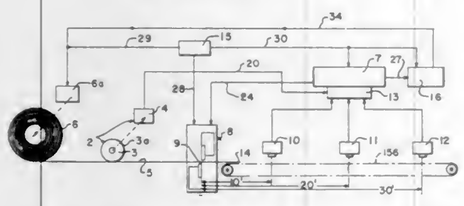
The floating platform includes a centrally located mount means which centrally ties the platform to a supporting member. Resilient means are radially spaced about the stop means and are attached to the platform.

3,406,600
METHOD OF REMOVING MATERIAL FROM THE INSIDE OF A COIL
James E. Minick, Pittsburgh, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed Apr. 27, 1966, Ser. No. 545,723
4 Claims. (Cl. 83—13)



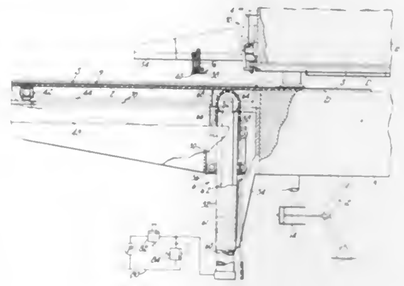
1. The method of removing material from the inner end of a coil of strip having a central eye therein; which method comprises inserting a shaft having a diameter less than that of said eye axially into said central eye, fastening the inner end of said strip to said shaft, then causing relative rotation between said shaft and said coil to wind the inner end of said strip on said shaft, discontinuing rotation after the desired amount of strip has been wound on said shaft to form a small coil, removing said shaft from said eye with the small coil thereon, severing said strip on said shaft from the main coil of strip, and stripping the strip from said shaft.

3,406,601
AUTOMATIC MEASURING APPARATUS
Francis Patrick Clifford, 124 2nd St., Pittsburgh, Pa. 15215
Filed Sept. 19, 1967, Ser. No. 668,835
10 Claims. (Cl. 83—72)



An apparatus for automatically and accurately measuring varying lengths of moving material. It is particularly useful where different lengths are to be measured in rapid succession. It combines features of a pulse means in contact with the moving material which generates electrical pulses at intervals corresponding substantially to a set distance of material travel and of sensing devices placed at given positions from a reference point. The electrical pulses from the pulse means are tallied by a counting means whose tally is adjusted either periodically or complementarily by correcting means which receives electrical signals from the sensing devices. In operation, the apparatus may actuate die mechanisms to cut or stamp the material at desired lengths.

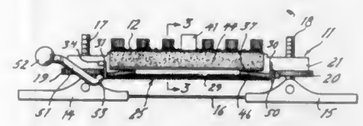
3,406,602
STACKING DEVICES FOR CUTTING PRESSES
David F. Creffield, Bristol, England, assignor to United Shoe Machinery Corporation, Flemington, N.J., and Boston, Mass., a corporation of New Jersey
Filed Nov. 22, 1966, Ser. No. 596,319
Claims priority, application Great Britain, Dec. 2, 1965, 51,140/65
6 Claims. (Cl. 83—92)



1. In a cutting press having a bed, a beam provided with a rearward extension, said beam and said bed being mounted for relative movement of approach and separation in cutting strokes, power means for effecting such movement, cutting means mounted on the beam for cutting sheet material fed between said beam and said bed, a feed table arranged to move between a retracted position in which an outfeed portion of the table is positioned between the beam and the bed and an advanced position in which an infeed portion of the table is positioned between the beam and the bed and the outfeed portion is positioned under said rearward extension, means for clamping sheet material to the table when it is moved from its retracted position to its advanced position, and means mounted on said rearward extension for restraining the sheet material from movement with said table toward its retracted position, in combination therewith, a stacking table mounted for vertical movement toward and away from the underside of the outfeed portion of said feed table in its advanced position, actuating means connecting said stacking table, said beam and said bed for moving said stacking table with relative movement of said beam and said bed to raise said stacking table toward the feed table during relative movement of approach of said beam and said bed, and adjusting means associated with said connecting means and having an element thereof movable for varying the vertical position of said stacking table independently of said relative movement of the beam and the bed whereby to establish a relation of the position of the stacking table in which relative movement of approach of said beam and said bed is operative to raise said table until stopped by engagement with the outfeed portion of said feed table, said adjusting means including means for providing a substantially non-resilient yielding of said element with continued relative movement of approach of the beam and the bed after such stoppage, whereby, as the height of cut work parts on the

stacking table increases, the vertical position of the table, at the time of such stoppage, lowers to maintain a receiving surface of uniform height.

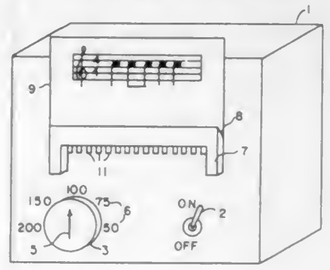
3,406,603
MUTE FOR STRINGED INSTRUMENTS
Sebastiano Melita, 2343 S. 10th St., Philadelphia, Pa. 19148
Filed Mar. 1, 1967, Ser. No. 619,785
6 Claims. (Cl. 84—290)



This invention concerns the provision of a mute for stringed instruments which is totally mounted on the bridge of the instrument for ease of operation without adversely affecting tone.

The mute is formed from a single sheet of resilient material. One portion of which is bent over the bridge and the pad of muting material placed thereon. A second portion supports a lever which activates the mute.

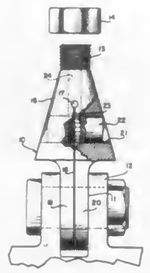
3,406,604
TIME AND RHYTHM INDICATING DEVICE
Elmer E. Stickley, 9 Leisurely Lane, Bellport, N.Y. 11713, and Michael McKeown, Mott Lane, Hamlet of Brookhaven, Brookhaven, N.Y. 11719
Filed Sept. 7, 1965, Ser. No. 485,358
5 Claims. (Cl. 84—484)



A metronome of flexible musical capacity, including a card bearing visible indicia indicative of a selected rhythm pattern to which the device is set, including a plurality of circularly arranged contacts, a motor driven wiper sequentially engaging the circularly arranged contacts and a plurality of linearly arranged contacts, the card being appropriately notched to energize and de-energize a selected one of the linearly arranged contacts in accordance with the selected rhythm pattern, and means for selectively varying the speed of the motor driven wiper.

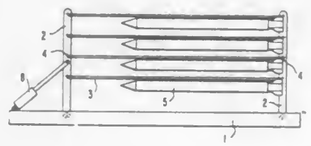
3,406,605
BOLT WITH MULTIPLE LOAD PATHS
Sigurd Kviten, Smyrna, Ga., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Dec. 9, 1966, Ser. No. 600,458
8 Claims. (Cl. 85—1)

1. A bolt adapted to engage and secure parts against relative movement comprising a shank, engagement means adjacent opposite ends of said shank for coaction with corresponding means carried by the parts to be connected, a longitudinal slot extending from one end of said shank to a selected point short of the other end thereof, a transverse hole piercing said shank and intersecting said slot, an axial bore extending from said other end of said shank and communicating with said transverse hole, a plug filling said transverse hole, a threaded



hole in said plug adapted to align with said axial bore when the plug is located as aforesaid, and a stud threaded at opposite ends adapted to pass through said axial bore and coact at one end with said threaded hole and at the other end with a nut.

3,406,606
DEVICE FOR THE TRANSPORT AND LAUNCHING OF ROCKET PROJECTILES HAVING A RIGID TAIL ASSEMBLY
Rainer Schöffl, Liebenau, Germany, assignor to Dynamit Nobel Aktiengesellschaft, Troisdorf, Postfach, Germany
Filed July 11, 1966, Ser. No. 564,417
Claims priority, application Germany, July 15, 1965, D 47,732
20 Claims. (Cl. 89—1.815)

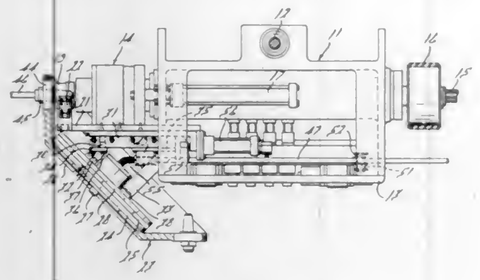


A frame that will hold rockets having rigid tail assemblies in a compact transport position where the rigid tail assemblies are transversely overlapping and is shiftable to a launching position where the rockets are held so that their rigid tail assemblies are transversely spaced from each other to allow clearance for independent firing of the rockets.

3,406,607
TOOL CHANGING AND FEED CONTROL MECHANISM
Walter P. Hill, Troy, Mich., assignor to Walter P. Hill, Inc., Oakland, Mich., a corporation of Michigan
Filed Aug. 1, 1966, Ser. No. 569,341
8 Claims. (Cl. 90—56)

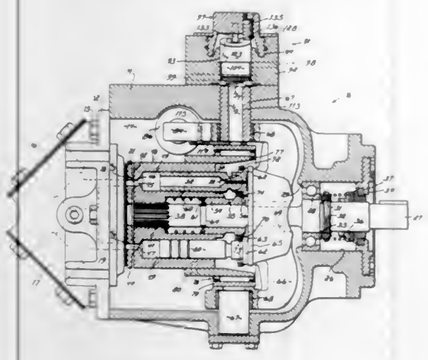
1. In a tool changing and feed depth selector device for use with numerically controlled machine tools of the type having a tool slide movable toward and away from the work and spindle rotatably carried by said tool slide, a base, tool supporting means rotatably mounted on said base, a tool changer and feed selector subassembly comprising an auxiliary slide mounted on said tool slide for movement parallel to the spindle axis, means securing said base to said auxiliary slide, means for reciprocating

said auxiliary slide with respect to said tool slide, a quick-release tool holder carried by said spindle, said tool holder having means whereby movement of said auxiliary slide in one direction will cause a tool carried by said tool



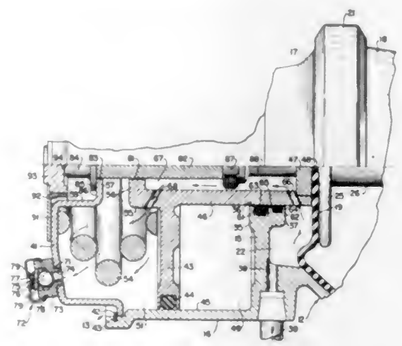
supporting means and aligned with said tool holder to become connected thereto, and means mounted on said tool slide adjacent said tool holder for actuating the tool holder to its releasing position.

3,406,608
CONTROL FOR VARIABLE VOLUME PUMPS AND MOTORS
Paul E. Diedrich, Columbus, Ohio, assignor to Abex Corporation, a corporation of Delaware
Filed Feb. 18, 1966, Ser. No. 528,517
15 Claims. (Cl. 91—368)



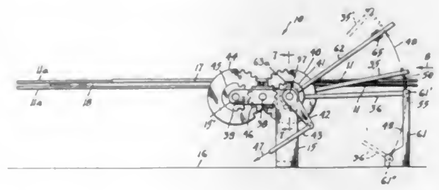
Servomechanism for controlling the angular position of pressure operated rotatable means such as the hanger of a variable volume pump or motor, wherein a rotational input signal cams a spool axially from a null position and thereby opens a path through which pressure fluid is applied to operate the rotatable means. Turning of the latter is fed back to the spool and rotates the spool in a direction following the rotation of the input signal. The spool is biased toward the cam, and rotation of the spool relative to the cam shifts the spool axially so that when the spool has been turned to its original position with respect to the cam it has shifted axially to its original null position and thereby closed off the flow to the pressure operated rotatable means. The servomechanism can maintain a lineal relationship between the rotary input command signal and the volume of fluid passing through a pump or motor per unit time. The cam can be coupled to the spool for establishing a positive drive thereof.

3,406,609
BRAKE ACTUATOR
Frank T. Cox, Jr., Ashtabula, Ohio, assignor to Rockwell-Standard Corporation, Pittsburgh, Pa., a corporation of Delaware
Filed July 8, 1966, Ser. No. 563,859
13 Claims. (Cl. 92—63)



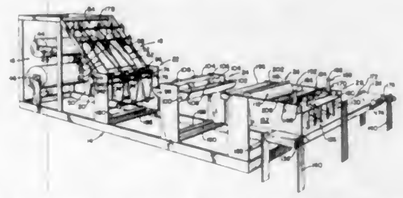
A combination service and auxiliary brake operator comprises fluid pressure service and auxiliary motors in tandem with a piston in the auxiliary motor normally held in position to compress a spring in a spring chamber when the fluid pressure in the vehicle system is above a predetermined value, and the spring chamber is connected to the fluid pressure chamber of the service motor when the piston is displaced in brake operating direction, the spring chamber having a one-way check valve for exhaust of fluid from the spring chamber when the piston is displaced in the direction to compress the spring. This eliminates entry of dirt, moisture and undesired fluid into the auxiliary motor while providing adequate venting of the spring chamber.

3,406,610
PLASTIC DRAWSTRING BAG MACHINE
Bertie C. Golden, 7506 Brookside Blvd., Richmond, Va. 23227
Filed Aug. 17, 1965, Ser. No. 480,329
36 Claims. (Cl. 93—8)



A machine and method for making plastic bags from flat tubular stock and equipping the bags with drawstrings. The machine includes a pair of stock guiding bars with an intermediate creasing plate for reentrant doubling of one longitudinal edge portion of the stock. Heat sealing means and severing means on the creasing plate form the doubled edge portion of the stock with a pair of hems. The guiding bars have opening means over which the hems pass, and means are provided for passing lengths of drawstring through the opening means so that the drawstring is drawn into the hems by movement of the hems along the bars. Additional heat sealing means beyond the opening means sever the stock transversely into individual bags and join together the severed bag edges with drawstring ends projecting from the hems.

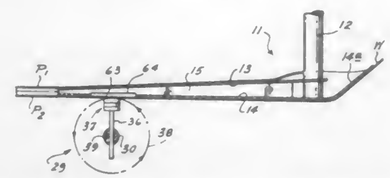
3,406,611
APPARATUS FOR PRODUCING AND STACKING SHEETLIKE ITEMS
M. Benjamin Gwinn and Earl P. Buchmiller, Denver, Colo., assignors to National Packaging Products, Denver, Colo., a corporation of Colorado
Filed Oct. 13, 1965, Ser. No. 495,566
13 Claims. (Cl. 93—8)



An apparatus for forming from a pair of flexible sheets circumferentially expandable encompassing means, containers and the like and for rapidly processing and continuously stacking flexible sheetlike items. The apparatus for forming a pair of sheets formed from flexible materials circumferentially expandable encompassing means includes means for simultaneously supplying a pair of flexible sheets of dissimilar widths, means for forming longitudinally extending pleats along opposite sides of the wider of six sheets and at least one longitudinally extending inverted plate disposed intermediate said longitudinally extending plates, means for adhering together said sheets along the pleated portions formed along the opposite edges of said wider sheet. The apparatus for rapidly processing and stacking flexible sheetlike items comprises a stacking means, means for transporting flexible sheetlike items to said stacking means, means for increasing the longitudinal rigidity of each sheetlike item by curving opposite edges thereof prior to the delivery thereof to said stacking means, means for imparting a downward force on the rearward portion of each sheetlike item immediately following the exiting thereof from said transport means, said stacking means including a first and second stack support means, said second stack support means being mounted for reciprocal movement in a plane disposed a predetermined distance above said first stack support means, said second stack support means being adapted to receive items from said transport means upon being disposed above said first stack support means.

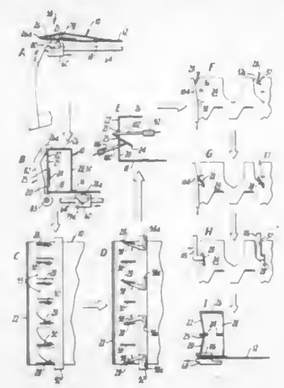
3,406,612
APPARATUS FOR INCISING PAPER OR OTHER FIBROUS SHEET MATERIAL
Dominick Terzuoli, 2258 E. 70th St., Brooklyn, N.Y. 11234
Filed Jan. 11, 1967, Ser. No. 608,671
6 Claims. (Cl. 93—8)

A bag-making machine in which a paper web is moved continuously through a folding device which forms the web into a flattened tube having opposed plies and then through a cutting device which transversely cuts the tube into sections to be formed into individual bags by closing of at least one of the ends thereof, is provided with a resistance wire having the configuration of a desired pattern and being electrically heated to a temperature well above the charring temperature of the paper, and such heated wire is moved in a circular path in synchronism with the operation of the cutting device and the speed of movement of the web so as to repetitively effect non-slip contact with the web at locations spaced along the latter in the lateral portion of the web which constitutes one of the plies of the tube, thereby to burn or char through that one ply for incising the latter in the desired pattern. The web does not need to be backed-up or supported at the surface thereof facing away from the wire



during contact by the latter, and thus the charring of the desired patterns can be effected desirably close to the cutting device, preferably at the folding device which can have an opening in its folding blade contacting the ply being charred at the region where the wire makes contact with such ply.

3,406,613
EGG CARTON FORMING MACHINE
Arthur E. Randles, Jr., 707 Warrington Road, Redwood City, Calif. 94063
Filed Jan. 25, 1967, Ser. No. 611,617
7 Claims. (Cl. 93—37)

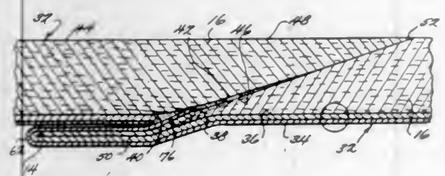


A machine for erecting egg cartons from pre-formed blanks including a slide that moves along a table and carries two pair of pivotally mounted fingers, one to feed a carton blank from a hopper to an assembly station and another to deliver an erected carton from the assembly station. The slide returns while arms pivot up from below the table to open the blank up and cooperating arrays of fingers fold and interlock the longitudinal and transverse cell dividers. During retraction, the delivery fingers are cammed outward to pass behind a carton panel which is engaged on the delivery stroke.

3,406,614
TUBULAR MEMBER AND METHOD FOR MAKING THE SAME AND CONTAINER MADE THEREFROM
Roy M. Martin, Henrico County, and Calvin L. Wilson, Chesterfield County, Va., assignors to Reynolds Metal Company, Richmond, Va., a corporation of Delaware
Original application June 9, 1965, Ser. No. 462,666, now Patent No. 3,315,864, dated Apr. 25, 1967. Divided and this application Mar. 13, 1967, Ser. No. 643,756
8 Claims. (Cl. 93—80)

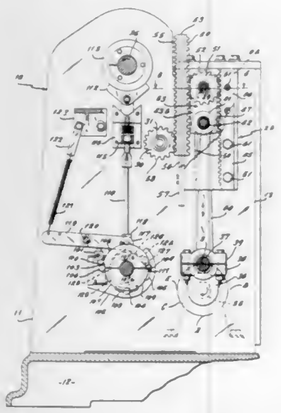
Apparatus and method are disclosed for the production of fiber-foil tubular containers, having a liquid tight liner

on the interior of a single body ply. The mating helical edges of the body ply are skived and, when bonded by suitable adhesive, provide a joint stronger than the web itself. In forming the web, one edge of the liner ply or strip overlaps the adjacent skived edge of the body strip and is folded back upon itself. The opposite edge of the liner is separated away from the opposite skived edge of the body ply. When successive loops of the web are pressed together with adhesive therebetween an acceptable metal to metal seal is formed, the edges of which



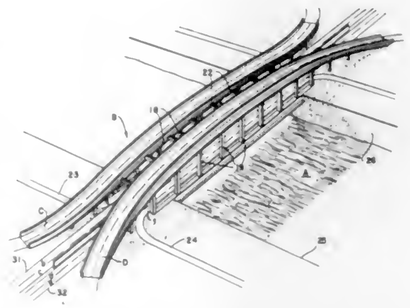
do not extend substantially between the mating edges of the body ply, thereby effecting economy of the liner materials. In the method of forming the tubular member of the container, a novel step of applying the adhesive is employed, whereby a portion of the adhesive is formed as a bead over an edge of the metallic liner material and a second adhesive portion, integral with the bead, is doctored into a thin film over an adjacent skived surface of the body ply, thus providing improved characteristics in the bonding of the metal and fiber surfaces.

3,406,615
MANDREL DRIVE ASSEMBLY FOR CONVOLUTE WINDER
Wilhelm Woelbel, St. Louis, Emert E. Owens, Lemay, and Curtis J. Smith, Fenton, Mo., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed July 21, 1967, Ser. No. 655,204
10 Claims. (Cl. 93—81)



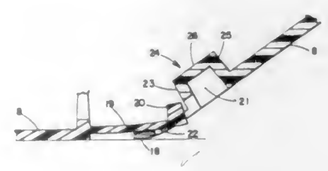
A drive assembly for the winding mandrel of a convolute winder comprising a ratchet mechanism actuated by the main drive of the winder for rotating the mandrel in timed relation to the usual paper feed, a clutch assembly working with the ratchet mechanism for precisely locating the mandrel in predetermined relation to the paper feed position, and means to stabilize the mandrel during reset operations of the ratchet mechanism.

3,406,616
BRIDGE AND TRAFFIC SYSTEM
Edwin Lee McLean, 1531 Osceola St., Jacksonville, Fla. 32204
Filed Apr. 14, 1966, Ser. No. 542,602
1 Claim. (Cl. 94—1)



A traffic system and bridge structure with an underpass span and an overpass span having entry and exit arrangements with the underpass having an array of traffic lanes including straight-away lanes and side lanes converging together into side-by-side lanes throughout the underpass span and dual lanes in spaced relation throughout the overpass span so that none of the lanes are in crossed relation.

3,406,617
ARTIFICIAL SKI SURFACE
Marion G. Randazzo, Inglewood, Calif., assignor to Karen Supply Co., Inc., Chino, Calif., a corporation of California
Filed July 5, 1966, Ser. No. 562,894
4 Claims. (Cl. 94—13)

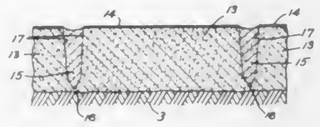


An improved artificial ski surface is disclosed which is composed of a plurality of individual structural members, each of which is provided with a plurality of elongated plastic pins extending from one side thereof and each of which has at one edge a pair of male flanged tabs and on the opposite edge a pair of mating female sockets. The individual structural elements are interlocked to form an artificial ski surface.

3,406,618
METHOD OF MANUFACTURING BRICKS, TILES, COBBLESTONES AND THE LIKE DIRECTLY ON THE GROUND TO BE COVERED
Bradshaw Bowman, 41 Laurel Drive, Carmel Valley, Calif. 93924
Filed Aug. 3, 1965, Ser. No. 476,849
6 Claims. (Cl. 94—24)

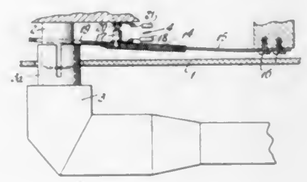
In the making of bricks, tiles or cobblestones on the ground to be covered, after a cement slab is formed, powdered absorbent coloring agent is broadcast and bull-

floated so as to harden the top surface to at least the same plasticity as the plasticity of the body of the slab deep below the surface; then forming blades are driven in predetermined pattern by walking tools deep into the concrete slab while the slab is still plastic; the walking tools consist of a plurality of blades on the bottom of a grid platform arranged in the pattern to simulate bricks, tiles or cobblestones; the blades are of a height corresponding to the average thickness of such bricks, tiles



or cobblestones and the grid is adapted to be suitably pounded by workmen; each blade terminates in a steep V-shaped penetrating edge of such angle as to squeeze some moisture from the concrete adjacent the blade surfaces thereby to prevent the sticking of concrete to the sides of the blade; one end and one side of each walking tool is formed by such blade and each such side and end blade has fillets of V-shaped cross-section contiguous with the V-shaped tips of the respective intersecting blades thereby to form continuous grooves.

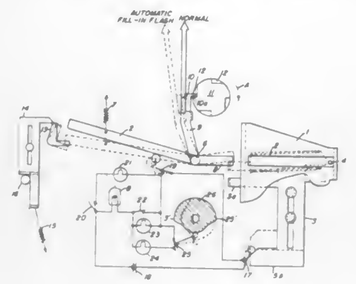
3,406,619
FLASH ATTACHMENT DEVICE FOR PHOTOGRAPHIC CAMERAS
Waldemar T. Rentschler, Calmbach (Enz), Germany, assignor to Prontor-Werk Alfred Gauthier, G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany
Filed Apr. 1, 1965, Ser. No. 444,752
Claims priority, application Germany, Apr. 9, 1964, G 40,309
2 Claims. (Cl. 95—10)



A photographic camera that provides for the arrangement of a switch which is positively actuated when a flash device is attached to the camera so that when taking flash pictures the switch connects the exposure meter of the camera, charged with photo-cell current in the daylight range, to a voltage source independent of illumination. This connection is positively cut-off when the flash device is removed.

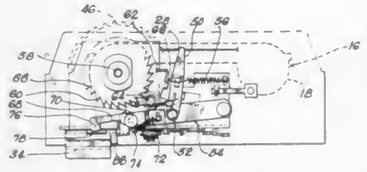
3,406,620
AUTOMATIC CONTROL FOR DAYLIGHT OR FLASH OPERATION OF A CAMERA
William T. Hochreiter, Ronald S. Kareken, and David E. Beach, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed July 19, 1965, Ser. No. 473,096
17 Claims. (Cl. 95—10)

Automatic flash control for a camera of the type employing an indexable multilamp flash unit and a light measuring system. The control apparatus includes a lock preventing indexing of the flash unit and a normally open switch in the flash circuit. When scene illumination is below a predetermined level the lock automatically dis-



engages and the switch closes, thus allowing a flash lamp to be fired and the flash unit to be indexed. Manual override means are provided to allow for use of fill-in flash.

3,406,621
CAMERA CONSTRUCTION
George Irwin, Highland Park, Ill., assignor to Imperial Camera Corporation, Chicago, Ill., a corporation of Delaware
Filed June 22, 1965, Ser. No. 465,950
5 Claims. (Cl. 95—31)



A camera construction for use with film of the type defining a plurality of frames with perforations defined along the length of the film for purposes of indexing the film, frame-by-frame. A sensing member is mounted in the camera housing for engagement with the perforations. Advancing means for the film are operable until the sensing member engages a perforation, at which time the sensing member operates to lock the film advancing means against further movement. Means are provided in association with the sensing means for locking the shutter actuating mechanism until a perforation is engaged whereby the shutter actuating member will only operate when the film is in position. Cam means are formed on the shutter actuating member to remove the sensing means from a perforation while at the same time unlocking the advancing means.

3,406,622
VENTILATION MEANS FOR PASSENGER MOTOR VEHICLES
Hans Gotz, Backnang-Stockenhof, Germany, assignor to Daimler - Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany
Filed Aug. 1, 1966, Ser. No. 569,369
Claims priority, application Germany, Aug. 4, 1965, D 47,894
15 Claims. (Cl. 98—2)

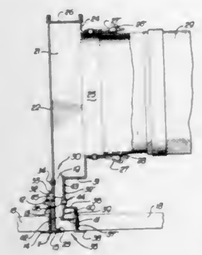
A motor vehicle body having provisions for ventilation of the passenger space and for prevention of fogging of the rear window, including a channel-shaped rain ledge

provided along the rim of the top of the vehicle body above the side windows and behind the rear edge of the side windows, a series of apertures within the body panels in the area of the rear support column, said apertures be-



ing positioned directly behind the rain ledge, a channel formed along the bottom of the rear window, a series of slots venting said channel into the passenger space, and air ducts providing communication between the channel and the series of apertures.

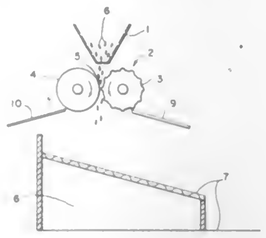
3,406,623
PLENUM AIR DIFFUSER ASSEMBLY
Robert R. Lambert, Glendora, Calif., assignor to Air Factors, Inc., Covina, Calif., a corporation of California
Filed May 9, 1967, Ser. No. 637,145
13 Claims. (Cl. 98—40)



A plenum air diffuser assembly including a rear wall having a bottom footing to seat on a flange of an inverted T-bar framework provided in a suspended ceiling installation, the inverted T-bar flange also defining a portion of the diffuser outlet at the plane of the surrounding suspended ceiling tiles, and a flange on the assembly front wall to support an adjacent ceiling tile. A weir plate located in the air diffuser with a horizontal plate disposed parallel and spaced above the plane of the diffuser outlet, the horizontal plate having an effective width equal to that of the diffuser outlet, and means for mounting the weir for vertical movement to place the horizontal plate in selected location above and parallel to the plane of the diffuser outlet.

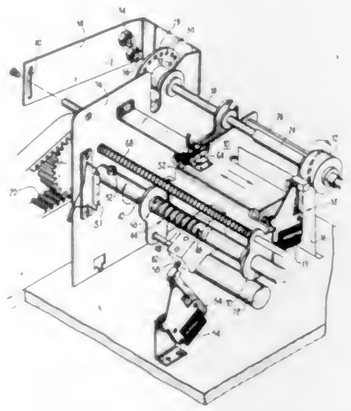
3,406,624
WOOD CHIP CRUSHER
Don H. Kutchera, Oshkosh, Wis., and Donald A. Payant, Childersburg, Ala., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Nov. 10, 1966, Ser. No. 593,406
10 Claims. (Cl. 100—176)

1. In a chip crusher for wood chips, a pair of cylindrical cooperating rolls defining a crushing nip and adapted for crushing wood chips, spiraled relatively narrow ribs uniformly spaced circumferentially on at least one of the rolls and projecting to a uniform height above the roll from between about 0.010 inch to about 0.020 inch and designed to grip and roll chips passing in said nip to exert a com-



pressive force on chips in the nip, said ribs having a uniform face width which is materially less than the roll surface distance between adjacent ribs.

3,406,625
DRIVING MEANS FOR HIGH-SPEED PRINTING APPARATUS
Leland D. Chamness, Castro Valley, and Andre F. Marion, Berkeley, Calif., assignors to Friden, Inc., a corporation of Delaware
Continuation-in-part of application Ser. No. 528,501, Feb. 18, 1966. This application Aug. 25, 1967, Ser. No. 663,292
14 Claims. (Cl. 101—93)

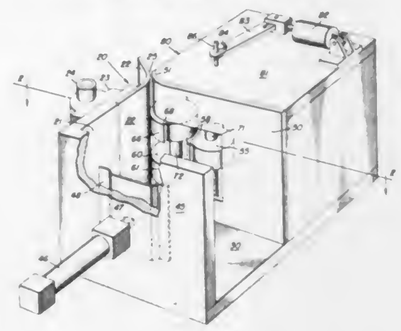


A printing carriage is cyclically driven by means of a rotatable shaft having a helical-like shaped groove therein. One end of the groove has a variable pitch portion which is less than the pitch of the remainder of the groove and a ramp is located at the other end of the groove. A detent pin mounted to the carriage engages the variable pitch portion of the groove which enables the carriage to be coupled to the groove shaft, while the shaft is rotating, and smoothly brought up to a constant velocity, from a start position, with printing enabled to take place during the constant velocity travel of the carriage. To effect "zero" suppression and to decrease line-to-line printing time, the detent pin may be withdrawn from the groove anywhere along the length thereof. However, if a full line of printing is to take place, the ramp disengages the pin from the rotating shaft, when the detent pin reaches the end of the groove, thereby disengaging the carriage from the shaft. When disengaged from the rotating shaft, the carriage is automatically returned to its start position.

3,406,626
CONTINUOUS CONTROL REGISTER
Norman A. Ternes, 387 Minnesota Ave., St. Paul, Minn. 55117
Filed May 23, 1966, Ser. No. 552,253
2 Claims. (Cl. 101—211)

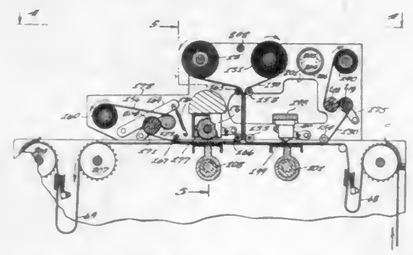
The specification discloses a method of producing color plates which may be removed from a press and replaced with virtually no adjustment of registry. The invention involves the use of a stripper table, an exposure table, and a press, each of which is provided with positioning pins spaced apart a distance which is a multiple of three and three-quarters inches. The art work is punched to provide a pair of apertures near one edge spaced apart a distance equal to the spacing of the pins on the press. Color negatives are formed from the art work. A masking sheet is cut to expose the areas of the art work on one color. Negatives are secured to the masking sheet spanning the openings in the masking sheet while the masking sheet overlies the art work on the stripper pins. Similar masking sheets are provided for supporting the negatives of each color. Each masking sheet in turn is placed on the pins of the exposure table. A light sensitive plate for each color is notched along an edge to embrace the pins of the exposure table. Each plate is exposed through a corresponding masking sheet while in registry with the exposure table pins. The plates are then secured, one at a time, to the printing cylinder in registry with the pins and the colors are printed.

3,406,627
TAG FEEDING DEVICE
Frederick R. Becker III, New Orleans, La., assignor to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware
Filed Apr. 4, 1966, Ser. No. 539,896
10 Claims. (Cl. 101—232)



1. A tag feeder for singly supplying a flexible tag, comprising:
- (a) a flat boundary means against which the forward side of a stack of flexible tags is aligned,
- (b) a curved discharge means, whose linear elements are parallel to the plane of the boundary means, that is rigidly attached to said flat boundary means,
- (c) a pair of tag supports that are rigidly attached to said flat boundary means, near to said curved discharge means but on the opposite side to the direction of curvature of the curved discharge means, said tag supports being mutually separated by a distance less than the length of a tag and each tag support having a flat surface in a common tag discharge plane that is in right-angled relationship to said flat boundary means and slightly beyond the beginning of curvature of said curved discharge means, whereby the ends of the stack of tags rests upon the flat surfaces,
- (d) pressure-applying means for compressing the stack of tags against said flat surfaces of the tag supports, said pressure-applying means being rigidly parallel to the tag discharge plane,
- (e) roll support means that are attached to said tag supports on the opposite side thereof from said flat surfaces,
- (f) a two-stage tag selection means, comprising:
  - (1) a discharge roll, having a peripheral surface which is formed of two distinct sectorial steps of differing radii, that is rotatably attached to said roll support means and so mounted between said tag supports:
    - (a) as to permit only the step having the larger radius to protrude beyond the flat surfaces of the tag supports,
    - (b) that rotation of the roll causes the protruding sectorial step to move toward said curved discharge means, and
    - (c) additional rotation of the discharge roll brings the protruding sectorial step into circular convergence with the curved discharge means while maintaining a spaced-apart relationship that defines a discharge slot therebetween, and
  - (2) a compression roll, having a peripheral surface which is formed of two distinct sectorial steps of differing radii, that is rotatably attached to said roll support means at a greater distance from said curved discharge means than said discharge roll and so mounted between said tag supports as to permit only the step having the larger radius to protrude beyond said flat surfaces of the tag supports, whereby the compression roll initially compresses the stack of tags on the rearward side thereof, thus loosening the stack of tags on the forward side thereof, and the discharge roll secondarily compresses the stack of tags on the forward side thereof at the same time as, or slightly after, the forward edge of the tag adjacent to the tag discharge plane strikes the curved discharge means,
- (g) drive means that are attached to said roll support means,
- (h) gear means that are connected to said drive means and to the discharge roll and the compression roll, whereby all of said rolls rotate simultaneously in the same direction and at the same rotational speed.

3,406,628
WEB FEED CONTROL MEANS IN MULTIPLE NUMBERING AND IMPRINTING PRESS
Richard L. Le Gault, Brooklyn, N.Y., assignor to Heller Roberts Instruments Corporation, Brooklyn, N.Y., a corporation of New York
Filed Sept. 20, 1966, Ser. No. 580,781
7 Claims. (Cl. 101—288)

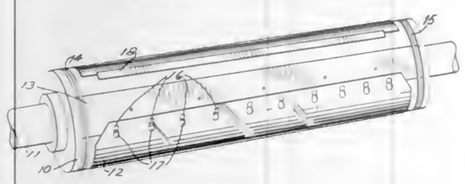


A machine for imprinting preprinted bank checks in marginally perforated roll form. Each preprinted check is individually imprinted with a serial number in ordinary

ink and with the same serial number in magnetic ink. The magnetic ink impression includes, in addition to the individual serial number, certain numbers such as bank clearing house identification numbers and customer account number information which ordinarily appears on all checks. The magnetic ink information is used in sorting apparatus which handles checks in the course of payment. The roll of preprinted checks is fed through the machine at constant velocity by input and output sprockets which engage in the marginal perforations, thereby synchronizing the strip velocity for correct registration with the preprinted portions of each check. Two free loops are formed in the strip of checks, one loop being adjacent to the input sprockets and the other loop being adjacent to the output sprockets. Immediately upstream of the loop which is adjacent to the output sprockets, there is a cyclically operative variable speed indexing device which drives intermittently acting advancing sprockets which also engage the marginal perforations. The average linear speed which the indexing device imparts to the strip is the same as the constant speed imparted by the input and output sprockets. Numbering heads of the imprinting type are located between the input sprockets and the cyclically operative advancing sprockets. The numbers imprinted by the numbering heads are advanced in unison with the indexing device so that imprinting action takes place when the speed imparted to the strip is at a minimum. Because there is a dwell or rest period when the strip velocity is substantially zero, the imprinting action is arranged to take place at this portion of the cycle. The imprinting intervals of the two heads are staggered to minimize the peak load on the drive mechanism produced by the imprinting action. When the strip advances, the only load which is accelerated by the advancing sprockets is the length of strip which is located in the imprinting section of the machine and a portion of the free loop adjacent to the input sprockets.

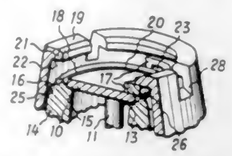
A deformable pressure member is provided for equalizing the printing pressure against the long row of numbering wheels used for the magnetic ink impressions. The necessarily large number of printing wheels mounted on a single supporting shaft involves flexure of the shaft intermediate its supported ends. The reduction in printing pressure at the middle of the row of printing wheels, which would otherwise be caused by this flexure, is compensated by corresponding flexure of the pressure member.

3,406,629
PRINTING PLATE CARRIER TRANSFER MOUNTING SYSTEM
Rolf Hoexter, Fort Lee, N.J., assignor to Mosstype Corporation, Waldwick, N.J., a corporation of New York
Filed Jan. 31, 1967, Ser. No. 612,845
9 Claims. (Cl. 101—415.1)



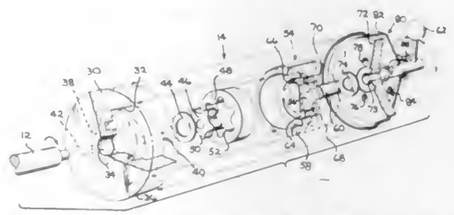
A carrier assembly for rubber printing plates, the assembly being usable with conventional plate cylinders in mounting and proofing machines and in flexographic presses, the assembly being constituted by an adapter bar attachable to the cylinder and provided with locating buttons to engage one end of a carrier sheet which is wrapped about the cylinder, whereby the carrier sheet onto which the printing plates are mounted may be readily attached or removed from the cylinder.

3,406,630
PERCUSSION FUZE FOR SHELLS
Kurt Müller, Dielsdorf, Switzerland, assignor to Oerlikon-Buhrle Holding Ltd., Zurich, Switzerland
Filed Oct. 17, 1966, Ser. No. 587,220
14 Claims. (Cl. 102—73)



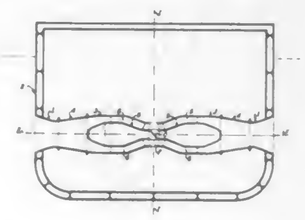
A fuze body is arranged on an impact igniter in the igniter tip intended for securing an axially displaceable firing pin. This fuze body is subjected to an air stream at the firing of the projectile and is fused by this air stream for the disengagement of the firing pin. For shortening the time of fusion of the fuze body conduits are arranged which are at least partially arranged within the fuze body itself for supplying air to both sides of the fuze body.

3,406,631
PUMP ASSEMBLY
Hugh C. Brown, Rochester, Mich., assignor to Dura Corporation, Oak Park, Mich., a corporation of Michigan
Filed July 21, 1966, Ser. No. 566,852
1 Claim. (Cl. 103—3)



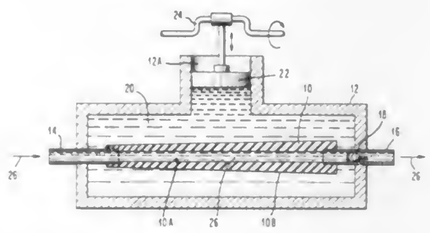
A pump assembly wherein the fluid flow can be reversed without reversing the direction of rotation of the driving motor and while the motor is in operation. The pump assembly comprises a main body member having an inner pumping chamber and a center bore, the chamber having diametrically opposed crescent shaped cavities from which passages extend respectively to the outside. A unidirectional drive shaft extends through the central bore of the pumping chamber, to which is fixed an inner pump rotor disposed within an outer pump rotor which has a series of inward teeth adapted to engage outward teeth on the inner rotor. The inner rotor has one less tooth than the outer rotor. A cup-shaped member has a base portion and a skirt-like portion which rotatably fits the pumping chamber and surrounds the outer rotor for shifting the latter in one direction or the other. The outer and inner peripheral walls of the skirt-like portion are eccentric to each other and a control shaft is secured concentrically to the base portion and extends outwardly therefrom to receive a control handle. In the inner surface of the base portion is a pair of diametrically opposed lobe-shaped cavities from each of which extends a port passing through the base portion. A partition wall abuts the outer face of the base portion and is centrally apertured to receive the control shaft and has a pair of diametrically opposed ports which extend therethrough and are adapted to align with the ports leading from the lobe-shaped cavities. A cover through which the control shaft extends, has a cylindrical skirt portion which sealingly engages a peripheral outer wall of the main body member and encloses the partition wall and has an outwardly spaced rear wall, which provides a reservoir chamber.

3,406,632
REVERSIBLE HYDRAULIC APPARATUS
Jacques Duport, Montbonnot, and Gilbert Martin, Grenoble, France, assignors to Societe Grenobloise d'Etudes et d'Applications Hydrauliques, Grenoble, France, a corporation of France
Continuation of application Ser. No. 338,522, Jan. 17, 1964. This application Sept. 2, 1966, Ser. No. 577,089
Claims priority, application France, Jan. 19, 1963, 4,526
9 Claims. (Cl. 103—3)



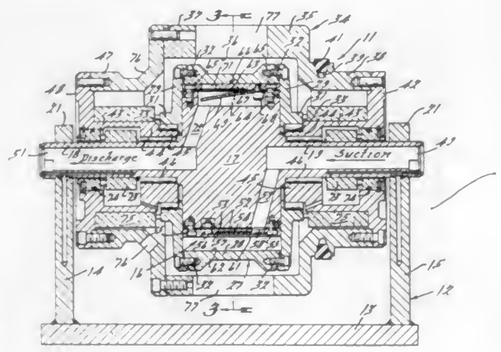
Reversible hydraulic apparatus composed of a duct having end portions capable of functioning either as inlets or outlets and having a hydraulic machine centrally located therein between two streamline casings which form with the duct, annular flow passages on either side of the hydraulic machine. The casings are supported on the duct by two groups of vanes; the hydraulic machine, casings and vanes being symmetrically arranged relative to a plane perpendicular to and intersecting a point on the longitudinal central axis of the duct. The vanes in each group are inclined radially adjacent to the hydraulic machine and the inclined portions of one group of vanes being similar to the inclined portions of the other group of vanes and such that the vanes in each group can without change operate alternately as upstream vanes for one direction of fluid flow and as downstream vanes for the other direction of fluid flow and can impart to the fluid flow when operating as upstream vanes a swirl varying in intensity across the duct passage.

3,406,633
COLLAPSIBLE CHAMBER PUMP
John F. Schomburg, Stony Point, N.Y., assignor to International Business Machines Corporation, a corporation of New York
Filed Nov. 7, 1966, Ser. No. 592,456
5 Claims. (Cl. 103—44)



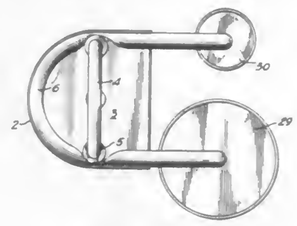
Fluid pumping action is obtained by surrounding an elongated collapsible chamber with a fluid capable of exerting varying pressure on the collapsible chamber. The chamber has a resistance to collapse varying along its length from a lesser resistance at its fluid inlet to a greater resistance at its fluid outlet. As the pressure of the fluid surrounding the chamber increases the chamber collapses progressively from its inlet to its outlet to thus expel the fluid contained therein.

3,406,634
AIR CONDITIONER COMPRESSOR
Edwin J. Ounsted, Ann Arbor, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed May 29, 1967, Ser. No. 641,983
10 Claims. (Cl. 103—121)



An air conditioning compressor assembly having a stationary vane carrying member or stator surrounded by a floating cylinder. A rotor or housing mounted for rotation about the axis of the stator surrounds the floating cylinder and has internal eccentric hubs on which the floating cylinder is journalled. As the housing is rotated, the floating cylinder is oscillated around the vane carrying stator. This oscillation causes inward and outward movement of the vanes and a pumping action between the stator and the floating cylinder.

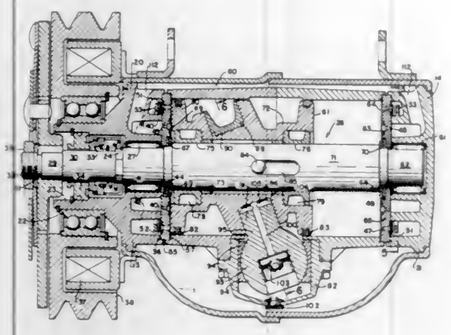
3,406,635
PROGRESSIVE DILUTION SERIES APPARATUS
Leif Tybring, Gentofte, Denmark, assignor to Lovens Kemiske Fabrik Produktionsaktieselskab, Ballerup, Denmark, a firm
Filed Jan. 17, 1966, Ser. No. 521,204
Claims priority, application Denmark, Jan. 18, 1965, 245/65
7 Claims. (Cl. 103—149)



The apparatus consists of a rotating or peristaltic working piston pump inserted into a conduit for pumping volumetric quantities of a solution in one or the other direction through a conduit, one end of which forms a connection to a reservoir for diluent while the other end is free to be lowered into a container for basic or diluted solution, the pump being provided with means for terminating the pumping after a measured quantity has been transported towards the end of the conduit to be lowered

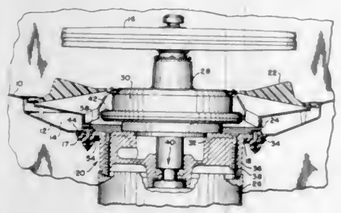
into the basic or diluted solution and is a predetermined number of times greater than when transporting the liquid towards the reservoir.

3,406,636
PUMPING MEANS
John William Olson, Jr., 1936 NW. 17th, Oklahoma City, Okla. 73106
Filed Aug. 15, 1966, Ser. No. 572,370
9 Claims. (Cl. 103—157)



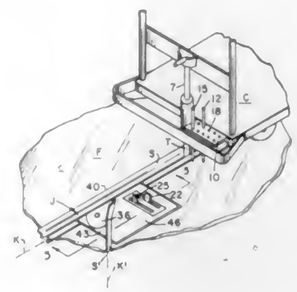
A pump with a single pumping piston with axially opposed piston heads having combined reciprocation and rotation within a cylinder having a central drive shaft, the cylinder having head closures and annular suction and exhaust chambers at each end controlled by inlet and outlet valves, the piston being formed around the exterior surface with a groove disposed at an angle with respect to the center axis of the piston, said groove serving to mount a bearing collar around which is mounted a yoke with a connecting universally mounted shank means to permit oscillation and drive means for imparting oscillation to the shank, to thereby impart reciprocation and rotation of the piston within the cylinder to provide a pump for continuous operation at high speed at relatively high piston loads.

3,406,637
VERTICAL PUMP DISHWASHER
Richard L. Perl, Mansfield, Ohio, assignor to The Tappan Company, Mansfield, Ohio, a corporation of Ohio
Filed May 23, 1967, Ser. No. 640,537
5 Claims. (Cl. 103—218)



The mounting for a motor-pump combination in a vertical pump dishwasher consisting of an annular gasket for retaining the combination in position and for sealing in a vibration-proof environment, wherein the gasket has depending projections with retaining nuts embedded therein which cooperate with mounting bolts to secure the combination in position.

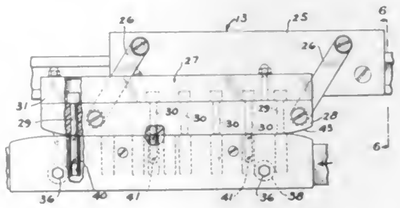
3,406,638
CODED SWITCH SYSTEM FOR TOWLINE CONVEYORS
Edwin C. Braun, Smithsburg, Md., assignor to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio
Filed Oct. 12, 1965, Ser. No. 495,112
15 Claims. (Cl. 104—88)



This invention relates to towline systems of the kind generally shown in my previous application, S.N. 410,215, filed Nov. 10, 1964, now Patent No. 3,315,614, and S.N. 420,322, filed Dec. 22, 1964.

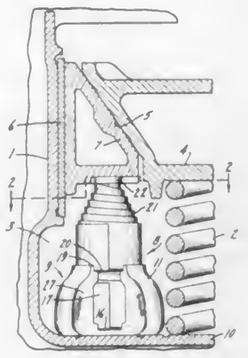
In general, such towline systems comprise carts which are moved across a floor for carrying cargo, the motive power being provided by towline cables or chains below the floor, wherein each cart has a towline pin protruding through a slot in the floor to engage the towline. Various systems comprise switch junctions so that selected carts can be switched from a main slot to a spur slot for cargo discharge or cart storage, etc.

3,406,639
SIGNAL SYSTEM FOR CARRIER CONVEYOR SYSTEMS
Leonard J. Bishop, Birmingham, Mich., assignor to Mechanical Handling Systems, Inc., Warren, Mich., a corporation of Michigan
Filed Mar. 14, 1966, Ser. No. 534,099
12 Claims. (Cl. 104—88)



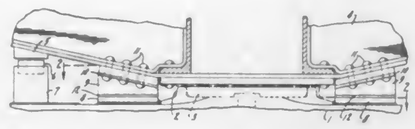
The carrier conveyor system disclosed herein comprises a track along which a plurality of carriers are moved. A reader assembly is mounted along the path for movement toward and away from the carriers. The reader assembly comprises a plurality of switches disposed longitudinally. At least some of the carriers support a signal assembly comprising a plurality of longitudinally spaced magnets selectively arranged to correspond to selected switches in the reader assembly.

3,406,640
DAMPENED CAR TRUCK BOLSTER
Thomas S. Kremen, Chicago, Ill., assignor to Standard Car Truck Company, a corporation of Illinois
Filed Sept. 16, 1966, Ser. No. 580,028
8 Claims. (Cl. 105—197)



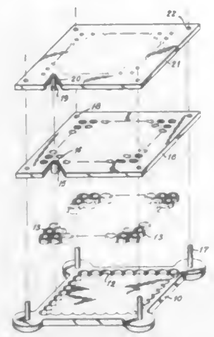
The use of a telescoping tandem volute coil spring where the lower coil penetrates the upper, the springs work in tandem and neither one touches the other as a substitute for the conventional coil spring in a railroad car truck damping assembly. The tandem coil springs, one above the other, make it possible to get greatly increased damping pressure in a narrow space.

3,406,641
RAILWAY CAR CENTER PLATE AND AUXILIARY BEARINGS
Ray C. Williams, Chicago, Ill., assignor to Standard Car Truck Company, Chicago, Ill., a corporation of New Jersey
Filed Mar. 4, 1966, Ser. No. 531,683
10 Claims. (Cl. 105—199)



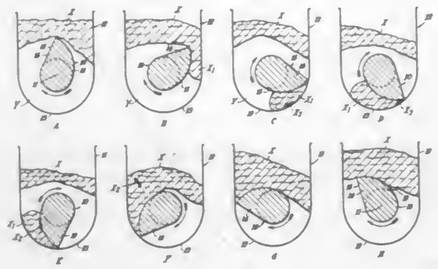
Means for increasing the relative proportion of the load carried by the heavyside of a railroad car truck as the car tilts toward the point of high side wheel lift which includes cushions between the truck center plates and the side bearings. The cushion on the low or heavyside of the truck being adapted to carry up to approximately one-half of the car load as the car tilts toward the heavyside until the side bearing positively arrests the rocking of the car with respect to the truck at which time the load carried by the cushion on the heavyside equals approximately half of the car load, the remainder of the car load being generally evenly divided between the side bearing and the center plates.

3,406,642
FOOD MOLDING DEVICE
Robert Marsiglia, R.F.D. 2, Hillsdale, N.Y. 12529
Filed July 27, 1966, Ser. No. 568,203
5 Claims. (Cl. 107—1)



A device for forming simultaneously under pressure, a plurality of food jackets or holders made of suitable material which is compacted to a dense consistency and then filled with edible material or left empty to be filled later.

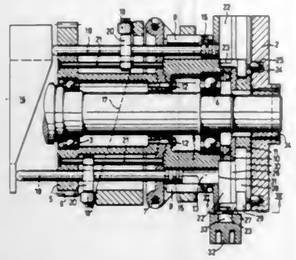
3,406,643
METHOD AND APPARATUS FOR MIXING DOUGH
John Harry Clapham Atkins, Tallington, Stamford, and Arnold Stephenson, Peterborough, England, assignors to Baker Perkins Incorporated, Saginaw, Mich.
Filed Nov. 17, 1965, Ser. No. 508,396
Claims priority, application Great Britain, Nov. 23, 1964, 47,605/64; Dec. 29, 1964, 52,701/64, 52,702/64
9 Claims. (Cl. 107—36)



A method and apparatus for mechanically developing a mass of dough and in which a vessel having an arcuate wall has at least one rotatable beater blade shaped to separate a piece of dough from the mass, advance the piece along the arcuate wall, and simultaneously roll the piece and subject it to intense pressure between the blade and the arcuate wall. Rotation of the blade following rolling and pressing of the dough piece returns the piece to the dough mass, whereupon the cycle is repeated with another piece of dough.

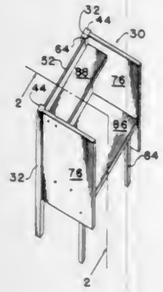
3,406,644
APPARATUS FOR MOULDING ARTICLES OF CANDY
Conrardus Hubertus Aquarius, 13 Kanaalstraat, Weert, Netherlands
Filed Mar. 17, 1967, Ser. No. 623,908
Claims priority, application Netherlands, Mar. 18, 1966, 6603545
4 Claims. (Cl. 107—69)
An apparatus for moulding articles of candy in a rotary

mould and discharging the moulded articles at predetermined spaced intervals greater than the intervals between



the articles while in the rotary mould in order to permit subsequent continuous operations such as packaging.

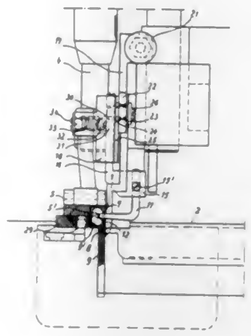
3,406,645
PREFABRICATED FURNITURE
John E. Monroe, 132 N. Bleckley, Wichita, Kans. 67208
Filed Sept. 15, 1965, Ser. No. 487,457
8 Claims. (Cl. 108—23)



This invention relates to prefabricated furniture, more particularly to prefabricated desks and the like, still more specifically to prefabricated carrel units adapted to be easily assembled and disassembled, and particularly adapted to be assembled in a great variety of arrangements capable of meeting the needs of a great diversity of applications. Additionally, this invention relates to carrel unit kits including upright interconnected back panels and wing panels; a desk panel interconnected between the wing panels and the back panel; a shelf member positioned above the desk panel and extended between the wing panels; electrical adapter means connected between one of the wing panels and the back panel; and lighting means mounted beneath the shelf in a concealed manner providing the required lighting to the carrel unit.

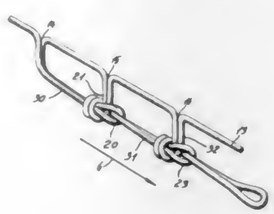
3,406,646
SEWING MACHINE WITH CUTTING MEANS
Konrad Pollmeier and Helmut Frodermann, Bielefeld, Germany, assignors to Durkoppwerke Aktiengesellschaft, Bielefeld, Germany, a corporation of Germany
Filed Nov. 16, 1966, Ser. No. 594,771
Claims priority, application Germany, Nov. 25, 1965, D 48,746
9 Claims. (Cl. 112—127)

This disclosure relates to a sewing machine having means for the simultaneous cutting of upper and lower layers of fabric parallel to a stitch seam joining the layers whereby one of the edges thus formed is set back from the other, the cutting means including a finger extending in the direction of fabric feed for deflecting one of the



layers between the stitch seam and the blade means while the other layer is undeflected or less deflected so that the less deflected layer will be set back from the deflected layer.

3,406,647
SINGLE THREAD KNOTTED LOCKSTITCH SEAM
Michael K. Rohrlick and Brian Clein, Montreal, Quebec, Canada, assignors to Elwood Realties Ltd., Lachine, Quebec, Canada, a corporation of Canada
Filed Feb. 20, 1967, Ser. No. 617,312
4 Claims. (Cl. 112—438)

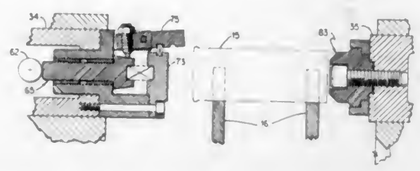


A novel type of single thread sewing stitch characterized in that a loop of the thread is pushed through the material at each of a series of consecutive stitch points and the base portion of each loop is attached to the end portion of the adjacent previous loop by making one backwardly pitching turn therearound and forwardly around itself and hence through the said end portion.

3,406,648
FLANGING MACHINE
Ronald Herman David Armbruster, Battle Creek, Mich., assignor to The E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Feb. 1, 1966, Ser. No. 524,340
8 Claims. (Cl. 113—7)

A die flanging machine for can bodies which are closed at one end and open at the other end comprising a rotary turret which is adapted to receive the can bodies and to revolve the same in sequence about the turret axis. The turret is provided with a number of radially disposed stations each receiving a can as the turret rotates. Each station has axially aligned tool heads between which the

can is centered, and a cam means moves at least one of the tool heads relative the other as the turret rotates so that the can body is engaged by the tool heads. One of the tool heads is provided with a die which flanges the metal of the can in the can open end, and the cam means is provided with a surface having an abrupt rise at a predetermined point so that the speed of forming abruptly



increases the instant flanging commences so as to deform the metal at a sufficiently high rate to avoid excessively straining the metal in the flange area. A second stationary cam surface engages fingers at a predetermined point which causes the fingers to move into engagement with the can, and to pull the can from the flanging die on separation of the tool heads.

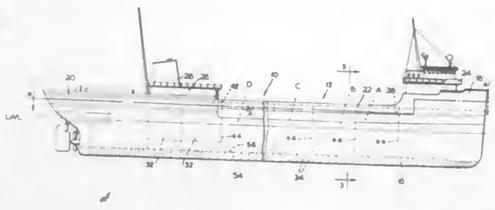
3,406,649
METHOD AND APPARATUS FOR DRYDOCKING A BOAT HULL OR OTHER FLOATING STRUCTURE IN A BODY OF WATER
James H. Burkhart, 1001 S. Lewis Ave., Pryor, Okla. 74361
Filed Nov. 25, 1966, Ser. No. 597,105
15 Claims. (Cl. 114—45)



A floating drydock construction having an elongated frame formed by spaced parallel frame bars secured together and having adjustable hull-supporting chocks, two buoyant tanks slidable longitudinally along the underside of the frame, a winch mechanism on one end of the frame connected to the tanks by flexible cables, and two floats connected to the other end of the frame by short lines that limit the extent of submergence of that end when the tanks are adjacent the other end. When a boat hull is disposed over the drydock in the inclined floating position, the tanks are shifted longitudinally along the frame to spaced positions causing the frame to rise to a horizontal position and lift the hull out of the water.

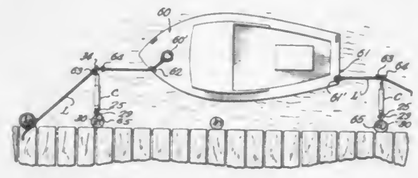
3,406,650
METHOD FOR INCREASING THE LOAD CAPACITY OF A VESSEL
Robert H. Miller, Manitowoc, Wis., assignor to Manitowoc Shipbuilding, Inc., Manitowoc, Wis., a corporation of Wisconsin
Filed May 14, 1964, Ser. No. 367,439
4 Claims. (Cl. 114—77)

A method of increasing the load-carrying capacity of a vessel by severing the vessel into upper and lower parts, moving the upper part of the vessel relative to the lower part thereof while supporting the upper part by the lower



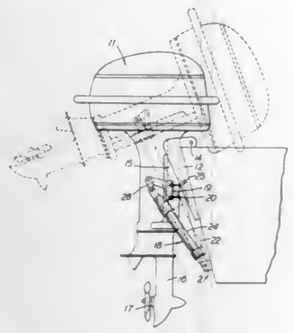
part, and securing structure in the space formed between the upper and lower parts.

3,406,651
BOAT-MOORING MEANS
Joseph O. Jalbert, 401 W. Madison, Dumont, N.J. 07628
Continuation-in-part of application Ser. No. 660,116, Aug. 11, 1967. This application Jan. 12, 1968, Ser. No. 703,828
10 Claims. (Cl. 114—230)



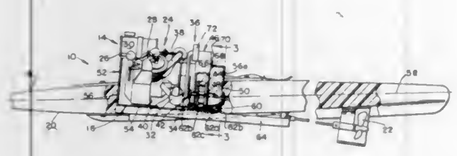
The boat mooring means of the present invention includes a novel check means which consists of at least two hollow tubes, one of which tubes is of less diameter than the other so as to snugly telescopically fit within the other hollow tube, and there is means for permitting attachment of one of the tubes relative to the other to lengthen or shorten the check means as desired. The check means further includes, at the end of one of the tubes, a hook with associated closure for opening therein, which associated closure acts automatically to close the opening in the hook when the same is attached to an eye bolt or the like that is fastened to the pilings of a wharf, dock or the like, or such eye bolt may be, of course, fastened to the wharf or dock proper. At the end of the other tube, there is an outwardly extending curved hook structure which is adapted to be hooked between two spaced apart knots in a line. There is a conventional cleat or what is known as a deck cleat adjacent the bow of the boat, and another such cleat adjacent the stern of the boat. One end of the said line is firmly attached to the cleat at both the front and back of the boat, and the other end of each line is attached in any suitable way, such as by securing about the piling as shown. The check means has its hooked end substantially midway between two knots in the line placed 1 to 3 feet from the boat, and, as aforesaid, its other end is attached by means of an eye bolt or the like to a piling or to the wharf or dock proper. The boat with the said lines and the check means thus positioned and secured will positively be prevented from engaging the pilings or the wharf, dock or the like during any kind of weather, rough seas, storms, waves of passing ships or boats, etc.

3,406,652
OUTBOARD MOTOR TILTING MECHANISMS
Donald Mettetal, Jr., Wauconda, Ill., assignor to Andrew F. Wintercorn, trustee, Rockford, Ill.
Filed July 14, 1958, Ser. No. 748,363
27 Claims. (Cl. 115—41)



1. A power tiltable outboard engine for boats, comprising a supporting bracket detachably attachable to the transom of a boat, a vertical standard pivoted at its upper end on said bracket on a horizontal axis, a housing disposed vertically adjacent said standard and oscillatable on a vertical axis with respect thereto carrying an engine on its upper end and a propeller driven by said engine on its lower end, an upper bracket detachably secured to said standard and having a rearwardly extending arm rigid therewith, a lower bracket fixed with respect to the boat and detachably secured to and extending downwardly from said supporting bracket telescoping elongated push-pull members, one of which is pivoted at one end to said lower bracket and the other of which is pivoted at its other end to said arm on said upper bracket, and manually controlled power operable means connected for the extension and return of said telescoping members relative to one another incident to the tilting adjustment of said engine and propeller housing.

3,406,653
AQUATIC PROPULSION SYSTEM
Richard L. Mela, Arlington, Mass., assignor to The Powermite Corporation, Arlington, Mass.
Filed July 27, 1966, Ser. No. 568,257
9 Claims. (Cl. 115—70)



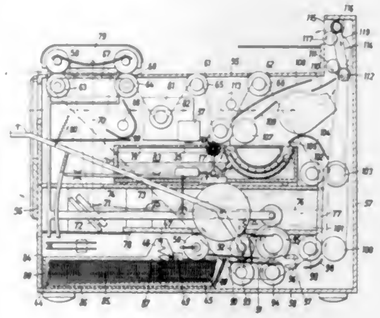
A powered floatboard is constructed with a substantially solid hull. An openly exposed power unit is seated in a recess formed in the upper surface of the hull. The recess is shaped to form a sump and a pump operating directly off the power unit continuously removes water from the sump. An air intake connected directly to the power unit is shielded from spray and splashing water and has a filter which is water-impervious, but air-pervious.

3,406,654
CONE MARKING APPARATUS
Jacobus J. H. G. Daamen, Arnhem, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Nov. 30, 1966, Ser. No. 598,002
Claims priority, application Netherlands, Dec. 10, 1965, 6516052
3 Claims. (Cl. 118—2)



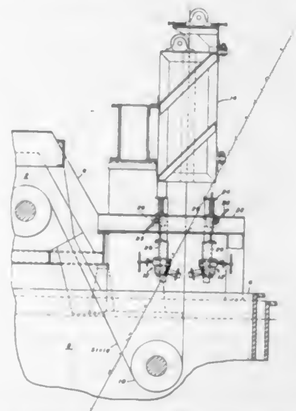
Apparatus for marking telescopically arranged textile cones embracing apparatus having a removable marking cartridge including a flexible applier and spring-loaded mechanism for controlling marking liquid flow.

3,406,655
APPARATUS FOR PRODUCING COPIES
Walter Limberger, Hamburg-Poppenbuttel, Germany, assignor to Lumoprint Zindler KG, Hamburg, Germany
Filed Apr. 19, 1966, Ser. No. 543,592
Claims priority, application Germany, Apr. 23, 1965, L 50,549
5 Claims. (Cl. 118—10)



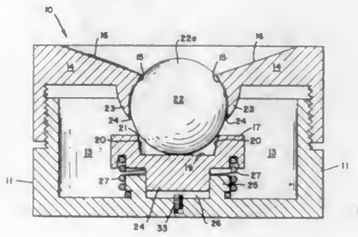
An apparatus for producing copies is provided with storage devices for developing liquid and for copying material. Each of the storage devices is provided with means for generating an acoustic signal in response to the decreasing quantity of the materials within the storage device. In a storage tank for the developing fluid, a pump having a drive means is provided for delivering the developing fluid into a developer vessel. A mallet-like member is associated with the drive means for the pump and rotates within the storage tank within the body of developing liquid. A bell or similar device is provided in the developing tank and is arranged to be contacted by the mallet as the level of liquid drops in the tank. As the liquid level drops below the bell, the sound emitted by it will change and a varying acoustic signal will be provided indicating the corresponding decrease in the liquid level. Sheets of copying material are held in a storage tray between a support plate and a transport roller for feeding individual sheets into the copying material transport system. The support plate and the roller are urged together by spring means or the like. A mallet-like member is mounted on one end of the roller and rotates with it. As the number of sheets decreases within the storage tray, the mallet begins to strike the surface of the support plate which extends beyond the sheets of copy material providing an acoustic signal indicating the decreasing quantity of sheets.

3,406,656
APPARATUS FOR CONTROLLING COATING THICKNESS
Robert W. Patterson, Birmingham, Ala., assignor to United States Steel Corporation, a corporation of Delaware
Filed Feb. 2, 1967, Ser. No. 613,476
6 Claims. (Cl. 118—63)



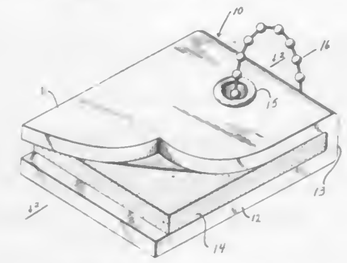
An air knife with a curved orifice slot useful in systems for controlling the weight and distribution of a coating applied to a moving or continuous substrate. The curved air knife enables formation of a coating on a substrate having a convex profile which facilitates coiling.

3,406,657
DISPENSER
Glenn Looper, Box 76, Dalton, Ga. 30720
Filed Oct. 21, 1965, Ser. No. 500,120
3 Claims. (Cl. 118—261)



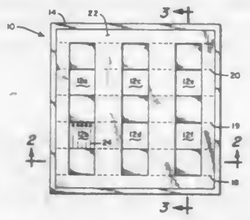
A latex dispenser includes a cylindrical chamber made up of a housing and a cover. A ball is held inside the container and protrudes through the cover to discharge a film of latex against the finger of an operator when the operator draws his finger over the ball and outwardly along the conical surface of the cover which surrounds the ball. Clearance between the ball and the cover may be obtained either by telescoping the container to a varying degree or by depressing the ball against a spring-loaded seat. The ball is held in engagement with the cover.

3,406,658
DIGITAL FRICTION ENHANCING DEVICE
Fernando M. Neugart, 32—21 37th St., Astoria, N.Y. 11103
Filed Nov. 4, 1966, Ser. No. 592,010
6 Claims. (Cl. 118—264)



This invention relates to a device, and particularly a portable device, for increasing the coefficient of friction of the digits, and particularly of the finger tips, the device being especially useful in situations where an operator must rapidly turn pages, count money or otherwise rapidly and accurately handle articles of paper or the like.

3,406,659
MAGNETIC MASK FIELD INDUCED ANISOTROPY
Paul E. Oberg, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 29, 1967, Ser. No. 686,601
9 Claims. (Cl. 118—505)



Apparatus for defining the easy axis distribution, i.e., the magnetic field anisotropy orientation, of a magnetizable element by orienting magnetic fields provided by magnetizable material that is locally associated with the element rather than by gross externally applied electromagnetic fields.

3,406,660
APPARATUS FOR THE ELECTROSTATIC ATOMIZATION OF LIQUIDS
Walter Simm, Leverkusen, Germany, assignor to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
Filed Feb. 28, 1967, Ser. No. 619,415
Claims priority, application Germany, Mar. 18, 1966, A 51,884
5 Claims. (Cl. 118—626)

Apparatus for developing electrophotographic charge images includes using a ring-shaped or annular electrode

which is rotated to electrostatically atomize the liquids which are received by an electrophotographic charge

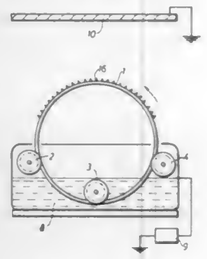
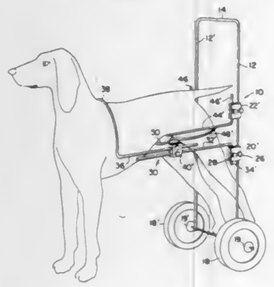


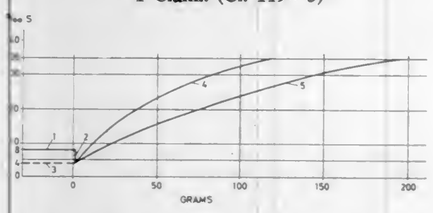
image. The electrode may be mounted upon guide rollers which are disposed in a housing.

3,406,661
MOBILE SUSPENSORY APPARATUS FOR CRIPPLED HOUSEHOLD ANIMALS
Lincoln J. Parkes, 706 Gulph Road, Wayne, Pa. 19087
Filed Jan. 17, 1967, Ser. No. 609,898
6 Claims. (Cl. 119—1)



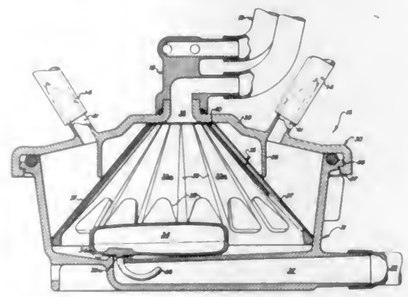
An apparatus having a standard formed of two wheels and a pair of spaced vertical shafts mounting upper and lower adjustable connectors which respectively receive longitudinally adjustable brace structure for the shoulder area and suspensory structure for the abdomen and hind quarters area of an animal.

3,406,662
METHOD FOR BREEDING FISH, SUCH AS SALMON OR SEA TROUT
Karstein Oddmund Vik and Olav Birger Vik, Sykkylven, Norway, assignors to Nor Laks, O.C. Vik & K.O. Vik, Sykkylven, Norway
Filed Aug. 19, 1966, Ser. No. 573,639
Claims priority, application Norway, Aug. 20, 1965, 159,416
1 Claim. (Cl. 119—3)



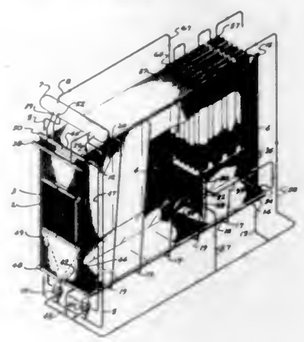
1. Method for treatment, hatching and breeding of fish whereby the spawned roe during the hatching period is in a streaming water environment, the hatched roe, i.e., the fry, during the subsequent breeding living in a mixture of fresh water and sea water, which comprises steps of placing the roe during the hatching period in streaming water consisting of a mixture of fresh water and sea water having a salinity of about 8 pro mille, and immediately reducing the salinity of the water when the hatching itself takes place to about 4 pro mille, and then subjecting the hatched fry to a progressive sea water environment by increasing the proportion of sea water to streaming water as a function of the weight increase of the fish.

3,406,663
MILKING UNIT AND PROCESS
Lloyd P. Duncan, Washington, Mo., assignor to Zero Manufacturing Company, Washington, Mo., a corporation of Missouri
Continuation-in-part of application Ser. No. 398,192, Sept. 22, 1964. This application Oct. 12, 1965, Ser. No. 495,290
12 Claims. (Cl. 119—14.01)



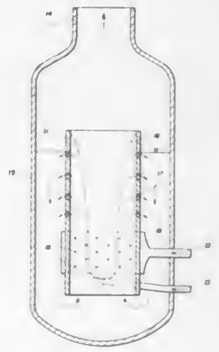
A milking system wherein a uniform vacuum is applied through a duct to the upper part of the claw of a milker so that the cow's teats are maintained at a constant vacuum during the milking operation, there being a baffle in the claw to prevent milk from being received in the vacuum duct, the cow being induced to give milk by stimulation of the teats due to vibration or electrical current.

3,406,664
WASTE HEAT BOILER
Henry J. Blaskowski, Simsbury, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Dec. 29, 1966, Ser. No. 605,884
5 Claims. (Cl. 122—7)



A waste heat boiler for pyrite roaster gas having a horizontally elongated open passageway for radiation cooling of gases passing therethrough and a hopper in the bottom for the collection of solids. A gas inlet at one end of the radiation chamber and a baffle wall of horizontal tubes at the outlet end. Vertical pendant tubular convection heating surface beyond the baffle wall. The walls of the passageway are formed of a plurality of tubes formed into individual panels serially connected with external downcomers. A steam drum and a circulating pump recirculating water to the steam drum through the panels, horizontal baffle tubes and pendants in parallel. A modular construction of the walls and pendants.

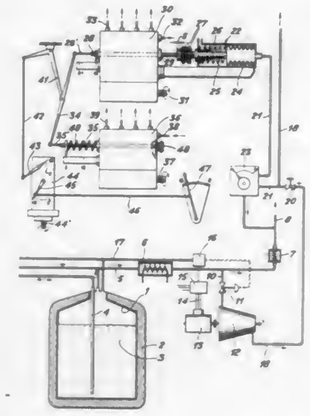
3,406,665
STEAM GENERATOR
Fritz Bukau, Karlsruhe, Germany, assignor to Gesellschaft fur Kernforschung m.b.H., Karlsruhe, Germany, a German corporation
Filed Nov. 26, 1965, Ser. No. 510,458
Claims priority, application Germany, Nov. 26, 1964, G 42,110
5 Claims. (Cl. 122—31)



A steam generator is disclosed comprising a vertically arranged condensate reception vessel at least partially filled with liquid to be evaporated having coaxially positioned therein an open ended mixing vessel, the upper end of which extends above the liquid level in the outer vessel. Steam is introduced into a housing surrounding the lowermost portion of the mixing vessel and from there is fed into uniformly distributed steam inlet openings which open into the mixing vessel tangentially. The liquid contained therein is thus forced into a rotary motion. The generated saturated steam collects in the center of the vortex and is discharged from the mixing vessel and surrounding vessel in an axial direction. The liquid separated from the rotating steam-liquid mixture flows outwardly and is discharged through openings in the mixing vessel into the outer reception vessel.

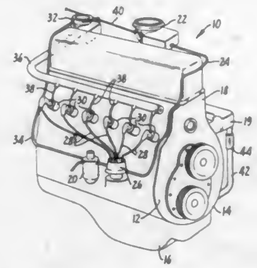
3,406,666
METHOD AND APPARATUS FOR OPERATING A DIESEL ENGINE WITH A COMBINATION OF LIQUID AND GASEOUS FUELS
Anton Stelger, Zurich, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company
Filed Feb. 1, 1966, Ser. No. 524,164
Claims priority, application Switzerland, Feb. 2, 1965, 1,418/65
1 Claim. (Cl. 123—27)

There is disclosed a power plant, and a method of operating the same, in which a vaporizable liquid is stored at low temperature in an insulated vessel. The vaporized gas is withdrawn at the rate necessary to maintain constant pressure in the vessel and the gas so withdrawn is compressed and delivered to an internal combustion engine under control of a gaseous fuel metering device. There is also provided a liquid fuel metering device for control of the supply of a liquid fuel to the engine simultaneously with the gaseous fuel, and the two metering devices are differentially coupled together and to an engine speed



governor. A spring biases the gaseous and liquid fuel metering devices toward minimum and maximum settings respectively. A pressure-responsive device establishes for the liquid fuel metering device a maximum permissible setting which varies inversely with the pressure of the compressed gas or of a fraction thereof selected in a pressure-reducing device.

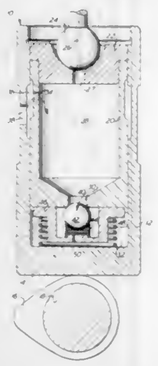
3,406,667
IGNITION AMPLIFYING APPARATUS
Alvin W. Evans, 4501 Winding Way, Sacramento, Calif. 95841; Rudi Beichel, 3244 Shasta Way, Sacramento, Calif. 95821; and Karl Morghen, 19 9th St., Minden, Nev. 89423
Filed Sept. 29, 1966, Ser. No. 582,824
8 Claims. (Cl. 123—32)



A stratified charge ignition system for a spark type internal combustion engine. The apparatus comprises; a precombustion chamber coupled in fluid communication with each primary combustion chamber of the engine in place of the spark plug normally coupled thereto; carburetion means to supply a relatively rich fuel-air mixture to each precombustion chamber; and, spark ignition means to effect the ignition of the fuel air mixture supplied to each of said chambers in timed sequence to the operation of the engine. Fluid communication between each precombustion chamber and the primary combustion chamber coupled thereto is provided by an orifice comprising a Borda mouthpiece opening into the precom-

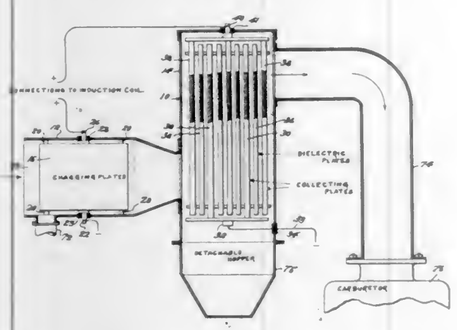
bustion to define an imperforate lip extending thereinto; and a nozzle of substantially truncated conical shape extending from the mouthpiece in diverging relationship relative thereto and opening into the primary combustion chamber.

3,406,668
HYDRAULIC TAPPET ASSEMBLY
Murray P. Donnelly, Inkster, and John E. Knoblock, Detroit, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 19, 1968, Ser. No. 699,251
11 Claims. (Cl. 123—90)



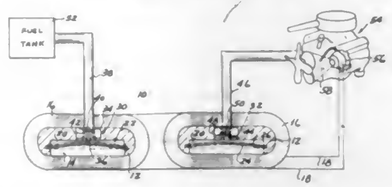
A hydraulic tappet assembly for use in an internal combustion engine valve train, the tappet having bi-directional check valve means intertially responsive during critical engine speeds to prevent pump-up or collapse of the tappet below the toss speed of the valve train by effectively sealing the torque transmitting fluid chamber between the tappet lifter body and plunger.

3,406,669
CRANKCASE VENTILATION SYSTEM
William D. Edwards, Academy Ave., Box 80, Chester, N.Y. 10918
Filed Dec. 14, 1966, Ser. No. 601,775
7 Claims. (Cl. 123—119)



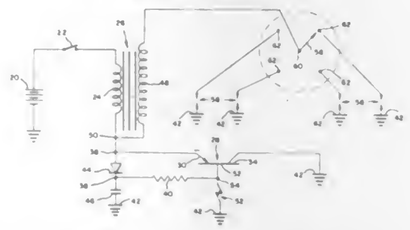
An internal combustion engine provided with a closed circuit crankcase ventilation system. Gases emanating from the crankcase are cleaned in an electrical precipitator deriving power from a storage battery. The cleaned gases from the precipitator are passed into the carburetor, or directly into the intake manifold of the engine and burned.

3,406,670
MAGNETOSTRICTIVELY ACTUATED FUEL SYSTEM FOR ENGINES
Eugene W. Hines, Grand Blanc, Mich., assignor to E. W. Hines Associates
Filed Mar. 10, 1966, Ser. No. 533,159
12 Claims. (Cl. 123—139)



A fuel system for an internal combustion engine employing a laminated magnetostrictive diaphragm as the pumping member in the fuel pump for delivering fuel to the engine. Various means are disclosed for creating a magnetic field for the diaphragm which varies as a function of an operating parameter of the engine.

3,406,671
IGNITION SYSTEM
James L. Shields, Linton, Ind., assignor to Luvals, Inc., Linton, Ind., a corporation of Indiana
Filed June 7, 1966, Ser. No. 555,852
5 Claims. (Cl. 123—148)

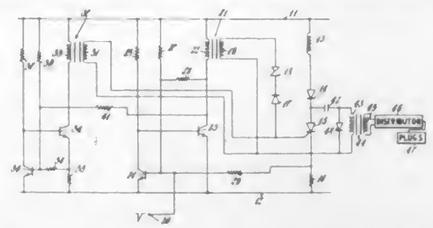


An ignition system for internal combustion engines which provides a hotter spark of shorter duration than that provided by standard ignition systems is disclosed. The self-induced (flyback) voltage of the primary winding of the ignition coil is utilized to drive the base electrode of a transistor positive with respect to the emitter electrode when the breaker points of the system open. The base electrode and the collector electrode of the transistor are both connected to ground potential when the ignition breaker points are closed, causing full conduction of the transistor and minimizing transistor junction temperature rise.

3,406,672
SPARK IGNITION SYSTEMS
Brian Leslie Phillips, Handsworth, and Derek Stanley Adams, Acocks Green, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed Mar. 8, 1966, Ser. No. 532,712
Claims priority, application Great Britain, Mar. 10, 1965, 10,110/65
2 Claims. (Cl. 123—148)

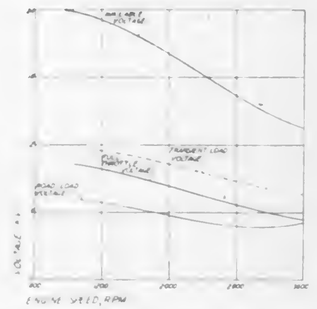
In a spark ignition system for an internal combustion engine, an inductor is connected in series with a switch across a battery. The switch is closed at periodic intervals by the engine through the intermediary of a transformer, and when it closes energy is stored in the inductor, this energy later being used to produce a spark at a plug of the engine in timed relationship thereto. When the current flowing in the inductor reaches a predetermined

value, a circuit is rendered operative to turn the switch off through the intermediary of a second transformer, so



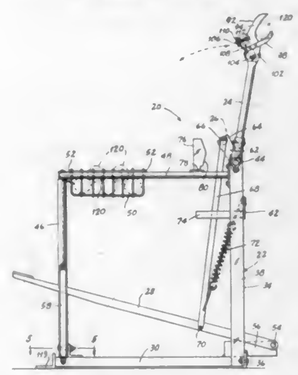
that the energy stored in the inductor each time the switch closes is constant.

3,406,673
INTERNAL COMBUSTION ENGINE SYSTEM
Thomas H. Oster, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 30, 1966, Ser. No. 606,370
2 Claims. (Cl. 123—169)



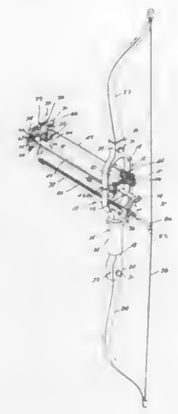
This invention is concerned with an internal combustion engine containing a spark plug with an aurous electrode and an electrical system which is incapable of generating a spark impulse higher than that required by the aurous spark plug.

3,406,674
CENTRIFUGALLY OPERATED SPRING RESPONSIVE BALL THROWING DEVICE
Charles J. Zone, 2417 Macklind Ave., St. Louis, Mo. 63110
Filed Feb. 18, 1965, Ser. No. 433,556
5 Claims. (Cl. 124—7)



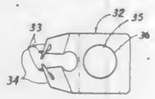
A foot operated baseball pitching machine. The machine comprises a frame mounted upon the ground and a pitching arm adapted to be cocked and powered by an arm powering means operated by the operator's foot. The arm powering means is spring loaded and employs a cocking trigger means, which includes a trigger yoke fixed to the pitching arm and a trigger operating rod engageable with the trigger and connected to the foot lever. A cam means provides for disengagement of the trigger operating rod from the trigger to actuate the pitching arm.

3,406,675
ARCHERY BOW WITH HANDGRIP ADJUSTING MEANS AND ARROW SUPPLY SUPPORT
Bert E. Fredrickson, 1208 S. Baird St., Green Bay, Wis. 54301
Filed July 1, 1966, Ser. No. 562,182
6 Claims. (Cl. 124—24)



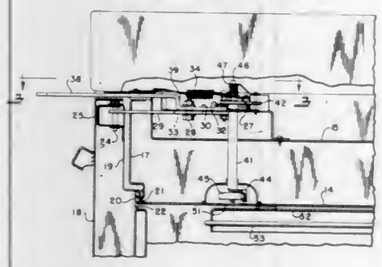
1. An archery bow comprising an upstanding bow section having an opening through which arrows are adapted to be shot, a first socket projecting from and opening out of the upper end of said bow section, a hollow handle projecting from the lower end of said bow section, a second socket dependingly-projecting from and opening out of said handle, a first limb having a portion adjacent one end mounted in said first socket, a second limb having a portion adjacent one end mounted in said second socket, a bowstring stretched between and attached to the outer ends of said first and second limbs, independent means connecting each of said first and second limbs to the first and second sockets for limited forward and backward rocking movement of said first and second limbs relative to said bowstring to thereby increase and decrease the tension of said bowstring, a handgrip circumposed about said handle, means connecting said handgrip to said handle for limited rotational movement of said handgrip in clockwise and counterclockwise directions to thereby maintain an arrow about to be shot from said bow section in alignment with the line of sight, and an arrow rest located behind and spaced from the opening in said bow section, said arrow rest comprising a rest element and opposed spaced spring-biased pins disposed above and partially overlying said rest element, said pins being operable, upon application of a depressive force applied to an arrow to be shot when lying thereupon, to be compressed and permit the arrow to be supported upon said rest element and be engaged by said pins to thereby cause the nock of the arrow to be shot to engage said bowstring and hold it in cocked position until shot.

3,406,676
ARCHERY ARROW GUIDE
Joe Travis Dye, 1707 Childerlee Lane NE., Atlanta, Ga. 30329
Filed Feb. 21, 1966, Ser. No. 532,521
5 Claims. (Cl. 124—41)



This invention provides an arrow guide for mounting on the side of an archery bow in which unrestrained lateral movement of an arrow in any direction is prevented during aim, draw and release of the arrow, as well as when an arrow shaft is placed in the guide and in contact with the undrawn bow string. Constructed of flexible material with controlled deflections of portions thereof, this arrow guide permits use on a variety of arrow shaft diameters and can be easily adjusted manually by an archer during shooting.

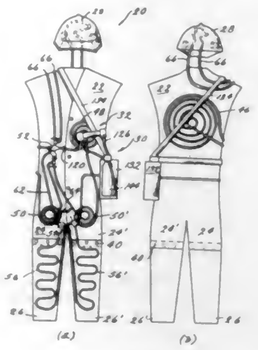
3,406,677
COMBINATION MECHANICAL-THERMAL LATCH
Carl L. Anderson, Shiloh, Ohio, assignor to The Tappan Company, Mansfield, Ohio, a corporation of Ohio
Filed June 30, 1966, Ser. No. 561,851
10 Claims. (Cl. 126—197)



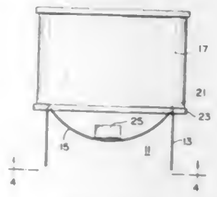
A combination mechanical-thermal latch for the door of a high temperature oven including a manually actuated handle movable between latched and unlatched positions and a rotatable lock arm movable into arresting engagement with the handle when latched to preclude opening of the latch mechanism. The lock arm is driven rotatably by a spiral bimetal element positioned adjacent an opening in the oven to respond to the temperature of the latter. The bimetal is designed to actuate the lock arm into the handle locking condition when the oven temperature is above a predetermined degree.

3,406,678
GARMENT WITH A FLUID HEATING SYSTEM
Clovis H. Hanks, 121 Pikeview Drive, Beckley, W. Va. 25801
Filed Aug. 28, 1967, Ser. No. 663,893
9 Claims. (Cl. 126—208)

A garment is provided with a lightweight heating system that operates at low pressures and comprises a heating unit, hand pump, coils secured to the garment and supply valves intermediate the coils and the hand pump to regulate the flow of fluid in the various coils. The heating unit and pump are carried by a strap, which passes over the shoulder of the operator, and the fluid lines leading from the pump to the supply valves and from the return manifold to the heating unit are provided with snap fittings which permit the pump and heating unit to be quickly and easily uncoupled from the rest of the heating system when the system is not in use. A unique tank in the heating unit holds the fluid of the system while it is being heated. The tank is provided with a finned centrally located heating tube and a thermostatically controlled alarm which warns the operator if the temperature of the fluid goes above the desired operating level so that the burner flame of the heating unit can be properly adjusted.

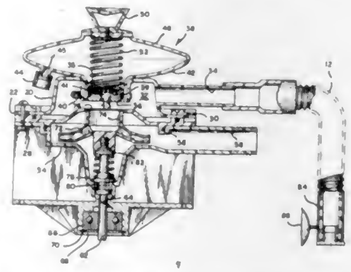


3,406,679
COLLAPSIBLE STOVE
Russell O. Law, 2231 57th Ave., Oakland, Calif. 94605
Filed July 17, 1967, Ser. No. 653,877
8 Claims. (Cl. 126—262)



A single sheet of folded material having two leg portions and a perforated depressed center section. The sheet can be unfolded to engage and support a can of food and a heating element.

3,406,680
HYDROTHERAPY APPARATUS
Philip Roden, 1820 E. Wood Place, Milwaukee, Wis. 53211
Filed Mar. 16, 1966, Ser. No. 534,691
6 Claims. (Cl. 128—66)

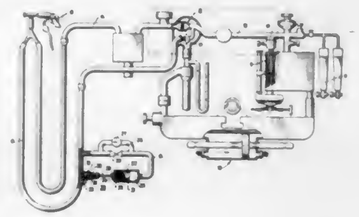


1. A portable hydrotherapy unit comprising
a housing,
a motor driven pump positioned within said housing and having an inlet and an outlet, said inlet projecting upward through the top of said housing and said outlet projecting outward through the side of said housing,
a cover secured to the top of said housing and defining a chamber above said pump inlet, an inlet through said cover to said chamber,
manually operable priming means secured to said cover for drawing a vacuum in said chamber, whereby
water will be drawn through said cover inlet to said chamber.

3,406,681
METHOD OF DETERMINING STRAIN CONDITION OF THE EYE
Felix Zandman, Villanova, Pa., assignor to Vishay Intertechnology, Inc., Malvern, Pa., a corporation of Pennsylvania
Filed May 13, 1963, Ser. No. 279,978
9 Claims. (Cl. 128—2)

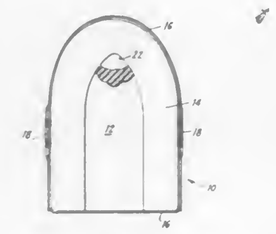
9. A method for investigating the physiological and health condition of the living eye through photoelastic patterns which comprises projecting polarized light through the cornea to the iris to produce reflection of light therefrom, the cornea producing birefringence of the light passing therethrough, and receiving and analyzing the light reflected back through the cornea by the iris whereby the stresses and strains in the cornea produce birefringence resulting in significant patterns of the received and analyzed light.

3,406,682
RESPIRATOR, NARCOSIS APPARATUS OR THE LIKE HAVING A DELAYED RELEASE SAFETY VALVE
Carl-Gunnar Daniel Engstrom, Aluddsvagen 3, Stockholm, Sweden
Filed Jan. 26, 1965, Ser. No. 428,028
8 Claims. (Cl. 128—145.6)



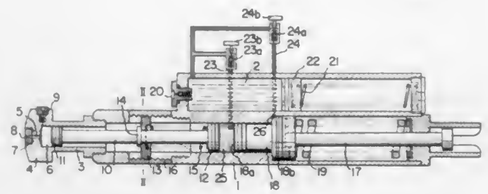
In an apparatus for introducing a gas into the respiratory tract of a patient comprising a gas conduit system communicating between a source of such gas under pressure and an attachment for connecting the system with such respiratory tract, a first safety valve responsive to a predetermined overpressure in the system, and a second safety valve with which second safety valve there is combined a release delaying means to delay the release of said second safety valve above a given constant minimum valve-releasing overpressure in the system. This release delaying means comprises a container wherein there is provided a movable partition wall which is connected to said second safety valve in such manner as to actuate said valve by movement of the wall. The container is so connected to the gas conduit system that said wall moves in response to changes in the gas pressure obtaining in said system, there being provided means for delaying movement of said wall for delayed actuation of said second safety valve.

3,406,683
THERAPEUTIC BOOT
Gustave Steinberg, 309 Avenue C, New York, N.Y. 10009
Filed July 12, 1966, Ser. No. 564,696
6 Claims. (Cl. 128—166)



1. A therapeutic boot, of the character described, comprising a substantially flat sole section and a U-shaped upper section extending upwardly from the peripheral portion of said sole section, and configured to surround and embrace the heel and upper portion of the wearer's foot to form a boot open at the top and front, said sole section and said upper section formed of resilient sponge material, and means provided on said upper section for releasably securing said boot on a foot.

3,406,684
JET TYPE, MEDICAL INJECTION INSTRUMENT
Jiromaru Tsujino, Suginami-ku, Tokyo-to, Japan, assignor to Kabushiki Kaisha Yuryo Kikakuhin Kenkyusho, Tokyo-to, Japan, a joint-stock company of Japan
Filed Sept. 20, 1965, Ser. No. 488,398
Claims priority, application Japan, Sept. 28, 1964, 39/54,501
5 Claims. (Cl. 128—173)



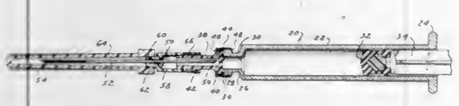
A jet type, medical injection instrument which comprises a barrel having at its forward end an injection fluid pumping cylinder provided with an injection head and an injection fluid charging means, an injection fluid plunger rod disposed in said barrel, means for adjustably controlling the position of said rod to adjust the quantity of the injection fluid corresponding to a required dosage, a driving spring means disposed in said barrel and actuating said rod, a reservoir filled with a pressurized medium, and a device for supplying said pressurized medium into said barrel to maintain said driving spring means in the compressed state in the case of charging the injection fluid and to actuate said spring means in the case of injection operation.

3,406,685
CATHETER NEEDLE AND METHOD FOR ITS MANUFACTURE
Edwin A. May, Glen Rock, N.J., assignor to Becton Dickinson and Company, East Rutherford, N.J., a corporation of New Jersey
Filed July 23, 1963, Ser. No. 297,002
7 Claims. (Cl. 128—214.4)



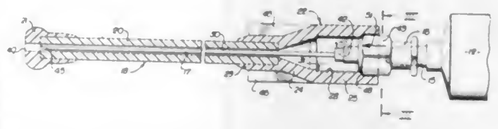
Surgical apparatus for delivering fluids to or withdrawing fluids from the human body which includes a catheter tube adapted to surround the shank of a piercing element having an end adapted to be introduced into the human body. A tubular member is inserted interiorly of the catheter tube at the other end thereof and a hub is telescoped over the catheter tube and the tubular member at the other end. The hub, catheter tube and tubular member are riveted to one another to form a unitary construction. The method of fabricating such a catheter needle is also disclosed which includes cutting a predetermined length of mechanically expanded tetrafluoroethylene tubing. The tubing is then shrunk about a mandrel means to impart the dimensional and contour characteristics to the tubing. A hub is then secured to the tubing and an inner piercing element is inserted into the lumen of the tubing such that the piercing end of the piercing element projects beyond the free end of the tubing whereby catheter needle is formed in which the catheter may be withdrawn by sliding the piercing element rearwardly while the catheter is being held.

3,406,686
PREFILLED SYRINGE
George H. Keller, Ridgewood, N.J., assignor to Becton Dickinson and Company, East Rutherford, N.J., a corporation of New Jersey
Filed Jan. 15, 1965, Ser. No. 425,786
7 Claims. (Cl. 128—218)



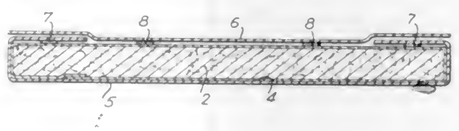
A prefilled syringe having a barrel to hold medicament. The rear end of the barrel is sealed by means of a rubber stopper and the forward end is sealed by means of a rubber diaphragm. A ferrule maintains the rubber diaphragm in sealing relationship and also secures a tubular hub support to the forward face of the diaphragm. A tubular hub is mounted on the exterior of the support. The hub is secured in a concentric manner on a double ended needle. Cooperating surfaces on the needle hub and hub support determine the armed and unarmed position of the syringe at which the inner penetrating end of the needle has penetrated the rubber diaphragm and the position at which the inner end of the needle is spaced therefrom and poised to be inserted therethrough respectively. The syringe assembly incorporates construction that permits effective gas sterilization of the syringe subassemblies prior to filling of the barrel with medicament. Additionally, a package for the assembly is provided with structure which cooperates with surfaces of the syringe to maintain the syringe in unarmed position and a needle shield protects the forward end of the needle and is mounted on the hub in a manner which facilitates arming of the syringe.

3,406,687
GUIDE AND POSITIONING MEANS FOR A NEEDLE
James E. Moyer, West Covina, Calif., assignor to Resiflex Laboratory, Los Angeles, Calif., a corporation of California
Filed June 23, 1966, Ser. No. 559,997
8 Claims. (Cl. 128—221)



A protective guide and positioning sheath for an elongated needle having a hub of well known construction. The sheath has coaxial angularly offset positioning recesses of polygonal transverse section to cooperate with the hub for selective longitudinal positioning of the needle point in relation to the sheath end in projected and retracted positions.

3,406,688
DIAPER WITH PAPER FACE
Robert Bruce Cubitt, Bound Brook, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed May 21, 1965, Ser. No. 457,595
12 Claims. (Cl. 128—284)



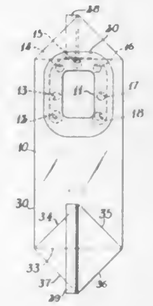
Wet-strength paper of improved softness containing as a softening agent a mixture of lithium chloride and an organic plasticizer such as sorbitol, sorbitol ethers, polyethylene glycols, urea and glycerol. This paper is particularly adapted for use in connection with disposable diapers and other similar articles of a highly absorbent nature which are intended to be placed in contact with the skin.

3,406,689
SANITARY NAPKIN SYSTEM
Melvin E. Hicks and June R. Hicks, both of 1024 S. H St., Oxnard, Calif. 93030
Filed May 28, 1965, Ser. No. 459,740
2 Claims. (Cl. 128—290)

An improved sanitary catamenial napkin is described in the specification. The napkin described herein actually is in two pieces, a replaceable highly-absorbent soft contact pad which actually contacts the body of the wearer; and a back-up sanitary napkin which is worn by the wearer to keep the contact pad in place, which is movable with respect to the contact pad, and which absorbs any excess menstrual discharge.



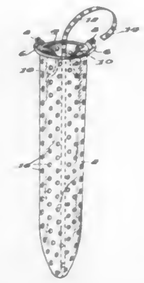
3,406,690
PEDIATRIC URINE COLLECTOR
Anthony A. Igel, St. Louis, Mo., and George E. Liesmann, Milwaukee, and Adolph Pokras, Mequon, Wis., assignors to Brunswick Corporation, a corporation of Delaware
Filed May 24, 1965, Ser. No. 457,921
4 Claims. (Cl. 128—295)



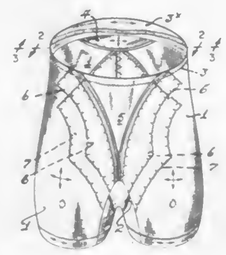
A pediatric urine collector is taught which has a structural shape which conforms more readily to the natural uro-genital area of an infant. The top and bottom seams of the bag are transverse to the plane of the primary aperture so that when the collector is attached to the infant a triangular shaped top front surface of the bag is in contact with the infant instead of a broad rectangular shaped surface. In this way, the likelihood of the bag becoming detached by leg or body movement is reduced. The collector also employs a plurality of small openings around the primary aperture through which adhesive acts to grip a foam pad to the inside of the collector bag. The adhesive on the bag serves to hold the bag against the body of an infant.

3,406,691
SURGICAL APPLIANCES
Edward L. Kettenbach, Suite 408, Craycroft Medical Center, 1011 N. Craycroft Road, Tucson, Ariz. 85718
Filed Oct. 27, 1965, Ser. No. 505,393
8 Claims. (Cl. 128—350)

A surgical drain for conducting fluid from the interior of the body to the surface of the skin following surgery. The drain includes a ring and a sheet of thin flexible material which is attached around the periphery of the ring. The ring prevents the outer end of the flexible material from slipping into the patient's body and has hooks which grip the surface of the skin to prevent the drain from being accidentally dislodged during changing of the dressing. A flexible tape is attached to one end of the flexible material and passes through the ring. Periodically, the tape is pulled through the ring to shorten the effective length of the flexible material.



3,406,692
GIRDLE
Manuel Pernas, Bayonne, N.J., assignor to Maidenform, Inc., New York, N.Y., a corporation of New York
Filed Aug. 10, 1966, Ser. No. 571,556
3 Claims. (Cl. 128—540)

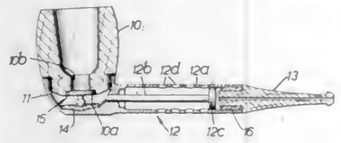


1. In a girdle, a body fabric, the body fabric being formed with joined back and front areas having two-way stretch and being provided with a waist band, of a vertical stretch insert at the front of the girdle diverging downwardly from the waist band to the lower portion of said girdle, in combination with two inner strips of at least transverse stretch, each strip having an inner margin seamed to the body fabric at an outer margin of said insert, one strip overlying the second strip, and one strip extending outwardly of the other strip, both strips being seamed at their outer margins to the body fabric, said strip which extends outwardly beyond the other strip having its top edge substantially below said other strip, and the top edges of both strips lying in an inwardly and upwardly directed extended angle.

3,406,693
TOBACCO PIPES
Paul Benoit Jeannin, London, England, assignor to Sasieni Limited, London, England, a British company
Filed Oct. 22, 1965, Ser. No. 501,519
Claims priority, application Great Britain, Dec. 15, 1964, 51,064/64
3 Claims. (Cl. 131—195)

A tobacco pipe having a bowl detachably mounted in a cupped bowl support, and a collar-stud-shaped insert having an apertured disc portion which is received in an

opening in the base of the bowl and a stem portion which extends vertically downwards from the disc por-



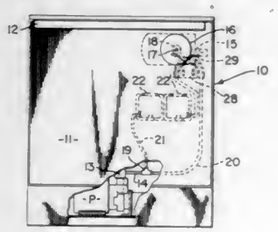
tion and presses on an absorbent pad in the bottom of the bowl support.

3,406,694
COMBINATION HAIRBRUSH-APPLICATOR
Leon A. Odence, 303C Faller Drive, New Milford, N.J. 07646
Filed June 23, 1965, Ser. No. 466,323
1 Claim. (Cl. 132—85)



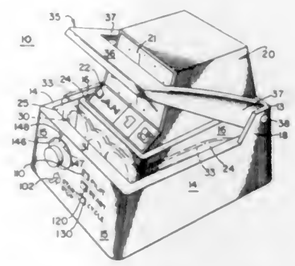
A combination hairbrush and hairspray applicator wherein the hairbrush comprises an upper bristle portion and a hollowed out handle portion, in which handle is received a container of hair spray. The hair spray is actuated digitally by means of an opening in the handle portion of the hairbrush.

3,406,695
DETERGENT DISPENSING APPARATUS
Richard L. Perl, Mansfield, Ohio, assignor to The Tappan Company, Mansfield, Ohio, a corporation of Ohio
Filed Oct. 27, 1966, Ser. No. 590,062
2 Claims. (Cl. 134—58)



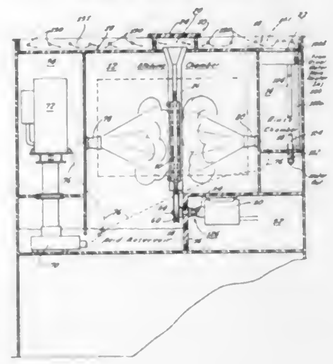
1. In a dishwasher and the like in which a series of operations are performed automatically under the control of timing means, with at least two washing operations provided, detergent dispensing apparatus for supplying separate charges of detergent to the washing chamber respectively for the two such washing operations, said apparatus comprising first and second non-communicating compartments each adapted to receive a charge of the detergent, means for normally shielding the charges placed in said compartments from the circulation of water throughout the washing chamber, and discharge means for flushing the detergent charges from the compartments to the chamber, the dishwasher having a pump and said discharge means comprising a length of relatively small hose connected to the outlet side of the pump and to one side of the through passage of a T-fitting, a first flexible hose branch connected to the leg of said fitting and to said first compartment at a wall opening in the latter, a second flexible hose branch connected to the other side of the straight passage of the fitting and to the second compartment likewise at a wall opening therein, and pinch valve means for controlling flow of water through the second hose branch, said valve means normally holding the second branch closed and being opened by the timing means when the latter initiates the second to occur of the two washing operations, the flow of water from the pump through the first hose branch being obstructed only by the direction change encountered in the T-fitting, with the pump operative in both washing operations to supply water to flush detergent from the first compartment only in the first scheduled such operation and to flush the detergent from the second compartment upon opening of the pinch valve in the subsequent washing operation, and the resulting loss of head in the leg of the T-fitting with the straight passage thereof thus open such that there is only minor flow in the first hose branch in such last condition of the apparatus.

3,406,696
DESK-TOP MACHINE FOR WASHING EYEGLASSES
Chester M. MacChesney, Chicago, and Richard Winkler, Palos Heights, Ill., assignors to Ellamac Incorporated, a corporation of Illinois
Filed Nov. 9, 1966, Ser. No. 593,086
11 Claims. (Cl. 134—58)



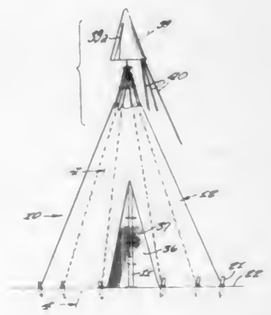
1. A desk-top machine for washing eyeglasses having lenses mounted in a frame therefor, said machine comprising a housing adapted to be supported upon a desk top and having an opening in the top thereof communicating with a washing chamber therein for receiving the frame carrying the lenses of the eyeglasses to be cleaned, a cover hingedly mounted on said housing and movable between an eyeglass receiving position permitting access through said opening and an eyeglass washing position closing said opening, a plurality of nozzles having outlets disposed in said washing chamber for directing streams of fluid upon both surfaces of the lenses disposed in said washing chamber, a reservoir for washing solvent mounted in said housing, means disposed in said housing for pumping solvent from said reservoir through a first set of said nozzles to direct streams of solvent upon both surfaces of the lenses disposed in said washing chamber to wash the lenses, means disposed in said housing for pumping air from the atmosphere through a second set of said nozzles to direct streams of air upon both surfaces of the lenses disposed in said washing chamber to dry the lenses, and a control circuit for controlling said pumping means to effect the automatic washing and drying of eyeglasses disposed in said machine.

3,406,697
ETCHING MECHANISM
Ernest H. Mitchell, Sunland, and Alvin E. Mueller, Downey, Calif., assignors to Western Technology, Inc., Santa Ana, Calif., a corporation of California
Filed Mar. 4, 1966, Ser. No. 531,716
2 Claims. (Cl. 134—148)



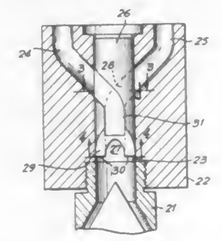
A chemical etching machine is described herein, in which a vertical rotary member is supported between a pair of guides, the rotary member being driven by an eccentric drive which is coupled to its periphery. The workpiece is attached to the rotary member, and etchant sprays are directed against it. Then, when the rotary member is driven, it and the workpiece are rotated and reciprocated with respect to the etchant sprays.

3,406,698
MODERN TEEPEE TENT
Ralph G. Hutchison, Rte. 3, Box 150, Easton, Md. 21601
Filed June 9, 1966, Ser. No. 556,448
1 Claim. (Cl. 135—1)



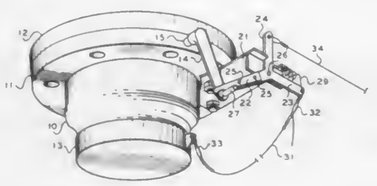
A conical configurated tent supported from a single central pole, the tent comprising a canvas canopy supported from the apex of the pole, the pole supporting a cook stove, and the lower edge of the canopy having a flap secured thereto which selectively serves as a flooring for the tent or as an inner wall for a double protection.

3,406,699
PROCESS AND APPARATUS FOR THE CHARGING OF A PLURALITY OF INJECTION HEADS
Stefan Fischer, Lohmar, Bezirk Cologne, Germany
Filed Oct. 19, 1965, Ser. No. 497,739
Claims priority, application Germany, Oct. 19, 1964, F 44,263
8 Claims. (Cl. 137—1)



This invention relates essentially to a method and apparatus for feeding a plurality of extrusion or injection heads from a single extruder comprising, apparatus having an inlet for connection to an extruder and a plurality of outlets for connection to each head, and passageways in fluid communication with said inlet and said outlets, for the equal distribution of extrudate into each of said outlets.

3,406,700
SAFETY TRIP DEVICE FOR VALVES ON MOBILE TANKS
Charles W. Beazer and Clarence I. Taverner, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed June 6, 1966, Ser. No. 555,379
6 Claims. (Cl. 137—39)



1. In a fluid dispensing apparatus comprising a vehicle-mounted storage tank having a dispensing valve connecting the interior of the tank with a passageway leading from the tank, a biasing means urging the valve into closed position, and means connected to a crank extending from the valve to open the valve in opposition to the biasing means, the combination therewith of:

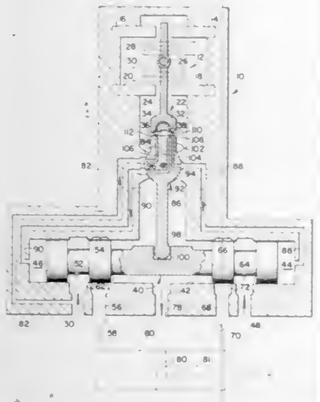
(1) a latch supported by the tank at a pivot point and biased to bear against the crank and to restrain the crank when the valve is in open position;
(2) an arm extension of said latch opposite the pivot point from the latch;
(3) a removable cover, for the passageway leading from the tank, of sufficient mass to overcome the bias of the latch; and
(4) a flexible linkage secured at one end to said cover and at the other end to said arm extension so that when the cover is removed from the passageway

and placed upon the ground the linkage is substantially taut whereby movement of the tank moves the extension arm and trips the latch so as to release the crank and close the valve.

3,406,701
TWO-STAGE FLUID CONTROL VALVE

John W. Meulendyk, Kalamazoo, Mich., assignor to Pneumo Dynamics Corporation, Cleveland, Ohio, a corporation of Delaware

Continuation of application Ser. No. 350,409, Mar. 9, 1964. This application Sept. 13, 1966, Ser. No. 579,176
12 Claims. (Cl. 137—83)



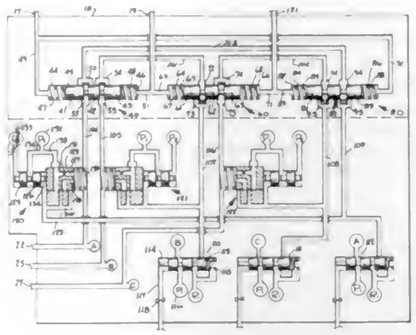
A fluid control valve having a porting link member pivotally mounted in the valve housing, the porting link member being formed with receiving passages for supplying fluid to chambers at opposite ends of the valve spool, fluid being directed to said receiving passages by fluid transfer means having a ported end portion for receiving fluid from a fluid supply and directing the same to said receiving passages, the porting link member being so pivoted as to provide greater transverse movement at its lower end than at its upper end.

3,406,702
APPARATUS FOR COMPARING HYDRAERIC PRESSURE SIGNALS AND DETECTING DISPARITY THEREBETWEEN

Gavin D. Jenney, Sepulveda, Calif., assignor to Bell Aerospace Corporation, a corporation of Delaware

Filed Dec. 1, 1965, Ser. No. 510,866
13 Claims. (Cl. 137—87)

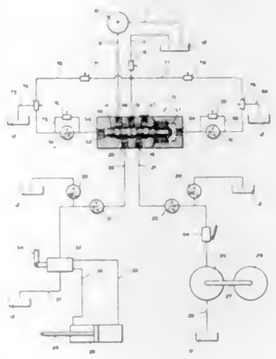
Disclosed is apparatus where at least three hydraeric signals representative of a condition of a part of the system are compared to ascertain discrepancies therebetween. Such signals traditionally are the type developed in a redundant hydraeric control system having two control channels and a monitor channel, each of the signals being taken from a similar point in each channel. The signals are applied across spool valves which translate in response to force differential sensed thereby to thus open communication between ports normally closed by the spool valve lands. A different signal is applied to each end of each spool valve to detect not only a discrepancy occurring but in which channel of the system the discrepancy occurred. The ports are interconnected between the spool valves and to system return in such a manner that upon translation of at least two of the spool valves system return is connected to a switch means to disable the channel in which a failure has occurred. Appropriate delay valves are incorporated into the system to prevent the spool valves from translating upon initial application of system pressure until the system has stabilized. Appropriate lockout valves are employed to prevent reactivation of a previously failed channel once a failure therein has been detected.



3,406,703
PULSATING HYDRAULIC CONTROL

Richard O. Gordon, New Buffalo, Mich., assignor to Clark Equipment Company, a corporation of Michigan

Filed Sept. 2, 1964, Ser. No. 393,866
8 Claims. (Cl. 137—99)

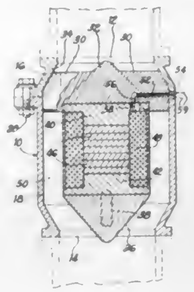


1. A hydraulic system comprising a fixed volume pump; a fluid circuit energizable by said pump and imposing a variable load thereon; a pulsing valve for controlling flow from the pump to said circuit, said valve having a casing defining a valve chamber, an inlet port and an outlet port each opening into said chamber, a circuit port opening from the chamber to said fluid circuit, a valve spool reciprocable in said chamber between a neutral position placing the inlet and outlet ports in communication with each other and a shifted position placing the circuit port in communication with the inlet port while shutting off the outlet port from the inlet and circuit ports; means biasing the spool to said neutral position; and means for effecting reciprocation of the valve spool comprising a valve for throttling flow out of the outlet port, and a conduit connecting one end of the valve chamber to a point between said throttling valve and the outlet port, whereby selected restriction of flow from the outlet port by said throttling valve develops pressure acting through said conduit on the valve spool in opposition to said biasing means.

3,406,704
FLOW REGULATING VALVE FOR MAGNETIC PARTICLES

Harvey G. Van Fossen, Mishawaka, Ind., assignor to The Wheelabrator Corporation, Mishawaka, Ind., a corporation of Delaware

Filed Jan. 21, 1966, Ser. No. 522,318
6 Claims. (Cl. 137—251)

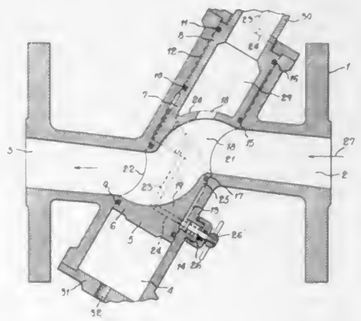


A valve for regulating the flow of materials which are made up of a substantial portion of magnetic particles. The valve includes an outer member and an assembly consisting of a permanent magnet and an electrical coil, this assembly providing a core member with a flow through passage being provided by spaces defined between the core member and the interior wall of the outer member. Means are provided for energizing the coil and for varying the input to the coil to vary the influence of the magnet on the particles and thereby regulate the flow of the material through the valve.

3,406,705
PISTON GATE VALVE FOR HIGH PRESSURE MEDIA

Otto Meyer, Ehlershausen, Germany

Filed Apr. 28, 1966, Ser. No. 551,835
Claims priority, application Germany, May 26, 1965, M 65,370
5 Claims. (Cl. 137—207)

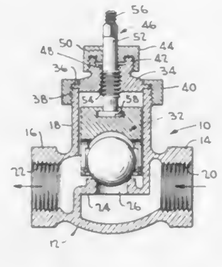


1. Piston gate valve comprising in combination:
a valve housing having a piston bore and angularly related inlet and outlet at opposite sides of the same,
a piston valve element operable in said bore having a flow passage therethrough to register with said inlet and outlet in the open position of the valve,
said piston valve element having a hollow tubular operating column and provided with a passage opening into said through flow passage,
said piston having a longitudinally extending groove terminating at one end in a circumferentially extending groove, and
a spring pressed guide pin on the housing engageable in said longitudinally and circumferentially extending grooves.

3,406,706
BALL VALVE ASSEMBLY INCLUDING SNAP RING RETENTION MEANS

Jorge C. F. C. Zakka, Lope de Vega 504–8, Mexico City 5, Mexico

Continuation-in-part of application Ser. No. 303,193, July 29, 1963. This application Sept. 6, 1966, Ser. No. 577,225
3 Claims. (Cl. 137—331)



1. In a ball valve assembly including a valve housing having an inlet portion and an outlet portion and a baffle wall disposed therebetween, said baffle wall having an opening means therewithin for establishing communication between said inlet and outlet portions, a spherical ball adapted to seat against the periphery of said opening means to block communication between said inlet and outlet portions, support means within which said sphere is mounted, and movable operating means for selectively moving said support means and the spherical ball therewithin, the improvement in said support means comprising:
a generally cylindrical cage means having an inner end spaced closest to said opening means and an outer end spaced furthest away therefrom;
said cage means including an internal cavity therewithin extending from said inner end but terminating short of said outer end in a ball seat portion;
said cage means including a continuous side wall of substantially uniform thickness extending from said inner end toward said outer end, said side wall having an inner surface which circumscribes and surrounds a cylindrical portion of said internal cavity;
said inner surface of said side wall merging with said ball seat portion;
said ball seat portion being formed with a spherical surface less than a hemisphere, with the radius of curvature of said surface of said ball seat portion being substantially equal to the radius of curvature of said spherical ball;
said cylindrical portion of said internal cavity having a cross-sectional dimension greater than the diameter of said spherical ball, thereby assuring that said spherical ball can rotate freely within said internal cavity;
said side wall including a plurality of spaced fluid passages therewithin, said fluid passages at least partially intersecting said surface of said ball seat portion;

said side wall including an annular groove formed along the inner surface thereof adjacent said inner end;

snap ring means disposed within said annular groove and engaged with the surface of said spherical ball to maintain the same within said internal cavity;

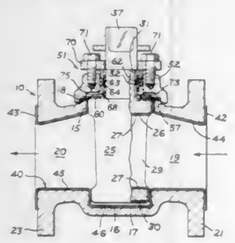
said snap ring means having an effective diameter less than the diameter of said spherical ball to maintain the major portion of said spherical ball within said internal cavity while permitting a minor portion thereof to project beyond said inner end;

said support means being movable upon operation of said operating means to a closed position whereat said spherical ball is tightly seated against both the periphery of said opening means and said ball seat portion, thereby blocking communication between said inlet and outlet portions;

said support means also being movable upon operation of said operating means to an open position whereat said spherical ball is out of contact with both said periphery of said opening means and said ball seat portion, thereby permitting communication between said inlet and outlet portions;

said spherical ball being freely rotatable within said internal cavity when said valve assembly is in said open position, said fluid passages serving to establish communication between said fluid and said internal cavity whereby said fluid can aid in effecting free rotation of said spherical ball.

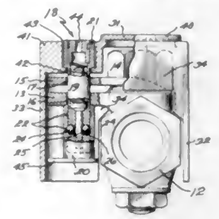
3,406,707
TOP CAP AND STEM SEAL FOR VALVES
Robert C. Schenck, Jr., Dayton, Ohio, assignor to The Duriron Company, Inc., Dayton, Ohio, a corporation of New York
Continuation-in-part of application Ser. No. 497,825, Oct. 19, 1965. This application Jan. 6, 1967, Ser. No. 607,703
7 Claims. (Cl. 137—375)



The top cap and valve stem of a valve are sealed by a polytetrafluoroethylene diaphragm including a vertically extending section through which the valve stem extends. A pair of polytetrafluoroethylene wedge rings of trapezoidal cross-section positioned around the outer surface of the vertically extending section are forced together by a pair of stainless steel glands. The turning torque of the valve member can be reduced without affecting the stem seal.

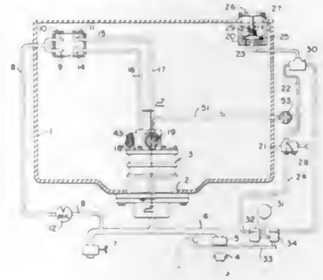
3,406,708
VALVE LOCKING ATTACHMENT
Edward J. Maydock, Shelton, Conn., assignor, by mesne assignments, to The Ruleta Company, Inc., Bridgeport, Conn., a corporation of New York
Filed Jan. 21, 1966, Ser. No. 522,210
4 Claims. (Cl. 137—382)

A valve such as controls the supply of gas or water to a residence from the lines of a utility company doubly safeguarded against unauthorized opening by a combined fastener and shroud, each of which is separable from the valve and from each other. The fastener can be used to lock the valve closed with or without the presence of



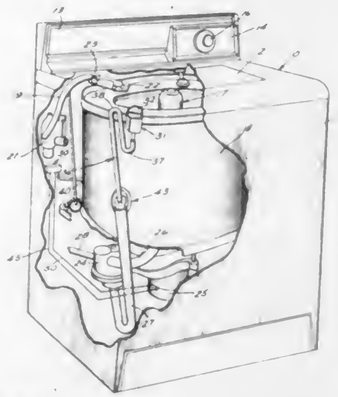
the shroud, and when the shroud is used it is locked to the valve by the same fastener that locks the valve.

3,406,709
TANK FILLING AND DRAINING SYSTEM AND CONTROL VALVE ASSEMBLY THEREFOR
James S. Elbogen, Northridge, and Paul A. De Graaf, Los Angeles, Calif., assignors to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 30, 1964, Ser. No. 400,334
10 Claims. (Cl. 137—389)



1. A control valve assembly for admitting liquid into a tank and draining liquid therefrom comprising a valve housing having a passage therethrough and a valve seat; a main valve member movable in said housing into and out of engagement with said seat to respectively prevent and permit flow of liquid through said passage; spring means biasing said main valve member toward said seat; said main valve member and housing defining a chamber on one side of said main valve member which has restricted fluid communication with the other side of said main valve member; at least two pilot valves in said housing each comprising a pilot valve member movable to open and close a bleed passage in said housing leading from said chamber into the tank; said bleed passages, when opened by the respective pilot valve members, having an aggregate and individual flow capacity exceeding that of the aforesaid restricted fluid communication whereby liquid pressure in said chamber decreases with respect to the liquid pressure acting on said other side of said main valve member thus to overcome the bias of said spring means and to move said main valve member out of engagement with said seat for flow of liquid into the tank; and at least two level sensors operative successively to move one pilot valve member to close its bleed passage upon the level of the liquid in the tank approaching a predetermined level whereby liquid pressure in said chamber increases so that said spring means biases said main valve member partway toward said seat to decrease the rate of flow of liquid into the tank and then to move the other pilot valve member to close its bleed passage upon the level of liquid in the tank reaching a predetermined level whereby fluid pressures acting on opposite sides of said main valve member are equalized so that said spring means biases said main valve member into engagement with said seat to discontinue flow of liquid into the tank.

3,406,710
PUMP CONTROL FOR DISPENSING LIQUID ADDITIVES
Eugene M. Voda, St. Joseph, Mich., assignor to Whirlpool Corporation, Benton Harbor, Mich., a corporation of Delaware
Filed May 1, 1964, Ser. No. 364,091
1 Claim. (Cl. 137—394)



1. In a laundry machine:

means forming a closed recirculation circuit comprising a recirculation system,

recirculating means at one point in said circuit including a pump having an inlet from and an outlet to said circuit for driving liquid in said circuit in the form of a stream at increased pressure,

a tub at a second point in said circuit for receiving and accumulating a pool of liquid in which articles to be washed may be placed for laundering,

a discharge conduit in said circuit interconnecting said outlet of said pump to said tub for carrying said stream of liquid to said tub,

an inlet conduit in said circuit interconnecting said tub to the inlet of said pump for supplying liquid thereto,

liquid level responsive means in control of said pump to operate said pump when liquid is at a preselected level in said tub,

means forming a venturi fitting in said circuit and having a venturi throat disposed in said inlet conduit between said first and second points in said circuit and through which all of the liquid in said closed circuit flows,

an additive storage container outside of said circuit and having a discharge throat,

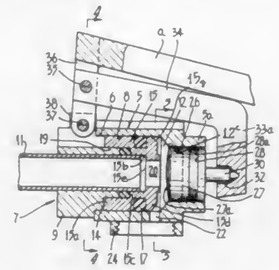
a siphoning conduit means forming a siphoning loop and interconnecting said discharge throat of said storage container and said means forming said venturi,

said siphoning loop being disposed above a maximum liquid level of said tub to prevent liquid in said tub from entering said storage container and to prevent the contents of said storage container from freely draining into said circuit,

and means in said siphoning conduit forming an orifice in fluid communication with said venturi throat, whereby the contents of said storage container are siphoned from said container and admixed with said stream of liquid in said circuit on the upstream side of said pump only when sufficiently reduced pressure is provided at said venturi throat by a flow of liquid from said tub to said pump,

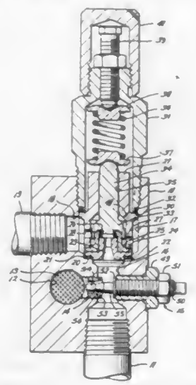
said storage container having a valve means therein closing said discharge throat when the supply of additive is depleted therefrom for preventing air from being entrained in the recirculating system.

3,406,711
FLOAT CONTROLLED VALVES
Clifford Cyril Fogg, East Malvern, Victoria, Australia, assignor to Edward J. Brown, Canterbury, Victoria, Australia
Filed Jan. 17, 1966, Ser. No. 521,000
Claims priority, application Australia, Jan. 22, 1965, 54,255/65
4 Claims. (Cl. 137—443)



A liquid float control valve that may be either manually operated or float controlled having a valve chamber with a valve member axially movable responsive to liquid pressure to control a discharge port in the valve chamber. A coaxial slidable valve seat has an inlet port communicating with a liquid supply passage and is axially movable responsive to liquid pressure upon actuation of the valve member. The area of the discharge port is less than the inlet port which is normally closed by the valve member.

3,406,712
PRESSURE OPERATED SNAP ACTING VALVE
Irvin B. Weise, Bellaire, Tex., assignor to Anderson, Greenwood & Co., Houston, Tex., a corporation of Texas
Filed May 24, 1965, Ser. No. 458,161
6 Claims. (Cl. 137—470)



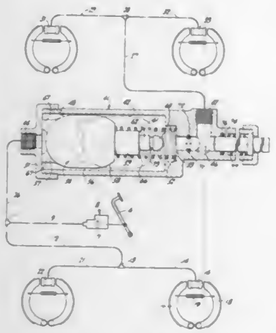
This specification discloses a valve structure suitable for use as a relief valve or a pilot valve which provides

snap action opening and closing and includes a nozzle defining a valve seat, a valve member adapted to engage the valve seat and a cage surrounding the valve member and defining a control port which port is restricted by the relative position of the valve member to control the pressure tending to seat the valve member. This abstract is neither intended to define the invention of the application which, of course, is measured by the claims, nor is it intended to be limiting as to the scope of the invention in any way.

3,406,713
SAFETY FLOW CONTROLLER FOR A HYDRAULIC LINE

Niels R. Borch, Livermore, Calif., assignor to The Regents of the University of California, Berkeley, Calif.

Filed June 9, 1966, Ser. No. 556,336
1 Claim. (Cl. 137—498)

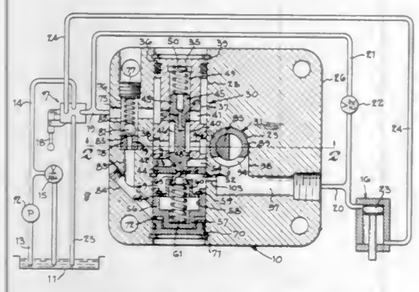


A valve for use in a hydraulic brake system that upon rupture of the line blocks flow therefrom to preserve the operability of the remaining lines. Through the use of a compressed O-ring the valve is maintained in a closed condition until repair of the ruptured line is accomplished.

3,406,714
ANTI-SURGE FLOW CONTROL VALVE

William H. Meisel, Columbus, Ohio, assignor to Abex Corporation, New York, N.Y., a corporation of Delaware

Filed July 7, 1966, Ser. No. 563,518
12 Claims. (Cl. 137—501)

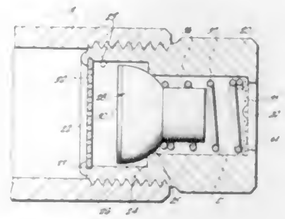


1. An adjustable flow control valve comprising,
an inlet,
an outlet,
means forming a selectively adjustable flow control orifice between said inlet and outlet,
pressure compensating means connected in series with said flow control orifice for maintaining a constant pressure drop in fluid flow through said orifice,
said compensating means including a movable spool forming a pressure compensating orifice with a port,
spring means urging said spool toward a closed position with respect to said port,
pressure differential operated means engageable with said spool to override said spring means by applying a resilient force to said spool moving said spool to an open position with respect to said port,
passage means applying pressure fluid from said inlet to said pressure differential operated means for moving the latter to engage said spool and move said spool toward open position, said passage means including a check valve permitting flow from said pressure differential operated means toward said inlet but not in the reverse direction,
and a flow restrictor by-passing said check valve.

3,406,715
DRAIN VALVE

John O. Hruby, Jr., Burbank, Calif., assignor to Rain Jet Corporation, Burbank, Calif., a corporation of California

Filed Oct. 4, 1965, Ser. No. 492,597
5 Claims. (Cl. 137—550)



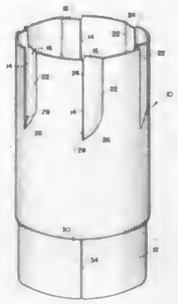
A drain valve for an underground lawn sprinkling system including a housing defining a fluid flow passage fitted with an annular spherically curved valve seat opening concave toward an inlet end of the passage adapted to be connected to a liquid flow duct of the sprinkling system. A foraminous member is disposed across the passage adjacent each end thereof. The valve includes a substantially hemispherical valve member disposed in the passage between the valve seat and the inlet end of the passage, the valve member being oriented convex toward the outlet end of the passage and movable along the passage into and out of sealing relation with the valve seat. The valve member has an essentially flat surface opposite from the seat disposed essentially normal to the length of the passage. A coil spring is engaged between the valve member and the housing for urging the valve member away from the valve seat when the static pressure of fluid presented to the inlet end of the passage is less than a predetermined amount greater than the pressure of fluid communicated to the outlet end of the passage. The spring also guides movement of the valve member toward and away from the valve seat so that the valve member engages the housing only at the valve seat. The valve closes with a smaller pressure differential across the valve member than the pressure differential which exists at the time the valve opens.

3,406,716
DISTRIBUTION WEIR FOR FALLING-FILM EVAPORATORS

Christie J. Cornils, Lakewood, and Charles R. Staadt, Aurora, Colo., assignors to Stearns-Roger Corporation, Denver, Colo., a corporation of Colorado

Filed June 13, 1966, Ser. No. 556,966
14 Claims. (Cl. 137—590)

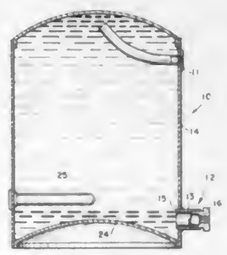
1. A weir for use in falling-film evaporators as the means for transferring the fluid-phase constituents of the feed to the interior heat-exchange surface of each evaporator tube from the reservoir located atop the latter, which comprises: an upstanding tubular extension of each evaporator tube containing at least one upwardly-ranging slot in the wall thereof and an inturned louvre corresponding to each slot bordering same on one side thereof, said louvre being shaped to accept fluid from the reservoir and direct same through the slot in substantially tangential relation to the interior tube surface immediately adjacent said slot.



3,406,717
COLD WATER INLET ORIFICE FOR HOT WATER TANK

Harry B. Kuster, Wayne County, near Centerville, Ind., assignor to Golay & Co., Inc., Cambridge City, Ind.

Filed July 29, 1966, Ser. No. 568,887
6 Claims. (Cl. 137—592)

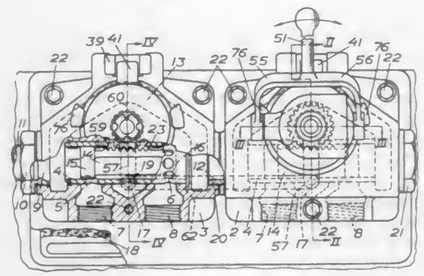


1. In a pressurized heater tank having a cold water inlet adjacent its bottom and a hot water outlet adjacent its top,
means for stratifying inflowing cold water below said outlet, comprising
a fitting having tank inner and outer end portions, a curving chamber within the inner portion opening axially through the inner end of the fitting, and a fluid conducting bore of smaller diameter than said chamber communicating axially of and between said chamber and the outer end of said fitting;
a chamber partial closure over a lower part of said chamber inner opening;
said closure having a top edge which is a chord of the curvature of said chamber;
said top edge being horizontally disposed;
the opening above said edge defining a submerged orifice; and
a cylindrical tubular member receiving and extending from the fitting inner end portion through the wall of said tank.

3,406,718
CONTROL VALVE ASSEMBLY FOR FLUID SYSTEMS

Sven-Erik Nore Eriksson, Adolfsberg, Sweden, assignor to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden

Filed Apr. 5, 1965, Ser. No. 445,559
2 Claims. (Cl. 137—596)

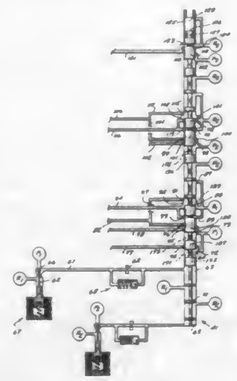


A control valve arrangement particularly adapted for two pressure fluid operated motors, and particularly useful for vehicles having four wheel drive by means of two pressure-operated motors, one of which drives the wheels at one side of the vehicle and the other drives the wheels at the opposite side and in which steering is obtained by driving the wheels of the two sides at different speeds. The valve arrangement includes a first housing coupled to a second or slave housing, the first housing having a first pressure fluid delivery passage, a distributing valve member in the first valve housing and which is movable selectively from a neutral position to establish required communication between supply and delivery passages in the first housing to secure required driving effects, and coupling is arranged between an operating member in the first housing and distributing valve members in the slave housing to effect required movements of the distributing members in both housings to secure desired driving effects.

3,406,719
SEQUENTIAL ACTIVATING VALVE FOR REDUNDANT HYDRAERIC CONTROL SYSTEMS

Gavin D. Jenney, Arleta, Calif., assignor to Bell Aerospace Corporation, a corporation of Delaware

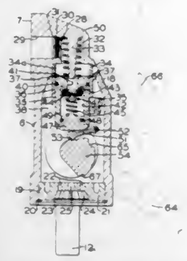
Filed Mar. 14, 1966, Ser. No. 533,914
8 Claims. (Cl. 137—596.16)



Disclosed is a specific activating valve apparatus for applying energizing fluid to a redundant control system in a controlled sequential manner. The redundant control

system has a plurality of channels, each of the channels within the system includes (1) a control valve such as a servo valve applying fluid to an actuator, (2) sensor apparatus to generate servo valve operational status signals, and (3) operational status error detection and decision-making apparatus which is responsive to the generated signals from each of the channels and determines which channel is in error and effects switching to preclude further operation of that channel in the system. The activating valve is a slide valve disposed within a bore defining a plurality of input and output ports. The slide valve is activated by the application of fluid, upon operation of a solenoid valve, to the slide valve. The fluid is applied through a restriction orifice in a controlled manner to cause the slide valve to move at a predetermined rate of speed so as to sequentially open and close predetermined ones of the input and output ports, thereby conditioning the redundant control system for proper operation. The movement of the slide valve opens and closes the ports as above referred to in such a manner that the switching portion of the system is first reset and thereafter the error detection and servo valve portions of the system are energized to thereby preclude application of fluid to the actuator by a servo valve which is inoperative or has malfunctioned.

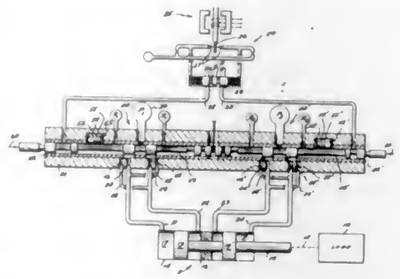
3,406,720
VARIABLE PRESSURE RETAINER DEVICE FOR BRAKE CYLINDERS
Robert B. Salton, Monroeville, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Sept. 16, 1965, Ser. No. 487,746
3 Claims. (Cl. 137—599.2)



A brake cylinder pressure retaining valve device, for connection to the exhaust passageway of a railway car brake control valve device, having a body provided with a bore in which a cylindrical valve element is reciprocable selectively to a plurality of different positions by manually rotatable cam means. The valve element has an internal chamber containing a check valve spring-biased to seated position, which in one position of the valve element cooperates with a projection on the body to be held in open position. The valve element and check valve are effective on operation of the element to its different positions to selectively provide either a fast or a slow blowdown of brake cylinder pressure to atmosphere, or a slow blow-down of brake cylinder pressure to a chosen pressure above atmospheric pressure.

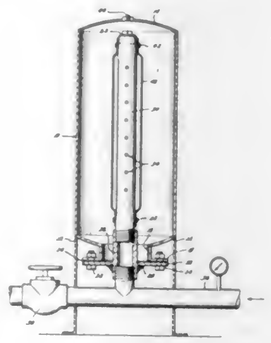
3,406,721
SPOOL SEIZURE OUTPUT BYPASS VALVE
Gavin D. Jenney, Sepulveda, Calif., assignor to Bell Aerospace Corporation, a corporation of Delaware
Filed Sept. 30, 1965, Ser. No. 491,680
16 Claims. (Cl. 137—625.69)

Disclosed is a bypass valve apparatus which is operative only in response to seizure of the control valve to bypass the output of the control valve. In one embodiment the bypass valve takes the form of a movable sleeve positioned in a bore within a housing, the sleeve being restrained against movement during the time the control valve normally slides within the cylinder formed within the sleeve. Upon seizure of the control valve to the sleeve, the sleeve moves against the restraining means to open the bypass valve ports, thereby bypassing the output of the control valve. In another embodiment, the bypass valve takes the form of an opening provided in a member connected to a



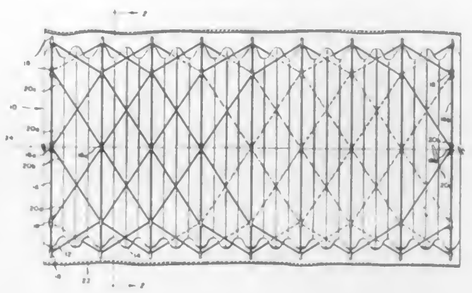
rod which passes through an opening in the control valve which in turn is slidable within the cylinder formed by the housing. The control valve has connected thereto a pair of ports disposed one on each side of the opening, the opening being normally blocked. Upon seizure of the spool valve to the cylinder, the rod is permitted to move relative to the control valve, thereby connecting the opening to one of the bores, thereby opening the bypass valve to bypass the output of the control valve.

3,406,722
PRESSURE TANK EQUIPMENT FOR WATER SUPPLY SYSTEMS
Arthur P. Ruth, 5025 Jensen Drive, Houston, Tex. 77026
Filed Oct. 18, 1965, Ser. No. 497,184
1 Claim. (Cl. 138—30)



Pressure tank equipment for water supply systems embodying a perforated pipe provided with a surrounding expansible, elastic sleeve into and out of which water may flow into and out of the tank to maintain air under pressure externally of the sleeve in the tank out of contact with the water. Means is provided for inserting the pipe and sleeve as a unit into the tank and removing the same therefrom.

3,406,723
UNIVERSAL FLEXIBLE SUIT JOINT
Robert W. Cornell, West Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Mar. 16, 1966, Ser. No. 534,694
23 Claims. (Cl. 138—121)



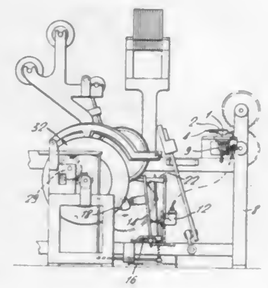
A universal flexible suit joint is provided which can be utilized for both universal or multidirectional movements without substantial change in the internal volume of the joint and with low friction forces being encountered in the movement of the joint. The joint includes a flexible material formed into a tubular member extended along the length of the joint with the tubular member having an axis and a plurality of substantially circumferential wrinkles. A plurality of spaced hoops are mounted on the tubular member with the hoops being substantially concentric with the axis of the tubular member. Guides or eyelets are mounted on the hoops and a plurality of cords pass through the guides and around the tubular member, with each of the cords describing a substantially helical path.

3,406,724
PLASTIC TUBES
Börge Ingmar Carlström, Nitorp, Hoganas, Ago Saarnak, Vastra Frolunda, and Bengt Åke Lennart Ekedahl, Hoganas, Sweden, assignors to Aktiebolaget Hoganastmetoder, Hoganas, Sweden, a Swedish company
Filed Nov. 1, 1965, Ser. No. 505,878
Claims priority, application Sweden, Nov. 6, 1964, 13,448/64
2 Claims. (Cl. 138—137)



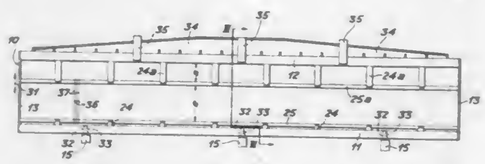
A relatively flexible sewer pipe, capable of being buried deeply into the ground, consists essentially of three concentric layers. The innermost and outermost layers are formed from polyester resin or other thermosetting plastic reinforced with fibrous material. The intermediate layer having high compressive strength is formed from thermosetting plastic material and particulate relatively high density filler, preferably sand and quartz powder. The intermediate layer has a thickness of from about 50 to about 80% of the total thickness of the wall of the pipe.

3,406,725
VARIABLE HEIGHT PILE CUTTING MEANS FOR DOUBLE PILE FABRIC LOOMS AND THE METHOD THEREFOR
Claude Hubert Hastewell and Leonard Hardcastle, Scissett, near Huddersfield, England, assignors to G. H. Norton & Company Limited, Yorkshire, England, a British company
Filed Jan. 17, 1967, Ser. No. 609,867
Claims priority, application Great Britain, Jan. 18, 1966. 2,371/66
17 Claims. (Cl. 139—21)



In a double pile fabric loom in which a face-to-face weaving process is performed a knife reciprocating between the two interconnected woven fabrics to cut the pile yarn, provision is made for producing woven fabrics having varying pile heights by repetitively adjusting the position of the plane of movement of the knife relative to the planes of the two face-to-face fabrics as weaving proceeds.

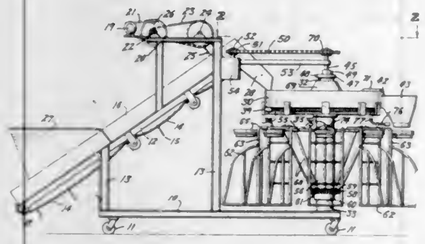
3,406,726
HEDDLE FRAME
Erwin Pfarrwaller, Winterthur, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company
Filed Aug. 29, 1966, Ser. No. 575,857
Claims priority, application Switzerland, Sept. 1, 1965, 12,239/65
3 Claims. (Cl. 139—91)



There is disclosed a heddle frame in which the upper longitudinal member of the frame is separated vertically from the means which support the heddles at their upper ends by a space unobstructed in the vertical direction which is at least 50 mm. greater than one-half the length of the heddles. The travel of the frames being necessarily limited to one-half the length of the heddles, the consequence of this construction is that even during operation of the loom the upper longitudinal member of one heddle frame does not on its downstroke approach closer than 50 mm. to the upper heddle supporting means of the adjacent heddle frames (which are on their up-

stroke), thus leaving a clearance for the operator's hands if the loom should restart inadvertently while he is for example repairing broken warp threads.

3,406,727
PORTABLE CONTINUOUS ARTICLE BAGGING MACHINE
Fred Rexus, 830 20th St., Greeley, Colo. 80631
Filed Dec. 17, 1965, Ser. No. 514,441
4 Claims. (Cl. 141—131)



A rotatable annular series of bag holders with bag filling means superimposed thereover, said filling means being circumferentially adjustable relative to said annular series so that the point of filling may be pre-positioned at any desired circumferential position, and having means for releasably latching each successive bag holder at the point of filling.

3,406,728
PORTABLE SAW TABLE AND GUIDE
Earl A. Rost, 4955 Fairfax, Fort Worth, Tex. 76116
Filed June 24, 1965, Ser. No. 466,620
2 Claims. (Cl. 143—132)



The invention comprises, in summary, a pair of elongated sections or work-supporting members having planar surfaces, preferably of light guage sheet metal, such as aluminum, hingedly joined so that one member can be folded upon the other for portability, or storage. Each section of the invention has a frame composed of parallel side elements of square tubular material, and these elements are connected at each end, and at spaced intervals, by cross-members of the same material for proper rigidity. The sheet metal planar surfaces are attached by suitable means to the frames.

The invention is designed to be supported, in use, on a pair of conventional saw horses. Latching means is provided on each side of one of the sections adjacent to the hinge connection engageable by pins arranged on the opposite section to insure rigidity when these members are joined longitudinally. A guide rail is rigidly attached along one side of each section for axial alignment, when the invention is extended for use, against which the work is arranged for cutting. A sliding stop is adjustably attached to the work guide for predetermining the desired lengths of the work materials.

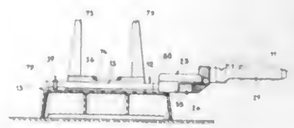
Across one end of the work-supporting sections is arranged a pair of elements for slidably supporting a portable electric saw. These elements are spaced apart, and adjustable with respect to each other, to accommodate different types of saws.

3,406,729
GULLET-GUARDED CARBIDE-TIPPED SAW
Delbert P. Cooper, 65 Irving Road, Eugene, Oreg. 97402
Filed May 2, 1966, Ser. No. 546,763
4 Claims. (Cl. 143—133)



The outer margin of a saw plate is contoured at spaced intervals in a sequence of gullet and tip areas in each of which is secured a gullet insert and a tip insert of wear-resistant material. The gullet insert has bottom, rear and top faces and an arcuately concave front gullet face extending forward from the top face and merging with the saw plate. The gullet area of the saw plate has surfaces matching the bottom and rear faces of the gullet insert. The tip insert has a bottom face matching and abutting the top face of the gullet insert, a rear face aligned with the rear face of the gullet insert, and a front face merging with the gullet face of the gullet insert to form a continuous gullet.

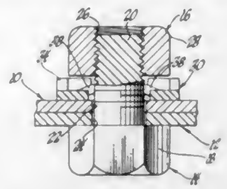
3,406,730
DEVICE ALLOWING FOODSTUFFS TO BE SUPPLIED IN THE FORM OF SLICES
Jean Mantelet, 46–48 Ave. Montaigne, Paris, 8eme, France
Filed June 27, 1966, Ser. No. 560,748
Claims priority, application France, Jan. 26, 1966, 47,233
6 Claims. (Cl. 146—2)



A slicing tool adapted to be driven by the sliders of the driving unit of a conventional carving knife, comprising two frames disposed in sliding contact and each having an element shaped for coupling to each said slider. Each frame supports a set of spaced blades disposed with the blades of one set arranged alternately with the blades of the other set, enabling the blades of each set to be reciprocated with the blades of one set moving in the opposite direction from the blades of the other set.

3,406,731
LOCKING MEANS
Sydney L. Terry, 58 Moross, Grosse Pointe Farms, Mich. 48236
Filed Sept. 14, 1965, Ser. No. 487,288
12 Claims. (Cl. 151—30)

Fastening means for a nut and bolt assembly wherein a member is provided with radially inwardly extending legs which are adapted to first engage the threads of the bolt portion, and upon continuing rotation, rotationally deflect relative to the bolt member so that reverse rotation of the bolt member is resisted by such rotationally deflected legs. Such legs are caused to deflect rotationally



by some means such as the interference between the inward ends of the legs and the bolt member along with rotation of the bolt member relative to the locking device.

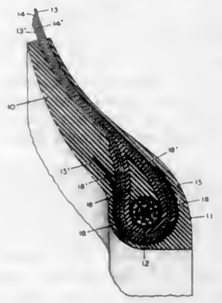
ERRATUM

For Class 151—41.75 see:
Patent No. 3,406,734

3,406,732
PROCESS FOR MANUFACTURING AND RETREADING TIRES AND ARTICLES AND THE PRODUCTS OBTAINED THEREFROM
Mario Milano, Ferrara, and Sandro Giovanardi, Forli, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy
No Drawing. Filed Mar. 11, 1964, Ser. No. 351,207
Claims priority, application Italy, Mar. 12, 1963, 5,171/63
19 Claims. (Cl. 152—330)

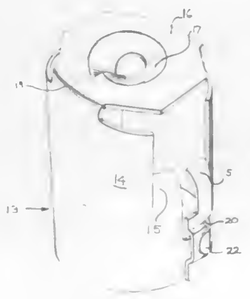
Manufacturing and retreading tires by covulcanizing a tread portion consisting essentially of a saturated olefin copolymer consisting of ethylene and a higher alpha-olefin, which tread portions contains vulcanizing agent consisting essentially of at least 5% by weight of olefin copolymer of an organic peroxide and at least 2 gram atoms of sulfur per active peroxide group of said organic peroxide, directly on to a carcass of natural or synthetic unsaturated rubber at a temperature of at least about 165° C. Tires so produced have high adhesion between tread and carcass portion.

3,406,733
TIRE COVERS
Jacques Boileau, Clermont-Ferrand, France, assignor to Compagnie Generale des Etablissements Michelin, raison sociale Michelin & Cie, Clermont-Ferrand, Puy-de-Dome, France
Filed July 21, 1966, Ser. No. 567,000
Claims priority, application France, July 24, 1965, 25,940
3 Claims. (Cl. 152—362)



A bead for a pneumatic tire having a carcass of substantially radially-directed nonmetallic cords is provided with a bead wire around which the cords are folded and first and second layers of an elastomeric buffering composition. The elastomeric buffering composition is on opposite sides of the cords extending around the bead wire and envelops the cords in the vicinity of the bead wire. The composition has a modulus of elasticity in g./mm.² measured at 100% elongation not exceeding 0.8 of the modulus of elasticity in kg./mm.² of the carcass cords measured under a load equalling one-tenth of their breaking load.

3,406,734
SLEEVE TYPE FASTENER FOR STUDS
Robert A. Munse, Perrysburg, Ohio, assignor, by mesne assignments, to Vare Corporation, New York, N.Y., a corporation of New York
Filed July 11, 1966, Ser. No. 564,060
1 Claim. (Cl. 151—41.75)

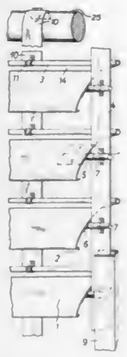


A one-piece sheet metal fastener for securing a pair of spaced panels, one of the panels having a stud extending toward the other panel. The fastener is in the form of a sleeve of tubular form, which is slidable on the stud, and the free adjacent edges of the sleeve are held together by a bent hook means on one edge portion engaging notch means on the other edge portion. The sleeve has an integral base bridging the end walls of the sleeve and on the base is a nut for receiving a screw applied from the panel other than the one having the stud. The sleeve is also provided with detent means, which can ride over the stud during application but which resists separation of the sleeve from the stud. The detent means is in the form of one or more inwardly inclined tabs formed by slitting the metal of the sleeve adjacent the hook and notch means.

3,406,735
VENETIAN BLINDS
Friedrich Griesser, Aadorf, Thurgau, Switzerland, assignor to A.G. Griesser, Aadorf, Thurgau, Switzerland
Filed Oct. 7, 1966, Ser. No. 585,182
Claims priority, application Switzerland, Oct. 15, 1965, 14,228/65
1 Claim. (Cl. 160—133)

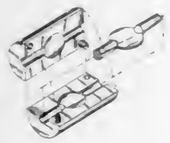
A Venetian blind wherein each of the slats has a longitudinal beaded edge. Means pivotally connect each slat to tapes. A draw tape is wound up on a drum to raise the blind and individual pivot means pivotally connect the longitudinal edge of each slat to the draw tape. Means associated with the pivot means provide a synthetic plastic bearing surface. Each of the slats has a cutout aligned with the draw tape and an eye is fixed to the draw tape so that the eye and bead together form the pivot means. The eye is a U-shaped metallic lug inverted over the surface of the draw tape, and a synthetic plastic sleeve is located within the U of the lug and in contact with the inner surface of the U and the part of the surface of the

draw tape over which the lug is inverted and the two ends of the sleeve project outwardly and upwardly over



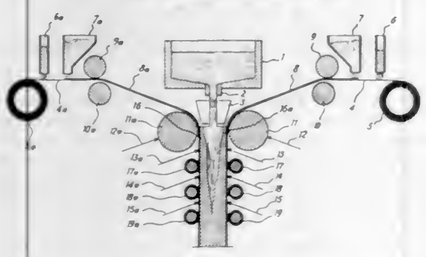
the respective sides of the U, and the sleeve surrounds the bead.

3,406,736
MOLD FOR SAMPLING MOLTEN IRON
Robert W. Jett, Southgate, James I. McNelis, Trenton, and Steven Sowa, Lincoln Park, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Apr. 4, 1966, Ser. No. 539,999
4 Claims. (Cl. 164—4)



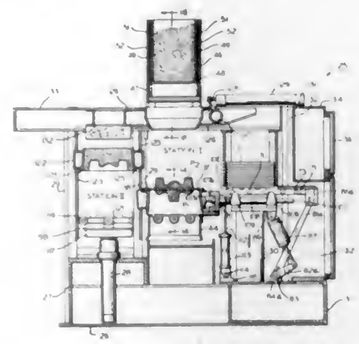
A sampling device for removing an analytical sample from a flow stream of molten metal such as gray or pig iron. This sampling device is fabricated from a highly conductive, high melting point metal.

3,406,737
APPARATUS AND METHOD FOR CONTINUOUSLY CASTING OF MATERIAL, ESPECIALLY FERROUS MATERIAL
Jean Duflot and Pierre Vayssiere, Metz, France, assignors to Institut de Recherches de la Siderurgie Francaise Saint Germain-en-Laye, Seine-et-Oise, France
Filed Mar. 4, 1966, Ser. No. 531,913
Claims priority, application France, Mar. 3, 1965, 8,303; Jan. 6, 1966, 44,984
13 Claims. (Cl. 164—86)



A continuous casting process, especially for casting ferrous material, in which an elongated circumferentially closed envelope is continuously formed from a material adapted to absorb a certain amount of heat, in which the envelope has an outer layer which decomposes under the influence of heat and an inner layer of metal powder, and in which the material to be cast is continuously poured in hot molten state into the interior of the envelope while the latter with the material therein is continuously moved in the desired direction; and an apparatus for carrying out the process.

3,406,738
AUTOMATIC MATCHPLATE MOULDING MACHINE
William Allan Hunter, Morton Grove, Ill., assignor to Heatherwill Company, Morton Grove, Ill., a partnership
Continuation of application Ser. No. 411,538, Nov. 16, 1964. This application Apr. 6, 1967, Ser. No. 633,661
25 Claims. (Cl. 164—182)

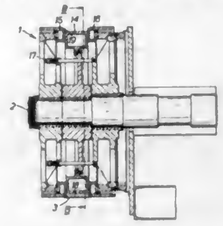


1. In a moulding machine, a drag flask having a matchplate mounted thereon, means for filling said flask with moulding material, a board adapted to be moved into position over the contents of said drag flask and to be held thereto, means for turning said drag flask to an upright position and moving said filled drag flask to a second position, with the contents of said drag flask resting on said board, a movable ram member adapted to receive said filled drag flask and to be engaged with said board after said filled drag flask has been moved to said second position, a cope flask adapted to surmount said filled drag flask, said filling means being adapted to fill said cope flask when said matchplate and said drag flask move against said cope flask, and means movable to a position with respect to said cope flask so that upon continued movement of said movable ram the moulding material within said drag and cope flasks will be compacted.

3,406,739
VARIABLE DEPTH GROOVE ROTARY CONTINUOUS CASTING MACHINE
Herbert William Brand, Leigh-on-Sea, England, assignor to Albert Mann Engineering Company Limited, Basildon, Essex, England, a British company
Filed Jan. 10, 1966, Ser. No. 519,739
Claims priority, application Great Britain, Jan. 19, 1965, 2,370/65
7 Claims. (Cl. 164—278)

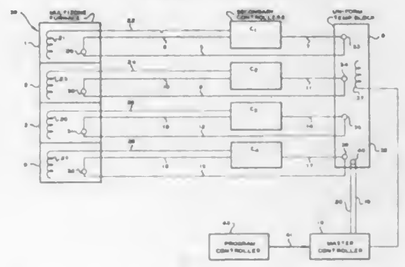
A mould wheel for a rotary continuous casting machine, in which the mould is formed by a groove which extends around the circumference of the wheel and a continuous belt which closes the groove over part of its length. The depth of the groove varies progressively around the circumference of the wheel, but the floor of the groove is movable relative to the sides of the groove so that the depth, at any fixed point, remains constant during rotation of the wheel. During casting the wheel

rotates and the material being cast is carried round in the mould, the wheel being so arranged that the depth of the mould decreases, in the direction of rotation, so that



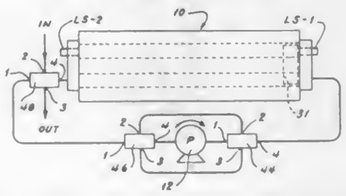
contact between the groove, the belt and the material being cast can be maintained as the material solidifies and shrinks.

3,406,740
TEMPERATURE CONTROL IN MULTI-ZONE HEAT EXCHANGE OPERATION
Elliott P. Doane, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed July 25, 1966, Ser. No. 567,477
5 Claims. (Cl. 165—1)



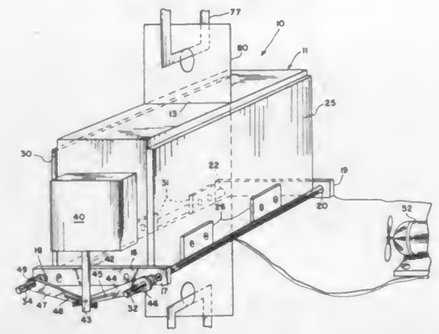
The individual zone temperatures in a multi-zone heat exchange system are controlled by individual heating units which are actuated by individual zone controllers which, in turn, are preset with respect to each other. The individual zone controllers are each operatively connected to a reference-temperature zone, and actuated by the difference in temperature between the corresponding individual temperature zone and the reference-temperature zone. In this way, the temperature of each zone is varied by varying the temperature of the reference-temperature zone.

3,406,741
PROCESS AND APPARATUS FOR TREATING LIQUIDS
John M. Leach, P.O. Box 341, Port Jefferson, N.Y. 11777
Filed Nov. 14, 1966, Ser. No. 594,060
9 Claims. (Cl. 165—1)



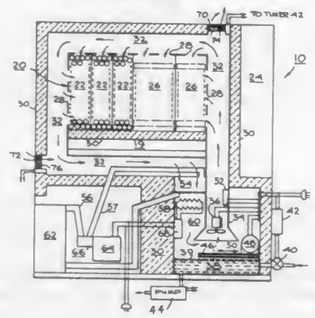
The present invention relates to an apparatus and process for treating liquids wherein a liquid is passed over a surface and a piston-like scraper is moved over the same surface at the same time by the movement of the liquid to remove all deposits from the surface. A pump, valves and piping are provided so that the same increment of liquid can be passed back and forth over the surface as many times as desired during a given treatment period so as to greatly increase the amount of scraping action available per treatment period.

3,406,742
AUTOMATIC FATIGUE TEST TEMPERATURE PROGRAMMER
Eugene C. Naumann, Newport News, Va., and Patrick L. Corbin, Champaign, Ill., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Aug. 26, 1966, Ser. No. 576,182
10 Claims. (Cl. 165—12)



A fatigue testing machine which accelerates testing and includes a furnace used for heating the test specimen which is positioned therein. The sides of the furnace may be opened to enable cool air to be directed over the test specimen. Structure is provided for opening and closing the doors. Mechanism cyclicly loads the test specimen. The heating, cooling and loading of the test specimen is programmed so that the test specimen can be loaded under heated and cooled conditions as rapidly as possible until failure of the specimen. This enables the researcher to gather data on the specimen in the least time possible.

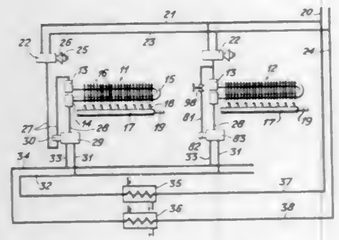
3,406,743
TEMPERATURE AND HUMIDITY CONTROLS FOR A CIGAR VENDING MACHINE
Alvaro S. Gomez, Lynwood, Calif. (1320 Macy St., Los Angeles, Calif. 90033)
Filed Apr. 10, 1967, Ser. No. 629,801
9 Claims. (Cl. 165—12)



The environment within a cigar vending machine is carefully controlled with respect to both humidity and

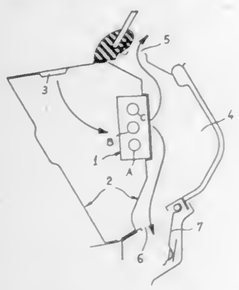
temperature so that the cigars are maintained at a correct environment for comparatively extended periods of time. The humidity may be controlled at any percent relative humidity desired and the temperature may be similarly controlled to be greater than, the same as, or less than the ambient temperature. Movable door means located over a water chamber are operated by a humidistat to control the amount of water contacted by the circulating air.

3,406,744
HEATING AND AIR-CONDITIONING APPARATUS
Eduard Scheibler, Dietikon, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company
Filed Aug. 29, 1966, Ser. No. 575,581
Claims priority, application Switzerland, Sept. 1, 1965, 12,240/65
4 Claims. (Cl. 165—27)



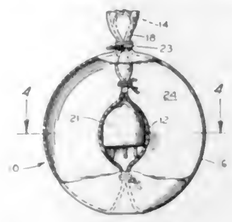
A four-conduit heating and air-conditioning system in which hot and cold fluids are delivered alternatively through a single fluid duct, under control of a space thermostat and a valve actuated thereby, to a heat exchanger. The fluid is returned therefrom selectively to corresponding hot and cold fluid return lines under control of a thermostatically operated valve which responds to the temperature of the fluid as selected by the first named valve and before passage through the heat exchanger.

3,406,745
AIR HEATERS
Gaëtan de Coye de Castelet, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Sept. 29, 1966, Ser. No. 583,026
Claims priority, application France, Oct. 22, 1965, 35,911
4 Claims. (Cl. 165—40)



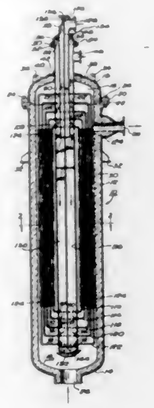
An air heater having at least two circulation conduits for the heating fluid and a valve for regulating the rate of flow of fluid through these conduits. A variable control member is provided for the circulation of fluid in at least one conduit, particularly as a function of the rate of flow permitted by the valve, so as to obtain simultaneously with the quantitative regulation of the heating assured by means of the valve, a different distribution of the heating fluid in the different conduits of the air heater. Thus layers of air at different temperatures can be directed in different directions from the outlet of the heater.

3,406,746
PACKAGE AND PACKAGING METHOD FOR FRAGILE ARTICLES
William Harry Abildgaard, Los Altos Hills, Calif., assignor, by mesne assignments, to Becton, Dickinson of California, Inc., Los Gatos, Calif., a corporation of California
Filed Apr. 23, 1964, Ser. No. 361,975
13 Claims. (Cl. 165—46)



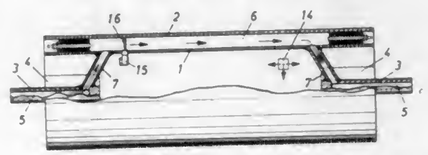
A package for a fragile article including a tubular deformable hollow package blank which has an article folding chamber and an insulating chamber. Insulating means are positioned within the insulating chamber to protect an article which is positioned within the article holding chamber. The article holding chamber is positioned so that when the end portions of the package blank are sealed together and closed, the insulating chamber will surround and protect the article holding chamber and a fragile article contained therein.

3,406,747
HEAT EXCHANGER HAVING CONCENTRIC SUPPLY AND EXHAUST CONDUITS
Alan J. White, Pittsburgh, Pa., assignor to The American Schack Company, Inc., Pittsburgh, Pa., a corporation of Delaware
Filed Jan. 18, 1966, Ser. No. 521,278
2 Claims. (Cl. 165—74)



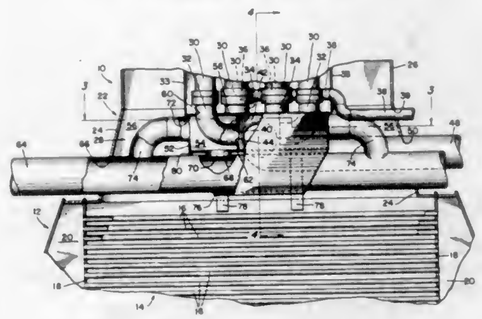
A heat exchanger having concentric conduits forming inlet and outlet conduits for a heat exchange fluid. The outer conduit extends into and through a major portion of the shell and has a closed end portion within the shell and an open end portion externally of the shell. The inner conduit is concentrically positioned in the outer conduit and extends through a minor portion of the shell. The inner conduit has an open end portion internally of the shell that serves as an inlet for the heat exchange fluid and an open other end portion within the outer conduit. An annular seal member closes the opening between the inner wall of the outer conduit and the outer wall of the inner conduit adjacent the other end portion of the inner conduit. Heat exchange tubes are connected at one end to the outer conduit adjacent the closed end of the outer conduit and at the other end above the annular seal member.

3,406,748
METHOD FOR THE MANUFACTURE OF COOLING ROLLERS AND SIMILAR ARTICLES FOR BAND-SHAPED MATERIAL AND ROLLERS, MANUFACTURED ACCORDING TO THE METHOD
Karl Axel Bertil Jarreby, Falkenberg, Sweden, assignor to Skandinaviska Apparatindustri AB, Hamnvagen, Sweden, a corporation of Sweden
Filed May 17, 1965, Ser. No. 456,316
Claims priority, application Sweden, May 21, 1964, 6,158/64
6 Claims. (Cl. 165—89)



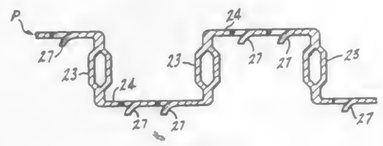
A heating or cooling roller wherein an outer mantle is spaced from an inner mantle so as to form a chamber with an inlet and an outlet for a cooling or heating medium. The outer mantle is connected to the inner mantle by elastic packings and means are provided for compressing such elastic material so that the outer mantle may be displaced relative to the inner mantle by applying different pressures to the compression of such packings. In this way the relative position of the outer mantle may be changed relative to the inner mantle.

3,406,749
STEAM MANIFOLD FOR CONDENSERS
Robert J. Stoker, Phillipsburg, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 2, 1967, Ser. No. 613,657
10 Claims. (Cl. 165—110)



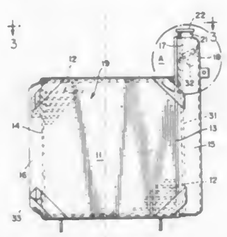
A condenser steam dome including a manifold constructed to minimize the piping necessary for conveying steam from the steam dome to auxiliary equipment such as feedwater heaters. The manifold is formed from a plurality of baffle elements which are arranged to define a plurality of chambers within the steam dome.

3,406,750
COMPOSITE PANEL HEAT EXCHANGER AND THE METHOD OF MANUFACTURE
Theron F. Pauls, Godfrey, Ill., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Original application Mar. 30, 1965, Ser. No. 443,900, now Patent No. 3,368,261, dated Feb. 13, 1968. Divided and this application July 27, 1967, Ser. No. 666,534
3 Claims. (Cl. 165—148)



A composite heat exchanger panel is formed with headers and portions connecting the headers which are perpendicular to the plane of the panel and contain tubes connecting the headers. Other portions joining adjacent connecting portions are provided in parallel spaced relationship to the panel. A heat exchange medium passes through the tubes, and another medium flows perpendicular to the panel and parallel to the tubed portions through perforations provided in the joining portions.

3,406,751
CROSSFLOW RADIATOR
Alvin L. Kreul and Donald L. Spaulding, Racine, Wis., assignors to Young Radiator Company, Racine, Wis.
Filed June 30, 1967, Ser. No. 650,407
4 Claims. (Cl. 165—151)

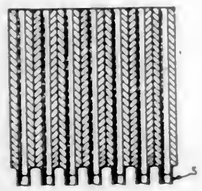


The essential concept of this invention involves the structuring of a finned-tube type of heat-dispensing radiator, for use with a small engine, wherein the radiator is positioned horizontally between vertically-disposed inlet and outlet tanks with the inlet tank having an extension above the uppermost row of horizontal tubes wherein is located a coolant-fill, pressure-controlled spout and a specially-formed and positioned baffle to ensure the effective elimination of the air from the coolant flow through the radiator.

3,406,752
METHOD OF FORMING TUBE PLATE BY ELECTRONIC WELDING OF TUBES AND THE ARTICLE FORMED
René Lion, Garches, France, assignor to Fives-Penhoet, Paris, France, a company of France
Filed May 8, 1967, Ser. No. 636,709
Claims priority, application France, May 6, 1966, 60,663
5 Claims. (Cl. 165—173)

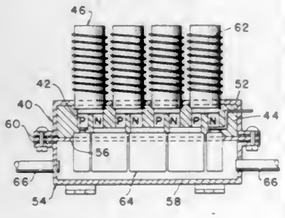
In said structural arrangement the various tubes 4 of the nest of tubes of the tubular heat-exchanger are welded

endwise to tubular elements 3 and said elements welded to each other over the whole area of their adjacent lateral



faces in contact with each other so as to form a tubular plate 1.

3,406,753
PEG TYPE HEAT EXCHANGERS FOR THERMOELECTRIC DEVICES
Edward P. Habdas, Dearborn, Mich., assignor to Calumet & Hecla, Inc., Allen Park, Mich., a corporation of Michigan
Continuation-in-part of application Ser. No. 272,888, Apr. 15, 1963. This application Feb. 23, 1967, Ser. No. 617,960
12 Claims. (Cl. 165—185)



A peg type heat exchanger comprising a metal rod adapted to be attached in good heat and electrical conducting relation to the end of one or more semiconductor pellets or to electrical conductors connecting a pair of pellets, a metal heat exchange sheath surrounding said rod, and a very thin layer of good heat conducting and electrically insulating material interposed between said rod and sheath in good heat conducting relation to both. For most applications the sheath is in the form of an integrally finned tube.

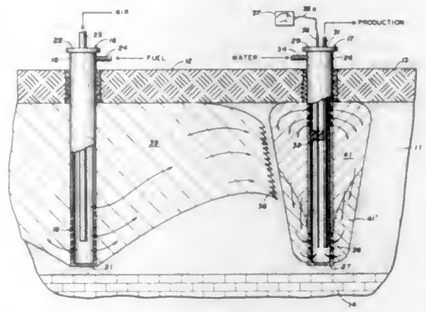
3,406,754
PETROLEUM PRODUCTION UTILIZING MISCIBLE-TYPE AND THICKENED SLUGS
William B. Gogarty, Littleton, Colo., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 283,498, May 27, 1963. This application June 19, 1967, Ser. No. 646,811
14 Claims. (Cl. 166—9)



This invention relates to a process for recovering fluid hydrocarbons from fluid petroleum-bearing subterranean formations having drilled therein at least one each of a production means and an injection means comprising

(a) injecting into the subterranean formation at least one slug of a soluble oil,
(b) injecting into said formation at least one slug of a thickened fluid drive material differing from said soluble oil to displace the fluid hydrocarbon toward at least one production means and
(c) recovering oil from said formation.

3,406,755
FORWARD IN SITU COMBUSTION METHOD FOR RECOVERING HYDROCARBONS WITH PRODUCTION WELL COOLING
Lorld G. Sharp, Irving, Tex., assignor to Mobil Oil Corporation, a corporation of New York
Filed May 31, 1967, Ser. No. 642,561
5 Claims. (Cl. 166—11)

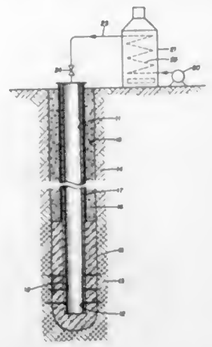


A method for the recovery of hydrocarbons, by forward in situ combustion, from a subterranean formation employing production well cooling. More particularly, an in situ combustion front is moved by the injection of oxygen-containing gas into the formation through an injection well toward a spaced production well. The front displaces combustion-generated heated fluids, and formation fluid containing combustible hydrocarbons, into the production well. These fluids are produced from the production well and hydrocarbons recovered from them. Eventually, the combustion front moves sufficiently close to the production well to create temperatures therein at which combustion and thermal destruction of the desired hydrocarbons can occur. In accordance with this invention, water is passed from the well into the surrounding formation at an upper horizon, then downward about the production well to a lower horizon where the water is coproduced into the production well with fluids displaced before the combustion front. The combustion front approaches the production well between the mentioned upper and lower horizons. The flow of water maintains temperatures within the production well above about 160° F. and below the temperature wherein coking of the produced hydrocarbons occurs. In a preferred aspect, at least a part of the water produced into the production well is in the form of steam.

3,406,756
METHOD OF WELL CEMENTING WITH CONDUIT COATED WITH HEAT SENSITIVE MATERIAL
Lloyd G. Carter and Dwight K. Smith, Duncan, Okla., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Sept. 23, 1966, Ser. No. 581,466
10 Claims. (Cl. 166—21)

A method of cementing wells to be subjected to steam treating or thermal stimulation, wherein a heat sensitive or thermoplastic material is peripherally applied to the external surface of a substantial section of a string of well pipe prior to cementing the pipe string in a well bore. During steaming or heat treating operations, wherein

heat is aplied to the pipe string, the thermoplastic material will melt and flow. The well pipe originally coated is



thus free to expand and/or grow during thermal stimulation and pipe failure is substantially inhibited.

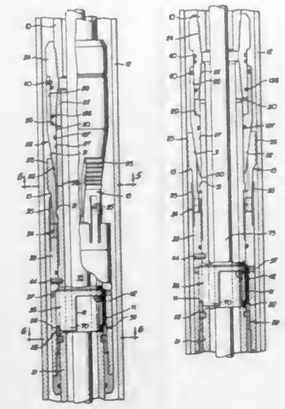
3,406,757
WELL CLEAN-OUT TOOL
August B. Baumstimler, 4101 Mankins, Odessa, Tex. 79760
Filed July 19, 1967, Ser. No. 654,453
7 Claims. (Cl. 166—99)



A well clean-out tool for retrieving junk or undesired objects from the bottom of a well. The tool may be run into an oil well or the like by a drill pipe or a wire line, and includes a junk section at the lower end thereof, a chamber having a check valve associated therewith, a relief valve for controlling the internal pressure of the tool, and a metering device in the form of an orifice which is interposed between the relief valve and valve unit. The valve unit is actuated by a splined lost-motion coupling device which is interposed between the valve element of the valve unit and the drill pipe. The splined lost motion coupling enables rotation of the drill stem to impart rotational motion to the tool which in turn centers the junk at the bottom of the hole with respect to the inlet to the junk section.

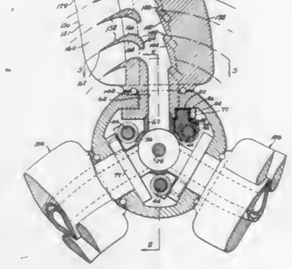
3,406,758
TUBING ANCHOR
John S. Page, Jr., 2301 Snowden Ave., Long Beach, Calif. 90815
Continuation-in-part of application Ser. No. 434,274, Feb. 23, 1965. This application May 21, 1965, Ser. No. 461,592
20 Claims. (Cl. 166—212)

The disclosure concerns a well tubing anchor assembly in which release of slip connection to the well bore is effected in response to upward tensioning of the string followed by sudden release of such tensioning afforded by



uncoupling of a mandrel from anchor structure in the well.

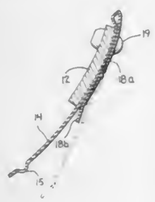
3,406,759
CONTROLLABLE PITCH PROPELLER
Ata Nutku, Caddebostan, Iskele C. 1/3, Istanbul, Turkey
Filed Aug. 15, 1967, Ser. No. 660,796
14 Claims. (Cl. 170—135.4)



The invention provides a jet driven controllable pitch propeller comprising a hub having extending blade means, of split hydrofoil cross-section including a leading blade portion and laterally spaced tail vanes, said vanes defining discharge slot means on the trailing edge of the blade, a fluid duct extending lengthwise of the blade, located between the leading portion and said vanes, said vanes defining a discharge slot extending lengthwise of the blade in communication with said fluid duct, water inlet ports leading from the sides of the blade body into said duct, a venturi chamber located between said duct and said discharge slot, water inlet passages formed in opposite sides of the blade body and opening into the venturi chamber, fins extending across said discharge slot and spaced therealong, a tubular blade stock on the inner end of the blade journaled on said hub, said hub having a closed chamber, operating mechanism operatively connected to the blade stock, rotary actuating means for said

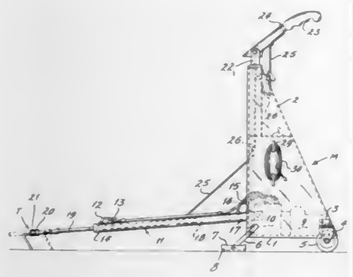
mechanism extending lengthwise through the hub, operating means externally supported relative to the hub and connected to said actuating means, and means for supplying jet fluid under pressure to the hub chamber and into the blade fluid duct.

3,406,760
FLEXIBLE BLADE FAN
Thomas J. Weir, Indianapolis, Ind., assignor to Wallace-Murray Corporation, New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 613,464, Feb. 2, 1967. This application Sept. 18, 1967, Ser. No. 668,340
10 Claims. (Cl. 170—160.5)



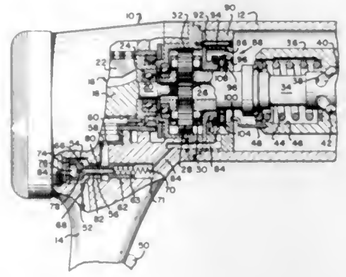
A flexible blade fan structure in which the flexible blades are each folded along their length at their leading edge to provide a smooth, stiff leading edge on each blade and the trailing edge marginal portion of each blade is formed to provide a longitudinal rib, with the extending portion of the fold providing more uniform stress distribution in the blade as it flexes under load with the longitudinal rib attenuating vibration of the fan blade without altering its ability to flex under load.

3,406,761
POWER TOOL
Thomas H. Ryan, 1958 Karlin Drive, St. Louis, Mo. 63131
Filed Oct. 6, 1965, Ser. No. 493,357
12 Claims. (Cl. 172—42)



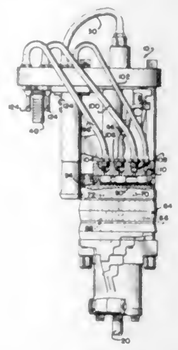
1. A machine for aiding an operator to do work, said machine comprising a frame having means thereon in contact with the ground, said frame having a carriage thereon, said frame having a motor and pump connected thereto, a power cylinder connected to means on said frame, said cylinder having a piston with a rod extending forwardly thereof, hose connections connecting said power cylinder and said pump for supplying and releasing pressure fluid from either side of said piston, said carriage having a handle movably mounted thereon, said handle having a control thereon for actuating said piston, and means connecting said movable handle with said cylinder so that movement of said handle moves said cylinder.

3,406,762
CONTROL APPARATUS FOR FLUID POWERED TOOLS
Leo Kramer, Skillman, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed May 12, 1967, Ser. No. 637,979
11 Claims. (Cl. 173—12)



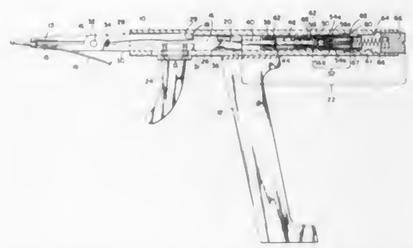
A fluid powered tool having a normally open valve interposed in the fluid passage through which pressurized fluid is supplied to the motor of the tool. The normally open valve is constructed and arranged such that, during the operation of the tool, opposing surfaces of the normally open valve are subjected to pressurized fluid from the fluid passage. A normally closed pilot valve, adapted to be opened upon a predetermined operating condition of the tool, is provided for exhausting pressurized fluid from the normally open valve such that the latter is automatically closed in response to the occurrence of such predeterminal operating condition.

3,406,763
ROCK DRILL
Martin Worman, Phillipsburg, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 19, 1966, Ser. No. 580,546
18 Claims. (Cl. 173—47)



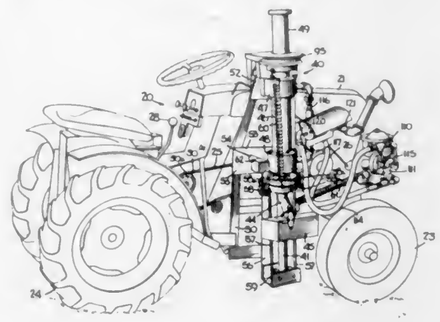
A rock drill including a fluid operated motor connected through reduction gearing to rotatably drive the drill steel relative to the drill piston. The motor is connectible to receive pressurized fluid either continuously or intermittently during drill operation whereby the drill steel may be continuously rotated, rotated only during movement of the piston towards the drill steel, or rotated only during piston movement away from the drill steel.

3,406,764
PIN INSERTION TOOL
Joseph S. Cerra, Needham, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Apr. 25, 1967, Ser. No. 633,601
4 Claims. (Cl. 173—55)



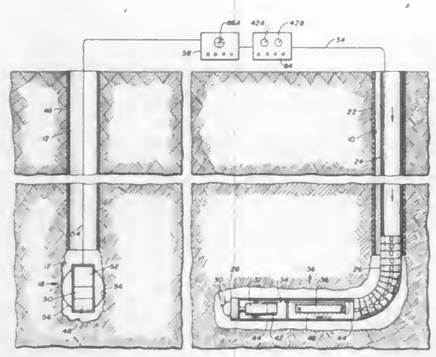
A pin insertion tool for seating pins into a receptacle including a gripping mechanism adapted to grasp a pin and slidably mounted within a tool housing and a semi-automatic impact assembly also disposed within the housing and operative to provide a force which is transmitted via the gripping mechanism to seat the pin. The gripping mechanism closes on a pin as the mechanism moves rearward in the housing by the action of a first camming surface located within the housing, and further closes onto the pin during the seating thereof by the action of a second camming surface cooperating with the gripping mechanism.

3,406,765
SOIL SAMPLING APPARATUS
Jack P. Alexander, Norman, Okla., assignor to The Samuel Roberts Noble Foundation Incorporated, Ardmore, Okla., a corporation of Oklahoma
Filed Oct. 14, 1965, Ser. No. 496,122
16 Claims. (Cl. 175—51)



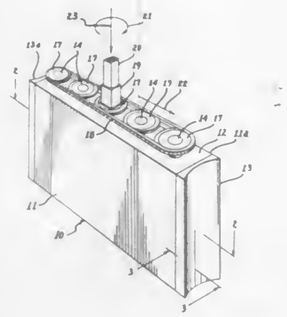
A machine is disclosed for taking soil samples at predetermined intervals along a path of travel. A soil sampling tube is carried by the machine and is adapted to be inserted into the soil by the advancement of a piston. The piston movement is controlled by a valve which is actuated after the machine has traversed a predetermined distance of ground. A traveling contact block is rotated by the machine drive means and controls the means that actuates the valve and the means that stop movement of the machine after a predetermined interval.

3,406,766
METHOD AND DEVICES FOR INTERCONNECTING SUBTERRANEAN BOREHOLES
John Keller Henderson, 4012 E. 41st Place, Tulsa, Okla. 74135
Continuation-in-part of application Ser. No. 362,100, Apr. 23, 1964. This application July 7, 1966, Ser. No. 563,555
14 Claims. (Cl. 175—61)



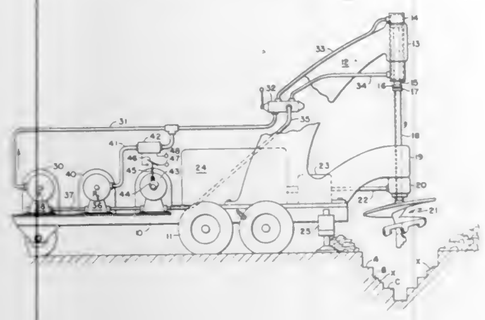
1. A method of directionally drilling a first well to intersect a second well comprising the steps of:
establishing a magnetic field in one of said first and second wells with a magnetic field generating means;
detecting the direction of emanation of said magnetic field with a magnetic field direction sensing means, and
orienting the course of drilling of a directionally controllable drilling means in said first well in response to said detected direction of said magnetic field.

3,406,767
MULTIPLE AUGER ASSEMBLY
James P. Watts, 6930 E. Pinchot, Scottsdale, Ariz. 85251
Filed Oct. 25, 1966, Ser. No. 589,449
4 Claims. (Cl. 175—108)



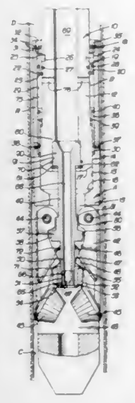
A multiple auger assembly for forming trench-like excavations between the vertical piers of a building foundation, including a substantially rectangular frame, a plurality of augers rotatably mounted within the frame, and end members carried by the frame which are contoured to engage the piers, thereby guiding the assembly during excavating operations.

3,406,768
ROCK DRILLING AUGER APPARATUS
Robert W. Miller, Cincinnati, Ohio, assignor to Alaskaug, Inc., Cincinnati, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 370,997, May 28, 1964. This application Sept. 9, 1966, Ser. No. 594,639
4 Claims. (Cl. 175—162)



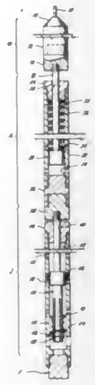
The invention is an apparatus for drilling rock, comprising an S-type auger bit disposed substantially normal to the rock formation being drilled, in combination with means to apply a steady load to the bit and means operable to modify the steady load to vary the pressure exerted against the rock intermittently in pulses at a rate which causes irregular areas to be chipped away from the annular steps normally created by the operation of the bit, thus materially increasing speed and efficiency of the drilling.

3,406,769
REVERSE CIRCULATION ROTARY EXPANSIBLE DRILL BITS
Archer W. Kammerer, Jr., Fullerton, Calif., assignor of one-fifth to Jean K. Lamphere, Fullerton, Calif., and three-fifths to Archer W. Kammerer
Filed Oct. 24, 1966, Ser. No. 588,947
17 Claims. (Cl. 175—269)



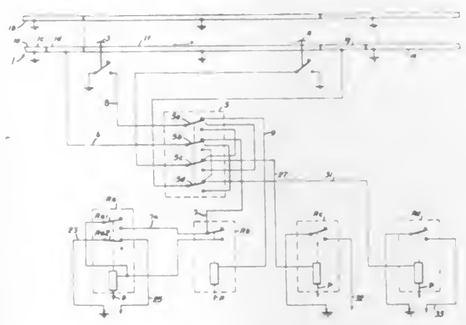
A rotary drill bit for use in a well bore and having cutters expandable outwardly in response to fluid pressure in the well bore annulus surrounding the drill string, the cuttings passing upwardly through the drill string toward the top of the well bore.

3,406,770
JARRING TOOL
Bryant P. Arterbury and Thomas C. Burroughs, Houston, Tex., assignors of thirty-three and one-third percent to Roy L. Arterbury, Houston, Tex.
Filed June 27, 1966, Ser. No. 560,617
8 Claims. (Cl. 175—299)



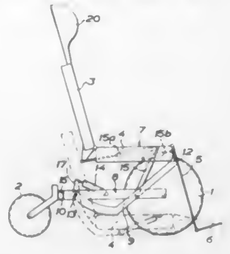
A well tool adapted to impart jarring impacts to a device within a well bore, said tool having a tubular body with an internal projection, a latch body having arms extending through the projection, a means for preselecting the force at which the latch arms pull through the projection, a hammer on the latch body adapted to impact against one end of the tubular body, means for connecting to the device to be jarred and to the surface so that a lifting force may be exerted on the tool to cause it to be actuated and to impart its jarring impact to the device.

3,406,771
APPARATUS AND METHOD FOR WEIGHING RAILROAD CARS IN MOTION
Edward Laurence Rogers, Chicago, Ill., assignor, by mesne assignments, to Railroad Machinery Development Corporation, a corporation of Ohio
Continuation of application Ser. No. 365,470, May 6, 1964. This application Oct. 22, 1965, Ser. No. 500,982
25 Claims. (Cl. 177—1)



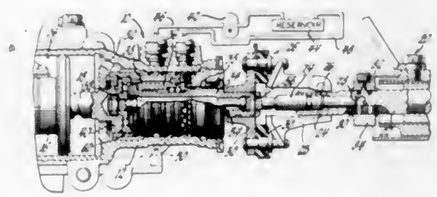
Apparatus for rapid weighing of each of a series of moving railroad cars and quickly reducing errors caused by vibration, and making a record of the respective car weights, said record also indicating which cars were overspeeding as they moved across the weigh rail, so that the recordings of the weights of the cars not overspeeding may be attributed to the proper cars of the series.

3,406,772
WHEEL TYPE CHAIR-BEDS FOR INVALIDS AND PATIENTS
Gustav Adolf Ahrent, Olle Lennart Siwersson, and Karl Gunnar Tell, Helsingborg, Sweden, assignors to AB Redev., Helsingborg, Sweden
Filed Aug. 24, 1966, Ser. No. 574,606
Claims priority, application Sweden, Sept, 2, 1965, 11,446/65
7 Claims. (Cl. 180—9.24)



A wheel type chair-bed with back, seat, and leg-supporting members supported on a U frame base connected to the seat by an intermediate member. Hydraulic pistons connect and move the various members in relation to the base.

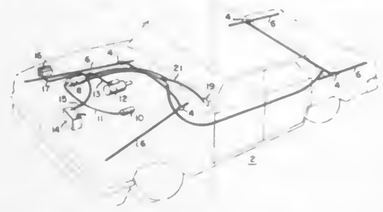
3,406,773
POWER STEERING GEAR
Burton N. Luther, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 27, 1967, Ser. No. 678,665
4 Claims. (Cl. 180—79.2)



In a hydraulic power steering gear of the type including a rotary control valve having an inner valve member rotatable by the input steering shaft, a concentric outer valve member mounted for rotation with an output worm, and a centering torsion rod connected between the input steering shaft and the output worm to center the valve parts in neutral or nonactuated position and to resiliently oppose manual effort on the steering input shaft moving the valve members from such neutral relation, provisions are made whereby the torsion rod may be selectively disconnected from the output worm during certain operating conditions of the vehicle to remove opposition to manual input effort. The disconnection is accomplished by permitting limited axial movement of the torsion rod from a normal operative position wherein a connecting pin on the torsion rod is engaged with the output worm, to an inoperative position wherein the pin is permitted lost motion with the input shaft relative to the output worm under manual turning effort.

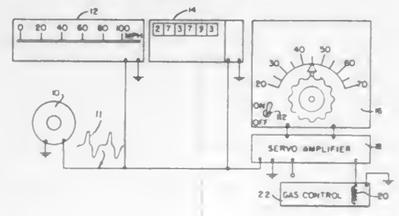
3,406,774
AUTOMOBILE ELECTRICAL SYSTEM CIRCUITRY
Byron Lacey, Drumright, Okla., assignor of one-half to Charles E. Daniel
Filed Aug. 14, 1967, Ser. No. 660,279
8 Claims. (Cl. 180—96)

A solenoid device for use in automobiles to disconnect the battery from the remainder of the electrical circuitry upon collision of the automobile, the solenoid being



actuated by one of a number of tension spring shorting switches.

3,406,775
VEHICULAR SPEED INDICATOR, ODOMETER AND AUTOMATIC SPEED CONTROL SYSTEM
Henry Magnuski, Glenview, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Aug. 5, 1965, Ser. No. 477,497
6 Claims. (Cl. 180—105)



In this system, an alternating pulse generator generates positive and negative-going signals representing the movement of the vehicle. The amplitude of the generated signals are directly proportional to the rate of the vehicle while each pulse represents an increment of movement of the vehicle. The vehicle speedometer includes a magnetic slug that is movably mounted in a tube around which is positioned a coil that is responsive to the signals from the generator coupled thereto to move the slug for indicating the rate of travel of the vehicle. The odometer includes a pulse motor that is connected to the output of the generator and is responsive to each of the generated pulses to indicate the increments of movement of the vehicle. The speed control system includes a potentiometer connected to the output of the generator which selects a signal level corresponding to the desired rate of travel of the vehicle. A Zener diode is connected to the potentiometer and breaks down and conducts when the generated signal exceeds the selected signal level. Conduction of the Zener diode operates a transistor amplifier which controls a solenoid. The solenoid operates a linkage which automatically controls the rate of speed of the vehicle.

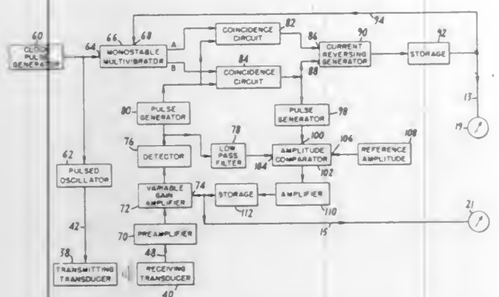
3,406,776
ACOUSTIC METHOD AND APPARATUS FOR EXAMINING FORMATIONS ADJACENT THE WALLS OF BOREHOLES
Louis Henry, Chevilly-Larue, France, assignor to Societe de Prospection Electrique Schlumberger S.A., Paris, France, a corporation of France
Filed Mar. 23, 1965, Ser. No. 442,041
Claims priority, application France, Apr. 2, 1964, 969,576
20 Claims. (Cl. 181—.5)

17. A method of examining a formation through which a borehole extends, comprising the steps of

transmitting from a first electroacoustical transducer a beam of ultrasonic acoustic energy from the borehole

into the formation so that substantially all of the acoustic energy in the formation is propagated as shear waves and so that compression waves are substantially totally reflected from the borehole wall,

absorbing the acoustic energy transmitted outside of the beam and the compression waves reflected from the borehole wall,

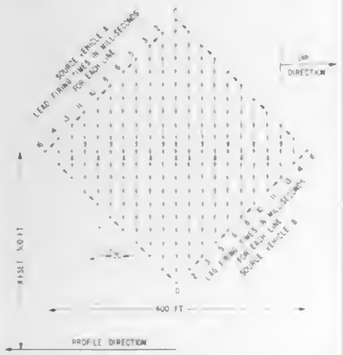


generating by a second electroacoustical transducer in spaced relation to the first electroacoustical transducer an electrical signal in response to the acoustic energy received in the borehole from substantially only the shear wave acoustic energy in the formation,

comparing the amplitude of the electrical signal with the amplitude of a reference signal to determine the attenuation suffered by the shear wave acoustic energy, and

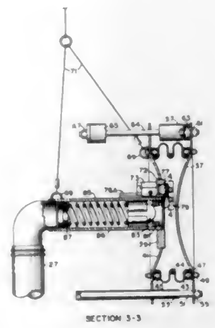
measuring the transmission time of the shear wave acoustic energy between the first and second transducers.

3,406,777
METHOD OF SEISMIC PROSPECTING
John Bemrose, Tulsa, Okla., assignor, by mesne assignments, to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Filed July 20, 1966, Ser. No. 566,582
2 Claims. (Cl. 181—.5)



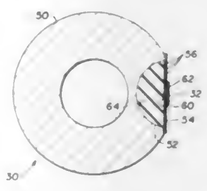
A method of seismic reflection surveying in which a plurality of separate impulsive compressional waves are injected into the ground from a source of such energy for which the energy level, the wave form and the moment of injection with respect to a fixed time origin are repeatable. The energy reflected from a reflection horizon of interest is recorded. Some of the energy is injected at a predetermined leading time and some at a predetermined lagging time with respect to the fixed time origin, and the reflected waves are separately recorded. The recorded waves are summed to augment the reflection signals while attenuating surface waves.

3,406,778
SEISMIC WAVE SOURCE FOR USE AT MARINE LOCATIONS
Adelbert Barry, Franklin L. Chalmers, and John B. Pearson, Houston, Tex., assignors to Esso Production Research Company, a corporation of Delaware
Filed July 28, 1967, Ser. No. 656,866
5 Claims. (Cl. 181—.5)



A seismic wave source includes opposed plates connected together by a gas impervious convoluted resilient bellows spring to form an expansible chamber. Combustible gas is injected into the chamber and ignited to produce a seismic pulse. Means are provided for venting to atmosphere the products of combustion.

3,406,779
ACOUSTIC WELL LOGGING TOOL
Joseph Zemanek, Jr., and Andrew J. D. Straus, Dallas, Tex., assignors to Mobil Oil Corporation, a corporation of New York
Filed May 29, 1967, Ser. No. 641,987
14 Claims. (Cl. 181—.5)

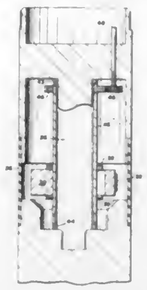


This specification discloses an acoustic well logging tool having a transceiver firmly mounted therein in a manner provided for low noise level. The tool comprises a support for the transceiver. The transceiver is mounted on the support through a plate member having a plurality of chambers which are staggered in order to present intorsional paths through the plate between the transceiver and the body portion of the support.

3,406,780
ACOUSTIC WELL LOGGING TOOL AND METHOD
Joseph Zemanek, Jr., Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York
Filed May 29, 1967, Ser. No. 641,989
29 Claims. (Cl. 181—.5)

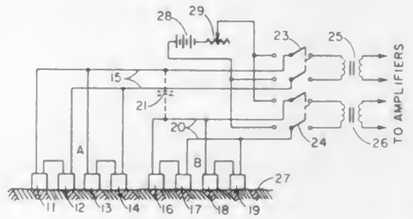
This specification discloses an acoustic well logging method in which acoustic energy transmitted from a transceiver along a secondary path is contacted by a reflective interface so as to reflect a substantial portion of the energy away from the transceiver. Disclosed also is

an acoustic well logging tool wherein the support for the transceiver is provided with a reflective interface which



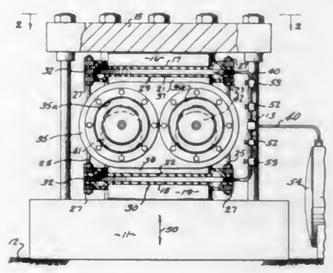
intersects an inward energy transmission path at an oblique angle.

3,406,781
DEACTIVATING SYSTEM IN SEISMIC PROSPECTING
Carl A. Willner, Houston, Tex., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Mar. 24, 1967, Ser. No. 625,870
4 Claims. (Cl. 181—.5)



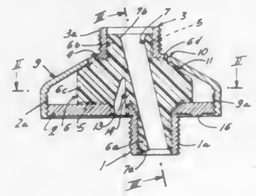
Unused seismometers connected to cables lying near others connected at one end to seismometers and at the other end to amplifying and recording apparatus, can introduce undesired signals into the recording system by capacitive coupling. Such signals, called cross feed, can be minimized by clamping the active elements in the unused seismometers electrically by applying a direct voltage across such seismometers. This raises the signal-to-noise ratio in the prospecting apparatus.

3,406,782
ACOUSTICAL IMPEDANCE TRANSFORMER FOR COUPLING SONIC ENERGY TO THE EARTH
Albert G. Bodine, 7877 Woodley Ave., Van Nuys, Calif. 91406
Filed Nov. 7, 1966, Ser. No. 592,529
8 Claims. (Cl. 181—.5)



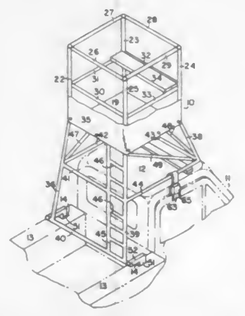
Sonic energy is coupled from a sonic generator comprising a relatively low mass through a compliant member which provides an acoustical impedance transformation to a high mass base member which is coupled directly to the ground. The compliant member, which may comprise a pneumatically loaded diaphragm device or an elastic resonant bar member acting as an acoustical lever, effectively impedance matches the relatively low impedance output of the sonic generator to the relatively high impedance of the high mass device, which in turn provides a good impedance match to the ground which receives the sonic energy therefrom.

3,406,783
SOUNDPROOF PIPE CONNECTION
Dieter Haffer, Vallendar, Germany, assignor to Gesellschaft fur Technischen Fortschritt m.b.H., Grenzhausen, Germany
Filed June 13, 1966, Ser. No. 556,949
Claims priority, application Germany, June 18, 1965, G 43,896
20 Claims. (Cl. 181—33)



An end portion of a first pipe section is adjacent to but spaced from the end portion of a second pipe section. A body of elastic self-damping material is interposed between these ends portions and connected thereto. The body is provided with a bore communicating with the bores of the pipe sections. A cap is connected to one of the pipe sections and surrounds the body and, with clearance, the other pipe section.

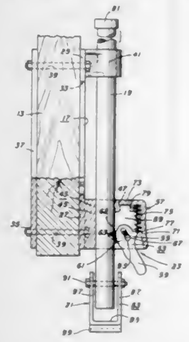
3,406,784
PORTABLE HUNTING BLIND
Glendale Jones, P.O. Box 98, and Tyner W. Little, P.O. Box 488, both of Dilley, Tex. 78017
Filed Feb. 25, 1966, Ser. No. 530,221
5 Claims. (Cl. 182—97)



1. In combination with a vehicle having a cab, a hunting blind pivotally mounted on said vehicle rearwardly of said cab and arranged to extend upwardly and over the cab of said vehicle and horizontally, a plurality of elongated upright supports, two of said supports positioned rearwardly of the cab, said two supports connected downwardly to a transversely and horizontally extending member, means pivotally connected to said

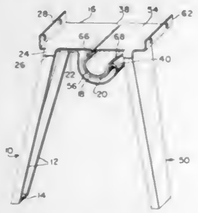
horizontally extending member and said vehicle whereby said hunting blind pivots about such axis, a frame secured to the upper ends of said supports, a covering secured to said frame and enclosing the sides thereof, adjustable means bearing against the cab to level and support the blind, and means providing access to said hunting blind.

3,406,785
LADDER SUPPORTING SURFACE COMPENSATING MEANS
William B. Pilcher, 69 Holmes Road W., Memphis, Tenn. 38109
Filed Dec. 27, 1966, Ser. No. 604,813
5 Claims. (Cl. 182—205)



An adjustable ladder leg extension assembly or two such assemblies adapted to be attached respectively to one or both lower leg portions of a ladder for supporting the ladder equally on both legs and for supporting the ladder perpendicularly in an upright disposition irrespective of the slanted or unlevel condition of the ground or ladder supporting surface.

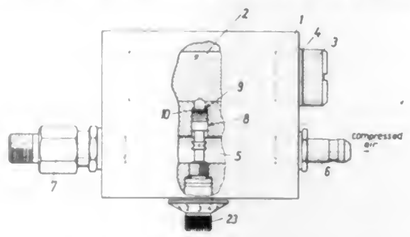
3,406,786
KNOCK-DOWN SUPPORT
Richard Lang, R.R.1, Kewanee, Ill. 61443
Filed Oct. 21, 1966, Ser. No. 588,519
9 Claims. (Cl. 182—226)



A knock-down support useful as a trestle, saw horse and the like and comprising one or more pairs of parts having interfitting portions in the form of mating tongue and groove forms and including provision for the attachment of legs.

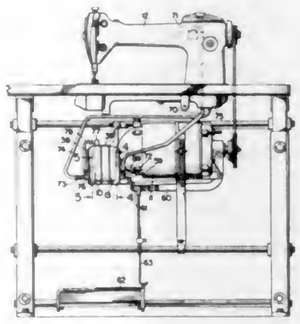
3,406,787
OIL DISPENSER
René Breschinsky, Industriestrasse, Sennestadt, Westphalia, Germany
Filed Dec. 12, 1966, Ser. No. 601,127
Claims priority, application Germany, Dec. 11, 1965, B 84,949
8 Claims. (Cl. 184—55)

A dispenser for dispensing oil into an air passage through which compressed air is fed to a pneumatic implement such that cyclic pressure variations are created in the air passage and in which a valve body moves under the influence of the cyclic pressure variation in the air passage



toward and away from a valve seat formed in a passage providing communication between an oil reservoir and the aforementioned air passage to thus regulate flow of oil from the oil reservoir into the air passage.

3,406,788
SEWING MACHINE LUBRICATION METHOD AND SYSTEM
William Weisz, Rockaway, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 23, 1965, Ser. No. 503,469
13 Claims. (Cl. 184—1)

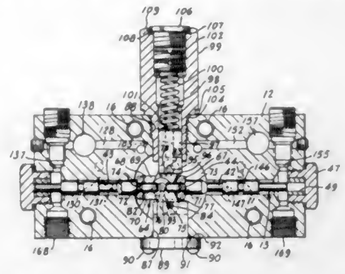


A sewing machine lubricating system in which a pump is provided to maintain oil continuously under pressure independently of the operation of the sewing machine. Control means is provided for initiating and terminating operation of the sewing machine, and valve means is located in the lubricating system and connected to the control means so as to initiate flow of lubricant simultaneously with initiation of operation of the sewing machine.

3,406,789
REVERSING VALVE
Thomas J. Gruber, Chagrin Falls, Ohio, assignor to Eaton Yale & Towne Inc., a corporation of Ohio
Filed July 29, 1965, Ser. No. 475,639
3 Claims. (Cl. 184—7)

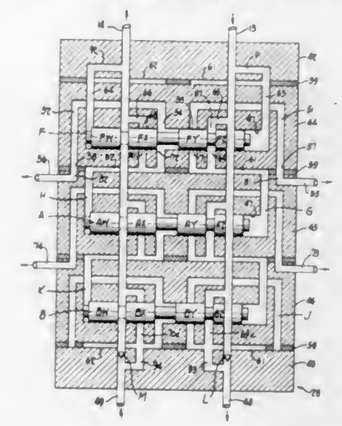
A reversing valve for controlling the flow of lubricant in a two line type of centralized lubricating system. The reversing valve consists of a flow diverter piston for controlling the flow of lubricant in one or the other of the lubricant lines and a pilot piston for controlling the operation of the diverter piston. The pilot piston includes a spring biased toggle mechanism coacting with the piston for limiting movement of said piston to either a first or second position. A pressure build up in the lubricant line acts in opposition to the spring biased toggle mechanism

to reverse the pilot piston. Pilot piston movement in turn produces a reversal of the flow diverter piston thereby



permitting a flow of pressurized lubricant into the alternate lubricant line.

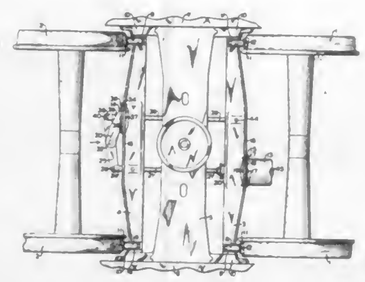
3,406,790
SERIES MULTIPLE TYPE OF TWO-LINE LUBRICATION SYSTEM
Thomas J. Gruber, Chagrin Falls, Ohio, assignor to Eaton Yale & Towne Inc., a corporation of Ohio
Filed June 21, 1965, Ser. No. 465,299
5 Claims. (Cl. 184—7)



A lubricant manifold for use in a double-line centralized lubrication system wherein a pair of conduits extend from a source of lubricant under pressure and flow diverting means are utilized to direct the flow of lubricant from the source through one or the other of the conduits, said lubricant manifold being of the type having alternate passageways therethrough and progressively operated valves for progressively expelling lubricant from successive outlets in the manifold with repeated progressive operation when the flow of fluid is diverted from one conduit to the other after progressive operation has taken place. The manifold is characterized in that a pair of through inlets extend throughout the manifold with a check valve located in each of said through inlets.

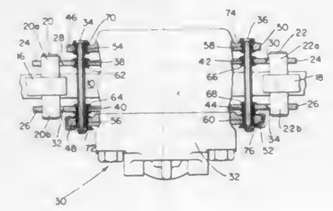
3,406,791
FLUID PRESSURE OPERATED BRAKE APPARATUS FOR RAILWAY CAR TRUCK
Samuel L. Williams, Pittsburgh, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Jan. 31, 1967, Ser. No. 613,018
5 Claims. (Cl. 188—52)

A brake rigging including two brake-cylinder-carrying type of brake beams one of which carries a brake cylinder device substantially at one side of the point midway its length, the piston rod of which cylinder device is operatively connected to one end of a force equalizing lever that is pivotally mounted midway its ends on a fulcrum member that is secured to the other brake-cylinder-carrying brake beam in place of a second brake cylinder device. Operatively connected to the other end of this lever is one end of a link that has its other end pivotally



connected to the one brake beam at the other side of the point midway its ends at a location substantially the same distance from this midpoint as is the brake cylinder device carried by this one beam. This linkage is operable upon the supply of fluid pressure to the single brake cylinder device to effect movement of the brake beams in opposite directions to cause the application of the same brake applying force to brake shoes engaging the tread surface of each wheel of the car truck.

3,406,792
DISK BRAKE HOUSING STABILIZING MEANS
Robert E. Kennel, Grosse Pointe, Mich., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Nov. 21, 1966, Ser. No. 595,670
1 Claim. (Cl. 188—73)

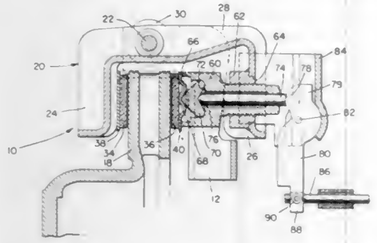


A floating caliper disk brake assembly having a resilient mounting grommet for supporting the housing on the brake shoes and maintaining the brake pads in close proximity to the brake disk during deflection thereof by operation of the vehicle.

3,406,793
PARKING BRAKE FOR A DISC BRAKE
Edwin K. Buyze, St. Clair Shores, Mich., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 5, 1967, Ser. No. 636,312
3 Claims. (Cl. 188—73)

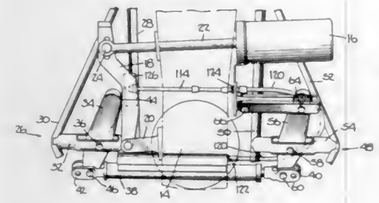
A vehicle parking brake for use with the disc of a conventional disc brake. A caliper housing supports a brake shoe on each side of the disc. Upon actuation, a plunger engages a sprag mounted in a pocket on one of the brake shoes for urging and holding both of the brake shoes

into contact with the disc. Upon rotative movement of the disc, the brake shoes will be circumferentially dis-



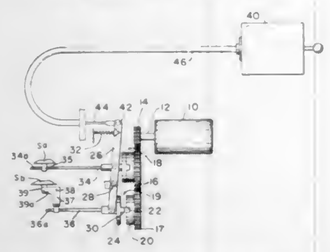
placed causing sprag to increase the holding pressure on the brake shoes.

3,406,794
BRAKE MECHANISM
Everard C. Mersereau, Wayne, N.J., assignor, by mesne assignments, to Robert M. Holloway and Robert L. Ludington, both of Michigan City, Ind.
Filed Sept. 6, 1966, Ser. No. 577,481
14 Claims. (Cl. 188—195)



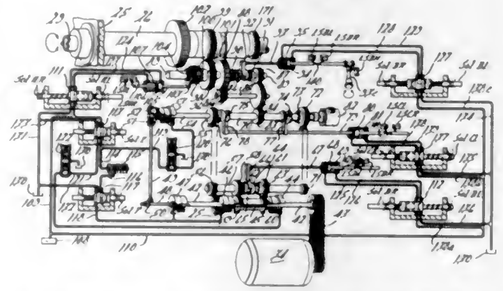
A fluid actuated railway car brake mechanism including in combination, a brake beam having portions which are frictionally engageable with the wheels, a truck lever pivotally mounted on the brake beam, slack adjusting means connected to one end of said truck lever, a trigger cable having one end attached to a cylinder lever and the other end attached to the slack adjusting means for actuating the slack adjusting means in response to movement of the truck lever.

3,406,795
SEAT ADJUSTER CONTROL MECHANISM
Joseph Pickles, Dearborn, Mich., assignor to Ferro Manufacturing Corporation, Detroit, Mich., a corporation of Michigan
Filed Sept. 8, 1966, Ser. No. 578,070
10 Claims. (Cl. 192—.02)



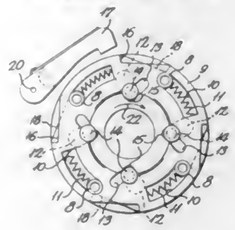
Seat adjuster control mechanism including two clutches for alternate engagement, a single motor, two motor control switches for energizing the motor for forward or reverse rotation, and a control device including a single lever movable selectively from an intermediate neutral position in opposite senses in two different directions. Movement of the lever in opposite senses in one direction leaves a first clutch engaged and simultaneously energizes the motor for forward or reverse rotation. Movement of the lever in opposite senses in the other direction disengages the first clutch and engages a second clutch, and simultaneously energizes the motor for forward or reverse rotation.

3,406,796
MACHINE TOOL SPINDLE FEED AND DRIVE MECHANISM AND CONTROL SYSTEM THEREFOR
Charles B. De Vlieg, Bloomfield Hills, and Richard A. Jerue, Birmingham, Mich., assignors to De Vlieg Machine Company, Royal Oak, Mich., a corporation of Michigan
Filed Dec. 15, 1966, Ser. No. 602,075
10 Claims. (Cl. 192—.084)



A machine tool spindle drive and feed mechanism in which the feed rates and drive speeds are remotely selected by the setting of electric switches or the use of other electrical signals from a source remote from the gears that transmit driving torque from a drive motor to the spindle. The drive speeds are obtained through the use of different gear trains and motor speeds. In order to change gears, novel dog clutches are utilized. These clutches are located so as to minimize heat and excessive drag and the operation of the clutches is accomplished with one clutch part stationary and the other part slowly rotated. The clutch positions are monitored to assure their proper engagement before the machine will operate. The controls prevent the selection of certain combinations and drive speeds and feed rates which are unsafe, and it is also possible to preprogram the machine for a new feed rate and drive speed without disturbing the feed and speeds being used in an operation in progress.

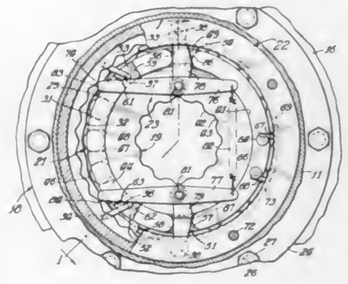
3,406,797
CRISS CROSS GUIDES FOR A LATCH OPERATED CLUTCH
Joseph D. Toussaint, Rheden, Gueldre, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed May 17, 1967, Ser. No. 639,215
Claims priority, application Netherlands, May 18, 1966, 6606805
5 Claims. (Cl. 192—27)



A shaft coupling for connecting one rotatable shaft to another coaxial rotatable shaft which comprises a first

coupling half connected to the said one shaft and a second coupling half connected to the coaxial shaft, a biased control means rotatable with the two coupling halves, and one or more coupling members which when in the coupled position are in contact with the two coupling halves and when in the uncoupled position with only one of the two halves and which when turned under the biasing action of said control means can be moved from one position to the other, said coupling members being movable through guide means in one of the coupling halves, and said control means comprising a control element having control guide means co-operating with the coupling members and being so constructed that together with the guide means provided in one of the two coupling halves, a crossing guide means for the coupling members is formed.

3,406,798
OVERRUNNING CLUTCH WITH AUTOMATIC RELEASE
Robert J. Curran, Elmhurst, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Feb. 9, 1967, Ser. No. 614,840
5 Claims. (Cl. 192—35)

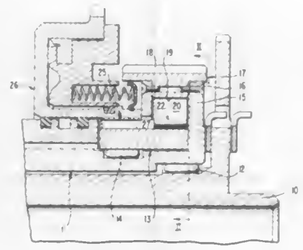


An automatic freewheeling roller clutch having rotary input and output members, including a ratchet and pawl device connected between a nonrotatable member and the rollers for releasing the rollers when the output member rotates in the backdriving direction, one embodiment providing for driving in one direction and freewheeling in either direction, another embodiment providing for driving in either direction and freewheeling in either direction.

3,406,799
FREE-WHEELING CLUTCH WITH GRIPPING ROLLERS
Josef A. Helmer, Aich, Kreis Nurtingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed June 17, 1966, Ser. No. 558,423
Claims priority, application Germany, June 18, 1965, D 47,534
7 Claims. (Cl. 192—45)

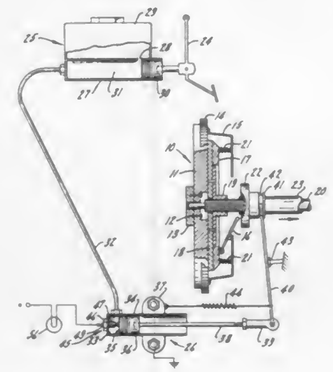
A free-wheeling clutch with cylindrical gripping rollers which are arranged between an outer ring having a cylindrical rolling and gripping surface and an inner ring, which is provided along the outer circumference with asymmetric teeth serving for the support of the gripping rollers and having involute tooth flanks and tooth roots of which one, at least partially disposed between the teeth, serves as gripping or clamping surface and whereby this inner ring is form-lockingly connected by means of entrainment teeth with a clutch part concentrically surrounding the same.

The one tooth flank or tooth root serving as gripping or clamping surface may be provided thereby, on the one hand, in its entirety with the flat configuration necessary for the gripping or clamping action of the gripping rollers or it may also consist of a corresponding flat portion serving as clamping surface and of a comparatively steep portion effective as threshold or step against a jumping-over



of the gripping rollers. In both cases, however, the highly loaded tooth flanks or tooth roots are advantageously manufactured by a hob-grinding method whereby the grinding is undertaken following a hardening or quenching process of the inner ring necessary for reasons of strength.

3,406,800
HYDRAULIC CLUTCH WEAR WARNING DEVICE
Richard G. Buchanan, Des Plaines, and Frank Spinuzza, Park Ridge, Ill., assignors to Tel Life Corporation, Park Ridge, Ill., a corporation of Illinois
Continuation-in-part of application Ser. No. 472,894, July 19, 1965. This application Dec. 13, 1966, Ser. No. 616,143
7 Claims. (Cl. 192—91)

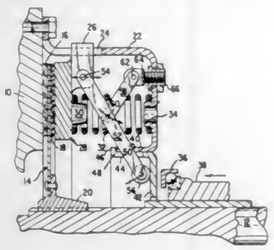


Device for indicating excessive clutch wear in a hydraulic clutch by detecting excessive forces exerted by clutch springs upon the slave piston, and an electric device on the slave cylinder assembly for sensing such forces.

3,406,801
SELF-ADJUSTING CLUTCH
Robert S. Root, Syracuse, N.Y., assignor to Lipe-Rollway Corporation, Syracuse, N.Y., a corporation of New York
Filed July 26, 1966, Ser. No. 568,028
1 Claim. (Cl. 192—99)

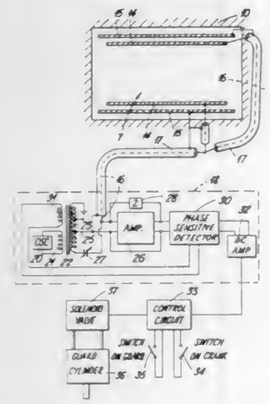
A self-adjusting, friction disc, clutch release, linkage mechanism including toggle links between the pressure

plate and clutch cover and operable to continuously adjust as the friction disc is worn away through use to main-



tain a constant space between the clutch release bearing and the clutch release sleeve.

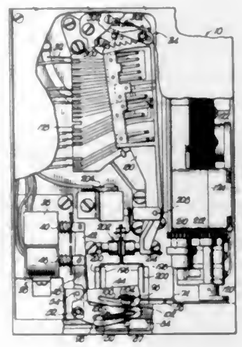
3,406,802
OBJECT DETECTION DEVICES
Thomas Edgar Needham and Kenneth Hubert Clayson, Solihull, England, assignors to Wilmot-Breeden Limited, Birmingham, England, a British company
Filed Oct. 25, 1966, Ser. No. 589,394
Claims priority, application Great Britain, Apr. 1, 1966, 14,596/66
12 Claims. (Cl. 192—130)



A capacitance type object detection system, particularly suitable for guarding or controlling a machine tool, has a strip-form electrode extending around part of the periphery of a region to be guarded. One of the faces of the strip faces across the opening and a conductive screen is provided extending around the other face of the electrode to surround the whole electrode behind the plane of said one face. A three-terminal impedance measuring circuit is connected to the electrode, the screen, and ground to give an output responsive to the changes in the capacity between the electrode and ground without being affected by the normally much greater capacitances between the electrode and screen and between the screen and ground.

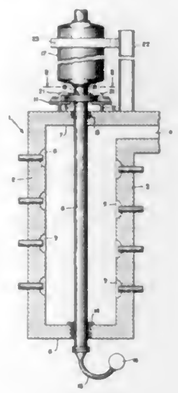
3,406,803
MULTI-PRICE COIN CHANGER HAVING A DUAL DENOMINATION PAYOUT
Elmer Bradley Offutt, Independence, and Leonard Bieri, Lee's Summit, Mo., assignors to The Vendo Company, Kansas City, Mo., a corporation of Missouri
Filed Jan. 23, 1967, Ser. No. 611,047
10 Claims. (Cl. 194—2)

A multi-price coin changer for an article vending machine is provided with nickel and dime change payout tubes and associated payout mechanism which is initiated by an electrical payout command when a deposit exceeds the price of the article. The command is delivered by a printed circuit configuration having a number of normally open circuits representing a range of deposit values greater than the minimum article price, such circuits being divided into a first group for initiating nickel payout and a second group for initiating dime payout. When a deposit is made, a deposit totalizer closes the circuit (or one circuit in each group, as the case may be) representing the value



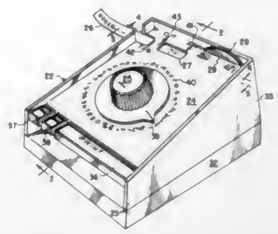
of the deposit. Operation of the configuration is programmed by connecting a selected circuit, or a pair of circuits representing values differing by five cents, to the vend control apparatus of the machine where electrical excitation is derived when credit is established and a vend is effected. The change payout programs provide for the proper change to be returned when required, either a nickel, a dime, or both, by applying the derived excitation as the payout command to the payout mechanism through the closed circuit or circuits.

3,406,804
TUBE HEATER WITH QUENCH
Robert M. Breckenridge, Maple Glen, Pa., assignor to Selas Corporation of America, Dresher, Pa., a corporation of Pennsylvania
Filed Nov. 16, 1966, Ser. No. 594,936
5 Claims. (Cl. 196—98)



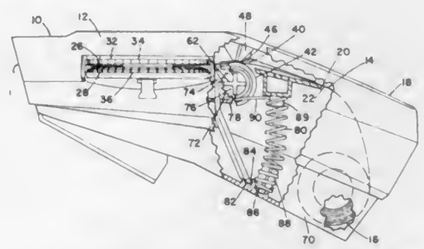
A hydrocarbon pyrolysis furnace in which the upper end of a tube or tubes is rigidly and directly attached to a quench for the heated fluid which, in turn, is rigidly mounted on the upper part of the furnace.

3,406,805
TABLE OR DESK MODEL TAPE EMBOSSER
Robert S. Goodrich, Palos Verdes Peninsula, Calif., assignor to Apsco Products, Inc., Los Angeles, Calif., a corporation of California
Filed Oct. 3, 1966, Ser. No. 583,886
13 Claims. (Cl. 197—6.7)



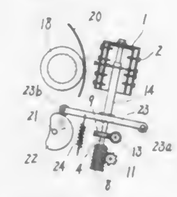
This tape embosser has three keys, one marked "PRINT" is depressed to print the letter, numerals, or symbol, or may be depressed partway only to advance the tape, as in spacing, a second marked "CUT" being depressed to cut the tape, and the third marked "TAB" being depressed to cut only partway through the backing of the tape to keep two or more embossed strips connected for convenience in the handling, the individual labels being severed later, the embossed vinyl layer of each label being readily stripped from the backing to expose the adhesive when the label is to be applied to an article. A hand operable wheel rotatable in either direction parallel to the tape movement through the embosser serves for advancing or retracting the tape by appropriate rotation of one of two feed rollers that are normally disposed in nearly abutting relation and have the tape extending therebetween for feed purposes. The other feed roller has a starwheel and a ratchet wheel turning with it, a detent spring engaging the starwheel serving to hold the last named feed roller releasably in each position to which it is operated, while a pawl that is normally in retracted position realtive to the ratchet wheel is engageable with it and operable through a predetermined stroke to advance the tape one step of the starwheel, the pawl being operable for a one step advance by the "PRINT" key with only a partial stroke, not enough to do an embossing operation, or by a full stroke.

3,406,806
EMBOSSING TOOLS OF SIMPLIFIED CONSTRUCTION INCLUDING MEANS COMPENSATING FOR MANUFACTURING TOLERANCES
Georg Fritz Bremer, Albany, Calif., assignor to Dymo Industries, Inc., Emeryville, Calif., a corporation of Delaware
Filed Jan. 5, 1967, Ser. No. 607,518
6 Claims. (Cl. 197—6.7)



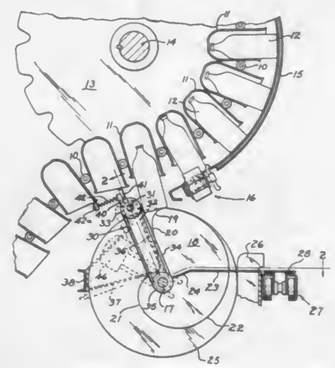
In a tool for embossing indicia in an elongate strip of embossable material, the tool having a feed roll mounted in the body of the tool for advancing the strip in response to the operation of an actuating lever, a unitary spring having a first portion coupled with the actuating level to bias the lever toward one of two operating positions and a second portion in the form of a unitary cantilever extention of the unitary spring, the second portion being coupled with the feed roll to bias the feed roll against the strip.

3,406,807
PRINTER IN WHICH TYPE IS PROJECTED AND TYPE HEAD MOVED TOWARD PLATEN
Rentaro Sasaki and Toshiro Sawaki, Takasaki, Japan, assignors to Oki Electric Industry Company Limited, Minato-ku, Tokyo, Japan
Filed May 31, 1967, Ser. No. 642,454
Claims priority, application Japan, June 1, 1966, 41/35,018
4 Claims. (Cl. 197—55)



A printer is disclosed as including an angularly and axially displaceable type drum having types mounted thereon for radial displacement and with their type faces on the outer periphery of the drum. The drum is secured to an axially and angularly displaceable shaft operable by type selecting means. A sleeve slidably embraces the shaft and is fixed against rotation, and this sleeve carries a selecting ball rotatingly engageable with the radially inner ends of the types to project the types radially outwardly as they are moved to a printing position in which they are aligned with a platen spaced from the drum. Operating means are connected to the sleeve to swing the sleeve, shaft and drum toward the platen to engage a selected type, projected radially outwardly by the selecting ball, with a paper or the like on the platen.

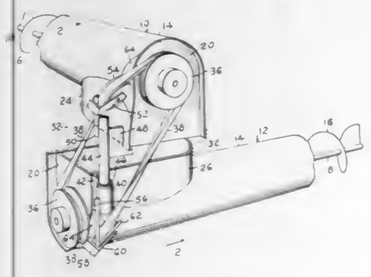
3,406,808
CONTAINER DISCHARGE APPARATUS
Momir Babunovic, Des Pere, Mo., assignor to Barry-Wehmiller Company, St. Louis, Mo., a corporation of Missouri
Filed Jan. 26, 1967, Ser. No. 611,855
5 Claims. (Cl. 198—20)



A container discharge mechanism for container washers and rinsers in which a rotary cam is provided to catch the successive containers delivered to the drop-off lip at the

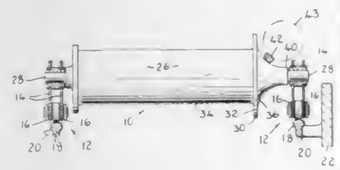
discharge of the washer or rinser, and friction developing guide means adjacent the cam for increasing the rapidity with which containers are withdrawn from the drop-off lip, the friction increasing means providing a substantially straight line surface which is intercepted by the rotary cam surface at an angle to form a lowering crotch which increases in its angular size as the successive containers reach the lower discharge position.

3,406,809
SWINGING DRIVE CONNECTION FOR AUGER CONVEYORS
Martin Mayrath, 10707 Lennox Lane, Dallas, Tex. 75229
Filed Feb. 13, 1967, Ser. No. 615,667
10 Claims. (Cl. 198—92)



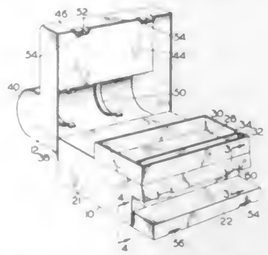
Two auger conveyor sections are pivoted together so that the outlet at one end of one conveyor remains generally aligned with the inlet at one end of the other, through a wide range of swing angles between the conveyor axes, allowing material to be conveyed around corners in horizontal, vertical or any combination of planes. Each conveyor shaft has an outboard pulley, and these are connected by a belt running on idlers and so arranged as to keep the proper drive length for all swing angles, so that one conveyor shaft can drive the other in all possible swing positions; a flexible casing may surround the material transfer path between the conveyors where necessary to minimize spillage.

3,406,810
ROLLER SLAT CONVEYOR
George S. Blair, Willowdale, Ontario, Harry Shaw, Aurora, Ontario, and Joseph Maishlish, Toronto, Ontario, Canada, assignors to Toronto Star Limited, Toronto, Ontario, Canada
Filed May 5, 1967, Ser. No. 636,315
3 Claims. (Cl. 198—183)



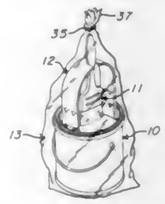
The speed of articles carried on a conveyor, formed of rollers moving horizontally at a constant speed, may be accelerated, retarded or reversed by tapering a corresponding end of the rollers and applying a brake member to a selected part of the tapered end either above or below the horizontal axis of the conveyor rollers.

3,406,811
INSULATED LUNCH BOX
Sandra S. Higley, 1299 NE. 17th St., Hillsboro, Oreg. 97123
Filed Nov. 1, 1966, Ser. No. 591,183
2 Claims. (Cl. 206—4)



The lunch box has a lower compartment defined thereabout by thickened insulated walls. The front wall of the lower compartment is hingedly attached to the lunch box to swing out and provide front loading. The hinge connection between the front wall and the lunch box comprises a guideway and pin arrangement whereby the front wall in addition to being hingedly movable between open and closed positions is also slidable in a direction parallel to the front surface of the lunch box so that when the front wall is open its lower surface will be in the same plane as the bottom of the lunch box. The lunch box also has a top compartment and a hinged lid which closes the top compartment and which also has a thermos bottle compartment. The top compartment has an auxiliary compartment, and with the arrangement of compartments it is intended that the top compartment hold sandwiches and the like, the auxiliary compartment holds silverware and the like, and the lower compartment which is insulated is intended to keep articles warm. The lid of the lunch box has a common latch with the hinged front wall of the insulated compartment.

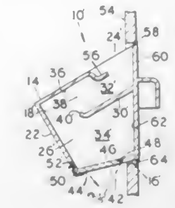
3,406,812
PAINT CONTAINER AND BRUSH ENCLOSURE
Carlton W. Henry, 4370 Tulane Court, Springfield, Ohio 45503
Filed May 12, 1967, Ser. No. 638,132
1 Claim. (Cl. 206—15.1)



A device for simultaneously preserving the paint in an open paint can and for protecting a paint brush by suspending the bristles of the brush in the open can of paint, and then enclosing the can and brush so that the paint cannot harden thereby providing for the temporary protection of the paint and the brush.

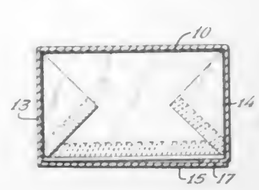
3,406,813
ASH TRAYS
Owen L. Anchell, 401 E. 65th St., New York, N.Y. 10021
Filed Sept. 22, 1966, Ser. No. 581,227
4 Claims. (Cl. 206—19.5)

The invention relates to an ash tray having a first compartment and second compartment. The first compartment is disposed beneath an opening in the housing and the second compartment is disposed beneath the closed off portion of the housing. A wall connected to the bottom of the housing is angularly disposed toward



the second compartment. Cigarette residue is transferrable from the first to the second compartment by tilting the housing, the residue flowing over the angularly disposed wall into said compartment.

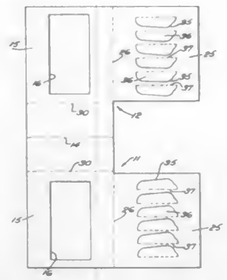
3,406,814
DISPLAY CARTONS
Richard F. Gulliver, St. Paul, Minn., assignor to Waldorf Paper Products Company, St. Paul, Minn., a corporation of Minnesota
Filed Oct. 22, 1965, Ser. No. 500,529
5 Claims. (Cl. 206—45.14)



This invention is in conjunction with a carton including a rectangular display panel having side and end walls hinged to the edges thereof and pairs of gusset flaps connecting adjoining edges of the side and end walls at the corners of the display panel. A bottom panel is hinged to one side wall and is anchored to the opposite side wall to form a tubular structure. The invention lies in securing a sheet of shrink film to the edges of the side and end walls most remote from the display panel. When the carton is erected into tubular form, the shrink film is held in U-shaped form throughout its length so that the product may be slid into an open end thereof either mechanically or by hand without interference by the film. When the end walls are folded to close the tube ends, all of the edges of the shrink film are closely adjacent to the bottom panel so that shrinking the film will draw the contents against the bottom panel.

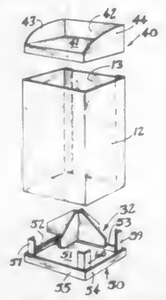
3,406,815
DISPLAY PACKAGE FOR PORTABLE ARTICLES
Albert J. Paolantonio, Greenville, R.I., assignor to Colonial Knife Company, Inc., a corporation of Rhode Island
Filed Mar. 3, 1967, Ser. No. 620,327
1 Claim. (Cl. 206—45.24)

A display package for small articles, such as a pocket knife, in which a transparent blister member provides a plurality of pockets and is held in position by being sandwiched between folded panels with an opening in one of the panels for the blister to protrude through, the panels being arranged in duplicate units so that two of these units



are disposed in angular relation to provide an easel which will stand by itself on a horizontal table or surface.

3,406,816
DISPLAY CONTAINER
James R. Green, Long Beach, and Arnold J. Fine, Redondo Beach, Calif., assignors to Mattel, Inc., a corporation of California
Filed Nov. 1, 1966, Ser. No. 591,196
7 Claims. (Cl. 206—45.34)

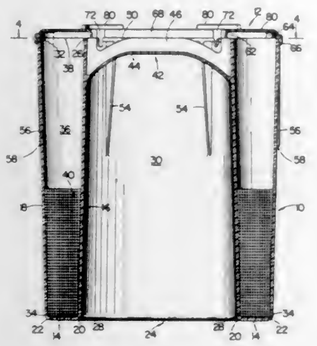


The invention is an improved display container particularly adapted for use with doll figures. Preferably, it is made from rectangular transparent plastic tubing in desired lengths with top and bottom closure caps. Within the container is provided a support or holder member for holding the doll figure upright in the container with its legs straddling the holder. Means are provided in the bottom cap to provide for holding engagement between this cap and the container or carton itself. This means may take the form of lugs extending diagonally across the corners of the bottom cap or members in the form of legs extending upwardly at the corners of the bottom cap so that the edges of the container can be held between these extending members and the side walls of the bottom cap. These extending members on the bottom cap constitute legs so that the bottom cap, when removed and inverted, becomes a table and similarly, the top cap can be constructed as an article or part of an article such as specifically a seat, which then can be rested on the bottom cap when inverted for forming a chair with legs.

3,406,817
PACKAGE FOR STRAND MATERIAL
Harrison R. Lane and Donavon L. Feaster, Fort Wayne, Ind., assignors, by mesne assignments, to Universal American Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 12, 1966, Ser. No. 572,015
8 Claims. (Cl. 206—52)

A storing, shipping and dispensing package for strand material, such as wire, comprising an integrally molded

annular container having an open end and a closed end with spaced coaxial inner and outer walls which diverge from the closed end to define an annular strand-receiving cavity therewith and forming a central opening. An inwardly extending annular flange portion is formed on the inner wall adjacent the open end thereof. A handle member extends radially across and is integrally joined to the



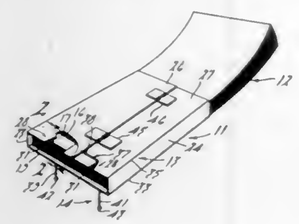
inner wall adjacent its open end. An annular cover member is provided for removably closing the open end of the container and having a central aperture communicating with the central opening of the container. The cover member has snap fastening means formed on its inner peripheral edge for engaging the flange on the inner wall.

3,406,818

PACKAGE OF BAGS

Karl F. Barnett, Bloomfield Hills, Mich., assignor to Cadillac Products, Inc., a corporation of Michigan

Filed May 18, 1967, Ser. No. 639,565
11 Claims. (Cl. 206—57)



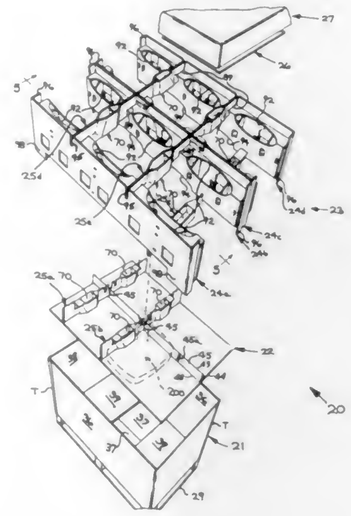
This application discloses a package of bags, a method for making such a package and a protective sleeve for the bags. The package is comprised of a stack of collapsed bags formed from a plastic such as polyethylene. These bags are formed with a lip at their open end in which a pair of apertures are formed. These apertures are aligned when the bags are stacked and are aligned with like apertures formed in an open ended sleeve that encircles the stack of bags. This sleeve is formed from a substantially more rigid material than the bags and has a somewhat shorter length than the bag. A fastening means in the form of a U-shaped wicket extends through the apertures in the sleeve and in the bags to fix these elements in aligned relationship with each other. The sleeve is perforated along two of its edges to facilitate its removal.

3,406,819

CONTAINER CONSTRUCTION

George T. Brander, Columbus, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

Filed Feb. 3, 1966, Ser. No. 524,878
14 Claims. (Cl. 206—65)



This application discloses a corrugated fibreboard container construction which has utility in the packaging and shipment of television bulbs. The container features a parallelepiped-shaped shell and, located within the shell, an array of normally horizontally disposed elongated tubular channel members, some of which extend laterally of the shell and others longitudinally, and define, with one another, a plurality of adjacent spaces for receiving and maintaining television bulbs in inverted relationship with respect to adjacent bulbs. Certain of said channel members serve to support the funnel portions of the television bulbs while others of said channels have portions which are effectively but loosely, out of contact with the face-plates of the bulbs.

3,406,820

PASSIVE PRESSURE-SENSITIVE ADHESIVE TAPE AND PROCESS OF MAKING SAME

Herbert M. Bond, Stillwater Township, Washington County, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 336,013, Jan. 6, 1964. This application June 23, 1966, Ser. No. 559,747
20 Claims. (Cl. 206—59)

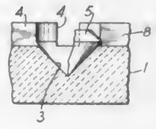
The race and back sides of perhalofluorinated or oriented saturated polyester films, which are normally poorly receptive to most coatings, are subjected to different surface treatments, thereby rendering the face receptive to pressure-sensitive adhesive and the back receptive to electrical insulating varnish. After being washed in xylene, the back has a degree of adherability which is greater than before treatment but less than that of the treated face. Such films are useful as the backing for electrical insulating tape.

3,406,821

CONTAINER FOR PRECIOUS STONES

Roman Weissberg, 5, Goetheplatz, 6 Frankfurt am Main, Germany

Filed Jan. 13, 1967, Ser. No. 609,172
Claims priority, application Germany, Jan. 21, 1966, W 36,494
7 Claims. (Cl. 206—75)



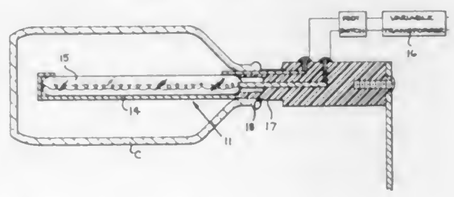
A container having regularly arranged recesses in a bottom part is provided with grooves running between the recesses. The depth of the grooves is varied according to the shape of the stones in the recesses to promote ease in the withdrawal of the stones.

3,406,822

INSPECTING OPEN MOUTH TRANSLUCENT CONTAINERS FOR DEFECTS

Thomas H. Finger, Maumee, and Richard A. Heaton, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio

Filed Oct. 4, 1965, Ser. No. 492,491
1 Claim. (Cl. 209—125)



The apparatus disclosed herein comprises an endless conveyor which is adapted to convey the containers, which are made of translucent material such as opal glass, to an inspecting station. At the inspection station, an operator removes the containers and places them over high intensity light sources. The operator then depresses a foot switch to energize the high intensity light sources and rotates the containers by hand. Any defects that are present cause sharp variations in light intensity transmitted through the containers which are observed by the operator so that the operator can reject the container. Any containers found to be satisfactory are placed on a second endless conveyor which removes them from the inspection station.

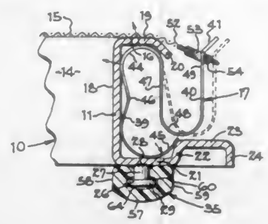
3,406,823

RELEASABLE SCREEN TENSIONING AND CONNECTING MEANS

Allan M. Crain, Cincinnati, Ohio, assignor to The Orville Simpson Company, Cincinnati, Ohio, a corporation of Ohio

Filed Mar. 25, 1966, Ser. No. 537,480
14 Claims. (Cl. 209—363)

A spring for tensioning the screen on a screening machine. The spring generally comprises a U-shaped portion and a frame engaging portion connected thereto. The U-shaped portion comprises two legs joined at their lower ends by a bend, one of the legs at its upper end joining the top of the frame engaging portion, the other of the legs of the U-shaped portion having at its upper end a screen engaging tip and being yieldable as a spring toward the frame engaging portion. The latter portion comprises rounded upper and lower lobes connected by a flexing section between them which permits the lobes to move



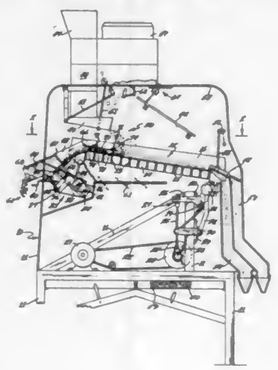
relatively toward one another to be received in compression in a channel of the screen frame.

3,406,824

STONE AND HEAVY GRAIN DISCHARGE OUTLET FOR GRAVITY SEPARATORS

Arthur R. Forsberg, Box 510, Thief River Falls, Minn. 56701

Filed Nov. 14, 1966, Ser. No. 594,055
1 Claim. (Cl. 209—467)



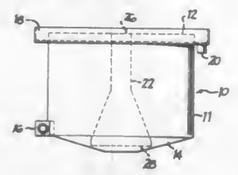
A gravity separator with a perforate oscillating deck through which air is drawn separating high density and low density materials, a pressure plate confronting and in closely spaced relation above the rear edge portion and extending entirely across the entire width of the deck.

3,406,825

CENTRIPETAL SEPARATION METHOD AND APPARATUS

Arthur C. Schouw, Corunna, Mich., assignor to Hydromation Engineering Co., Livonia, Mich.

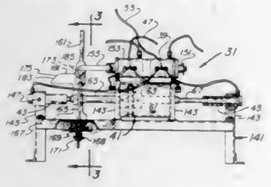
Filed Nov. 21, 1966, Ser. No. 595,893
2 Claims. (Cl. 210—65)



The invention is a method and apparatus in which particles are separated from a liquid by the steps of swirling a body of the liquid about an axis at a velocity in which particles in the liquid collect centrally of the body within a perforated tube located centrally of and

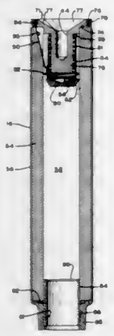
co-axial with the body, removing particles and some liquid from the body by applying suction to the tube to suck particles and liquid axially out from the tube, and removing clarified liquid from the periphery of the liquid body. The apparatus includes a circular chamber closed at one end thereof and open at the opposite end thereof and having a cylindrical side wall extending between the ends, an inlet leading into the chamber through the side wall near the closed end of the chamber for introducing the liquid generally tangentially into the chamber to impart the swirling motion to the liquid, and an overflow outlet at the open end of the chamber for withdrawal of clarified liquid from the chamber by overflow of the side wall. The perforated tube is located within the side wall of the chamber and co-axial therewith for withdrawal of particles and liquid axially therefrom by applying suction to the tube. A lock device may be provided in communication with the bottom of the chamber for removing settled particles form the chamber.

3,406,826
ARTIFICIAL KIDNEY LIQUID METERING AND DISPENSING DEVICE
Charles B. Willock, 16222 SE. Oatfield Road, Milwaukie, Oreg. 97222
Filed Nov. 17, 1965, Ser. No. 508,240
10 Claims. (Cl. 210—87)



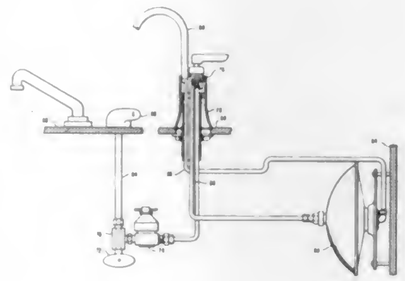
A liquid measuring and combining apparatus, particularly adapted for use in an artificial kidney apparatus, wherein one piston is reciprocatingly driven by liquid pressure to reciprocatingly drive a second piston handling a second liquid, and wherein a reversing valve for controlling the liquid supply to and from the pistons is controlled by said one piston and is effective to direct the discharged liquids to a common combining line.

3,406,827
MOISTURE SENSING VALVE MEANS FOR FUSE FILTER
George J. Topol and John G. Vattay, Hamilton, Ontario, Canada, assignors to Bowser, Inc., Cookeville, Tenn., a corporation of Indiana
Filed Oct. 4, 1965, Ser. No. 492,452
7 Claims. (Cl. 210—96)



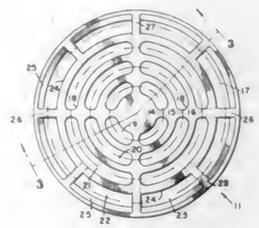
A fuse filter element having a moisture sensitive paper trigger attached to and holding in an open position a poppet valve located at one end of the element. When moisture penetrates the fuse filter the paper trigger tears and releases the poppet valve to move to a closed position at the other end of the element and thereby block further fluid flow.

3,406,828
HOME TAP WATER PURIFICATION DEVICE
John Boston, Canoga Park, Calif., assignor to Aquarius Industries, North Hollywood, Calif., a corporation of California
Filed Sept. 6, 1966, Ser. No. 577,284
3 Claims. (Cl. 210—137)



The invention relates to a system for purifying water from the ordinary household tap. A unitary replaceable filter system, composed of filter pads and charcoal impregnated pads, is held in a bell-shaped filter unit and tubing is provided to pass the tap inlet water through the filter and then to the faucet. In a preferred embodiment the water is passed first through the valve and then through the filter element to increase filter life and reduce pressure on the filter system.

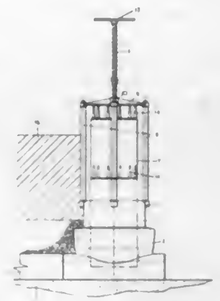
3,406,829
FLOOR DRAIN
John P. Vande Bosche, % Hoffman Specialty Mfg. Corp., 1700 W. 10th St., Indianapolis, Ind. 46222
Continuation of application Ser. No. 595,953, Nov. 21, 1966. This application Oct. 20, 1967, Ser. No. 676,982
2 Claims. (Cl. 210—164)



A floor drain, including a grate, said grate being so constructed as to provide a plurality of passages into the drain proper, the passages including a series located near

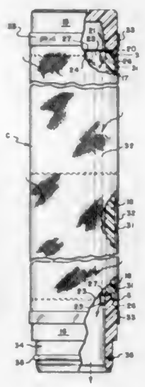
the periphery of the drain opening and so inclined as to to direct liquid emerging from them toward the axis of the drain.

3,406,830
DECANTING COLUMNS
Norman Greensmith, Horsforth, Leeds, England, assignor to Naylor Bros. (Clayware) Limited, Yorkshire, England, a British company
Filed May 11, 1966, Ser. No. 549,390
4 Claims. (Cl. 210—241)



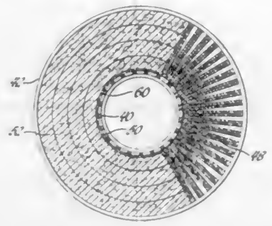
A decanting column for a sludge draining and drying bed comprising a base member carrying a frame, said base member having a liquor outlet therein, an open-ended tube slidably and sealingly received into the base member, said tube having a series of restrictions around its inlet, and being supported on the frame by a screw threaded rod so as to enable movement of the tube relative to the base member.

3,406,831
FILTER CARTRIDGE FOR FILTERING LIQUIDS
John H. Bush and John E. Weyand, Needham, Mass., assignors to Millipore Filter Corporation, Bedford, Mass., a corporation of Massachusetts
Filed Nov. 23, 1965, Ser. No. 509,384
11 Claims. (Cl. 210—438)



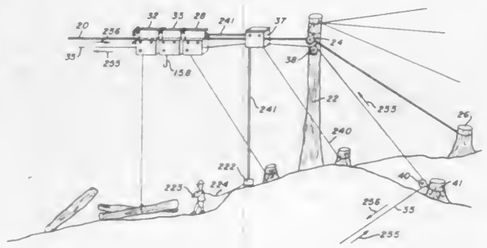
A filter cartridge comprising a tubular element constructed of individual sections connected together and having passageways connecting the interior thereof to the exterior, and a filter secured to the exterior of the element.

3,406,832
SERIES PARALLEL FILTER ELEMENT
Donald C. Ruschman, Davison, and Fred O. Schulte, Fenton, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 10, 1964, Ser. No. 373,977
10 Claims. (Cl. 210—457)



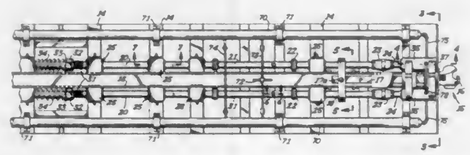
A filter element having depth type and surface type filter media arranged in parallel and in series with the surface type filter medium governing the size of particles passed through the element.

3,406,833
SKYLINE CONVEYING DEVICE
George R. Read, 2586 Cook St., Victoria, British Columbia, Canada
Filed May 29, 1967, Ser. No. 641,784
26 Claims. (Cl. 212—99)



This disclosure is concerned with skyline conveying systems for timber harvesting industry and with work carriages for use in a skyline system. It described a system in which a plurality of work carriages on a single skyline may be moved from a loading position to an unloading position by utilizing an endless drive line having a flight parallel to the skyline and passing about a breakable traction drum in each carriage. The drive line can also be used to operate the loadline winch of the carriage.

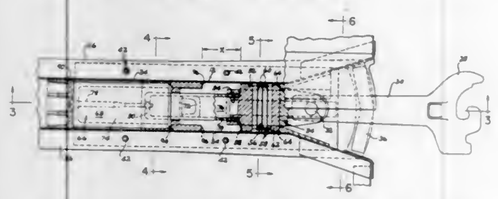
3,406,834
DRAFT DAMPENING MEANS FOR RAILWAY CARS
David L. Brunt, Independence, Mo. (725 S. Shore Road, Jacksonville, Fla. 32207)
Filed Apr. 18, 1966, Ser. No. 543,367
3 Claims. (Cl. 213—8)



A draft connection device for use in combination with a conventional railway car comprising a pair of

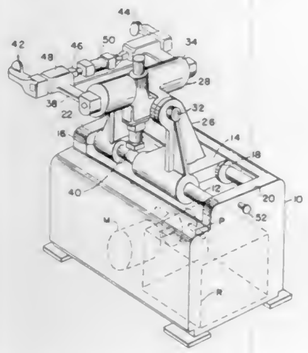
elongate piston rod structures each having a length corresponding to the length of the railway car and mounted on the central support beam of the railway car for fore and aft axial movement relative thereto. The ends of the piston rods being positioned in pairs of cylinders locked at opposite ends of the railway car and each cylinder being connected to a source of air under pressure. A pair of draw bars each being connected to adjacent ends of said piston rod structures and being adaptable for releasable coupling to adjacent railway cars so that axial draft force exerted on the draw bars will shift the piston rod structures and the latter will be cushioned by air pressure within the cylinders.

3,406,835
CUSHIONING STRUCTURE FOR END OF RAILWAY CAR
Robert M. Cook, St. Charles, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Continuation of application Ser. No. 498,463, Oct. 20, 1965. This application May 1, 1967, Ser. No. 642,624
8 Claims. (Cl. 213—8)



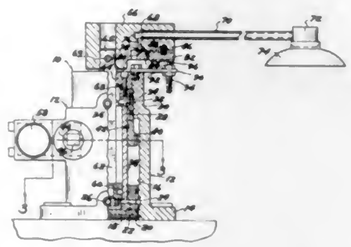
A cushioning arrangement for the end of a railway car comprising the combination of a resilient draft gear and a hydraulic cushioning unit. The hydraulic cushioning unit acts in draft from a neutral position simultaneous with the compression of the resilient draft gear to aid in cushioning the draft forces from a neutral position. In buff, the resilient draft gear and hydraulic cushioning unit act in series with additional travel of the resilient draft gear permitted after the buff travel of the hydraulic cushioning unit has been stopped.

3,406,836
TRANSFER DEVICE
Peter J. Manetta, Warren, Ralph L. Tabor, Birmingham, and Walter Greenwood, Dearborn, Mich., assignors to Simplex Corporation, Detroit, Mich., a corporation of Michigan
Filed Sept. 9, 1966, Ser. No. 578,354
4 Claims. (Cl. 214—1)



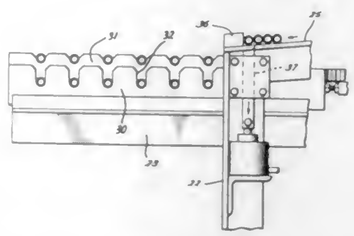
A transfer unit comprising a base, a slide movable horizontally on the base, a frame pivoted to the slide for rocking movement about an axis parallel to the direction of movement of the slide, pivot mounting means on the frame providing a pivot axis extending perpendicular to the rocking axis of said frame, and work supporting means extending laterally from said frame for rocking movement through an arc of substantially 180 degrees between limiting positions at opposite sides of the frame. A work support gripped by the work supporting means is thus movable over the frame from one end thereof to the other and is movable with the frame from substantially one end of the base to the other, and is in addition rotatable about an axis extending parallel to the direction of movement of the slide.

3,406,837
LIFTING AND SWINGING WORK TRANSFER DEVICE
Jerry Kirsch, Grosse Pointe Farms, and George D. Robb, Birmingham, Mich., assignors to Erie Engineering Company, Detroit, Mich., a corporation of Michigan
Filed Oct. 13, 1966, Ser. No. 586,524
6 Claims. (Cl. 214—1)



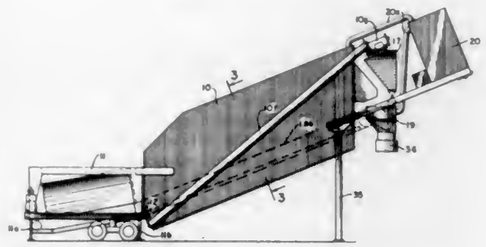
This lifting and swinging work transfer device is operated pneumatically, and automatically swings into position over a workpiece, descends into gripping engagement with the workpiece, ascends while lifting the workpiece, swings horizontally to a predetermined location, and there descends and releases the workpiece at the last fraction of vertical travel, the swinging being accomplished either by a reciprocatory or a rotary pneumatic motor, and the workpiece gripping either by a vacuum or magnetic gripper, or by mechanical gripper jaws.

3,406,838
TUBE ASSEMBLING APPARATUS
Eugene M. Davidson, Houston, Tex., assignor to Hudson Engineering Corporation, Houston, Tex., a corporation of Texas
Filed Oct. 19, 1966, Ser. No. 587,759
7 Claims. (Cl. 214—1)



1. Apparatus for assembling tubes or the like in predetermined spaced apart, side-by-side relation, comprising a frame, a first set of longitudinally spaced apart racks mounted on the frame for lateral movement into and out of a loading area to one side of the frame, each rack of the first set having a series of recesses extending thereacross for supporting a lower row of tubes extending longitudinally between them, a second set of longitudinally spaced apart racks mounted on the frame for lateral movement into and out of the loading area and above the first set of racks and tubes supported thereon, each rack of the second set also having a series of recesses extending thereacross for supporting an upper row of tubes extending longitudinally between them, and means for first moving said first set of racks into said loading area to receive the lower row of tubes, next moving said second set of racks into said loading area to receive the upper row of tubes, and then moving both sets of racks back out of the loading area upon removal of the assembled tubes therefrom.

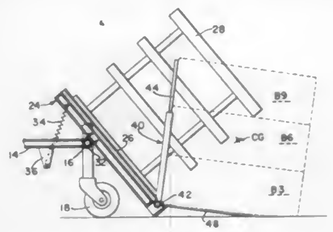
3,406,839
MOBILE BATCHING PLANT
Carl J. Heltzel, 523 Country Club Drive NE., Warren, Ohio 44484
Filed Feb. 7, 1966, Ser. No. 525,525
5 Claims. (Cl. 214—2)



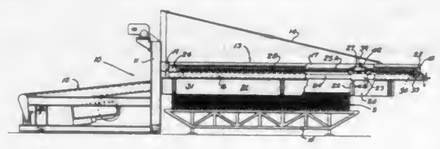
1. For use with an over-the-highway transport tractor unit, a cement and aggregate batching unit comprising:
(a) an aggregate batching unit mounted on wheels for over-the-highway transport,
(b) cement storage unit pivotally connected to said aggregate batching unit and adapted to be elevated at its forward end at the job site,
(c) conveyor means carried by both said aggregate batching unit and cement storage unit and having a portion thereof extending beneath said aggregate batching unit and a portion passing beneath said cement storage unit,
(d) cement weighing and aggregate collecting hoppers carried by said cement storage unit and being positioned to receive batch cement from said cement unit and aggregate from the conveyor means,
(e) transport frame means secured to said cement storage unit and extending forwardly of said cement storage unit for connection in the lower position of said cement storage unit, to a tractor unit for transport from one site to another, and
(f) a cement storage unit substantially rectangular in vertical cross-section having an aggregate conveyor tunnel through the bottom thereof, three of the four sides of which protect aggregate carried by conveyor from the elements.

3,406,840
AGRICULTURAL BALE HANDLING MACHINE
Gust Soteropulos, Ottumwa, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed July 21, 1967, Ser. No. 655,037
6 Claims. (Cl. 214—6)

A bale grouping machine having a mobile frame towable by an agricultural baling machine, a body tiltable on the frame on a transverse pivot, a deck tiltable on the body about a transverse pivot at the rear of the body, and a hydraulically actuated mechanism for receiving bales from the baling machine and automatically accumulating the bales on the deck in an upright side-by-side relationship until a predetermined group has accumulated, whereupon the weight of the bales tips both the body and the deck about their pivots to deposit the bales on their side in a vertical stack.



3,406,841
CONNECTOR FOR BACKSTOP HOLD AND LOCKING DEVICE
Cullen J. Smith, St. Louis, Mo., assignor to Alvey Conveyor Manufacturing Company, St. Louis, Mo., a corporation of Missouri
Filed Sept. 7, 1965, Ser. No. 485,351
3 Claims. (Cl. 214—6)

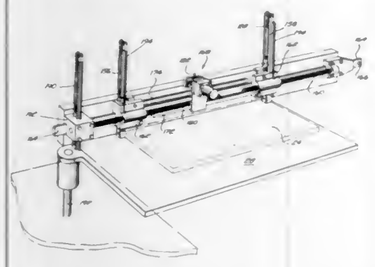


Sheet stacking apparatus having sheet engaging backstop means movable longitudinally over a sheet stacking station upon track means that may at times lack precision parallelism, and means movable along the tracks for supporting the backstop in a predetermined position and for transmitting the sheet impact from the backstop through the supporting means to the tracks without permitting the sheet stopping function thereof. In the foregoing apparatus the backstop supporting means comprises two separate devices which are keyed together by cooperating key elements that will permit substantially no relative motion lengthwise in the sheet stacking station but will permit relative movement in other directions to permit out of parallelism of the tracks without the key elements breaking engagement.

3,406,842
AUTOMATIC FEED APPARATUS FOR BOOK SEWING MACHINE
John H. Atkins, Lexington, and George A. Wood, Jr., Lincoln, Mass., assignors, by direct and mesne assignments, to Oversewing Machine Company of America, Medford, Mass., a corporation of Massachusetts
Original application Jan. 31, 1964, Ser. No. 341,501, now Patent No. 3,272,160, dated Sept. 13, 1966. Divided and this application July 8, 1966, Ser. No. 563,759
7 Claims. (Cl. 214—6)

An apparatus is provided for feeding signatures automatically into a book sewing machine. A conveyor delivers the signatures onto a shelf. Each time a new signature is added to the stack of signatures, oscillating racks center the signature and the stack on the shelf, the

shelf is raised up into sewing position and the topmost signature is sewn to the underlying volume. The stack is also shifted laterally after each sewing operation to stagger the stitching. As the signatures accumulate, the shelf and book drop down until all of the signatures are sewn. Thereafter the shelf, which has been supporting the

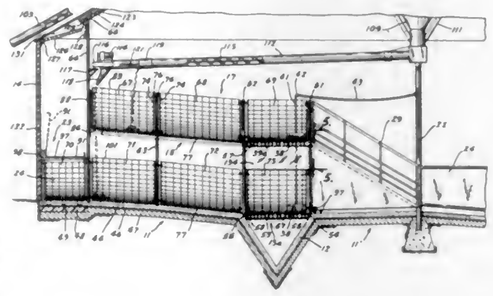


book during the sewing operation, swings out of the way allowing the volume to drop onto a table. The shelf has an inner knife edge which, when it swings closed, automatically cuts the threads connecting the needle to the book. The book is then dumped by the table out of the machine.

3,406,843
APPARATUS FOR CLASSIFYING ARTICLES
Ian K. B. Lasbrey and Harry Fitzgerald, Belfast, Northern Ireland, assignors to Short Brothers and Harland Limited, Belfast, Northern Ireland, a company of Northern Ireland
Filed July 18, 1966, Ser. No. 565,866
Claims priority, application Great Britain, July 23, 1965, 31,569/65
5 Claims. (Cl. 214—11)

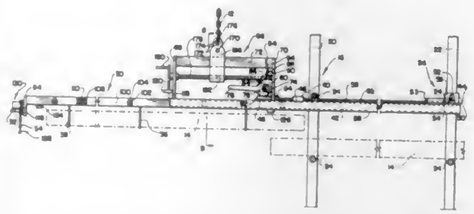
An apparatus for classifying articles comprises a part-circular rack of open topped compartments disposed in at least two vertically-spaced tiers about a central axis and a turntable with corresponding vertically-spaced transfer elements mounted for rotation about the central axis. The apparatus is provided with a charging station for loading the vertically-spaced transfer elements of the turntable with the articles to be classified and a discharging station for unloading classified articles from the compartments. The articles to be classified are loaded into the uppermost transfer elements from which they are dispensed into a compartment of the uppermost tier or dispensed into a lower transfer element which, in turn, dispenses the articles into a compartment of a lower tier. The transfer of articles from the charging station to the transfer elements and from the transfer elements to the compartments is controlled by selector means at the charging station.

3,406,844
METHOD AND STRUCTURE FOR DISCHARGING GRANULAR MATERIAL
William J. Conover, Rhodes, Iowa, assignor to Black, Sivalls & Bryson, Inc., Kansas City, Mo., a corporation of Delaware
Original application Jan. 7, 1964, Ser. No. 336,227, now Patent No. 3,229,663, dated Jan. 18, 1966. Divided and this application Jan. 17, 1966, Ser. No. 521,133
2 Claims. (Cl. 214—16)



This invention comprises apparatus and a method for discharging feed, which apparatus includes a circular structure having a conical roof, with an upright post mounted centrally of the structure and engaging the roof at its center for providing the only support therefor, with a material holding hopper disposed about the post at the upper end thereof, the lower end being fluidly connected with an inner end of a radially extended conveyor, the outer end of the conveyor having a frictional drive device engaged with the interior of the structure for moving the conveyor in a circular path about the post, with the feed material being discharged at the outer end of the conveyor; and the method including a simultaneous radial and annular movement of the feed from centrally of the circular structure, and with a part of the feed as it is discharged being caught, by means other than the feed itself, and with that not caught falling on beyond the location of the first caught feed.

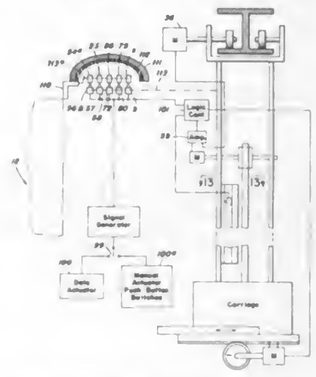
3,406,845
METHOD AND APPARATUS FOR RACKING STEEL WITH A SINGLE HOOK HOIST
Thomas D. Fahey, Denver, Colo., assignor to Steel, Inc., Commerce City, Colo., a corporation of Colorado
Filed Dec. 7, 1965, Ser. No. 512,606
5 Claims. (Cl. 214—16.4)



This invention relates to an apparatus for racking steel which is an improvement over that forming the subject matter of U.S. Patent No. 3,138,266, of which I was a joint inventor, in that: (1) It utilizes a single hook hoist rather than a double hook one; (2) the need for specially-designed racks is eliminated; (3) the apparatus is fastened to the rack only at the rear end of the pigeonhole; (4) means are provided for balancing the load; and (5) remotely-actuated means are provided for

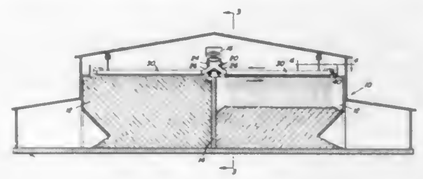
operating the clamp that fastens the unit to the rack. In addition, the instant invention contemplates an improved method of using the apparatus that includes the steps of balancing the load and fastening same to the rear of the rack while leaving the apparatus disconnected from the front thereof.

3,406,846
POSITION CONTROL SYSTEM FOR AN ARTICLE HANDLING APPARATUS
Ward F. O'Connor, Denville, N.J., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware
Filed July 7, 1967, Ser. No. 651,791
20 Claims. (Cl. 214—16.4)



Automated warehouse apparatus operating at a central point for continuously controlling a load transporting carriage located at a remote point to retrieve a load from a preselected storing space or to place a load therein, and comprising a plurality of groups of discrete electric buses, each group including continuous electric conductors and segmented conductors, for continuously transmitting instructional signals from the central point to the remote point and vice versa, and a plurality of electric motors located on the carriage and controlled by the instructional signals continuously transmitted on the electric buses for providing the necessary X, Y and Z movements of certain components of the carriage to achieve the load retrieval or placement actions. An amplifier derives low values of direct current from low voltages of direct current voltage to provide the instructional signals.

3,406,847
AUTOMATIC BIN LEVELING SYSTEM
Walter J. Sackett, Sr., Baltimore, Md., assignor to The A. J. Sackett & Sons Co., Baltimore, Md., a corporation of Maryland
Filed Dec. 20, 1965, Ser. No. 515,124
4 Claims. (Cl. 214—17)



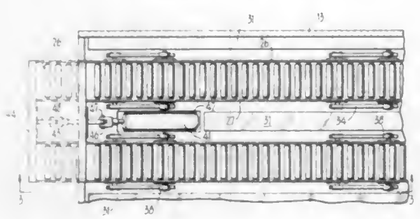
A system for distributing granular material into a series of bins is provided which includes a conveyor for the material movably positioned over the bins. The conveyor has a portion of its bottom open and a loop of paddles operate to move the granular material along the conveyor to be distributed through the opening in the conveyor bottom. Limit switches are provided to shift the position of the conveyor within a bin and to cause the conveyor to shift from one bin to another.

3,406,848
SELF-LOADING VEHICLE
Edward F. Zink, Knoxville, Tenn., assignor, by mesne assignments, to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Application Nov. 17, 1966, Ser. No. 595,221, now Patent No. 3,353,693, dated Nov. 21, 1967, which is a division of application Ser. No. 526,013, Jan. 18, 1966, which in turn is a continuation of application Ser. No. 254,385, Jan. 28, 1963. Divided and this application Apr. 13, 1967, Ser. No. 630,566
10 Claims. (Cl. 214—78)



A vehicle having mobile support means rotatable about an axis and a shovel portion pivotable about an axis substantially the same as the first axis.

3,406,849
VEHICLE CONVEYOR SYSTEM
Edwin Guy Warren, P.O. Box 59, Hayward, Calif. 94543
Filed Mar. 3, 1967, Ser. No. 620,450
2 Claims. (Cl. 214—83.26)

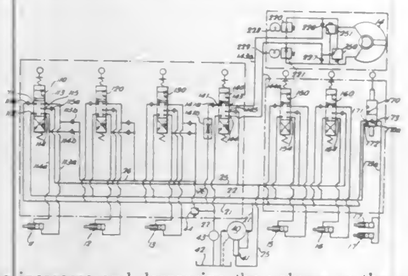


A conveyor system having a plurality of rolls on which an article may be supported and moved, in which the rolls are movable between a first operative position and a second depressed position wherein the upper portions of the rolls are disposed subjacent fixed article supporting members.

3,406,850
HYDRAULIC SYSTEM FOR EXCAVATOR
Ronald Norman Hancox, Havant, England, assignor to Sperry Rand Coporation, Troy, Mich., a corporation of Delaware
Filed Sept. 20, 1965, Ser. No. 488,344
Claims priority, application Great Britain, Sept. 22, 1964, 38,618/64
11 Claims. (Cl. 214—138)

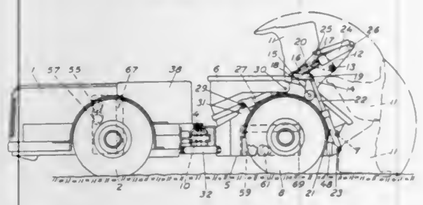
7. A hydraulic supply and control system for supplying and controlling a plurality of hydraulic devices having variable pressure and volumetric requirements which comprises a variable volume pump, a control valve for each hydraulic device to which the outlet of the pump is connected, said control valve being operative to provide unrestricted communication of fluid to the hydraulic devices, and a control mechanism connected hydraulically

to a service pressure conduit extending between the control valve and the hydraulic devices and responsive to the highest operating pressure of fluid being supplied to any of said devices to vary the pressure and volume of the pump in accordance with the requirements of the hydraulic equipment by increasing the volume as the pres-



sure increases and decreasing the volume as the pressure decreases, a backhoe having a bucket, a boom on which said bucket is movably mounted, and at least one hydraulic motor for raising and lowering said boom, said hydraulic motor comprising one of said hydraulic devices to which the outlet of the pump is connected, and an actuator for slewing said boom.

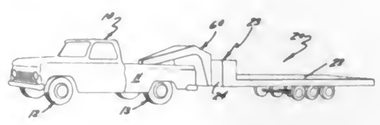
3,406,851
SELF-LOADING POWER DRIVEN DUMP VEHICLES
Nils Olof Sundberg, Orebro, Sweden, assignor to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden
Filed Aug. 20, 1965, Ser. No. 481,265
Claims priority, application Sweden, Aug. 19, 1964, 10,022/64
3 Claims. (Cl. 214—501)



A self-loading power driven dump vehicle particularly adapted for the loading and transportation of material in mines, tunnels and other places. The apparatus has a wheeled chassis composed of a motor-carrying section and a container section pivotally connected thereto. Two pairs of wheels carry the chassis frame; a power shovel is pivoted on the container section and the axis of one of the pairs of wheels is situated between the pivot which couples the two chassis sections together and the pivot for the power shovel, and power cylinders and linkage for moving the shovel from a collecting position to discharge position are pivotally mounted on the chassis and container, and with such cylinders and linkage disposed inside of the vehicle motion profile as defined by the outer side of the last-mentioned pair of wheels.

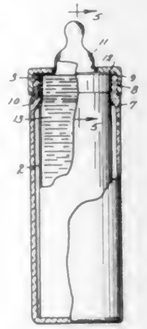
3,406,852
COMBINATION TOWING VEHICLE AND TRAILER AND HITCH ASSEMBLY THEREFOR
Elmer R. Winckler, Mitchell, S. Dak., assignor to Dakota Manufacturing Company, Mitchell, S. Dak., a corporation of South Dakota
Filed Apr. 20, 1966, Ser. No. 544,356
20 Claims. (Cl. 214—506)

A hitch assembly adapted for joining a pickup truck and a trailer comprising an arch-shaped tongue pivotally affixed to a removable base in the truck bed, the base being positioned over or forward of the rear wheels thereof. The hitch is pivotably affixed, additionally, to the trailer and powered means are provided for pivoting the hitch with respect to its point of attachment with the truck



and, thus, pivoting the rear end of the trailer downwardly or upwardly. Alternatively, the hitch may be detachably affixed to the trailer and the power means utilized to lift the forward end of a trailer into pulling position. It is understood that this abstract is not to be utilized to limit the scope of this disclosure.

3,406,853
CONTAINER WITH DISPOSABLE LINER
La Martine S. McLeod, 116 Wynngate Road, Savannah, Ga. 31404
Filed Aug. 9, 1966, Ser. No. 571,256
7 Claims. (Cl. 215—11)

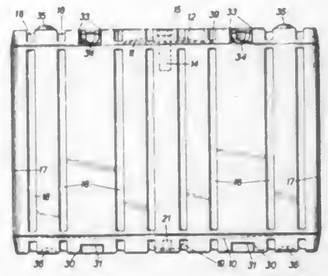


A sanitary disposable flexible tube, which can be stored flat and has an open end and a closed end, is provided with at least one flexible supporting strip adjacent its open end with the lower edge of each strip being supported on a shelf of a container and the outer surface of each strip engaging the inner surface of the container. The lid or nipple of the container engages the upper edge of each supporting strip so that each strip is held between the shelf and the lid or nipple thereby holding the tube in place.

3,406,854
GASKET-FORMING PLASTISOLS COMPRISING VINYL CHLORIDE RESIN, FATTY ACID AMIDES AND SALT OF LAURYL SULFATE
Anthony J. Testa, Westwood, Mass., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
Filed Dec. 22, 1965, Ser. No. 515,632
9 Claims. (Cl. 215—40)

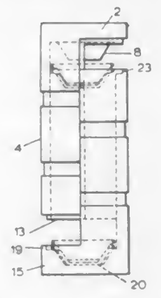
A gasket-forming composition for container closure elements composed of a plastisol of a vinyl chloride resin which includes a torque control additive consisting of a member selected from the group consisting of an alkali metal, alkaline earth metal and ammonium salt of lauryl sulfate combined with a mixture of unsaturated fatty acid amides.

3,406,855
CONTAINERS FOR THE TRANSPORTATION OF LIQUID IN BULK
Charles Stanley McKechnie, Prestatyn, Wales, assignor to Andrews of Aintree Limited, Aintree, Liverpool, England, a British company
Filed June 17, 1966, Ser. No. 558,397
3 Claims. (Cl. 220—1.5)



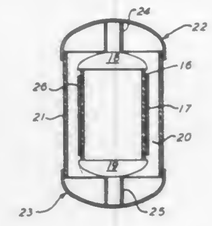
The present portable container is for transporting liquids in an inner tank of stainless steel housed within a protective outer case of glass fiber reinforced plastic and said inner tank and outer casing have apertures in register for filling and drainage purposes, reinforced channel guides in the bottom of said outer casing for receiving the arms of a pick up handling device, spaced reinforcement and stiffening means on said inner tank registering with and connected to said channel guides of said outer casing, ribs in the side and end walls of said outer casing contacting and supporting said inner tank, shackles secured to the reinforcing members of said inner tank and projecting through said outer casing for use with lifting apparatus and the bottom of said inner tank sloping towards a sump portion containing the drain aperture in which is mounted a drain plug operable by a key inserted through the filling aperture of the inner tank.

3,406,856
PACKAGE FOR PREPARED TART CRUSTS
Herald E. Griffith, Glenshaw, and Richard A. Danko, New Kensington, Pa., assignors to Star-Kist Foods, Inc., McKees Rocks, Pa., a corporation of California
Filed Mar. 30, 1967, Ser. No. 627,179
3 Claims. (Cl. 220—4)



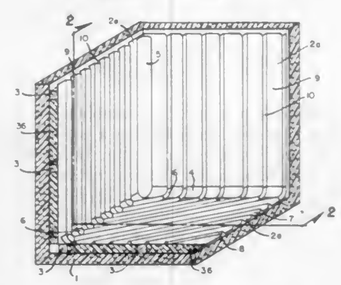
There is disclosed herein a receptacle for transporting, shipping and dispensing a stack of nested small disposable pie pans in which prepared crusts are formed for use in making pastries known as "tarts," and in the trade, the pans and crusts, without filling, are also known as "tarts," and this term has the latter meaning as used herein. The receptacle is formed of two parts molded from foamed plastic, each part having an end wall portion and matching edges of a side wall structure so formed that when the parts are together they form a parallelepiped within which is a cylindrical space of a diameter to receive a single stack of tarts. The end wall portion of one member has a cavity to receive the lowermost tart in the stack. The other end member has a projection on its inner surface designed to nest into the top pan of the stack. The two members may be placed together in confronting relation with a stack of tarts in the cylindrical cavity, pressed together to put the stack under pressure and hold the individual units against relative movement, and the two parts are then secured by external bands of adhesive tape. For dispensing, one of the two members is removed, leaving the other standing upright with the stack of tarts therein, and the tarts may be lifted one at a time from the stack.

3,406,857
INSULATED PLASTIC VESSEL
James L. Perry, Totowa, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 9, 1964, Ser. No. 417,163
20 Claims. (Cl. 220—9)



The invention relates to a two-walled vessel for the storage of cryogenic liquids. The vessel walls are constructed of layers of kraft paper impregnated with phenol-formaldehyde resin and then cured. Each wall has at least one lamination of a low permeability material.

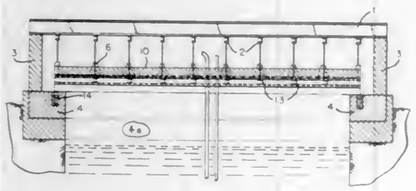
3,406,858
CONTAINERS FOR COLD LIQUIDS
Robert Glover Jackson, Hornchurch, Essex, England, assignor to Conch International Methane Limited, Nassau, Bahamas, a Bahamian company
Filed Nov. 15, 1965, Ser. No. 507,823
Claims priority, application Great Britain, Nov. 30, 1964, 48,513/64
12 Claims. (Cl. 220—9)



A membrane tank for cryogenic liquids, in which a metal membrane is fully supported by a layer of insulating material, and the membrane walls are of a material having a ratio of elastic stress to thermal stress (over the temperature range to which the tank is subjected) of at least one. The metal membrane walls have distributed

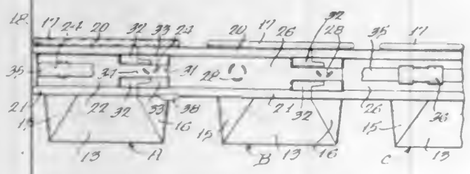
thereon a plurality of spaced-apart generally parallel expansion-absorbing corrugations, with completely smooth wall areas between the corrugations, the corrugations in one wall meeting those in an adjacent wall through corner strips which have transverse corrugations engaging the wall corrugations so as to join them without interruption.

3,406,859
COUNTERWEIGHTED ROOF FOR IN-GROUND RESERVOIRS FOR LIQUEFIED GASES
Maurice Nachshen, London, England, assignor to Conch International Methane Limited, Nassau, Bahamas, a Bahamian company
Filed Jan. 10, 1967, Ser. No. 608,405
Claims priority, application Great Britain, Feb. 24, 1966, 8,156/66
10 Claims. (Cl. 220—18)



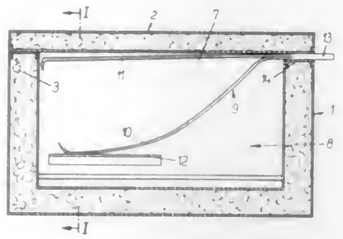
The roofs of ground reservoirs for storing liquefied gases have to be held down in some way because of the lifting pressure on the roof arising from boil-off of the stored gas. The present disclosure describes hold-down means for such a roof wherein the roof comprises a thin membrane sheet supported from a superstructure, with counterweights, also supported by the superstructure, above the membrane in such fashion as to exert substantially no downward thrust on the membrane, but to support the membrane against upward thrust due to internal gas pressure.

3,406,860
MULTIPLE PAN UNIT
Morris Kaufman, Morton Grove, and Roy W. Bloch, Northbrook, Ill., assignors to Ekco Products, Inc., Wheeling, Ill., a corporation of Illinois
Filed Sept. 25, 1967, Ser. No. 671,541
10 Claims. (Cl. 220—23.4)



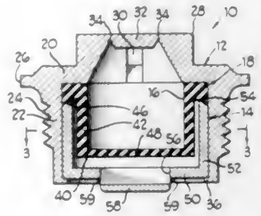
1. In a multiple pan unit, the combination of a plurality of pans, each of said pans having a pair of opposed end walls, said end walls of each pan being at a distance apart in common with the distance between the end walls of the other pans, said pans being arranged in a row with the end walls thereof in aligned relation lengthwise of said row, each pan being joined in spaced relation to the next adjacent pan lengthwise of said row by means of a connector attached to each pan, said connector of each pan having releasable interlocking engagement with the connector of the next adjacent pan, and means for securing said connectors against withdrawal from interlocking engagement including a tension member looped about the perimeter of the pan unit as defined by exposed surfaces of the connectors which border the area occupied by said pans of the unit.

3,406,861
TABLE CONTAINER FOR LUMPY OR GRANULATED GOODS
August Wilhelm Howe, Gottelmannstr. 42, Mainz (Rhine), Germany
Continuation-in-part of application Ser. No. 541,006, Apr. 7, 1966. This application Sept. 12, 1967, Ser. No. 668,745
12 Claims. (Cl. 220—36)



A table container for granulated or lump-like products, comprising an open-top container structure including a hinged top cover which can be swung upward. The container includes a holder for a utensil such as tongs intended to be stored in the container, and a partition arrangement providing a compartment for the utensil, to keep the latter from contact with the product. The handle of the utensil projects from the container, and when lifted it raises the hinged cover, making the utensil and interior of the container available for use.

3,406,862
VENTING CLOSURE
David Donaldson, Wilmington, Del., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Jan. 15, 1968, Ser. No. 697,952
14 Claims. (Cl. 220—44)

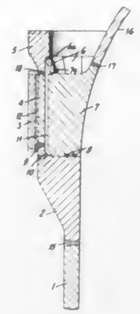


A vending closure plug for a container opening comprising a hollow body including a pair of members each having an end wall with a vent opening and skirt; and a pressure sensitive, elastomeric, apertured diaphragm element positioned within the body.

3,406,863
PRESSURE VESSEL CLOSURE AND METHOD OF FORMING
Werner Wenzel, Hattingen (Ruhr), and Walter Wenzel, Heiligenhaus, Rhineland, Germany; said Werner Wenzel assignor to Rheinstahl Huttenwerke AG., Essen, Germany, and said Walter Wenzel
Filed Aug. 1, 1966, Ser. No. 569,200
Claims priority, application Germany, Aug. 2, 1965, R 41,223
10 Claims. (Cl. 220—46)

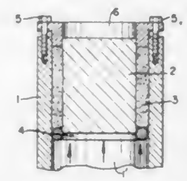
1. A pressure vessel closure comprising a vessel having an opening with a surrounding annular flange, a cover having a flange engaged over the flange of said vessel, a shot member connected to the periphery of said vessel flange extending outwardly therefrom around said cover

flange and terminating at its outer end in a ring flange, and a plurality of spacers disposed between the interior of said ring flange and said cover flange, said ring flange



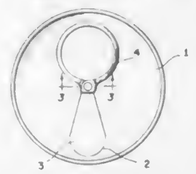
bearing against said spacers in tight pressure sealing engagement and holding said cover flange in uniformly tight pressure sealing engagement with said vessel flange.

3,406,864
SEAL FOR PRESSURE VESSELS
Paul Schmidt, Fellbach, Germany, assignor to Quanten G.m.b.H. Gesellschaft fur Zerstaubungstechnik, Bad Orb, Germany
Filed Aug. 8, 1966, Ser. No. 571,680
Claims priority, application Germany, Aug. 7, 1965, Sch 37,515
14 Claims. (Cl. 220—46)



A cylindrical closure body is freely disposed within a cylindrical pressure vessel to provide a gap therebetween. Within this gap, a sealing ring is moveably arranged in contact with the pressure medium of the vessel, and sealing dispersible material is axially compressed between said sealing ring and a fixedly arranged pressure ring so that resulting tangential stresses against the walls of the gap provide both sealing and fastening of the closure body.

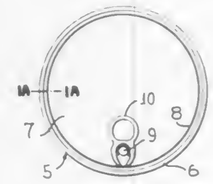
3,406,865
PULL TAB FOR OPENING CONTAINER
George A. Tinnerman, 17864 Beach Road, Lakewood, Ohio 44107
Filed May 3, 1966, Ser. No. 547,359
5 Claims. (Cl. 220—54)



The wall of a container is formed with a panel defined by a score or weakening line and a pull tab is secured to the panel to rupture the line and separate the panel from the container. The pull element is in the form of a lever with a flattened end providing a fulcrum along one edge and riveted to the panel adjacent the weakening line, the other end acting as a lever to apply force to the rivet and rupture the weakening line.

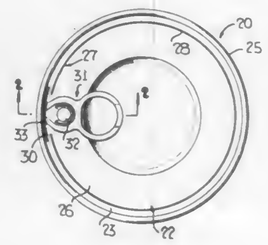
The element is cheaply and simply manufactured by flattening and punching for the rivets and bending the elements into arcuate or other shape.

3,406,866
CONTAINER PANEL WITH ANTI-FRACTURE SCORE
John C. Jasper, Hinsdale, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed June 16, 1967, Ser. No. 646,681
9 Claims. (Cl. 220—54)



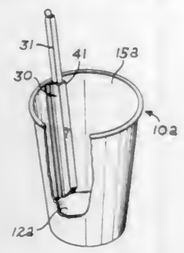
This disclosure has to do with the provision of an anti-fracture score in a removable panel portion of an easy opening container immediately adjacent the normal weakening score line. The anti-fracture score results in the flow of metal towards the weakening line score and the metal relieves stress areas at the weakening line score so as to prevent the accidental fracture of the container panel along the weakening line score.

3,406,867
EASY OPENING CONTAINER END
Teddy M. Westphal, Park Forest, and Frederick J. Stec, Oak Lawn, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed June 30, 1967, Ser. No. 650,301
18 Claims. (Cl. 220—54)



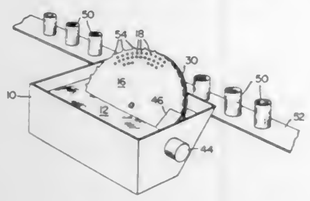
This disclosure has to do with an easy opening container end wherein a removable panel portion is defined by a generally peripheral weakening line. This disclosure particularly relates to various weakening line details which, when used separately or in cooperation with one another, will permit the displacement of the nose of an associated pull tab from the starting portion of the weakening line so as to provide more clearance between the pull tab nose and an associated chuck wall, and wherein the starting portion of the weakening line may be formed separate and apart from the remainder thereof and offset therefrom so as to prevent the uncontrolled rupture of the container end panel due to the force exerted on the removable panel portion by differential gaseous pressure.

3,406,868
CUP WITH ATTACHED DRINKING STRAW
George M. Rogers, 3505 Vannest St., Middletown, Ohio 45042
Filed Sept. 23, 1966, Ser. No. 581,479
4 Claims. (Cl. 220—90.2)



A drinking cup having a telescoping straw secured along one surface on the inside thereof and movable between a retracted position wherein the straw is completely below the upper lip of the cup and an extended position wherein it is adapted to be used. A tab is provided for withdrawing the inner straw, and the lower end of the outer straw is tapered to provide a free inlet to the straw. In another form, interleaved lips are used to interconnect the inner and outer straws, and the straws are at least partially collapsible so that the cups can be stacked.

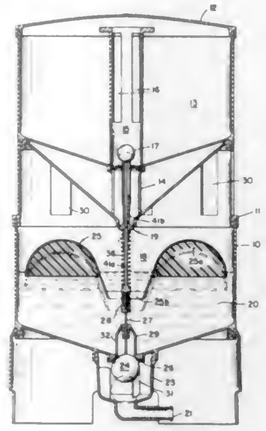
3,406,869
SEPARATING AND COUNTING APPARATUS
Edward Cordova, Oroville, Calif., assignor of one-fourth to Boyd Sears III, Oroville, Calif.
Filed Feb. 20, 1967, Ser. No. 617,125
9 Claims. (Cl. 221—199)



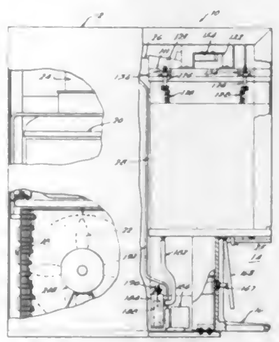
A device for separating selected objects, such as cherries, from a group thereof submerged in a bath, wherein the device includes a rotating disc with apertures about its edge adapted to pass through the bath as the disc rotates, and wherein means are included to circulate the liquid through the submerged apertures to urge and seat the selected objects in the apertures, and wherein the seated objects are then carried from the bath by the rotating disc so that they can be removed from the apertures.

3,406,870
SWIMMING POOL CHLORINATOR
Howard M. Arneson, San Rafael, Calif., assignor to Arneson Products, Inc., San Rafael, Calif., a corporation of California
Filed Apr. 18, 1966, Ser. No. 543,418
7 Claims. (Cl. 222—57)

A dispenser for mixing metered charges of a solid with a liquid including a mixing chamber for combining the solid and liquid charges, a conduit for receiving and discharging liquid from the mixing chamber, first valve means for controlling fluid flow between the conduit and mixing chamber, a charge chamber disposed above the mixing chamber, a second valve for controlling communication between the mixing chamber and the charge chamber, a third valve for controlling communication between the charge chamber and a reservoir, a valve-controlling device, including a buoyant member that is responsive to changes in the liquid level in the mixing chamber for sequencing the position of the valves to introduce a predetermined amount of solid into the mixing chamber and thereafter releasing the mixture to the conduit. The third valve is alternatively defined as being suitable for reciprocal movement at less frequent intervals than the movement of the first and second valves.



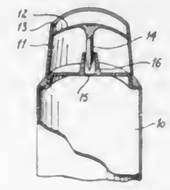
3,406,871
FLAKED ICE DISPENSER
Walter H. Hoenisch, Albert Lea, Minn., assignor to King-Seeley Thermos Co., Ann Arbor, Mich., a corporation of Michigan
Filed June 24, 1965, Ser. No. 472,753
32 Claims. (Cl. 222—56)



1. In an apparatus for storing and dispensing particulate ice:
a cylindrical particulate ice storage compartment,
a bottom plate closing the lower end of said compartment,
said plate having an opening therein extending from the center to the periphery of said compartment,
the portions of said plate defining the opposite radial edges of said opening being vertically offset relative to each other whereby to present a raised, shearing surface to a mass of ice particles moving across said opening,
vane means rotatable within said compartment for moving particulate ice across said opening,

drive means for effecting rotation of said vane means,
a drive shaft communicating said drive means with said vane means and rotatable therewith,
an actuating switch for selectively deenergizing said drive means, and
actuating means cooperable with said actuating switch and responsive to the rotative position of said drive shaft to actuate said switch and thereby whereby to deenergize said drive means.

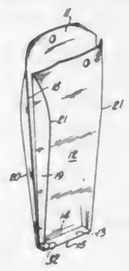
3,406,872
PERFORATOR CAP
Claude J. J. Fiquet, Paris, and Robert Leplat, La Garenne-Colombes, France, assignors to Societe d'Applications Techniques et Industrielles S.A.T.I., a corporation of France
Filed May 1, 1967, Ser. No. 634,948
Claims priority, application France, May 10, 1966, 60,954
7 Claims. (Cl. 222—83)



A perforator cap for tubes, bottles and other receptacles, in which the perforator element is fixed to a deformable flexible membrane inserted in a bowl and set back with respect to the outer edge of said bowl. The perforator element has substantially the same outer diameter as the inside diameter of the orifice of the receptacle, thereby also to serve as a stopper for the receptacle.

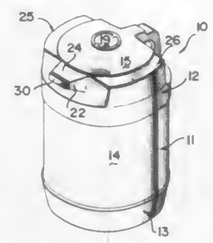
In order to ensure complete protection of products between their packing and their consumption, it is usual practice to enclose them in tubes or flasks provided with a capsule or cap which the consumer must perforate at the moment of use.

3,406,873
COLLAPSIBLE CONTAINER
Eli A. Zackheim, North Princeton, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Continuation-in-part of application Ser. No. 503,466, Oct. 23, 1965. This application June 15, 1967, Ser. No. 646,242
10 Claims. (Cl. 222—107)



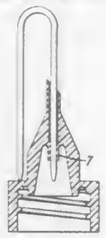
The invention disclosed is a collapsible container formed as a composite of a flat blank of sheet material, folded and joined together into its desired configuration by flexible plastic seams. A dispensing fixture can also be provided which is preferably formed of the same flexible plastic material as the flexible seams.

3,406,874
STACKING CONTAINER
John L. Szajna, Norridge, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed May 4, 1965, Ser. No. 453,064
13 Claims. (Cl. 222—143)



1. A container comprising a container body, said body having upper and lower body portions, said lower body portion terminating in a bottom wall, a handle and a pour spout at opposite sides of said body, a body wall portion between said handle and pour spout at each side of a vertical plane through said handle and pour spout, and said handle, pour spout and body wall portions having coplanar means for facilitating the stacking of the bottom wall of a substantially similar container upon said handle, pour spout and body wall portions.

3,406,875
CONTAINER CLOSURE
Robert H. Park, Corporation Road, Dennis, Mass. 02638
Continuation-in-part of application Ser. No. 342,032, Feb. 3, 1964. This application June 8, 1966, Ser. No. 556,078
5 Claims. (Cl. 222—151)

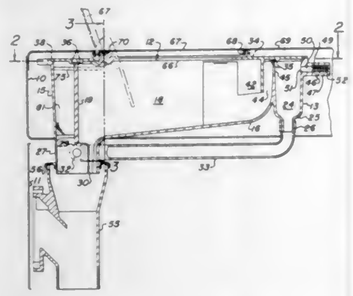


A two part closure cap assembly for a container. One part is a cap which may be attached to the containers. An opening is formed through the cap and a tubular extension at the inside of the cap. The opening may be closed by a rod-like member fitting closely within the opening.

3,406,876
WASHING MACHINE DETERGENT DISPENSER
Jonathan Peter Steele, London, and Franklyn Reynolds, High Wycombe, England, assignors to The Hoover Company, North Canton, Ohio, a corporation of Delaware
Filed May 26, 1967, Ser. No. 641,694
Claims priority, application Great Britain, May 27, 1966, 24,029/66
4 Claims. (Cl. 222—193)

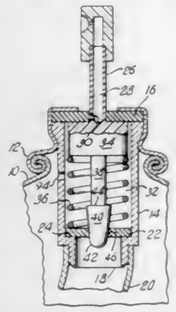
A dispenser for particulate detergent including a pivo ed baffle plate chaarcterized in that the pivoted baffle plate is operated by the closure lid for the detergent dispenser and is moved to a position extending across the detergent compartment to prevent the detergent from falling through the outlet when the lid is raised and

while the detergent is being added and the baffle is moved out of blocking position to the outlet when the lid is



closed to permit the water to flush the detergent into the outlet.

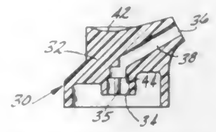
3,406,877
PRESSURE FLUID DISPENSING AND ANTI-CLOGGING DEVICE
John Frangos, Brooklyn, N.Y., assignor to Revlon, Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 10, 1966, Ser. No. 526,563
2 Claims. (Cl. 222—402.1)



An aerosol dispenser wherein aerosol material is discharged from a container under conditions controlled by manually actuated valve means including a valve chamber secured in the container and a spring-biased valve stem. The material is admitted to said valve chamber from the container supply through a normally close inlet port in the chamber wall and is released from said chamber through a normally closed discharge orifice communicating with a tubular end portion of said valve stem. By displacing said valve stem endwise against spring resistance, the outlet orifice is initially moved into position in open communication with said chamber; and then with continued displacement of said stem to full operative discharge position, the inlet port is opened and thereafter continues to pass aerosol material into said chamber from the supply in the container while the outlet orifice remains in open or discharging condition in relation to the chamber.

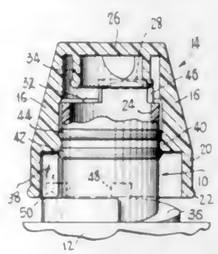
3,406,878
AEROSOL VALVE ACTUATOR AND DISPENSING BUTTON
Paul M. Kotuby, Naugatuck, Conn., assignor to The Risdon Manufacturing Company, Naugatuck, Conn., a corporation of Connecticut
Filed Apr. 5, 1966, Ser. No. 540,400
4 Claims. (Cl. 222—402.1)

An aerosol valve actuator and dispensing button adapted to be mounted on the discharge tube of the valve to permit finger actuation of the valve for release of product through the valve tube to a discharge orifice provided in the button. The button is formed of molded plastic and is provided with a stem-receiving socket, the inner portion of which has a shoulder for abutment against the end of the valve stem, and an immediately adjacent socket wall area which forms an interference fit peripherally about the end of the valve stem to form a fluid tight junction. Axially outwardly of the peripheral



sealing area of the socket in the button, the socket wall is formed to provide circumferentially spaced contact areas of narrow width extending axially of the socket wall integrally therewith to provide limited frictional engagement with the valve stem, whereby to effect non-positive engagement of the actuator on the stem during preliminary assembly of the parts to prevent inadvertent actuation of the valve, yet sufficient to retain the parts in assembled condition.

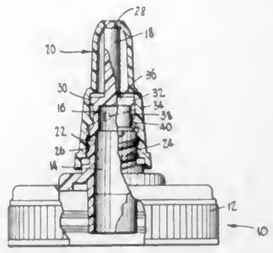
3,406,879
RECLOSABLE DISPENSING CAP
Morton B. Stull, Boonton, N.J. (% Stull Engraving Company, 221–223 Banta Ave., Garfield, N.J. 07026)
Filed July 12, 1967, Ser. No. 652,915
15 Claims. (Cl. 222—499)



A reclosable dispensing cap construction comprising a tubular body adapted for mounting on a container, and a cup-shaped cap which is turnably carried by the body and also is axially movable thereon between lowered and raised positions. When lowered, an offset orifice of the cap is closed by a portion of the tubular body. Unscrewing the cap raises it and opens the orifice for dispensing. The cap now always remains raised, being held by a yieldable detent. When the cap is again turned in the screwing-down direction another portion of the body closes the orifice while the cap stays raised. Reverse turning opens the orifice, etc. Because the cap stays raised after the initial opening, the product is not squeezed out and wasted during all subsequent closings.

3,406,880
DISPENSING CLOSURE CAP
Morton B. Stull, Boonton, N.J. (% Stull Engraving Company, 221–223 Banta Ave., Garfield, N.J. 07026)
Filed Dec. 29, 1966, Ser. No. 605,805
10 Claims. (Cl. 222—521)

A dispensing closure cap structure having a tubular molded plastic, yieldable body through which the product passes, and having a screw cap on the body, provided with a central orifice which is closed by a closure pin on the body when the cap is screwed down. The tubular body at its upper end has at least one stop lug engageable with a cooperable lug in the screw cap, and the body has reinforcement means in its discharge passage, tending to



stiffen and back-up the stop lug thereof, said reinforcement means carrying the closure pin.

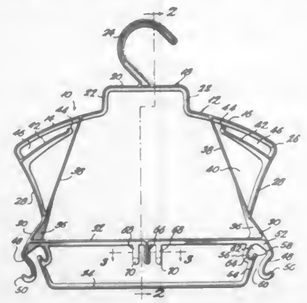
3,406,881
CONTOURED ONE-PIECE HANGER
John H. Batts, Grand Rapids, Mich., assignor to John Thomas Batts, Inc., Zeeland, Mich., a corporation of Michigan
Filed Feb. 13, 1967, Ser. No. 615,733
2 Claims. (Cl. 223—88)



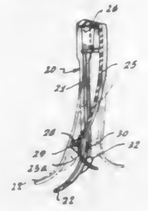
An integrally moulded garment hanger having an enlarged header portion, a support element associated with the header portion, a pair of diverging legs extending downwardly and outwardly from the sides of the header portion, each of the legs extending forwardly from and out of the general plane of the header portion, and a trouser bar connecting the extremities of each of the legs. The entire structure, with the exception of the support element, may be integrally moulded in a two-piece mould structure opening by simple movement of the mould valves in opposite directions. This is permitted by displacing all upwardly facing segments of the header portion, legs and bar either laterally aligned or forwardly offset with respect to one another. In this manner, the hanger may be moulded with hollow, shell-like components while still permitting vertical opening of the mould members for removal of the hanger.

3,406,882
FRAME HANGER FOR CHILDREN'S CLOTHES
Robert Phillips, Roslyn, N.Y., assignor to Bernard Plastics Molding Corp., Woodside, N.Y., a corporation of New York
Filed Sept. 20, 1966, Ser. No. 580,802
8 Claims. (Cl. 223—88)

A frame like garment hanger includes an arcuate top bar having lateral end portions and side portions extending downwardly from each of the lateral portions. A cross bar joins the side portions a certain distance below the top bar. A hook member depends from the cross bar adjacent each end thereof and forms the first pair. A hook member depends from each end of the cross bar in outwardly and downwardly spaced relation to the first hook member and forms the second pair of hook members. A group of spaced apart resilient fingers depend from the central portion of the cross bar.

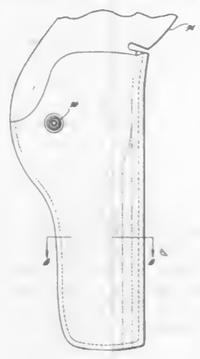


3,406,883
GARMENT HANGER
Walton B. Crane, 4346 Matilija Ave., Sherman Oaks, Calif. 95681
Filed Jan. 10, 1967, Ser. No. 608,338
7 Claims. (Cl. 223—96)



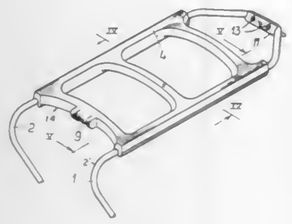
A one-piece garment hanger has two cooperating garment gripping and supporting members at each of two opposite ends of a cross-beam for supporting skirts and similar garments. The hanger is designed for manufacture from plastics by mass production molding techniques.

3,406,884
HOLSTER
Neale A. Perkins, Sierra Madre, Calif., assignor to Safariland Leather Products
Continuation-in-part of application Ser. No. 529,694, Feb. 24, 1966. This application Jan. 30, 1967, Ser. No. 622,853
1 Claim. (Cl. 224—2)



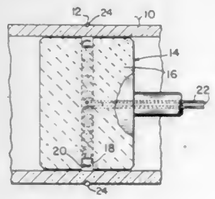
A gun holster which includes a rubber-like guide track inside the holster to receive the front sight of the gun.

3,406,885
BICYCLE LUGGAGE CARRIER
Emil Zurmuhlen, Brackwede, Westphalia, Germany, assignor to ESGE—Marby G.m.b.H. & Co., Brake, near Bielefeld, Germany, a limited-liability company of Germany
Filed Jan. 11, 1967, Ser. No. 608,575
Claims priority, application Germany, Mar. 18, 1966, E 31,280
4 Claims. (Cl. 224—39)



A bicycle luggage carrier, also useable as a seat, particularly for children's bicycles, is covered with a separate plastic covering made of an integral molding, snapped over the carrier structure. To provide for carrying of books and the like, and eliminate a holding spring, a strap is provided which can be secured to the carrier directly by engagement with an integrally molded latch or hook.

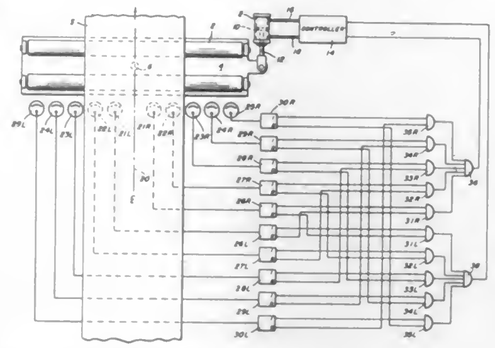
3,406,886
METHOD FOR CUTTING GLASS TUBING
Peter E. Wesel and Anthony R. Zine, Jr., Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed July 1, 1966, Ser. No. 562,403
4 Claims. (Cl. 225—2)



A method for cutting glass tubing in which an external circumferential score line is formed on the tubing and heat is applied to the inner surface of the tubing opposite the score line. A small amount of a liquid is deposited in the score line prior to heating in order to increase the thermal gradient across the wall of the tubing.

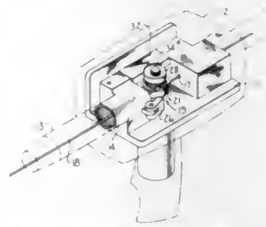
3,406,887
APPARATUS FOR AUTOMATICALLY CENTERING MOVING STRIP
John F. Laycak, West Mifflin, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed Mar. 20, 1967, Ser. No. 624,589
5 Claims. (Cl. 226—21)

Apparatus for maintaining a moving strip centered including a plurality of pairs of spaced sensors with the sensors in each pair spaced symmetrically on opposite sides of the desired center line. Each sensor has its output connected to a bi-stable element. The signals from the bi-stable elements are connected through a gating system



to a controller which in turn causes centering of the strip when it has moved off center.

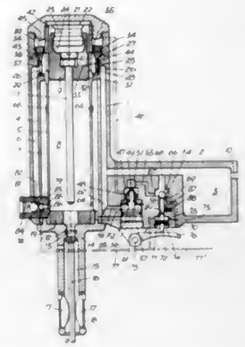
3,406,888
WIRE ELECTRODE FEED MECHANISM FOR WELDING GUNS AND THE LIKE
James G. Ramey, 1709 Myrtle St., Oakland, Calif. 94607
Filed Apr. 28, 1966, Ser. No. 545,955
6 Claims. (Cl. 226—187)



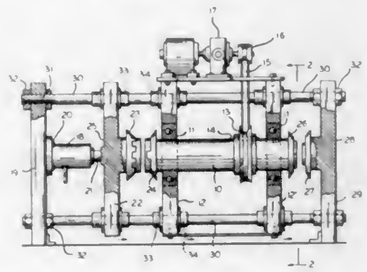
A hand operated welding gun of the type which includes a feed mechanism for selectively feeding a wire electrode into an electric arc. The gun is provided with mechanism for preventing transverse pressure on the drive roll for the wire electrode from deleteriously affecting the drive roll motor bearings. The end of the motor shaft which carries the drive roll has a journal bearing concentrically secured to it. This journal bearing engages within an open arcuate notch in a thrust block which is secured to the frame of the welding gun. The thrust block and journal bearing cooperate to oppose the transverse force exerted on the drive roll by either the wire electrode being fed or a spring urged pinch roller. This countering of the transverse force minimizes shaft deflection to in turn relieve force unbalance on the motor bearing.

3,406,889
PNEUMATIC NAILING MACHINE
Adolf Cast, Oberlenningen, and Kurt Reich, Nurtingen, Germany, assignors to Karl M. Reich Maschinenfabrik, Wurttemberg, Germany, a German company
Filed July 1, 1966, Ser. No. 562,249
Claims priority, application Germany, July 9, 1965, R 41,059
12 Claims. (Cl. 227—130)

A pneumatic nailing machine for hitting repeated blows upon a nail until it is completely driven into a workpiece during one operation of the actuating member. The nailing machine includes a compressed air inlet valve which has a large flow passage and a control valve for controlling the operation of this compressed air inlet valve by means of a control channel and also by means of a reversing valve which is interposed between two sections of the aforementioned control channel.



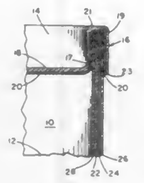
3,406,890
INERTIA WELDERS
Gerald A. Korte, 14330 Regis St., Brookfield, Wis. 53005
Filed Apr. 1, 1966, Ser. No. 539,552
4 Claims. (Cl. 228—2)



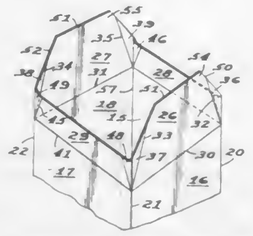
An inertia welder having a rotatable shaft mounted between a pair of movable standards. Spindles or chucks are located at each end of the shaft. A third hydraulically actuated standard at one end of the shaft has a workpiece holding device mounted thereon coaxial to the shaft. A stationary standard member at the other end of the shaft has another workpiece holder mounted thereon coaxial to the shaft, making it possible to weld two units at a time. When the hydraulically actuated standard is moved so that the workpiece it holds presses against the workpiece mounted at one end of the shaft, the shaft and the other workpiece held by it is forced against the workpiece mounted on the stationary standard member.

3,406,891
CONTAINER, PARTICULARLY FOR LIQUIDS, WITH A DEEP DRAWN METAL FOIL COVER
Norbert Buchner, Beutelsbach, Wurttemberg, and Rolf Köhnlein, Stuttgart-Rotenberg, Germany, assignors to Firma Fr. Hesser Maschinenfabrik A.G., Stuttgart-Bad Cannstatt, Germany, a corporation
Filed Oct. 14, 1965, Ser. No. 495,788
Claims priority, application Germany, Oct. 14, 1964, H 54,028
9 Claims. (Cl. 229—3.5)

A container of generally tubular configuration having a laminated wall section composed of a layer of fibrous material and of aluminum foil, with the outside surface of both layers being coated with thermoplastic material such as polypropylene. A top and bottom cover of deep drawn metal foil has a U-form shaped rim portion with the surface of each cover facing the container being coated with thermoplastic material. The U-shaped portion of the cover is telescoped over the container body and a heat seal is established therebetween. In the modification the U-formed rim portion of the cover has a ring-like reinforcing bead which facilitates an extra heavy seal between the container body and the cover.

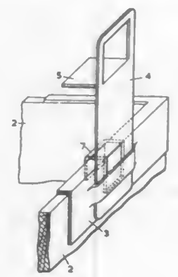


3,406,892
CONTAINER CLOSURE
Harry B. Egleston, Livonia, and James J. Feliks, Walled Lake, Mich., assignors to Ex-Cell-O Corporation
Filed Mar. 17, 1966, Ser. No. 535,241
6 Claims. (Cl. 229—37)



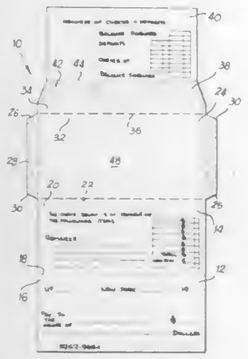
A liquid tight container bottom closure formed from a thermoplastic sheet material that can be folded and heat sealed by automatic equipment.

3,406,893
TRANSPORT CASE, ESPECIALLY A STACKING CONTAINER
Albertus Antonius Swane, Vught, North Brabant, Netherlands, assignor to N.V. Maatschappij tot Exploiteren van Octrooien en Licenties "Matepa," 's Hertogenbosch, Netherlands, a corporation of the Netherlands
Filed May 22, 1967, Ser. No. 640,090
Claims priority, application Netherlands, May 26, 1966, 6607316
2 Claims. (Cl. 229—49)



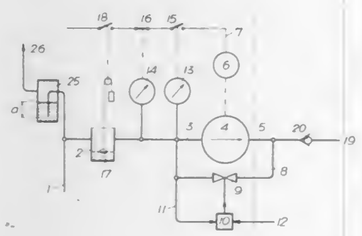
A stacking container having a fixing frame with supports for a next container to be placed on the former.

3,406,894
CHECK AND ENVELOPE
Aaron Settle, 560 W. Broadway, Long Beach, N.Y. 11561
Filed July 12, 1967, Ser. No. 652,885
9 Claims. (Cl. 229—70)



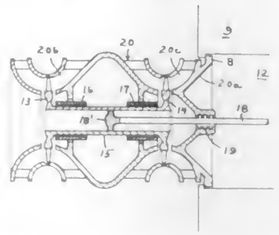
The present invention relates to a check and envelope combination which has a check section, a recording section, an envelope portion and a check recording stub all on one page. The check and recording sections with the envelope portion are mailed to the payee in the envelope portion, the sender being able to retain his check recording stub.

3,406,895
APPARATUS FOR THE UTILIZATION OF COMBUSTIBLE WASTE GASES OF REFINERIES OR OTHER PLANTS
Erich Bauer, Eggendorf, and Franz Reichard, Vienna, Austria, assignors to Osterreichische Mineralolverwaltung Aktiengesellschaft, Vienna, Austria
Filed Mar. 2, 1966, Ser. No. 531,255
Claims priority, application Austria, Mar. 18, 1965, A 2,483/65
4 Claims. (Cl. 230—6)



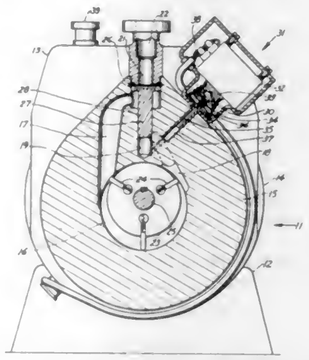
The process and apparatus enable combustible oil refinery waste gas, which is yielded at low super-atmospheric pressure, to be introduced into a fuel gas pipe. The waste gas is sucked from the waste gas pipe by a compressor and after its pressure has been increased by the compressor, the gas is introduced into a fuel gas pipe. To prevent air from mixing with the waste gas and forming an explosive mixture, the pressure in the waste gas pipe is maintained above atmospheric pressure by varying the suction capacity of the compressor. In addition, a torch installation is provided to dispose of any excess waste gases should the amount of waste gas exceed the capacity of the compressor.

3,406,896
MULTIPLE IMPELLER BLOWER CONSTRUCTION
Jean Chaboseau, Boissy-St.-Leger, France, assignor to Compagnie Electro-Mecanique, Paris, France, a corporation of France
Filed Apr. 6, 1966, Ser. No. 540,737
Claims priority, application France, Apr. 12, 1965, 12,842
8 Claims. (Cl. 230—128)



A multiple impeller blower structure is located within the tank of a nuclear gas reactor for moving the gas within the tank. Two or more impellers of functionally separate blower units are located on a shaft structure which includes a plurality of axially spaced bearings therefor which are lubricated by the gas itself within the tank. The shaft structure is extended through an opening in the tank wall (through which the blower structure is inserted and removed) for connection to a driving means therefor such as a motor, and a gland seal is utilized around the shaft extension to prevent escape of gas within the tank. The blower structure can be supported entirely by the tank wall or in part by the tank wall and in part by a pedestal located within the tank.

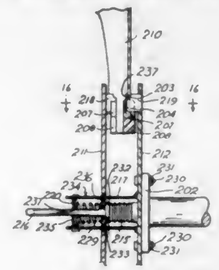
3,406,897
MECHANICAL VACUUM PUMP
Karl Gustav Kurt Diels, Cologne, Germany, assignor to Leybold Holding AG., a joint-stock company of Switzerland
Filed July 18, 1966, Ser. No. 565,885
7 Claims. (Cl. 230—138)



A valve for closing the inlet passage of the vacuum pump includes a piston-like closure member which extends into the inlet passage to engage an annular valve seat. The closure end of the piston member is exposed to the pressure at the outboard side of the valve seat; and the opposite end of piston member is exposed to the pressure in a control chamber. The control chamber communicates with atmosphere through a vent passage; and the clearance space between the piston-like member and its bore defines a restricted flow path communicating the control chamber and the inlet passage at the inboard side

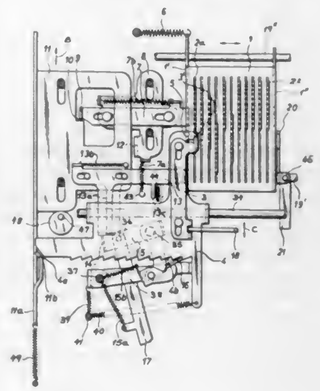
of the valve seat. A valve member for closing the vent passage is biased to the open position and is closed by an electromagnetic actuator. The electric drive motor for the pump and the electromagnetic actuator are energized and deenergized simultaneously. When the pump motor is deenergized, differential pressure across the inlet valve effects closing of the valve and the pump chamber is vented to atmosphere.

3,406,898
AXIAL-FLOW AIR-MOVING DEVICES
Septimus E. V. Booth, deceased, late of Wokingham, England, by Gillian H. Booth, sole administratrix, Field House, Langley Common Road, Barkham, Wokingham, Berkshire, England
Filed July 12, 1966, Ser. No. 564,563
Claims priority, application Great Britain, July 13, 1965, 29,725/65
15 Claims. (Cl. 230—270)



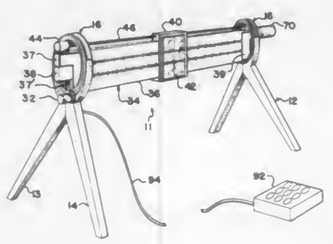
A fan or other axial-flow fluid-moving device having blades with adjustable pitch and means responsive to the temperature of the fluid flowing through the device for controlling the pitch.

3,406,899
MULTIPLICATION ATTACHMENT FOR ADDING MACHINE
Helmut Bresslein, Middelsfahr, and Klaus Korte, Braunschweig, Germany, assignors to Firma Olympia Werke AG, Wilhelmshaven, Germany, a corporation of Germany
Filed May 8, 1967, Ser. No. 636,719
Claims priority, application Germany, May 6, 1966, O 11,662
10 Claims. (Cl. 235—60)



Attachment for an adding machine having a shiftable pin carriage for registering a multiplicand which in successive digital carriage positions is to be repetitively entered in a totalizer under the control of respective digits of a multiplier stored in a register provided with a plurality of digital slides, a counting slide being oscillatable on a carrier to restore each digital slide step by step to its zero position whereupon the carrier advances to bring its counting slide into operative engagement with the next digital slide whose off-normal position represents a significant digit; the multiplier register is limitedly shiftable in a direction perpendicular to the slide motion, for a distance corresponding substantially to the spacing between successive digital slides, so as to be entrainable by the advancing carrier against the force of a restoring spring by the interengagement of the counting slide with an off-normal digital slide.

3,406,900
POWERED SLIDE RULE ASSEMBLY
George R. Hunt, 1008 W. 23rd St., Odessa, Tex. 79760
Filed Oct. 7, 1966, Ser. No. 585,044
10 Claims. (Cl. 235—70)



1. In a slide rule having an elongated main body, a slide element, and an indicator associated therewith, the improvement comprising:
first means associated with said slide rule adapted to selectively rotate said slide rule in either direction about the longitudinal axis thereof;
second means associated with said slide rule adapted to move said slide element longitudinally and in either direction with respect to said main body;
third means associated with said slide rule adapted to longitudinally move said indicator in either direction with respect to said main body;
and remote control means connected to said first, second, and third means for selectively energizing said first, second, and third means to thereby controllably actuate said first, second, and third means in either desired direction of movement.

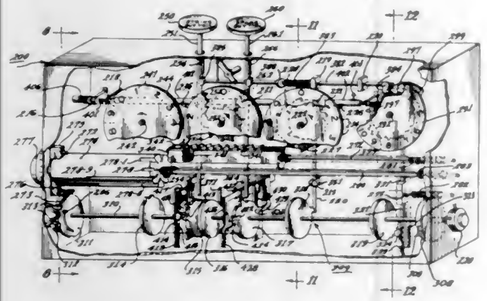
3,406,901
CALCULATING DEVICE
Theodore M. Arnold, 25770 Shiawassee Road, Southfield, Mich. 48075
Filed June 5, 1967, Ser. No. 643,512
7 Claims. (Cl. 235—86)



A calculating device having an outer open ended tubular member with a longitudinal sight opening bordered by graduated logarithmic scales, and an inner member

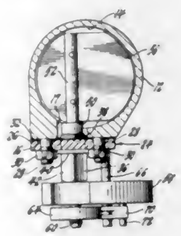
slidable endwise in said outer member and carrying means adjustably mounting a web having a plurality of graduated logarithmic scales each selectively positionable between said inner and outer members and in register with and in selected longitudinal relation to said sight opening.

3,406,902
BOWLING SCORER
Harry A. McClister, Morrisville, Pa.; Ruth W. McClister and The Fidelity Bank, executors of Harry A. McClister, deceased, assignor to Delmor Lanes
Filed June 13, 1966, Ser. No. 557,293
3 Claims. (Cl. 235—114)



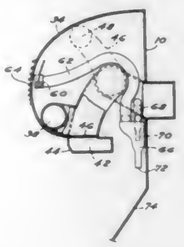
1. A bowling scorer consisting essentially of the combination of: a memory device shiftable to have any status among neutral status, spare status, strike status, and double strike status; a unit dial, tens dial, and hundreds dial, said unit dial, tens dial, and hundreds dial being decimally associated for displaying a three digit number indicative of the cumulative bowling score subsequent to the zero adjustment of the dials; a framecounter dial displaying a number by which the player can recall the number of frames previously scored; a strike button; means associating the strike button and the tens dial whereby actuation of the strike button increases the score by 10 when the memory device is in neutral status, whereby actuation of the strike button increases the score by 20 when the memory device is in strike status, and whereby the actuation of the strike button increases the score by 30 when the memory device is in double strike status; a spare button; means associating the spare button and the tens dial whereby actuation of the spare button increases the score by 10 when the memory device is in neutral status, and whereby actuation of the spare button increases the score by 20 when the memory device is in strike status; a unit button; means associating the unit button and unit dial whereby the unit dial is advanced by the number actuated by the unit button when the memory device is in any status other than strike status and whereby the unit dial is advanced by twice the number actuated by the unit button when the memory device is in strike status; means associating the memory device with the unit button, strike button, and spare button whereby actuation of such buttons adjusts the memory device, subsequent to advancing the score, to a status indicative of the previous events of the game; means disengaging the actuation of the framecounter during the actuation of the unit button when the memory device is in spare status and while the memory device is in double strike status, said means transmitting the actuation of the unit button to actuate the framecounter while the memory device is in neutral status and while the memory device is in strike status; and means associating the framecounter with the spare button and with the strike button, whereby actuation of such buttons advances the framecounter subsequent to such score-advancing operation and memory adjustment operation.

3,406,903
ENGINE EXHAUST FLUID FLOW CONTROL VALVE
Wayne B. Kidder, Wyoming, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 22, 1966, Ser. No. 574,059
5 Claims. (Cl. 236—102)



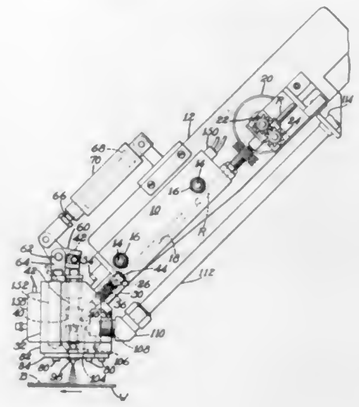
A preferred embodiment comprises an exhaust fluid flow control valve with a shielded cantilevered bearing arrangement to reduce sticking and arranged for ease of service and replacement of wearing parts.

3,406,904
TEMPERATURE CONTROL SYSTEM
Joseph M. Muzzi, Detroit, and Elmer J. Rohn, Farmington, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Sept. 22, 1966, Ser. No. 581,296
1 Claim. (Cl. 237—2)



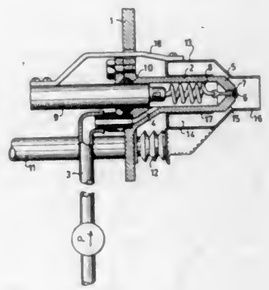
A heating system for the passenger compartment of an automobile comprising a heat exchanger portion, an air distribution portion and a temperature control system. The heat exchanger portion comprises a heater coil and a bypass passage circumventing the heater coil. The temperature control system comprises a door disposed near the inlet to the heat exchanger portion and controlling the proportion of air flowing through said heater coil and said bypass passage. The temperature control system operates in response to a temperature sensing unit located behind a grille in the instrument panel and at one end of a duct. The other end of the duct is connected to a jet pump which receives air from the air distribution portion. The jet pump causes passenger compartment air to be drawn across the temperature sensing unit, and directs the air to the floor board of the vehicle adjacent the driver's feet.

3,406,905
APPARATUS FOR ATOMIZING AND SPRAYING THERMOPLASTIC MATERIALS
John S. Reilly, Beverly, and Harold W. Boothroyd, Wenham, Mass., assignors to United Shoe Machinery Corporation, Flemington, N.J., and Boston, Mass., a corporation of New Jersey
Filed Sept. 21, 1966, Ser. No. 581,080
1 Claim. (Cl. 239—84)



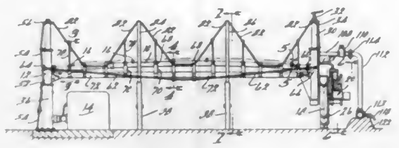
Apparatus for atomizing and spraying thermoplastic material comprises a melt unit for melting a rod of thermoplastic material and discharging the molten material to a spray head having pairs of concentrically arranged nozzles for supplying one nozzle of each pair while the other is supplied with heated air, the feeding or rod and the supply of air being simultaneously controlled.

3,406,906
FUEL ATOMIZING BURNER FOR LIQUID FUELS
Sture Anders Bäckman, Sturegatan 12, and Knut Ludvig Winquist, Hoglundagatan 22, both of Orebro, Sweden
Filed Aug. 15, 1966, Ser. No. 572,535
Claims priority, application Sweden, Aug. 26, 1965, 11,170/65
13 Claims. (Cl. 239—101)



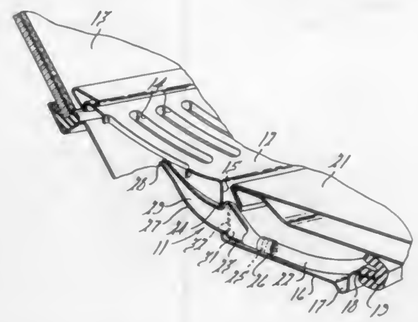
An atomizing burner for liquid fuels including a means for varying the amount of combustion air without substantially changing the air speed past the fuel inlet orifice. An air conduit is arranged to slide axially around the fuel tube whereby an air passageway between the conduit and the tube is varied in width.

3,406,907
IRRIGATING DEVICE
David A. Wallace, 100 Lewiston, Grosse Pointe Farms, Mich. 48236
Filed Sept. 19, 1966, Ser. No. 580,433
7 Claims. (Cl. 239—177)



An ambulant irrigating device in which a long horizontal pipe is rotated about a vertical water supply pipe. The weight of the horizontal pipe is supported at least in part by a long vertical plate disposed in vertical alignment with the horizontal pipe. Tension cables are positioned on opposite sides of the pipe and the cables, pipe and plate are interconnected by brackets to form a relatively rigid rotary framework. In order to irrigate a full rectangular area the pipe is adapted to be fitted at its outer end to stationary water distributing pipes positioned at the four corners of the rectangle.

3,406,908
WINDSHIELD WASHER NOZZLE
Roy E. Bonnett, Pontiac, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 5, 1967, Ser. No. 607,554
2 Claims. (Cl. 239—284)

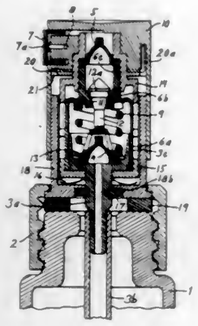


A windshield washer nozzle adapted to be formed of plastic and comprising a body portion having at one end a tapered portion terminating in a jet and at the other end a serrated cylindrical portion adapted to receive a fluid supply hose. Intermediate its ends the nozzle body is provided with snap fit retention means for holding the nozzle in an aperture in a body panel with the jet end directed toward a windshield.

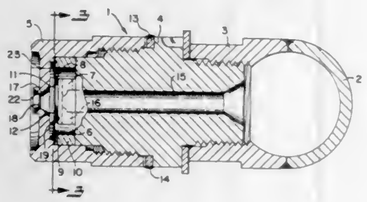
3,406,909
LIQUID ATOMIZER
Erich R. Pfeiffer, Radolfzell (Bodensee), Germany, assignor to Firma Ing. Erich Pfeiffer KG, Radolfzell (Bodensee), Germany
Filed June 15, 1966, Ser. No. 557,765
Claims priority, application Germany, July 3, 1965, P 37,186
7 Claims. (Cl. 239—333)

A liquid atomizer, especially for perfumes, comprising a container with a diaphragm pump mounted on it, an

actuating knob on the pump and an atomizing nozzle in the side of the knob, the pump diaphragm having a stationary foot portion adjacent a suction check valve and a head portion carrying a discharge check valve and adapted to be depressed into the foot portion of the diaphragm against the force of a compression spring inside the diaphragm, and a collapsible cylindrical cage whose stationary lower portion houses the lower portion of the diaphragm while its movable upper portion houses the upper portion of the diaphragm.



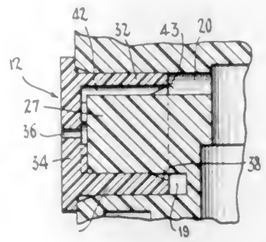
3,406,910
FUEL INJECTION NOZZLE
Harold C. Simmons, Richmond Heights, Ohio, assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed May 20, 1966, Ser. No. 551,571
8 Claims. (Cl. 239—464)



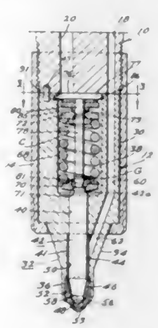
A fuel injection nozzle containing a flexible diaphragm responsive to increasing pressures in a fuel chamber to permit increased flow of fuel from the fuel chamber to a spin chamber, a plurality of tangential slots permitting a continuous flow of fuel from the fuel chamber into the spin chamber regardless of the position of the flexible diaphragm thus imparting a swirling motion to the fluid in the spin chamber, and a restricted orifice through which the fuel is discharged from the spin chamber.

3,406,911
SPRAY DISCHARGE BUTTON FOR SWIRLING SPRAY
Allen J. Keeney, Huntington, Conn., assignor to Valve Corporation of America, Bridgeport, Conn., a corporation of Delaware
Filed Dec. 30, 1965, Ser. No. 517,727
2 Claims. (Cl. 239—490)

A spray discharge actuator button for aerosol dispensers, comprising a button body for mounting on the depressible valve stem of the dispenser. The body has an annular side recess which communicates with the valve stem bore, and into which there is pressed a cup-like orifice piece having a central discharge opening in its transverse wall. The interior walls of the orifice piece have longitudinal and radial communicating grooves constituting discharge passages for the aerosol substance and which impart a swirl to the issuing spray.

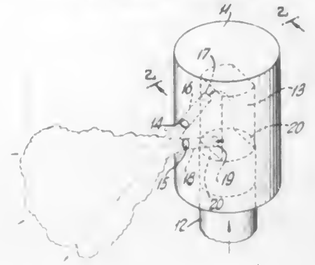


3,406,912
CAPSULATED FUEL INJECTION NOZZLE
Frank J. Claffey, East Hampton, Conn., assignor to American Bosch Arma Corporation, Springfield, Mass., a corporation of New York
Filed May 9, 1966, Ser. No. 548,440
3 Claims. (Cl. 239—533)



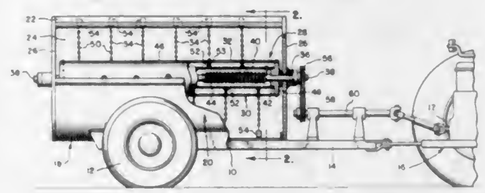
A capsulated nozzle for fuel injection nozzle assemblies comprising a cylindrical body portion, an elongated shank of reduced cross section projecting from one axial end of the body portion terminaitng at its free end in a nozzle tip having at least one discharge orifice therein. The body portion has an enlarged upper axial bore defining a spring chamber and a second lower axial bore having a lower enlarged portion in the shank defining a fuel chamber. A valve member having a nozzle is mounted in the second axial bore which in the closed position seats against an inner conical seat in the nozzle tip portion. A valve actuator assembly normally maintains the valve member in a closed position and includes a compression spring disposed between an upper and lower spring seat and a valve lift stop member for preloading said compression spring and determining the valve lift. The valve lift stop member is detachably secured to the body portion of the nozzle by means of a bar-like bead portion engageable in a groove in a wall of the spring chamber and has a rod depending from the head portion spaced from the inner terminal end of the valve member in the closed position to determine valve lift.

3,406,913
MECHANICAL BREAK-UP ACTUATOR FOR FLUID DISPENSERS
John Frangos, Brooklyn, N.Y., assignor to Revlon, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 1, 1966, Ser. No. 576,656
4 Claims. (Cl. 239—543)



Actuator for dispensing fluid from an aerosol container in a plurality of skew (non-parallel, non-intersecting) streams.

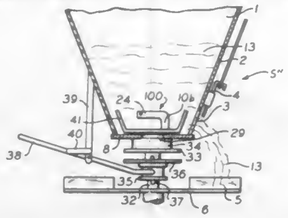
3,406,914
MATERIAL UNLOADER
Jacob H. Lepp and Roy Ayranto, Grimsby, Ontario, Canada, assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 7, 1966, Ser. No. 585,123
1 Claim. (Cl. 239—658)



A material unloader including a wheel-mounted tank-like container for fertilizers. Longitudinally disposed shaft means mount a plurality of flexible flails operative upon rotation of the shaft means for throwing the fertilizer from the container. A spring assembly is associated with the shaft means and the flails for normally holding the flails in a retracted and enclosed position so that the flails are progressively thrown outwardly by centrifugal force as the load of fertilizer is depleted.

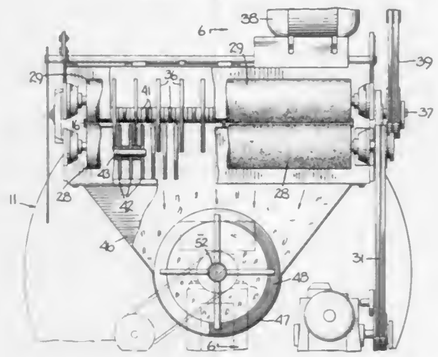
3,406,915
FERTILIZER SPREADING APPARATUS
Heinz Dreyer, near Osnabruck, Germany, assignor to Amazonen-Werke H. Dreyer, Osnabruck, Germany, a corporation of Germany
Filed Feb. 16, 1965, Ser. No. 433,069
Claims priority, application Germany, Feb. 18, 1964, A 45,259
3 Claims. (Cl. 239—683)

1. A fertilizer spreading apparatus which comprises:
(a) a hopper for receiving the fertilizer to be spread, said hopper having at least one fertilizer discharge orifice, said orifice being disposed on the hopper so that the flow of fertilizer therethrough is aided by gravity;
(b) a rotatable spreader plate in underlying relationship to said hopper orifice, positioned to capture fertilizer flowing through said orifice and to spreadingly distribute such by centrifugal force;
(c) a drive shaft connected to said spreader plate adapted to rotate such and extending at least to the bottom of said hopper;
(d) easily engageable and disengageable ejector means within said hopper disengagingly engaged to said shaft through engagement means at least partially outside said hopper, which ejector means is adapted



to be rotated by said shaft when such is engaged thereto;
(e) and means for rotating said drive shaft.

3,406,916
ATTRITION
Charles R. Lyon, Fort Mill, S.C., assignor to Celanese Corporation, a corporation of Delaware
Filed Mar. 2, 1965, Ser. No. 436,579
3 Claims. (Cl. 241—28)

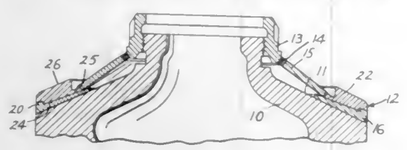


1. In a process for separating the fibers of a pulp sheet material by the action of an attrition mill, the improvement which comprises:
(a) feeding a pulp sheet to a chipping zone;
(b) supporting the sheet material in said zone at a plurality of spaced points along the leading edge thereof and for some distance back from the leading edge thereby forming a band of support for the sheet material, said support band having a leading edge and a back edge;
(c) striking the sheet material in spaces between said plurality of support points along the leading edge thereof while simultaneously striking it at the back edge of the support band whereby chips of pulp are chipped off the pulp sheet.

3,406,917
LINING RING ASSEMBLY FOR ROCK CRUSHERS
Marland G. Curtis, % Curtis Construction Company, Box 106, Spokane, Wash. 99210
Filed Oct. 21, 1966, Ser. No. 588,538
7 Claims. (Cl. 241—295)

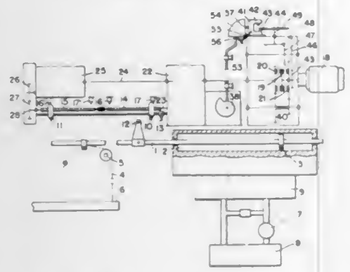
1. A lining ring assembly for a rock crusher having a crusher head including an upwardly facing frusto-conical surface centered about an upright axis and a coaxial mantle extension removably mounted on said crusher head about the center thereof and having a circular peripheral edge, comprising:
a circular mounting ring on the upwardly facing surface of the crusher head in coaxial alignment there-

with, and said mounting ring being provided with an upper frusto-conical surface intersected by an outer shoulder having an inwardly facing surface coaxial with the crusher head surface and extending upwardly from the upper surface of said mounting ring;



and a plurality of segmented lining members which together form a circular ring, the lower surface of each lining member being formed complementary to the upper surface and shoulder of the mounting ring and the inner edges of the lining members, when placed upon the mounting ring, forming a circular surface complementary to the peripheral edge of the mantle extension and being adapted to be abutted thereby.

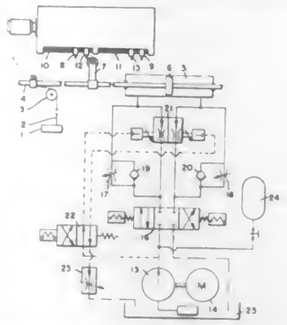
3,406,918
CONTROL AND SWITCHING DEVICE IN MECHANICALLY OR HYDRAULICALLY OPERATED TRAVERSE-MOTION SYSTEMS IN SPINNING, SPOOLING AND ESPECIALLY RING TWIST MACHINES
Carsten Ramcke, Wuppertal-Ronsdorf, Germany, assignor to Barmer Maschinenfabrik AG., Wuppertal-Oberbarmen, Germany
Filed June 10, 1964, Ser. No. 374,109
Claims priority, application Germany, July 26, 1963, B 72,868
9 Claims. (Cl. 242—26.3)



A device for controlling the movement of limit switches on traverse mechanisms that are used in producing windings in the textile industry. The drive of the threaded spindles is controlled by means of a photoelectric cell. A switching plate or disc having tongues or the like for interrupting a light beam striking the photoelectric cell are employed to control the movement of the limit switches. The device provides substantially lag-free control of the displacing members.

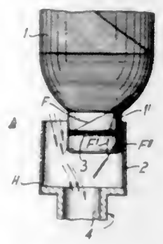
3,406,919
HYDRAULIC MEANS FOR CONTROLLING THE MOVEMENT OF A RING OR SPINDLE RAIL
Herbert Turk, Remscheid-Lennep, and Carsten Ramcke, Wuppertal-Ronsdorf, Germany, and Joannes Snels, Rheden, Netherlands, assignors to Barmer Maschinenfabrik AG., Wuppertal-Oberbarmen, Germany
Filed July 2, 1965, Ser. No. 469,107
Claims priority, application Germany, July 8, 1964, B 77,575
6 Claims. (Cl. 242—26.4)

A process and apparatus for rapidly returning a ring or spindle rail to its lowered starting position in which process an amount of ressure fluid per unit time is conveyed into or out of a hydraulic working cylinder to return said ring or spindle rail which is greater than that utilized during the winding process per se. The apparatus is characterized by the fact that the hydraulic unit which supplies



the energy needed to shift the working piston includes a means for generating hydraulic reserve energy which means are engaged to return the ring or spindle rail to its starting position after the completion of the winding formation.

3,406,920
DEVICE FOR RELEASING THE STARTING END OF A COIL-WOUND THREAD HELD FAST BY A RESERVE WINDING
Heinz Kamp, Monchen-Gladbach, Germany, assignor to Walter Reiners, Monchen-Gladbach, Germany
Filed Feb. 15, 1967, Ser. No. 616,251
Claims priority, application Germany, Feb. 17, 1966, R 42,629
8 Claims. (Cl. 242—35.6)

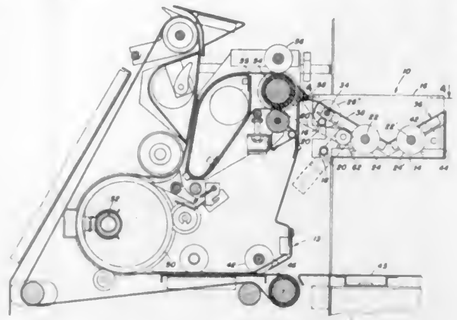


Device for releasing the starting end of a coil-wound thread held fast by a reserve winding includes a sleeve member which is adapted to receive the end of a coil therein and to guide an air current therethrough in a direction substantially axial to the coil. An abrading member, such as in the form of a plurality of inwardly directed elastic tongues, is provided on the inner surface of the sleeve and is engageable with the reserve winding of the coil. The sleeve together with the abrading member, on the one hand, and the coil, on the other hand, are relatively rotatable so as to abrade the reserve winding and release the starting end of the wound thread therefrom.

3,406,921
PHOTOCOPY REROLL ASSEMBLY
Robert L. Boston, Vestal, and Carl A. Roth, Apalachin, N.Y., assignors to GAF Corporation, a corporation of Delaware
Filed Mar. 30, 1967, Ser. No. 627,153
9 Claims. (Cl. 242—55)

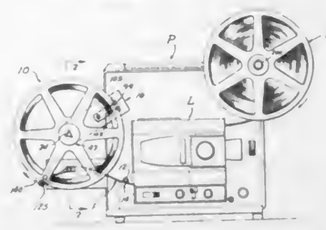
This invention relates to a novel and unique receiving tray and re-roll assembly used in combination with a developing or reproduction apparatus. A receiving tray and

roller assembly is attached to the apparatus and is adapted to receive lengthy sheets of originals emerging therefrom. The rollers are driven in a counter-rotative direc-



tion to the direction of motion of the sheets, thereby imparting a rolling-up motion to the originals without the necessity of manual handling.

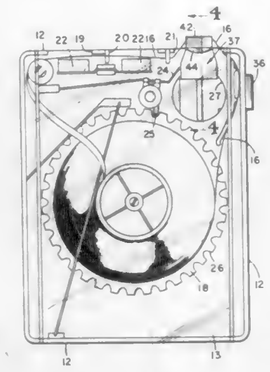
3,406,922
CENTER-WIND REEL
George M. Bailey, 680 Kohl, Broomfield, Colo. 80020
Filed Mar. 10, 1967, Ser. No. 622,147
13 Claims. (Cl. 242—55.11)



A center-wind reel to be employed as the take-up reel for a projector. The center-wind reel has a stationary rear section and a rotatable front section, with interlocked telescoping hub portions. A ball detent on the projector take-up reel spindle engages in the hub portion of the front section to hold the reel sections together, but to still allow the front section to rotate. A plate detachably-secured to the stationary rear section carries guide rollers to turn the film coming from the projector and to feed it from inside outwardly to the rotatable front reel section. An alligator clip is detachably-secured to the rim portion of the front reel section and is employed to clamp the free outer end of the film. The stationary rear reel section has spring-biased radial slidable arms carrying rollers acting against the film strip to urge it outwardly as it coils in the take-up reel assembly. The center-wind reel assembly can be removed from the take-up spindle and can be employed as the supply reel, with the starting end of the film strip coming from the outside of the reel assembly.

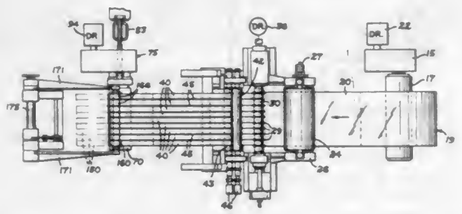
3,406,923
FIXTURE FOR TAPE CARTRIDGES
William F. Wolfner, Columbus, Ind., assignor to Arvin Industries, Inc., Columbus, Ind., a corporation of Indiana
Filed Oct. 6, 1966, Ser. No. 584,749
8 Claims. (Cl. 242—55.19)

A fixture releasably mounted in a cartridge of the type containing an endless coil of magnetic tape and having a plurality of side walls interconnected by top and bottom walls with one of said side walls having a plurality of access openings across which said tape is driven and the bottom wall having an opening therein adjacent one of said access openings. The fixture is releasably mountable on the cartridge for supporting the tape across said one access opening as for applying electrically conductive spots thereto. Said fixture comprises a base supported against the lower face of the bottom wall over the open-



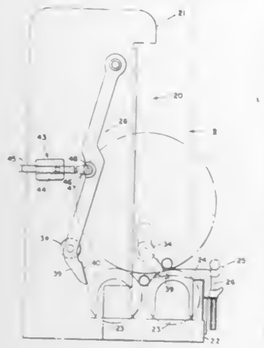
ing therein and is provided with an L-shaped arm projecting upwardly and outwardly from said base through the opening in the cartridge bottom wall and said one access opening. A vertically extending wall on the outer end of said arm is provided with vertically spaced flanges between which the tape is received and held. Projections are also formed on the base for engagement with the cartridge for releasably mounting the fixture on said cartridge.

3,406,924
APPARATUS FOR WINDING COILS OF METAL STRIP MATERIAL
Elton W. Bruns and Richard E. Black, New Bremen, Ohio, assignors to Stamco, Inc., New Bremen, Ohio, a corporation of Ohio
Filed July 9, 1965, Ser. No. 470,801
10 Claims. (Cl. 242—56.4)



A slitter-winder wherein the plurality of separate strips formed by the slitting operation are wound onto corresponding cores mounted on a cantilevered mandrel between flat drive rings fixed for rotation with the mandrel. The drive rings are axially slidable on the mandrel and frictionally engage the ends of the cores by controlled pressure applied axially against the ends of the entire assembly of cores and interspaced drive rings mounted on the mandrel.

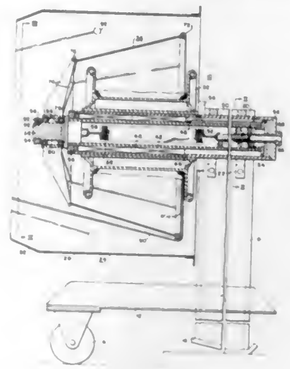
3,406,925
ROLL EJECTOR
Peter Waterhouse, Montreal, Quebec, Canada, assignor to Dominion Engineering Works, Limited, Lachine, Quebec, Canada, a corporation of Canada
Filed Dec. 12, 1966, Ser. No. 601,043
4 Claims. (Cl. 242—66)



1. Transfer apparatus for use in a paper winding machine having a front winding drum and a rear winding drum mounted substantially parallel thereto in a stand having a pair of side frames with end pedestals extending upwardly therefrom, comprising: a pair of like transfer arms having mounting means adjacent the upper ends thereof for pivotal suspension of the arms from said end pedestals; linking means connecting said arms together to provide synchronized arm pivotal movement, including a freely rotatable ejector roll extending substantially horizontal therebetween, for engagement with the surface of a paper roll standing in supported winding relation on said front and rear winding drums, to effect transfer of the paper roll over a said winding drum on pivotal movement of said pair of arms; and toe portions extending downwardly below said roll from said arms, having core shaft contact surfaces for engagement with the ends of a core shaft positioned on the open nip formed by said front and rear winding drums, whereby unwound or wound core shafts may be readily transferred over a said winding drum to a non-winding position.

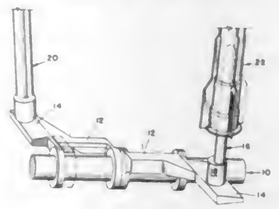
3,406,926
APPARATUS FOR UNSPOOLING WIRE AND THE LIKE
Charles W. Washburn, Elizabeth, Pa., assignor to Copperweld Steel Company, Glassport, Pa., a corporation of Pennsylvania
Filed Jan. 16, 1967, Ser. No. 609,618
14 Claims. (Cl. 242—128)

The unspooling apparatus is designed to withdraw the wire or other filamentary material from the spool without rotating the spool. This avoids the unspooling of a large quantity of tangled wire which otherwise results from the inertia of a rapidly spinning spool when the wire is inadvertently broken. The apparatus includes a rotatable guide mounted coaxially of the spool and movable axially along the winding length of the spool while the guide is being rotated. The guide is biased toward the rear end of the spool, and the wire is extracted in a perpendicular plane to prevent scuffing against adjacent wraps of the wire. The wire is withdrawn over the rotatable guide and spacedly over the front end of the spool with result that the tension in the withdrawn wire acting against the biasing means coupled to the rotatable guide causes the guide to traverse the spool so that the wire is always withdrawn tangentially to the spool and perpendicularly to its axis. To minimize further the scuffing of the withdrawn wire, the rotational mounting of the wire guide and the passing of the withdrawn wire thereover causes the guide to quickly assume the speed of rotation of the withdrawn wire about the spool. In a modified form of the unspooling apparatus, the rotatable wire guide is provided with means for initially and independently rotating



the wire guide at the speed of the withdrawn wire so that the wire itself does not have to overcome the inertia of the wire guide in bringing the wire guide up to the unspooling speed. After commencement of the unspooling operation, the action of the independent drive means can be terminated and the wire guide rotated at constant speed by the passage of the wire thereover.

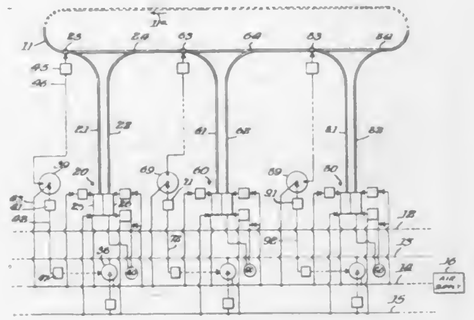
3,406,927
ECCENTRIC FOR SECURING BOBBINS TO A CREEL
Edward B. Grabaccio, Monroe, N.C., assignor to McCoy Ellison, Inc., Monroe, N.C., a corporation of North Carolina
Filed Sept. 14, 1966, Ser. No. 579,424
5 Claims. (Cl. 242—129.5)



A spindle apparatus for supporting yarn spools, pirns, cones or similar articles having a package adapter applied to the spindle for insertion into the spool or other article. A securing mechanism comprising an eccentric member integrally formed with the spindle is provided to selectively secure and release the adapter on the spindle.

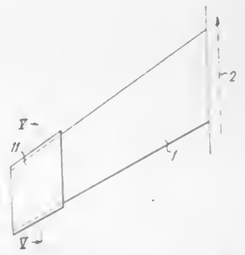
3,406,928
PNEUMATIC TUBE SYSTEM
David H. Thorburn, Oak Park, Ill., assignor to The Powers Regulator Company, Skokie, Ill., a corporation of Illinois
Filed July 25, 1967, Ser. No. 655,843
8 Claims. (Cl. 243—5)

A pneumatic tube system including carrier dispatch stations and carrier destination stations in which the diverter switch Y's for routing a carrier to a particular station are pneumatically operated. In the single-loop system, manually operated pressure selector switch dial unit is provided at each dispatch station for providing a selected one of a plurality of output pressures which are respectively indicative of the addresses of the destination stations. Pressure responsive means located at each of the destination stations actuates the switch Y associated with its particular destination station only upon receipt of pneumatic fluid at the pressure indicative of the address of the particular destination station. A dial signal conduit



connects each of the pressure selector switch dial units in common with each of the pressure responsive means. Thus, when a carrier is dispatched, it travels to the particular destination station the address of which corresponds to the selected pressure provided by the pressure selector switch dial unit. Also disclosed are station dial interlock means, dispatch station door interlock means, station dial reset means, and means for preventing upset of pressure conditions in the main conveying tube when a station door is open. A multi-loop system is additionally disclosed.

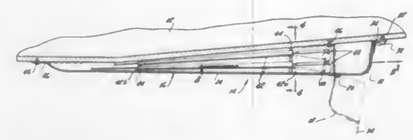
3,406,929
AEROFOILS
Alec David Young, Buckhurst Hill, England, assignor to National Research Development Corporation, London, England, a corporation of Great Britain
Filed June 9, 1967, Ser. No. 644,869
Claims priority, application Great Britain, June 10, 1966, 25,967/66
8 Claims. (Cl. 244—40)



The outboard section of a swept-back aerofoil has a superimposed sleeve spaced from the surface to provide an escape path under low speed-high incidence conditions, for outwardly drifting "tired" boundary layer air which is drawn out at the aerofoil-tip region by the tip trailing vortex, the exterior of the sleeve generating a new boundary layer.

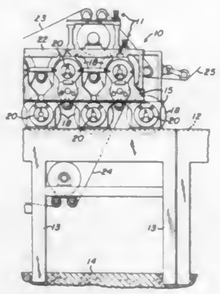
The sleeve may be discontinued over the whole or over the trailing edge region of the underside of the aerofoil.

3,406,930
FISHING ROD CARRIER
Edwin E. Seiler, 1617 Warnall Ave., Los Angeles, Calif. 90024
Filed Jan. 9, 1967, Ser. No. 608,234
6 Claims. (Cl. 244—118)



The invention provides a fishing rod receptacle to be carried by aircraft, and structurally contemplates an open top elongated shell attachable to the underside of the aircraft, the shell being provided at one end with an operable closure for insertion and removal of the rods, and the shell containing individual rod holders, preferably of tubular form, to separately receive the rods individually and thus maintain them against damage and entanglement.

3,406,931
THERMAL COMPENSATING TIE BEAM ASSEMBLY
Willard C. Notbohm, Watertown, N.Y., assignor to The Black Clawson Company, Hamilton, Ohio, a corporation of Ohio
Filed May 2, 1967, Ser. No. 635,600
8 Claims. (Cl. 248—2)

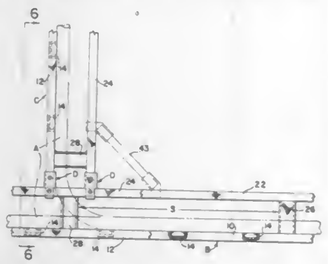


A thermal compensating beam which does not vary in length due to changes in the ambient temperature. One use is in paper machine dryer sections wherein the side frames which support the dryer drums are secured at their lower ends to the concrete floor and are interconnected at their upper ends by tie beams which, because of their bimetallic construction, do not change in length as a result of temperature variations.

3,406,932
SUPPORTING SYSTEM FOR CABLES AND THE LIKE
Edmund F. Burke, 3645 Warrensville Center Road, Cleveland, Ohio 44122
Filed Nov. 9, 1966, Ser. No. 593,090
10 Claims. (Cl. 248—68)

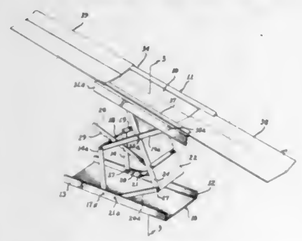
A support for cables, wires, and similar items including a longitudinally extending support section and strengthening means substantially coextensive with the support section but spaced from the support section, the support section comprising a pair of spaced longitudinally extending support members with cable carrying means extending transversely between and secured to the support members. The cable contacting surfaces of the cable carrying means are at least coplanar or above the top surface of the support members so that branch runs have access to the

main run without interrupting the longitudinal support for the main run. The strengthening means is connected to the cable support section by connections which are



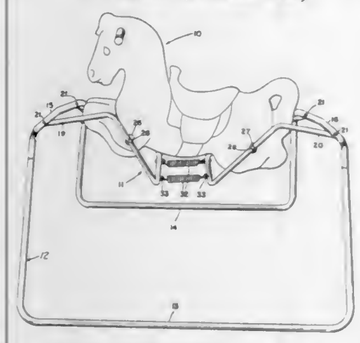
spaced apart in a longitudinal direction to avoid interference by the connections with the access between the main and branch runs.

3,406,933
ADJUSTABLE SEWER DRAIN HOSE SUPPORT
Robert E. Wait, Box 2023, Riviera, Ariz. 86442, and George J. La Chance, Riviera, Ariz. (P.O. Box 501, Bullhead City, Ariz. 86430)
Filed Mar. 13, 1967, Ser. No. 622,684
6 Claims. (Cl. 248—80)



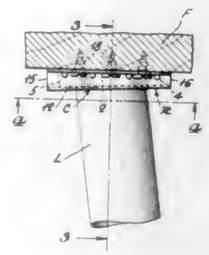
An adjustable support to vertically and angularly position a length of sewage drain hose. The support is collapsible for compact storage.

3,406,934
SAFETY FRAME FOR HOBBYHORSES AND OTHER SUSPENDED SEATING DEVICES
Daniel P. Grudoski, Hartstown, Pa., assignor to Blazon, Inc., Akron, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 215,104, Aug. 6, 1962. This application June 1, 1964, Ser. No. 371,582
7 Claims. (Cl. 248—165)



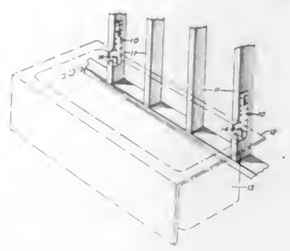
1. A frame for a resiliently supported seating device such as a hobbyhorse consisting essentially of a pair of tubular U-shaped bottom members, each having a bottom rail portion integral at its ends with a pair of upstanding leg portions, said bottom rail portions being resiliently spaced from each other by resilient connections constituting essentially the sole connections between said bottom members and consisting essentially of a pair of cross pieces, each having the general shape of an inverted U to provide a pair of downwardly depending leg portions, the pair of downwardly depending leg portions of each cross piece being connected to corresponding upstanding leg portions of each bottom member to provide a closed loop of tubing having four upstanding end corner portions; and means in each of said cross pieces adjacent each corner portion from which a seating device may be suspended.

3,406,935
MOUNTINGS FOR FURNITURE LEGS
Henry Mutchnik and Melvin Mutchnik, both of 5804 Gist Ave., Baltimore, Md. 21215
Filed Aug. 2, 1966, Ser. No. 569,610
6 Claims. (Cl. 248—188)



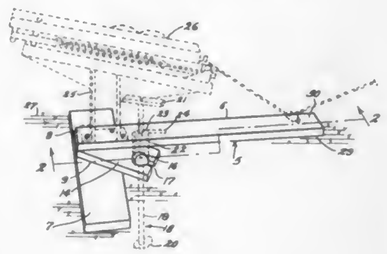
A wedge fastener assembly for detachably interconnecting wooden or metallic furniture legs to the underside of a piece of furniture by providing a pair of sheet metal wedges disposed in substantially vertical planes at the upper end of the leg which are adapted to be moved rectilinearly into wedging engagement with a pair of U-shaped channels affixed to the underside of the furniture unit in alignment with said sheet metal wedges.

3,406,936
HANGER FOR BATHTUBS AND THE LIKE
Francis M. Dirks, 604 S. Cloudas Ave., Sioux Falls, S. Dak. 57103
Filed Mar. 11, 1966, Ser. No. 533,561
1 Claim. (Cl. 248—216)



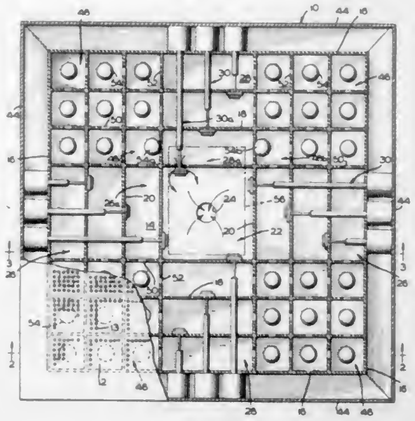
A hanger plate having a shelf for supporting the rear flange of a bathtub from wall studs. The hanger is adjustably secured to a stud at a selected measured height.

3,406,937
SUPPORT BASE FOR EARTH ANCHORAGE
George C. Luebkeman, Cincinnati, Ohio (% Trius Products, Inc., 32 Porter St., Cleves, Ohio 45002)
Filed Jan. 16, 1967, Ser. No. 609,679
5 Claims. (Cl. 248—346)



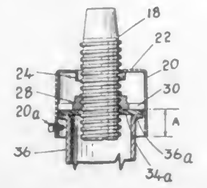
An anchorage unit for mounting a target trap firmly upon the surface of the earth consisting of a longitudinal member, a lateral member and a hold-down member adapted to be yieldably engaged by an earth anchor.

3,406,938
VACUUM HOLDER
Douglas F. Muir, Jr., General Delivery, Compton, Md. 20627
Continuation-in-part of application Ser. No. 503,354, Oct. 23, 1965. This application July 5, 1966, Ser. No. 562,592
4 Claims. (Cl. 248—363)



A vacuum holder having a pervious holding surface communicating with a chamber divided into a network of independent subchambers by a plurality of intersecting walls, and a source of vacuum communicating with one of the subchambers. The subchambers aligned with the one subchamber in two directions constitute primary subchambers and valves are disposed in the common walls thereof to control communication between the primary subchambers adjacent the one subchamber and the one subchamber and between each of the succeeding primary subchambers. The remaining subchambers constitute secondary subchambers with two walls thereof each aligned with a primary subchamber. The two walls are provided with openings and movable valve members disposed in the secondary subchamber, selectively block communication through one of the openings.

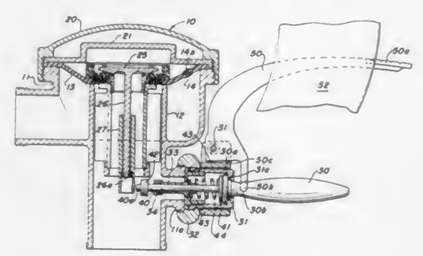
3,406,939
BELL CONSTRUCTION FOR CHAIR SUPPORT
Frank Doerner, Waterloo, Ontario, Canada, assignor to Doerner Products Co. Limited, Waterloo, Ontario, Canada, a corporation of Canada
Filed Dec. 16, 1966, Ser. No. 602,312
6 Claims. (Cl. 248—405)



The following disclosure relates to an improvement in the manufacture and structure of manually operated height adjustment mechanisms for chair supports.

The improvement resides in the structure actually gripped and rotated by a user to effect height adjustment and teaches a new assembly which precludes distortion of the "handle" or "bell" sub-combination as well as simplifying the assembly of such sub-combination.

3,406,940
TWO VOLUME FLUSH VALVE
Frank W. Kertell, Santa Cruz, Calif., assignor of one-half to Brooke Walker, San Francisco, Calif.
Filed Oct. 4, 1965, Ser. No. 492,524
3 Claims. (Cl. 251—40)

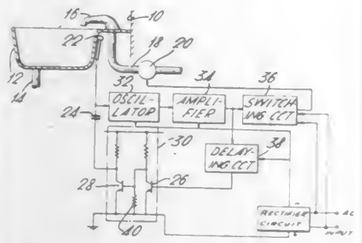


A flushing valve having two handles. Operation of one handle produces a minimum flow of liquid or low flushing volume without having to hold either handle in its tipped position. Operation of the other handle produces a maximum flow of liquid or maximum flushing volume.

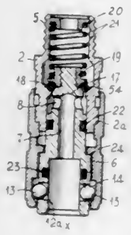
3,406,941
AUTOMATIC WATER-SUPPLY CONTROL SYSTEM
Masuo Ichimori, 15–18 Higashitanakase, Terado, Mukomachi, Otokuni-gun; Motohiro Kita, 29 Shimokaiinji Tojo, Nagaoka-cho, Otokuni-gun; and Tadayuki Isikawa, 37 Kaiden Tenjinyama, Nagaoka-cho, Otokuni-gun, all of Kyoto, Japan
Filed Oct. 27, 1965, Ser. No. 505,356
Claims priority, application Japan, Oct. 29, 1964, 39/61,418
6 Claims. (Cl. 251—129)

This application discloses an automatic water-supply control system for automatically initiating water flow

from a faucet or the like upon detection of an object such as a human body or portion thereof near the faucet and stopping the water flow upon removal of the object from near the faucet.



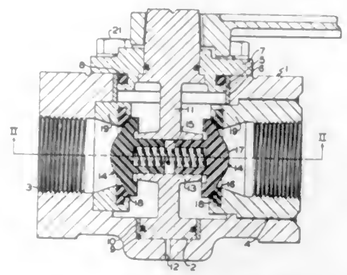
3,406,942
FLUID FLOW CONTROLLING CONNECTOR
Francesco Bocceda, Via Dario Papa 14, Milan, Italy
Filed Oct. 22, 1965, Ser. No. 500,959
Claims priority, application Italy, Nov. 14, 1964, 24,519/64
5 Claims. (Cl. 251—149.4)



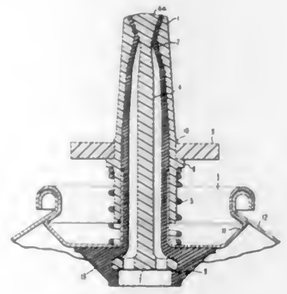
This invention relates to a fluid coupling device for rapidly connecting two fluid pipes in such manner that the flow of fluid from one pipe to the other may be adjusted. The device essentially comprises an inlet member for connection to a fluid conveying pipe and an outlet member for connection to a fluid receiving pipe. The outlet member is adapted to be inserted in the inlet member so as to form a fluid passage between said two pipes and is adapted also to control the valve means provided therein for the fluid passage. The insertion of said outlet member in said inlet member is such that the former may be releasably locked whilst the fluid passage is closed.

3,406,943
ROTARY VALVE DEVICE WITH COACTING CAMMING SURFACES
George K. Newell, Level Green, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Sept. 29, 1965, Ser. No. 491,203
8 Claims. (Cl. 251—163)

A valve device comprising a housing and a rotatable valve member having a stem carrying two back-to-back oppositely biased mushroom shaped valve elements adapted to seat on adjacent, respective, annular seat means to control flow of fluid through the housing. Each of the valve elements includes two coaxial spherical surfaces having different radii of curvature. The inner spherical surface contacts the inner wall of the housing as the valve member is rotated within the housing thereby camming the outer surface of the valve element away from the inner wall and insuring that the outer surface of the valve element contacts only the adjacent respective seating means.



3,406,944
AEROSOL VALVE
Arthur Frederick Barker, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 31, 1966, Ser. No. 553,780
5 Claims. (Cl. 251—353)

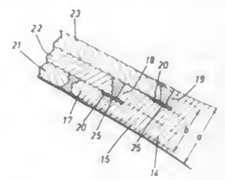


1. A valve assembly for a pressurized aerosol container comprising
   (A) a discharge means formed by an axially movable external spout, a resilient lining, and a valve stem, said resilient lining fitting internally within said spout and being axially fixed within the container cap, said valve stem being axially fixed within said resilient lining and having an enlargement in the upper portion whereby said valve stem seats internally into the upper conically shaped portion of said spout and spout lining,
   (B) spring means forcing said external spout and spout lining against said valve stem enlargement to maintain said discharge means in a closed position, and
   (C) actuating means for forcibly depressing said spring means and thereby moving said external spout axially downward away from said valve stem enlargement to open said discharge means.

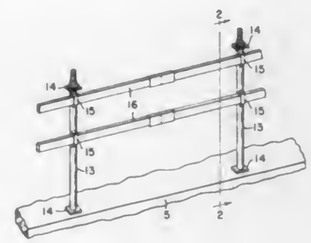
3,406,945
LAMINATED JOINT
Richard Innes Jenkinson, Lachine, Quebec, Canada, assignor to Dominion Engineering Works, Limited, Lachine, Quebec, Canada, a corporation of Canada
Filed Oct. 6, 1965, Ser. No. 493,521
8 Claims. (Cl. 253—120)

A scroll casing is fabricated from two or more layers of overlying plates, welded to the edge of the casing

shroud members by staggered butt welds, the edges of each shroud member being divided by separating grooves into suitable strips or lands approximating in width to the plate thickness of the plates being butt welded to the lands.



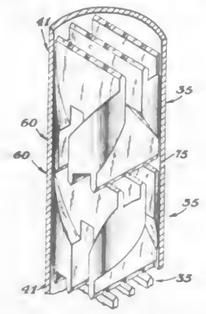
3,406,946
SAFETY RAIL FOR CONCRETE BUILDING
Robert H. Saultz, 552 NE. 34th St., Fort Lauderdale, Fla. 33308
Filed Jan. 30, 1967, Ser. No. 612,716
3 Claims. (Cl. 256—19)



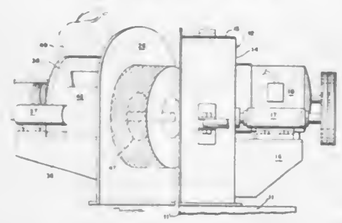
A safety rail and a method of construction using the safety rail are disclosed, the safety rail being convertible into a permanent ornamental rail having hollow concrete posts and a concrete header. The safety rail includes bolts mounted upright at an edge of a concrete balcony of a building, a plurality of metal pipes respectively telescoped over the bolts, a nut screwed on to the upper end of each bolt and against the pipe, and stringers in the brackets extending between adjacent pipes. The stringers and pipes are removable by detachment of the nuts after finishing work on the balcony has been completed to allow the concrete posts to be placed on the bolts and the header clamped to the posts by again screwing the nuts on the bolts. The construction method includes the steps of mounting the bolts upright on the balcony, placing the pipes on the bolts, screwing a nut on the upper end of each bolt, placing stringers in the brackets of the pipes to extend between pipes, applying finishing material to the balcony, removing the nuts, pipes and stringers from the bolts, placing hollow concrete posts on the bolts, assembling a header on top of the posts, and screwing the nuts on the upper ends of the bolts.

3,406,947
INTERFACIAL SURFACE GENERATOR
Richard E. Harder, Williamsburg, Va., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Aug. 19, 1966, Ser. No. 573,685
8 Claims. (Cl. 259—4)

Mixing baffles are placed in a pipe or tube and provide a mixing action for fluent material generally independent of throughput when flow is maintained below the turbulent range. The particular variety of baffles used are characterized in that a tendency to orient or rotate the stream is eliminated.

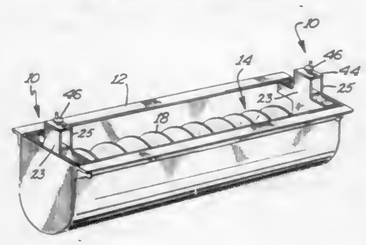


3,406,948
METHOD AND APPARATUS FOR BLENDING
Holbrooke G. Johnston, 6414 Elliot Place, Hyattsville, Md. 20783
Filed Aug. 6, 1965, Ser. No. 477,678
23 Claims. (Cl. 259—6)



A blender apparatus having reticulated sheet like elements, as of expanded metal, providing multiple openings defined by edges, which elements are moved, as by rotation, at high relative velocities while ingredients are passed through them. One element and its drive are mounted on a movable plate forming part of the housing. A method in which ingredients are passed through plural relatively moving reticulated elements.

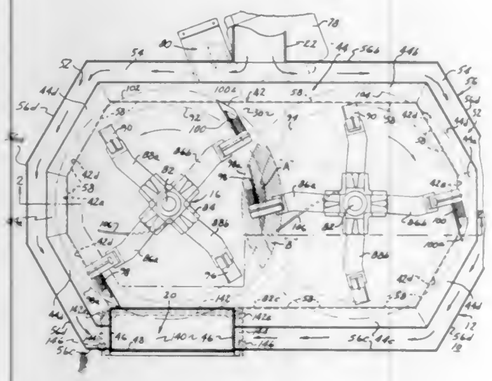
3,406,949
SANITARY IMMERSION BEARING FOR FOOD PRODUCTS
Kenneth M. Christensen, Hopkins, Minn., assignor to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware
Filed July 17, 1967, Ser. No. 653,863
8 Claims. (Cl. 259—109)



Sanitary bearing for supporting a rotating shaft in food processing equipment. The bearing is composed of two or more pivoted arms consisting of flat plates having

jaws at their lower ends. The arms extend downwardly from the pivot and are able to swing about the pivot so that the jaws move together or apart. The plates are not aligned with one another. A cam moves the arms about the pivot for quick removal from the shaft.

3,406,950
APPARATUS FOR CONDITIONING MATERIAL
Robert L. McIlvaine, Winnetka, Ill., assignor, by mesne assignments, to National Engineering Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 502,923
16 Claims. (Cl. 259—151)



Apparatus for conditioning particulate material and the like comprising a mixing chamber, means for supplying material to said chamber and means for discharging material from an opposite portion of said chamber. The chamber includes a floor and a peripheral sidewall sloping upwardly and outwardly therefrom and a mixing head assembly rotatable about an axis upstanding from the chamber floor. The mixing head assembly includes one or more plows supported outwardly of the axis of rotation which traverse a path adjacent the sloping sidewall. An air supply chamber is located beneath the sloping sidewall, and outlet means are formed below the lower edge of the side for directing airflow inwardly from the air supply chamber into the material in said chamber.

3,406,951
FLUID AMPLIFIER ARRANGEMENT AND FUEL SYSTEM INCORPORATING SAME
Craig Marks, Grosse Pointe Woods, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 16, 1965, Ser. No. 487,860
5 Claims. (Cl. 261—36)

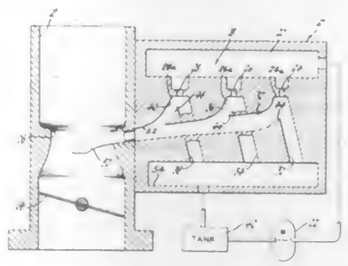
3. An internal combustion engine fuel system comprising

a nozzle adapted to discharge fuel for mixture with air,

fluid amplifier means including interaction region means, and inlet port means opening into said interaction region means,

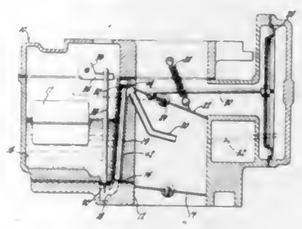
a source of liquid fuel connected to said inlet port means for issuing a liquid fuel stream along a predetermined path within said interaction region, said fuel stream having a predetermined energy state,

control means connected to said interaction region means for supplying a control signal indicative of an engine demand for fuel and having an energy state substantially lower than the energy state of the fuel stream and variations of which cause the path of the liquid fuel stream to vary within said interaction region in proportion to the control signal variations, said amplifier means further including outlet means opening from said interaction region for receiving the liquid fuel stream, said outlet means having a plurality of outlet port means, and splitter means for dividing the liquid fuel stream among said outlet port means in accordance with variations in the path of the fuel stream and for continuously varying the division of the fluid stream over the range



of variations in the path of the fluid stream, said splitter means being disposed relative to said inlet port means to non-linearly change the division of the fuel stream among said outlet port means upon a predetermined change in the path of the fuel stream to establish a rate of liquid fuel flow through a portion of said outlet port means which varies in accordance with variations in the control signal, and passage means connecting said portion of said outlet means to said nozzle for directing liquid fuel flow from said portion to said nozzle.

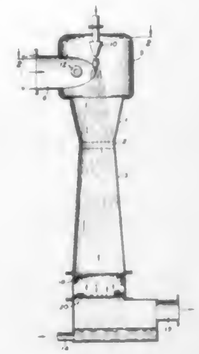
3,406,952
CARBURETOR
Gerald A. White, Grosse Pointe Farms, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 30, 1965, Ser. No. 517,754
5 Claims. (Cl. 261—50)



A carburetor having a main fuel well with a peripheral wall and an insert positioned therein and closely spaced from said wall to provide a capillary fuel passageway adapted to maintain liquid fuel in a fuel foam suspension. Also, a vapor outlet passage from within said insert having mounted therein an insert of porous material.

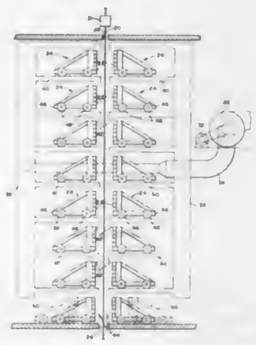
3,406,953
VENTURI-TUBE SCRUBBER
Frank D. Moore, Tallmadge, Ohio, assignor, by mesne assignments, to U.S. Stoneware, Inc., a corporation of Massachusetts
Filed July 11, 1966, Ser. No. 564,220
2 Claims. (Cl. 261—79)

The improvement in a Venturi scrubber of positioning a mist spray nozzle at the gas inlet to direct spray at right angles to the direction of gas flow, and a downwardly



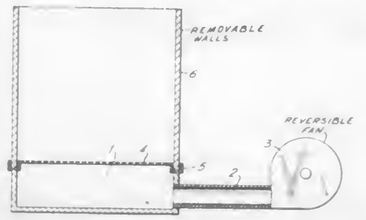
directed main spray nozzle, positioned to launch a spray from above the stream of gas flowing into the scrubber.

3,406,954
APPARATUS FOR WEB DRYING
John J. Fannon, Jr., Grosse Pointe Park, Mich., assignor, by mesne assignments, to Fostoria-Fannon, Inc., a corporation of Ohio
Filed July 6, 1966, Ser. No. 563,286
23 Claims. (Cl. 263—3)



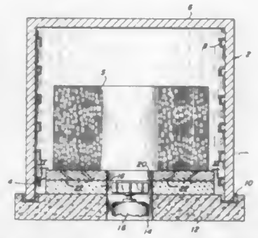
An infrared radiating apparatus or oven for a material such as a web which moves along a predetermined path by one or between a pair of irradiating means which are arranged in a bank or banks and which banks may be arranged to define zones in the oven. The bank or banks are directly movable on tracks toward and away from the path of movement of the material being irradiated. Means are provided responsive to the rate of movement of the material and/or the temperature of the material, for reducing the radiation of the irradiating means by (1) moving the bank or banks of irradiating means away from the material, (2) reducing, including cutting off, the heat input to the irradiating means, (3) moving an interceptor such as a shutter or shutters between irradiating means and the material, and/or (4) subjecting the material to a fluid cooling medium such as a stream of air between the irradiating means and the material. This cooling medium also may be used for purging the apparatus or oven, and the irradiating means may be gas fired and include ignition detecting means.

3,406,955
METHOD AND APPARATUS FOR THE PRODUCTION OF LIGHTWEIGHT AGGREGATES
Witold Kowalenko, Katowice ul., Sienkiewicza 12, Poland
Filed Oct. 22, 1965, Ser. No. 500,825
Claims priority, application Poland, Oct. 24, 1964, 106,056
7 Claims. (Cl. 263—40)



Method and apparatus for the production of lightweight aggregates wherein a solid fuel is ignited on a grate mounted on an air chamber while air is drawn through the fuel and air chamber by a fan whereafter lateral walls are removably placed on the grate and a charge introduced on the fuel and then the fan is reversed and the air directed upwardly through the fuel and charge.

3,406,956
ANNEALING BASE PLATE OF NESTING RINGS
Phillip S. Carskaddan, Monroeville, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed Nov. 3, 1966, Ser. No. 591,774
1 Claim. (Cl. 263—47)

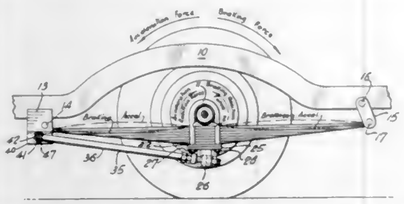


Prior to the present invention, box-annealing furnace supporting base plates presented resistance to the differential movement created in a coil being supported on its side on the base plate during annealing. This caused deformation of and damage to the downward edge of the coil. The present invention proposes to solve this problem by providing a box-annealing furnace supporting base plate composed of a plurality of concentric metal rings assembled in radially spaced relation whereby the supporting base plate is capable of differential movement along with a coil supported thereon during annealing.

3,406,957
SPRING CONTROL MEANS FOR REAR DRIVEN AUTOMOBILE AXLES
Edgar W. Almquist, Jr., Milford, Pa., assignor to Sparkomatic Corporation, Milford, Pa., a corporation of Pennsylvania
Filed May 26, 1966, Ser. No. 553,133
7 Claims. (Cl. 267—67)

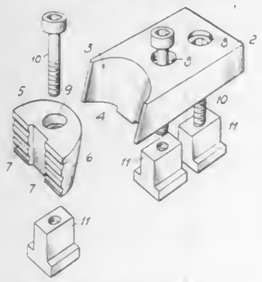
1. In or for a rear axle driven automobile equipped with a spring suspension system, a device for controlling the spring action during acceleration and braking periods to result in better traction characteristics, said device comprising a rigid rod rotatably mounted at one end on the chassis and said rotatable mounting including rotative

resilient restraining means to resist the rotation of the rod, and said rod being slidably and resiliently mounted



at the other end for endwise movement in a support depending from the lower side of the spring.

3,406,958
STRUCTURE OF A SCREW TO FIX PIECES TO BE WORKED ON A WORK BENCH OF A TOOL MACHINE TYPE
Aldo Geneloni and Loredano Bartoletti, both of Via Marcona 49, Milan, Italy
Filed June 15, 1966, Ser. No. 557,815
Claims priority, application Italy, June 16, 1965, 13,512/65
4 Claims. (Cl. 269—137)



1. A vise-like structure for the fastening of a work piece to be machined to the work-table of an ordinary machine tool, comprising

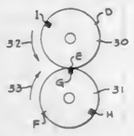
a plate-shaped part having at one end at least one cavity including a transverse, concave curvature of frusto-conical profile,

a body having a side surface at least partially of a convex profile complementary to said concave profile of said cavity,

a work-table adapted to be a portion of a machine tool, and

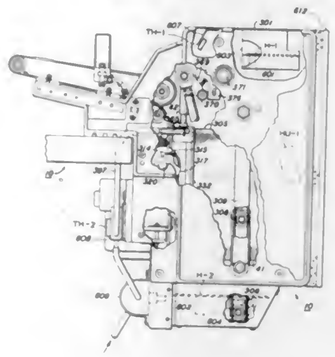
removable means for fastening said plate-shaped part jointly with said body to said work-table.

3,406,959
METHOD AND APPARATUS FOR SCORING AND FAN-FOLDING STRIP MATERIAL
Raymond W. Ross, Cheltenham, Pa., assignor to Leeds & Northrup Company, a corporation of Pennsylvania
Filed Sept. 21, 1965, Ser. No. 488,874
9 Claims. (Cl. 270—73)



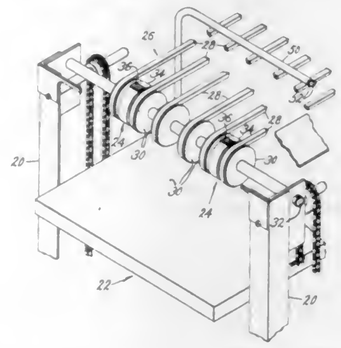
Method and apparatus for producing a substantially straight stack of fan folded strip material. In the prior art, stacks tend to be skewed because of an accumulated error due to unequal spacing of the scoring elements. The invention involves the fan folding along its score lines of a transversely scored strip of material characterized by successive sets of an odd number of score line produced by scoring means including an odd number of scoring elements whereby error in the distance between score lines due to unequal spacing of the scoring elements will be distributed from side to side and will not accumulate.

3,406,960
PAPER-HANDLING APPARATUS
George D. Del Vecchio, Briscoe Cove, North Rose, and John A. Hallagan, Pittsford, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 11, 1966, Ser. No. 585,784
3 Claims. (Cl. 271—8)



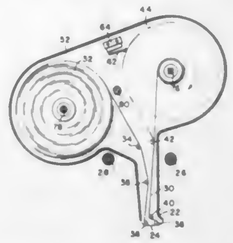
Apparatus for feeding sheet material and for preconditioning the sheet material being fed. The feeding apparatus includes a chamber having support means for retaining the stack of sheet material to be fed. The preconditioning means includes first heating means and associated first control means to retain the humidity within the chamber between predetermined limits. The second preconditioning means includes aerating means to assist the sheet feeding means. Within the aerating means is a heater with associated second control means to retain the aerating air between predetermined temperatures.

3,406,961
FABRIC FEEDING MEANS
Richard R. Walton, Boston, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Jan. 27, 1966, Ser. No. 523,301
23 Claims. (Cl. 271—10)



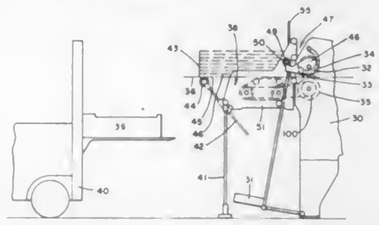
A machine for feeding fabric sheets singly from a stack thereof and having a multi-point pick-off device comprising a cluster of substantially co-planar work engaging points adapted for unidirectional pick-off action when contacting a fabric work piece.

3,406,962
TAPE ADVANCING MEANS
Herschel Baron, Philadelphia, Pa., assignor to Jacobs Machine Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Sept. 2, 1966, Ser. No. 576,939
9 Claims. (Cl. 271—33)



A tape advancing device comprising a tape supply reel and a driven tape take-up reel. The take-up reel is driven by a uni-directional, sequential drive means and gear means. The drive means is actuated by an air cylinder.

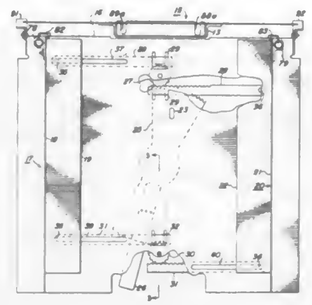
3,406,963
TIMED BOTTOM FEED MAGAZINE
Harold J. Goss, Nashua, N.H., assignor to The International Paper Box Machine Company, Nashua, N.H., a corporation of New Hampshire
Filed Dec. 3, 1965, Ser. No. 511,376
6 Claims. (Cl. 271—35)



An improved bottom feed magazine for feeding flat, horizontal sheets of relatively unbendable paperboard, individually and successively in timed relation into a paper box treatment machine. The underface of each bottom sheet in a stack is frictionally and simultaneously engaged by the friction face of an up-moving belt stretch to move the sheet through a gateway and the belt then moves downwardly away from the sheet, in parallelism, therewith, to release without scuffing.

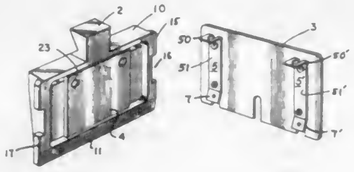
3,406,964
ADJUSTABLE PACK HOLDER
Roger H. Eichorn, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 31, 1966, Ser. No. 590,596
3 Claims. (Cl. 271—61)

A pack holder for supporting a stack of sheet material to be fed therefrom. The pack holder is adjustable through the equidistant sliding of parallel guide members. The guide members are mounted on pairs of gear racks. Pinion gears operatively associated with the gear racks rotate to slide the gear racks and the guide members. Rotation of the pinion gears is effected through a gear portion rotatably secured to the pack holder intermediate the pinion gears. A handle on the gear portion is used



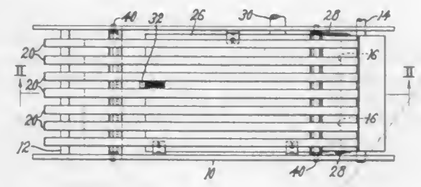
to rotate the gear portion and consequently adjust the guide members.

3,406,965
ALIGNING DEVICE
Wilbern F. Davis, Sharon, Earl E. Masterson, Newtonville, and Frank H. Schaller, Needham Heights, Mass., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed May 5, 1966, Ser. No. 547,877
11 Claims. (Cl. 271—62)



A weight, such as for gravity-urging a stack of punched cards down into proper registry with a card-picker, where, in a prime embodiment, the weight is characterized by a cuneiform profile including a contact-plate resiliently mounted from a reference body to engage the top of the card stack yieldingly.

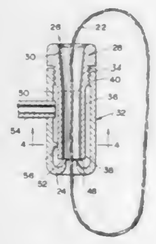
3,406,966
MACHINES FOR STACKING FLEXIBLE SHEETS
Richard R. Walton, Boston, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., and Boston, Mass., a corporation of New Jersey
Filed Aug. 1, 1966, Ser. No. 569,459
9 Claims. (Cl. 271—68)



A machine for feeding and stacking work pieces of sheet-like material on a work support having an auto-

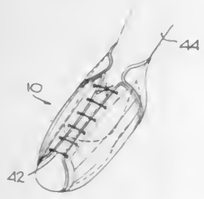
matic oscillatory stacking device responsive to the arrival of a work piece for removing the work piece from a feeder and depositing it on the support.

3,406,967
LOOP ERECTING DEVICE
Niels O. Young, Lincoln, Mass., assignor to Block Engineering, Inc., Cambridge, Mass., a corporation of Delaware
Continuation-in-part of application Ser. No. 595,283, Sept. 19, 1966. This application July 10, 1967, Ser. No. 652,319
8 Claims. (Cl. 272—8)



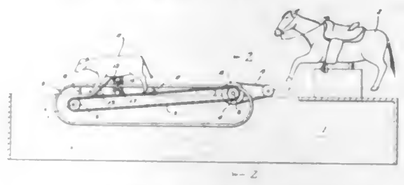
A device for driving an ordinarily limp, closed loop at speeds sufficient to erect the loop into a steady-state rigid configuration and formed of a tube through which a bight of the loop must pass, the tube having a tapered bore, an annular chamber disposed about the tube, an annular orifice joining the chamber and tube adjacent the more constricted end of the latter, and a pipe for passing fluid into the chamber.

3,406,968
ISOMETRIC EXERCISE BOOTS
Gussie Mason, Ridgefield, N.J.
(% Camp Stanley, Hurleyville, N.Y. 12747)
Filed Nov. 24, 1964, Ser. No. 413,458
4 Claims. (Cl. 272—57)



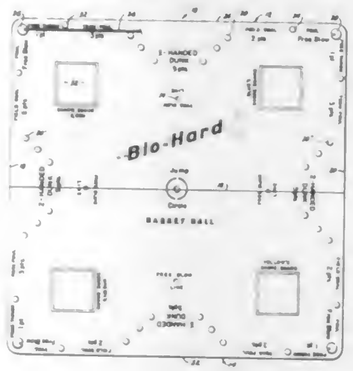
1. An isometric exercise boot comprising a sole portion and a heel portion composed of:
two layers of material peripherally secured together to define a pocket thereinbetween extending throughout both the sole portion and the heel portion, the sole portion forming both the sole and the upper of the boot and the heel portion forming both the heel and the backstay thereof,
a filler of weight material uniformly disposed within and throughout the pocket,
divider means within the pocket forming a plurality of parallel sleeves extending throughout the sole and heel portions to retain the weight material in said equal disposition, and
means to secure the boot to a foot.

3,406,969
ROPING TRAINER COMPRISING A ROPING OBJECT MOVABLE OVER A PAIR OF PARALLEL SPACED TRACKS FORMING A CLOSED LOOP
James R. Tisdell, Rte. 1, Box 66, Hempstead, Tex. 77445, and Monroe W. Lawson, Prairie View, Tex. (3815 Botany Lane, Houston, Tex. 77047)
Filed Aug. 24, 1966, Ser. No. 574,645
6 Claims. (Cl. 273—1)



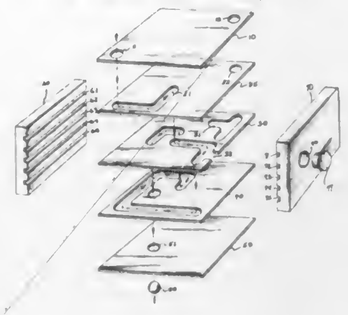
1. In a roping trainer, a supporting member, a pair of spaced parallel tracks mounted on said member, each of said tracks forming an endless loop, an object simulating in shape a known roping target, means for moving said roping object on said tracks at a preselected speed, and animated means capable of supporting a human rider adjacent one end of and in longitudinal alignment with said tracks.

3,406,970
BALL GAME BOARD HAVING REMOVABLE SIDE PANELS
Lee H. Webb, Jr., 201 W. 23rd, Odessa, Tex. 79760
Filed July 1, 1966, Ser. No. 562,162
10 Claims. (Cl. 273—85)



1. A ball game adapted to be played in combination with a ball that is controlled by blowing the ball about with puffs of air directed from the mouth, and comprising:
a flat rectangular board lying in a horizontal plane;
spaced apart pegs arranged about the outer marginal edges of said board and defining sides with each side including a goal, two corners, and side pegs between said goal and said corner;
opposite pairs of said corner pegs having means forming a longitudinal slot therein with the slots of each pair of pegs facing each other;
an elongated upstanding rail having depending ends adapted to removably engage said slots while being received in-between said side pegs and the outermost pegs forming the goal, whereby;
said rail may be removably attached to a pair of opposite sides of said board; and
means centrally located on said board for receiving the ball at the start of the play.

3,406,971
THREE-DIMENSIONAL LABYRINTH
Richard M. Koff, 400 Central Park W., New York, N.Y. 10025
Filed Apr. 7, 1965, Ser. No. 446,156
8 Claims. (Cl. 273—109)



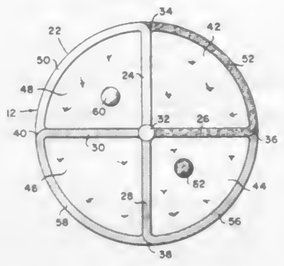
A three-dimensional labyrinth employing a moving ball dimensioned to ride within configured slots in stacked transparent sheets, maintained in a fixed array.

3,406,972
EDUCATIONAL GAME EMPLOYING MAGNETIC ATTRACTION
Albert H. L. Wong, 3537 Chesapeake Ave., Los Angeles, Calif. 90016
Filed Jan. 19, 1965, Ser. No. 426,548
11 Claims. (Cl. 273—118)



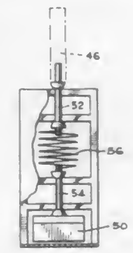
3. An educational game, comprising:
a playing board with a smooth, flat playing surface;
a plurality of magnetic pieces, each of which is adapted to move on said playing surface and includes a permanent magnet formed of a relatively hard ferromagnetic material, said magnetic pieces being drawn together when brought into close proximity with their opposite poles adjacent one another;
a plurality of magnetically attractable pieces, each of which is adapted to move on said playing surface, said magnetically attractable pieces being attracted by said magnetic pieces when in close proximity thereto, and the piece so attracted being magnetized so as to attract other of said magnetic and magnetically attractable pieces;
at least one nonmagnetic piece adapted to move on said playing surface to knock said magnetic and magnetically attractable pieces into close proximity with one another, whereby to form a magnetically held cluster;
indicia on said magnetic and magnetically attractable pieces;
and means bearing indicia corresponding to that on said pieces and related information to aid in scoring.

3,406,973
LAWN BOWLING GAME WITH TARGET
James C. Poole, P.O. Box 1291, Atascodero, Calif. 93422
Filed Oct. 13, 1965, Ser. No. 495,557
5 Claims. (Cl. 273—123)



A lawn pool or lawn bowling game which has a large, flat, portable and non-collapsible target piece with large open scoring sections. It is formed by an outer peripheral rim and a plurality of outwardly radiating dividing ribs. Both the ribs and the rim have the same cross sectional shape being relatively wide in horizontal section and thin in vertical. A plurality of different colored hand-size balls substantially smaller than the scoring sections are rolled toward the target by each player. The scoring sections are each a different color; one rib and the adjacent portion of the peripheral section are a given color to identify the different scoring sections. The number of scoring sections are equal to the number of balls, each ball is colored to match a color of one of the scoring sections. A score is received for a ball rolled into a scoring section, and additional bonus score is made when a ball is rolled into its corresponding color scoring section.

3,406,974
GAME BOARD WITH MAGNETS AND GAME PIECES WITH MAGNETICALLY ACTUATED POINTER ELEMENTS
William D. Nelson, 58 Fairway Court, Appleton, Wis. 54911
Filed Apr. 15, 1965, Ser. No. 448,492
1 Claim. (Cl. 273—134)



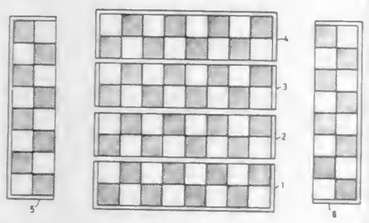
A game construction including a game board defining a plurality of separate positions to be occupied by playing pieces. The positions are aligned in specific paths leading from one end of the board to another whereby the pieces must follow one or more predetermined paths. Magnets are located in the game board at some locations corresponding with some of the game piece positions. The game pieces comprise supporting bodies having rotatable heads serving as pointers mounted on stems with magnets disposed within the supporting bodies and attached at the opposite end of the stems. The stem may be unitary or

it may comprise two elements connected by a coil spring which causes the head to vibrate when it is rotated by the magnet. When a game piece is located on a position having a board magnet, the attitude of the head will be determined by the respective pole positions of the board magnet and piece magnets.

3,406,975
CHESS BOARD HAVING INTERCHANGEABLE SECTIONS

George G. Berger, 76 Edgewood Ave., Larchmont, N.Y. 10538

Filed Nov. 2, 1964, Ser. No. 408,429
2 Claims. (Cl. 273—136)

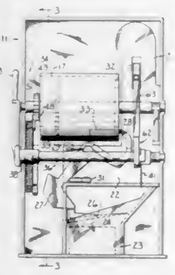


A game board for playing chess comprising at least five separate sections, four of which have two rows of playing areas, two of these four sections forming the upper and lower parts of a checkerboard of conventional dimensions, the other two sections being positioned to receive chess pieces as they are removed from the board during the playing of a game of chess. When a new game is to be started, the last mentioned sections, with the pieces properly positioned thereon, are substituted for the upper and lower sections of the playing board, thereby eliminating the delay between games occasioned by the positioning of chess pieces.

3,406,976
TOY BANK

Kenneth B. Van Woert, Jr., 1675 Pittman Ave., Sparks, Nev. 89431

Filed Apr. 18, 1966, Ser. No. 543,185
4 Claims. (Cl. 273—143)

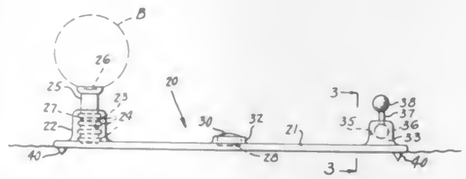


1. A toy bank comprising a substantially rectangular housing including spaced front and rear walls interconnected by side walls, said front wall having a rectangular window, a coin receptacle, and a coin release opening, a drum journalled for rotation between the side walls of said housing adjacent said window, a coin collecting compartment secured to said front wall in communication with said opening, a chute secured to said front wall and interconnecting said receptacle and compartment, a closure element movable between a normally closed position in closing relation to said opening and an open position in unobstructing relation to said opening, a closure element operating means coupled with said closure element and operatively associated with said drum, said operating means having selective first and second positions respectively wherein said closure element is moved to said open position in response to said drum being in a predetermined angular position and wherein said closure element is maintained in said closed position, a shaft journalled for rotation between the side walls of said housing subjacent said drum, a handle externally secured to one end of said shaft, a disc mounted for rotation relative to said shaft, means spring loading said shaft for rotation in a predetermined direction, means spring loading said disc for rotation in said predetermined direction, stop means associated with said disc for stopping same in a predetermined position, a pin projecting from said shaft, second stop means carried by said disc and engageable by said pin for stopping said shaft in a predetermined position relative to said disc, a latch cam pivotally mounted on said disc, means spring loading said cam into engagement with said second stop means and said pin, release means projecting from the rear wall of said housing and engageable with said cam in response to rotation of said disc a predetermined angle from said predetermined position thereof to pivot said cam out of engagement with said pin, a pawl carried by said disc, a ratchet wheel coupled to said drum and engageable with said pawl, and a shaft locking mechanism associated with said shaft and said chute for locking said shaft in the absence of a coin in said receptacle and releasing said shaft in the presence of a coin in said receptacle.

3,406,977
ADJUSTABLE GOLF TEE AND SIGHT

Frank J. Voelkerding, 230 S. Woodlawn, Lake City, Iowa 51449

Filed Dec. 14, 1965, Ser. No. 513,717
8 Claims. (Cl. 273—202)



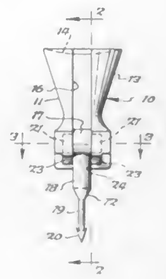
A base member supports at one end thereof a vertically adjustable golf ball tee and at the other end a pivotally mounted sighting device alignable with the golfing target. A bubble level is mounted on the base intermediate its ends. The end of the base member supporting the sighting device is adjustable to positions toward and away from the end of the base supporting the golf ball tee.

3,406,978
GOLF TEE HAVING A HINGED, ENCLOSED, GROUND ENGAGING SPIKE

Duane C. Johnson, Jr., 420 West Ave., Medina, N.Y. 14103

Filed June 27, 1966, Ser. No. 560,413
7 Claims. (Cl. 273—207)

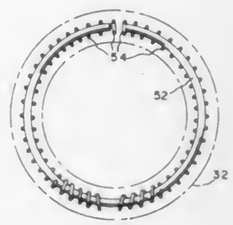
1. In a golf tee, a vertically elongated body member having a golf ball supporting surface at its upper end and a vertical slot extending the length of the member and opening onto said upper end, said slot also opening laterally through a side of said body member, a stem having a pointed lower end for insertion into the ground and an upper end pivotally mounted in the lower end of said body member and in said slot for pivotal movement in the plane of said slot, outer end portion of said stem projecting slightly outwardly of the upper end of said slot, said stem being mounted for swinging movement between a downwardly extending position for teeing a golf ball up from the ground on said supporting surface and a folded encased position within said slot.



3,406,979
REINFORCED O-RING

Eugene B. Weber, San Jose, Calif., assignor of one-half to California Fruit Concentrates, Inc., a corporation of California

Filed Feb. 19, 1965, Ser. No. 433,938
3 Claims. (Cl. 277—80)

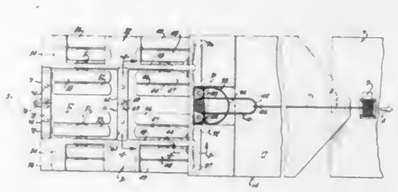


An O-ring seal is made with a reinforcing element concentrically disposed within an elastomer, by using magnetic elements for securing the assembly parts during manufacture.

3,406,980
EXTENDABLE TRAILER

Harley W. Murray, 1754 E. Mariposa Road, Stockton, Calif. 95206

Filed July 7, 1966, Ser. No. 563,513
2 Claims. (Cl. 280—34)

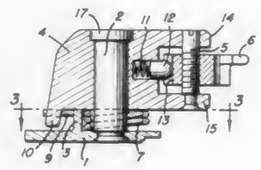


An extendable trailer having a main frame with a transversely extending cross member has subframes transversely slidable on and extending behind the cross member. Ground engaging wheels are mounted on the subframes and are moved transversely toward and away from each other to vary the trailer tread by an extending and retracting mechanism.

3,406,981
TOE IRON FOR SAFETY SKI BINDINGS

Hermann Scheib, Garmisch-Partenkirchen, Germany, assignor to Hannes Marker, Garmisch-Partenkirchen, Germany

Filed Aug. 10, 1966, Ser. No. 571,534
Claims priority, application Germany, Aug. 28, 1965, M 66,484
7 Claims. (Cl. 280—11.35)

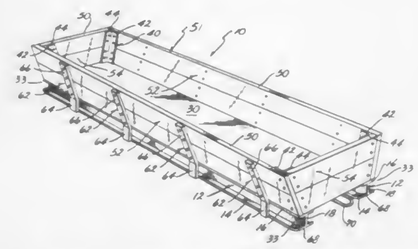


A toe iron for safety ski bindings, comprising a pivot pin which is secured to the ski, a pivoted member mounted on said pivot pin and extending at right angles to the ski surface, a spring element controlling the pivotal movement of said pivoted member about said pivot pin, said spring element consisting of a torsional wire spring having crossing free spring arms which are substantially parallel and spaced apart behind the crossing, said pivoted member having a stop which is disposed between the spring arms and engaged by said spring arms under initial stress when the pivoted member is in its central position.

3,406,982
FEED BUNK

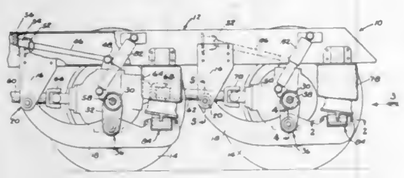
Wilmer E. Jorns, Rte. 3, Hartford, Wis. 53027

Filed July 13, 1965, Ser. No. 471,568
14 Claims. (Cl. 280—24)



1. A feed bunk comprising a pair of H-beams each having a ground engaging flange and supporting flange, one or more cross members connecting said H-beams in spaced, parallel relation to each other, a rectangular plate carried on said supporting flanges of said H-beams, an angle iron having angularly related flanges and disposed at each corner of said plate, said angle irons being obliquely outwardly angularly related to said plate, wooden planks respectively fixed to said flanges of said angle irons to define the sides of said bunk, a series of spaced angularly-bent reinforcing members disposed along opposite sides of said bunk, said reinforcing members having respective first portions connected to said ground engaging and supporting flanges of said H-beam and second portions connected to said planks.

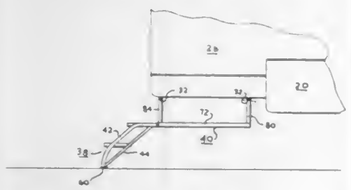
3,406,983
SUSPENSION FOR AUTOMOTIVE VEHICLES
Lloyd D. Masser, Muskegon, Mich., assignor to Neway Equipment Company, Muskegon, Mich., a corporation of Michigan
Filed Nov. 25, 1966, Ser. No. 596,881
13 Claims. (Cl. 280—124)



Disclosed herein is an air spring suspension wherein a pair of wheels 14 is mounted on an axle housing 30 mounted for generally linear vertical movement relative to vehicle frame 12 by a parallelogram arrangement with control arms 18 and a torque rod 46. Control arms 18 swing vertically about pivots 20. Axle brackets 32 are relatively flexibly connected to control arms 18 at rubber bushed pivot joints 36 to facilitate relative swinging of the axle brackets and control arms upon vertical movements of the axle.

A lateral beam 72 is connected with control arms 18 by rubber bushed articulating joints 84. The beam torsionally resists differential vertical swinging movement of the control arms and braces them against horizontal movements relative to the frame. The rubber bushings yield to permit controlled amounts of such movements. Beam 72 is so mounted as to transmit the load of air springs 78 from their center lines 100 to the longitudinal center lines 98 of control arms 18.

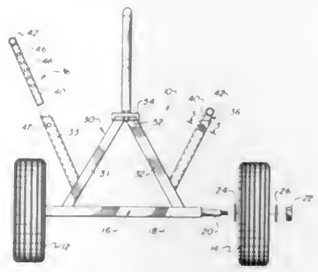
3,406,984
VEHICLE STEPS
George E. Kilbey, Mishawaka, Ind., assignor to Meyer Stamping & Manufacturing Co., Fort Wayne, Ind.
Filed Aug. 27, 1965, Ser. No. 483,134
4 Claims. (Cl. 280—166)



A vehicle step structure having a frame adapted to be suspended beneath the vehicle bed or body and a retractable and extensible step portion held in the two positions by a securing means which prevents dislodgement of the steps while the vehicle is in motion and which holds the steps firmly in place in their extended position.

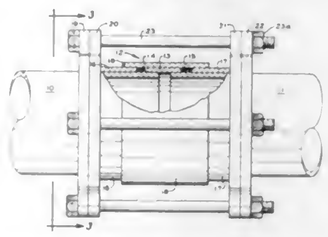
3,406,985
DOLLEY
Robert J. Ballenger and William G. Ballenger, Highland Park, Ill., assignors to Central Specialties Co., Chicago, Ill., a corporation of Illinois
Filed Apr. 21, 1967, Ser. No. 632,747
10 Claims. (Cl. 280—414)

A sailboat dolley including an axle having a pair of wheels rotatably affixed to the opposite ends thereof and a substantially W-shaped frame affixed to the axle lengthwise thereof, which frame may be collapsible for compact storage. A hull support is adjustably affixed to each of the outer arms of the W-shaped frame, and a keel loop is affixed to the apex of the two inner arms and is disposed so that it extends parallel to and between the two



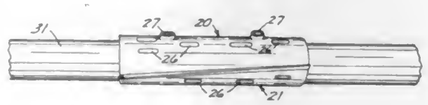
hull supports. The dolley is affixed to a sailboat by removably inserting the keel loop into the daggerboard or centerboard well of the sailboat, with the bottom of the sailboat resting on the hull supports.

3,406,986
CONDUIT COUPLING
Gerald P. Jennings, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 16, 1967, Ser. No. 646,510
2 Claims. (Cl. 285—21)



Conduits are coupled and sealed together by coupling devices having an inner section adapted to fit over the ends of two adjacent conduits, and two end sections spaced from the ends of the inner section by packing material, and an outer section enclosing the inner section, the packing material, and at least portions of the end sections. The seal is effected by drawing the end sections together with an adjustable clamping device, for example.

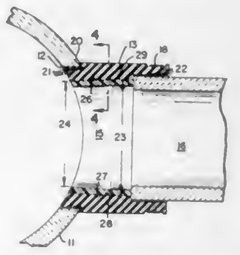
3,406,987
SPLIT-SLEEVE SHEET METAL PIPE COUPLING
David N. Hunder, Woodbury Township, Washington County, and Richard G. Elkos, Brooklyn Center, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Apr. 26, 1965, Ser. No. 450,912
5 Claims. (Cl. 285—22)



An assembly, useful in joining pipes, repairing pipes, or in making connections to pipes, comprising generally two stamped sheet metal casings which together form a cylinder and which have inclined flanges and flange receiving guides for clamping the casings around a pipe, the casings

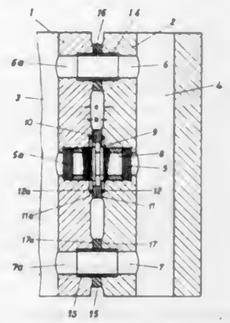
having inwardly directed indentations for spacing the casings away from the pipe thereby forming a mold; and methods of forming a pipe joint or pipe connection utilizing the above described assembly and including filling the mold with a sealant.

3,406,988
JOINT
Albert J. Jones, 9105 Golf Links Road, Oakland, Calif. 94605
Filed June 14, 1966, Ser. No. 557,417
4 Claims. (Cl. 285—24)



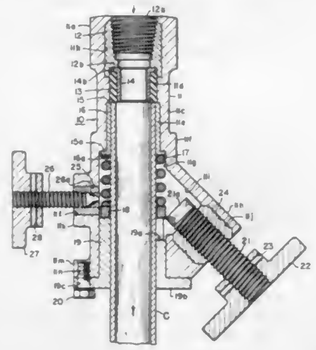
Settlement problems in connecting a lateral to a sewer pipe or the like are avoided by using an elastic sleeve with a shoulder which, when it lies against the outside of the main, causes the inner end of the sleeve to lie flush with the inside of the main; inserting a cylindrical wedge into the sleeve to sealingly expand the sleeve; abutting the end of the lateral against the wedge to hold it in place, and securing the sleeve tightly about the lateral. Alignment means are provided between the sleeve and wedge.

3,406,989
COMBINED MULTIPLE FLUID DISTRIBUTION PANEL BLOCKS AND CONNECTOR MEANS THEREFOR
Friedrich Gross, Bergfeld, Germany, assignor to Westinghouse Bremsen-und Apparatebau-G.m.b.H., Hannover, Germany
Filed May 2, 1966, Ser. No. 546,866
Claims priority, application Germany, June 11, 1965, W 35,115
4 Claims. (Cl. 285—137)



Combined multiple fluid distribution panel blocks and connector means therefor, in which, a pair of panel blocks are disposed in end-to-end relationship, each including a plurality of passages opening at the end surface in axial registration with similar passages in the other panel block, forming a plurality of axially registered pairs of passages, in combination with a connector having its opposite ends threadedly received in each passage in one of the registered pairs of passages by rotation of an external ring keyed to the connector to provide a force tightly engaging the end surfaces of the adjacent blocks with opposite sides of the ring, and an additional connector for each of the other registered pairs of passages, each additional connector having its opposite ends slidably received in passages of a different one of the additional registered pairs of passages and including, a sealing ring peripherally disposed intermediately thereof to seal the corresponding registered pair of passages when the connector in the one pair of registered passages is tightened.

3,406,990
OXYGEN LANCE SUPPORT COUPLING
James H. Brennan, 65 Parkridge Lane, Pittsburgh, Pa. 15228
Continuation of application Ser. No. 491,317, Sept. 29, 1965. This application Nov. 1, 1967, Ser. No. 683,087
10 Claims. (Cl. 285—310)

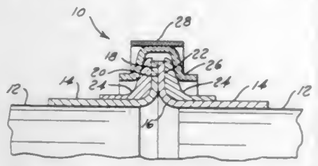


A quickly latching and releasable coupling for a smooth wall tubing member, such as an oxygen blowing lance for a BOF furnace, is provided that uses a locking spring and a ring assembly to receive the member. A cant screw is adapted to move a portion of the ring backwardly against force exerted by the spring of the assembly into a canted locking relation with respect to the member. A safety screw is adapted to engage the assembly to prevent an opposite portion of the ring from moving, as under a jarring force, from a forward position to a backward position at which the ring will lose its canted locking relation.

3,406,991
FLANGE AND BACKUP RING FOR A CONDUIT JOINT
Maurice S. Decker, Jr., Columbus, and Hartwell R. Hillier, Westerville, Ohio, assignors to Midland-Ross Corporation, Toledo, Ohio, a corporation of Ohio
Filed Apr. 24, 1967, Ser. No. 633,285
3 Claims. (Cl. 285—408)

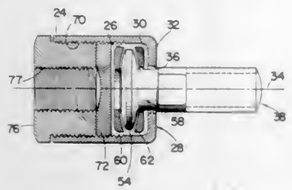
This invention relates to an improved conduit joint of the type wherein spaced flanges are directed toward one another to create a seal by the engagement of the flange faces. The conduit joint of this invention is provided with a pair of backup rings, one placed behind each of the flanges, that control the manner of engagement of the flange faces. An actuator ring of a coupling engages and acts on each of the backup rings. As the backup rings are urged toward one another, as by the actuator ring a biasing force is directed toward the base of the flanges through the backup rings and assures intimate contact along the entire sealing surfaces. A small, spacing is provided between the backup ring and its associated flange to

control the direction of the force applied from the actuator ring to the flanges. An additional advantage of this construction is that the flanges may be made of one mate-



rial and the backup rings of another, thus taking advantage of the properties of these two different materials while still achieving an effective seal.

3,406,992
ANGULAR AND LATERAL SELF-ALIGNING ROD COUPLING
Gunnar Grotness, Fort Wayne, Ind., assignor to Pneumatic-Hydraulic Development Co., Inc., Fort Wayne, Ind., a corporation of Indiana
Filed May 8, 1964, Ser. No. 366,028
7 Claims. (Cl. 287—91)



5. A coupling of the character described comprising a housing having opposite ends and a cylindrical inner wall which is of substantially uniform diameter between said opposite ends, said housing having an end wall on one of said ends which is provided with a flat radially extending inner end surface, said end wall having a coaxially disposed opening therein, an elongated stud having a circular head and a stem extending coaxially therefrom, said head being relatively flat with the diameter thereof being longer than the thickness thereof, said thickness being measured along the axis of said stud and said diameter being measured at right angles thereto, said head having two opposite annular surface portions which are part-spherical in shape, one of said annular surface portions being disposed on the side of said head opposite from said stem, the other of said annular surface portions being disposed on the side of said head adjacent to said stem, the centers of curvatures of said surface portions lying on the axis of said stud on the opposite sides, respectively, of said head, the radii of curvatures of said surface portions being substantially equal, said radii having a length at least twice as long as the radius of said head, the inner diameters of said annular surface portions being substantially equal to the diameter of said stem, the diameter of said head being larger than the diameter of said stem, the portion of the surface of said head inside said one annular surface portion being flat and normal to the axis of said stud, said stud having a cylindrical throat portion disposed between said head and said stem, said stem being externally threaded; said stud being movably assembled to said housing with said head being coaxially positioned inside said housing and said stem projecting beyond said end wall opening, said throat portion being disposed radially inside said opening, the diameter of said head being smaller than the diameter of said cylindrical inner wall to provide for radical clearance therebetween, the diameter of said throat portion being smaller than the diameter of said opening to provide for radial clearance therebetween, two annular bearing members of substantially identical shape and size; each said bearing member having opposite surfaces of which one is flat and the other concave spherical, said one flat bearing surface being normal to the axis of the bearing member, the other concave spherical surface of said bearing member having a center of curvature on the last-mentioned axis, the radius of the last-mentioned curvature being equal to the radius of curvature of said annular surface portions; one of said bearing members coaxially surrounding said throat portion and being interposed between said head and said end wall, the flat surface of said one member being slidably engageable with the inner surface of said end wall and the concave spherical surface thereof being slidably engageable with the other of said annular surface portions, the diameter of said throat portion being smaller than the inner diameter of said one bearing member, the other bearing member being slidably engaged with said one annular surface portion in coaxial relation therewith, said bearing members having outer diameters which are substantially equal to the outer diameter of said head, the areas of the concave spherical surfaces of said members being substantially equal to and coextensive with the areas of said annular surface portions, respectively; and means for adjustably positioning said two members and said head as an assembly against said flat inner end surface.

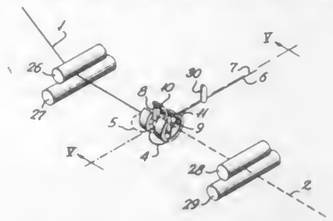
3,406,993
CORE LOCKED FERRULE
Theodore J. Haynes, P.O. Box 252, Eagle Point, Oreg. 97524
Filed Mar. 8, 1965, Ser. No. 437,639
2 Claims. (Cl. 287—127)



Ferrule means for joining tapered, tubular sections of a fishing rod wherein an elongated ferrule is correspondingly tapered to snugly engage the inner walls of said sections. A ferrule embodying this invention is permanently secured adjacent the end of one rod section and extends axially for reception of an adjacent section. Additionally, said ferrule means may be relieved internally for purposes of flexibility.

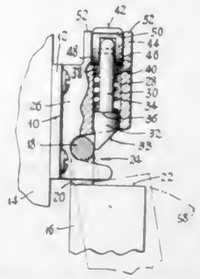
3,406,994
APPARATUS FOR MAKING A YARN CONNECTION
Michiel J. Duncker and Jacobus J. H. G. Daamen, Arnhem, Netherlands, assignors to Algemene Kunstzijde Unie N.V., Arnhem, Netherlands, a corporation of the Netherlands
Filed June 8, 1967, Ser. No. 644,713
Claims priority, application Netherlands, June 9, 1966, 6608047; Oct. 12, 1966, 6614327
10 Claims. (Cl. 289—2)

A knotter for making a yarn connection in which two free yarn ends of two oppositely directed adjacent yarns are passed through a loop formed by the yarns and bounded on each side by a zone wherein the yarns are



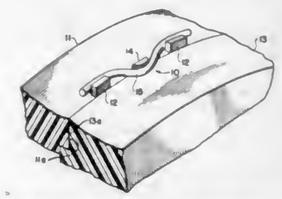
wound around each other and formed into a yarn connection.

3,406,995
RELEASABLE CATCH FOR EQUIPMENT
John J. McCarthy, Weston, Conn., assignor to Norco, Inc., Ridgefield, Conn., a corporation of Connecticut
Filed July 13, 1966, Ser. No. 564,813
2 Claims. (Cl. 292—169)



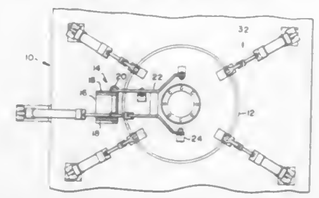
A releasable catch for use with mechanical equipment, comprising a base or anchorage member having a front recess for receiving a movable bar of the equipment, and having a guideway which meets said recess. A slide bolt is movable in the guideway and adapted to project into the recess for locking the bar therein. Operation of the slide bolt is effected by a manually operable cam piece pivotally carried by the base or anchorage member.

3,406,996
CLAMP ARRANGEMENT
John P. Doering, Jr., 2116 Greenbrier St., Santa Ana, Calif. 92706
Filed July 1, 1966, Ser. No. 562,367
3 Claims. (Cl. 292—256)



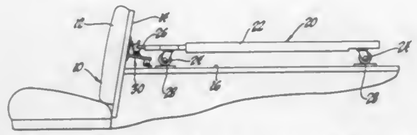
A clamping arrangement for holding together two housing sections including upstanding lug members protruding from mating portions of the two housing sections and a spring clip member engaging the rear surfaces of the lugs and forcing the lugs attached to opposite housing sections in opposite directions thereby forcing the mating surfaces of the respective housing sections into abutting relationship, the stress in the spring clip holding the housing sections together and retaining the spring clip in place against the protruding lugs.

3,406,997
PRESSURE DOOR LOCKING MECHANISM
Harold R. Wilcox, Maynard, Mass., assignor to Riggs & Lombard, Inc., Lowell, Mass., a corporation of Massachusetts
Filed Sept. 22, 1966, Ser. No. 581,287
2 Claims. (Cl. 292—256)



A locking mechanism is provided for securing a pressurized door such as the hatch for a pressurized tank. The locking mechanism includes a C-shaped clamp pivoted at one end to the tank wall and the other end is provided with a roller adapted to engage the margin of the door. A power cylinder is fixed to the tank wall and drivingly engages the clamp to move it into and out of locking engagement.

3,406,998
STRETCHER-COT HOLDING DEVICE
Robert Elmer Rutzen, Pontiac, Walter Lincoln Fry, Jr., Birmingham, and George Robert Squibb, Bloomfield Hills, Mich., assignors to Automotive Conversion Corporation, Troy, Mich., a corporation of Michigan
Filed Aug. 8, 1966, Ser. No. 570,837
4 Claims. (Cl. 296—19)



4. A mounting bracket for use in station wagons and like vehicles having folding seats, and for receiving and holding collapsible stretchers and the like in compact assembly when said seat is up and for use when said seat is folded down, and comprising:

a mounting plate having an extended member secured at right angles thereto and near one end thereof,

a brace secured between the other end of said mounting plate and said extended member,

separate latch retaining members mounted on said extended member and said brace and adjustable to different positions on each thereof and to relatively like positions for service and use,

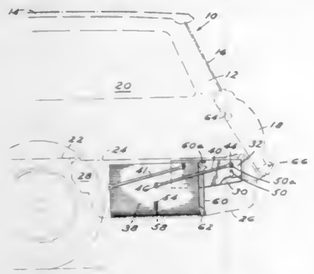
said brace member being vertically disposed with said mounting plate secured to the back of a folding seat and said extended member being rotated into a like position when said seat is folded down,

and said latch retaining members each including an over center self-positioning latching member and cooperative means of actuation and latching engagement with means coming into engagement therewith.

3,406,999
VEHICLE CAMPER GALLEY
Henry J. Kozicki, Birmingham, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed July 5, 1966, Ser. No. 562,594
12 Claims. (Cl. 296—23)

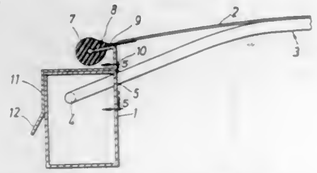
A camper galley for a motor vehicle of the station wagon type having a cargo supporting floor. The galley is stored in a well located beneath the floor and is swing-

able on linkage means out of the well. A latch secures the galley in the well against the forces exerted by torsion



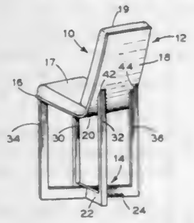
bars that urge the galley towards a position remote from the well.

3,407,000
VEHICLE ROOF STRUCTURE
Rupert Fritzmeier, Grosshelfendorf, uber Munchen, Germany, assignor to Fa Georg Fritzmeier KG, Grosshelfendorf, uber Munchen, Germany
Filed July 21, 1966, Ser. No. 566,898
Claims priority, application Germany, July 23, 1965, F 28,518
8 Claims. (Cl. 296—137)



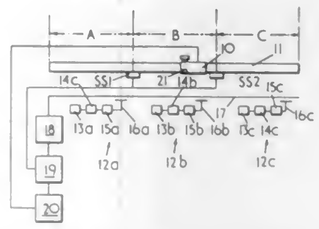
Vehicle roof structure accommodates thermal contraction and expansion of a tensioned tarpaulin with temperature changes. The tarpaulin is stretched over tensioning bows which have free ends mounted on a roof frame. As the tarpaulin contracts, it flattens the bows, which are free to flatten because of the free ends. As the tarpaulin expands, the bows can assume their original configuration because of their free ends, and maintain the tarpaulin under tension. Resilient hoses sewn into the tarpaulin accommodate expansion and contraction transversely of the bows. As the tarpaulin contracts, the hoses are compressed. As the tarpaulin expands, the resiliency of the hoses causes them to assume their original configuration and take up any slack in the tarpaulin resulting from expansion.

3,407,001
ARTICLE OF FURNITURE
Lawrence D. Minsker, Beringsvej 2, Copenhagen, Denmark
Filed Jan. 25, 1967, Ser. No. 611,641
13 Claims. (Cl. 297—445)



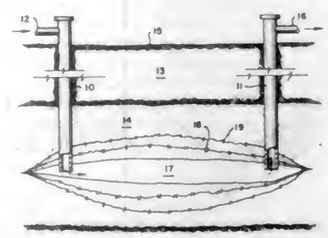
A prefabricated or knockdown article of furniture which includes a seating member fabricated from a resilient plastic material and a base for supporting the seating member. The seating member includes an inclined backrest portion which is connected to a seat portion. The base includes at least one upstanding post having an inclined top edge conforming to the inclination of the backrest portion which engages and resiliently supports the same to substantially eliminate undue pressures on the back of the person using the article.

3,407,002
REMOTE CONTROL OF MINING MACHINES
Brian G. Pidgeon, Barton-under-Needwood, Burton-on-Trent, England, assignor to Coal Industry (Patents) Limited, London, England, a company of Great Britain
Filed Jan. 6, 1967, Ser. No. 607,815
Claims priority, application Great Britain, Jan. 11, 1966, 1,268/66
4 Claims. (Cl. 299—1)



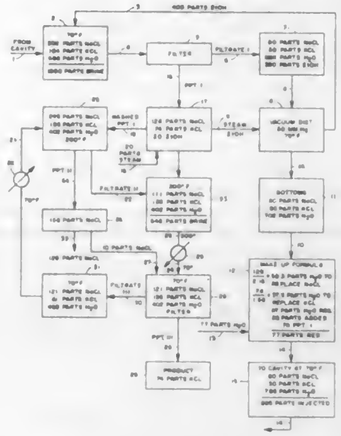
A control system for remotely controlling a longwall mining machine by the use of high frequency signals capacitively coupled into a waveguide, includes several portable high frequency transmitters having distinctive transmitted wave characteristics, for example different carrier frequencies. The transmitters are used over different sections of the face, and a receiver is automatically set to respond to that transmitter appropriate to the particular section in which the machine is for the time being operative.

3,407,003
METHOD OF RECOVERING HYDROCARBONS FROM AN UNDERGROUND HYDROCARBON-CONTAINING SHALE FORMATION
Robert W. Durie, Ottawa, Ontario, Canada, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Sept. 29, 1966, Ser. No. 582,980
Claims priority, application Canada, Jan. 17, 1966, 950,056
3 Claims. (Cl. 299—4)



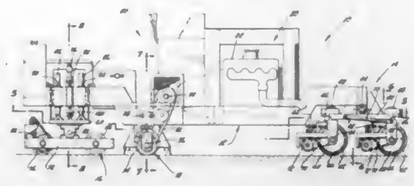
A method of recovering hydrocarbons from an underground hydrocarbon-containing bentonitic shale formation penetrated by wells by injecting an aqueous liquid into the formation via one well to swell and disintegrate the formation so as to form a slurry and recovering the hydrocarbon from the slurry above ground via another well, the two wells being in communication by a fracture.

3,407,004
SOLUTION MINING OF KCl–NaCl WITH SOLVENT AT AMBIENT TEMPERATURE
Richard L. Every and D'Arcy A. Shock, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Jan. 19, 1967, Ser. No. 610,401
10 Claims. (Cl. 299—5)



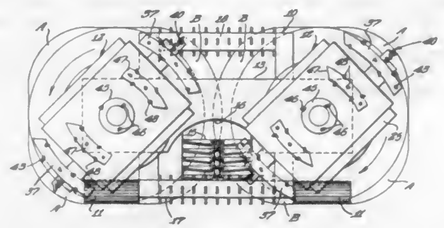
Brine solution understaturated with respect to NaCl and KCl is injected at ambient temperature to subterranean formation of KCl–NaCl where KCl–NaCl is dissolved, the solution is returned to the surface where salt is precipitated by use of precipitating liquid such as ethanol and solvent recovered by steam washing and KCl recovered by subjecting the solvent-free salt to a thermal cycle.

3,407,005
PAVEMENT LEVELING OR GROOVING MACHINE
Glen E. Simms, Glendora, and David E. Cook, El Monte, Calif., assignors to Concut, Inc., El Monte, Calif., a corporation of California
Filed Feb. 13, 1967, Ser. No. 615,491
9 Claims. (Cl. 299—39)



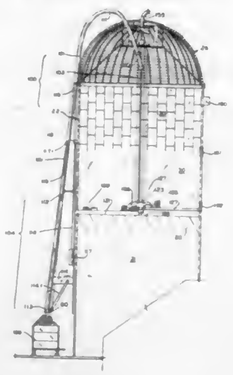
This application discloses a machine for leveling and/or grooving pavement, and particularly concrete pavement, to substantially eliminate bumps therefrom and/or to increase its skid resistance. The machine includes a wheeled frame carrying a transverse rotary cutter which can be locked in position to level the pavement, or which can be permitted to follow the contour of the pavement to groove it without leveling. Alternative drives are provided to propel the machine at a low speed when leveling or grooving and to propel it at a high speed during transport. The rotary cutter is capable of tilting laterally relative to the rear wheels of the machine to permit the cutter to follow the contour of the pavement in grooving, and is capable of being locked in such a laterally tilted position to provide the pavement with a crown.

3,407,006
BORING TYPE CONTINUOUS MINING MACHINE WITH CONTOUR CUTTERS
Edward F. Brill, Oconomowoc, Wis., and Howard E. Shelley, Niles, Ill., assignors to Westinghouse Air Brake Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 2, 1966, Ser. No. 546,974
18 Claims. (Cl. 299—59)



Boring type continuous miner having at least two rotary boring heads and contour cutters rotatable about the axes of the boring heads concurrent with rotation of the boring heads. The contour cutters move in and out during rotation thereof in a sequence which varies about the bore and intersects the bore in at least one cutting position of the contour cutters to modify the cross-section of the bore to a pre-selected contour. The cutting patterns of the contour cutters may be independently adjustable with respect to each other and the contour cutter is adjustable as the main cutter is adjusted to vary the size of the bore.

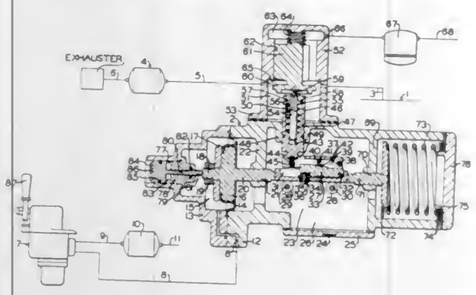
3,407,007
SILO AND SILO COMPONENTS
Arthur L. Fassauer, Canyon, Tex., assignor to Gifford-Hill Western, Inc., Lubbock, Tex.
Filed Aug. 26, 1966, Ser. No. 575,331
8 Claims. (Cl. 302—56)



6. A silo unloading means for a silo comprising a wall and a roof, comprising silage gathering means, pump means, frame means, frame support means and a discharge conduit assembly operatively connected, said discharge conduit assembly being connected to the discharge of said pump, said discharge conduit assembly comprising a first, ascending, flexible tube and a second, descending, tube, said first, ascending, tube having a flexible portion, the inlet end thereof being attached to said pump means and another, outlet, end of said first, ascender, tube being slidably located within the second, descending, tube, said second, descending, tube comprising a curved portion supported in part on the roof of said silo and extending from

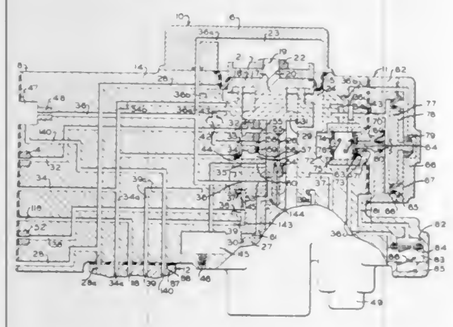
within the roof of said silo outward of said silo and downwardly toward and adjacent to the side of the silo and a second portion, said second portion extending from the top of the silo to a position displaced from the side of the silo near to the bottom thereof.

3,407,008
VACUUM PRESSURE CONTROL VALVE
Harry C. May, McKeesport, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Original application Mar. 26, 1965, Ser. No. 442,855, now Patent No. 3,272,563, dated Sept. 13, 1966. Divided and this application May 25, 1966, Ser. No. 552,965
10 Claims. (Cl. 303—12)



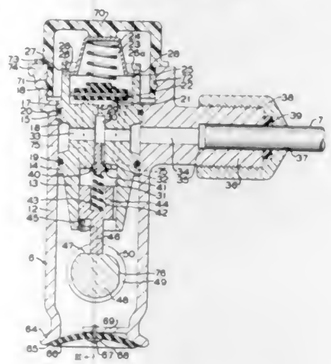
A vacuum pressure control valve device comprising a movable abutment, subject on its respective opposite sides to a control fluid pressure and the force of a spring, for actuating a cam device to control the degree of unseating of a valve from its seat thereby to vary the rate of admission of air at atmospheric pressure into a vacuum pressure control communication whereby the degree of sub-atmospheric pressure therein is regulated according to the control fluid pressure.

3,407,009
FLUID PRESSURE BRAKE CONTROL VALVE DEVICE
Francis R. Racki, Pittsburgh, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Feb. 24, 1967, Ser. No. 618,382
10 Claims. (Cl. 303—35)



This invention covers a brake control valve device the service portion of which includes an accelerated service release valve device operable by an abutment constantly subject on one side to brake pipe pressure and on the opposite side to brake pipe pressure supplied thereto via a choke carried by the service slide valve in the release, service and service lap positions of the service slide valve. Upon effecting a brake release subsequent to a brake application, the pressure in the brake pipe is increased at a rate exceeding the capacity of the choke, the accelerated service release valve device will be operated to establish a communication between the emergency reservoir and brake pipe to cause equalization of pressure therebetween thereby hastening the recharge of the brake pipe. The accelerated service release valve device is operated according to the rate of recharge of the brake pipe and is not dependent upon brake pipe pressure reaching a value in excess of auxiliary reservoir pressure. The service portion of the brake control valve device constituting the present invention further includes a novel reservoir release valve device that embodies therein one-way check valve means enabling flow from the auxiliary reservoir to the emergency reservoir whereby equalization of both the auxiliary and emergency reservoirs into the brake pipe occurs upon operation of the accelerated service release valve device, thereby providing that the pressure in these reservoirs is reduced sufficiently to insure that the brakes on a freight car equipped with this brake control valve device are always released when the car is coupled to a freight train subsequent to being set off from a passenger train.

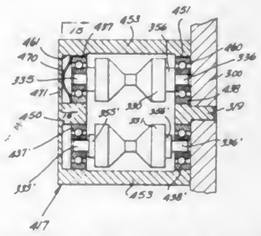
3,407,010
BRAKE CYLINDER PRESSURE RETAINING VALVE
Charles L. Weber, Jr., Irwin, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Aug. 18, 1965, Ser. No. 480,666
11 Claims. (Cl. 303—75)



A brake cylinder pressure retaining valve device, for connection to the exhaust passageway of a railway car brake control valve device, which may be manually set in either a direct release or a pressure-retaining position, and which embodies therein a cartridge-type retaining valve unit that may be readily removed and replaced with a new unit by relatively unskilled workmen.

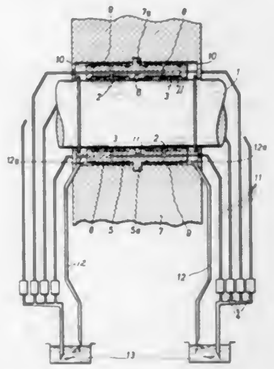
3,407,011
ADJUSTABLE V BEARING FOR GUIDING TRANSLATING SHAFTS
Herman Rudolf Zeidler, 3812 Dianne St., Bethpage, N.Y. 11714
Continuation-in-part of application Ser. No. 446,950, Apr. 9, 1965. This application Mar. 15, 1966, Ser. No. 534,368
7 Claims. (Cl. 308—6)

A bearing assembly for a longitudinally moving shaft. The assembly consists of a yoke member pivoted to a stationary support and having transverse parallel V-grooved rollers engaging the top and bottom of the shaft. The yoke member is adjustable around its pivotal axis to maintain the rolling contact of the rollers with the



shaft. At least one of the rollers is axially movable. A sinuously curved resilient ring acts between this roller and a side of the yoke member to bias the roller length wise to maintain it in close contact with the shaft.

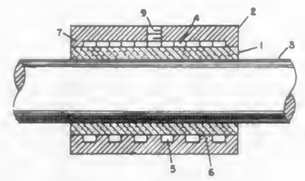
3,407,012
ADJUSTABLE, HYDROSTATIC PLAIN BEARING
Gunter Siebers, Nurnberg, Germany, assignor to Oerlikon-Buhrle Holding Ltd., Zurich, Switzerland
Filed Dec. 19, 1966, Ser. No. 603,003
Claims priority, application Switzerland, Dec. 23, 1965, 17,743/65
12 Claims. (Cl. 308—122)



The bearing is provided with a yielding inflexibility so that the displacement of the bearing under a particular bearing load is determined by such inflexibility. The friction forces upon adjustment of the bearing are maintained as small as possible upon a tilting of the shaft or the like supported by such bearing. If the frictional force is large and the displacement is small, the frictional forces involved in going over from holding friction to sliding friction cause a rearward movement of the part to be adjusted so that the adjustment of this part relative to the inclined or tilted position is inaccurate.

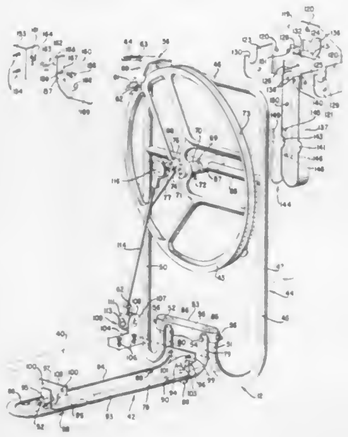
3,407,013
BEARING SYSTEMS
Richard H. Weichsel, Hudson, Ohio, assignor to The Apex Bearing Company, a corporation of Ohio
Filed Feb. 15, 1967, Ser. No. 616,405
7 Claims. (Cl. 308—122)

An outer housing having peripheral end flanges, a straight groove and cylindrical or helically-shaped segmental grooves arranged within the peripheral flanges and intercepted by the straight groove. A porous sleeve is tightly engaged by the peripheral flanges of the housing to provide a composite structure. The sleeve surrounds a shaft with sufficiently close tolerance to form an air film therebetween but at a sufficient distance to permit the composite housing and sleeve to be moved in a linear direction relative to the shaft when the shaft is supported at its opposite ends or to permit the shaft to be moved in a linear direction within the bearing when the composite housing and sleeve are supported on a stationary base plate. The sleeve is composed of spherically-shaped copper particles encapsulated with sintered tin in the form of



venturi-shaped pores for restricting the passage of air through the sleeve when air is passed through a socket into the straight groove and from thence through the cylindrical or helically-shaped segmental grooves, and the porous plate which air then expands and forms a thin uniform film inside of the sleeve. The linear thickness of the sleeve is sufficient to support the static or at rest load at the working surface and the width of the grooves and lands are substantially the same as the linear thickness of the sleeve and the depth of the grooves is approximately one-half of the linear thickness of the sleeve.

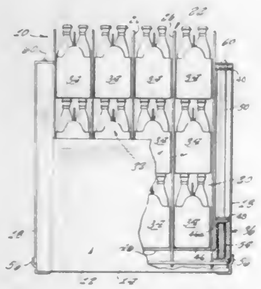
3,407,014
CABINETS AND DISAPPEARING TREADLE MECHANISM FOR SEWING MACHINES
Henry J. Milan, Clark, and William G. Hauser, Fanwood, N.J., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 25, 1966, Ser. No. 575,064
16 Claims. (Cl. 312—21)



A cabinet for a sewing machine including a disappearing treadle mechanism comprising a band wheel support mounted on the cabinet, a treadle support pivotally connected to the band wheel support and a mounting bracket on the cabinet constructed and arranged to pivotally and

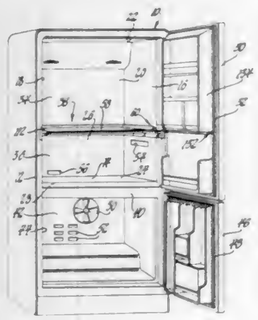
removably mount the band wheel support and the treadle support when they are folded together and pivoted upwardly into a recess provided in the bottom of the cabinet.

3,407,015
SPRING-LOADED MULTIPLE PACKAGED PRODUCT MERCHANDISING DISPLAY DEVICE
Philip Silberberg, 4841 206th St., Bayside, N.Y. 11364
Filed May 17, 1967, Ser. No. 639,165
1 Claim. (Cl. 312—71)



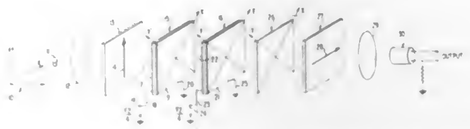
A multiple packaged product merchandising display device comprising a housing, a stationary framework therein, a lifting mechanism in the housing for raising tiers of beverage cartons to the top of the housing. The lifting mechanism consists of racks having extending arms urged upwardly by compression springs slidable on tube members secured to the housing. The springs may be changed to accommodate products of different weights.

3,407,016
REFRIGERATOR DIVIDER SHELF ASSEMBLY
Paul E. Kronenberger, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 17, 1967, Ser. No. 623,970
2 Claims. (Cl. 312—296)



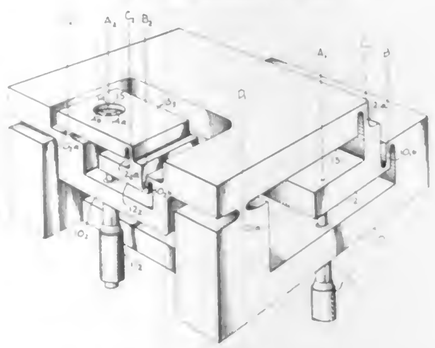
A refrigerator compartment divider assembly separates a compartment defined by an inner liner into a high humidity compartment and a flowing cold compartment including a divider shelf surrounded by and supportingly received on a support rail. The rail has a drain trough portion and seal supporting edges for a first seal member on the rail for covering the trough and a second seal member on the rail for diverting condensate from the liner walls of the high humidity compartment into the trough.

3,407,017
ELEMENT FOR OPTICAL LOGIC
Harold Fleisher, Poughkeepsie, and Kurt M. Kosanke, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 29, 1964, Ser. No. 378,680
5 Claims. (Cl. 350—150)



Variable logic functions can be generated by an electro-optic device which varies the polarization of incident light in dependence upon the logical inputs and passes to an intensity detector light having an intensity dependent upon the input responsive polarization variation. A pair of crystals of electro-optic active material are positioned along the transmission path and operate as quarter wave plates when the logical inputs are applied thereto. The orientation of the optical axes of the crystals are such that the output light from the combination will be right or left circularly polarized or plane polarized in a first or second direction depending upon the logical combination of the inputs.

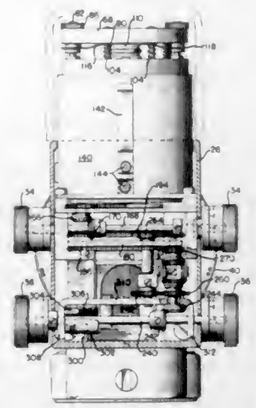
3,407,018
TWO-AXIS ANGULAR POSITIONING APPARATUS FOR ADJUSTING THE POSITION OF AN OPTICAL ELEMENT
Jack V. Miller, Azusa, Calif., assignor to Electro-Optical Systems, Inc., Pasadena, Calif.
Filed Jan. 30, 1964, Ser. No. 341,451
2 Claims. (Cl. 350—321)



An angular positioning apparatus having an optical element mounted on a beam supported at both ends by taut-band flexure pivots and a lever supported at one end by a taut-band flexture pivot and supporting one of the beam flexure pivots with the beam and lever arranged so that the optical element is rotated about its axis with a large mechanical advantage.

3,407,019
SLIT LAMP
Leonard A. Wilkinson, Snyder, N.Y., assignor to American Optical Company, Southbridge, Mass.
Filed Sept. 23, 1964, Ser. No. 398,698
2 Claims. (Cl. 351—14)

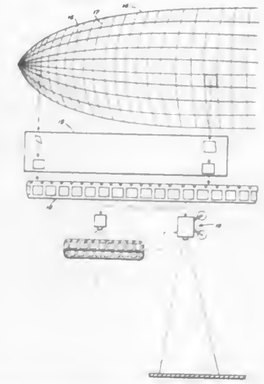
1. In a slit lamp assembly, in combination,
a light source and a condenser system optically aligned therewith,
a pair of interconnected carriers having openings centered on the optical axis of said condenser and mounted for rotation about such optical axis,
a pair of jaws having spaced, parallel edges disposed on opposite sides of the optical axis, guide means mounting said jaws on one of said carriers for movement toward and away from each other to vary the spacing between said edges,
cam and projecting means connecting the other carrier to said jaws for moving said jaws in response to relative rotation between said carriers,
a first manually actuated control member connected to said one carrier and an epicyclic drive train for rotating said one carrier to vary the size of the slit between said jaws,
a second manually actuated control member connected to said pair of carriers and to said epicyclic drive train for rotating said carriers in unison to rotate the slit,



said epicycllic drive train connected to said pair of interconnected carriers and having first and second power transmission input paths and a power transmission output path and operable to impart drive to said power transmission output path in response to input drive to either of the power transmission input paths while the other power transmission input path is braked, said drive train including a rotatable driven member, a first driving member, a second driving member, means connecting said first and second driving members to said driven member, means including a drag brake connecting said one carrier to said first driving member and forming, with said first driving member, the first power transmission input path for said epicyclic drive train, and means including a drag brake connecting said second manually actuated control member to said second driving member and forming therewith the second power transmission input path for said epicyclic drive train.

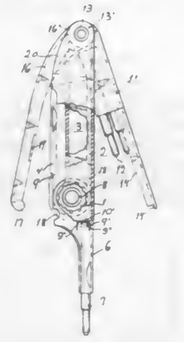
3,407,020
CINEMATOGRAPHIC METHOD
Robert Stevenson Neasham, 1910 W. Surrey Ave., Phoenix, Ariz. 85029
Filed July 27, 1965, Ser. No. 475,297
2 Claims. (Cl. 352—38)

A method of interpreting information contained in a photographic record of frames from an aerial photographic strip to provide a positive transparency and selecting a frame from the transparency. Exposing a number of frames from a second film, differing in contrast from the first film, each frame of the second film being representative of the selected transparency. Producing a



continuous film strip from the second film and viewing the continuous film strip by means of a screen and projector.

3,407,021
POCKET UTILITY DEVICE INCLUDING WRITING INSTRUMENT
Alfred Mosch, Jackson Heights, N.Y. (442 Poplar St., Bridgeport, Conn. 06605)
Filed Aug. 8, 1966, Ser. No. 570,980
11 Claims. (Cl. 401—29)

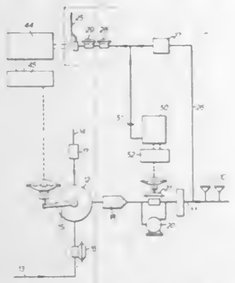


The present application discloses a pocket utility device having a rigid oblong support element having a corrugated cross sectional configuration throughout substantially the length thereof and having alternate longitudinal ridges and grooves, utensils being swingably connected to said support element and resting in said grooves when not in use.

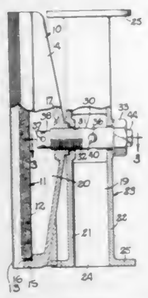
3,407,022
CONTROL OF GAS FLAME CHARACTERISTICS
Ronald William John Andrews, John Raymond Kenward, and John Reginald Dewhurst, London, England, assignors to South Eastern Gas Board
Filed Nov. 4, 1966, Ser. No. 592,217
7 Claims. (Cl. 431—8)

An automatic regulating arrangement for simultaneously controlling the flame and total heat release of a working gas burner supplied with a gas/air mixture in adjustable proportions and at a variable controlled pressure. A first control burner is supplied with the gas/air mixture at the same controlled pressure and the heat release from its combustion is sensed by means of a temperature-responsive element, e.g., the Wobbe Number Recorder, whose output signal is utilized to regulate the con-

trolled pressure of the gas/air mixture in such a way as to keep the total heat release of the first control burner and of the working burner constant. In addition a second control burner, of Bunsen type, is supplied with the same gas/air mixture but at a governed constant pressure, and variations in the blue cone height of the flame of the Bunsen burner are sensed by means of a thermocouple, whose output signal is utilized to operate a motorized proportioning valve by which the proportions of gas and air in the said mixture are automatically adjusted in such a way as to regulate the blue cone height of the Bunsen burner flame to a constant value and also to regulate the flame height of the working burner flame to a constant value without disturbance of its total heat release. The thermocouple junction in the second control burner of Bunsen type is enclosed in a hollow metal shield of tapered form arranged vertically in the burner flame with its pointed upper end located above the apex of the blue cone, the lower end of the shield being smoothly rounded.

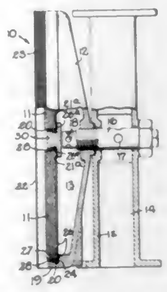


3,407,023
MOUNTING FOR REPLACEABLE GAS BURNER
Erwin E. Hirschberg and Edward E. Moore, Rockford, Ill., assignors to Eclipse Fuel Engineering Co., Rockford, Ill., a corporation of Illinois
Filed Jan. 5, 1967, Ser. No. 607,571
6 Claims. (Cl. 431—328)



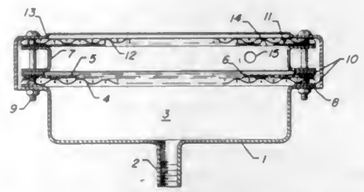
1. A gas burner having, in combination, a casing defining a chamber for receiving a combustible gas mixture and having spaced walls with alined holes extending therethrough, a burner head having a back wall abutting one of said first walls around one of said holes and having an internally threaded hole smaller than and alined with the latter hole, said head having a chamber covered by a wall with passages therethrough for passing said mixture for combustion, a tube extending through said first holes and having a head at its outer end abutting said casing, means operable in response to turning of said tube relative to said casing to clamp said casing and said head into sealed abutment, while permitting removal of said head by turning and retracting said tube, and holes in said tube establishing communication between the tube and said casing chamber within the latter and between said tube and head chamber within the latter.

3,407,024
GAS BURNER
Erwin E. Hirschberg and Edward E. Moore, Rockford, Ill., assignors to Eclipse Fuel Engineering Co., Rockford, Ill., a corporation of Illinois
Filed Dec. 23, 1966, Ser. No. 604,218
3 Claims. (Cl. 431—328)



2. A gas burner having, in combination, a dished casing having an opening at one side defined by an axially facing shoulder surrounded by a continuous peripheral flange, a burner plate received in the recess defined by said shoulder and flange wall and having transverse passages for passing therethrough gas delivered under pressure into said casing for burning at the outer face of the plate, said casing being composed of material having a coefficient of thermal expansion substantially greater than that of said plate, a gasket ring covering said shoulder and cemented on one side to the shoulder and on the other side to the back of said plate, and filling of high temperature refractory cement disposed in the space between said flange wall and the peripheral edge of said plate and bonded to said wall and the edge surface of the plate, said gasket ring being composed of ceramic fiber paper adapted to accommodate the relative edgewise shifting of said plate and shoulder incident to temperature changes whereby to seal the joint between the casing and plate against the escape of gas therethrough under the changing temperature condition occurring in service use of the burner.

3,407,025
SEMI-CATALYTIC INFRA-RED HEAT PRODUCING UNIT
Leslie C. Hardison, Chippewa Falls, Wis., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Oct. 19, 1964, Ser. No. 404,831
10 Claims. (Cl. 431—329)



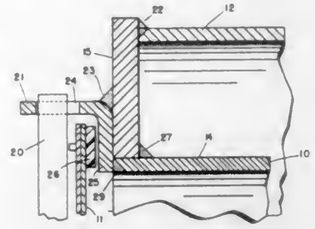
A semi-catalytic infra-red heater operating on gaseous fuel comprising a first stage non-catalytic alloy metal screen and a second stage catalyst coated alloy metal screen spaced a short distance downstream therefrom, said screens being supported by a housing having an air and fuel supply inlet thereto. The screeens may be flat and parallel, or tubular and concentric.

CHEMICAL

3,407,026
SOIL RETENTION OF AMINOPLAST RESIN-SOFTENER-EPICHLOROHYDRIN MODIFIED CELLULOSIC FABRICS OBVIATED BY INCLUSION OF CARBOXYMETHYL CELLULOSE IN REACTION SYSTEM
William L. Mauldin, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
No Drawing. Continuation of abandoned application Ser. No. 91,307, Feb. 24, 1961. This application Nov. 24, 1965, Ser. No. 511,286
5 Claims. (Cl. 8—115.6)

1. In the process of improving the wrinkle resistance of a cellulosic textile material by impregnating said textile material with an aqueous bath including an aminoplast textile resin, an acid acting catalyst and a softener, curing the resin on the textile material and applying a wet cross-linking reagent selected from the group consisting of epoxides, haloepoxides, halohydrins and divinyl sulfones, to the textile material while it is swollen and wet with strong caustic, the improvement which comprises applying to the textile material prior to the reaction of said cross-linking reagent therewith, a carboxymethyl cellulose or an alkali metal salt thereof, whereby the soil pickup and retention of the textile material is substantially reduced with considerably less susceptibility to chlorine damage.

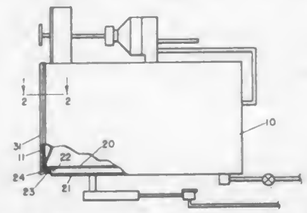
3,407,027
AUTOCLAVE SHELL CONSTRUCTION
Alfred B. Huston, Erie, Pa., assignor to American Sterilizer Company, Erie, Pa., a corporation of Pennsylvania
Filed May 13, 1964, Ser. No. 366,969
2 Claims. (Cl. 21—91)



In the present invention, it has been found possible to reduce the thickness of skins of bulk sterilizers by spacing them apart to provide the strength requirements and to provide the proper stress design. The end ring design is such that it is possible to keep the door arms shorter than prior designs. The spacing angle welded to the end ring makes it possible to provide a corrosion-proof sealing surface and locking arm support with a minimum amount of material and effort.

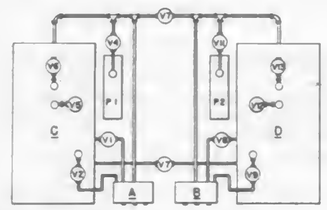
3,407,028
STERILIZER DOOR
Alfred B. Huston, Erie, Pa., assignor to American Sterilizer Company, Erie, Pa., a corporation of Pennsylvania
Filed June 22, 1964, Ser. No. 376,785
2 Claims. (Cl. 21—91)

The invention disclosed herein relates to an autoclave with a door. The door is made of two plates. The outer plate is flat and the inner plate is dished inward away from the outer plate and spacers are provided between the inner and outer plates. The outward surfaces of the outer plate are made of corrosive-resistant material and a seal is provided between the flat surfaces of the door



and the autoclave. By having the lining of the autoclave made of a corrosive-resistant material, the remainder of the door can be made of ordinary steel or the like and, therefore, a much more economical door can be constructed.

3,407,029
COMBINED STERILIZER CHAMBERS AND CONTROL
James B. Krahe, Erie, Pa., assignor to American Sterilizer Company, Erie, Pa., a corporation of Pennsylvania
Filed Feb. 4, 1965, Ser. No. 430,445
3 Claims. (Cl. 21—93)



1. A control for sterilizers comprising
a first chamber and a second chamber,
a plurality of first valve means connected to sources of vacuum and sources of gas and to said first chamber for connecting said sources of vacuum and sources of gas to said first chamber,
a plurality of second valve means connected to sources of vacuum and sources of gas and to said second chamber for connecting said sources of vacuum and sources of gas to said second chamber,
a first cycle switch connected to said first valve means,
a second cycle switch connected to said second valve means,
a selector switch,
a source of power,
said selector switch having a first position and a second position,
said selector switch having means to connect said first cycle switch to said second valve means when said selector switch is in said first position whereby said chambers may be both operated simultaneously from said source of power from said first cycle switch,
said selector switch having means thereon connecting said first cycle switch to said source of power and connecting said second cycle switch to said source of power independent of each other when said selector switch is in said second position whereby said chambers can each be operated independent of the other through said first cycle switch and said second cycle switch, respectively.

3,407,030

METHOD OF CATALYTICALLY TREATING GASES

Alan F. Clifford, West Lafayette, Ind., and Joseph Jaffe, Berkeley, Calif., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application Dec. 31, 1962, Ser. No. 248,299, now Patent No. 3,284,370, dated Nov. 8, 1966. Divided and this application Aug. 10, 1965, Ser. No. 478,535

5 Claims. (Cl. 23—2)

Exhaust gas conversion is accomplished with a supported CuO, rare earth oxide catalyst. The supports employed are alumina or thoria with pore volumes of 0.1 to 0.7 ml./gm., pore diameters of 25 A. to 400 A. and surface areas of 5 to 500 m.²/gm.

3,407,031

PROCESS FOR THE MANUFACTURE OF INORGANIC CHLORIDES

Heini Fuerer, Basel, and Wilfried Rockenbauer, Therwil, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Mar. 29, 1966, Ser. No. 538,199

Claims priority, application Switzerland, May 22, 1965, 7,144/65

7 Claims. (Cl. 23—15)

A process is provided for the manufacture of the chlorides of the elements vanadium, molybdenum, tungsten, tantalum, niobium, titanium and boron by chlorination of a mixture of ferro-alloys, carbides or hard metal scrap of these elements and sodium chloride with a liquid melt of sodium chloride and ferric chloride. The resulting vapour-form chloride of the element is removed from the reaction zone and condensed.

3,407,032

METHOD FOR PREPARING REDUCED TUNGSTEN OXIDE

Lance Kenneth Ziering, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Jan. 5, 1966, Ser. No. 518,796

10 Claims. (Cl. 23—22)

A novel process is provided for preparing solid, reduced tungsten oxide which comprises the steps of: admixing in at least stoichiometric amounts (a) a metatungstate selected from the group consisting of ammonium metatungstate, sodium metatungstate and potassium metatungstate and (b) an alkali metal borohydride in an aqueous solution maintained at a pH between about 10 and 14, dropwise adding to the latter solution a non-oxidizing acid to effect the precipitation of said metatungstate as reduced tungsten oxide, terminating the addition of said acid when precipitation is no longer observed, and recovering a solid, amorphous, reduced tungsten oxide.

3,407,033

METHOD OF TREATING TITANIUM ORES WITH HYDROCHLORIC ACID TO PRODUCE TITANIUM TETRACHLORIDE THEREFROM

Hermann Rüter and Manfred Haerter, Ludwigshafen (Rhine), Egon Cherdron, Limburgerhof, Pfalz, and Eugen Scheuermann, Hassloch, Pfalz, Germany, assignors to Gebruder Giulini G.m.b.H., Ludwigshafen (Rhine), Germany

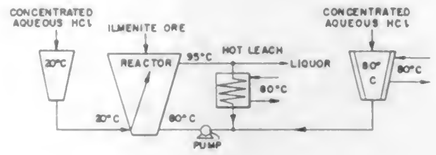
Filed Apr. 27, 1966, Ser. No. 545,658

Claims priority, application Germany, Jan. 21, 1966, G 45,783

12 Claims. (Cl. 23—87)

1. Method for the decomposition of titanium ores to produce titanium tetrachloride therefrom with hydrochloric acid having a concentration above about 32% by weight, under an initial pressure greater than atmospheric and at elevated temperature above the boiling point of the hydrochloric acid, comprising the steps of

(a) providing a loosely constituted body of a titanium ore in a reaction zone, introducing streams of hot hydrochloric acid for penetrating said body of ore to attain a predetermined decomposition temperature of the ore at least about 70° C.; and



(b) introducing cold hydrochloric acid at a temperature between about 20° C., and about 60° C., into said reaction zone at a stream velocity of said cold hydrochloric acid sufficient for cooling said zone thereby to compensate for the heat of reaction and to maintain the decomposition reaction temperature within the range of about 70° to about 100° C., whereby the titanium tetrachloride produced is dissolved and no hydrolytic decomposition of said titanium tetrachloride occurs.

3,407,034

WHITE IRON PHOSPHATE

Leonard M. Bennetch, Bethlehem, Pa., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed June 16, 1965, Ser. No. 464,572

6 Claims. (Cl. 23—105)

Preparation of white iron phosphate particularly suitable for inhibiting corrosion in primer paints.

3,407,035

PRODUCTION OF ALKALINE EARTH METAL PYROPHOSPHATES

Chung Yu Shen, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Dec. 27, 1966, Ser. No. 604,663

11 Claims. (Cl. 23—109)

A process for producing crystalline pyrophosphates selected from the group consisting of alkaline earth metal pyrophosphates, alkaline earth metal-alkali metal pyrophosphates, alkali earth metal-ammonium pyrophosphates and mixtures thereof is disclosed. The process comprises (a) forming a reaction medium by adding in any order: solid pyrophosphoric acid, an alkaline earth metal source and water and (b) maintaining said reaction medium at a pH of from about 1 to about 6, at a temperature of from about 0° C. to about 100° C. and at a water concentration of at least about 80% by weight based upon the total weight of said reaction medium for a time sufficient to form said crystalline pyrophosphates.

3,407,036

PROCESS FOR THE PRODUCTION OF HYDROXYLAMINE SULFATE SOLUTIONS BY CATALYTIC HYDROLYSIS OF HYDROXYLAMINE MONOSULFONATE SOLUTIONS

Hermann Röhl, Marl, Germany, assignor to Chemische Werke Huls Aktiengesellschaft, Marl, Germany

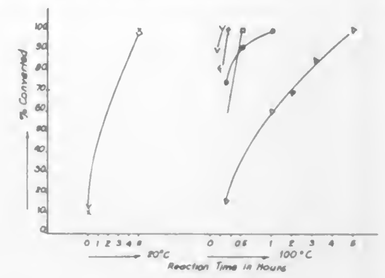
Filed Jan. 25, 1965, Ser. No. 427,633

Claims priority, application Germany, Jan. 30, 1964, C 32,006

9 Claims. (Cl. 23—117)

The production of hydroxylamine sulfate, conventionally used as a photographic developer, reducing agent, etc., by hydrolyzing the hydroxylamine monosulfonate in

the presence of about 0.01–2% by weight, based on the weight of said hydroxylamine monosulfonate, of a water-



miscible aliphatic carbonyl compound such as an aldehyde or ketone.

3,407,037

PROCESS OF MAKING Mn_4Si_7 THERMOELECTRIC ELEMENT AND PRODUCT OF SAID PROCESS

Walter B. Bienert, Baltimore, and Floyd M. Gillen, Bradshaw, Md., assignors to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland

Filed Feb. 10, 1965, Ser. No. 431,668

2 Claims. (Cl. 23—204)

A process of making improved, crack-free Mn_4Si_7 thermoelements and the products by process made by mixing Mn and Si in a molar ratio of 4:7, melting the mixture, solidifying the melt, crushing the solid melt into finely divided particles, and hot pressing the finely divided particles into the shape desired.

3,407,038

SHREDDED CARBONACEOUS FIBER COMPACTIONS AND METHOD OF MAKING THE SAME

William C. Beasley, Lawrenceburg, Tenn., assignor to Union Carbide Corporation, a corporation of New York

Filed July 9, 1962, Ser. No. 208,510

8 Claims. (Cl. 23—209.2)



1. A unique compacted carbonaceous article which has been manufactured by shaping under pressure a mass of randomly oriented shredded fibers of a carbonaceous woven textile material and a carbonizable bonding agent selected from the group consisting of thermosetting resins, pitches and mixtures thereof, and subsequently carbonizing said bonding agent.

3,407,039

OXIDATION OF HYDROGEN CHLORIDE ON COPPER EXCHANGED MORDENITE

Douglas E. Bryant, Barre, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts

No Drawing. Filed Dec. 17, 1965, Ser. No. 514,656

1 Claim. (Cl. 23—219)

Copper exchanged mordenite for the Deacon reaction ($4HCl+O_2 \rightarrow 2Cl_2+2H_2O$) or for chlorination of hydrocarbons is employed up to 800° C. to avoid loss of copper catalyst by volatilization. Exchange of 30% or more of cation sites on Na or H mordenite disclosed as effective.

3,407,040

RECOVERY OF FREE SULFUR FROM SOUR GASES

Lorenz V. Kunkel, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware

Filed Sept. 22, 1966, Ser. No. 581,282

7 Claims. (Cl. 23—225)

In Claus type sulfur plants it is necessary to cool sulfur-bearing gases and then to reheat these gases above 400° F. to initiate reaction in bauxite reactors. It is proposed to oxidize a stream of hot vapor with air over bauxite catalyst at high space velocities at temperatures above 600–900° F., and to blend the effluent from the catalytic reheater with the remaining sulfur stream to raise the vapor temperature at the reactor inlet to the required temperature.

3,407,041

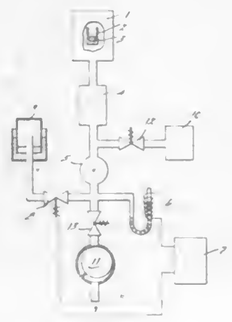
METHOD FOR THE QUANTITATIVE DETERMINATION OF NITROGEN AND OXYGEN IN METAL SAMPLES

Thaddäus Kraus, Vaud, Liechtenstein, assignor, by mesne assignments, to The Bendix Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 23, 1964, Ser. No. 406,131

Claims priority, application Switzerland, Nov. 8, 1963, 13,738/63

3 Claims. (Cl. 23—230)

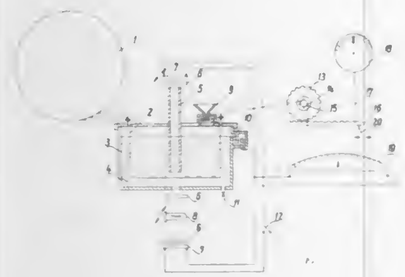


A method of quantitatively determining the nitrogen and oxygen content of metal samples by using thermal conductivity of the gases evolved whereby the numerous measurements necessary to properly interpret measured thermal conductivity are no longer necessary. By injecting an amount of hydrogen into the gas sample prior to measurement to achieve a pre-selected gas pressure during the measurement, gas content can be directly computed from a prepared calibration curve. This allows automated computer analysis with reduced storage of calibration curves.

3,407,042
WELL TESTING METHOD
Loren W. Slentz, Laguna Beach, Calif., assignor to Chevron Research Company, a corporation of Delaware
No Drawing. Filed June 24, 1965, Ser. No. 466,808
8 Claims. (Cl. 23—230)

A method of testing for the presence of drilling filtrate in a well sample comprising adding nitrate ion to the drilling mud and subsequently comparing the concentration of nitrate ion found in the well sample with that originally in the drilling mud.

3,407,043
METHOD AND APPARATUS FOR RAPID DETERMINATION OF 1-PHENYL-3-PYRAZOLIDONE (PHENIDONE) IN DEVELOPING SOLUTIONS
Dumitru Morozan, Buftea, Raionul Racari, Rumania, assignor to Comitetul de Stat pentru Cultura si Arta Bucharest, Piata Scinteii, Rumania
Filed July 12, 1966, Ser. No. 564,564
Claims priority, application Rumania, July 13, 1965, 50,005
5 Claims. (Cl. 23—230)

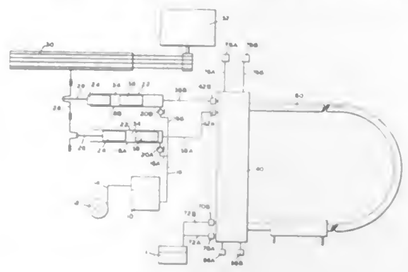


Rapid determination of phenidone in photographic developing solutions of the hydroquinone-phenidone type is effected by making use of a photographic method to measure the photographic effect produced by a developing solution when diluted with a buffer on a non-sensitized exposed film while it is in the solution. The measurements are made by a photoelectric colorimeter provided with two photoelectric cells sensitive to red light and a source of non-actinic light. A tank or container containing the solution to be analyzed and the film, exposed on half of its surface only, is located between the light source and one of the cells, so that light is directed on the exposed and unexposed parts of the films. A milliampermeter is used to measure the darkening level which, in turn, is converted to phenidone concentration.

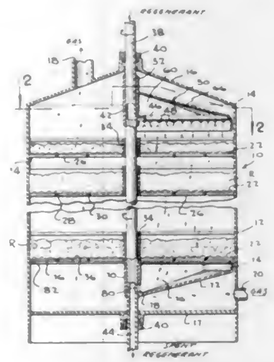
3,407,044
APPARATUS FOR CONSERVING ENERGY IN HIGH PRESSURE CHEMICAL REACTORS
Willard E. Buck, Los Gatos, Calif., assignor of one-fifth to Fundamental Research Company, Berkeley, Calif., a limited partnership of California
Continuation-in-part of application Ser. No. 335,916, Jan. 6, 1964. This application Dec. 12, 1966, Ser. No. 601,174
8 Claims. (Cl. 23—252)

Apparatus for utilization of energy contained in chemical reaction products at high pressure and a portion of energy derived from the expansion thereof to supply the major portion of the energy needed to pump the reactants into a high pressure reactor.

This apparatus is useful in carrying out chemical reactions requiring elevated temperatures and pressures such as Diels-Alder adduction of dienes with aromatic dienophiles as set forth in United States Patent No. 3,177,245, issued Apr. 6, 1965, and assigned to the same assignee.



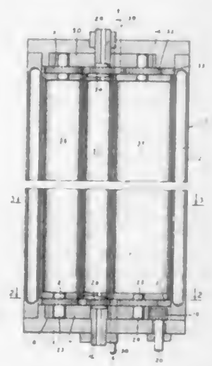
3,407,045
GAS PURIFIER
Arthur R. Temple, 7803 Yolanda Road, Richmond, Va. 23239
Filed Mar. 3, 1965, Ser. No. 436,858
7 Claims. (Cl. 23—283)



1. Gas purifying apparatus for the continuous regeneration of solid adsorbents during the flow of gas through said adsorbent comprising:
- an upright cylindrical housing,
- a closed top and a closed bottom secured to said housing,
- gas flow openings in said top and bottom providing a purified gas outlet at one end of the housing and a contaminated gas inlet at the other end of the housing,
- at least one shelf positioned within said housing,
- said shelf having a gas permeable screen,
- solid adsorbents covering the screen of said shelf,
- a header for spraying a regenerant for the adsorbents onto the top shelf,
- regenerant inlet means connected to said header,
- a top hood fixed relative to said header and extending above said header to include a substantial portion of the cross sectional area of said cylindrical housing,
- a bottom tray fixed relative to said hood and positioned beneath the lowermost shelf,
- said tray being at least coextensive to the area of the hood and header when projected downwardly on said tray,
- said tray collecting regenerant sprayed from said header,

- regenerant outlet means connected to said bottom tray for removal of said regenerant,
- rotation means providing relative angular movement between said shelf and said header so that regenerant is continuously sprayed from said header progressively over all said adsorbents on said relatively moving shelf to regenerate said adsorbents,
- said hood, said tray, said rotation means, said inlet and said outlet being so constructed and arranged to cause regenerant to pass through the portion of the housing between the tray and the hood and at the same time to cause the gas to flow primarily through the remaining portion of the housing,
- said hood and said tray being so constructed and arranged to substantially prevent entrainment of regenerant in the gas.

3,407,046
REACTOR FOR CONTINUOUS POLYMERIZATION
Jean-Marie Massoubre, Clermont-Ferrand, France, assignor to Compagnie Generale des Etablissements Michelin, raison sociale Michelin & Cie, Clermont-Ferrand, Puy-de-Dome, France
Filed Jan. 27, 1966, Ser. No. 523,342
Claims priority, application France, Feb. 1, 1965, 3,889
3 Claims. (Cl. 23—285)



A reactor for the production of polymers is provided with a hollow cylindrical shell and an eccentrically-mounted carrier gear. Rotors oval in cross-section are mounted on the carrier gear and simultaneously rotate and gyrate to wipe the interior wall of the shell. The gyration is about the axis of the carrjer gear and eccentric with respect to the axis of the shell.

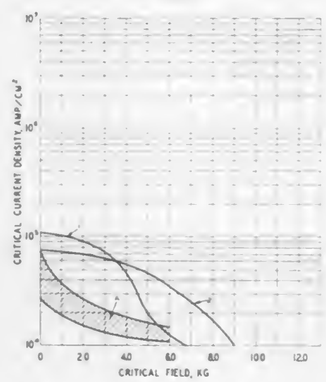
3,407,047
PREPARATION OF PHOSPHONITRILIC CHLORIDE POLYMERS
Norman Lovelace Paddock, Altrincham, and Harold Trevor Searle, Sutton Coldfield, England, assignors, by mesne assignments, to Hooker Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 807,748, Apr. 21, 1959. This application Sept. 25, 1963, Ser. No. 311,319
Claims priority, application Great Britain, Apr. 25, 1958, 13,223/58
6 Claims. (Cl. 23—357)

The time for the reaction, in solution, of phosphorus pentachloride with ammonium chloride to form phosphonitrilic chloride polymers is materially reduced by incorporating in the reaction medium a small amount of a metallic salt which is capable of forming a co-ordination complex with ammonia or an amine.

3,407,048
MOLYBDENUM COMPOSITE MATERIALS AND METHOD OF MAKING THE SAME
Richard H. Krock, Peabody, and Edward J. Zdanuk, Lexington, Mass., assignors to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware
Filed Jan. 22, 1968, Ser. No. 699,658
8 Claims. (Cl. 29—182.1)

A composite material in which the primary by volume constituent is molybdenum having a low gas content for use as a current carrying material. The composite material consists essentially of a substantially continuous skeleton of integrally bonded molybdenum particles, the voids of which are filled by a substantially continuous matrix of a metal alloy which is substantially mutually insoluble and substantially nonreactive with molybdenum. The alloy matrix includes at least one highly conductive metal and another metal which is less conductive wherein the less conductive metal tends to concentrate at the interface between the molybdenum and the alloy matrix.

3,407,049
SUPERCONDUCTING ARTICLES AND METHOD OF MANUFACTURE
Donald C. Freeman, Jr., Tonawanda, N.Y., and Milton C. Otto, Indianapolis, Ind., assignors to Union Carbide Corporation, a corporation of New York
Filed May 17, 1965, Ser. No. 456,412
7 Claims. (Cl. 29—183)



A superconducting article having a lamellar structure of microscopic metallic particles bonded into interlocking relation with one another with the interface between bonded particles forming continuous filaments of metallic material having superconducting properties. The superconducting article is formed by depositing suitable metallic material in powdered form into a high velocity, high temperature gas stream being directed against the surface of a suitable base and heat treating the bonded particles.

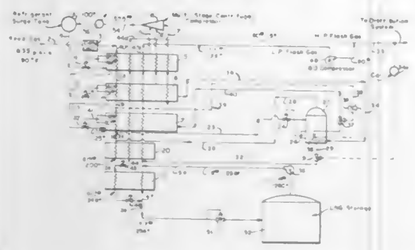
3,407,050
DUPLEX NICKEL MATERIAL
Robert Howard Trapp, deceased, late of Ringwood, N.J., by Gloria Worthington Trapp, executrix, Pittsburgh, Pa., and Howard Wayne Hayden, Jr., and Jere Hall Brophy, Suffern, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Treasury
No Drawing. Filed May 4, 1965, Ser. No. 453,570
12 Claims. (Cl. 29—199)

A composite coinage material having outer layers made of a white nonmagnetic nickel alloy such as cupronickel or nickel silver and a core layer of copper having a controlled thickness is characterized by a density-resistivity-permeability factor such that it may be used interchangeably with silver alloy coins of like dimension.

3,407,051
THERMALLY STABILIZED, LIQUID HYDROCARBON FUELS
John W. Thompson and James C. Ownby, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Original application Oct. 31, 1960, Ser. No. 65,954. Divided and this application Dec. 6, 1963, Ser. No. 334,074
2 Claims. (Cl. 44—63)

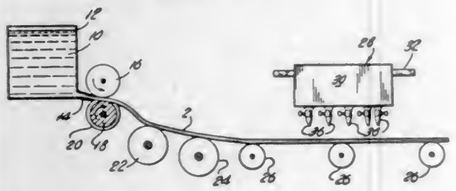
A composition including a major amount of a petroleum oil fraction of the gasoline-kerosene boiling range and a stabilizing amount of the imide-amide reaction product obtained by reacting ethylenediamine tetraacetic acid with an aliphatic primary amine having 4–24 carbon atoms per molecule.

3,407,052
NATURAL GAS LIQUEFACTION WITH CONTROLLED B.t.u. CONTENT
Charles O. Huntress and Russell C. Proctor, Jr., Leawood, Kans., assignors to Conch International Methane Limited, Nassau, Bahamas, a Bahamian company
Filed Aug. 17, 1966, Ser. No. 573,068
8 Claims. (Cl. 48—196)



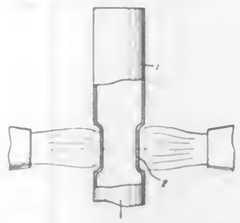
A process for maintaining a gaseous stream supplied to a distribution system at a desired B.t.u. value in which a high pressure natural gas stream is liquefied while being maintained at high pressure. A major portion of the liquefied natural gas is reduced in pressure and stored or passed back in heat exchange with the natural gas being liquefied thereafter passing to the distribution system. A minor portion of the liquefied natural gas is flashed to produce a heavier fraction of liquefied hydrocarbons which are removed under calorimeter control, regasified, and added to the distribution system at a rate to maintain the B.t.u. value of the gaseous stream supplied to the distribution at the desired value.

3,407,053
PROCESS FOR MANUFACTURING GLASS IN FINE GRANULAR FORM
Ernst Otto Schulz, Neuhaus am Rennweg, Germany, assignor to VEB Schaumglaswerk Taubenbach, Neuhaus am Rennweg, Germany
Filed Apr. 21, 1965, Ser. No. 449,853
6 Claims. (Cl. 65—21)



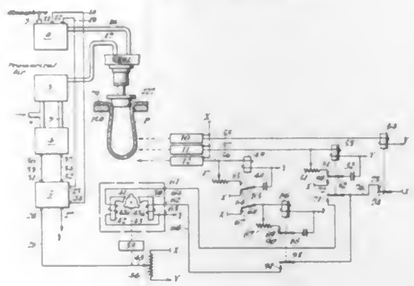
A process and apparatus for manufacturing glass in fine granular form. The glass is brought to its transformation temperature at which water droplets spread thereon to form a film which suddenly vaporizes to leave at the area previously occupied by the liquid film a dense network of capillary cracks. A glass sheet approximately at this transformation temperature and a field of liquid droplets are moved one relative to the other to cover the sheet at one face with the liquid droplets in a gap-free manner so that the glass sheet is formed with the fine cracks over an entire area of one face of the glass sheet. Then the glass sheet is cooled so that the depth of the cracks increases until the glass sheet is unstable and falls apart in granular form. The apparatus transports the glass sheet with substantially no friction with respect thereto while the droplets are derived from sources of the apparatus which can be separately adjusted to control the size of the droplets and the frequency with which they fall.

3,407,054
METHOD OF MAKING BASELESS LAMP BULB
Akira Ose, Kawasaki-shi, and Eizo Goto, Chigasaki-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Continuation of application Ser. No. 273,375, Apr. 16, 1963. This application July 15, 1966, Ser. No. 565,657
Claims priority, application Japan, Apr. 21, 1962, 37/15,490
2 Claims. (Cl. 65—55)



A method of making baseless lamp bulbs comprising reducing the diameter and wall thickness of a straight glass tube by heating and elongating an end portion thereof, cutting the reduced end portion to a desired length, press molding the reduced end portion to seal and retain filament-carrying lead-in wires in the reduced end portion to form a socket end having truncated recesses therein, and fusing and sealing the other end portion of the glass tube to form a baseless lamp bulb having a greater inner volume than conventional baseless lamp bulbs.

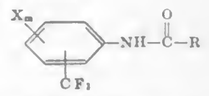
3,407,055
AUTOMATIC CONTROL MEANS
Leroy C. Argyle, Elmira, and Arthur T. Bublitz, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed May 7, 1965, Ser. No. 453,911
9 Claims. (Cl. 65—161)



Apparatus or means for continuously automatically detecting and controlling the length of a succession of pendent parisons or blanks blow-formed from a molten thermoplastic material, such apparatus including a detector comprising at least three vertically stacked radiant energy responsive devices for detecting the length of said blanks and means for adjusting the pressure of puff air used for blow-forming said blanks in accordance with deviations from a desired range of length for the blanks detected by said detector.

3,407,056
HERBICIDAL COMPOSITION AND METHOD
Herbert Schwartz, Chimes Terrace, Vineland, N.J. 08360
No Drawing. Continuation-in-part of application Ser. No. 451,991, Apr. 29, 1965. This application Mar. 17, 1966, Ser. No. 535,032
13 Claims. (Cl. 71—118)

Novel herbicidal compositions comprising at least one compound of the formula



I

wherein X is selected from the group consisting of halogen, nitro, lower alkoxy, NH_2, and mono- and di-lower alkyl amino, *m* is an integer from 0 to 2 and R is selected from the group consisting of hydrogen, aliphatic and halogenated aliphatic radicals having 1 to 10 carbon atoms, cycloaliphatic radicals having 3 to 8 carbon atoms, and aralkyl and aryl radicals and a major amount of an inert carrier. The invention also relates to a novel method of regulating the growth of plants.

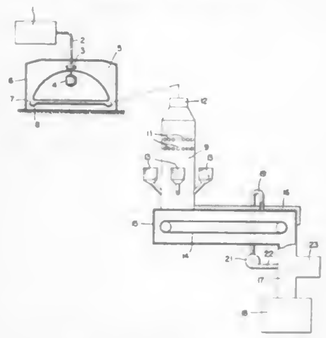
3,407,057
MOLYBDENUM POWDER FOR USE IN SPRAY COATING
George A. Timmons, Ann Arbor, Mich., assignor to American Metal Climax, Inc., New York, N.Y., a corporation of New York
No Drawing. Filed Oct. 23, 1965, Ser. No. 504,208
11 Claims. (Cl. 75—.5)

A free flowing molybdenum powder for use in molten metal spray guns and made up of separate particles containing voids; and the method of making such powder which consists in melting the oxide of the metal, breaking the molten metal oxide up into separate substantially spherical droplets which are then allowed to solidify separately and reducing the resulting solidified particles with hydrogen to remove the oxygen in such a manner that the the particles do not sinter together. The reduced metal particles are of a size range that will pass a 150 mesh screen and be retained on a 325 mesh screen. The molybdenum may contain minor quantities of other metal elements or oxides but they are optional.

3,407,058
PROCESS FOR PRODUCING METALLIC IRON FROM HYDRATED OXIDIC IRON ORES
C F Gray, Baton Rouge, and Sebastian Marc Laurent, Greenwell Springs, La., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed May 7, 1965, Ser. No. 454,204
13 Claims. (Cl. 75—26)

A process for suppressing decrepitation in the reduction of hydrated iron ore to substantially metallic iron comprising the steps of (1) preheating the hydrated iron ore at temperatures ranging from about 150° F. to about 585° F. in a reducing atmosphere to partially reduce the ore to substantially ferrous oxide without driving off the waters of hydration, this step being followed by (2) elevation of the temperature to, e.g., 1200–1800° F., and completion of the reduction to produce substantially metallic iron. In a specific embodiment, goethite, i.e., $Fe_2O_3 \cdot H_2O$, is reduced in the initial preheat step to $FeO \cdot H_2O$, this step being followed by completion of the reduction to substantially metallic iron.

3,407,059
REDUCING A MIXTURE OF ORES AND CARBON
Emil Blaha, Cheltenham, Pa., assignor to Selas Corporation of America, a corporation of Pennsylvania
Filed Apr. 22, 1965, Ser. No. 449,964
5 Claims. (Cl. 75—33)



This invention relates to a method for the reduction of ore and includes pelletizing the ore, dropping the pellets through a tower furnace to heat them to reaction temperature, mixing carbon with the hot pellets so a reduction reaction will occur, collecting and holding the mixture of carbon and pellets on a conveyor until the ore is substantially reduced, and separating the reduced metal from ash when the reaction is completed.

3,407,060
PROCESS FOR PRODUCING ZINC IN A BLAST FURNACE UTILIZING OXYGEN ENRICHED AIR
John Lumsden, Avonmouth, England, assignor to Metallurgical Processes Limited, Nassau, Bahamas, a corporation of the Bahamas, and Imperial Smelting Corporation (N.S.C.) Limited, London, England, a British company doing business as Metallurgical Development Company, doing business together at Nassau, Bahamas
No Drawing. Filed Sept. 15, 1964, Ser. No. 396,756
Claims priority, application Great Britain, Sept. 30, 1963, 38,331/63
11 Claims. (Cl. 75—87)

A special carefully regulated and controlled blast of preheated oxygen-enriched air is blown into the bottom of a continuous column of oxidic zinc and coke charge materials in a zinc blast furnace to establish and maintain therein a zone of chemical and thermal equilibrium where gas and charge are at substantially the same temperature with the gas in equilibrium with oxidic zinc in the charge, but at an equilibrium temperature higher than that obtained when using a conventional blast of normal preheated air, to increase the throughput of the furnace and to reduce the ratio of coke consumed to zinc produced compared with customary practice in which a normal blast of preheated air only is blown into the bottom of the furnace.

3,407,061
METAL COATING PROCESS
Irving J. Hutkin, San Diego, Calif., assignor to Whittaker Corporation, a corporation of California
Filed May 4, 1967, Ser. No. 636,153
2 Claims. (Cl. 75—208)

A difficultly wettable compact metal, for example, W, Mo, Zr, Cb, or alloys thereof is coated by forming a thin

adherent film of more easily wettable metal, for example, Cu, Ni, Fe, Co, Cr, V, or a Cu-Ag alloy on the compact metal followed by coating the thin metal film with a metal having a lower melting point than the compact metal and which readily wets and bonds to the film-forming metal but which does not readily wet the compact metal, for example, Ga, In, Sn, Ag, or alloys thereof.

3,407,062
METHOD OF IMPACT EXTRUDING

Russell E. Matthews and George S. Foerster, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 5, 1967, Ser. No. 607,369
12 Claims. (Cl. 75—214)

The improvement in method of producing impact extruded articles from a light metal alloy selected from the group consisting of magnesium-base alloys and aluminum-base alloys according to which there is provided light metal alloy in particulate form having at least one-third of the particles with a longest to shortest dimension ratio of at least about two and subjecting a charge of such particulate metal to an impact extrusion operation at a temperature of at least about 600° F. The particulate metal includes chips prepared from castings as well as flattened atomized pellets.

3,407,063
HOT-PRESSING OF METAL POWDERS HAVING INERT SOLID SURFACE FILMS BY ADDING ACTIVATOR ELEMENTS

John William Butcher, Newbury, England, and Robert Lionel Samuel, Geneva, Switzerland, assignors to United Kingdom Atomic Energy Authority, London, England

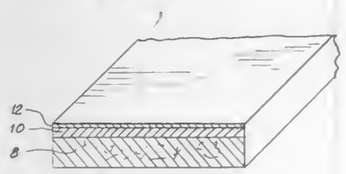
Continuation-in-part of applications Ser. No. 400,652, Oct. 1, 1964, and Ser. No. 447,960, Apr. 14, 1965. This application June 8, 1967, Ser. No. 644,671
Claims priority, application Great Britain, Oct. 7, 1963, 39,502/63; Apr. 17, 1964, 16,102/64; June 20, 1966, 27,539/66
32 Claims. (Cl. 75—226)

Some metal powders normally have surface films of compounds (e.g., oxides) which inhibit the production of high-density sintered compacts. This inhibiting effect is counteracted by hot-pressing such powders after application thereto of a small quantity of an element which promotes diffusion of the metal through the layer during the hot-pressing.

3,407,064
ELECTROPHOTOGRAPHIC OFFSET MASTER CONTAINING A COATING OF INSOLUBILIZED POLYACRYLIC ACID AND METHOD OF MANUFACTURE

Frederick O. Bach, Villa Park, and Paul E. Frasher, Chicago, Ill., assignors to A. B. Dick Company, Niles, Ill., a corporation of Illinois

Filed Apr. 1, 1965, Ser. No. 444,624
13 Claims. (Cl. 96—1.8)



An offset master which is capable of being imaged by electrophotographic technique formed of a base sheet having a continuous electrophotographic coating on the surface of the base sheet formed of zinc oxide in a resinous binder and a thin hydrophilic coating of an insolubilized polyacrylic acid present as an overcoating on the surface of the electrophotographic coating which provides a hydrophilic surface through which the electrostatic image is effective for receiving a hydrophobic developing material on the insolubilized polyacrylic acid surface to define the ink receptive image thereon.

3,407,065
PHOTOSENSITIVE LITHOGRAPHIC PLATE COATING COMPRISING DICHROMATED COLLOID AND UNMORDANTED MORDANT DYE

Lyman Chalkley, Prince Georges County, Md. (6626 Tyrian St., La Jolla, Calif. 92037)

No Drawing. Filed Oct. 28, 1964, Ser. No. 407,246
14 Claims. (Cl. 96—33)

The objective of the present invention is an improvement in bichromate sensitized lithographic plate coatings whereby a visible image is printed out during the exposure of the plate and before development. The image so obtained is useful as a guide for photocomposing, staging and any other manual operation that needs to be carried out between initial exposure and development of the plate.

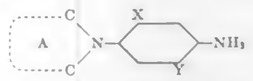
This objective is attained by the addition to the bichromate sensitized coating of a mordant dye in its unmordanted form. During exposure the color of the mordant dye, hue as well as density, changes to provide an image in which hue contrast plays an important role.

3,407,066
LIGHT SENSITIVE DIAZONIUM COMPOUNDS AND DIAZOTYPE MATERIALS

Henry Mustacchi, Chiswick, London, and Henry Thomas Foley, Thames Ditton, Surrey, England, assignors to GAF (Great Britain) Limited, London, England

No Drawing. Filed June 11, 1964, Ser. No. 374,285
Claims priority, application Great Britain, June 18, 1963, 24,210/63
8 Claims. (Cl. 96—91)

Light-sensitive diazonium compounds and diazotype materials containing the same, prepared from amines of the general formula



in which A is a heterocyclic ring containing at most, one hetero atom in addition to the nitrogen, X is a lower alkoxy group and Y is either



in which A has the same significance as above, alkylthio or arylthio; and preparation of said amines from 5-chloro-4-nitro-2-alkoxy anilines.

3,407,067
PHOTOSOLUBILIZATION WITH MERCAPTOOXAZOLES

Roxy Ni Fan, Highland Park, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 13, 1964, Ser. No. 403,632
8 Claims. (Cl. 96—107)

Photographic silver halide emulsion layers where the silver halide crystals are photosoluble and have associated therewith in greater than fog inhibiting amounts a silver mercaptide of a mercaptooxazole. Before exposure to actinic radiation the crystals dissolve more slowly in aqueous sodium thiosulfate solution than untreated crystals and after exposure dissolve readily in such solution.

3,407,068
PHOTOSOLUBILIZATION

Roxy Ni Fan, Highland Park, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 13, 1964, Ser. No. 403,631
6 Claims. (Cl. 96—107)

Photographic silver halide emulsion layers where the silver halide crystals are photosoluble and have associated therewith in greater than fog inhibiting amounts a silver mercaptide of a mercaptoselenazole. Before exposure to actinic radiation the crystals dissolve more slowly in aqueous sodium thiosulfate solution than untreated crystals and after exposure dissolve readily in such solution.

3,407,069
CONTINUOUS STREAM BREWING PROCESS EMPLOYING PERMEABLE YEAST PLUG

Ronald David Hall, Burton-on-Trent, and George Alfred Howard, Lymm, England, assignors to Allied Breweries Limited, London, England, a British company

Filed Jan. 27, 1965, Ser. No. 428,348
18 Claims. (Cl. 99—31)

A stream of wort is confined to flow upwardly along a sloping path and through a plug of yeast. The wort ferments and carries along some yeast and entrained bubbles which flow along the upper boundary of the stream until the yeast flocculates and returns to the plug along the lower stream boundary. Large gas bubbles or pressure pulsations are introduced to the stream to separate entrained bubbles from particles of yeast and thereby accelerate flocculation.

3,407,070
MANUFACTURE OF FARINACEOUS-BASED, AMYLOSE-CONTAINING FOOD PRODUCTS BY MEANS OF AN EXTRUSION TYPE PROCESS

Daniel G. Murray, Muscatine, Iowa, and Nicholas G. Marotta, Green Brook, and Richard M. Boettger, Morristown, N.J., assignors to National Starch and Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 412,818, Nov. 20, 1964. This application June 26, 1967, Ser. No. 648,960
14 Claims. (Cl. 99—83)

Ready-to-eat food products and a method for their preparation which comprises admixing a farinaceous base with a high amylose starch product, moisturizing the resulting blend, subjecting it to the simultaneous action of heat, pressure and mixing in order to form the desired shape—retaining food product, and thereafter putting the food product into its final edible form by means of a suitable cooking operation.

3,407,071
LIQUID SHORTENING COMPOSITION

George N. Bookwalter and Frank H. Brock, Decatur, Ill., assignors to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware

No Drawing. Filed July 20, 1964, Ser. No. 383,912
7 Claims. (Cl. 99—94)

An edible liquid food shortening which can be used in formulating cake mixes and which contains an edible liquid vegetable oil and less than 14% of an emulsifier system. The emulsifier system contains a glyceride ester, a solid fatty acid partial ester of a hexitan and a solid fatty acid ester of a hexitan polyoxyethylene ether and, in addition, may contain a free saturated fatty acid and glycerol monooleate.

3,407,072
PROCESS FOR PREPARING AN ACTIVE, DRY POWDERY YEAST

Minoru Aizawa, Tetsuro Matsuda, Shuichi Kawabata, Isao Omura, Isao Amano, and Takashi Nakamura, Shizuoka-ken, Japan, assignors to Toyo Jozo Co., Ltd., Tagata-gun, Japan, a corporation of Japan

No Drawing. Filed May 24, 1965, Ser. No. 458,437
Claims priority, application Japan, May 29, 1964, 39/30,059; Nov. 16, 1964, 39/64,331; Dec. 7, 1964, 39/68,450
3 Claims. (Cl. 99—96)

An active powdered dry yeast is prepared by spray drying a suspension of yeast in combination with an osmotic active agent selected from the group consisting of alkali metal salts of mineral acids, alkali metal salts of organic acids, polyhydric alcohols, xylose, and urea.

3,407,073
SOYBEAN TREATING PROCESS

Elio J. Guidarelli, Edina, Minn., assignor to Soy Food Products, Inc., Minneapolis, Minn., a corporation of Minnesota

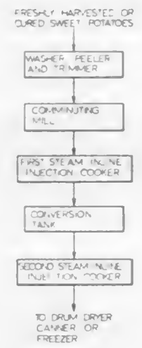
No Drawing. Filed Aug. 16, 1965, Ser. No. 480,105
9 Claims. (Cl. 99—98)

Method of treating soybeans to produce a dry crunchy palatable bean by first swelling the bean, and then treating said swollen bean with infrared radiation having a peak wave length outside the effective water absorption range.

3,407,074
PROCESS FOR SACCHARIFYING AND LIQUEFYING SWEET POTATOES

Maurice W. Hoover, Raleigh, N.C., assignor to North Carolina State University at Raleigh, Raleigh, N.C., a corporation of North Carolina

Filed June 7, 1965, Ser. No. 461,633
11 Claims. (Cl. 99—100)



A process for saccharifying and liquefying sweet potatoes includes the steps of reducing the roots whether aged and cured or freshly harvested to a fine particle, puree form, then flashing successive quantities of the puree with heat such that the temperature thereof substantially instantaneously rises to some value within a predetermined temperature range dependent on the variety and history of the particular root and which temperature is sufficient to initiate a self-sustaining enzyme activity, then holding the heated puree in bulk form while any further temperature change is gradual and does not rise above or below respective predetermined high and low temperatures and maintaining such heated bulk state for some predetermined time to obtain a controlled hydrolysis of the starch and then raising the temperature sufficiently to stop the enzyme activity and conclude the cooking preparatory to canning, freezing, dehydration or the like.

3,407,075
PROCESS FOR PRODUCING A LOW FAT SPREAD AND THE PRODUCT THEREOF
Eardley M. Barker, Rochester, Minn., assignor to Better Spreads, Inc., Rochester, Minn., a corporation of Minnesota
Filed Apr. 13, 1964, Ser. No. 359,395
4 Claims. (Cl. 99—123)

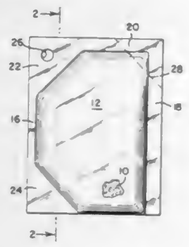


The production of a new and improved product containing essentially non-fat and fat components of whole milk for use as a substitute spread for butter, and further having important shortening effect and high moisture-retention properties for production of baked goods, and the combinations of process steps for production of such products. The production produces a fine emulsion of fat or oil globules in water or water solvents having substantially less fat content than that of butter or margarine.

3,407,076
PROTEIN-POLYMER COMPLEXES AND PROCESS
Alexander J. Ganz, Wilmington, Del., assignor to Hercules Incorporated, a corporation of Delaware
No Drawing. Filed Aug. 28, 1964, Ser. No. 392,913
9 Claims. (Cl. 99—139)

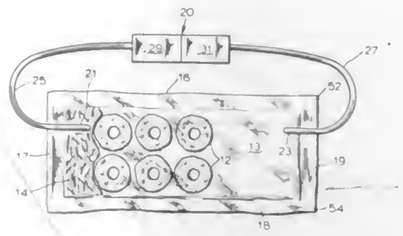
A water-soluble globulin anionic polyelectrolyte complex useful in the preparation of whipped toppings made by reacting a water soluble anionic polyelectrolyte with a globulin in a ratio of at least 1–3.5 and at a pH of 2.5 or above.

3,407,077
HANDLE FOR A HEAT-IN-THE-BAG FOOD PACKAGE
Richard R. Helin, Minnetonka, Minn., assignor to General Mills, Inc., a corporation of Delaware
Filed Nov. 10, 1966, Ser. No. 593,336
4 Claims. (Cl. 99—171)



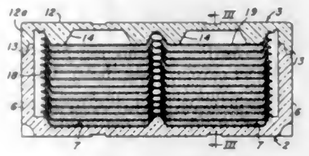
The disclosure describes a package in which a food product can be both sold and heated. The package has a pouch or envelope portion which holds the food product. There is a handle formed along one of the side edges of the pouch. This handle is made by sealing, to each other, corner areas of the side walls which form the pouch. These sealed corner areas are located at both the top and the bottom of the package along one of the side edges of the package.

3,407,078
METHOD OF PACKAGING YEAST-RAISED DOUGHNUTS
Arthur I. Schlichter, New York, N.Y., assignor, by mesne assignments, to Consolidated Foods Corporation, Chicago, Ill., a corporation of Maryland, doing business as Joe Lowe Company, Englewood, N.J.
Filed Nov. 13, 1964, Ser. No. 410,869
2 Claims. (Cl. 99—172)



Packaging yeast-raised doughnuts and a quantity of non-flowable glaze sufficient when melted to cover the surfaces of said doughnuts, by partially filling and sealing a pouch with a quantity of said ingredients, removing the entrapped air from said pouch while simultaneously replacing the same with an inert gas and re-sealing said pouch.

3,407,079
PIE CRUST PACKAGE AND METHOD OF PACKAGING
Herald E. Griffith, Glenshaw, and Richard A. Danko, New Kensington, Pa., assignors to Star-Kist Foods, Inc., McKees Rocks, Pa., a corporation of California
Filed Dec. 21, 1965, Ser. No. 515,299
9 Claims. (Cl. 99—172)



1. A pie crust shipping package for the transportation of a plurality of preformed pie crusts each of which is contained in an individual pie pan wherein the pans have a bottom surrounded by an upwardly and outwardly-flaring wall and the crust conforms to the interior of the pan, said package comprising:
(a) a rigid box-like receptacle having a bottom and surrounding walls extending upwardly from the bottom,
(b) the bottom of the receptacle having a cavity therein of a shape and size into which one of said pans will snugly fit,
(c) a rigid cover for the receptacle that interfits with and rests on the top edge of the receptacle walls,
(d) said cover having an abutment on the under face thereof projecting therefrom a distance at least equal to the depth of one of the pie pans and a shape and size to fit and snugly nest into one of said pans so that it may bear against the bottom and side wall of such a pan,
(e) a stack of pie pans with the formed crusts therein with the bottom pan of the stacks received in the cavity in the bottom of the receptacle,

(f) said stack of pie pans with the crusts therein being compacted between the bottom of the receptacle and the cover into a substantially solid column in which the pans and crusts are held against relative movement, and
(g) means for releasably securing the cover on the receptacle.

3,407,080
LOW DENSITY DRIED AGGLOMERATED FOODS INCLUDING POTATOES AND PROCESS FOR THEIR PRODUCTION
Joe H. Rainwater, Roderick G. Beck, and Lyle H. Parks, Blackfoot, Idaho, assignors to American Potato Company
No Drawing. Continuation-in-part of application Ser. No. 411,118, Nov. 13, 1964. This application Oct. 13, 1965, Ser. No. 495,696
8 Claims. (Cl. 99—207)

This invention relates to low-density dried food products and a process for making them. More particularly, it relates to the unique food product made by the novel process of foaming a slurry containing food solids, extruding the foam to foam discrete pieces of foam, coating the extruded foam pieces with dry particles of the same or different food solids and drying the coated pieces to produce the final product which, in appearance and texture, is a porous nugget.

3,407,081
NOBLE METAL PASTE COMPOSITIONS COMPRISING NOVEL LIQUID CARRIERS
Kermit H. Ballard, Lewiston, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 451,037, Apr. 26, 1965. This application Sept. 20, 1967, Ser. No. 669,310
12 Claims. (Cl. 106—1)

The novel noble metal paste compositions, which can be applied to green ceramic dielectric sheets in the production of capacitors, are dispersions of a particulate noble metal(s) in a liquid carrier comprising a solution of a polyterpene resin in an aliphatic petroleum naphtha having a boiling point in the range of 150 to 360° C.

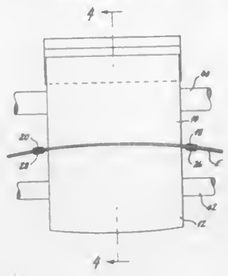
3,407,082
TIRE SEALING COMPOSITION
John R. Mineo, 16 Putnam St., Union City, Pa. 16438
No Drawing. Continuation-in-part of application Ser. No. 263,123, Mar. 6, 1963. This application Dec. 14, 1966, Ser. No. 601,564
1 Claim. (Cl. 106—33)

The present invention involves making a sealing material to seal air leaks in pneumatic tires. The sealing material is made from evaporated animal milk to which is added hexachlorophene, methyl paraben, and propylparaben.

3,407,083
PROCESS FOR PREPARING INSULATION BOARD ADHESIVE
Harlan E. Tarbell and Donald W. Mogg, Elizabethton, Tenn., assignors, by mesne assignments, to Grefco, Inc., Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed May 21, 1965, Ser. No. 457,804
3 Claims. (Cl. 106—152)

A process for preparing a water-oil-emulsion comprising forming an aqueous dispersion of starch-containing material; then separately forming an non-aqueous solution of a bitumen and thoroughly mixing the dispersion with the solution. The resulting emulsion comprising on a weight basis, 40–70 parts bitumen, 5 to 50 parts water-immiscible organic liquid, 1 to 5 parts net starch and 10 to 40 parts water.

3,407,084
COATING METHOD AND APPARATUS
Vincent E. Heywood, Worcester, Mass., assignor to United States Envelope Company, Springfield, Mass., a corporation of Maine
Filed Oct. 1, 1964, Ser. No. 400,780
7 Claims. (Cl. 117—44)



In the application of adhesive or other coating material by roller to the advancing marginal edges of a plurality of shingled blanks, as in an envelope making machine, the tendency of the blanks to adhere to and follow the surface of the applicator roll is overcome by bowing the blanks to add stiffness thereto as they pass the applicator roll. The applicator roll is a deformable, resilient roll backed up by a rigid longitudinally curved backing roll which deforms the applicator roll into a conforming shape along the line of contact between the rolls, the blanks also assuming this shape as they pass between the rolls.

3,407,085
METHOD OF RENDERING GLASS SURFACES ABRASION-RESISTANT AND GLASS ARTICLES PRODUCED THEREBY
Walter Kitaj, Toledo, and Leon Levene, Sylvania, Ohio, assignors to Owens-Illinois Glass Company, a corporation of Ohio
No Drawing. Filed Dec. 31, 1964, Ser. No. 422,539
11 Claims. (Cl. 117—72)

Glass surfaces are rendered abrasion resistant. The glass surface is first contacted with a pyrolyzable compound of titanium, zirconium, tin or vanadium while heated to above the pyrolyzing temperature of the compound to form an oxide of the metal. The glass surface is then cooled to a temperature below 350° F. and coated with an organic polyisocyanate and an organic polyol which react in situ to form a thin, transparent polyurethane coating on the surface.

3,407,086
ASBESTOS-CEMENT PRODUCT AND PROCESS
Walter E. Volsinet, Colden, N.Y., assignor to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 299,479, Aug. 2, 1963. This application Apr. 24, 1967, Ser. No. 632,921
6 Claims. (Cl. 117—72)

A process for increasing the durability of decorative finish coatings on asbestos-cement and similar substrates. A resin composition of either a water-dispersed or solvent-base polyamide-epoxy resin system, containing pigments, extenders and other modifying agents, is applied as a primer coating on the asbestos-cement substrate. The resin primer is dried and at least partially cured, and the finish coating applied over the primer. The resin primer coating has excellent adhesion to the substrate and bonds well to the finish coating, thereby providing a decorative asbestos-cement product, suitable for exterior use, which has outstanding durability and performance.

3,407,087
PROCESS FOR DULLING GLASS FIBERS WITH OXALIC ACID INCLUDING PRETREATMENT WITH CALCIUM SALTS
Allen J. Jinnette, Greensboro, N.C., assignor to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware
No Drawing. Filed Aug. 26, 1964, Ser. No. 392,293
9 Claims. (Cl. 117—72)

A process for dulling glass fibers which includes treating the glass fibers with an aqueous solution of oxalic acid in the presence of added calcium ions. The calcium ions can be provided from an aqueous solution of a water-soluble calcium salt, such as calcium chloride.

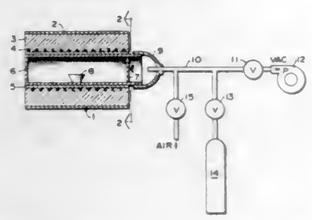
3,407,088
IMPREGNATION OF CELLULOSIC MATERIALS WITH MONOMERIC VINYL CHLORIDE WITH OR WITHOUT A DYE AND IN SITU POLYMERISATION BY IRRADIATION
Arthur M. Feibush and Henry P. Kieltyka, Westfield, N.J., assignors to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Aug. 24, 1964, Ser. No. 391,810
4 Claims. (Cl. 117—93.31)

A process for increasing the tensile strength of wood bodies comprising the steps of subjecting the wood body to a vacuum, impregnating the wood body with monomeric vinyl chloride and irradiation polymerization of the vinyl chloride within the wood body.

3,407,089
COATING COMPOSITION FOR PYROPHORIC METAL POWDERS AND SHAVINGS
Charles F. Sampson, Springfield, Howard M. Rue, Media, and George S. Rostron, Springfield, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed July 8, 1965, Ser. No. 470,617
1 Claim. (Cl. 117—100)

The pyrophoric nature of finely divided particles of metal such as iron can, for the most part, be overcome by coating the particles with a light naphthenic petroleum oil coating 1 to 3 wt. percent of glycerol monooleate.

3,407,090
FIBERS OF SUBMICROSCOPIC BETA-SILICON CARBIDE CRYSTALS WITH SHEATH OF SILICA
William Hertl, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Dec. 7, 1965, Ser. No. 512,043
6 Claims. (Cl. 117—106)



This invention relates to a method of manufacturing submicroscopic fibers containing beta-silicon carbide crystals with a surface sheath of silica comprising: (1) providing finely divided silicon carbide crystals in a reaction chamber, (2) evacuating and heating chamber to a temperature between 1350° C. and 1650° C., (3) contacting the silicon carbide change with at least one oxidizing gas selected from the group consisting of carbon dioxide, oxygen and water vapor, the oxidizing gas having a total partial pressure of at least 5 mm. of mercury and (4) cooling grown fibers to room temperature.

3,407,091
METHOD FOR SEALING GLASS TO METAL AND SEAL PRODUCED THEREBY
Robert A. Busdiecker, Woodville, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
No Drawing. Filed June 5, 1964, Ser. No. 373,062
5 Claims. (Cl. 117—129)

5. A laminated metal product having two metal surfaces sealed together with a glass consisting essentially of, in percent by weight:

	Percent
Al_2O_3	2–10
Alkali metal oxide	4–27
ZnO	4–30
P_2O_5	60–67

wherein the alkali metal oxide is selected from the group consisting of Na_2O, K_2O and mixtures thereof.

3,407,092
COATED TIRE CORD YARN
Thomas B. Gage and Thomas C. Mayberry, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 6, 1965, Ser. No. 446,082
4 Claims. (Cl. 117—138.8)

A tire cord yarn composed of continuous filament nylon having a cross-linkable copolymer coating based on the lower alkyl esters of acrylic acid on its filaments in an amount of about 1 to 5 percent, based on the weight of the yarn. Preferably the alkyl acrylate is copolymerized with, by weight, from 0.5 to about 5 percent N-methylolacrylamide and 0.5 to about 20 percent acrylamide.

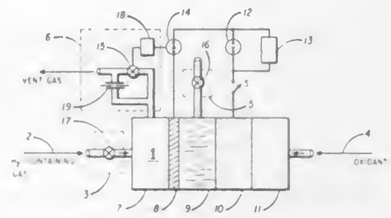
3,407,093
ELECTRONIC RECORDING FILM
Noboru Masuda, Tokyo, Japan, assignor to Denki Onkyo Co., Ltd., Tokyo, Japan, a corporation of Japan
No Drawing. Filed Mar. 24, 1965, Ser. No. 442,530
1 Claim. (Cl. 117—201)

A recording film for electrostatic recording comprising a film of polyethylene and a coating of a surface treating agent applied on one surface of said film, said surface treating agent consisting of polymethacrylic acid and tin metal in chelate combination.

3,407,094
METHOD OF IN SITU PREPARATION OF HYDROGEN AND SIMULTANEOUS HYDROGEN CONTROL IN ELECTROCHEMICAL CELLS
Walter Juda, Lexington, Mass., assignor to Prototech Incorporated, Cambridge, Mass., a corporation of Massachusetts
Filed Sept. 12, 1963, Ser. No. 308,418
10 Claims. (Cl. 136—86)

1. A method of providing in situ production of hydrogen from carbonaceous fuels and simultaneously controlling the utilization of the hydrogen in an electrochemical cell, that comprises, passing a carbonaceous fuel-containing feed into an anode system in thermal contact with said cell, producing in situ impure hydrogen from said feed at a partial pressure of not more than about atmospheric during the drawing of current from the cell, interposing an anodic layer selectively permeable to hydrogen but impermeable to other gases in the path of the hydrogen and in contact with the electrolytic medium, and adjusting and maintaining the partial pressure of the hydrogen produced in situ to a value less than about atmospheric and less than the pressure existing in the electrolytic medium of the cell by drawing current from the cell.

3,407,095
METHOD OF CONTROLLING UTILIZATION OF HYDROGEN IN ELECTROLYTIC CELL
Walter Juda, Lexington, and Robert L. Novack, Belmont, Mass., Merrill J. Fowle, Newtown Square, and Alfred F. D'Alessandro, Havertown, Pa.; said Fowle and said D'Alessandro assignors to Atlantic Refining Co., Philadelphia, Pa., a corporation of Pennsylvania; said Juda and said Novack assignors to Prototech Incorporated, Cambridge, Mass., a corporation of Massachusetts
Filed Dec. 13, 1963, Ser. No. 330,302
6 Claims. (Cl. 136—86)



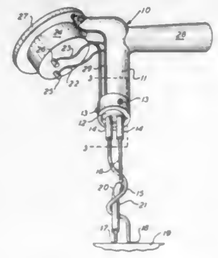
1. A method of controlling utilization of hydrogen in an electrolytic cell, which comprises feeding an impure hydrogen-containing gaseous stream from a source at a predetermined pressure, interposing a layer selectively permeable to hydrogen but impermeable to other gases directly in the path of the hydrogen-containing gaseous stream and with one side of the layer in contact with the electrolytic medium of the cell and with said stream applied to the other side, contacting an oxidant electrode with said medium, drawing current in a circuit including the said layer and said electrode, venting gas from said stream at said other side of said layer, controlling the flow of vented gas in accordance with the current drawn so that the vented gas flow is substantially just sufficient to provide the current requirements of the cell, terminating the drawing of current, and providing a minimal flow of vented gas from said stream at said other side of said layer while no current is drawn and while continuing the feeding of said stream to said other side at said predetermined pressure, the minimal flow of vented gas being substantially just sufficient to provide substantially instantaneous flow of hydrogen through said layer and substantially instantaneoous response to the current requirements of said cell when said current is again drawn.

3,407,096
FUEL CELL AND METHOD FOR PREPARING THE ELECTRODES
Henry Patrick Landi, Yorktown Heights, N.Y., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed Jan. 25, 1966, Ser. No. 522,964
8 Claims. (Cl. 136—86)

1. A process for preparing the electrode structure of claim 6 which comprises the steps of: heating at a temperature ranging from about 170° C. to about 200° C. 60 to 98 parts, by weight, of polymethylmethacrylate to a molten viscous state, blending the latter with from 2 to 40 parts, by weight, of polytetrafluoroethylene in the form of finely divided particles as an aqueous dispersion and from 2 to 98 parts, by weight, of a conductive filler, cooling the blended mixture, pelletizing the latter and extruding the so-formed pellets directly into a sheet, treating the latter sheet with a suitable selective solvent for polymethylmethacrylate, extracting polymethylmethacrylate from said sheet and recovering an electrically-conductive, porous, self-supporting, unsintered, extensively fibrillated electrode structure.

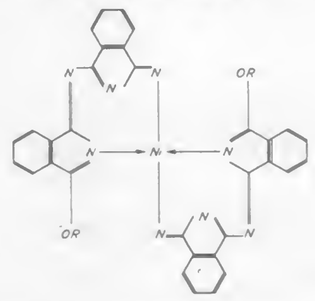
6. A fuel cell comprising in combination: an electrolyte-saturated matrix and an improved electrode structure, said structure characterized as being an electrolyte-wettable, electrically-conductive, self-supporting, flexible, resilient, porous, unsintered, extensively fibrillated, interwoven and interconnected polytetrafluoroethylene electrode structure having incorporated therein a catalytically-coated conductive filler, said filler constituting between 50% and 98% by weight of the over-all electrode structure, wherein said structure possesses (a) a tensile modulus equal to about 8000 p.s.i., (b) a percent elongation at rupture of at least 25%, (c) a porosity between 50% and 75% and (d) a mean pore diameter between about 0.2 and 1 micron, having a permeabiilty to 6 molar phosphoric acid at 25° C. equal to at least one atmosphere.

3,407,097
THERMOCOUPLE
William E. Engelhard, Apalachin, N.Y., assignor to Pyro-Serv Instruments, Inc., North Arlington, N.J., a corporation of New Jersey
Filed June 7, 1966, Ser. No. 555,864
2 Claims. (Cl. 136—221)



A temperature measuring device for electrically conductive surfaces, having two thermocouple leads which yieldably conform to insure contact with the surface and which together with the surface form a temperature sensing junction. One lead is offset from its axis and the other lead encircles the offset lead.

3,407,098
COLORANT FILM FOR ALUMINUM SURFACES
Thomas J. Hurley, Madison, Martin A. Robinson, Orange, and James A. Scruggs, West Haven, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Aug. 25, 1965, Ser. No. 482,545
11 Claims. (Cl. 148—6.1)



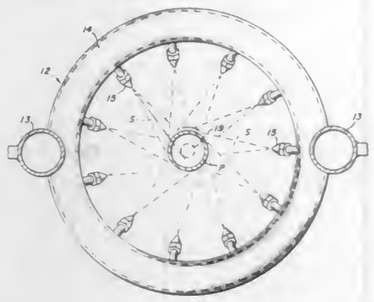
9. Method of coloring aluminum which comprises heating unsealed anodized aluminum at 100° to 150° C. in contact with a solution of bis[3 - (3 - alkoxy - 1H-isoindol - 1 - imino) - 1H - isoindol - 1 - iminato] nickel (II) in which said alkoxy contains 1 to 6 carbons in an

aliphatic or aromatic hydrocarbon or halohydrocarbon having a boiling point above about 100° C. at atmospheric pressure.

3,407,099
METHOD AND APPARATUS FOR SPRAYING LIQUIDS ON THE SURFACE OF CYLINDRICAL ARTICLES

Robert C. Schell, Penn Hills Township, Allegheny County, Pa., assignor to United States Steel Corporation, a corporation of New Jersey

Filed Oct. 22, 1965, Ser. No. 501,347
7 Claims. (Cl. 148—153)

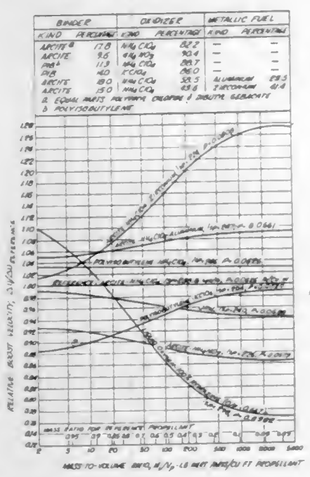


An improvement over a known method and apparatus for spraying liquid on pipes. In the previous arrangement pipe traveled through spray nozzles supported on manifolds surrounding the pipe. Nozzles were directed radially of the pipe. Improvement consists in offsetting the nozzles so that they are aimed tangentially of an imaginary circle within the pipe. Purpose is to prevent sprays from entering leading end of pipe.

3,407,100
MATRIX PROPELLENT FORMULATIONS CONTAINING ALUMINUM

Arch C. Scurlock, Arlington, Keith E. Rumbel, Falls Church, and Millard Lee Rice, Annandale, Va., assignors to The Susquehanna Corporation, a corporation of Delaware

Filed Oct. 28, 1960, Ser. No. 65,857
16 Claims. (Cl. 149—19)



1. In a rocket propellent composition which burns to produce propulsive gases and which consists essentially of a finely-divided, solid, inorganic oxidizer, containing combined oxygen which it yields readily for combustion of the fuel components of said composition, and finely-divided aluminum fuel dispersed in an organic fuel matrix containing molecularly combined carbon and hydrogen, said organic fuel matrix comprising at least about 20 percent by volume of said composition, the improvement in which said oxidizer, said aluminum, and said organic fuel matrix are present in amounts such that the following expression:

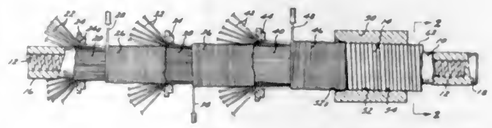
$$\frac{O}{C+O+M\left(\frac{v}{2}\right)} \text{ equals about 0.47 to 0.60}$$

wherein O equals the total amount of combined oxygen in the composition, C equals the total amount of carbon, M equals the amount of aluminum, said O, C and M being expressed in terms of the number of atomic equivalents, and v equals the valence of the aluminum.

3,407,101
METHOD OF MAKING REINFORCED PLASTIC PIPE

James J. Lockshaw, 2882 W. Rome, Anaheim, Calif. 92804

Filed June 7, 1965, Ser. No. 461,989
6 Claims. (Cl. 156—175)

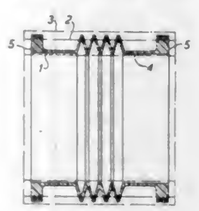


This invention pertains to the method of forming threaded plastic pipe whereby successive layers of angularly disposed glass fibers are wrapped about a mandrel, emersed in resin and permitted to form a firm rigid pipe. It is characterized by having fastening threads formed therein by relocation of the external layer of glass fibers into the form of a helix.

3,407,102
METHOD OF MAKING A FLEXIBLE REINFORCED BELLOWS

Samuel Clifford Walter Wilkinson, Cookham, England, assignor to Crane Packing Limited, Slough, England, a British company

Filed Dec. 11, 1964, Ser. No. 417,758
Claims priority, application Great Britain, Dec. 11, 1963, 48,876/63
12 Claims. (Cl. 156—192)

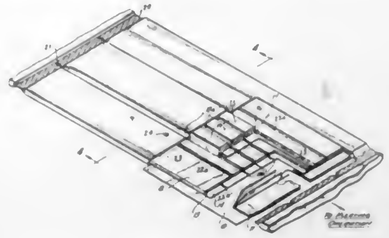


Bellows made in a known manner by making alternate internal and external annular grooves in a thick-walled hollow cylindrical body, for example of polytetrafluoroethylene, are reinforced by using as the starting body a cylinder incorporating reinforcement adjacent its inner and/or outer surface, so that the resulting bellows are locally reinforced at the inner and/or outer tips of the pleats.

3,407,103
METHOD OF FORMING A DISPOSABLE DIAPER PAD

Perry O. Pherson, West Suffield, Conn., Menzie Gibson, Cecil H. Watkins, and Marian F. Duke, Toronto, Ontario, Canada, and James A. Murphy, New York, N.Y., assignors to Canadian International Paper Company, Montreal, Quebec, Canada, a corporation of Canada

Original application Nov. 1, 1962, Ser. No. 234,641, now Patent No. 3,211,147, dated Oct. 12, 1965. Divided and this application July 26, 1965, Ser. No. 474,642
9 Claims. (Cl. 156—202)



The continuous forming of disposable diapers in which strips are laid on an endless moving sheet in spaced relation to each other, an endless pad is laid on the sheet and strips, the side edges of the sheet are folded around the pad, and the enclosed pad is severed generally centrally of the strips.

Also, the forming of disposable diapers in which an endless pad is laid on an endless moving sheet, the side edges of the sheet are folded around the pad, and the pad is severed, the pad being laid with a central portion extending longitudinally of the sheet which is of greater thickness than flanking side portions.

3,407,104
FABRIC BONDING PROCESS

Eugene L. Crandall, 2530 By Pass Road, Elkhart, Ind. 46514

No Drawing. Filed Mar. 7, 1963, Ser. No. 263,414
5 Claims. (Cl. 156—212)

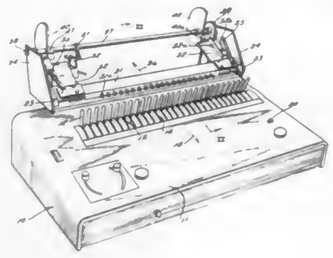
1. A fabric bonding process which comprises the steps of coating one surface of a contoured article with a neoprene based adhesive, coating one surface of a resilient padding material which conforms to the size and shape of said contoured article with said adhesive, contacting said coated surface of the resilient material with said coated surface of the contoured article in a pressure mold under controlled conditions of humidity and temperature until said adhesive is set, coating one surface of a thermoplastic fabric with said adhesive, vacuum drawing said coated thermoplastic fabric in a vacuum mold that conforms to said contoured article, contacting said coated surface of drawn fabric with said padded contoured article under controlled conditions of humidity and temperature until said adhesive is set, and removing said thermoplastic fabric covered padded contoured article from said vacuum mold.

3,407,105
HEAT SEALED BINDING

Henry N. Staats, Deerfield, Maurice D. Levitan, Wilmette, and Neal J. Morrissey, Chicago, Ill., assignors to General Binding Corporation, Northbrook, Ill., a corporation of Illinois

Filed June 24, 1965, Ser. No. 466,610
6 Claims. (Cl. 156—253)

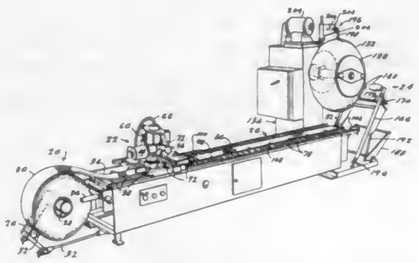
A method and apparatus for heat-sealing binder elements for a multiplicity of perforated sheets and, more particularly, a novel method of permanently sealing in a substantially rigid fashion the thermoplastic binder elements composed of a backbone having a plurality of lapping fingers.



3,407,106
APPARATUS FOR RETREADING TIRES

Carlton Keith Barefoot, Muncie, Ind., assignor to Bacon American Corporation, Muncie, Ind., a corporation of Indiana

Filed Aug. 24, 1964, Ser. No. 391,450
8 Claims. (Cl. 156—405)



Tires are retreaded by a method and apparatus which adjusts the circumference of the tire to equal the length of tread stock which is automatically cut to a predetermined length. The apparatus includes a unique arrangement for moving the tread stock from a supply roll to the tire carcass with the cover of the tread stock being pulled to avoid stresses on and deformation of the rubber strip. The apparatus also includes an arrangement for first applying the tread stock to the tire carcass under light pressure, subsequently under higher pressure, and finally by means of stitching rolls, to provide a three-step applying process. The apparatus for severing the tread stock also is unique in including a severing knife which moves along with the tread stock to sever the stock without stopping its movement toward the tire carcass.

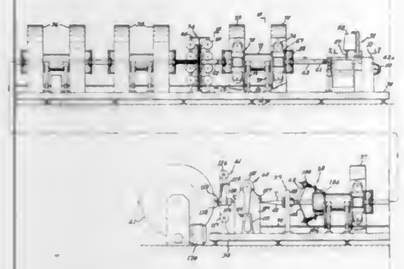
3.407,107
APPARATUS FOR FORMING TUBULAR REINFORCED PLASTIC MEMBERS

Bruno B. Skoggard, Cold Spring Harbor, and William C. Post, Amityville, N.Y., assignors, by mesne assignments, to American Cyanamid Company, Wayne, N.J., a corporation of Maine

Original application Nov. 14, 1963, Ser. No. 323,763, now Patent No. 3,329,173, dated July 4, 1967. Divided and this application Jan. 25, 1967, Ser. No. 611,649
17 Claims. (Cl. 156—432)

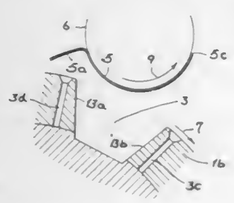
An apparatus for forming continuous lengths of filamentary reinforced plastic pipe by means of a valve as-

sembly which captures a non-moving slug of fluid under pressure over which an imperforate tubular flexible mandrel is continuously passed. Reinforcing filaments and hardenable plastic are applied continuously to the moving mandrel in its inflated condition by winding. Various



winding patterns and layer configurations, including an outer wrap, are applied by means of guides and reels. Take-up rolls receive the wound pipe which, if not cured on the machine, is flattened after passing beyond the captured fluid slug. The pipe is then inflated and hardened in situ.

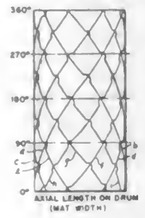
3,407,108
APPARATUS FOR APPLYING LABELS TO BOTTLES
Romuald René Della Vite, Nogent-sur-Marne, France, assignor to Societe anonyme dite: Societe Francaise d'Etiquetage Virey & Garnier, a corporation of France
Filed June 12, 1964, Ser. No. 374,630
Claims priority, application France, June 27, 1963, 939,592
2 Claims. (Cl. 156—458)



A labelling machine whose turret has a plurality of cavities adapted to receive bottles and to press labels fed to the periphery of the turret and spanning the cavities into the latter while the suction along one of the edges flanking the cavity is maintained and along the other edge is discontinued to permit the label to be held at one side while the other side slides along the corresponding edge of the cavity to smooth the corresponding end of the label against the bottle; the suction at the other side is then released to free the label which is smoothed against the bottle as the latter passes along its transport path. The machine is a further development of my Patent 3,196,070.

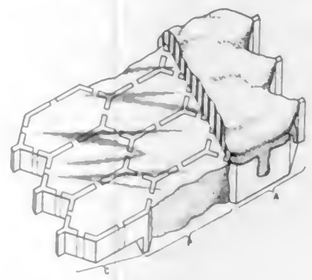
3,407,109
FILAMENTOUS MATS
George K. Weber, Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Original application Sept. 10, 1962, Ser. No. 222,403, now Patent No. 3,309,185, dated Mar. 14, 1967. Divided and this application June 27, 1966, Ser. No. 584,927
4 Claims. (Cl. 161—58)

A filamentous mat with filaments extending in layers from one edge to the other edge of the mat where substantially all of the filaments trace a portion of a



generally elliptic sine curve having a total amplitude corresponding to the width of the mat.

3,407,110
HEAT SHIELD
John S. Axelson, Levittown, and Calvin M. Dolan, King of Prussia, Pa., assignors to General Electric Company, a corporation of New York
Filed Nov. 25, 1964, Ser. No. 413,901
7 Claims. (Cl. 161—68)



A flexible ablating heat shield, comprising a discontinuous, heat-resistant, honeycomb matrix filled with a flexible ablation material, is produced by (1) making cuts in at least two of the cell walls of each of the honeycomb cells of the honeycomb sheet to a depth less than the thickness of the honeycomb cells but greater than the thickness of the desired heat shield, (2) filling the cells of the honeycomb with a flexible ablation material, such as an elastomeric silicone, and (3) slicing the filled honeycomb perpendicular to the cell walls to remove that layer of the honeycomb not cut in step (1) above.

3,407,111
RIGIDIZABLE STRUCTURES AND PROCESS
Albert F. Reilly, Bloomfield Hills, Mich., assignor to General Mills, Inc., a corporation of Delaware
Filed Oct. 29, 1963, Ser. No. 319,796
13 Claims. (Cl. 161—160)

11. A rigidizable structure consisting of a pliant foldable material having at least a portion of at least one of the surfaces thereof coated with a layer of an expandable composition consisting essentially of a room temperature stable polyurethane prepolymer, said pliant foldable material having been formed into a shape capable of assuming a hollow, three dimensional structure on being rigidized, said expandable composition having been applied and distributed in such a manner to the pliant foldable material as to provide the desired hollow, rigidized, three dimensional structure after the same has been expanded and rigidized, and said rigidizable structure being capable of assuming the desired hollow, rigidized, three dimensional structure fixed solely by the



expansion and rigidization of the expandable composition.

3,407,112
POLYETHYLENE TEREPHTHALATE FILM AND PROCESS OF PREPARATION THEREOF
Michael Karickhoff, Circleville, Ohio, and Conrad Erve Miller, Florence, S.C., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 9, 1963, Ser. No. 271,588
6 Claims. (Cl. 161—165)

1. In a process for the production of polymeric ester film wherein film-forming polymeric ester polymer is derived by reacting a polymethylene glycol of the formula $HO(CH_2)_nOH$ wherein n is a positive integer from 2–10 with an acidic component selected from the group consisting of terephthalic acid and alkyl ester thereof, said alkyl groups having 1–7 carbon atoms, and polymerizing the resulting glycol ester to form a polyester, the improvement comprising: adding to said glycol ester at a point before the intrinsic viscosity exceeds 0.2, a branched chain alkylene glycol of the formula

$$HO—CH_2(R)_2—CH_2OH$$

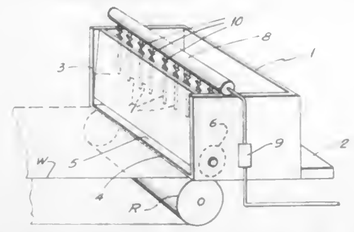
wherein R is an alkyl group of from 1–4 carbon atoms in an amount such that the mole ratio of the methylene ester units to the branched chain alkylene ester units in the final polymer is within the range of about 90:10 to 98:2, and thereafter extruding said polyester onto a moving casting surface to form a film having an as-cast thickness greater than 30 mils.

3,407,113
PULPING OF WET STRENGTH PAPER WITH HYPOCHLOROUS ACID
Charles Sidney Maxwell, South Charleston, W. Va., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Continuation-in-part of application Ser. No. 289,404, June 20, 1963, which is a continuation-in-part of application Ser. No. 8,912, Feb. 16, 1960. This application Mar. 3, 1966, Ser. No. 531,378
2 Claims. (Cl. 162—6)

1. Process for the pulping of paper composed of cellulose fibers bonded together by an adsorbed content of at least one polyalkylenepolyamine wet strength resin which comprises contacting said paper with an aqueous solution of chlorine water until the fiber-resin bonds in said paper have loosened, and then subjecting the paper to mechanical pulping.

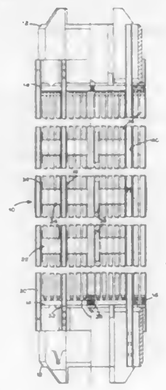
3,407,114
CROSS MACHINE CONTROL IN PAPERMAKING
Paul F. Springuel, 37 Route de Genval, Ohain, Belgium
Filed Jan. 4, 1965, Ser. No. 423,032
3 Claims. (Cl. 162—341)

The present invention relates to means associated with the usual head box of a papermaking machine, which enables to add a liquid to the stock in the headstock at spaced points across the headbox and in an adjusted manner, so as to considerably improve the cross machine



weight uniformity of the paper. Addition of the liquid changes the consistency of the stock crosswise of the machine.

3,407,115
FUEL ELEMENT-CONTROL ROD ASSEMBLY
Donald C. North, Jr., and Raymond M. Leirvik, Lynchburg, Va., assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 24, 1965, Ser. No. 509,531
13 Claims. (Cl. 176—68)

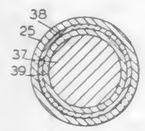


A fuel element-control rod assembly comprising a bundle of fuel rods extending between and secured to a pair of grid plates, with spacer grids positioned between the grid plates and providing lateral support for the fuel rods. Structural rigidity for the assembly is provided by tie rods disposed about the periphery and in the central portion of the bundle of fuel rods. Four T-shaped control rod channels extend through the assembly about the center tie rod, with each channel being occupied by a control rod.

3,407,116
NUCLEAR REACTOR FUEL ELEMENTS
Roy Clough, Warrington, England, assignor to United Kingdom Atomic Energy Authority, London, England
Filed Dec. 19, 1966, Ser. No. 602,926
10 Claims. (Cl. 176—68)

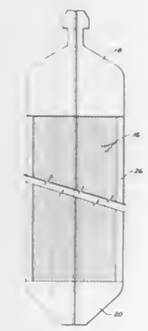
For a fast nuclear reactor, a fuel element of the kind having ceramic fuel in metallic sheathing, wherein the fuel is divided into inner and outer zones, and an interlayer is interposed between the sheathing and the adjoining surface of the outer zone, the outer zone having a

higher concentration of fissile atoms than the inner zone, and the interlayer being either solely of solid thermal insulating material which does not contain fissile or fertile atoms or alternatively of material which includes fissile atoms. Where fissile atoms of plutonium are included in the fuel, they are preferably segregated exclusively in said



outer zone. The zoned arrangement removes some of the heat generation potential from the central region of the fuel element and therefore results in a lowering of centre temperature, while the interlayer enables the fuel to be operated so hot as to assume a temperature-induced plasticity and so enable swelling resulting from irradiation to be accommodated internally of the fuel.

3,407,117
NUCLEAR REACTOR CONTROL ROD WITH GUIDE MEMBERS
Harold V. Lichtenberger, West Simsbury, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Continuation-in-part of application Ser. No. 493,512, Oct. 6, 1965. This application Feb. 15, 1967, Ser. No. 620,586
14 Claims. (Cl. 176—86)



A control rod arrangement for a nuclear reactor with the rod being comprised of longitudinally arranged tubes bonded together. Interspersed among the tubes is a guide rod for contacting a guide member in the passage in the core of the reactor which is to receive the control rod.

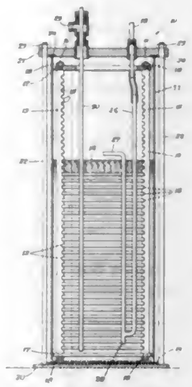
3,407,118
PROCESS FOR MICROBIOLOGICAL SIDE CHAIN DEGRADATION OF STEROIDS OF THE PREGNANE SERIES
Jan de Flines and Willem Frederik van der Waard, Delft, Netherlands, assignors to Koninklijke Nederlandsche Gist- en Spiritusfabriek N.V., Delft, Netherlands, a corporation of the Netherlands
No Drawing. Filed Sept. 23, 1965, Ser. No. 489,742
Claims priority, application Great Britain, Sept. 25, 1964, 39,168/64
5 Claims. (Cl. 195—51)

A process for the microbiological side chain degradation of 9β,10α-steroids of the pregnane series having a 17 acetyl group which comprises subjecting them to the action under aerobic conditions of a degrading material selected from the group consisting of the microorganism *Helicosporium lumbricopsis*, enzyme systems thereof and spores thereof and recovering 17-oxygenated 9β,10α-steroids of the androstane series.

3,407,119
9β,10α-STEROIDS AND METHODS OF PRODUCING THE SAME
Jan de Flines and Willem Frederik van der Waard, Delft, Netherlands, assignors to Koninklijke Nederlandsche Gist- en Spiritusfabriek N.V., Delft, Netherlands, a corporation of the Netherlands
No Drawing. Filed July 8, 1965, Ser. No. 470,607
Claims priority, application Great Britain, Sept. 14, 1964, 37,443/64
1 Claim. (Cl. 195—51)

A method of introducing a 15α-hydroxyl group in Δ^4-9β,10α-pregnene-3,20-diones by microbiological hydroxylation with enzymes of *Colletotrichum gloeosporioides* with high yields.

3,407,120
TISSUE CULTURE PROPAGATOR AND METHOD
Ronald E. Weiss, Grayslake, and Joseph B. Schleicher, Waukegan, Ill., assignors to Abbott Laboratories, Chicago, Ill., a corporation of Illinois
Filed Dec. 23, 1965, Ser. No. 515,915
8 Claims. (Cl. 195—104)

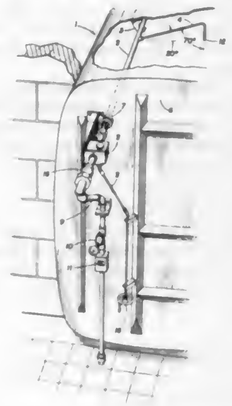


A method and apparatus for growing living cells, the apparatus comprising a plurality of spaced-apart plates upon which the cells may attach and proliferate and disposed within a vessel or tank-type container containing nutrient medium. Means for mixing and oxygenating of the medium are provided. Cells can be grown within the apparatus by planting the medium with cells desired to be grown and oxygenating and circulating the medium until a substantially confluent monolayer of cells is formed on the surface of the plates.

3,407,121
FERMENTER YEAST CROPPING AND WASHING DEVICE
Louis A. Le Seelleur and Gerald Einar Wilson, London, Ontario, Canada, assignors to John Labatt, Limited, London, Ontario, Canada
Filed June 29, 1965, Ser. No. 467,860
10 Claims. (Cl. 195—134)

A fermenter vessel containing a yeast cropping and cleaning device consisting of a rotatable header pipe in

the upper portion of the vessel with an end of the pipe extending outside the vessel and a series of orifices opening from the header into the vessel. The orifice outlets are offset a substantial distance radially from the axis of rotation of the header pipe either by providing an offset

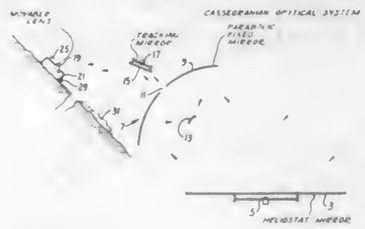


portion in the header pipe itself or by providing a series of branch pipes extending laterally from the header pipe with nozzles on the outer ends thereof. Conduit means connected to the external end of said header pipe by means of a connector and suction means associated with said conduit for cropping the yeast.

ERRATUM

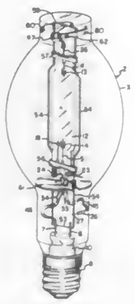
For Class 196—98 see:
Patent No. 3,406,804

3,407,122
SOLAR STILL WITH A CASSEGRANIAN OPTICAL SYSTEM
Ben Wade Oakes Dickinson III, San Francisco, Calif., assignor, by mesne assignments, to Bechtel International Corporation, San Francisco, Calif., a corporation of Delaware
Filed July 23, 1963, Ser. No. 297,048
2 Claims. (Cl. 202—83)



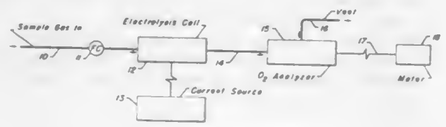
1. Apparatus for recovering water and valuable chemicals from lunar and similar surfaces comprising in combination:
(a) a chamber having an open bottom adapted to be moved over a surface to be treated,
(b) sealing means around the bottom of said chamber,
(c) a Cassegranian optical system for concentrating the sun's rays on a small area within said chamber,
(d) a trap door structure for removing waste solid material from said chamber and
(e) means for recovering volatized material from said chamber.

3,407,123
ELECTRIC LAMPS AND METHOD OF DETECTING LEAKS IN SUCH LAMPS
Carl L. Peterson, Rockport, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed May 29, 1964, Ser. No. 371,199
7 Claims. (Cl. 204—1)



A method and apparatus for testing oxygen leak in electric lamps, wherein a silver coating is placed inside the lamp at a location viewable from the exterior of said lamp. An electric discharge is applied to the lamp from the outside, whereby any oxygen leaking into the lamp will cause the silver coating to turn brownish-black.

3,407,124
METHOD OF ANALYZING TRACE WATER
Leonard F. Pasik, Mount Prospect, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Oct. 30, 1964, Ser. No. 407,691
5 Claims. (Cl. 204—1)

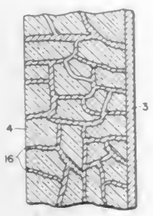


1. A method for analyzing a gas stream for water content which comprises passing a continuous sample stream of said gas containing water vapor to an electrolytic hygrometer, therein quantitatively electrolyzing the water to hydrogen and oxygen, continuously removing from said hygrometer effluent gas containing said oxygen, and electrolytically measuring the oxygen content of the effluent gas as a continuous measure of the water content of the sample stream.

3,407,125
METHOD OF MAKING FILAMENTARY METAL STRUCTURES
Francis P. Fehlner, Big Flats, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Jan. 18, 1965, Ser. No. 426,181
18 Claims. (Cl. 204—20)

An electro-chemical method for forming a filamentary dispersion of metal within the pores of a porous body. A

cathode is applied to a portion of the external surface of the porous body and the exposed portion of the cathode as well as the portion of the porous body adjacent to the cathode are covered with a non-conductive protective coating. Metal ions from the anode traverse the pores of the body and deposit on the cathode resulting in the



growth of metallic filaments which extend from the cathode throughout the pores of the body.

3,407,126

ELECTRODEPOSITION OF MAGNETIC THIN FILMS

Herman Koretzky, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 23, 1965, Ser. No. 515,809
10 Claims. (Cl. 204—43)

1. A method of electrodepositing a magnetic thin film on a surface, comprising the steps of:

immersing the surface as a cathode in an aqueous electrolyte comprising from about 40 to 115 grams per liter of nickel as the nickel ion, from about 0.2 to 2 grams per liter of iron as the iron ion, up to about 6 grams per liter of cobalt as the cobalt ion, up to 0.2 grams per liter of palladium as the palladium ion, and an amount up to about 100 grams per liter of thickening agent;

maintaining the pH of said electrolyte in the range of about 2.4 to 3.0, and,

impressing a voltage in said electrolyte between said cathode and a second electrode, the anode, to effectuate the electrodeposition of the magnetic thin film on said surface.

3,407,127

METHOD OF RECOVERING RHENIUM VALUES FROM RHENIUM-CONTAINING SCRAP MATERIAL

William H. Davenport, Woodbury, Conn., assignor to Chase Brass & Copper Co. Incorporated, Waterbury, Conn., a corporation of Connecticut

No Drawing. Filed July 6, 1965, Ser. No. 469,904
7 Claims. (Cl. 204—82)

1. The process of recovering rhenium metal values from rhenium-containing scrap metal by electrolytic dissolution of such scrap, which consists in making such scrap metal the soluble anode in an electrolytic cell wherein the electrolyte is an eqeuous solution of an alkali hydroxide selected from the group consisting of potassium and ammonium, passing a current through such electrolyte and scrap material and maintaining the alkalinity of the solution until said rhenium-containing material is dissolved and recovering the rhenium-values in said electrolyte in the form of the perrhenate salt of the hydroxide employed as the electrolyte.

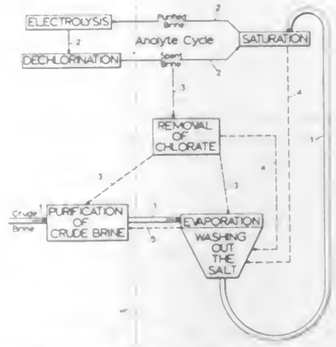
3,407,128

PROCESS FOR THE MANUFACTURE OF CHLORINE, SODIUM HYDROXIDE AND HYDROGEN BY THE ELECTROLYSIS OF SODIUM CHLORIDE IN MERCURY CELLS

Alfred Goerg, Blonay, Vaud, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a company organized under the laws of the Swiss Confederation

Continuation-in-part of application Ser. No. 299,976, Aug. 5, 1963. This application Mar. 13, 1967, Ser. No. 622,600
3 Claims. (Cl. 204—99)

Chlorine, sodium hydroxide and hydrogen are manufactured by electrolyzing a saturated, purified aqueous sodium chloride solution in a mercury cathode cell having an associated anolyte cycle. Crude borine is purified and concentrated by evaporation thereby precipitating sodium chloride. The sodium chloride is washed to remove sulphate ions and conveyed to a saturation plant by a part of the anolyte cycle brine to resaturate spent brine. The concentrated crude brine is recycled to the purifying stage. A small amount of spent brine is treated



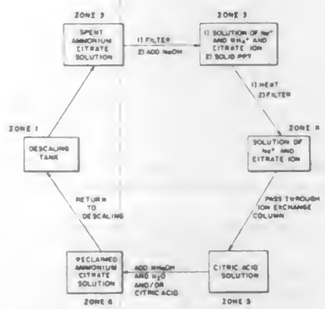
to remove chlorate and mercury ions and introduced into the purifying and/or evaporating stage.

3,407,129

PROCESS FOR RECLAIMING SPENT ELECTROLYTES USED FOR ELECTROLYTICALLY DESCALING STEEL

Americo William Petrocelli, Jean Alice Marriott, and Joseph Francis Turco, Westerly, and Augustine Capotosto, East Greenwich, R.I., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware

Filed May 24, 1965, Ser. No. 458,194
12 Claims. (Cl. 204—145)



Process for reclaiming a spent aqueous electrolyte solution of an organic chelating agent recovered from the electrolytic descaling of steel surfaces. Process com-

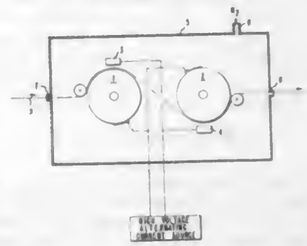
prises raising the pH of the spent electrolyte to at least about 10.5 with a water soluble hydroxide, separating precipitated solids therefrom and then reducing the pH of the resultant solution to at least 7 with a cation exchange resin.

3,407,130

PROCESS OF TREATING POLYVINYLBUTYRAL SHEETING BY AN ELECTRIC DISCHARGE IN NITROGEN TO REDUCE BLOCKING

Robert Burleigh Hailstone, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Jan. 19, 1966, Ser. No. 521,600
6 Claims. (Cl. 204—165)



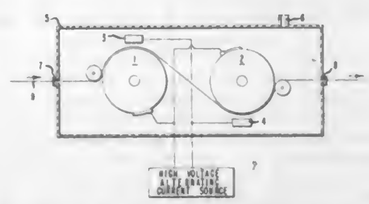
1. A process for the production of polyvinylbutyral sheeting having a decreased tendency to block which comprises subjecting the sheeting to an electrical discharge in an atmosphere consisting essentially of nitrogen.

3,407,131

PROCESS OF TREATING POLYVINYLBUTYRAL SHEETING BY AN ELECTRIC DISCHARGE TO REDUCE BLOCKING

Robert Burleigh Hailstone, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of applications Ser. No. 296,655, July 22, 1963, and Ser. No. 521,600, Jan. 19, 1966. This application Oct. 27, 1966, Ser. No. 589,938
5 Claims. (Cl. 204—165)



1. In a process for the preparation of plasticized polyvinylbutyral sheeting suitable for use in the preparation of laminated safety glass, the step which comprises treating at least one surface with a high voltage electrical discharge.

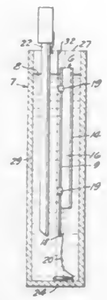
3,407,132

FLOATING ANODE

Donald K. Meyer, West St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed June 16, 1965, Ser. No. 464,429
4 Claims. (Cl. 204—225)

1. An apparatus for the electrodeposition of a material contained in a solution onto a sheet, said apparatus including a suitable support member movable in a plane and having a generally planar surface for supporting a said sheet upon which the deposition of material is to take place, a tank having a size sufficient to receive therein said support member and a said sheet and to hold sufficient solution to permit immersion of the surface of the support member upon which a said sheet is placed, an electrode having a generally planar surface, said electrode having a specific gravity slightly less than that of a said solution such that said electrode will maintain a predetermined position with respect to the surface of a



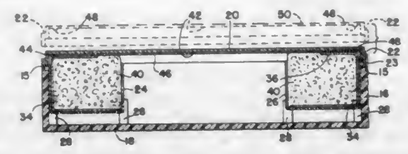
said solution, means for supporting said electrode within said tank in a plane parallel to the plane of movement of said support member and to afford vertical movement of said electrode with respect to said tank as the surface of a said solution rises and falls with respect to said tank upon immersion and emersion of the support member and a said sheet, and means connected to said support member and to said electrode to afford an electrical potential between a said sheet and said electrode.

3,407,133

EXPENDABLE ELECTROPHORESIS APPARATUS

William E. Oliva, Los Angeles, and Charles A. Schlutz, Glendale, Calif., assignors, by mesne assignments, to Baxter Laboratories, Inc., Morton Grove, Ill.

Filed June 18, 1965, Ser. No. 465,059
12 Claims. (Cl. 204—299)



1. An expendable electrophoresis test kit comprising:

a plastic chamber having means defining a pair of spaced buffer solution vessels therein,

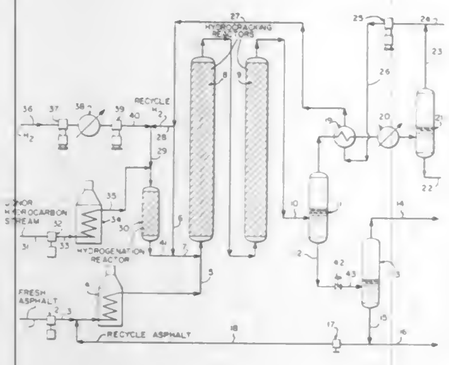
means to position a buffered gel support medium between said buffer solution vessels and in electrical contact with the buffer solution in each vessel,

said last named means including a generally dish shaped removable plastic lid portion positioned upon said chamber,

means on the under surface of said lid for retaining said gel support medium,

means including electrodes within the buffer solution vessels to provide passage of current through said buffer solution buffered gel medium to permit charged particle migration within said gel medium for particle group identification therein.

3,407,134
PROCESS FOR HYDROCRACKING AN ASPHALTIC HYDROCARBON FEED STOCK IN THE PRESENCE OF A HYDROGENATED HYDROCARBON AND HYDROCRACKING CATALYST
Donald K. Wunderlich, Chicago, and William Murray, Olympia Fields, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 9, 1966, Ser. No. 571,237
10 Claims. (Cl. 208—111)



A process for hydrocracking a residual, penetration grade asphaltic hydrocarbon stock which comprises hydrogenating a heavy aromatic hydrocarbon boiling primarily above about 500° F., e.g. clarified oil, passing an at least partially liquid phase mixture of the residual, penetration grade asphaltic stock and about 10 to 75 percent by weight of the hydrogenated heavy aromatic hydrocarbon boiling primarily above about 500° F., and hydrogen, upflow, in contact with a fixed bed of macrosize hydrocracking catalyst under hydrocracking conditions a temperature of about 750 to 850° F.

3,407,135
REACTIVATING HYDROFORMING CATALYSTS
Henry T. Brown, Elizabeth, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 371,844, June 1, 1964. This application June 21, 1966, Ser. No. 559,119
8 Claims. (Cl. 208—139)

1. In the hydroforming of naphthas in the presence of a halogen-containing catalyst comprising a platinum group metal supported on alumina in which a naphtha is contacted with a fixed bed of catalyst in the presence of hydrogen under hydroforming conditions of temperature, pressure and contacting time and then regenerated, the improvement which comprises treating the regenerated catalyst by chlorinating the catalyst to a chlorine level between about 0.70 and 1.00 wt. percent on the catalyst by first treating said catalyst at an elevated temperature of about 500° F.–800° F. and a pressure between about 0 and 400 p.s.i.g. with a water-containing treat gas which is saturated with water so as to contain 500–5000 v.p.p.m. of water until the partial pressure of the water in said catalyst is at equilibrium with said gas and then passing through said fixed bed of water saturated catalyst a gas containing 0.02 to 1.0 mol percent chlorine, .02 to 1.0 mol percent water, 0 to 21 mol percent oxygen and nitrogen at an elevated temperature of about 500° F.–800° F. at a treating gas rate of 3 to 30 s.c.f./hr./lb. of catalyst and under a pressure of between 0 and 400 p.s.i.g. until chlorine breakthrough and chlorine gas is detected in the exiting gas.

3,407,136
NITROGEN REMOVAL FROM DISTILLATE FUEL WITH SULFUR HALIDES
Daniel F. Jonusz, Cranbury, and Jack Ryer, East Brunswick, N.J., assignors to Cities Service Oil Company, Bartlesville, Okla., a corporation of Delaware
No Drawing. Filed Jan. 24, 1966, Ser. No. 522,416
3 Claims. (Cl. 208—254)

Sulfur halides are used for the removal of nitrogen-containing compounds to improve the characteristics of hydrocarbon distillate fuel. Sulfur mono-, di-, and tetra halides may be employed, for example, sulfur monochloride, sulfur monobromide, sulfur monofluoride, sulfur dichloride, sulfur tetrachloride, etc. The hydrocarbon fuel is intimately contacted with the sulfur halide at a temperature of 0–100° C. to form a precipitate of the nitrogen containing impurity, which is then removed from said fuel.

3,407,137
REMOVAL OF SURFACE ACTIVE AGENTS FROM HYDROCARBONS AND THE LIKE USING CHRYSOTILE ASBESTOS FIBERS
Thomas Harry Sadler, Middlesex, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Aug. 12, 1965, Ser. No. 479,345
2 Claims. (Cl. 208—300)

Chrysotile asbestos fibers are employed for treating liquid hydrocarbons to remove liquid surfactants, such as sulfonates which are present in amounts of 1–100 p.p.m. Fibers having a surface area of 1000 to 30,000 $cm.^2/g.$ of fibers are used in amounts of 50–12,000 parts per million by mixing with the hydrocarbon and then are removed by settling or filtering.

3,407,138
METHOD AND COMPOSITION FOR EXTINGUISHING AND PREVENTING FIRES IN FLAMMABLE LIQUIDS
Billy Gene Harper, Brazoria, Robert Niles Bashaw, Freeport, and Bernis L. Self, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Sept. 2, 1964, Ser. No. 394,070
18 Claims. (Cl. 252—2)

The disclosure herein concerns a method and compositions for extinguishing and for preventing fire in flammable liquids. For such purposes, compositions consisting essentially of water-insoluble, water-swollen gelled polymer particles having a density of less than that of the flammable liquid are used. They are adjusted to have a density less than that of the flammable liquid by the inclusion of a lightweight substance, and preferably with the inclusion of an adhesive to promote adhesion between such light-weight substance and the water-swollen polymer particles.

3,407,139
FLUORESCENT MANGANESE ACTIVATED MAGNESIUM DIGALLATE PHOSPHOR COMPOSITION
Jesse J. Brown, Jr., Towanda, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Apr. 21, 1966, Ser. No. 544,294
4 Claims. (Cl. 252—301.4)

This invention relates to calcium digallate phosphors activated by manganese. The formula for this phosphor can be characterized as follows:

$$(Ca_xMn_y)Ga_4O_7$$

wherein the sum of x and y is between about 0.90 to 1.05 and wherein y is between about 0.001 to 0.10.

3,407,140
ANTIOXIDANT COMPOSITION COMPRISING A SYNERGISTIC MIXTURE OF A PHENOL AND CERTAIN SULFONES
Max Eugene Chiddix and David J. Tracy, Easton, and Vasant Shah, Bethlehem, Pa., assignors to GAF Corporation, a corporation of Delaware
No Drawing. Filed Aug. 5, 1966, Ser. No. 570,413
8 Claims. (Cl. 252—47.5)

As an antioxidant composition, a mixture of an alkyl hindered phenol antioxidant and a sulfone compound containing a thioethylenesulfone group, a 3-thio-substituted sulfolane, or a 3-thio-substituted benzo-2,3-dihydrothiophene-1,1-dioxide, and oxidizable organic materials containing such antioxidant composition.

3,407,141
DISSOLUTION OF METAL WITH ACIDIFIED HYDROGEN PEROXIDE SOLUTIONS
Russell Shukri Banush and Donald Paul Hagerty, Onondaga, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Feb. 3, 1966, Ser. No. 524,836
21 Claims. (Cl. 252—79.4)

Relates to acidified hydrogen peroxide solutions and method for dissolving metals, particularly useful in the manufacture of printed circuit boards, wherein said acidified hydrogen peroxide solutions contain an additive selected from the group consisting of phenylurea, diphenylurea, benzoic acid, hydroxy benzoic acid and salts and mixtures thereof.

3,407,142
HEAT TRANSFER FLUID
Robert S. McCord, Pacific Palisades, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
No Drawing. Filed Mar. 30, 1965, Ser. No. 444,040
12 Claims. (Cl. 252—78)

Heat transfer composition consisting essentially of a tetraalkyl orthosilicate having alkyl groups each containing from 5 to 6 carbon atoms, and a small proportion between about 2 and about 7% by weight of the composition, of a polyalkylene glycol material, preferably a polyalkylene glycol diether, such composition having low viscosity at low temperature, i.e., less than about 250 centistokes at −65° F., good hydrolytic stability and fire resistance, and a reduced shrinkage effect on rubber-O-ring seals.

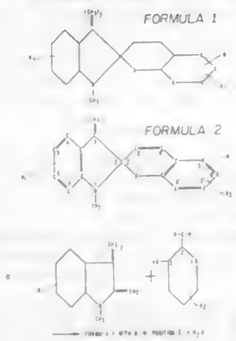
3,407,143
FIRE-RESISTANT HYDRAULIC FLUID COMPOSITIONS
Armin C. Pitchford, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Sept. 15, 1965, Ser. No. 487,631
3 Claims. (Cl. 252—75)

Improved water-in-oil emulsions are provided by the incorporation therein of from 1 to 10 weight percent of a polyethylene having a molecular weight less than 100,000.

3,407,144
DETERGENT COMPOSITION
David Frank Bath, Northumberland, England, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed Dec. 2, 1964, Ser. No. 415,478
Claims priority, application Great Britain, Dec. 11, 1963, 48,921/63
1 Claim. (Cl. 252—108)

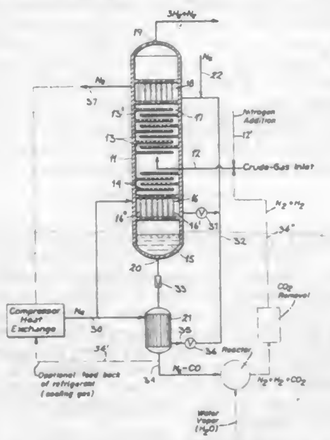
A three-layer detergent briquette which is readily and quickly soluble in water, and which has outer layers that are relatively smooth and abrasion resistant.

3,407,145
PHOTOCHROMIC MEANS AND METHODS
Daniel Charles Brule, Antony, France, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France
Filed Feb. 18, 1965, Ser. No. 433,692
Claims priority, application France, Feb. 18, 1964, 964,158
5 Claims. (Cl. 252—300)



Photochromic objects which change color on exposure to light include the preferred group of photochromic compounds called trimethyl-1,3,3 indoline 2-spiro-2'2H pyridino-2,3-(b) pyrans. They may be included in carriers such as plastics and embodied in windows to automatically regulate the passage of light.

3,407,146
PROCESS FOR THE RECOVERY OF HYDROGEN-NITROGEN MIXTURES WITH REDUCED CARBON-MONOXIDE CONTENT
Rudolf Becker, Munich-Solln, and Ernst Karwat, Pullach, Isartal, Germany, assignors to Linde Aktiengesellschaft, a corporation of Germany
Filed Jan. 21, 1965, Ser. No. 427,068
Claims priority, application Germany, Jan. 22, 1964, G 39,669
9 Claims. (Cl. 252—377)



A crude gas containing hydrogen, nitrogen and carbon monoxide is separated in a fractionating column to produce an overhead hydrogen-nitrogen gas of varying relative proportions. The relative hydrogen-nitrogen make-up of the overhead gas is controlled by adding nitrogen to the crude gas prior to fractionation in sufficient quantities such that the percent of hydrogen in the crude gas plotted against the carbon-monoxide impurity ratio falls within a predetermined area of FIGURE 1.

3,407,147
LIQUID STYRENATED PHENOLIC ANTI-OXIDANT FOR RUBBER
Lois Elaine Chew, Middlesex, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Oct. 14, 1963, Ser. No. 316,158
4 Claims. (Cl. 252—404)

A liquid non-staining antioxidant for elastomer compositions and method of preparing it by reacting one mole part of a phenolic component composed of an m-cresol and p-cresol mixture, o-cresol, phenol and an acid-acting catalyst with two mole parts of styrene.

3,407,148
MINIMIZING DEACTIVATION OF ALUMINOSILICATE CATALYSTS DUE TO CHANGES IN HYDRATION LEVEL
Sylvander C. Eastwood, Woodbury, and Stephen M. Oleck, Moorestown, N.J., and Albert B. Schwartz, Philadelphia, Pa., assignors to Mobil Oil Corporation, a corporation of New York
Continuation-in-part of application Ser. No. 380,877, July 7, 1964. This application Feb. 24, 1967, Ser. No. 632,862
10 Claims. (Cl. 252—455)

Deactivation of aluminosilicate catalysts caused by cyclic hydration and dehydration in different atmospheric phases of a catalytic process is minimized and substantially eliminated by adjusting the moisture level of the various atmospheres contacting the catalyst in an amount sufficient to minimize change in the hydration level of the catalyst employed therein.

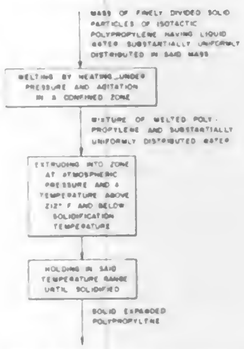
3,407,149
PROMOTED CATALYST FOR METHANE PRODUCTION
William F. Taylor, Scotch Plains, and John H. Sinfelt, Berkeley Heights, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Oct. 21, 1963, Ser. No. 317,800
2 Claims. (Cl. 252—466)

A catalyst of high activity for reacting paraffin hydrocarbons with steam at 600° to 925° F. is made by coprecipitating hydroxides, carbonates and basic carbonates of nickel, iron, and aluminum in proportions to make the catalyst contain 0.4 to 1.5 gram atoms of nickel per gram atom of aluminum and 0.001 to 0.2 gram atom of iron per gram atom of nickel, the coprecipitated compounds being dried, then calcined at 600° to 925° F., and activated by reducing with hydrogen at 600° to 925° F. The small amount of iron present acts as a good promoter in this catalyst for increasing said activity.

3,407,150
OXYALKYLATED PHOSPHORUS ACID ESTERS AS URETHANE FIRE-RETARDANTS
Marco Wismer, Gibsonia, Richland Township, Allegheny County, Herman P. Doerge, Verona, Paul R. Mosso, Natrona Heights, Harrison Township, Allegheny County, and James F. Foote, Sarver, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Continuation-in-part of application Ser. No. 256,845, Feb. 7, 1963. This application Jan. 12, 1966, Ser. No. 520,049
5 Claims. (Cl. 260—2.5)

1. A polyurethane foam formed by reacting a mixture comprising:
(1) a polyol which is the reaction product of a polyhydroxy compound having a hydroxyl number between about 150 and about 400, containing about 3 to about 8 hydroxyl groups per molecule, and an alkylene oxide containing from 2 to 6 carbon atoms per molecule, said polyol consisting essentially of atoms of carbon, hydrogen and oxygen;
(2) a phosphorus - containing, hydroxyl - substituted compound resulting from reacting an alkylene oxide containing 2 to 6 carbon atoms per molecule with an alkyl acid phosphate having an average active hydrogen functionality of less than 2.0 and greater than 1.0, said phosphorus containing hydroxyl-substituted compound having a hydroxyl value of between about 150 and about 400, said phosphorus-containing polyol being substantially the sole phosphorus-containing fire retardant source in said mixture;
(3) an organic polyisocyanate having an isocyanato functionality of about 2.3 to about 6 per molecule and consisting essentially of hydrocarbon groups and isocyanato groups; in the presence of
(4) a catalyst of urethane formation for polyols and polyisocyanates;
(5) an emulsifier for the mixture; and
(6) a blowing agent.

3,407,151
PRODUCTION OF EXPANDABLE AND CELLULAR RESIN PRODUCTS
Robert H. Overcashier, Walnut Creek, and Arthur L. Fricke, San Lorenzo, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed June 18, 1964, Ser. No. 376,200
10 Claims. (Cl. 260—2.5)



1. Expandable isotactic polypropylene consisting essentially of solid non-cellular isotactic polypropylene containing substantially uniformly distributed within the polypropylene mass as sole potential blowing agent finely divided discrete masses of a liquid which is substantially immiscible with said polypropylene, said liquid being selected from the group consisting of water, acetone, ammonia, methanol, ethanol, isopropanol, acetaldehyde, methylformate, and nitromethane.

3,407,152
FOAM PLASTICS AND PROCESS FOR MAKING THEM
Alfred Kuhlkamp, Hofheim, Taunus, Albrecht Moschel, Kelkheim, Taunus, and Rudolf Nowack, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Sept. 10, 1965, Ser. No. 486,542
Claims priority, application Germany, Sept. 17, 1964, F 43,997
9 Claims. (Cl. 260—2.5)

A process for the manufacture of a foam plastic which comprises reacting (a) a compound of the formula

$$R\text{—}[O\text{—}\overset{\overset{O}{\|}}{C}\text{—}CH_2\text{—}X]_n$$

wherein R is a branched or unbranched polyether or polyester group, X is an acetyl or nitrile group and n is an integer of at least 2, (b) formaldehyde, (c) piperazine carbamate and (d) from about 0.01% to about 20% of an ortho-ester of titanium or zirconium or an alcoholate of aluminum, and permitting the reaction mixture thereof to foam.

3,407,153
POLYURETHANE COMPOSITION AND PROCESS
Russel A. Bowman, Clarence, and Bruce N. Wilson, Niagara Falls, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 155,832, Nov. 29, 1961. This application June 30, 1966, Ser. No. 561,767
4 Claims. (Cl. 260—2.5)

Polyurethane compositions and foams are prepared by reacting organic polyisocyanates and polyether or polyester resins in the presence of a catalyst composition comprising a metal alcoholate and a carrier therefor, prepared by reacting together an alcohol having at least three hydroxyl groups, and at least one antimony or bismuth compound, wherein the reaction mixture contains the alcohol and the antimony or bismuth compound in a ratio which provides at least 1.5 moles of the alcohol for each unit atomic weight of the metallic element. The alcohol is present in an amount to provide a reaction medium during the reaction and to act as a carrier for the resultant reaction product.

3,407,154
ACID AMIDE MODIFIED UREA FORMALDEHYDE ALPHA-CELLULOSE FILLED MOLDING COMPOUND
George Sims Casebolt, Cheshire, and David E. Cordier, Hamden, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed July 21, 1965, Ser. No. 473,850
6 Claims. (Cl. 260—17.3)

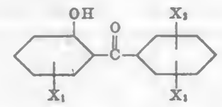
A urea formaldehyde molding composition containing from about 1.5 percent to about 10 percent by weight of certain acid amides.

3,407,155
AMINOTRIAZINE DECORATIVE, DIMENSIONALLY STABLE MOLDING COMPOUND CONTAINING A POLYMERIZED AROMATIC MONOMER AND HYDROXYL-CONTAINING VINYL MONOMERS COPOLYMER
George Sims Casebolt, Cheshire, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Oct. 29, 1965, Ser. No. 505,757
8 Claims. (Cl. 260—17.3)

An improved aminotriazine resin molding composition containing from about 2% to 14% by weight of the aminotriazine resin component of a copolymer of monovinyl aromatic monomers and certain hydroxyl containing vinyl monomers.

3,407,156
WEATHERABLE TRANSPARENT COATING COMPOSITION FOR WOOD SUBSTRATES
Robert W. La Berge, Magnolia, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed June 3, 1964, Ser. No. 372,405
3 Claims. (Cl. 260—22)

1. A clear coating composition for protecting wood substrates from the deterioration of weathering consisting essentially of a vehicle of a linseed oil modified glycerol phthalate alkyd resin, about 1–15% by weight of said vehicle of an ultraviolet light absorbing agent having the formula



wherein X_1, X_2 and X_3 are each selected from the group consisting of hydrogen, hydroxyl, alkyl, alkoxy and halogen and an extender pigment of finely divided silica particles having a refractive index of 1.4–1.56, a particle size of 0.015–0.02 microns and being in a pigment volume concentration of about 2–25%.

3,407,157
TABLET COATING COMPOSITIONS COMPRISING METHYL VINYL ETHERMALEIC ANHYDRIDE COPOLYMER, PLASTICIZER AND SURFACE ACTIVE AGENT
Jens Thuroe Carstensen, Montvale, and John James Vance, Park Ridge, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed May 19, 1965, Ser. No. 457,161
12 Claims. (Cl. 260—23)

A coating composition is described which contains, as essential ingredients, (a) a water-soluble interpolymer of methylvinyl ether and maleic anhydride, (b) glyceryl monostearate, polyoxyethylene sorbitan monooleate, dioctyl sodium sulfosuccinate or a mixture thereof and (c) acetone, ethyl acetate or a mixture thereof as an inert organic solvent for the interpolymer. The compositions are used to film-coat pharmaceutical tablets.

3,407,158
LOW TEMPERATURE VULCANIZATION OF MONOOLEFIN-NONCONJUGATED POLYOLEFIN ELASTOMERIC INTERPOLYMERS USING HYDROPEROXIDES
Agatino Guglielmino, Luigi Corbelli, and Enzo di Giulio, Ferrara, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy
No Drawing. Continuation-in-part of application Ser. No. 450,522, Apr. 23, 1965. This application Sept. 14, 1966, Ser. No. 579,215
Claims priority, application Italy, Sept. 20, 1965, 20,898/65
26 Claims. (Cl. 260—23.5)

Vulcanization of ethylene/alpha-olefin/polyene terpolymer with organic hydroperoxide at a temperature below 60° C.

3,407,159
MIXTURE OF VINYL ESTER-VINYL PHOSPHONIC ACID ESTER COPOLYMERS AND NATURAL AND/OR SYNTHETIC RESINS AND ITS USE AS AN ADHESIVE
Walter Fink, Frankfurt am Main, and Heinz Lehmann, Kriftel, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Oct. 24, 1966, Ser. No. 588,706
Claims priority, application Germany, Oct. 29, 1965, F 47,543
10 Claims. (Cl. 260—27)

Mixtures of (1) a copolymer formed between a vinyl ester and a di-ester of vinylphosphonic acid, with (2) certain natural and synthetic resins, and methods of adhering using these mixtures.

3,407,160

RHEOLOGICAL AGENTS

Fred M. Frank, Rego Park, N.Y., assignor to The Baker Castor Oil Company, Bayonne, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 19, 1965, Ser. No. 498,101
11 Claims. (Cl. 260—28.5)

Thixotropic and rheological-property-modifying compositions for use in nonaqueous paint products are described which comprise a modified oxidized hydrocarbon wax selected from the class consisting of modified oxidized microcrystalline waxes and modified oxidized Fischer-Tropsch waxes. These waxes impart desirable properties to a paint product such as effective pigment suspension, good anti-sag properties, increased thixotropic body and increased viscosity.

3,407,161

NONBLOOMING WAX-POLYMER COMPOSITIONS

Victor A. Rundle, Oakland, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Sept. 27, 1965, Ser. No. 490,723
2 Claims. (Cl. 260—28.5)

Self-sustaining films prepared from gross amounts of wax and isotactic polypropylene are modified with minor amounts of a high molecular weight C_2–C_4 polymer other than polypropylene to reduce blooming.

3,407,162

HOT TACK HIGH GLOSS WAX COMPOSITIONS

Victor A. Rundle, Oakland, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

Filed Mar. 30, 1966, Ser. No. 538,702
4 Claims. (Cl. 260—28.5)

Hot tack is enhanced in wax compositions by the addition of straight chain polyethylene and ethylene-vinyl acetate copolymers. Gloss is additionally improved by the addition of alkylene bis-fatty acid amides.

3,407,163

POLYMERIC COMPOSITIONS AND METHOD OF PREPARING SAME

Marvin A. McCall and James E. Guillet, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 296,912, July 23, 1963. This application Sept. 11, 1967, Ser. No. 667,007
13 Claims. (Cl. 260—28.5)

Method for preparing a polymeric composition comprising mixing a normally solid unsaturated polymer with a naturally occurring hydrocarbon wax and degrading the mixture at a temperature of about 290° C. to about 450° C. for at least one minute.

3,407,164

POLYMERIC DISPERSION, ARTICLES IMPREGNATED THEREWITH AND METHODS THEREFOR

George F. Schmidt, Dover, Del., assignor to Standard Brands Chemical Industries, Inc., Dover, Del., a corporation of Delaware

No Drawing. Filed Aug. 26, 1965, Ser. No. 482,929
10 Claims. (Cl. 260—29.7)

A latex composition characterized by enhanced adhesive-bonding and fiber-bonding properties comprising a mixture of polymer solids uniformly dispersed in an aqueous dispersion, the mixture containing from about 15 to about 50% by weight of an acrylic ester-diene copolymer (e.g. one prepared from a monomeric mixture containing about 50% of butadiene and about 50% of methyl methacrylate); from about 20 to about 40% by weight of a carboxyl-containing diene copolymer (e.g. one prepared from a monomeric mixture of about 75% of butadiene, about 22% of styrene and about 3% of itaconic acid); and from about 25 to about 60% of another diene copolymer (e.g. one produced from a monomeric mixture containing about 50% butadiene and about 50% styrene); the weight percentages of the copolymers being based on the total polymer solids in the aqueous dispersion. Articles of non-woven fibrous materials bonded with the latex composition, as well as a method of forming pressure sensitive adhesive tapes without a tie coat, are also disclosed.

3,407,165

PROCESS FOR PREPARING SURFACING COMPOSITIONS AND RESULTING PRODUCTS

Jacob Oepkes and Hendrikus J. Loois, Delft, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 18, 1964, Ser. No. 397,603
Claims priority, application Netherlands, Oct. 17, 1963, 299,406
3 Claims. (Cl. 260—29.8)

A new process for preparing terrazzo flooring without the need for grinding is disclosed. The process comprises forming a mixture of a curable resin, and a mixture of special coarse fillers and a pulverulent filler. Examples of the curable resins, such as epoxy resins, and examples of the different types of fillers are disclosed. Examples are given as to how to use the process in making terrazzo floors, walls and the like.

3,407,166

VINYL CHLORIDE RESINS PLASTICIZED WITH DIMETHYL FATTY AMIDES

Vincent P. Kuceski, Chicago Heights, and Joseph J. McGuire, South Bend, Ill., assignors of one-half each to C. P. Hall Company of Illinois, Chicago, Ill., a corporation of Ohio, and Uniroyal Inc., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 528,008, Dec. 2, 1965. This application Feb. 27, 1967, Ser. No. 619,069
4 Claims. (Cl. 260—32.6)

Vinyl chloride polymer and copolymer compositions are plasticized with N,N-dimethyl amides of fatty acids containing 12 to 18 carbon atoms. The extractability of the dimethyl amides with hexane is surprisingly less than that of the diethyl amides. Plasticization is improved by adding a small amount of a polyester.

3,407,167

FURFURYL ALCOHOL RESIN MORTAR COMPOSITION

Roman Slysh, Scotch Plains, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Jan. 26, 1965, Ser. No. 428,226
5 Claims. (Cl. 260—33.6)

Mortar compositions containing a furfuryl alcohol resin, an acidic catalyst, a filler, and an extender.

3,407,168

ALKYLBENZENES AS DILUENTS FOR ELASTOMERIC OLEFIN POLYMERS

Pierluigi Calvi and Luigi Corbelli, Ferrara, Pier Livio Balzani, Forli, and Pierluigi Longhi, Milan, Italy, assignors to Montesheil Petrochimica S.p.A., Milan, Italy

No Drawing. Filed Mar. 30, 1966, Ser. No. 538,871
Claims priority, application Italy, Mar. 31, 1965, 7,060/65
30 Claims. (Cl. 260—33.6)

Amorphous vulcanizable copolymers of ethylene and propylene or butene-1 are extended by mixing the same with monoalkylbenzenes, polyalkylbenzenes, or mixtures thereof. The extenders comprise an aromatic nucleus having one or more linear or branched alkyl substituents containing from 1 to 20, preferably from 10 to 20, carbon atoms.

3,407,169

HEAT RESISTANT ADHESIVE

Albin C. Johnson, Campbell, and Robert C. Shaffer, Mountain View, Calif., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Feb. 25, 1965, Ser. No. 435,386
1 Claim. (Cl. 260—38)

A structural adhesive that will maintain its adhesive strength at high temperatures. A preparation composed of a silicone phenolic resin, an epoxy resin, an epoxy hardener and a nickel powder filler which is functionally stable at a temperature range of from —65° to 1500° F.

3,407,170

LIGHT STABILIZED POLYAMIDE AND PROCESS THEREFOR

Lawrence J. Exner, Scranton, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed July 16, 1965, Ser. No. 472,729
5 Claims. (Cl. 260—41)

Polyamide fibers produced from a polymerization reaction mixture containing a delustering agent are stabilized against degradation caused by exposure to light by incorporating in the reaction mixture a stable form of manganous ion. The light stabilizer is in the form of a polymeric salt of manganese and is characterized by the bonding of an anionic organic polymer to the manganous cation. The organic anion may be selected from polyacrylic acid, polymethacrylic acid, or water-soluble salts thereof.

3,407,171

MANUFACTURE OF RIGID HIGH IMPACT RESISTANT POLYVINYL CHLORIDE-CHLORINATED POLYETHYLENE PRODUCTS

George E. Segre, Morristown, N. J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 308,068, Sept. 11, 1963. This application Nov. 27, 1964, Ser. No. 414,396
6 Claims. (Cl. 260—41)

Plastic pipe meeting the requirements of both ASTM Type I and Type II Specifications can be produced by extruding a dry blended mixture consisting essentially of polyvinyl chloride, a minor amount of chlorinated polyethylene and a finely divided inorganic solid selected from the group consisting of silica and calcium carbonate.

3,407,172

STABILITY OF POLYOLEFINES

Gerhard Meyer, Obernburg, Erhard Siggel, Seckmauern uber Hochst Odenwald, Albert Schopf, Hering uber Hochst Odenwald, and Helmut Magerlein, Erlenbach, Germany, assignors to Vereinigte Glanzstoff-Fabriken A.G., Wuppertal-Elberfeld, Germany

No Drawing. Filed Jan. 26, 1965, Ser. No. 428,202
Claims priority, application Germany, Jan. 31, 1964, V 25,287
13 Claims. (Cl. 260—45.7)

Stabilizing a high molecular weight poly-α-monoolefine such as polypropylene against oxidation by heating it in finely divided dispersed form in a lower alkanol containing a small amount, e.g. 0.001 to 1% by weight with reference to the poly-α-monoolefine, of an organic peroxide under agitation at a temperature of about 80–160° C. for a period of about 4 to 10 hours, and then separating the poly-α-monoolefine from the dispersion. Examples of organic peroxides are methylethyl-ketone-peroxide and ti-tert.-butyl-peroxide. The resulting stabilized poly-α-monoolefine is useful in producing filaments, films and molded articles resistant to oxidation.

3,407,173

POLYOLEFIN COMPOSITION STABILIZED WITH HYDRAZONES

Tsuneto Kuriyama, Chikujyo-gun, and Toshinhiko Kuroda, Shigeru Tanba, and Isao Toshima, Yokkaichi-shi, Japan, assignors to Yoshitomi Seiyaku Kabushiki Kaisha, Osaka-shi, and Mitsubishi Petrochemical Company Limited, Tokyo, Japan

No Drawing. Filed Feb. 5, 1965, Ser. No. 430,729
Claims priority, application Japan, Feb. 14, 1964, 39/7,603
8 Claims. (Cl. 260—45.9)

This invention relates to stabilized polyolefin compositions. The present invention has it as an object to provide a polyolefin composition having a high degree of stability against oxidation deterioration remarkably accelerated by the contact of the polyolefin or specifically polypropylene with copper.

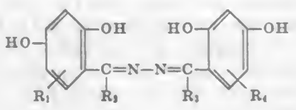
3,407,174

POLYOLEFIN COMPOSITION STABILIZED WITH HYDRAZONES

Tsuneto Kuriyama, Chikujyo-gun, and Toshinhiko Kuroda, Shigeru Tanba, and Isao Toshima, Yokkaichi-shi, Japan, assignors to Yoshitomo Seiyaku Kabushiki Kaisha, Osaka-shi, and Mitsubishi Petrochemical Company Limited, Tokyo, Japan

No Drawing. Filed Feb. 5, 1965, Ser. No. 430,730
Claims priority, application Japan, Feb. 7, 1964, 39/6,043
8 Claims. (Cl. 260—45.9)

1. A polyolefin composition of solid polyethylene, propylene or ethylene-propylene copolymers containing a stabilizing amount of an azine compound having the general formula



wherein R_1, R_2, R_3 and R_4 are hydrogen or same or different hydrocarbon radicals which are substituted or un-

substituted alkyl, cycloalkyl, aryl, alkaryl or aralkyl radicals.

3,407,175

REACTION PRODUCT OF AN EPOXY RESIN AND AN ADDUCT OF AN ISOCYANATE AND A POLYAMINE

Wayne E. Presley and Thomas J. Hairston, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 10, 1966, Ser. No. 526,387
5 Claims. (Cl. 260—47)

This invention relates to compositions of matter comprising the reaction products of certain epoxy resins and a curing agent comprising an adduct of substantially equivalent amounts of certain organic isocyanates and certain polyamines. Such compositions are particularly suitable for use as rapid curing highly flexible coating compositions having excellent hardness and solvent resistance.

3,407,176

POLYAMIDE-ACIDS AND POLYIMIDE FROM A MIXTURE OF DIANHYDRIDES

Donald F. Loncrini, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Feb. 14, 1966, Ser. No. 527,091
10 Claims. (Cl. 260—47)

Copolymer polyamide acids and polyimides are prepared from diamine compounds and anhydrides, at least one of the anhydrides having aromatic ester groups.

3,407,177

METHOD OF PREPARING POLYOXYMETHYLENE OF HIGH MOLECULAR WEIGHT

Shigeki Horiie, Eiji Sakaoka, Susumu Kurematsu, Michikazu Hiraoka, and Shozo Sakamaki, Tokyo, Japan, assignors to Denki Kagaku Kogyo Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Apr. 28, 1965, Ser. No. 451,634
Claims priority, application Japan, May 4, 1964, 39/25,079
5 Claims. (Cl. 260—67)

A method of preparing polyoxymethylene of high molecular weight which comprises polymerizing anhydrous trioxane or a mixture of the trioxane and copolymerizable cyclic ether, in the presence of a novel catalyst of which general formula is represented by $RCOBF_4$, where R being a radical selected from the group consisting of methyl, ethyl and phenyl radicals, at a low temperature of from 0 to 20° C.

3,407,178

WATER REMOVAL FROM CONTINUOUS XYLENE - FORMALDEHYDE CONDENSATION REACTION

Raymond L. Heinrich, Baytown, Tex., assignor to Esso Research and Engineering Company

Filed June 14, 1965, Ser. No. 463,682
7 Claims. (Cl. 260—67)

The aqueous acid layer from the condensation of an aromatic hydrocarbon with formaldehyde in the presence of aqueous sulfuric acid is heated to obtain a fraction containing formaldehyde and water which is recycled to the condensation step while the remainder is further heated to vaporize water and concentrate the sulfuric acid, the water vaporized on the second heating being discarded and the concentrated acid recycled.

3,407,179

BATCH POLYMERIZATION OF AQUEOUS DIAMINE-DICARBOXYLIC ACID SALT

James Arthur Carr, Richmond, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 127,937, July 31, 1961. This application May 12, 1965, Ser. No. 455,190
3 Claims. (Cl. 260—78)

1. In a polymerization process including the steps of heating a batch of aqueous diamine-dicarboxylic acid salt solution in an autoclave under amidation temperature and pressure conditions, bleeding steam generated in the amidation reaction and discharging molten polycarbonamide from the autoclave, the improvement which comprises charging said autoclave by spraying said salt solution against its inner walls above the normal solution level, thereby flushing the residue of a preceding batch from said walls as a new batch accumulates.

3,407,180

TREATMENT OF POLYAMIDES

Jean Bounoure and Georges Durand, Mourenx, France, assignors to Societe Nationale des Petroles d'Aquitaine, Paris, France

No Drawing. Filed Oct. 15, 1965, Ser. No. 496,693
Claims priority, application France, Oct. 20, 1964, 991,989
4 Claims. (Cl. 260—78)

This invention relates to the treatment of polycaprolactam and, more particularly, to the treatment of that substance to improve its physical characteristics by subjecting it to a comminution, a washing with an aqueous solution of an acid, a drying operation and a degassing operation.

3,407,181

α-METHYL-α-DICHLOROPHENYL-β-PROPIOLACTONES AND POLYMERS THEREOF

Roger C. Kierstead, Kynlyn, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 23, 1965, Ser. No. 450,513
5 Claims. (Cl. 260—78.3)

Treatment of α-phenyl-β-chloroisobutyric acid with chlorine at 0 to 75° C. in the presence of a chlorination catalyst to form a chlorinated acid, dissolving the thus formed acid in an aqueous base to give a salt solution of pH 7 to 10 and heating the salt thus formed to convert said salt to either α-(3,5-dichlorophenyl)-α-methyl-β-propiolactone or α - (3,4-dichlorophenyl) - α-methyl-β-propiolactone, and polymerizing either of these lactones at from 20 to 200° C. with any of alkali metal carboxylates, tertiary phosphine, tertiary amine, alkali metal alkoxide, quarternary ammonium hydroxide, quarternary ammonium alkoxide or quarternary ammonium carboxylate catalysts to form a polymer having an inherent viscosity of at least 0.75 as measured as a 0.5% solution in N-methyl pyrrolidone.

3,407,182

RECOVERY OF POLYARYLENE SULFIDES

Robert A. Hinton, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Aug. 1, 1966, Ser. No. 569,038
8 Claims. (Cl. 260—79)

Polyarylene sulfides are recovered from compositions comprising said polymers, alkali metal halides and polar organic solvents having a higher affinity for liquid ammonia than for said polymer by contacting said compositions with liquid ammonia.

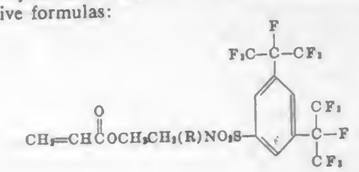
3,407,183

ACRYLATE AND METHACRYLATE ESTERS AND POLYMERS THEREOF

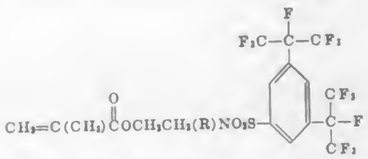
Basil S. Farah, West Seneca, N.Y., and Everett E. Gilbert, Morris Township, Morris County, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 7, 1965, Ser. No. 485,606
9 Claims. (Cl. 260—79.3)

1. Acrylate esters and methacrylate esters having the respective formulas:



and



wherein R is an alkyl group containing 1 to 6 carbon atoms.

3,407,184

PRODUCTION OF 1,3-DIENE POLYMERS IN AQUEOUS MEDIA

Herbert Naarmann, Ludwigshafen (Rhine), and Ernst-Guenther Kastning, Assenheim, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Mar. 9, 1965, Ser. No. 438,397
Claims priority, application Germany, Mar. 14, 1964, B 75,907
The portion of the term of the patent subsequent to June 6, 1984, has been disclaimed
6 Claims. (Cl. 260—82.1)

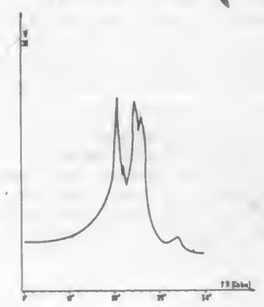
This invention relates to the preparation of diene polymers in aqueous systems using (1) chelate complex compounds of transition metals of groups I, II, IV, or VIII of the Periodic System of Elements and (2) cycloalkenes as the catalysts.

3,407,185

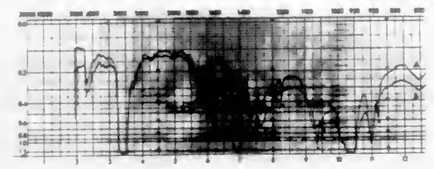
CRYSTALLINE ETHYLENE/BUTADIENE COPOLYMERS

Giulio Natta, Adolfo Zambelli, and Italo Pasquon, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

Filed July 8, 1963, Ser. No. 293,427
Claims priority, application Italy, July 12, 1962, 13,949/62
10 Claims. (Cl. 260—85.3)



Crystalline linear ethylene/butadiene copolymers containing from 65 to 35% by mols of butadiene, comprising long sequences of butadiene units polymerized by trans-1,4 enchainment and alternating with ethylene units in the polymer chain, and characterized by X-ray diffraction spectrum having intensity peaks at angles 2θ of 20.5° and 23.2° and by an infrared spectrum having absorption bands at 8.27, 9.25 and 11.20 microns. Preparing foregoing polymers by contacting mixture of monomers with catalyst consisting of the reaction product of:



(a) a hydrocarbon soluble vanadium halide,
(b) a metallorganic aluminum compound having the general formula AlR_3, in which R is an alkyl radical containing from 1 to 10 carbon atoms,
(c) a weak Lewis base having a heat of complexing with said metallorganic aluminum compound no greater than about 12,000 calories/mol,

the molar ratio of vanadium halide to metallorganic aluminum compound being 1:2 and the preparation of the catalyst and the polymerization being carried out at temperatures lower than 0° C.

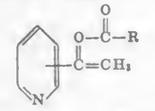
3,407,186

PYRIDINE ESTERS OF CARBOXYLIC ACIDS, THEIR SYNTHESIS AND POLYMERS THEREOF

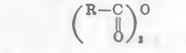
Howard C. Haas, Arlington, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

No Drawing. Filed June 4, 1965, Ser. No. 461,528
14 Claims. (Cl. 260—88.3)

A monomer of the structure



wherein R is a lower alkyl, prepared by oxidizing a vinylpyridine to form a 1,2-dihydroxyethylpyridine and reacting said 1,2-dihydroxyethylpyridine with an acid anhydride of the structure



wherein R is a lower alkyl. The polymers of the said monomer are useful as film-forming materials.

3,407,187

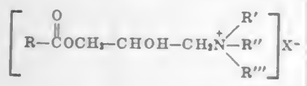
ANTISTATIC AGENTS

Christos Savides, Piscataway Township, Middlesex County, N.J., and John Edward Milks, Stamford, Conn., assignors of one-half each to American Cyanamid Company, Stamford, Conn., a corporation of Maine, and Arizona Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 1, 1965, Ser. No. 484,455
8 Claims. (Cl. 260—89.5)

1. A polymeric composition having improved antistatic properties comprising (a) as the polymeric substrate a

polyolefin, a vinyl chloride polymer, a styrene polymer or a polyacrylate, and (b) from 0.1 to 5% based on the weight of (a) of a quaternary compound of the formula:



wherein R is an aliphatic or a cycloaliphatic radical of eight to nineteen carbon atoms; R′, R″ and R‴ are lower alkyl radicals of 1–3 carbons; and X is an anion.

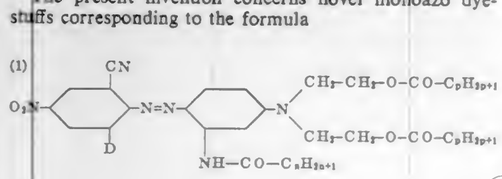
3,407,188
QUATERNARY AMMONIUM SALTS OF LIGNIN
Giancarlo A. Cavagna, Charleston, S.C., assignor to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 1, 1965, Ser. No. 484,456
3 Claims. (Cl. 260—124)

Quaternary ammonium salts of lignin which are insoluble in aqueous solutions having a pH between 4 and 8 and soluble in aqueous solution below 4 and above 8 prepared by reacting a lignin amine made via the Mannich reaction with either an alkyl halide or an alkyl sulfate having utility as a dispersing or a flocculating agent.

3,407,189
WATER-INSOLUBLE MONOAZO DYESTUFFS
Ernest Merian, Bottmingen, Basel-Land, Switzerland, assignor to Sandoz, Ltd., Basel, Switzerland
No Drawing. Continuation of application Ser. No. 343,430, Jan. 8, 1964, which is a division of application Ser. No. 89,626, Feb. 16, 1961. This application June 12, 1967, Ser. No. 645,546
Claims priority, application Switzerland, July 25, 1956, 35,860/56
5 Claims. (Cl. 260—207.1)

The present invention concerns novel monoazo dyestuffs corresponding to the formula

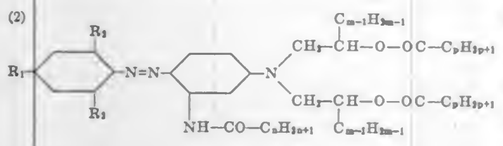
(1)



wherein

D represents a member selected from the group consisting of chlorine and bromine and
n and *p* are each positive whole numbers of at most 2; and

(2)



wherein

R_1 is a member selected from the group consisting of NO_2, SO_2-(lower)alkyl, CN, and SO_2N(lower-alkyl)$_2$,
R_2 is a member selected from the group consisting of H, Cl, Br, CN, OCH_3, SO_2-(lower)alkyl, SO_2F, and NO_2,
R_3 is a member selected from the group consisting of H, Cl, Br, CN, SO_2N(lower-alkyl)$_2$, and CF_3,
m, *n*, and *p* each being a positive whole integer of at most 2.

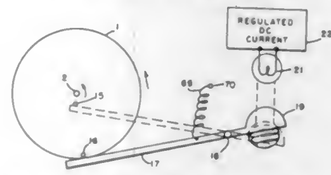
3,407,190
METHOD FOR THE PRODUCTION OF 5′-RIBONUCLEOTIDE
Mikio Honjo and Kin-Ichi Imai, Takatsuki, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan
No Drawing. Filed July 26, 1966, Ser. No. 567,844
Claims priority, application Japan, July 27, 1965, 40/45,731
13 Claims. (Cl. 260—211.5)

Without protecting the hydroxy groups at the 2′- and 3′-positions, 5′-ribonucleotides are prepared in good yields directly from the corresponding nucleosides in intimate admixtures with a nitrile having from 2 to 8 carbon atoms.

3,407,191
ADAMANTOATE ESTERS OF NUCLEOSIDES
Koert Gerzon and Donald L. K. Kau, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana
No Drawing. Filed Aug. 29, 1966, Ser. No. 575,526
5 Claims. (Cl. 260—211.5)

Adamantoate esters of nucleosides are disclosed. The compounds have shown useful activity as anti-viral agents, autoimmune suppressants, and cytotoxic agents.

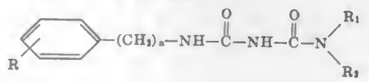
3,407,192
CONTROL OF PHOTOCELL ILLUMINATION BY SHUTTER HAVING PROGRAMMED MOVEMENT
Alfred W. Barber, Bayside, N.Y.
(32—44 Francis Lewis Blvd., Flushing, N.Y. 11358)
Filed Nov. 3, 1966, Ser. No. 591,777
1 Claim. (Cl. 250—225)



1. In an electronic function generator, the combination of, a source of illumination, a photoconductive cell positioned to receive at least a portion of the light from said source of illumination, a movable shutter positioned to be partly between said cell and said source of illumination for controlling the resistance of said cell in accordance with the position of said shutter, said shutter comprising a portion for interrupting light falling on said cell and a cam-following arm, means for programming said shutter in order to program the resistance of said cell and utilization means coupled to said cell for utilizing the programmed resistance of said cell, said means for programming said shutter including a circular disc provided with sets of radially extending holes for receiving a plurality of pins to represent a given function, and means for rotating said disc at a substantially constant rate, said cam-following arm riding on said pins for coupling said pins with said shutter in order to program said shutter in accordance with the program represented by said pins.

3,407,193
SUBSTITUTED BIURETS
John D. McColl, Dorval, Quebec, and Francis L. Chubb, Pierrefonds, Quebec, Canada, assignors to Frank W. Horner Limited, Mount Royal, Quebec, Canada
No Drawing. Filed Mar. 9, 1965, Ser. No. 438,419
12 Claims. (Cl. 260—239)

Compounds of the formula:



in which R is hydrogen, halogen or lower alkyl, *n* is an integer having a value from 1 to 4, R_1 is hydrogen or lower alkyl, R_2 is alkyl or aralkyl, and R_1 and R_2 can be taken together with N to form a heterocyclic radical. Said compounds are useful as central nervous system depressants.

3,407,194
GON-5(10)-EN-3β-OLS
Donald P. Strike, Philadelphia, Daniel M. Teller, King of Prussia, and Herchel Smith, Wayne, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 26, 1966, Ser. No. 581,745
4 Claims. (Cl. 260—239.55)

This invention concerns a four step process for synthesizing gon-5(10)-en-3β-ols which are useful intermediates in the preparation of hormonally active 10β-methyl-13β-polycarbonalkylgon-4-en-3-ones.

3,407,195
4-METHYL-1-(5-NITROFURFURYLIDENEAMINO)-2-IMIDAZOLIDINONE
Harry Raymond Snyder, Jr., Norwich, N.Y., assignor to The Norwich Pharmacal Company, a corporation of New York
No Drawing. Filed Apr. 3, 1967, Ser. No. 627,605
1 Claim. (Cl. 260—240)

A novel nitrofuran, 4 - methyl-1-(5-nitrofurfurylideneamino)-2-imidazolidinone, possesses a high order of antimicrobial potency and is particularly noteworthy as a urinary tract antibacterial agent.

3,407,196
BENZOXAZOLYLSTILBENES
Peter Liechti, Binningen, Erwin Maeder, Aesch, Basel, Leonardo Guglielmetti, Birsfelden, Max Duennenberger, Frenkendorf, and Adolf Emil Siegrist, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company
No Drawing. Continuation-in-part of application Ser. No. 408,756, Nov. 4, 1964. This application Sept. 1, 1967, Ser. No. 664,899
Claims priority, application Switzerland, Nov. 14, 1963, 13,986/63; May 12, 1964, 6,155/64
12 Claims. (Cl. 260—240)

The present invention concerns new bis-(benzoxazolyl-2)-4,4-stilbenes, which contain in the benzene ring of the benzoxazolyl residue a carboxyl group in free form, esterified or as nitrile group, and wherein the ethylene bridge member of the stilbene moiety is unsubstituted. These new compounds represent valuable optical brighteners, especially for aromatic polyesters and for polyamides.

3,407,197
2H-1,2,3-BENZOTHIADIAZINE-1,1-DIOXIDES AND PROCESS FOR THEIR PRODUCTION
John B. Wright, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Aug. 10, 1966, Ser. No. 571,402
8 Claims. (Cl. 260—243)

2H-1,2,3-benzothiadiazine-1,1-dioxides are prepared by reacting in an inert solvent a 2-benzoylbenzenesulfonyl halide with hydrazine, hydrazine hydrate, or alkylhydrazine. The corresponding 3,4-dihydro derivatives can be prepared by a subsequent hydrogenation. The foregoing compounds are useful as intermediates for the preparation of disinfectants, mothproofing agents, pickling inhibitors, and herbicides, and also for the preparation of 4-phenyl-2H-1,2,3-benzothiadiazine-1,1-dioxides which contain a basic side chain.

3,407,198
2H-1,2,3-BENZOTHIADIAZINE-1,1-DIOXIDES
John B. Wright, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Aug. 10, 1966, Ser. No. 572,651
8 Claims. (Cl. 260—243)

2H-1,2,3-benzothiadiazine-1,1-dioxides with a basic side chain in the 2-position are prepared by alkylating with an aminoalkyl halide the corresponding 2H-1,2,3-benzothiadiazine-1,1-dioxides. The alkylated compounds are useful as central nervous system stimulants and also as intermediates for the preparation of mothproofing agents, pickling inhibitors, and herbicides.

3,407,199
TERTIARYAMINO ETHYL OR PROPYL PYRROL-2-YL KETONES
Irwin J. Pachter, Woodbury, N.Y., assignor to Endo Laboratories Inc., Garden City, N.Y.
No Drawing. Filed Jan. 18, 1966, Ser. No. 521,424
10 Claims. (Cl. 260—247.5)

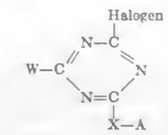
Novel amino alkyl pyrrol-2-yl ketones and the addition salts thereof which are useful as tranquilizers, and processes for the preparation thereof are disclosed. The novel compounds may be prepared by one or two alternate routes. In one route the Grignard derivative of the appropriate pyrrole is reacted with a haloacylhalide, followed by reaction with the appropriate amine. In the second route the Grignard derivative of the appropriate pyrrole is reacted with an acylhalide followed by Mannich condensation with formaldehyde with appropriate amine.

3,407,200
NOVEL ISOCYANURATE COMPOUNDS
Edwin D. Little and Charles R. Walter, Hopewell, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Nov. 26, 1965, Ser. No. 510,081
5 Claims. (Cl. 260—248)

Di(2-cyanoethyl) isocyanurate is reacted with dimethyl sulfate at 20–100° C. to produce 1,3-di(2-cyanoethyl)-5-methyl isocyanurate. The 1,3-di(2-cyanoethyl)-5-methyl isocyanurate is then heated with a mineral acid to produce 1,3-di(2-carboxyethyl)-5-methyl isocyanurate.

3,407,201
HETEROCYCLICALLY SUBSTITUTED MONOHALOGENO-1,3,5-TRIAZINES
Christian Luethi, Munchenstein, Hans Rudolf Biland, Basel, Max Scheilenbaum, Riehen, and Max Duennenberger, Frenkendorf, Basel-Land, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company
No Drawing. Filed Jan. 28, 1966, Ser. No. 523,552
Claims priority, application Switzerland, Feb. 4, 1965, 1,541/65
12 Claims. (Cl. 260—248)

New heterocyclically substituted monohalogeno-1,3,5-triazines are provided which may be represented by the formula



wherein A contains at least one ring nitrogen atom and represents an aromatic ring system made up of 1 to 3 six-membered rings, which are fused in the case of ring systems containing 2 or 3 rings, and is linked through a ring carbon atom with X; X represents a divalent hetero-atom bridge member chosen from —O—, —S—, and —NQ—, where Q stands for hydrogen or a lower alkyl

group and W represents a monovalent, aliphatic, heterocyclic, aromatic or araliphatic residue which is linked through a carbon atom with the triazine ring and contains no more than 20 carbon atoms.

The compounds of the invention are especially useful as fungicides and bactericides.

3,407,202

6-AMINO-5-CYANOMETHYLAMINOPYRIMIDINES

Irwin J. Pachter, Woodbury, N.Y., and Joseph Weinstock, Philadelphia, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Original application June 29, 1962, Ser. No. 206,153. Divided and this application Jan. 31, 1967, Ser. No. 612,798

7 Claims. (Cl. 260—256.5)

7-aminopteridines, which are useful as diuretic and hypotensive agents and as intermediates for dyestuffs or as antifolic acid compounds, are prepared from 5,6-diaminopyrimidines by a process with Schiff bases (6-amino-5-methyleneaminopyrimidines), 6-amino - 5 - cyanomethylaminopyrimidines and 7-amino-dihydropteridines as intermediates. The 6-thiazolylpteridines also have utility as central nervous system stimulants. The 2,4,6-triamino-5-cyanomethylaminopyrimidines which are intermediates for 7-aminopteridines also have diuretic activity.

3,407,203

NOVEL PROCESS FOR THE PREPARATION OF DIKETOPIPERAZINES

Raoul Buijle, Brussels, Belgium, assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 22, 1965, Ser. No. 441,840

14 Claims. (Cl. 260—268)

Diketopiperazines are prepared by contacting an N-carboxy anhydride with an amidoxime.

3,407,204

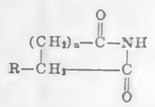
QUATERNARY AMMONIUM ALIPHATIC IMIDES

E. Griffin Shay, Belle Mead, N.J., and Reginald L. Wakeman, Philadelphia, Pa., assignors to Millmaster Onyx Corporation, New York, N.Y., a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 359,426, Apr. 13, 1964. This application Mar. 14, 1967, Ser. No. 622,897

4 Claims. (Cl. 260—286)

Quaternary ammonium aliphatic imides wherein the quaternary ammonium cation is microbiocidal and wherein the aliphatic imide has the structure:



in which *n* is an integer from 1 to 3 and R is either H, alkyl, or alkenyl wherein the alkyl or alkenyl has from 1 to 20 carbon atoms.

3,407,205

N-(α-OLEOYLOXYPROPIONYL)PIPERIDINE

Evald L. Skau, Robert M. Mod, and Frank C. Magne, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Application Sept. 4, 1964, Ser. No. 394,636, which is a continuation-in-part of application Ser. No. 260,923, Feb. 25, 1963. Divided and this application Apr. 13, 1965, Ser. No. 459,494

1 Claim. (Cl. 260—294.3)

This invention relates to a new compound, N-(α-oleoyloxypropionyl)piperidine, to some unique mixtures comprising N-(α-oleoyloxypropionyl)piperidine and to plastic compositions comprising polymers and copolymers of vinyl chloride resins and containing the above-mentioned piperidine as the plasticizer component. This piperidide is an efficient primary solvent-type plasticizer for vinyl chloride plastics and imparts excellent low temperature properties to these plastics.

3,407,206

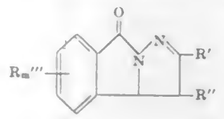
2-SUBSTITUTED PYRAZOLOISOINDOLONES

Euclid W. Bousquet, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Application Jan. 24, 1966, Ser. No. 522,358, which is a continuation-in-part of application 435,351, Feb. 25, 1965. Divided and this application Nov. 20, 1967, Ser. No. 684,529

4 Claims. (Cl. 260—310)

2-substituted pyrazoloisoindolones of the formula:



wherein

R′ is tert-alkyl of 4–12 carbon atoms,



naphthyl, phenanthyl, phthalidylalkyl, substituted phenyl, or phenyl;

m is 1–4;

A is hydrogen, methyl, phenyl, methylphenyl or chlorophenyl;

Q is hydrogen or methyl;

R″ is hydrogen, alkyl or cyano;

R‴ is hydrogen, fluorine, chlorine or bromine.

Typical is 3,3a-dihydro-2-(p-methoxyphenyl)-8H-pyrazolo-[5,1,a]-isoindol-8-one useful in controlling the growth of plants.

3,407,207

PROCESS FOR OBTAINING AMINO DERIVATIVES

Paolo Longi, Riccardo Montagna, and Romano Mazzocchi, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Filed Feb. 14, 1966, Ser. No. 527,071

Claims priority, application Italy, Feb. 15, 1965, 3,018/65

4 Claims. (Cl. 260—315)

Lithium or sodium diphenyl amide, or potassium-N-carbazole, is reacted with sulphur, in a suitable solvent, to obtain amino derivatives useful as antioxidants and stabilizers in the plastics field, or as accelerators or vulcanizers for rubbers.

3,407,208

RECOVERY OF CARBAZOLE FROM COAL TAR FRACTIONS

Louis A. Joó, Johnson City, and Harvey J. Young, Elizabethton, Tenn., assignors to Great Lakes Carbon Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 30, 1965, Ser. No. 526,930

4 Claims. (Cl. 260—318)

Carbazole of a purity sufficient to reach a level of 95+% with one recrystallization is obtained in good yield by lixiviating the bulk of the impurities from an anthracene-poor cake containing as little as 15% carbazole, with a halogenated hydrocarbon liquid having a boiling point not higher than about 200° C. One treatment at 50 to —10° C. at a solvent to cake ratio of 1 to 15:1 suffices. The 15% carbazole cake is previously obtained by a low temperature leaching of crude "anthracene salts" according to the method of U.S. Patent 3,285,987.

3,407,209

METHOD FOR THE RECOVERY OF CARBAZOLE FROM COAL TAR FRACTIONS

Louis A. Joó, Johnson City, Tenn., assignor to Great Lakes Carbon Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 27, 1965, Ser. No. 526,925

5 Claims. (Cl. 260—318)

Carbazole of a purity sufficient to reach a level of 95+% with one recrystallization, is obtained in good yield by lixiviating the bulk of the impurities from an anthracene-poor cake containing as little as 15% carbazole, with an aromatic hydrocarbon liquid having a boiling point not exceeding about 200° C. One elution of the cake suffices when carried at a liquid to cake ratio of at least 0.5:1 at 25° C. and at least 9:1 at —50° C., the relationship between ratio and temperature over the entire range being inversely proportional. The crude carbazole starting material is previously obtained by a low temperature leaching of anthrancene salts according to the method of U.S. Patent 3,285,987.

3,407,210

AMINOETHYL-BENZOFURANS AND DERIVATIVES THEREOF

Wolfgang Schoetensack, Constance, Guenther Hallmann, Limburgerhof, Pfalz, and Karl Haegele, Hilzingen, Kreis Constance, Germany, assignors to Byk-Gulden Lomberg Chemische Fabrik G.m.b.H., Constance, Germany, a corporation of Germany

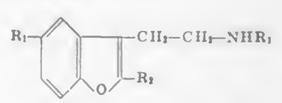
No Drawing. Filed Nov. 2, 1962, Ser. No. 235,129

Claims priority, application Germany, Nov. 3, 1961, B 64,655, B 64,656

25 Claims. (Cl. 260—326)

19. 3 - (β-phthalimidoethyl)-5-methoxybenzofuran.

21. A 3-substituted benzofuran compound selected from the group consisting of the 3-(β-aminoethyl)benzofuran compound of the formula



wherein

R_1 indicates a radical selected from the following: hydrogen, hydroxyl, lower alkoxy, lower alkyl, benzyloxy, benzyl, benzhydryl, halogen, nitro, amino, lower alkylamino, and benzylamino;

R_2 indicates a radical selected from the following: hydrogen, lower alkyl, and phenyl; and

R_3 indicates a radical selected from the following: hydrogen lower alkanoyl and benzoyl;

and its pharmaceutically acceptable acid addition salts.

3,407,211

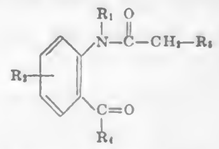
ACYLAMINOPHENYL HETEROCYCLIC KETONES

Leo Berger, Montclair, Arthur Stempel, Teaneck, Leo Henryk Sternbach, Upper Montclair, and Edward Wenis, Leonia, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Original application June 20, 1961, Ser. No. 118,243. Divided and this application Nov. 27, 1963, Ser. No. 326,341

8 Claims. (Cl. 260—326.3)

1. A compound of the formula



wherein R_1 is selected from the group consisting of hydrogen and lower alkyl; R_2 is selected from the group consisting of hydrogen, halogen, nitro and lower alkoxy; R_4 is selected from the group consisting of pyrryl and furyl; and R_5 is selected from the group consisting of hydrogen, halogen and amino.

3. 2-haloacetamino-5-halophenyl 2-pyrryl ketone.

3,407,212

PROCESSES FOR CYCLIZING COMPOUNDS HAVING THE 8A CARBAMYL, 2-OXO-NAPHTHALENE MOIETY TO PYRROLIDONES AND REACTING THE LATTER WITH A SULFONYL HALIDE

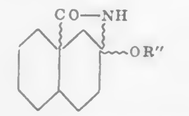
Wataru Nagata, Hyogo Prefecture, Japan, assignor to Shionogi & Co., Ltd., Osaka, Japan

No Drawing. Original application May 12, 1965, Ser. No. 464,264, now Patent No. 3,345,385, dated Oct. 3, 1967. Divided and this application Oct. 19, 1965, Ser. No. 516,808

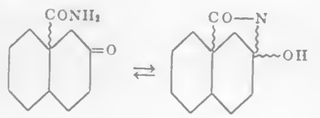
Claims priority, application Japan, Apr. 4, 1960, 35/20,125; Apr. 6, 1960, 35/20,723

2 Claims. (Cl. 260—326.3)

1. The method of preparing a compound having the moiety

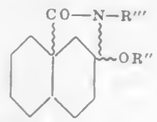


which comprises subjecting the corresponding compound having the moiety

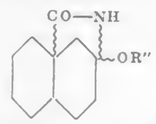


to the action of an etherifying agent or an esterifying agent, R″ representing the radical of such agent.

2. The method of preparing a compound having the moiety



wherein R″ is as defined in claim **1** which comprises subjecting the corresponding compound having the moiety



to the action of a sulfonyl halide, R‴ being the radical of said sulfonyl halide.

3,407,213

THIASELENOLODITHIOLE COMPOUND

Erwin Klingsberg, Mountainside, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed June 10, 1966, Ser. No. 556,551

1 Claim. (Cl. 260—327)

2,4-diphenyl-[1,2]thiaselenolo[5,1-b][1,2] - dithiole is prepared by refluxing 3,5-epidithio-2,5-diphenyl-2,4-pentadienal with P_2Se_5 in a solvent having a boiling point above about 115° C. The compound exhibits miticidal utility.

3,407,214

5-HYDROXY-6-OXAGONAN-3-ONES

George H. Douglas, Paoli, Charles R. Walk, King of Prussia, and Herchel Smith, Wayne, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 541,063, Apr. 8, 1966. This application Jan. 29, 1968, Ser. No. 701,048

10 Claims. (Cl. 260—345.3)

This invention is concerned with 5α-hydroxy-6-oxagonan-3-ones which are pharmacologically active in reducing blood cholesterol. Further, it relates to the process of preparing these compounds from their corresponding 6-oxagon-4-en-3-ones.

3,407,215

CATALYTIC FLUID BED OXIDATION OF O-XYLENE TO PHTHALIC ANHYDRIDE

Robert B. Egbert and Faust Frederick Oricchio, Stamford, and Thomas J. Gluodenis, Waterbury, Conn., assignors to Chemical Process Corporation, Stamford, Conn., a corporation of Massachusetts

Filed June 28, 1965, Ser. No. 467,538

14 Claims. (Cl. 260—346.4)

Production of phthalic anhydride by fluid bed catalytic air oxidation of o-xylene in which a bromine promoter is used in the vapor phase together with a

$$V_2O_5—SO_3—K_2O$$

catalyst on a highly porous silica support having a surface area greater than 450 m.²/g. and a pore diameter less than 100 A. and greater than 25 A. whereby yield, selectivity and catalyst loading are substantially increased.

3,407,216

METHOD FOR REDUCING PHTHALIDE CONTENT OF PHTHALIC ANHYDRIDE

Robert Baldwin Egbert, Stamford, Conn., assignor to Chemical Process Corporation, Stamford, Conn., a corporation of Massachusetts

No Drawing. Filed Feb. 7, 1966, Ser. No. 525,344

11 Claims. (Cl. 260—346.7)

A method of removing phthalide from crude phthalic anhydride by heating the crude phthalic anhydride with H_2SO_4 in the presence of chemically combined H_2O in the form of phthalic acid, the temperature and time conditions being controlled to retain in the system a sufficient amount of water to promote the selective reaction of H_2SO_4 with phthalide to form phthalic anhydride, SO_2 and H_2O at least until most or all of the phthalide has been so reacted.

3,407,217

8-ISO-13-POLYCARBONALKYL GONANES

Gordon Alan Hughes, Wayne, Pa., and Herchel Smith, 500 Chestnut Lane, Wayne, Pa. 19087; said Hughes assignor to said Smith

Original application Oct. 4, 1962, Ser. No. 228,384. Divided and this application June 7, 1965, Ser. No. 461,909

25 Claims. (Cl. 260—397.4)

Unsaturated 8-isogonane compounds and intermediates for the preparation of unsaturated 8-isogonane compounds which possess estrogenic, anti-lipemic, progestational, anabolic, and androgenic activities are obtained by selectively introducing hydrogen in a cis configuration at the 8-, 9-, and 14-positions of the corresponding 1,3,5(10),8,14-gonapentaene in the presence of a hydrogenation catalyst.

3,407,218

PROCESS FOR THE PREPARATION OF 17-ALPHA-HYDROXY-PROGESTERONE HEPTYLATE

Jean Marie Gastaud, 3 Ave. Prince Pierre, Monaco

No Drawing. Filed June 7, 1965, Ser. No. 462,094
Claims priority, application France, Apr. 29, 1965, 15,180

6 Claims. (Cl. 260—397.4)

A process for producing 17-alpha-hydroxy-progesterone heptylate by esterifying 17-alpha-hydroxy-progesterone with heptylic anhydride. The esterification is catalyzed by 4–10% by weight of p-toluene sulphonic acid and the amount of heptylic anhydride is about 1–1.5 mols per mol of starting material. Esterification is effected for 24–30 hours at 40–65° C.

3,407,219

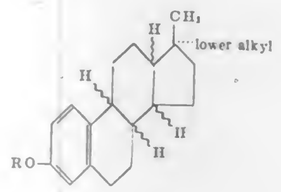
17α-ALKYL-17β-METHYL-8ξ,9ξ,13ξ,14ξ-GONA-1,3,5(10)-TRIEN-3-OLS AND CONGENERS

Leland J. Chinn, Morton Grove, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Dec. 22, 1965, Ser. No. 515,734

8 Claims. (Cl. 260—397.5)

1. A compound selected from the group consisting of compounds of the formula



and Δ^8 compounds otherwise identical, R in the formula being selected from the group consisting of hydrogen, benzyl, and lower alkyl, and the configuration of said compounds at all annular centers of asymmetry in the steroid ring system being identical with that which characterizes compounds prepared by heating a 17β-hydroxy-17α-(lower alkyl)estr-4-en-3-one with pyridine hydrochloride.

3,407,220

PRODUCTION OF ALIPHATIC CARBOXYLIC ACIDS

Paul H. Williams, Orinda, and Eugene F. Lutz, Concord, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 14, 1966, Ser. No. 579,202

10 Claims. (Cl. 260—413)

Straight-chain, saturated, aliphatic primary alcohols, in admixture with branched-chain alcohols, are selectively oxidized to the corresponding carboxylic acids by reaction of the alcohols in inert, non-polar liquid phase reaction medium with molecular oxygen in the presence of finely dispersed platinum as catalyst.

3,407,221

OXIDATION OF OLEFINS TO CARBOXYLIC ACIDS IN THE PRESENCE OF CERIUM SALTS AND NITRIC ACID

Eugene F. Lutz, Concord, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 16, 1966, Ser. No. 602,143

6 Claims. (Cl. 260—413)

Alpha- and beta-olefins are oxidized to carboxylic acids by intimately contacting the olefin in liquid phase with an oxygen-containing gas in the presence of an oxidation catalyst consisting of a cerium salt and nitric acid.

3,407,222

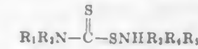
PREPARATION OF 2-HYDROXYALKYLDITHIO CARBAMATES FROM EPOXIDES AND AMINE SALTS OF DITHIO-CARBAMIC ACID

Thomas Andrew Lies, Montgomery, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

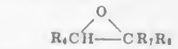
No Drawing. Filed Aug. 24, 1965, Ser. No. 482,291

9 Claims. (Cl. 260—455)

Process for the preparation of 2-hydroxyalkyl dithiocarbamate which comprises the steps of: reacting in an inert alcoholic medium at a temperature between about 30° C. and about 75° C. in substantially equimolar proportions a dithiocarbamate salt of the formula:



with an epoxide of the formula:



in which R_1, R_2, R_5, R_6, R_7 and R_8 are each hydrogen, alkyl, phenyl, naphthyl, cyclohexyl or phenylethyl; R_3 and R_4 are each hydrogen, alkyl; cyclohexyl or phenylethyl, and wherein R_1 and R_2 as well as R_3 and R_4 taken together with the nitrogen atom in the above said dithiocarbamate salt form an heterocyclic N-moiety selected from the group consisting of pyrrolidino, piperidino and morpholino.

3,407,223

PROCESS FOR PRODUCING SATURATED ALIPHATIC NITRILES

Naoya Kominami, Tokyo, Hitoshi Nakajima, Urawa-shi, and Nobuhiro Tamura, Tokyo, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan

No Drawing. Filed Jan. 20, 1966, Ser. No. 521,817
Claims priority, application Japan, Apr. 2, 1965, 40/18,920; Aug. 27, 1965, 40/52,133; Oct. 8, 1965, 40/61,380; Oct. 20, 1965, 40/63,949, 40/63,950; Oct. 30, 1965, 40/66,321

12 Claims. (Cl. 260—465.3)

A process for producing saturated aliphatic nitriles by subjecting a gas containing ethylene or propylene and hydrogen cyanide to a catalytic addition reaction at a temperature of 200°–600° C., in the presence of a catalyst consisting of palladium, rhodium or salts thereof and phosphoric acid, ammonium or aluminum rhodonate or aluminum chloride.

3,407,224

ESTER PRODUCTION

Edgar J. Smutny, San Francisco, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 14, 1965, Ser. No. 455,978

10 Claims. (Cl. 260—476)

2,7-alkadienyl esters, produced by reaction of certain α,ω-conjugated dienes and carboxylic acids in the presence of a platinum, palladium or ruthenium compound as catalyst and a phenoxide anion catalyst promoter.

3,407,225

4,7-METHANOINDENE DERIVATIVES

Morris Dunkel, Paramus, N.J., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Apr. 15, 1965, Ser. No. 448,285

7 Claims. (Cl. 260—488)

Polyhydro-4,7-methanoindenes substituted in the 5 or 6 position both with (a) vinyl or ethynyl and (b) a radical of the formula X—O— where X is hydrogen or acyl. The compounds are useful as olfactory ingredients for perfumes, soaps and other toilet goods.

3,407,226

STEREOSPECIFIC SYNTHESIS OF AMINO ACIDS

John M. Chemerda, Plainfield, Edward W. Tristram, Cranford, and Roger J. Tull, Metuchen, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 19, 1964, Ser. No. 390,501

15 Claims. (Cl. 260—519)

There is disclosed a series of 3-(hydroxyphenyl)-2-lower alkylserines of the 2S:3R configuration and a process for the preparation of these serines and L-3-(hydroxylated-phenyl)-2-lower alkylalanines. The process comprises treating a hydroxyphenylacylcarbinol with a cyanide and ammonium carbonate to form a 4-carbamoyl-4-lower alkyl-5-(hydroxylated-phenyl)-2-oxazolidinone in unequal isomer proportions. The isomers are separated by counter-current distribution and the 4S:5R isomer is isolated. Treatment of the oxazolidinone with a mineral acid provides the (2S:3R)-3-(hydroxylated-phenyl)-2-lower alkylserines and the treatment of the oxazolidinone with hydrogen iodide and red phosphorus yields the L-3-(hydroxylated-phenyl)-2-lower alkylalanines.

3,407,227

HYDROGENATION OF CARBON-CARBON MULTIPLE BONDS IN THE LIQUID PHASE

Fritz Beck and Ludwig Schuster, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

Filed May 6, 1964, Ser. No. 365,465
Claims priority, application Germany, May 10, 1963, B 71,842

4 Claims. (Cl. 260—537)

Hydrogenation of organic compounds having at least one olefinic or acetylenic bond in liquid phase in presence of suspension of finely divided hydrogenation catalysts, and determining end point of hydrogenation by measuring electrochemical hydrogen reference potential with respect to time when change in reference potential reaches maximum value at prevailing pH.

3,407,228

CONTINUOUS PRODUCTION OF MUCOCHLORIC ACID

Herbert Maisack and Helmut Schlecht, Ludwigshafen (Rhine), and Hans Urbach, Lampertheim, Hesse, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Aug. 12, 1965, Ser. No. 479,338
Claims priority, application Germany, Aug. 17, 1964, B 78,133

9 Claims. (Cl. 260—539)

Production of mucochloric acid from furfurol and chlorine in aqueous acid medium by continuous process in tubular recirculation system wherein weight ratio of added furfurol to reaction mixture is constantly less than 1:100.

3,407,229

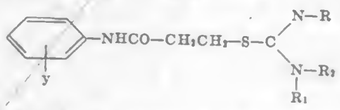
PHENYLCARBAMOYLETHYLTHIOPSEUDOUREAS

Bernard M. Regan, Chicago, Ill., assignor to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of abandoned application Ser. No. 395,286, Sept. 9, 1964. This application May 19, 1967, Ser. No. 639,609

9 Claims. (Cl. 260—557)

Compounds of the class phenylcarbamoylethylthiopseudoureas represented by the structure,



wherein y is hydrogen, methyl, or trifluoromethyl; R, R_1, and R_2 are hydrogen, lower alkyl or cyclohexyl; and at

least one of R, R_1, and R_2 are other than hydrogen; and the pharmaceutically acceptable acid salts thereof, useful as local anesthetics, for example, 2(2'-phenylcarbamoylethylthio)-1-cyclohexylpseudourea hydrochloride.

3,407,230
BENZAMIDOALKYLTHIOPSEUDOUREAS

Bernard M. Regan, Chicago, Ill., assignor to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 372,673, June 4, 1964. This application Aug. 29, 1967, Ser. No. 663,949

12 Claims. (Cl. 260—558)

Compounds of the class benzamidoalkylthiopseudoureas represented by the structure shown in the second paragraph of the specification, useful as local anesthetics, for example, 2(2'-benzamidoethylthio)-1-cyclohexylpseudourea hydrochloride.

3,407,231
DIMETHYLACETAMIDE PRODUCTION

Kenzie Nozaki, El Cerrito, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 25, 1966, Ser. No. 552,729

3 Claims. (Cl. 260—561)

Dimethylacetamide is produced as an essentially exclusive product by contacting trimethylamine and carbon monoxide in the presence of dicobalt octacarbonyl as catalyst.

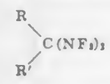
3,407,232
BIS(DIFLUOROAMINO)PERHALOCARBONS

Ronald A. Mitsch, Falcon Heights, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Apr. 16, 1962, Ser. No. 188,926

8 Claims. (Cl. 260—563)

1. A compound having the formula:



wherein R is selected from the class consisting of perhalocarbon groups containing from 1 to 6 carbon atoms in which not less than 60 percent of the halogen atoms are fluorine and the remainder are chlorine, R' is selected from the class consisting of R and fluorine, and wherein R and R' can combine to form five and six membered perfluorocycloaliphatic rings through the carbon atom to which they are attached.

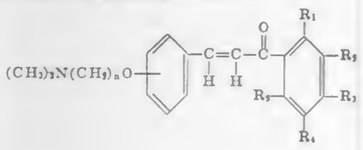
3,407,233
DIMETHYLAMINOALKOXY-DI- AND TRI-METHOXY-CHALCONES AND THE SALTS THEREOF

Albert M. Packman, Dresher, Pa., assignor to William H. Rorer, Inc., Fort Washington, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 388,003, Aug. 6, 1964. This application Nov. 8, 1966, Ser. No. 592,746

6 Claims. (Cl. 260—570.7)

1. A chalcone and non-toxic acid addition salts thereof, said chalcone having the formula:



in which n is 2 or 3 and R_1, R_2, R_3, R_4 and R_5 are hydrogen or methoxy, at least two and not more than three of said R_1, R_2, R_3, R_4 and R_5 being methoxy.

3,407,234
4-(2-BENZYLALKYLAMINOALKOXY)-BENZYLAMINES

Sidney Teitel, Clifton, N.J., and Moses Wolf Goldberg, deceased, late of Upper Montclair, N.J., by Regina Hauser Goldberg, executrix, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Original application Aug. 10, 1964, Ser. No. 389,516, now Patent No. 3,362,993, dated Jan. 9, 1968. Divided and this application Nov. 13, 1967, Ser. No. 682,661

4 Claims. (Cl. 260—570.7)

4-(2-benzylalkyl amino-alkoxy) benzyl amines which are intermediates useful for preparing N-[4-(2-alkylaminoalkoxy)-benzyl]-3,4-dialkoxy benzamides the latter being useful as antiemetic agents.

3,407,235
MAKING SUBSTITUTED 2,4-DIHYDROXY-BENZOPHENONES

Hans L. Nufer, Whitehall Borough, Pa., assignor to Pennsylvania Industrial Chemical Corporation, Clairton, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 564,014, July 11, 1966. This application Aug. 10, 1967, Ser. No. 659,579

3 Claims. (Cl. 260—591)

A 2,4-dihydroxybenzophenone is prepared by passing anhydrous HCl through a slurry of zinc chloride in a solution of resorcinol monobenzoate in an inert solvent while agitating the slurry and heating it to about 120° C. until completion of the Fries rearrangement with production of the benzophenone. The monobenzoate may be prepared by adding benzoyl chloride progressively to a slurry of anhydrous zinc chloride and a solution of resorcinol in an inert solvent at a temperature of 30° to 35° C. while passing a stream of inert gas through it.

3,407,236
FLUOROALKYL ORTHOESTERS

John Jefferson Porter, Clemson, S.C., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Aug. 12, 1964, Ser. No. 389,222

4 Claims. (Cl. 260—615)

1. Compounds of the formula:

$$[X(CF_2)_nCH_2O]_3CH$$

where X is a member selected from the group consisting of hydrogen and fluorine and n is a whole number from 1 to 20.

3,407,237
PREPARATION OF HYDROXYLATED AROMATIC COMPOUNDS

Jerome A. Vesely, Park Ridge, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Nov. 8, 1965, Ser. No. 506,851

6 Claims. (Cl. 260—621)

Preparation of a hydroxylated aromatic compound by treating a t-alkyl substituted aromatic compound with H_2O_2 in the presence of HF at a temperature of −10° C. to 100° C.

3,407,238
PROCESS FOR THE PREPARATION OF CYCLODODECADIENES

Nazzareno Cameli, Guido Sartori, and Renato Sudati, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy

No Drawing. Filed Sept. 7, 1966, Ser. No. 577,622

Claims priority, application Italy, Sept. 13, 1965, 20,244/65

4 Claims. (Cl. 260—666)

Preparing trans,trans-cyclododecadiene-1,5 and cis, trans-cyclododecadiene-1,3 by contacting cis,trans-cyclododecadiene-1,5 with iron carbonyl at about 140–160° C. or with nickel salt and aluminum alkyl compound at about 60–80° C.

3,407,239
SYNTHESIS OF UNSATURATED BICYCLIC HYDROCARBONS

Nazzareno Cameli, Milan, Gaetano Censolo, Ferrara, and Guido Sartori and Alberto Valvassori, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Continuation of application Ser. No. 490,079, Sept. 24, 1965. This application Sept. 25, 1967, Ser. No. 670,460

Claims priority, application Italy, Sept. 25, 1964, 20,661/64

11 Claims. (Cl. 260—666)

1. A process for the synthesis of unsaturated bicyclic hydrocarbons with condensed nuclei having the general formula



in which R and R_1 are selected from the group consisting of hydrogen and the methyl group, comprising preheating a solvent selected from the group consisting of aromatic, aliphatic and cycloaliphatic hydrocarbons to a temperature of from 80° C. to 250° C., introducing into the solvent maintained at the temperature in the range 80° C. to 250° C., a cyclo-diene selected from the group consisting of cyclopentadiene and dicyclopentadiene and mixtures thereof, and an acyclic conjugated diolefin selected from the group consisting of butadiene, isoprene and dimethylbutadiene, to form the said unsaturated bicyclic hydrocarbon of the formula given by reaction of said cyclo-diene and said acyclic diolefin at a temperature to which the solvent is preheated, and then subjecting at least a portion of the thus obtained reaction product to pyrolysis at a temperature of from 300 to 900° C.

3,407,240
METHOD FOR INHIBITING POLYMERIZATION OF CONJUGATED DIENES

Tatsuo Sakashita, Kamakura-shi, and Taketami Sakuragi, Tokyo, Japan, assignors to The Japanese Geon Co., Ltd., Chiyoda-ku, Tokyo, Japan

No Drawing. Filed Sept. 18, 1967, Ser. No. 668,650

Claims priority, application Japan, Sept. 22, 1966, 41/62,326

9 Claims. (Cl. 260—666.5)

Inhibitors found effective against polymerization of conjugated C_4–C_5 diolefins at 80–150° C. dissolved in dimethyl formamide include acrylonitrile, nitromethane, morpholine, thiophenol, α-nitroso-β-naphthol, cinnamic aldehyde, aldol, and isatin. Especially effective is addition of two inhibitors in which the second inhibitor is another of those listed or a previously known inhibitor.

3,407,241
ISOMERIZATION OF 3-CARENE TO 4-CARENE AND FURTHER CONVERSION OF 4-CARENE

Albert B. Booth, Jekyll Island, Ga., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 7, 1966, Ser. No. 563,370

36 Claims. (Cl. 260—675.5)

3-carene is converted to 4-carene by means of a catalyst system comprised of an alkali metal base composition or by a hydrogenation catalyst. The isomerizations give 60:40 near-equilibrium mixtures. A little 2-carene is sometimes present. The 4-carene is thermally converted to d-trans-isolimonene which is distillable from the unconverted 3-carene. The isolimonene is half-hydrogenated to d-trans-2-methene, or isomerized to d-2,4(8)-p-methadiene.

3,407,242
ISOMERIZATION OF 3 - CARENE TO 4-CARENE AND FURTHER CONVERSION OF THE 4-CARENE

Albert B. Booth, Jekyll Island, Ga., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 7, 1966, Ser. No. 563,383

9 Claims. (Cl. 260—675.5)

3-carene is converted to 4-carene by means of a hydrogenation catalyst or by a strong base catalyst adequate to form carbanions. The isomerizations give 60:40 near-equilibrium mixtures. The 4-carene is thermally converted to d-trans-isolimonene which is distillable from the unconverted 3-carene. The isolimonene is useful for hard resins, may be half hydrogenated to d-trans-2-menthene, or isomerized to d-2,4(8)-p-menthadiene, both convertible to levo-methol.

3,407,243
NOVEL CATALYST AND PROCESS FOR PREPARING ACYCLIC POLYOLEFINS

Harold W. Hyde and Ross Van Volkenburgh, Baton Rouge, La., assignors to Copolymer Rubber & Chemical Corporation, a corporation of Louisiana

No Drawing. Filed Jan. 19, 1962, Ser. No. 167,439

18 Claims. (Cl. 260—677)

1. A process for preparing acyclic polyolefins comprising reacting butadiene in solution in an organic solvent in the presence of an oligomerization catalyst consisting essentially of the reaction product prepared by reacting together in solution in an organic solvent a borohydride compound and a cobalt-containing compound in the presence of butadiene in an amount to complex the cobalt, the borohydride compound and the cobalt-containing compound being present in quantities to provide a BH_4^-/cobalt ratio greater than 2/3, and the BH_4^-/cobalt ratio being based upon the number of gram ion weights of BR_4^- present in the quantity of the borohydride compound and the number of gram atomic weights of cobalt present in the quantity of the cobalt-containing compound.

3,407,244
COBALT SALT - BISARSINE - ORGANOMETAL CATALYSTS FOR PREPARING 1,4-DIENES

Christos Sarafidis, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 31, 1967, Ser. No. 679,539

16 Claims. (Cl. 260—680)

A catalyst for use in preparing 1,4-dienes from α-monoolefins and conjugated dienes. The catalyst is prepared by mixing an organometal compound, a cobalt salt and a bisarsine in a liquid medium in any order, either in the presence of the monomers or separately. The reaction for preparing the 1,4-dienes is carried out in an inert

organic solvent at temperatures of 25 to 150° C. and pressures ranging from 1 atmosphere absolute to 2000 p.s.i.g.

3,407,245
ORGANOALUMINUM-IRON SALT-BISARSINE CATALYSTS FOR USE IN PREPARING 1,4-DIENES
Christos Sarafidis, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 15, 1967, Ser. No. 690,779
16 Claims. (Cl. 260—680)

A catalyst for use in preparing 1,4-dienes from α-monoolefins and conjugated dienes. The catalyst is prepared by mixing an organoaluminum compound, an iron salt and a bisarsine in a liquid medium in any order, either in the presence of the monomers or separately. A process utilizing said catalysts for preparing 1,4-dienes from α-monoolefins and conjugated dienes is also provided.

3,407,246
MASS POLYMERIZATION PROCESS IN THE PRESENCE OF POLYHYDRIC ALCOHOL MONOESTERS
Alva F. Harris, Wilbraham, Mass., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Nov. 12, 1965, Ser. No. 507,527
13 Claims. (Cl. 260—880)

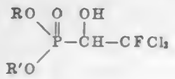
There is disclosed a mass polymerization process for monovinylidene aromatic hydrocarbons wherein there is incorporated in the polymerizable mixture a polyhydric alcohol monoester of an aliphatic monocarboxylic acid after which the mixture is heated to produce polymerization of the monomers and thereafter the polymerized formulation is separated from the reaction vessel, the monoester being useful in facilitating the separation of the polymer from the reaction vessel.

3,407,247
PROCESS FOR THE PRODUCTION OF FLUOROOLEFIN COPOLYMERS
Heinz F. Reinhardt, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 28, 1966, Ser. No. 537,652
8 Claims. (Cl. 260—881)

A two stage process for producing fluoroolefin copolymers useful in making paints, lacquers and similar finishes is provided by (a) polymerizing a monomer such as methyl methacrylate, t-butyl methacrylate, methacrylonitrile, methacrylamide and phenyl methacrylate in an aqueous emulsion in the presence of a polymerization initiator and (b) reacting the prepolymer so formed with a fluoroolefin compound by adding the fluoroolefin compound to the prepolymer mixture.

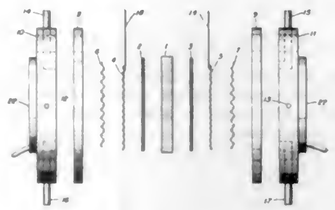
3,407,248
ALPHA-HYDROXY-BETA-FLUORO-BETA, BETA DICHLORO-ETHYL PHOSPHONIC ACID, O,O-DIESTER
Erich Klauke, Cologne-Flittard, Engelbert Kühle, Bergisch-Gladbach, Ingeborg Hammann, Cologne, and Walter Lorenz, Wuppertal-Vohwinkel, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed May 28, 1965, Ser. No. 459,909
Claims priority, application Germany, June 12, 1964, F 43,158
9 Claims. (Cl. 260—953)

1. O,O-dialkyl esters of phosphonic acid having the general formula



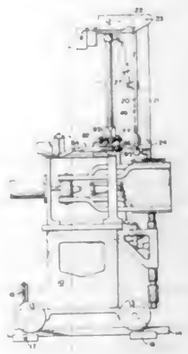
in which R and R′ each respectively is selected from the group consisting of alkyl and haloalkyl radicals.

3,407,249
POROUS, EXTENSIVELY FIBRILLATED POLYTETRAFLUOROETHYLENE AND METHOD OF PREPARING SAME
Henry Patrick Landi, Yorktown Heights, N.Y., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Continuation-in-part of application Ser. No. 467,987, June 29, 1965. This application Feb. 28, 1966, Ser. No. 530,346
5 Claims. (Cl. 264—49)



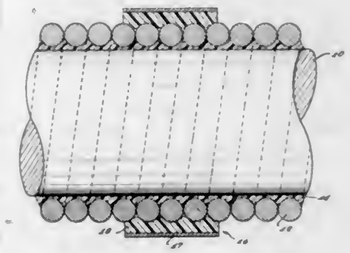
1. A method for preparing a porous, unsintered, completely fibrillated polytetrafluoroethylene sheet which comprises: intimately blending from about 1% to about 40%, by weight, of polytetrafluoroethylene in the form of an aqueous dispersion and from about 98% to 40%, by weight, of an organic-solvent extractable viscous polymer, based on the weight of the overall mixture; milling the latter mixture at temperatures ranging from about 170° C. to about 200° C.; extruding the milled product to form a sheet; immersing said formed sheet in an organic solvent selective for the solvent extractable viscous polymer thereby dissolving the latter polymer from said formed sheet; and recovering the latter as a porous, unsintered, completely fibrillated polytetrafluoroethylene sheet.

3,407,250
METHOD FOR MANUFACTURING HOLLOW PLASTIC ARTICLES
Clement V. Fogelberg, Boulder, and William D. Hough, Denver, Colo., assignors to Ball Brothers Company Incorporated, Muncie, Ind., a corporation of Indiana
Original application Mar. 25, 1963, Ser. No. 268,515, now Patent No. 3,257,687, dated June 28, 1966. Divided and this application Feb. 1, 1966, Ser. No. 541,043
3 Claims. (Cl. 264—99)



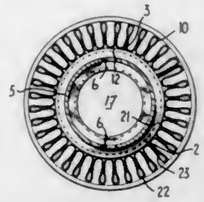
1. A method for forming hollow plastic articles by expansion of a parison within a closed sectional blow mold comprising the steps of grasping the upper portion of a heated parison at a position above and laterally displaced from a sectional mold, transferring the parison downwardly and outwardly to the open sectional mold with the initial portion of the transfer movement producing the greater portion of the downward movement of the parison and the final portion of the transfer movement producing the greater portion of the lateral movement of the parison, rapidly stopping and aligning the parison within the open sectional mold, closing the sectional mold around the aligned parison, blowing the finished article, opening the sectional mold and removing the article.

3,407,251
METHOD FOR FORMING COOPERATIVELY THREADED PARTS
William I. Elliott, 5172 Dumont Place, Woodland Hills, Calif. 91364, and Jack L. Randall, 27 Malibu Colony, Malibu, Calif. 90265
Filed Nov. 29, 1965, Ser. No. 510,169
5 Claims. (Cl. 264—135)



A method of forming cooperatively threaded parts wherein a rod is coated with a bonding material and a wire is helically wound along the length of the rod. A split ring of spring material provided with a lining of deformable plastic material is placed over the wire, and the plastic inner surface is deformed under heat and/or pressure so that the surface conforms to the portions of the wire confronting the lining.

3,407,252
PROCESS FOR PREPARING FILTERS HAVING A MICROPOROUS LAYER ATTACHED THERETO
David B. Pall, Roslyn Estates, and Cyril A. Keedwell, Jericho, N.Y., assignors to Pall Corporation, Glen Cove, N.Y., a corporation of New York
Continuation of application Ser. No. 328,297, Dec. 5, 1963. This application May 11, 1967, Ser. No. 637,850
18 Claims. (Cl. 264—131)



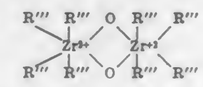
A process for making a corrugated filter element having a microporous layer thereon is provided, wherein a porous substrate sheet is provided with portions of reduced porosity at areas intended as the base folds of corrugations and the substrate sheet is folded into corrugations along the areas of reduced porosity. A suspension of particulate material is flowed through the substrate sheet to deposit the particulate material uniformly on the substrate to form a generally uniform microporous layer.

3,407,253
ORIENTED POROUS POLYOLEFIN-ELASTOMER BLEND SHEETS AND PROCESS OF MAKING SAME
Shohei Yoshimura and Takeshi Yamaguchi, Shiga Prefecture, Japan, assignors to Toyo Boseki Kabushiki Kaisha, Osaka, Japan
Filed May 3, 1966, Ser. No. 547,358
Claims priority, application Japan, May 4, 1965, 40/26,260
11 Claims. (Cl. 264—289)

An oriented sheet of a mixture of 100 parts by weight of at least one crystallizable polyolefin and from 30 to 300 parts by weight of at least one elastomer, the sheet having a number of voids from 2μ to 5 mm. in size, having a density of less than 0.80 g./cm.³, being permeable, being non-transparent and having a leather-like appearance.

3,407,254
ANTIPERSPIRANT COMPOSITIONS AND METHOD FOR THEIR APPLICATION
Bernard Siegal, Berkeley Heights, Herbert H. Gary, Metuchen, and Chung Teck Shin, Hillside, N.J., assignors to Bristol-Myers Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 24, 1964, Ser. No. 385,044
10 Claims. (Cl. 424—66)

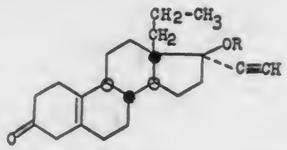
1. An antiperspirant composition comprising an aqueous carrier and a complex of formula:



wherein R‴ is selected from the group consisting of (a) water, (b) a nucleophilic compound of the group consisting of propylenediamine, triethylamine, diethylamine, monoethylamine, tri-ethylenetetraamine; tetraethylpentamine, triisopropanolamine, 2-amino-1-methylpropanediol; trimethylolamine, triethanolamine, diethanolamine, monoethanolamine, thioethanolamine, thioglycolic acid; and (c) an amino acid of the group consisting of lysine, glycine, valine, leucine, methionine and N-phenylalanine at least one R‴ group being an amino acid compound and at least one other R‴ group being a nucleophilic compound.

3,407,255
17α-ETHYNYL-13β-n-PROPYL-Δ⁵⁽¹⁰⁾-GONENE-17β-ol-3-ONE, ITS ESTERS AND USE
Robert Joly, Montmorency, Val-d'Oise, and Julien Warnant, Neuilly-sur-Seine, France, assignors to Roussel—UCLAF, S.A., Paris, France, a corporation of France
No Drawing. Continuation-in-part of application Ser. No. 273,295, Apr. 16, 1963. This application July 27, 1964, Ser. No. 385,503
2 Claims. (Cl. 424—243)

The present invention relates to the use of 17α-ethynyl-13β-n-propyl-Δ⁵⁽¹⁰⁾-gonene-17β-ol-3-one and esters thereof with organic carboxylic acids having from 1 to 18 carbon atoms corresponding to the following Formula I:



wherein R represents a member selected from the group consisting of hydrogen and the acyl radical of an organic

carboxylic acid having from 1 to 18 carbon atoms, as a medicine for its progestomimetic action.

3,407,256

PSYCHOTHERAPEUTIC COMPOSITIONS OF N[(4,4-SUBSTITUTED PIPERIDINO) LOWER ALKYL] IMINODIBENZYL COMPOUNDS

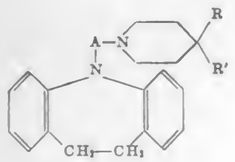
Michio Nakanishi, Natatsu, Oita, and Tomohiko Munakata, Yoshitomimachi, Chikujo-gun, Fukooka, Japan, assignors to Yoshitomi Pharmaceutical Industries, Ltd., Osaka, Japan

No Drawing. Original application May 20, 1964, Ser. No. 369,013, now Patent No. 3,329,683, dated July 4, 1967. Divided and this application Feb. 27, 1967, Ser. No. 632,863

Claims priority, application Japan, May 23, 1963, 38/26,966; July 2, 1963, 38/34,867

5 Claims. (Cl. 424—267)

Compositions containing, as active ingredient, a compound of the formula



or a pharmaceutically acceptable acid addition salt thereof, wherein A is alkylene of 1 to 4 C atoms, R is H, OH, alkoxy with up to 5 C atoms, cyano, carbamoyl, aminomethyl or acylaminomethyl (the acyl being acyl of carboxylic acid with up to 7 C atoms), and R′ is phenyl, halophenyl, methylphenyl, halomethylphenyl, or



wherein Q and Q′ together with the adjacent N collectively represent a heterocyclic group, are useful in the therapy of schizophrenia.

3,407,257

COMBATTING HERPES SIMPLEX VIRUSES WITH 4′ - [2 - NITRO - 1 - (PARATOLYLTHIO)ETHYL] ACETANILIDE

Darwin A. Buthala, Kalamazoo, Mich., and Gerald E. Underwood, Berkeley, Calif., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Nov. 23, 1965, Ser. No. 509,428

6 Claims. (Cl. 424—324)

1. A pharmaceutical preparation for topical application consisting essentially of a major amount of a pharmaceutical carrier for topical application and as essential active ingredient from about 0.1% to about 10% by weight of 4′-[2-nitro-1-(p-tolylthio)ethyl]acetanilide.

3,407,258

METHODS OF TREATING ARTERIOSCLEROTIC VERTIGO AND DEPRESSION

August Franciscus Harms, Amsterdam, Netherlands, assignor to Brocades-Stheeman & Pharmacia, Amsterdam, Netherlands, a corporation of the Netherlands

No Drawing. Continuation-in-part of application Ser. No. 268,528, Mar. 26, 1963. This application Oct. 14, 1965, Ser. No. 496,173

Claims priority, application Great Britain, Nov. 30, 1962, 45,554/62

2 Claims. (Cl. 424—339)

This invention relates to methods for treating arteriosclerotic vertigo and depression with N-methylaminoethyl-2-methylbenzhydryl ether and nontoxic acid addition salts thereof.

ELECTRICAL

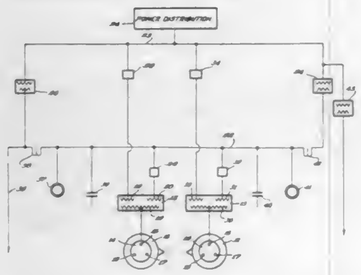
3,407,259

METHOD OF OPERATING AN ELECTRIC FURNACE WHEREIN THE ARC POWER IS INCREASED ABOVE 50 MVA. AFTER THE CHARGE HAS BEGUN TO MELT

Charles G. Robinson, Sterling, Ill., assignor to Northwestern Steel and Wire Company, Sterling, Ill., a corporation of Illinois

Filed Apr. 29, 1966, Ser. No. 546,266

1 Claim. (Cl. 13—34)



A method using an electric arc to melt metal wherein an arc of given power is established between electrodes and the metal and, after the metal has begun to melt the power to the arc is increased.

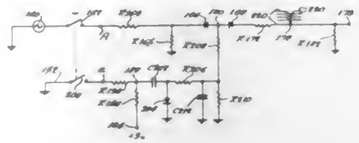
3,407,260

ELECTRIC ORGAN POLYPHONIC PERCUSSION SYSTEM HAVING MULTIPLE USE KEYERS

Ray B. Schrecongost, Park Ridge, Ill., assignor to Hammond Corporation, a corporation of Delaware

Filed May 12, 1965, Ser. No. 455,218

5 Claims. (Cl. 84—1.13)



A polyphonic percussion system for electric organs which requires only a few keyers (nine in the illustrated embodiment) by combining tone signal connections to the keyers such that required keyer action for any signal will almost never interfere with the required keyer availability for another signal. The connections group paired adjacent semitone signals on individual keyers, which keyers also serve paired adjacent semitones having playing keys out of reach of the hand touching a playing key for one of the first group of semitones.

3,407,261

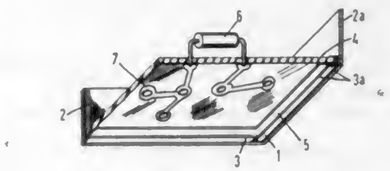
ARRANGEMENT FOR THE FASTENING AND CONTACTING OF A LAMINATED CONDUCTOR PLATE IN A SHIELD CASING

Hans Donath and Gerd Nothnagel, Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany

Filed Feb. 14, 1966, Ser. No. 527,344

Claims priority, application Germany, Feb. 16, 1965, S 95,464

12 Claims. (Cl. 174—35)



An arrangement for securing and supporting a circuit board in a shielded casing using an intermediate frame member. The circuit board has a metallized ground strip along at least one edge. The frame member is soldered to both the ground strip and the shield casing to electrically interconnect the ground to the casing. The frame member of one embodiment has an obliquely extending flange contacting the wall of the casing. The angle of the flange is the same as the angle of which the stream of flowing solder is projected on the arrangement to facilitate the soldering of the frame to both the ground strip and the casing.

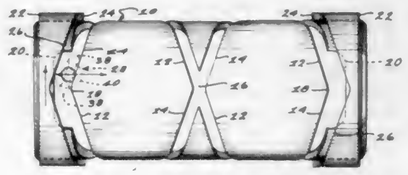
3,407,262

WINDING MACHINE TRAVERSE CAM AND FOLLOWER THEREFOR

Robert L. Snyder, Jr., Charlotte, N.C., assignor to R. H. Bouligny, Inc., Charlotte, N.C., a corporation of North Carolina

Filed Dec. 27, 1966, Ser. No. 604,985

5 Claims. (Cl. 74—57)



1. In a winding machine for textile strand material and the like, a grooved traverse cam and a follower means disposed thereat, said follower means incorporating an elongated slider element for riding said cam to produce reciprocal motion from cam rotation and a superposed roll element for controlling reversal of said reciprocal motion, and said grooved traverse cam having intersecting, oppositely directed, spiral grooves formed therein for engaging said elongated slider element in riding relation, and being fitted adjacent each end with collar members for reversing contact with said superposed roll element, the spiral cam grooves having the outer wall thereof adjacent each cam end relieved sufficiently to free said elongated slider element during reversal, and the cam collar members having the roll element contacting portion thereof developed for camming said reversal.

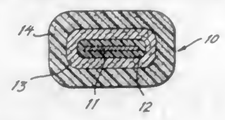
3,407,263

FLEXIBLE ELECTRICAL CONDUCTOR

Norman K. Miller, Havertown, Pa., assignor to Miller Brothers, Concordville, Pa., a partnership

Continuation-in-part of application Ser. No. 370,581, May 27, 1964. This application Dec. 20, 1967, Ser. No. 692,206

6 Claims. (Cl. 174—113)



A flexible electrical-conductor structure wherein a conductor of aluminum foil is immediately protected by a contiguous layer of flexible terephthalate, a woven fabric being in intimate engagement with the terephthalate, and an insulation covering a foam being adhesively secured to the woven fabric.

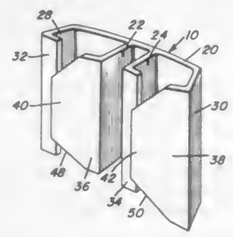
3,407,264

CIRCUIT MARKER GUARD

John V. Cull, % Crown Design & Manufacturing Corp., P.O. Box 7342, Dallas, Tex. 75209

Filed Feb. 2, 1967, Ser. No. 613,589

10 Claims. (Cl. 174—138)



A protective guard and circuit marker constructed of distinctively colored, heat resistant, resilient dielectric material such as plastic employed in conjunction with the terminals on terminal blocks in a central switching station of a telephone system. The circuit marker and guard includes a plurality of interconnected split sleeves of any suitable shape to slide into enclosing relation to a plurality of terminals with wires connected to the terminals extending through the slits in the split sleeves.

3,407,265

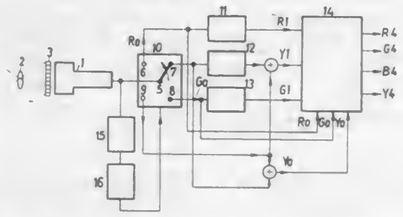
METHOD AND APPARATUS FOR PRODUCING COLOUR TELEVISION SIGNALS

Gerhard Krause, Darmstadt, Germany, assignor to Fernseh G.m.b.H., Darmstadt, Germany

Filed Dec. 17, 1965, Ser. No. 514,588

Claims priority, application Germany, Dec. 24, 1964, F 44,804

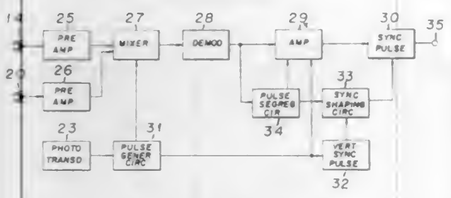
3 Claims. (Cl. 178—5.4)



Means for producing a colour television signal using a line reseau having strips of two colours alternating with

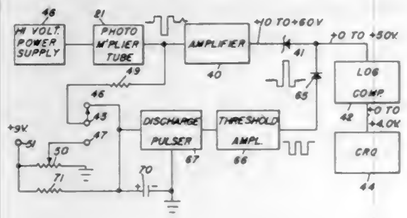
transparent (i.e. white) strips. Colour signals and white signals are generated by scanning the reseau and are separated according to the strips from which they originate. The white signals and the colour signals are compared to generate pure colour signals. Various white and colour signals are combined and filtered to generate different frequency ranges of the brightness signal which are then combined to generate the total brightness signal.

3,407,266
SYSTEM FOR REPRODUCING MAGNETICALLY RECORDED TELEVISION SIGNALS INCLUDING A VERTICAL SYNC PULSE GENERATOR
Tsuneo Araki, Tokyo, and Taichi Takesa, Yokohama-shi, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Jan. 26, 1965, Ser. No. 428,163
Claims priority, application Japan, Jan. 29, 1964, 39/4,007, 39/4,008
2 Claims. (Cl. 178—6.6)



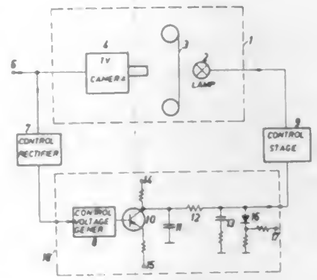
A magnetic tape having a plurality of magnetic record zones each including at least one field unit of the image signal with at least a portion of the vertical blanking period deleted, a main magnetic head adapted to scan said magnetic record zones to produce main signals including a signal absence period in at least a portion of the vertical blanking period, an auxiliary magnetic head driven in riod deleted, a main magnetic head adapted to scan said magnetic record zones to reproduce auxiliary signals with a predetermined time difference with respect to the main signals, means to set said time difference in at least said signal absence period of said main signals and means to insert said auxiliary signal or a signal produced by utilizing said auxiliary signal as the reference into said main signal absence period.

3,407,267
SCANNER WITH STABILIZED BLACK LEVEL OUTPUT
John W. Smith, Whitestone, N.Y., assignor to Hogan Faximile Corporation, New York, N.Y.
Filed June 15, 1964, Ser. No. 374,924
10 Claims. (Cl. 178—6.8)



A circuit arrangement for stabilizing the output scanner of a densitometer provides a reference light level during the blanking interval. This reference light level is converted into a reference pulse. An amplifier which follows the photo multiplier used for converting the light signals into electrical signals has its input biased by the charge on a capacitor. The bias level is preset. The capacitor charge is controlled by the output of a threshold amplifier connected to the output of the amplifier. Should the blanking signal exceed the predetermined threshold of the threshold amplifier, then the capacitor is discharged to control the amplifier gain accordingly. The output of the amplifier is applied to a log compression circuit whose output is displayed on a cathode ray tube.

3,407,268
TELEVISION SCANNING SYSTEM UTILIZING FEEDBACK FOR CONTRAST COMPENSATION
Emil Sennhenn, Darmstadt-Arheilgen, Germany, assignor to Fernseh G.m.b.H., Darmstadt, Germany
Filed June 30, 1964, Ser. No. 379,152
Claims priority, application Germany, July 5, 1963, F 40,162
8 Claims. (Cl. 178—7.2)

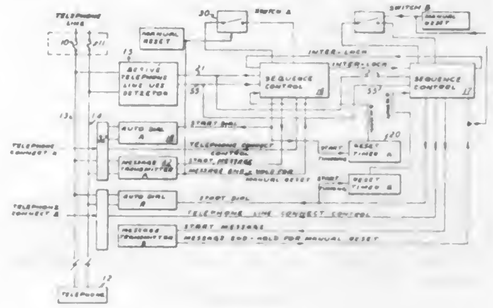


An electronic circuit arrangement for controlling the level of a television signal produced by a television scanning device. The arrangement is especially applicable to scanning films or slides having different contrast characteristics. The circuit arrangement serves to maintain the level of the television signal constant, regardless of the contrast characteristics. A control rectifier rectifies the produced television signal and transmits it to a control voltage generator where it may become suitably amplified. A damping network is provided to suppress any oscillations that may arise within the circuitry. A voltage limiting device in the form of a biased diode maintains the signal within a predetermined range of values. The output of the voltage limiting device is applied to a control stage which, in turn, modifies the intensity of the television signal so as to compensate the latter for any variation in contrast.

3,407,269
SYSTEM FOR AUTOMATICALLY SEQUENTIALLY SIGNALING PLURAL DIFFERENT ALARM MESSAGES TO DIFFERENT TELEPHONE SUBSCRIBERS
Henry G. Brzoska, Stamford, Conn., assignor to Sensor Corporation, a corporation of Connecticut
Filed Oct. 22, 1965, Ser. No. 500,804
6 Claims. (Cl. 179—5)

A system for automatically communicating a selected pre-recorded message to a selected pre-determined telephone, using the normal house-telephone lines, in response to occurrence of a pre-determined event. Provision is made to remember the occurrence of a second (different) predetermined event which occurs after the first event and essentially during the process of communicating a first message and for proceeding with the process of communicating a second pre-recorded message to a second predetermined telephone after the first selected pre-recorded message has been received. Provision is also made to

repeat dialing the same telephone number if the dialed number is not answered. The dialing process is repeated



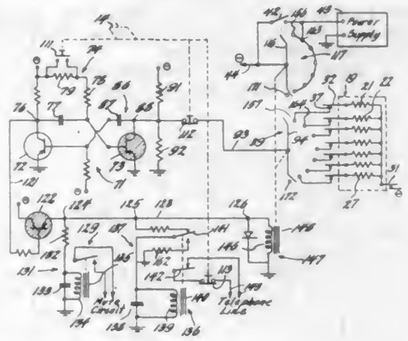
until the pre-recorded message is communicated to the person answering the telephone so dialed.

3,407,270
COMMUNICATION SYSTEM AND SYSTEM TO INDICATE SIGNALS THEREFROM IN FINITE TERMS
Jean-Robert Huetiger, Milwaukee, Wis., assignor to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Nov. 23, 1964, Ser. No. 413,090
5 Claims. (Cl. 179—18)



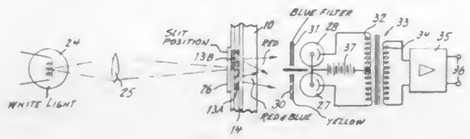
In a communication or telephone system, signals originating with a signal sending unit in the system can be translated into finite terms so as to convey information to a person. Of particular interest is a telephone system whereby predetermined dialing at any phone will connect that phone with translation or indicating means to convert subsequently dialed signals into finite terms.

3,407,271
AUTOMATIC TELEPHONE DIALER UTILIZING A VARIABLE CONTROLLED MULTIVIBRATOR
Joseph S. Baynard, Jr., Burlington, N.C., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 17, 1964, Ser. No. 419,149
9 Claims. (Cl. 179—90)



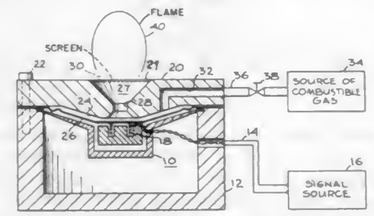
One stage of a variable multivibrator circuit controls a relaxation oscillator to impress series of pulses on a telephone line. A plurality of resistors are sequentially connected into the multivibrator circuit to control the excitation time of the multivibrator and the number of pulses produced by the relaxation oscillator.

3,407,272
PHOTOGRAPHIC SOUND SYSTEM FOR ELIMINATING FILM BLEMISH NOISE
Edward C. Barocela, Binghampton, N.Y., assignor to Instruments Corporation of America, a corporation of New York
Continuation of application Ser. No. 375,248, June 15, 1964. This application Sept. 7, 1966, Ser. No. 593,232
6 Claims. (Cl. 179—100.3)



A photographic sound system employing a sound film composed of two superimposed layers of different color tints, two color filters of different spectral range, and two photoelectric transducers to cancel film blemish noise. A 180 degree out-of-phase connection between transducers results in noise cancellation, since blemish noise modulations are present at both transducers while sound modulations are restricted to only one transducer due to the spectral ranges of the color layers and filters.

3,407,273
THERMOACOUSTIC LOUDSPEAKER
James S. Arnold, Palo Alto, Calif., assignor to Stanford Research Institute, Menlo Park, Calif., a corporation of California
Filed Jan. 8, 1965, Ser. No. 424,414
3 Claims. (Cl. 179—108)



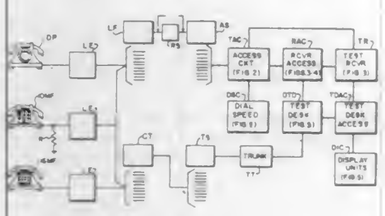
A modulated flow acoustic device is provided wherein the flow of a combustible gas is modulated in accordance with signal information. The modulated gas stream is burned whereby sonic energy is produced at a higher sound intensity than is obtainable in the absence of combustion.

This invention relates to modulated gas flow loudspeakers, and more particularly to a method and means for increasing the acoustical output thereof.

3,407,274
APPARATUS FOR REMOTELY TESTING TELEPHONE SUBSETS
Joseph F. Hribik, Lombard, and Joseph P. Jallits, Elmwood Park, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Dec. 30, 1965, Ser. No. 526,672
11 Claims. (Cl. 179—175.2)

11. In a telephone system, a plurality of telephone subsets, said subsets including different types of calling

devices each operable to generate digit signals, apparatus for testing the operation of said calling devices, means for seizing said apparatus by dialing from a calling one of said subsets an access code comprising a plurality of said digits, at least a number of said last-mentioned digits



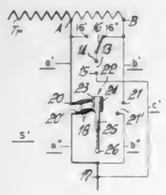
identifying the type of calling device used, and means in said test apparatus operated in accordance with the access code dialed in seizing said apparatus for automatically conditioning said apparatus for testing a calling device of the type used in said calling subset.

3,407,275

TRANSFER SWITCH MEANS FOR TAPPED TRANSFORMERS INCLUDING A VOLTAGE LIMITING DEVICE

Wolfgang Breuer, Regensburg, Germany, assignor to Maschinenfabrik Reinhausen Gebruder Scheubeck K.G., Regensburg, Germany

Filed Oct. 26, 1966, Ser. No. 589,646
Claims priority, application Germany, Nov. 4, 1965, M 67,163
12 Claims. (Cl. 200—11)



Described below is a transformer and load-tap changer assembly wherein physical switch-over impedances such as, for instance, switch-over resistors, are dispensed with, and wherein the current-limiting action normally performed by such impedances is performed by the arc voltage of an electric arc drawn in the transfer switch. The circuitry includes a surge voltage discharge means such as, for instance, a spark gap, that is connected in series with a portion of the tapped transformer winding and any electric arc formed upon parting of the contacts of the transfer switch. The aforementioned surge voltage discharge means is being short-circuited when the transfer switch completes its tap-changing stroke, or completes its travel from one of its limit positions to the other of its limit positions.

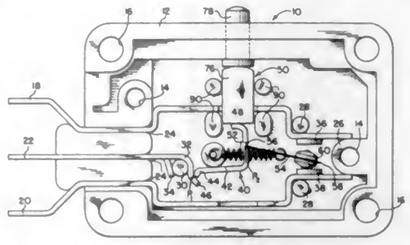
3,407,276

SNAP ACTION SWITCH HAVING IMPROVED TERMINAL CONSTRUCTION

James R. Pescetto, Chicago, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed Nov. 23, 1966, Ser. No. 596,515
4 Claims. (Cl. 200—67)

Snap action switch having a pivoted rocking element which in turn pivotally supports an over center spring biased movable contact element. A pushbutton actuator is notched so as to permit the actuator to pass by one of



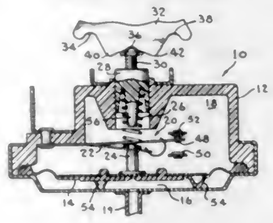
the fixed terminal elements and contact the rocking element.

3,407,277

PRESSURE SWITCH

Howard R. Chapin, Park Ridge, Ill., assignor, by mesne assignments, to Controls Company of America, Melrose Park, Ill., a corporation of Delaware

Filed Oct. 22, 1965, Ser. No. 500,505
7 Claims. (Cl. 200—83)



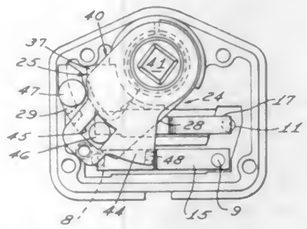
This disclosure relates to a pressure switch wherein an overcenter snap switch is movable between a trip position and a reset position on the basis of a pressure condition which acts on a diaphragm and against a spring, the spring opposing diaphragm movement in response to increased pressure on the diaphragm. In accordance with this disclosure resilient lugs are arranged on the diaphragm so as to engage the pressure switch housing to limit diaphragm movement in a reset direction. The lugs limit expansion and relaxation of the calibrating spring to an amount insufficient to relax the calibrating spring to such an extent that it can shift its seat, but the resiliency of the lugs permits them to accommodate overtravel.

3,407,278

OSCILLATORY ELECTRIC SWITCH CONSTRUCTION

Walter T. Stol, Warren, Mich., assignor, by mesne assignments, to Essex Wire Corporation, Fort Wayne, Ind., a corporation of Michigan

Filed Apr. 17, 1967, Ser. No. 631,548
7 Claims. (Cl. 200—153)



An electric switch having a pair of independent, movable switch blades movable into and out of bridging en-

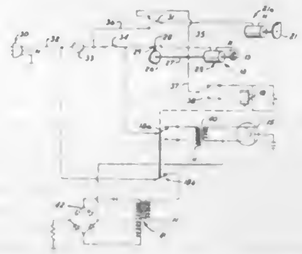
gagement with fixed contacts in response to oscillatory movement of a pair of operating members the movement of which is effected by an oscillatory actuating member, and in which the actuating member has a lost motion coupling with one of the operating members and the latter has a lost motion coupling with the other operating member whereby the actuating member is capable of limited movement relative to both of the operating members and the operating members are capable of limited movement relative to each other.

3,407,279

HIGH FREQUENCY HEATING APPARATUS

Robert L. Greenberg, Merion Station, Pa., assignor to Rudd-Melikian, Inc., Warminster, Pa., a corporation of Pennsylvania

Filed Oct. 8, 1965, Ser. No. 494,145
4 Claims. (Cl. 219—10.55)



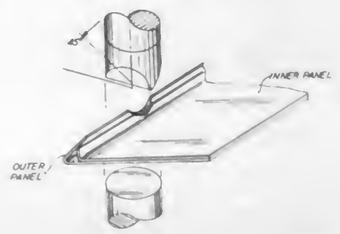
High frequency heating apparatus and control circuitry includes circuit for maintaining a low voltage on magnetron filament at all times when circuit is energized and timer responsive circuits for raising filament voltage and simultaneously applying an anode voltage to magnetron. Interrelated timer and door responsive circuits control a blower for cooling the magnetron during cooking cycle and exhausting steam and food vapors at completion of cooking cycle.

3,407,280

SPOT WELD HEM JOINTS

James W. Mitchell, Jr., Detroit, and Henry A. Nida, Dearborn, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Oct. 24, 1965, Ser. No. 504,502
2 Claims. (Cl. 219—91)



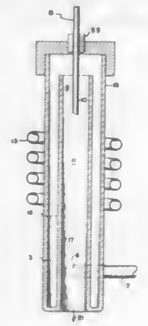
The process of spot welding an outer body panel to an inner body panel without marring the surface of the outer body panel. The process comprises the steps of bending the edge of the outer body panel to form an acute angle, bending the edge of the inner panel to form a right angle, placing the bent edge of the inner body panel into the area defined by the bent edge of the outer panel and welding the two pieces together.

3,407,281

PLASMA PRODUCING APPARATUS

Michael J. Greene, Lowell, and Charles B. Wendell, Canton, Mass., assignors to Cabot Corporation, Boston, Mass., a corporation of Delaware

Continuation of application Ser. No. 354,413, Mar. 24, 1964. This application Sept. 20, 1967, Ser. No. 669,313
9 Claims. (Cl. 219—121)



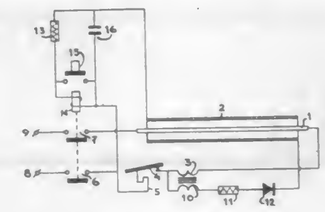
A plasma apparatus and process for operating such apparatus in a manner which achieves unusually low levels of energy loss by way of heat dissipation into the apparatus. The apparatus includes a plasma zone enclosure substantially completely surrounded by an annulus. The annulus forms a closure with the outlet end of the plasma zone enclosure, and is in open communication with the inlet end thereof. Fuel introducing means are provided to supply gas into the annulus in such a manner as to cause spinning of the gas therewithin. The spinning fuel gas flowing into the inlet end of the plasma zone enclosure is maintained at a linear velocity of at least about 75 ft./second. Either a high frequency induction heating means or an electric arc producing means are associated with the apparatus for producing ionizing energy within the enclosure.

3,407,282

ELECTRIC HEATING PAD

August E. F. Fickweiler, Waddinxveen, Netherlands, assignor, by mesne assignments, to Van der Heem N.V., a corporation of the Netherlands

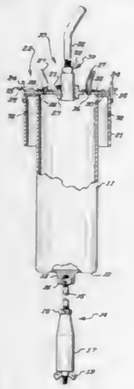
Filed Nov. 17, 1965, Ser. No. 508,280
1 Claim. (Cl. 219—519)



1. A safety system for an electric heating pad comprising a heater cable having a central resistance core and a coaxial safety sheath, a safety relay having at least a normally open contact and a coil, a temperature responsive switch having a normally closed contact, an electrical supply source, a transformer, the resistance core connected to the supply source through the normally open relay contact, the primary of the transformer and the normally closed temperature responsive contact, an en-

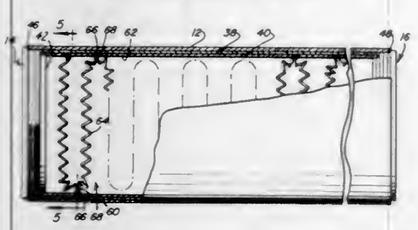
ergy source for the coil of the safety relay consisting of a series circuit of the safety sheath, the relay coil and the secondary winding of the transformer.

3,407,283
ICE FISHING HOLE HEATING DEVICE
Harry L. Peterson, Minneapolis, Minn., assignor to Charles P. McManus, Duluth, Minn.
Filed Oct. 22, 1965, Ser. No. 501,335
4 Claims. (Cl. 219—317)



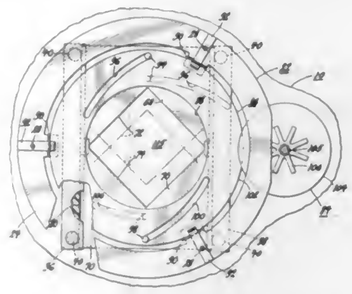
A heating device for preventing ice fishing holes from freezing has a hollow cylindrical buoyant member having a closed bottom end and a top end provided with a removable closure member. The closure member carries a heating mechanism in the form of either an electric heating element or a gaseous fuel burner. The heating mechanism extends into the buoyant member and heats the walls and interior thereof. An annular heat transfer sleeve is supported in spaced relation to the upper end of the buoyant member to define a downwardly open annular passage therebetween. An elongated stabilizing weight is suspended from the bottom end of the buoyant member.

3,407,284
ELECTRIC AIR HEATER
John Prata, Detroit, Mich., assignor of twenty-five percent to Vinko Barcic, Highland Park, Mich.
Filed Nov. 4, 1965, Ser. No. 506,363
4 Claims. (Cl. 219—374)



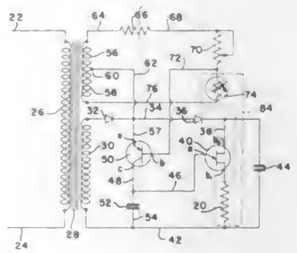
An electric air heater includes three concentric tubular members retained in fixed overlying relation by detachable abutting end shields. The inner tubular member is of electrically non-conductive material and the intermediate tubular member is made of thermally insulative material. An electric heating coil is sinusoidally secured between diametrically opposite sides of the inner tubular member. The removable end closures include central screen portions for screening air passing through the heater. A heat controlling rheostat and an indicating lamp are connected in series with the heating element.

3,407,285
DOMESTIC RANGE WITH VARIABLE AREA COOKING REGIONS
James W. Jacobs, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 23, 1965, Ser. No. 503,733
2 Claims. (Cl. 219—456)



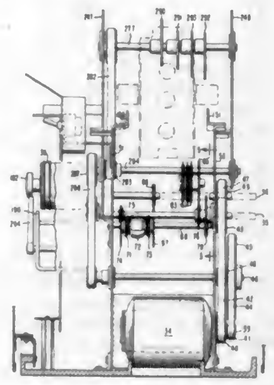
In preferred form, a domestic range having a continuous solid top of translucent material and an attached opaque mask with openings therethrough to limit the transmission of infrared radiation through the solid top to define cooking regions defined by these openings. To prohibit the leakage of infrared radiation through the annular space which surrounds a relatively small diameter cooking vessel, means are provided including parallel plates movable with respect to one another to define heating regions of variable area which can be adjusted to correspond to the bottom surface area of a cooking vessel.

3,407,286
ELECTRONIC CONTROL WITH UNIJUNCTION TRANSISTOR
Alfred B. Roby, West Alexandria, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 12, 1966, Ser. No. 549,575
9 Claims. (Cl. 219—501)



1. An electrical control system including a unijunction transistor having two base terminals and an emitter terminal, an electrical load electrically connected in series with one of said base terminals, a first capacitor electrically connected in shunt circuit shunting said transistor and said load, a second capacitor electrically connected to said emitter terminal and said load, means comprising two conductors electrically connected to opposite terminals of said first capacitor for charging said capacitors and energizing said load and transistor, and means for varying the current flow between the other of said base terminals and said emitter terminal.

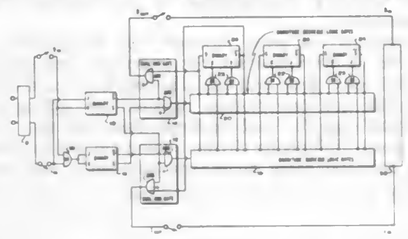
3,407,287
TABULATING CARD READER PROGRAM CONTROL STRUCTURE
Edwin O. Blodgett, Rochester, N.Y., assignor to Friden, Inc., a corporation of Delaware
Filed Feb. 11, 1965, Ser. No. 431,940
15 Claims. (Cl. 235—61.11)



1. In apparatus for reading a series of tabulating cards in turn, each card having a plurality of index-points arranged in a matrix of columns and rows, including card driving means for advancing each said card endwise column-by-column, and an index-point sensing means for each of said rows for reading each index-point in each column as it is advanced and deriving an information signal therefrom, the improvement in combination therewith, comprising a drum including a plurality of outer circumferential zones, each said circumferential zone including a plurality of circumferentially spaced tooth positions each of which normally contains a removable tooth, said plurality of tooth positions in each zone being at least equal to the number of index-points in each row of said tabulating card; a set of electrical contacts associated with each said circumferential zone; a follower means associated with each said circumferential zone and adapted to change the state of said associated contacts upon engagement with a tooth position having no tooth and to hold said changed state until engagement with another tooth; drum driving means for driving said drum; means for coordinating said card driving means and said drum driving means so that the column of index-points sensed by said sensing means at any given moment is matched by the simultaneous appearance of predetermined ones of said tooth positions in said circumferential zones under said follower means; and means for controlling at least one of said card driving means and said sensing means and the signal derived from said sensing means in response to the state of said contacts.

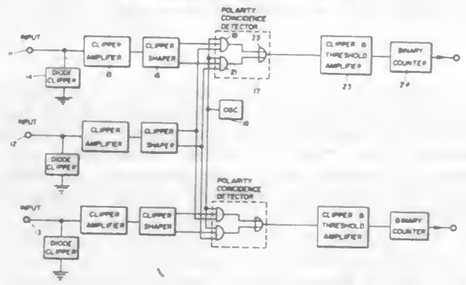
3,407,288
DECADE
Ralph R. Reiser, San Jose, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed June 25, 1965, Ser. No. 466,952
6 Claims. (Cl. 235—92)

Four bistable switching elements are provided for advancing in one direction through a set of counting states in response to input signals applied to a first input and for advancing in the opposite direction through this set of counting states in response to input signals applied to a second input. The first of these switching elements is connected to both inputs for changing states in response to each input signal. A control circuit is connected to each input and is responsive to each input signal applied to the first input during one state of the first switching element for activating one set of logic elements to change the state of at least one of the other three switching elements. This control circuit is also responsive to each input signal applied to the second input during the other state of the first switching element for activating another



set of logic elements to change the state of at least one of the other three switching elements. In response to these changes in state, selected ones of the logic elements of each set are made ready for activation by subsequent application of an input signal to one of the inputs during the corresponding state of the first switching element.

3,407,289
ELECTRONIC DIGITAL CORRELATOR
Kenneth G. Williams, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 9, 1964, Ser. No. 402,976
5 Claims. (Cl. 235—150.5)



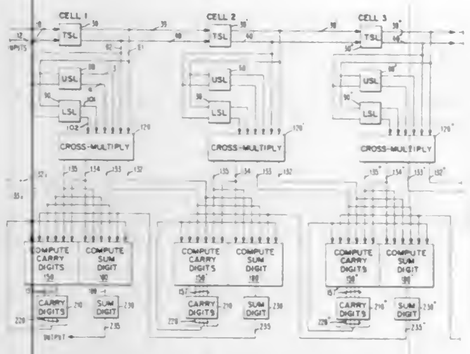
An electronic digital correlator for detecting wide-band signals with a low signal-to-noise ratio forming a portion of a lock-in or servo system employing two identical known pseudo-random signals with an infinite signal-to-noise ratio and a detectable signal having a very low signal-to-noise ratio. One of the pseudo-random signals is delayed a nominal amount with respect to the detectable signal, and the other pseudo-random signal is advanced the same nominal amount relative to the detectable signal. Two polarity coincidence detectors are each individually used to compare one of the pseudo-random signals with the detectable signal, and the output of each polarity coincidence detector is integrated in a binary counter. Any difference in count between the individual binary counters will cause the servo system to make corrections.

3,407,290
SERIAL DIGITAL MULTIPLIER
Allan J. Atrubin, Rochester, Minn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Sept. 3, 1965, Ser. No. 484,826
14 Claims. (Cl. 235—164)

This invention relates to a multiplier where the multiplicand and multiplier digits are received in serial order and the product digits are calculated as early as possible

without seeing fully the multiplier or the multiplicand. The invention implements the "sum-of-cross-products" multiplication algorithm in a new and unusual way. An examination of the algorithm reveals that if operand digits of order "n" and the lower are available, then product digits of order "n" and lower may be calculated without knowing the multiplier or multiplicand digits of higher order.

To perform the cross products and summations as called for in the algorithm, the invention uses serially connected cells. Each cell contains one stage of a shifting register and two storage registers for storing the same order digit for each operand. Each cell also contains a cross multiplying circuit, adding circuits for computing sum and carry digits, and sum and carry digit registers.

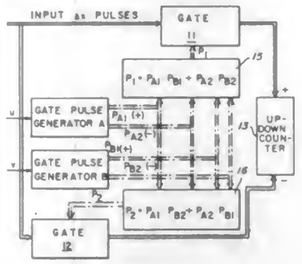


In operation, a serial string of multiplier and multiplicand bits are synchronized so that digits of the same order in the multiplier and multiplicand arrive at the left-hand side or the first cell of the multiplier simultaneously. Operand digits of the same order are defined as a digit set. The digit sets enter serially the serial arrangement of cells at the left-hand side and propagate to the right until they reach an unoccupied storage register.

As the digit sets are propagating to the right towards their eventual storage position, the cross multiplying and adding circuits are operating to generate partial products and carries. The partial product for a product digit of each order propagates to the left via the sum and carry digit registers through the cells towards the initial cell. When the partial product digit reaches the initial cell, it will represent the sum of all of the cross multiplications necessary to produce the product digit of that order. Thus, as digits serially enter the initial cell of the multiplier, product digits are serially passing out of the sum digit register of the initial cell of the multiplier.

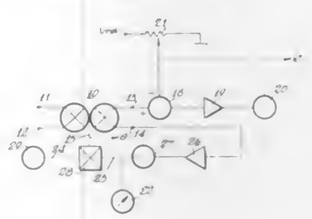
3,407,291
COMPUTER FOR EVALUATING INTEGRALS USING A STATISTICAL COMPUTING PROCESS
William Graham Thistle, Ste. Foy, Quebec, Canada, assignor to Canadian Patents and Development Limited, Ottawa, Ontario, Canada, a body corporate
Filed Nov. 29, 1963, Ser. No. 326,854
Claims priority, application Canada, Nov. 30, 1962, 863,495
22 Claims. (Cl. 235—183)

1. A computer for evaluating an integral of the form $\int y dx$, where x and y are variables, comprising a gate pulse generator producing a series of output pulses having a constant frequency of occurrence and whose width corresponds to the absolute value of the variable y, and a gate receiving a plurality of input pulses each corresponding to a known uniform finite interval of change of the variable x and receiving the output of the gate pulse generator and passing an input pulse when the leading



edge of the input pulse occurs simultaneously with a pulse produced by the gate pulse generator, and a counter receiving the gate output and counting the input pulses passed by the gate.

3,407,292
RESOLVER SYSTEM
William J. G. Cox, Ottawa, Ontario, Canada, assignor to Computing Devices of Canada Limited, Ottawa, Ontario, Canada
Filed Mar. 11, 1966, Ser. No. 533,714
7 Claims. (Cl. 235—186)

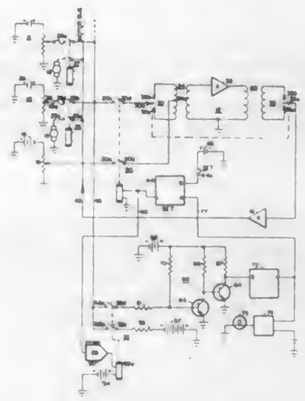


1. A resolver system comprising,
a resolver having a pair of input windings arranged in space quadrature and an output winding variably positionable with respect to said input windings,
differential apparatus having a first and a second input shaft and an output shaft, said output shaft positioning said output winding of said resolver,
a first drive system rotating said first input shaft at a constant speed, and
a second drive system connected between said output winding and said second input shaft responsive to electrical signals on said output winding to rotate said second input shaft at a speed proportional to said electrical signals.

3,407,293
FUSE-TEST FOR COEFFICIENT POTENTIOMETERS
Alfred G. Tonnessen, Neptune, N.J., assignor to Electronic Associates Inc., Long Branch, N.J., a corporation of New Jersey
Filed May 16, 1966, Ser. No. 550,359
10 Claims. (Cl. 235—193)

1. An analog computer including a plurality of coefficient potentiometers each having at least a first and a second fixed terminal and a sliding contact and each of said potentiometers having its sliding contact set by an individual servo motor comprising

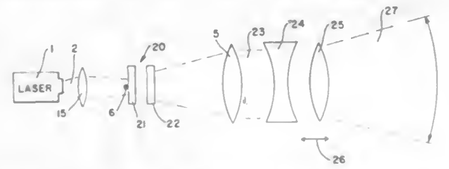
each of said potentiometers having a first source of supply of one polarity connected to said first fixed terminal and a reference potential connected to said second fixed terminal,
each of said potentiometers having a fuse connected to said sliding contact,
servo amplifier means having an input and an output,
first relay means for each of said potentiometers and its associated servo motor for connecting the associated fuse to a common conductor and for connecting said servo motor to said output of said amplifier means when said first relay means is actuated to a circuit closing position,
means for actuating to a closed circuit position only a selected one of said first relay means at any one time,
means for connecting said common conductor to said input of said amplifier means whereby the potentiometer associated with a selected first relay means is set by its respective servo motor,



a second source of supply of the other polarity with respect to said first source of supply being connected to said common conductor thereby to provide a potential at said common conductor (1) substantially between the potentials of said first and second sources of supply when said potentiometer fuse associated with a selected first relay means is continuous and (2) substantially equal to the potential of said second source of supply and of the same polarity when said potentiometer fuse associated with a selected first relay means is open,
comparator means connected to said common conductor for producing a signal indicating an open fuse when the common conductor is substantially equal in potential to that of said second source and of the same polarity, and
warning means connected to said comparator means and responsive to said signal for producing an alarm indicating an open fuse.

3,407,294
METHOD FOR REDISTRIBUTING LASER LIGHT
Alan E. Hill, Ann Arbor, Mich., assignor to Lear Siegler, Inc.
Filed Mar. 1, 1966, Ser. No. 541,412
6 Claims. (Cl. 240—46.01)

A method to redistribute laser light into a non-coherent uniform beam while retaining other properties of laser light, e.g., temporal coherence. This is accomplished by placing a scattering medium outwardly of a laser in the path of the light emanating therefrom. A collecting medium is placed outwardly of the scattering medium and serves to collect the forward scattered light transmitted by the scattering medium and such collected light is thence transmitted by the collecting medium with a controlled

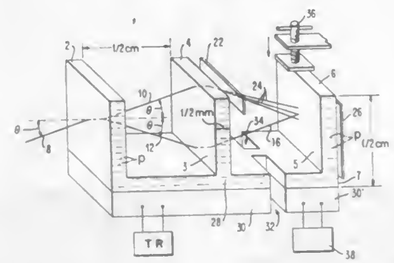


divergence. The scattering medium may comprise ground glass and the collecting medium may comprise a lens or a system of lenses.

3,407,295
ELIMINATION OF FREQUENCY PULLING DUE TO ZEEMAN RESONANCE IN THALLIUM ATOMIC BEAM TUBES
Richard F. Lacey, Salem, Mass., assignor, by mesne assignments, to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed July 7, 1966, Ser. No. 563,462
10 Claims. (Cl. 250—41.3)

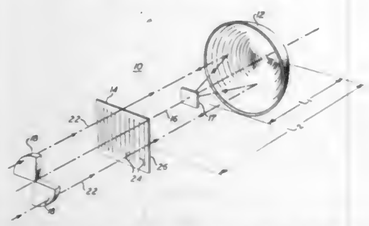
An atomic beam tube having a non-uniform magnetic field in the C-field region which destroys phase coherence of the atoms in an atomic beam between the two Zeeman resonance regions, thereby eliminating frequency pulling of the hyperfine resonance frequency. The non-uniform magnetic field may be a magnetic field gradient transverse to the atomic beam path, or a magnetic field differential along the beam axis.

3,407,296
X-RAY HOLOGRAPHIC MICROSCOPE HAVING THREE DIFFRACTING CRYSTALS DISPOSED IN PARALLEL ALONG THE X-RAY BEAM PATH
John A. Armstrong, South Salem, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed May 16, 1966, Ser. No. 550,482
9 Claims. (Cl. 250—51.5)



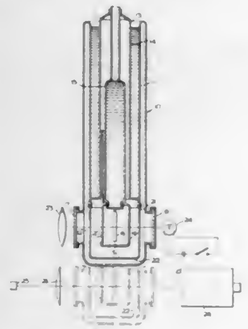
1. An X-ray microscope comprising a source of X-rays, first means for converting said source into a pair of diverging monochromatic X-ray beams, second means for converting said diverging X-ray beams into a pair of converging X-ray beams that merge to form a standing wave interference pattern of a given spatial frequency, an object to be magnified placed in the path of one of said converging beams so as to produce a diffraction pattern of said object, said diffraction pattern modulating said interference pattern, and means for shifting said interference pattern to lower spatial frequencies while still retaining the information about the object present in the modulation of the interference pattern.

3,407,297
INFRARED LASER BEAM DETECTION UTILIZING A CAVITY RESONATOR
Charles G. B. Garrett, Morristown, N.J., assignor to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York
Filed Jan. 18, 1967, Ser. No. 610,066
7 Claims. (Cl. 250—83.3)



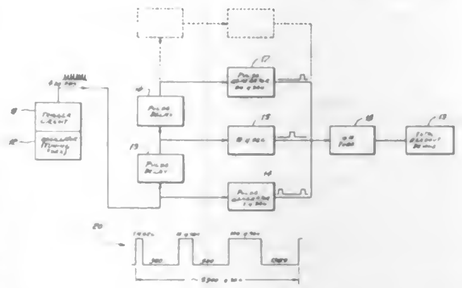
An arrangement for detecting infrared radiation includes a cavity resonator formed by a metallic grid and an ellipsoidal mirror, and a temperature sensitive sample located at the near focal point of the mirror. Incident radiation, which is so delayed as to produce zero energy intensity on the resonator axis, is transmitted through the grid and oscillates between the grid and the mirror to be focused a plurality of times onto the sample.

3,407,298
LONG INFRARED TO SHORT INFRARED IMAGE CONVERTER
Arnold Honig, Syracuse, N.Y., assignor to Research Corporation, New York, N.Y., a non-profit corporation of New York
Continuation of application Ser. No. 436,613, Mar. 2, 1965. This application Jan. 2, 1968, Ser. No. 695,291
10 Claims. (Cl. 250—83.3)



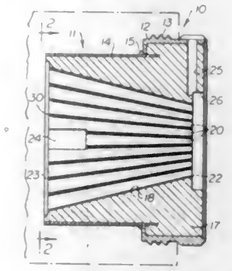
Infrared images in wavelengths above 3 microns are converted to visible or reproducible images by irradiating a plate of doped semiconductor material maintained at a temperature not substantially greater than about 4° K. with light of photon energy at least equal to the band gap of the semiconductor material to substantially neutralize the donor and acceptor ions of the semiconductor plate, focussing the infrared image on the plate to convert the neutral impurity atoms to ions in proportion to the local intensity of the infrared radiation and thereafter passing a collimated beam of infrared radiation of wave length not greater than about 3 microns through said plate whereby said radiation is absorbed by the residual neutral donor atoms in the plate to form an image in said beam corresponding to the long wave length infrared image theretofore focussed on the plate, which can be converted into a visible display, a photograph, a taped record or the like.

3,407,299
WIDE RANGE RADIATION DETECTOR
Robert E. Jehle, Woodhaven, N.Y., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 10, 1965, Ser. No. 431,743
10 Claims. (Cl. 250—83.6)



An apparatus and method for measuring a wide range of ionizing radiation which includes generating a repetitive series of pulses of different durations and each of a voltage amplitude sufficient to energize a GM tube. The resultant current pulses emanating from the GM tube are counted in synchronization with the said pulse series.

3,407,300
COLLIMATOR AND METHOD OF MAKING SAME
Carl W. Hansen, Chagrin Falls, Ohio, assignor, by mesne assignments, to Picker Corporation, White Plains, N.Y., a corporation of New York
Filed Apr. 14, 1966, Ser. No. 542,568
15 Claims. (Cl. 250—105)

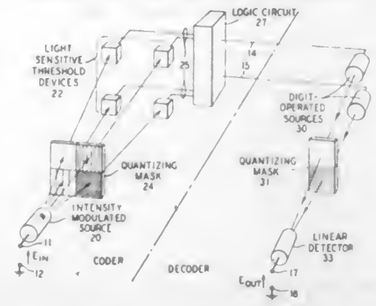


Thin sheets of lead foil are each bonded to themselves as they are wrapped around mandrels. The wrapped mandrels are arranged in a matrix in a body bore. The space between the matrix and the body is suitably filled to bond the matrix in place. The mandrels are then removed to produce the disclosed collimator which has tapered passages of hexagonal configuration.

3,407,301
ELECTRO-OPTICAL DATA PROCESSING SYSTEM
Edward F. Kovanic, Caldwell, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 16, 1964, Ser. No. 418,643
4 Claims. (Cl. 250—199)

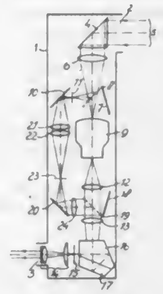
A digital communication system wherein both coding and decoding are accomplished by optical means. In the coder the electrical analog signal is converted into an intensity modulated light signal and is transmitted to a plurality of light sensitive threshold devices through a quantizing mask. The mask attenuates the light striking

different threshold devices by different amounts such that as the amplitude of the input increases the devices are turned ON in succession. Logic circuitry is employed to convert the information from the light-triggered device to a binary code. In the decoder each of a plurality of light



sources is turned ON or OFF by a selected one of the bits in the incoming code. The light sources then irradiate a single detector through an attenuating medium which diminishes the light intensity from each source in an inverse relation to the significance of its associated input bit.

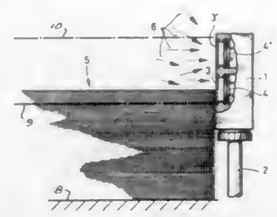
3,407,302
TELESCOPE SYSTEM
Albert Bouwers, The Hague, Netherlands, assignor to N.V., Optische Industrie de Oude Delft, Delft, Netherlands, a corporation of the Netherlands
Filed Jan. 21, 1965, Ser. No. 426,873
Claims priority, application Netherlands, Jan. 23, 1964, 6400488
1 Claim. (Cl. 250—213)



A combined night and daylight telescope system in which an image tube and a relay lens are fixedly disposed next to each other and can selectively be switched into the optical path between the telescope objective and an eyepiece by means of a system of four plane reflectors two of which are movable between an operative and an inoperative position.

3,407,303
PHOTOELECTRIC APPARATUS FOR DETERMINING THE HEIGHT OF A STACK UTILIZING AMBIENT LIGHT
Josef Konrad, Oberaichen, and Siegfried Nissler, Echterdingen, Wurttemberg, Germany, assignors to Weltmann & Konrad, Echterdingen, Wurttemberg, Germany
Filed Nov. 8, 1965, Ser. No. 506,762
Claims priority, application Germany, Nov. 12, 1964, W 37,946
15 Claims. (Cl. 250—222)

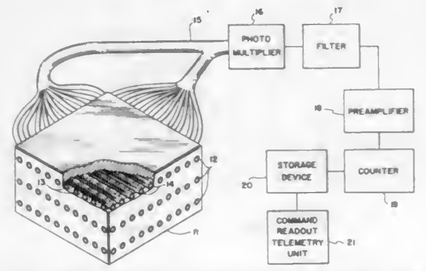
1. Apparatus for determining the height above a surface of a stack in ambient light relative to first and second determined heights above said surface, said second determined height being greater than said first determined height, said apparatus comprising light sensitive means positioned in proximity with said first and second determined heights to receive ambient light adjacent said stack whereby as said stack rises above said first determined height toward said second determined height it correspondingly proportionally prevents ambient light from reaching said light sensitive means and as said stack decreases below said second determined height toward said first determined height it correspondingly proportionally permits ambient light to reach said light sensitive means; said light sensitive means producing electrical signals having magnitudes which vary with the amount of ambient light reaching said light sensitive means; and control means electrically connected to said light sensitive means for deriving from said electrical signals a control signal when said stack is at a selected determined height.



ERRATUM

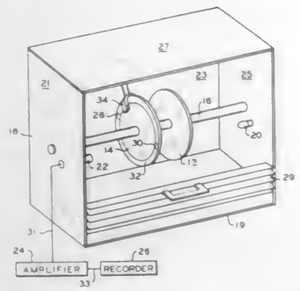
For Class 250—225 see:
Patent No. 3,407,192

3,407,304
MICROMETEOROID PENETRATION MEASURING DEVICE
William H. Kinard, Williamsburg, James H. Siviter, Jr., Hampton, and Charles C. Laney, Jr., Portsmouth, Va., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Nov. 19, 1965, Ser. No. 508,873
10 Claims. (Cl. 250—227)



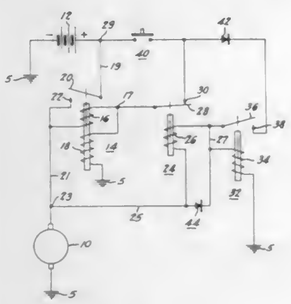
1. A micrometeoroid penetration measuring device comprising: a material specimen placed in a space environment such that a surface of the specimen is exposed to the micrometeoroid hazard; layers of optical fibers embedded in said material specimen at different predetermined depths from said surface; means for each of said layers of optical fibers for detecting any sudden changes in light that is transmitted through said optical fibers; and means for counting said sudden changes detected by each of said detecting means whereby when micrometeoroid particles impact said specimen the depths of penetration of the micrometeoroid particles can be determined.

3,407,305
OPTICAL ROTATIONAL SEISMOMETER
Dan G. Sterry, Houston, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 26, 1966, Ser. No. 589,637
9 Claims. (Cl. 250—225)



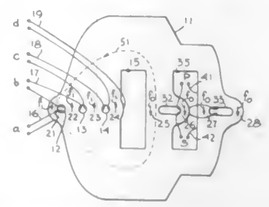
1. A seismometer for measuring the rotational component of seismic waves comprising in combination: a housing; a polarizing light filter rigidly mounted to said housing; a stationary polarizing light filter carried coaxially to said rigidly mounted filter and connected to said rigidly mounted filter by a flexible coupling which allows said rigidly mounted filter and said stationary filter to rotate relative to each other; at least one light source positioned so as to beam light through both of said filters; and at least one light sensitive detector positioned to receive light passing through both filters.

3,407,306
CRANKING MOTOR SOLENOID LOCKOUT CIRCUIT
Gerald O. Huntzinger, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 21, 1966, Ser. No. 544,255
3 Claims. (Cl. 290—38)



1. A cranking motor solenoid lockout circuit comprising in combination with a cranking motor solenoid operated switch having a pull-in coil, a hold-in coil and two normally open contacts, a first switching device, a second switching device, electrical circuit means including said first and second switching devices for establishing an energizing circuit for said pull-in and hold-in coils and a third switching device responsive to the closing of said solenoid contacts for conditioning said second switching device to operate to interrupt said electrical circuit means upon the opening of said solenoid contacts after the initial closure while said first switch means is in the closed position.

3,407,307
MAGNETIC PARITY FUNCTION GENERATOR
Robert C. Minnick, Redwood City, Calif., assignor to Stanford Research Institute, Menlo Park, Calif., a corporation of California
Filed Sept. 18, 1964, Ser. No. 397,422
11 Claims. (Cl. 307—88)



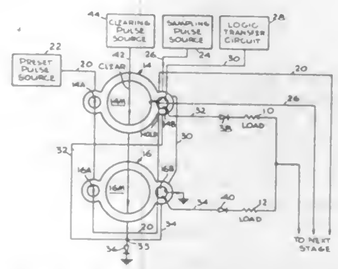
1. In a parity function generator for producing an output signal in response to an odd number of not more than n input signals supplied thereto, the improvement comprising:

a multiapertured magnetic member having a plurality of input and output apertures providing n input and output paths of magnetic flux, said magnetic flux being reversible between opposite first and second states;

input means for establishing in response to m input signals the magnetic flux to be in said second state in m of said n input paths, m being an integer not greater than n, the magnetic flux in said second state in said n input paths reversing the state of magnetic flux in m output paths to be in said first direction so as to form a closed magnetic path around a single one of said output apertures only when the integer m is an odd number; and

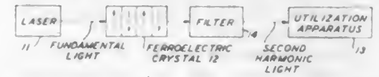
output means for providing an output signal only when a closed magnetic path around said single one of said output apertures is formed.

3,407,308
CURRENT STEERING USING MAD'S
David Nitzan, Palo Alto, Calif., assignor, by mesne assignments, to AMP Inc., Harrisburg, Pa., a corporation of New Jersey
Filed Oct. 8, 1964, Ser. No. 402,476
6 Claims. (Cl. 307—88)



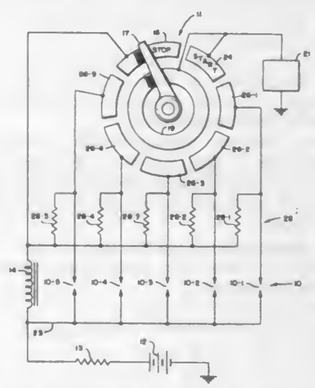
1. Apparatus for steering current to a predetermined one of two loads comprising multiaperture magnetic core means having at least an input aperture, a main aperture, and two separate output apertures, said multiaperture magnetic core means having a preset state, a first and second prime state, and a clear state, means for driving said multiaperture core means to said preset state including a preset winding inductively coupled to said input aperture, means for selectively priming said magnetic core means to its first priming state or to its second prime state including a sampling winding inductively coupled to said magnetic means by passing through said first output aperture for driving said magnetic core means to its first prime state when energized, and transfer winding means inductively coupled to said first and second output apertures for driving said magnetic means to its second prime state and preventing its being driven to its first prime state by said sampling winding means when energized, a first load winding coupling said one of said two loads to said magnetic means by passing through said first output aperture for applying current to said one of said two loads when said magnetic means is driven from its first prime to its clear state, a second load winding means coupling said second load to said magnetic means by passing through its second output aperture for applying current to said second load when said magnetic means is driven from its second prime state to its clear state, and clear winding means coupled to said magnetic means by passing through its main aperture for driving said magnetic means to its clear state.

3,407,309
GENERATION OF SECOND HARMONIC OPTICAL WAVE ENERGY
Robert C. Miller, Basking Ridge, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 1, 1963, Ser. No. 299,412
6 Claims. (Cl. 307—88.3)



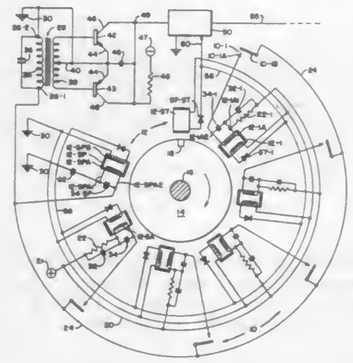
1. Apparatus for generating the second harmonic of optical wave energy comprising means supplying the optical wave energy, a ferroelectric crystal characterized by a succession of substantially antiparallel domains in the path of the optical wave energy, such that the wave passes through the antiparallel domains successively, the crystal being transparent both to the wave energy and to the second harmonic thereof, and means for selecting for utilization from the light exiting from the crystal second harmonic wave energy.

3,407,310
CONTACT CLEANING CIRCUIT
Ransom D. Slayton, Glenview, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Oct. 7, 1965, Ser. No. 493,725
8 Claims. (Cl. 307—137)



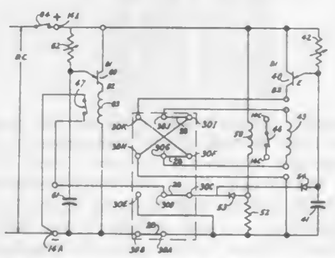
An inductor is connected in parallel with the code generating contacts of a telegraph transmitter, and the inductor is energized through the stop segment of a transmitting commutator. When the commutator wiper moves from the stop segment to the start segment, the energizing path for the inductor is opened; and the inductor produces a high voltage pulse across the contacts of sufficient magnitude to burn out contaminants which prevent electrical closure of mechanically closed contacts.

3,407,311
CONTACT CLEANING CIRCUIT
Theodore A. Hansen, Park Ridge, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Dec. 13, 1965, Ser. No. 513,301
4 Claims. (Cl. 307—137)



A magnetomotive telegraph distributor includes a plurality of pickup heads, equal in number to the number of information bits in a character plus the start and stop bits, arranged around the periphery of a nonmagnetic rotating disc having a magnetic slug embedded therein. A pair of tape sensing contacts in a perforated tape reader are connected in series with each pickup head and with a source of D-C voltage. Each head and an associated current-limiting resistance is shunted by a capacitor; so that when the contacts initially are closed, a high energy pulse causes arcing across the contacts to burn out contaminants on them. A low D-C current then is maintained through the closed contacts, and the pulses generated in the pickup heads by the moving slug are superimposed on this D-C current to provide outputs indicative of closed contacts.

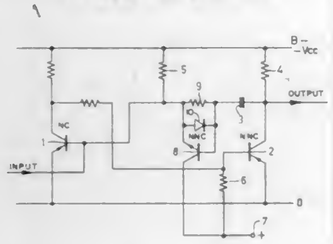
3,407,312
TIMER
James N. Pearse, Menomonee Falls, Paul R. Dykstra, Brookfield, and Joseph C. Mayer, Milwaukee, Wis., assignors to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 20, 1965, Ser. No. 488,650
13 Claims. (Cl. 307—141)



An electrical timer providing alternative On and Off-delay operation through an output switch which responds

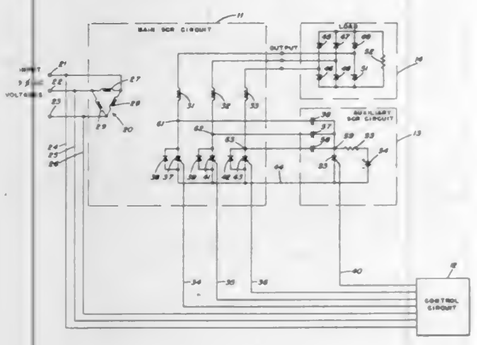
to magnetic flux and can be operated by a net flux from opposing fluxes. The On and Off timing functions can be selected by an integral switch.

3,407,313
MONOSTABLE MULTIVIBRATOR WITH AN AUXILIARY TRANSISTOR IN THE TIMING CIRCUIT FOR BROADENING THE OUTPUT PULSES
Neil Albert Steadson, North Sydney, New South Wales, Australia, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 22, 1965, Ser. No. 441,440
Claims priority, application Australia, Mar. 16, 1964, 42,096/64
3 Claims. (Cl. 307—273)



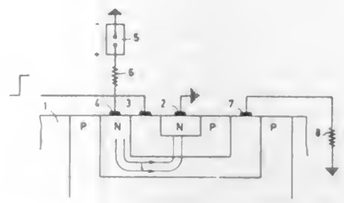
The invention is concerned with a transistor monostable multivibrator of the type where the output pulse duration is determined by the discharge of a timing capacitor through a series connected timing resistor. A second resistor shunted by the base-emitter path of a transistor is connected in series between the timing resistor and timing capacitor to increase the output pulse duration without increasing the value of the capacitor.

3,407,314
TRANSIENT PROTECTION
Julius E. Wolff, Baltimore, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Mar. 17, 1965, Ser. No. 440,650
7 Claims. (Cl. 307—297)



An electronic voltage regulator circuit for protecting components from damage due to line surges. A silicon, controlled rectifier is placed in the line in series with the load and should the line voltage go above a predetermined level, the rectifier blocks current going to the load. An auxiliary rectifier circuit also operates at the same time to insure that the main rectifier cuts off completely and promptly.

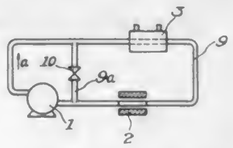
3,407,315
TRANSISTOR DEVICE
Johannes Anton Greefkes, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 1, 1966, Ser. No. 530,954
Claims priority, application Netherlands, Mar. 30, 1965, 6503993
3 Claims. (Cl. 307—299)



1. A circuit arrangement comprising:
a first transistor including:
a first body of semiconductor material, said body having a major surface;
a first zone of one conductivity type extending into said body from said surface forming a collector region;
a second zone of opposite conductivity type inset into said first zone from said surface forming a base region;
a first p-n junction formed between said first and second zones, said p-n junction extending to said surface and surrounding said second zone;
a third zone of said first conductivity type inset into said second zone from said surface forming an emitter region;
a second p-n junction formed between said second and third zones, said second p-n junction extending to said surface and surrounding said third zone;
first collector contact means contacting said first zone at said surface;
emitter contact means contacting said third zone at said surface;
said first collector contact means and said emitter contact means establishing a current path between said first and third zones through said second zone;
means for applying a first potential between said first collector contact means and said emitter contact means;
base contact means contacting said second zone at said surface;
means for applying a second potential to said base contact means to control the current flow between said first collector contact means and said emitter contact means;
second collector contact means contacting said first zone at said surface, said second collector contact means being remote both from said current path and from said first collector contact means;
load means connected to said second collector contact means, said load means comprising a second transistor;
said second transistor including:
a body of semiconductor material, said body having a major surface;
a first zone of one conductivity type extending into said body from said surface forming a collector region;

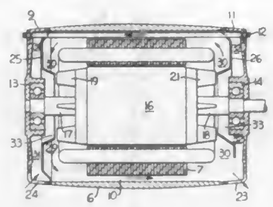
a second zone of opposite conductivity type inset into said first zone from said surface forming a base region;
a first p-n junction extending to said surface and surrounding said second zone;
a third zone of said first conductivity type inset into second zone from said surface forming an emitter region;
a second p-n junction formed between said second and third zones, said second p-n junction extending to said surface and surrounding said third zone;
first collector contact means contacting said first zone at said surface;
emitter contact means contacting said third zone at said surface;
said first collector contact means and said emitter contact means establishing a current path between said first and third zones through said second zone;
means for applying a first potential between said first collector contact means and said emitter contact means;
base contact means contacting said second zone at said surface;
means for applying a second potential to said base contact means to control the current flow between said first collector contact means and said emitter contact means;
second collector contact means contacting said first zone at said surface, said second collector being remote both from said current path and from said first collector contact means;
said second collector contact means of said first transistor directly connected to said base contact means of said second transistor;
a further load means connected to said second collector means of said second transistor;
and each of said means for applying a first potential includes a first and second serially connected p-n junction diodes, each of said p-n junction diodes polarized in the forward direction by each of their respective transistor current paths.

3,407,316
METHOD OF AND APPARATUS FOR ALTERNATING CURRENT TO DIRECT CURRENT CONVERSION UTILIZING A LIQUID METAL CIRCULATION LOOP
Masao Hori, Naka-gun, Japan, assignor to Nihon Genshiryoku Kenkyu-sho, Tokyo, Japan
Filed Feb. 2, 1965, Ser. No. 429,859
Claims priority, application Japan, Apr. 2, 1964, 39/18,299
1 Claim. (Cl. 310—11)



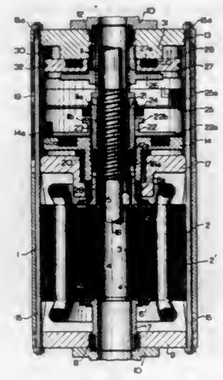
This apparatus for converting alternating current to direct current includes a closed loop circulation system with liquid metal therein and means to circulate the liquid metal through the system. A magnetohydrodynamic generator surrounds at least a portion of the piping circulation system. Cooling means are present to control the temperature of the liquid in the system and other means are provided to control the average flow velocity of the liquid metal through the system.

3,407,317
VENTILATION SYSTEM FOR ROTATING ELECTRICAL MACHINERY
Vernon B. Honsinger, Cincinnati, Ohio, assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Feb. 21, 1966, Ser. No. 529,079
5 Claims. (Cl. 310—58)



1. A dynamoelectric machine including an enclosure comprising: a stationary member; a rotating member having fan blades on opposite ends thereof; an end closure at each end of said machine spaced from said rotating member, each end closure having air intake and exhaust openings therein with the exhaust opening in one end closure being in substantial alignment with the intake opening in the other end closure; a baffle located in the spaces between said rotating member and said end closures and dividing said spaces into separate inner and outer compartments, said baffles having a central opening adjacent said fan blades and in air communication with said intake openings and having peripheral openings in air communication with said exhaust openings for permitting the circulation of air from the inlet at each end of said motor through the exhaust at the same end of said motor; and an air passage defined by said enclosure and one of said members connecting opposite inner compartments for permitting the flow of air from the inlet at each end of said motor through the exhaust at the opposite end of said motor.

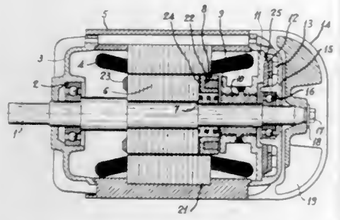
3,407,318
ELECTROMOTIVE ADJUSTING DEVICE
Helmut Korthaus, Fernblick 3, Wuppertal-Barmen, and Richard Wilke, Schwelmestrasse 51, Schwelm, Germany
Filed Jan. 5, 1966, Ser. No. 518,803
Claims priority, application Germany, Jan. 13, 1965, K 55,000
16 Claims. (Cl. 310—75)



An electromotive adjusting device comprising a rotor of an electric motor drivable in a predetermined direction, and means for transforming the rotary movement of the rotor into an axial linear pushing or pulling movement

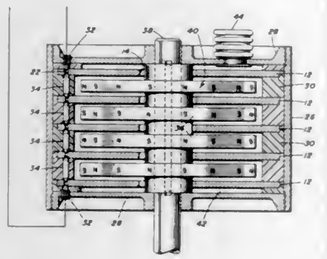
of a spindle adjustment rod. The spindle adjustment rod is secured against rotation and a spindle nut is provided with which the spindle adjustment rod cooperates, the spindle nut being operated by the electric motor and a magnetic brake operating on the spindle nut.

3,407,319
MAGNETIC BRAKES INCORPORATED IN ELECTRIC MOTORS
Fermín Sagües Arraiza, Pamplona, Spain, assignor to Industrias Zaldi, S.A., Pamplona, Spain, a Spanish society
Filed Jan. 25, 1966, Ser. No. 522,956
Claims priority, application Spain, Feb. 3, 1965, 308,901
6 Claims. (Cl. 310—77)



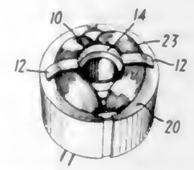
1. A magnetic brake for incorporation in electric motors comprising, a fixed plate joined to the stator of the motor and a plate joined to the rotor and rotative with it, the latter plate having axial movement, the plate on the stator being of annular form and having permanent magnets on it, said plate constituting a cover that houses the fixed plate and the magnets in a manner to provide a fixed armature that terminates in two annular concentric zones, the inner of which is formed by an edge of the plate that carries the magnets, and the outer zone being formed by an inner cut in the cover, the rotor-bearing plate being borne by the motor shaft being applied by magnetic attraction against said zones to thereby establish a magnetic circuit generated by the permanent magnets closed transversely at the periphery of the assembly by a cut in the support and the edge of the fixed plate and the peripheral zone of the movable plate.

3,407,320
WAFER TYPE SUBMERSIBLE MOTOR FOR UNDERWATER DEVICE
William B. McLean, China Lake, Calif., assignor of fifty percent to Walter G. Finch, Baltimore, Md.
Filed Nov. 29, 1965, Ser. No. 510,198
8 Claims. (Cl. 310—87)



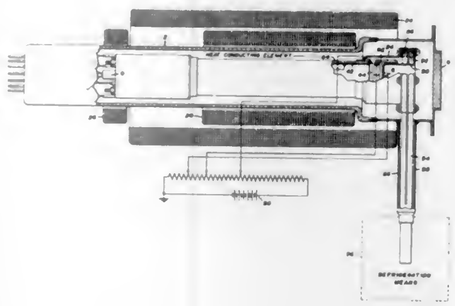
1. An AC motor, comprising a plurality of elements in spaced stacked relation, each said elements including a central aperture and structure defining a sinusoidal electrical path circularly about said aperture for producing alternate polarity electromagnetic fields in opposition to the electromagnetic fields in adjacent said elements, means electrically connecting said discs in series, and rotor means including a rotatably mounted shaft extending through said aperture of each said elements, said rotor means including permanently magnetized elements mounted on said shaft at intervals responsive to the rotative influence of said electromagnetic fields of said elements.

3,407,321
STRUCTURE FOR SECURING MOTOR WINDING HEADS
Peter P. Grad, Woodstock, N.Y., assignor to Rotron Manufacturing Company, Inc., Woodstock, N.Y., a corporation of New York
Filed Oct. 4, 1965, Ser. No. 492,607
6 Claims. (Cl. 310—270)



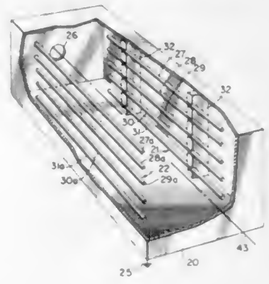
A means for securing the windings in a dynamoelectric machine to a winding frame, in which an end cap, having a radial flange at one end of a body portion and at least one resilient arm extending from the other end of the body portion, is placed against the end of the frame to be wound. During winding, the resilient arm is held away from the frame so that the end turns of the winding overlie the flange to secure the end cap structure to the frame. When winding is complete, the resilient arm is released, whereby it returns toward its normal position to engage the end turns of the winding and keep them in place.

3,407,322
INFRARED CAMERA TUBE WITH COOLING MEANS FOR INTERNAL ELEMENTS
George A. Saum, Liverpool, N.Y., assignor to General Electric Company, a corporation of New York
Filed June 25, 1962, Ser. No. 204,904
7 Claims. (Cl. 313—46)



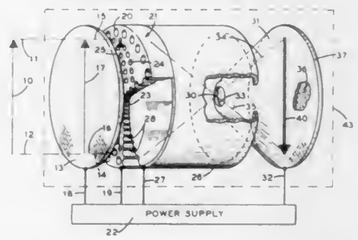
1. In an infrared sensitive device comprising a target arranged to intercept infrared radiation, electron beam generating means spaced from the target and including a thermionic electron emitter, means for directing electrons from said emitter into incidence with said target, first cooling means operatively connected to said target for withdrawing heat from said target to maintain said target in cooled condition for enhanced sensitivity to infrared radiation intercepted thereby, second and separate cooling means in the form of an electrically insulative heat-conducting member heat conductively connected to and extending between said electron beam generating means and said heat-withdrawing means, said separate cooling means minimizing heat transfer therebetween in said device, and beam control electrode means adjacent and in heat transfer relationship with said heat conductive member and extending between said electron beam generating means and said target.

3,407,323
ELECTRODE STRUCTURE FOR A CHARGED PARTICLE ACCELERATING APPARATUS, ARRAYED AND BIASED TO PRODUCE AN ELECTRIC FIELD BETWEEN AND PARALLEL TO THE ELECTRODES
Eugene E. Hand, Andover, Mass., assignor to High Voltage Engineering Corporation, Burlington, Mass., a corporation of Massachusetts
Filed May 23, 1966, Ser. No. 560,360
11 Claims. (Cl. 313—63)



An apparatus for moving a charged particle beam which consists of a pair of electrodes, having a controlled resistance drop in one direction, which have been biased to produce equipotential lines between the electrodes such that the resultant electric field between the electrodes is parallel to the electrodes.

3,407,324
ELECTRON MULTIPLIER COMPRISING WAFER HAVING SECONDARY-EMISSIVE CHANNELS
Martin Rome, Princeton, N.J., assignor to Electro-Mechanical Research, Inc., Princeton, N.J., a corporation of Connecticut
Filed June 21, 1967, Ser. No. 647,822
5 Claims. (Cl. 313—95)

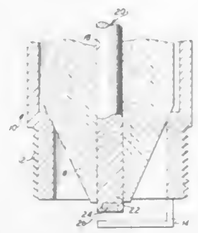


An illustrative embodiment of the invention discloses a plano-concave wafer of channel electron multipliers in an electron-optical system that produces inverted and intensified images of faintly illuminated objects. The individual channels are relatively short at the center of the wafer and gradually increase in length toward the periphery in order to produce the concave equipotential surface needed for electron image inversion. The respective channel diameters are varied in accordance with each channel length to maintain a generally constant ratio of length to diameter and the associated electron gain for all of the channels in the wafer.

3,407,325
FLUORESCENT MANGANESE ACTIVATED MAGNESIUM GALLATE PHOSPHOR AND LAMP
Jesse J. Brown, Jr., Towanda, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Continuation-in-part of application Ser. No. 467,898, June 29, 1965. This application Sept. 28, 1965, Ser. No. 490,931
7 Claims. (Cl. 313—109)

A fluorescent phosphor emitting in the green region when excited by ultraviolet light. The phosphor is magnesium gallate activated by manganese.

3,407,326
SPARK PLUG HAVING A COMPOSITE GOLD OR GOLD ALLOY ELECTRODE AND A PROCESS FOR ITS MANUFACTURE
Donald J. Romine, Taylor, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Mar. 14, 1967, Ser. No. 623,056
15 Claims. (Cl. 313—141)

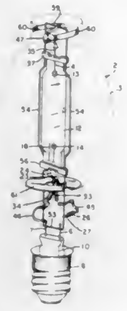


This disclosure describes a composite electrode for a spark plug comprising a gold or gold alloy tip thermally and electrically attached to a base metal body. The tip is located at one end of the sparking gap and the composite electrode is electrically negative with respect to the electrode at the other end of the sparking gap. Resulting is a spark plug having very little erosion and, consequently, a long life. An annular sleeve of corrosion resistant material surrounding a core of high thermal and electrical conductivity can be used to make up the electrode body. The tip can be in the form of an insert surrounded on three sides by the body.

3,407,327
HIGH PRESSURE ELECTRIC DISCHARGE DEVICE CONTAINING MERCURY, HALOGEN, SCANDIUM AND ALKALI METAL
Frederic Koury, Lexington, and John F. Waymouth, Essex County, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Continuation-in-part of application Ser. No. 555,914, June 7, 1966. This application Dec. 21, 1967, Ser. No. 692,575
7 Claims. (Cl. 313—229)

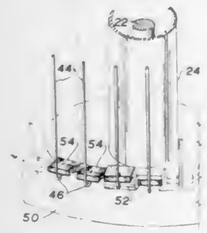
A high pressure electric discharge device which emits all visible colors in the spectrum appear as lines generally

less than about 20 A. apart and containing a fill including scandium, halogen, mercury and an alkali metal.



When thorium is included in the fill, the lines of the spectrum appear generally less than about 5 A. units apart.

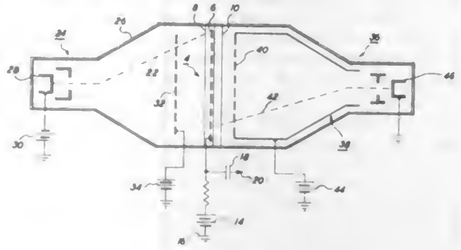
3,407,328
DIRECTLY HEATED CATHODE SUPPORTING STRUCTURE
Jackson W. Kendall, Jr., Salt Lake City, Utah, assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Mar. 10, 1966, Ser. No. 533,177
5 Claims. (Cl. 313—278)



Structure for supporting a hooked end of a tensed filament in a vacuum tube. The structure comprises upper, middle and lower tabs disposed one above the other. The filament passes through an aperture in the upper tab which has weak resilience to compensate for deviation in the length of the tensed filament from its predesigned norm and from the length of other filaments in the tube. The filament also passes through an aperture in the middle tab which has greater resilience to limit movement of the upper tab. The filament further abuts the lower tab which serves to prevent inward lateral movement of the filament.

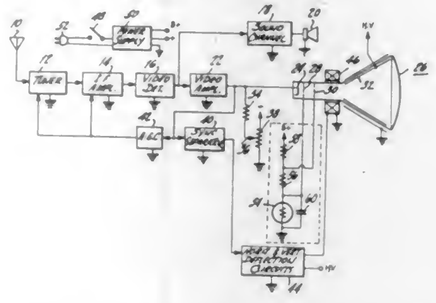
3,407,329
SCANNED CONVERSION TUBE
Benjamin Kazan, Pasadena, Calif., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 29, 1966, Ser. No. 582,959
7 Claims. (Cl. 315—12)

1. A scanned conversion tube comprising:
(a) an evacuated envelope;
(b) a storage target within said envelope comprising,
(1) a fine conductive mesh,
(2) an insulating layer coating one side of said mesh,
(3) a field effect semiconductor coating the other side of said mesh;
(c) writing means responsive to an input signal to produce a charge pattern on said insulating layer whereby the point-to-point conductivity of said semiconductor layer will be altered;



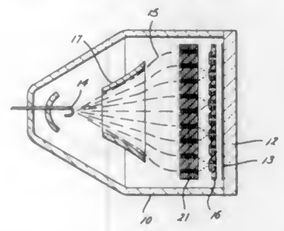
(d) read out means to detect variations in said conductivity in said semiconductor layer.

3,407,330
PROTECTION CIRCUIT FOR CATHODE RAY TUBE
Paul C. Wilmarth, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed Feb. 21, 1966, Ser. No. 529,014
3 Claims. (Cl. 315—20)



The beam current of a cathode ray tube is maintained at a level to effect discharge of the accelerating anode, thus preventing burn out of the tube face at the point where the beam will strike in absence of the deflecting fields. A voltage dependent resistor is provided to maintain the control grid at a constant potential while the cathode voltage decreases when the tube power is cut off.

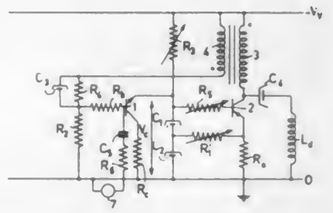
3,407,331
DISPLAY DEVICE
Francis J. Salgo, Garland, Tex., assignor to General Electrodynamics Corporation, Garland, Tex., a corporation of Texas
Continuation-in-part of application Ser. No. 490,516, Sept. 27, 1965. This application Apr. 7, 1966, Ser. No. 540,894
13 Claims. (Cl. 315—21)



A display device comprising a tube having a luminous screen positioned for impingement by electrons to display

selected characters or symbols, and including a barrier in the path of the electrons having portions adapted to be biased negative with respect to the electron beam and having other portions adapted to be biased positive with respect to the electron beam so that the electrons flow to the target in a desired pattern.

3,407,332
TRANSISTOR CIRCUIT-ARRANGEMENT
Rijkert Jan Nienhuis, Mollenhutseweg, Nijmegen, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 16, 1964, Ser. No. 411,359
Claims priority, application Netherlands, Nov. 14, 1963, 300,553
10 Claims. (Cl. 315—27)

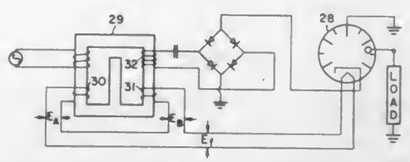


A transistor deflection system including means for protecting the output transistor from avalanche breakdown during the flyback period. This is accomplished by deriving a control signal for the output transformer having a particular waveform that limits the collector voltage of the output transistor to a safe range. The control signal is produced by means of a circuit including a drive transistor having its emitter directly connected to one electrode of a capacitor. The other capacitor electrode is directly connected to the base and collector electrodes by means of first and second resistors, respectively. During flyback, the capacitor is discharged via said transistor and said resistors at a slow rate at the start of flyback, and at a faster rate thereafter. The circuit components are chosen to satisfy the expression:

$$R_b C_t / \alpha' R_c C_t$$

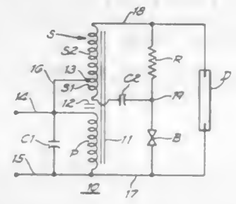
wherein R_b and R_c are the resistance values of said first and second resistors, C_t is the capacitance of the capacitor, and α' is the current gain of the drive transistor.

3,407,333
SELF-REGULATING EMISSION CONTROL BY A HIGH LEAKAGE TYPE TRANSFORMER
Wallace C. Hickman, Wantagh, N.Y., assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 1, 1967, Ser. No. 613,172
1 Claim. (Cl. 315—106)



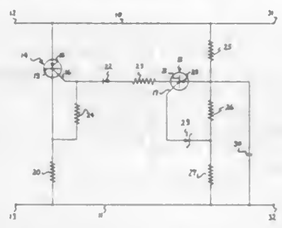
A high leakage reactance transformer is provided with a primary winding, a high voltage secondary winding, and a third winding magnetically coupled to the second winding for supplying filament voltages in an electron discharge device. Because of the significantly high leakage reactance of the transformer, the load current supplied by the high voltage secondary winding affects the voltage output of the third winding. Thus the filament or heater voltage in a high voltage electron discharge device is a direct function of the load current flowing through the tube.

3,407,334
STARTING AND OPERATING CIRCUIT FOR ARC DISCHARGE LAMPS REQUIRING A HIGH STARTING VOLTAGE
Oliver G. Attewell, South Milwaukee, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed June 1, 1966, Ser. No. 554,595
9 Claims. (Cl. 315—278)



Pulse generating circuit means for generating a high voltage pulse for starting an arc discharge lamp requiring a high starting voltage. The circuit means produces a voltage pulse in first coil means of an inductive device to produce a high voltage pulse in a magnetically coupled second coil means to deliver a high voltage pulse to the discharge device. The pulsing circuitry becomes ineffective when the discharge device is conductive. The circuit means may be used with discharge device voltage supplies which include reactor-type ballasts, autotransformers or isolation transformers.

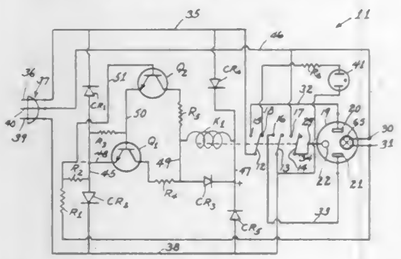
3,407,335
OVERVOLTAGE RESPONSIVE CONTROL FOR SHUNT PROTECTIVE CIRCUIT
Edward C. Hartung, Elnora, N.Y., assignor to General Electric Company, a corporation of New York
Filed Feb. 7, 1966, Ser. No. 525,622
6 Claims. (Cl. 317—16)



An overload protective circuit has a primary protective discharge path shunting two transmission lines serving apparatus to be protected and including a series-connected discharge path shunting two transmission lines serving apparatus to be protected and including a series-connected discharge resistance and a first silicon-controlled rectifier. The sensing and trigger circuit features a second SCR coupled to the gate of the first SCR and being controlled itself by a Zener diode connected to a resistance divider network shunting the transmission lines. The anode of the second SCR is connected to an intermediate point on the resistance divider and the cathode thereof is connected to the junction between the dis-

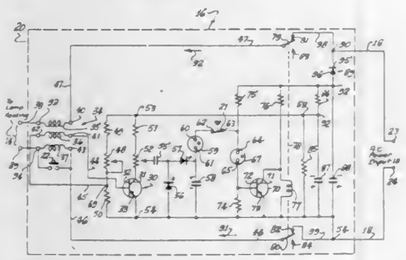
charge resistance and the cathode of the first SCR. In operation the second SCR becomes abruptly conductive in response to an overvoltage condition sensed by the Zener diode and provides a firing impulse to the first SCR, turning the latter to its highly conductive state and also thereby reversing the voltage across the second SCR which thereupon rapidly returns to a state of readiness. Short circuit failure of any of the semiconductive components results in shunting the lines with the discharge resistance. Also, when needed, a capacitance is used to bridge a portion of the resistance divider to bypass brief transient voltages, rendering the control circuit relatively insensitive thereto.

3,407,336
ELECTRONIC GROUND-ABSENCE DETECTOR AND PROTECTIVE DEVICE
Ray R. Embree, Seattle, Wash., assignor to Physio-Control Corporation, Seattle, Wash., a corporation of Delaware
Filed Aug. 11, 1966, Ser. No. 571,849
10 Claims. (Cl. 317—17)



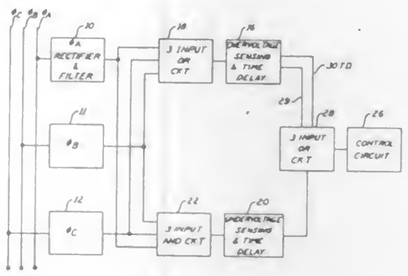
Device for detecting absence of a ground connection in a proposed supply source. The device has a three-prong plug, with a rectifier bridge connected across the two line prongs and a ground detection circuit branch including a relay connected between one output terminal of the bridge and the ground prong. An indicator lamp is connected across the line prongs through normally closed contacts of the relay, opened responsive to energization of the relay by current flow in the ground detection circuit branch. The device also has load terminals connected to the line prongs through normally open contacts of the relay.

3,407,337
LEAK DETECTOR FOR SWIMMING POOL LIGHTS AND THE LIKE
Ralph E. Benham, Arcadia, Calif., assignor, by mesne assignments, to Purex Corporation, Ltd., Lakewood, Calif., a corporation of California
Continuation-in-part of application Ser. No. 478,182, Aug. 9, 1965. This application Nov. 15, 1966, Ser. No. 594,572
16 Claims. (Cl. 317—18)



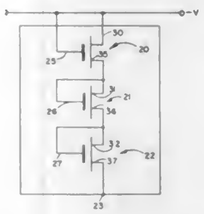
A leak detection system is disclosed incorporating a differential transformer in an A.C. power line circuit through which the load circuit current flows, the current, when normal, producing no output in a sense winding of the differential transformer; any moisture or leakage condition producing an output in the sense winding due to the unbalance created thereby; and the sense winding output providing a triggering signal for a relay actuation circuit which disconnects the system from the A.C. power line for the duration of the leakage condition or until reset after the condition is corrected.

3,407,338
VOLTAGE SENSING AND PROTECTION CIRCUIT
Richard R. Secunde, Seven Hills, Ohio, assignor to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Mar. 17, 1966, Ser. No. 535,168
6 Claims. (Cl. 317—22)



A voltage sensing and protection apparatus for electric power transmission systems that is responsive to both overvoltage and undervoltage conditions. In an alternating current system, filter and rectifier sections are connected to each phase of the system. The filter and rectifier sections are each connected to an overvoltage sensing and time delay circuit through an OR logic circuit and are each connected to an undervoltage sensing and time delay circuit through an AND logic circuit. Both of the sensing and time delay circuits are connected to a single control circuit for the system.

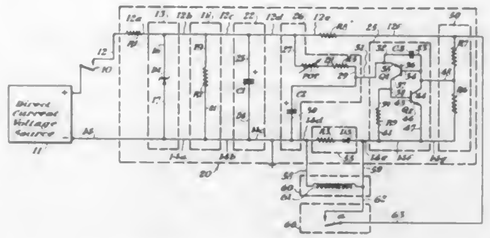
3,407,339
VOLTAGE PROTECTION DEVICE UTILIZING A FIELD EFFECT TRANSISTOR
Robert K. Booher, Downey, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Filed May 2, 1966, Ser. No. 546,937
5 Claims. (Cl. 317—33)



A voltage protection circuit for limiting the voltage on a line to within a permitted voltage range. The circuit comprises a field effect transistor, the gate and one electrode of which both are connected to the line to be protected. The other electrode is connected to a source of voltage which establishes one extreme of the permitted voltage range. The other extreme of the permitted voltage

range is established by the forward conduction between the second electrode and the substrate of the transistor. The voltage source itself may comprise a plurality of series connected field effect transistors.

3,407,340
FAIL-SAFE TIME DELAY RELAY
Andrew Hufnagel, Crescent Hills, Pa., assignor to Westinghouse Air Brake Company, Swissvale, Pa., a corporation of Pennsylvania
Filed June 14, 1966, Ser. No. 557,512
18 Claims. (Cl. 317—142)

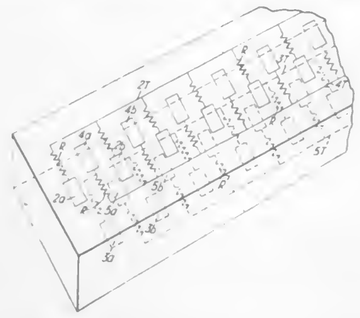


1. A fail-safe solid state time element relay which is immune to relay pickup due to early triggering, said time delay relay capable of adjustable time intervals followed by quick relay pickup at the end of said time intervals, said time element relay having in combination:

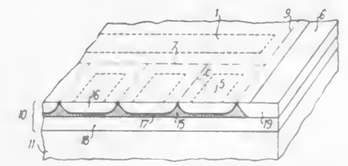
(1) an externally controlled direct current voltage source,
(2) solid state relay energization control means,
(3) a predetermined time delay voltage storage means electrically connected to said solid state relay energization control means,
(4) a safety voltage storage means electrically connected between said direct current voltage source and said predetermined time delay voltage storage means,
  said voltage storage means storing energy from said direct current voltage source to thereby provide a standby reference voltage to said solid state relay energization control means.
(5) an excess voltage drainoff means for said predetermined time delay voltage storage means electrically connected to said predetermined time delay voltage storage means,
(6) reference voltage control means electrically connected to said solid state relay energization control means.
(7) a relay electrically connected to said solid state relay energization control means,
(8) a bypass means for said solid state relay energization control means and said reference voltage control means,
  said bypass means electrically connected to said direct current voltage source and controlled by said relay to provide a bypass circuit to maintain said relay energized.

3,407,341
SEMICONDUCTOR DEVICE HAVING THE CHARACTERISTICS OF A DIGITAL SHIFT REGISTER
Joseph Franks, Harlow, Essex, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 21, 1966, Ser. No. 528,963
Claims priority, application Great Britain, May 20, 1965, 21,346/65, 21,361/65
10 Claims. (Cl. 317—234)

This is a semiconductor device having a plurality of injection terminals on opposite faces of the device wherein said device can operate as a digital shift register. Pulses are injected into a first injection terminal on one face and a second injection terminal on the opposite face of the device and when a threshold voltage is exceeded, the resistance characteristics between these two terminals shifts from a high resistance state to a low resistance state. Then as a pulse is introduced across a third terminal the normally high resistance which exists between the second and third terminals will switch to a low resistance state, if the resistance characteristic between the first and second terminals is still in the low resistance state. This process is repeated with the succeeding terminals of the device as pluses are shifted from one end of the device to the other.



3,407,342
INTEGRAL GRID AND MULTICHANNEL FIELD EFFECT DEVICES
Stanislas Teszner, 49 Rue de La Tour, Paris, France
Filed Feb. 21, 1966, Ser. No. 528,896
Claims priority, application France, Feb. 23, 1965, 6,722
4 Claims. (Cl. 317—235)

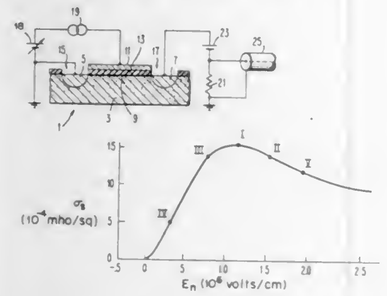


1. Field-effect semiconductor device comprising a semiconductor wafer of a given type of conductivity, a surface layer of the opposite type of conductivity on the central part of one of the faces of the wafer and forming a plane junction therewith, in said surace layer a first source region having the shape of an elongated strip and a second drain region having the shape of an elongated strip parallel with the source strip region, an intermediate gate region in said surface layer delimited and bounded by said source and drain regions, in said gate region third elongated regions forming the gate proper, each having the same type of conductivity as the wafer and substantially a shape of a half-cylinder, said third regions having axes perpendicular to the source and drain strip regions, extending up to one another by their edge portions and to the peripheral part of said wafer, in said gate region a fourth elongated region forming a conductive channel having the opposite type of conductivity to that of the wafer, parallel to the plane junction and contiguous thereto and having a laminar shape with ridged projections each included between two adjacent half-cylinder shaped third regions.

3,407,343
INSULATED-GATE FIELD EFFECT TRANSISTOR EXHIBITING A MAXIMUM SOURCE-DRAIN CONDUCTANCE AT A CRITICAL GATE BIAS VOLTAGE

Frank F. Fang, Yorktown Heights, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Mar. 28, 1966, Ser. No. 537,833
13 Claims. (Cl. 317—235)

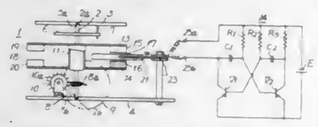


The monocrystalline semiconductor wafer defining the conduction channel of an insulated-gate field effect transistor is cut such that conduction valleys associated with the various crystal directions are nonequivalent under the influence of normal electric fields E_n. Accordingly, the surface conductivity σ_s and, hence, source-drain conductance g_{sd} exhibit a symmetrical change when normal electric fields are modulated at a critical intensity. By appropriately biasing the gate electrode, the insulated-gate field effect transistor can be used to achieve full-wave rectification or amplification with or without phase reversal.

3,407,344
ELECTRONIC TIMEKEEPER

Kiyoshi Bansho, Yokohama-shi, Japan, assignor to Shigeru Kakubari, Tokyo, Japan

Filed Sept. 23, 1965, Ser. No. 489,618
Claims priority, application Japan, Sept. 26, 1964, 39/55,173
3 Claims. (Cl. 318—130)



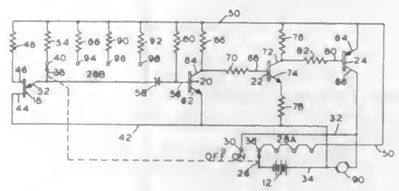
This invention relates to an electronic timekeeper wherein a balance wheel has permanent magnets mounted thereon and a free-running multivibrator associated therewith. A load for the multivibrator is provided by a coil which drives the balance wheel by a mutual action of the flux through the coil and the permanent magnets so that the oscillation period of the multivibrator is controlled by the inherent vibration period of the balance wheel and synchronized therewith.

3,407,345
VARIABLE DELAY WINDSHIELD WIPER SYSTEM

Hugo Fruehauf, 559 S. Fairfax, Glendale, Colo. 80222, and Dennis W. Shanfeldt, 3620 Paulina Ave., Chicago, Ill. 60613

Filed Aug. 31, 1964, Ser. No. 393,192
5 Claims. (Cl. 318—443)

A variable delay switching system comprising a relaxation oscillator driven transistor switch connected to maintain the switch open while the oscillator is in the non-energized or quiescent state and momentarily close the switch when the oscillator is in the energized or fired state

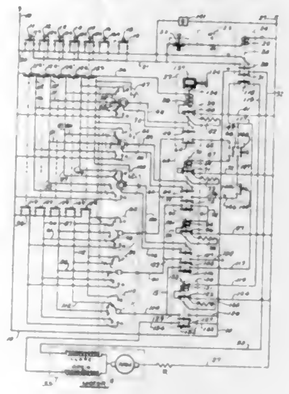


wherein the length of the time interval that the oscillator is de-energized is selectively variable.

3,407,346
ELECTRIC SEQUENTIAL COMBINATION MECHANISM

Irvin W. Hunter, 345 E. 69th St., New York, N.Y. 10021

Filed Oct. 14, 1965, Ser. No. 495,772
16 Claims. (Cl. 318—446)



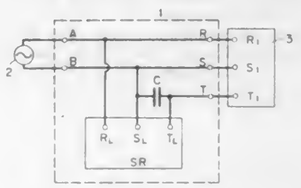
1. An electric sequential combination mechanism for an operated member having a first and a second position, such as open and closed positions of a lock bolt comprising power lines; an operated member; and means to actuate the operated member to its second position; a plurality of switch actuators; switch means operatively connected with each switch actuator including a normally closed first control switch, and a normally open second control switch for at least some of the actuators, the first control switches being connected in series, the second control switches each having an input contact connected with a power line and an output contact; relay means including at least a first relay, a second relay and a last relay, each relay including a coil and an armature; a first circuit connected across the power lines including in series the first control switches, and the first relay coil; shunt switch means including at least a first shunt switch and a last shunt switch, a shunt switch being operatively connected with the armature of each relay exclusive of the last relay, the first shunt switch being normally held in closed position by the normally energized first circuit relay coil, each shunt switch being connected across a first control switch; a second circuit connected across the power lines including in series a second control switch, a normally closed first sequential switch, a first position limit switch, and the second relay coil, and a second relay holding switch connected with the power line and a connection

from this switch to the second relay switch providing a holding circuit for the second relay, the second control switch being that one which is operatively connected with the first control switch having the first shunt switch across the same, the second relay switch being operatively connected with the armature of the first relay and the second circuit holding switch being operatively connected with the armature for the second relay; a last circuit connected across the power lines including in series a second control switch, a last sequential switch, a normally closed safety switch, and the last relay coil, and a last relay holding circuit including a last relay holding switch connected with the power line and with the last sequential switch, the second control switch being that one which is operatively connected with the first control switch having the last shunt switch, and the last relay holding switch being operatively connected with the armature of the last relay; means operatively connecting each sequential switch with the armature of a preceding relay to be closed upon the relay being energized; motor means; the operated member being operatively connected with the motor means to move the operating member at least to its first position, one limit switch being operatively connected with the operated member to be opened when the member is in its first position; and the other limit switch being operatively connected with the operating member to be opened in the second position of the operating member; and a motor circuit connected between the power lines including a motor switch and the motor, and the motor switch being operatively connected with the armature of the last relay and closed thereby.

3,407,347
ASYMMETRICAL THREE-PHASE FERRO-RESONANCE DEVICE

Hiroshi Kobayashi and Kiyoshi Hisano, Tokyo, Japan, assignors to Yawata Iron & Steel Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed June 1, 1966, Ser. No. 554,593
Claims priority, application Japan, June 3, 1965, 40/32,454
3 Claims. (Cl. 321—7)

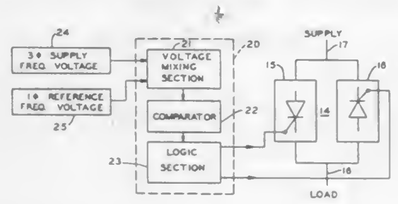


An asymmetrical three-phase ferro-resonance device which can be used as a frequency converter or a frequency multipler. The device has a three-phase saturable reactor with star-connector primary windings which are electromagnetically coupled so that the vector sum of the voltages induced each phase is close to zero. The device has input terminals for a single-phase alternating voltage connected directly to the primary windings of two of the phases, and has a single capacitor resonating with the saturable reactor at the frequency of the single-phase voltage connected between the primary winding of the remaining phase of the saturable reactor and one of the primary windings of the said two phases. When the primary windings of the three-phases are connected to output terminals, a three-phase voltage can be taken therefrom, and when the saturable reactor is provided with secondary windings which are delta-connected, these windings can be tapped for a single-phase alternating voltage at a frequency which is a multiple of the input voltage frequency.

3,407,348
LOGIC AND CONTROL CIRCUIT

Dennis I. Lawrence, Solon, and Raymond B. Diczhazy, Bainbridge Township, Ohio, assignors to Lear Siegler, Inc., Los Angeles, Calif., a corporation of Delaware

Filed Mar. 27, 1964, Ser. No. 355,172
9 Claims. (Cl. 321—27)

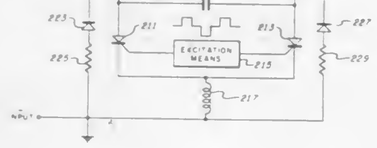


Logic circuit means and, more particularly, circuit means for selectively controlling the conducting and nonconducting periods of the rectifying and switching devices making up a cycloconverter.

3,407,349
INVERTER CIRCUIT

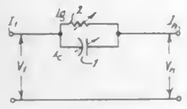
Alvin E. Lehrer, Deer Park, and Clinton C. Remuzzi, Jr., Port Washington, N.Y., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed Dec. 26, 1961, Ser. No. 161,884
7 Claims. (Cl. 321—45)



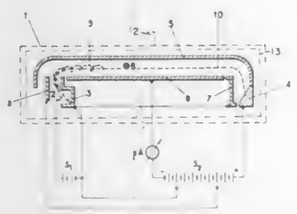
4. An inverter circuit comprising:
(a) a first and a second controlled rectifier,
(b) a commutating capacitor having one of its terminals connected to the anode of the first controlled rectifier and its other terminal connected to the anode of the second controlled rectifier,
(c) first and second transient suppressor diodes, said first and second transient suppressor diodes having their cathodes connected to the anodes of the first and second controlled rectifiers respectively,
(d) an output transformer having a center-tapped primary winding, said output transformer further having opposite ends of its primary winding connected to the anodes of the first and second suppressor diodes respectively,
(e) a common coupling means coupling the cathodes of both controlled rectifiers to a negative input terminal,
(f) an excitation means connected to the gate electrode of each controlled rectifier,
(g) a source of rectangular pulses in said excitation means, said source being adjusted to provide a time interval between successive pulses that exceeds the charging time of the commutating capacitor.

3,407,350
UNIDIRECTIONAL FREQUENCY MULTIPLIER COMPRISING NON-LINEAR REACTANCE AND RESISTANCE
Toyosaku Isobe and Tatsuo Miyakawa, Kawasaki-shi, Japan, assignors to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan
Filed Dec. 15, 1964, Ser. No. 418,569
Claims priority, application Japan, Dec. 16, 1963, 38/67,959
10 Claims. (Cl. 321—69)



A unidirectional frequency multiplier comprises a nonlinear reactance and a nonlinear resistance connected to the reactance in parallel or in series between a pair of input terminals and a pair of output terminals. A delay line is connected in series with either the reactance or the resistance and has an equivalent electrical length dependent upon the degree of multiplication.

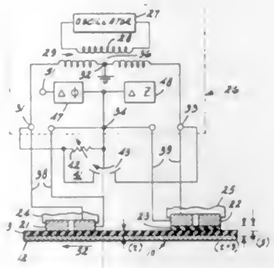
3,407,351
CROSSED-FIELD IONIZATION PRESSURE GAUGE
Daniel Maillart, New York, N.Y., assignor to CSF-Compagnie Generale de Telegraphie Sans Fil, Paris, France
Filed Oct. 6, 1964, Ser. No. 401,793
Claims priority, application France, Oct. 16, 1963, 950,773
7 Claims. (Cl. 324—33)



Crossed-field ionization gauge having a separate cathode and collector disposed near opposite extremities of a space delimited by an ion collector and an electrode parallel thereto, a magnetic field generated in the space perpendicular to an electric field established between the ion collector and the electrode parallel thereto, an electron beam propagating through the space along trochoidal trajectories with the ion collector being disposed with relationship to the cathode so as to effect a shielding thereof against the light emitted by the cathode and against X-rays generated by the electron collector.

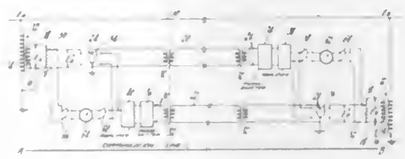
3,407,352
METHOD OF AND APPARATUS FOR MONITORING THE THICKNESS OF A NON-CONDUCTIVE COATING ON A CONDUCTIVE BASE
William M. Smith, Jersey City, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed June 7, 1965, Ser. No. 462,031
19 Claims. (Cl. 324—40)

The disclosure involves a method and apparatus for monitoring continuously the thickness of a plastic sheath surrounding a metal sheath of telephone cable as the cable is in axial travel from a plastic extruder. A first magnetic coil is supported slidably against the jacket. A second magnetic coil is supported a fixed distance away from the jacket. A spacer insulator is slidable against the jacket and is mounted between the second coil and jacket to maintain the fixed separation therebetween. The coils are connected as two arms of a measuring bridge. The bridge, and thus the coils, are electrically energized,



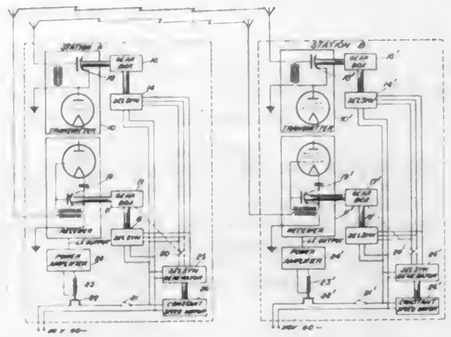
whereby out of phase signals are produced in the coils which are indicative of the jacket thickness. The coils are axially spaced apart along the cable axis to avoid magnetic coupling between the coils. Detecting means in one bridge cross-arm measures the phase difference between the signals, and thus provides a direct reading of the thickness of the extruded plastic immediately after extrusion, whereby prompt corrective measurements may be made at the extrusion station to maintain a uniform jacket thickness.

3,407,353
METHOD AND APPARATUS FOR COMPENSATING AN ELECTRICAL SIGNAL TRANSMISSION PATH
Frank C. Doble, Belmont, Mass., assignor to Doble Engineering Company, Belmont, Mass., a corporation of Massachusetts
Continuation of application Ser. No. 328,824, Dec. 9, 1963. This application Mar. 1, 1967, Ser. No. 619,874
11 Claims. (Cl. 324—83)



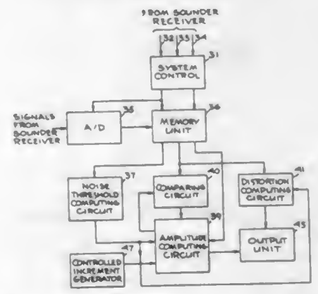
For measuring phase shifts in high voltage line extending between points A and B, two pilot lines are provided between points A and B. The pilot lines include telephone lines and isolating transformers and passive phase shift networks are employed to adjust the pilot lines to have identical phase shift characteristics. At the receiving end of each pilot line is connected an adjustable compensation network that includes a phase shifter and an adjustable high input impedance amplifier. The combined phase shift of the two pilot lines connected in series is measured and the compensation networks are adjusted until the total phase shift of the two lines reaches a minimum, thus effectively compensating either pilot line to zero phase shift.

3,407,354
MOTOR AND SELF-SYNCHRONOUS GENERATOR FREQUENCY SYNCHRONIZATION UNITS FOR SWEPT FREQUENCY SECRET COMMUNICATIONS SYSTEM
Joseph P. Wheeler, % Naval Research Laboratory, Washington, D.C. 20360
Filed Apr. 9, 1942, Ser. No. 438,322
1 Claim. (Cl. 325—35)



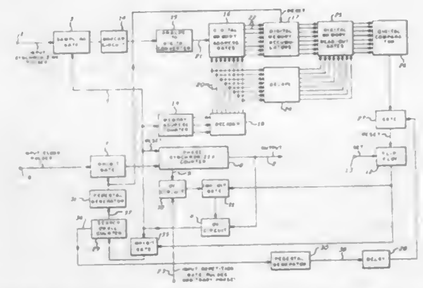
1. A secret communication system comprising at least a pair of stations, a transmitter unit and a receiver unit in each station, means to vary the frequency of the transmitter unit and the receiver unit of each station through a predetermined cycle of variations, the cycle of variations of each of said transmitter units being identical with that of the receiver unit in the other station of said pair, said means to vary the frequency in each of said stations comprising a variable frequency determinative element controlling the frequency thereof, a self-synchronous motor connected to said variable frequency determinative element to vary the tuning thereof a self-synchronous generator driving said motor, and a motor driving said self-synchronous generator, means supplying electrical energy to said last named motors, means normally interrupting said supply and means actuated by the reception of a signal by said receiver to render said interrupting means ineffective.

3,407,355
DATA PROCESSING AND SIGNAL DISPLAY SYSTEM FOR RADIO COMMUNICATION SOUNDING SYSTEM
Eugene N. Clark, San Mateo, Virgil D. Cone, Palo Alto, and Dale P. Masher and Wilbur R. Vincent, Los Altos, Calif., assignors to Stanford Research Institute, Menlo Park, Calif., a corporation of California
Filed Nov. 16, 1964, Ser. No. 411,383
18 Claims. (Cl. 325—67)



In a sounder receiver an arrangement for recording amplitude and/or distortion characteristics of an input signal received in the form of a succession of input samples. Noise samples are received prior to the input samples. Thereafter, the noise samples are utilized to generate a controllable threshold noise signal. The input samples are examined to select the sample with the largest amplitude. In one part of the arrangement, the amplitude of the largest sample is compared with the noise signal and a first output signal is provided which represents the number of increment signals to be added to the noise signal to exceed the amplitude of the largest sample. The first output is printed out as a number. The noise signal and the input samples are also used to determine whether a preselected interval after the detection of the first input sample whose amplitude exceeds the noise signal, the amplitude of another of the input samples exceeds the noise signal. If it does not, the number is printed out in black. If however one of the input samples exceeds the noise level after such interval, it represents input signal distortion and the number is printed out in red.

3,407,356
DIGITAL SYNCHRONIZER FOR PULSES OF KNOWN REPETITION INTERVAL BUT UNKNOWN PHASE
James I. Meranda, Flushing, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed July 19, 1965, Ser. No. 472,784
6 Claims. (Cl. 328—55)

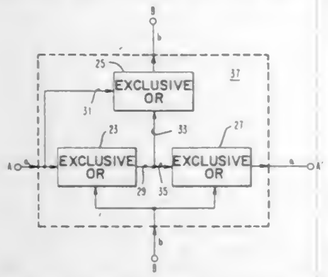


Pulse synchronizing apparatus including a pulse counter producing first and second trains of output pulses, the repetition rate of the first pulses being equal to the repetition rate of input pulses to be synchronized to and the repetition rate of the second pulses being higher than that of the first pulses. The first and second pulses and third pulses having the same repetition rate but arbitrary phase relative to the input pulses reset the counter and sample the input pulses in a sampling gate whose output is integrated and compared to a predetermined amplitude value. The application of the second and third pulses to the sampling gate is interrupted when the predetermined amplitude value is exceeded. Clock pulses applied to the counter are interrupted momentarily if the amplitude value is not exceeded after a certain interval.

3,407,357
PLANAR INTERCONNECTING NETWORK AVOIDING SIGNAL PATH CROSSOVERS
Lester M. Spandorfer, Cheltenham, and Albert B. Tonik, Dresher, Pa., and Shimon Even, Haifa, Abuza, Israel, assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 346,570, Feb. 21, 1964. This application Jan. 21, 1966, Ser. No. 522,250
1 Claim. (Cl. 328—92)

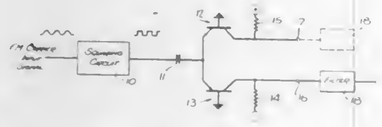
The present device provides a logic network connected and located at each essential crossover of a transmission

network which enables the terminals of a first associated pair of terminals to be connected to one another without



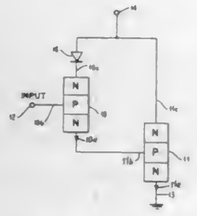
requiring that the medium which connects them should cross over the medium which connects the terminals of any other pair of associated terminals in the network.

3,407,358
APPARATUS FOR DEMODULATING AN FM CARRIER
Owen J. Ott, Brookfield, Conn., assignor to Data-Control Systems, Inc., Danbury, Conn., a corporation of Delaware
Filed Dec. 7, 1964, Ser. No. 416,397
8 Claims. (Cl. 329—110)



The disclosure relates to a circuit for demodulating a frequency modulated carrier input signal. In the circuit the input signal is converted to a waveform corresponding in frequency to the input signal. The waveform is applied to a timing capacitor which in turn controls a pair of switching devices. The timing capacitor is driven between two control levels and thus is not discharged during operations. The switching means are alternately conductive in response to the different excursions of the converted waveform. Means are provided for producing an output signal from the current of at least one of the switching means. In this way the output signal is derived which represents a function of the frequency of the input signal.

3,407,359
DUAL GAIN TRANSISTOR CIRCUIT
Herman Eugene Amrine, San Jose, Calif., and James P. Martin, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 21, 1964, Ser. No. 419,651
7 Claims. (Cl. 330—29)

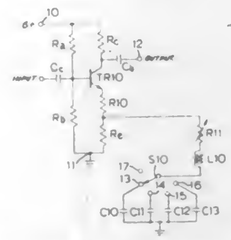


This disclosure teaches a connection of two transistors in a circuit configuration in which the emitter current of the first transistor is the base current of the second transistor in which a nonlinear element is connected in the collector circuit of the first (or the second) transistor. When the nonlinear element is in its low conduction state, the input transistor does not amplify. However, it conducts in its base-emitter circuit to supply base current to the second transistor. Thus, in this state the circuit has the amplification of only the second transistor.

When the nonlinear device is in its conduction state, both transistors amplify and the circuit has a higher amplification.

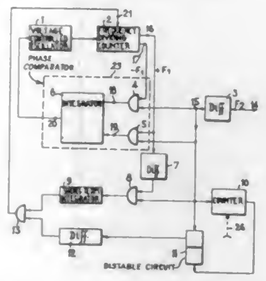
In one embodiment the nonlinear device is a silicon diode, and in another embodiment it is a transistor connected to operate as a switch.

3,407,360
NETWORKS FOR SELECTIVELY AMPLIFYING CERTAIN FREQUENCIES MORE SO THAN OTHER FREQUENCIES
Jacob Buhr, Kitchener, Ontario, Canada, assignor to Electrohome Limited
Filed Aug. 10, 1966, Ser. No. 571,635
8 Claims. (Cl. 330—29)



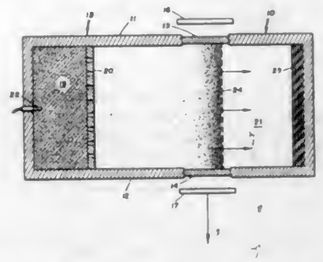
The response curve of an amplifying device having three electrodes with two resistors connected to two different electrodes thereof is made variable by either a series resonant circuit including a variable resistor adapted to be switched in shunt with one of the aforementioned resistors or by means of series circuits each including a resistor and a capacitor adapted to be switched in shunt selectively or together with the aforementioned resistors.

3,407,361
AUTOMATIC FREQUENCY CONTROL SYSTEM WITH INTERMITTENT PHASE RESETTING MEANS
Claude Galopin, Courbevoie, France, assignor to Compagnie Francaise Thomson-Hotchkiss Brandt, Paris, France, a corporation of France
Filed Nov. 29, 1966, Ser. No. 597,795
Claims priority, application France, Dec. 8, 1965, 41,357
13 Claims. (Cl. 331—10)



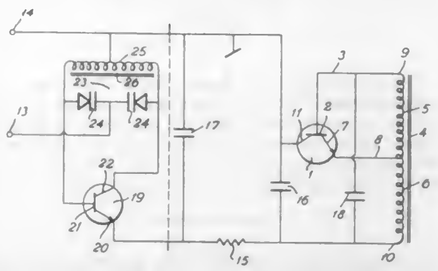
A phase-lock system synchronizes a first (or output) periodic signal with a second (input) periodic signal; an error signal indicative of a discrepancy between the phase conditions of the signals is produced and the frequency of the first signal is varied in accordance with such error signal and in a sense to reduce the discrepancy. Additionally, the phase condition of the first signal is altered independently of the means for varying the frequency thereof, and a phase-altering means is intermittently operated to reset the phase condition of the first signal into substantial agreement with the phase condition of the second signal.

3,407,362
SHOCK WAVE PUMPED LASER
Rodney E. Grantham, Bethesda, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 28, 1964, Ser. No. 363,311
3 Claims. (Cl. 331—94.5)



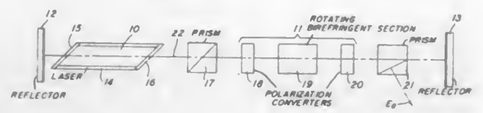
A luminescent gas pumped laser which is shock wave pumped to excite the atoms of the gas to a state of population inversion. The light of the luminescent gas resonates in an optical cavity inducing stimulated emission in the excited gas behind a shock wave front.

3,407,363
POWER SOURCE PREFERABLY FOR IMPLANTABLE, ELECTRIC UNITS AND AN H.F. TRANSISTOR TRANSMITTER FOR OPERATING SAME
Niels Edmund G. Kaiser, Linde Alle 36, Copenhagen, Vanlose, Denmark, and Per Roland Kadefors, Badvadersgatan 19, Goteborg, Sweden
Filed Dec. 28, 1966, Ser. No. 605,262
Claims priority, application Sweden, Dec. 30, 1965, 6,706/65; Aug. 2, 1966, 4,003/66
9 Claims. (Cl. 331—117)



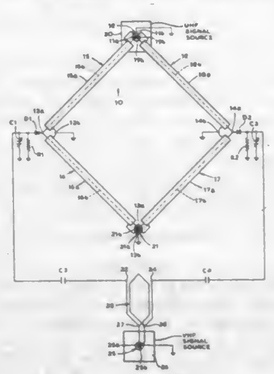
The invention relates to a power source, which can receive energy from electromagnetic waves and produce a stabilized direct current voltage for an implantable electric device such as an oscillator, with a coil within which alternating current is induced by the electromagnetic waves and a transistor attached to the coil for rectifying the alternating current. The emitter of the transistor can be connected directly to one of the coil terminals such as an outer terminal and the base directly connected to another terminal such as the other outer terminal or a midpoint terminal so that the voltage between a first output terminal at the collector and a second output terminal connected to one of the coil terminals other than the terminal connected to the emitter is substantially constant provided the strength of the electromagnetic waves exceeds a minimum value. Core concentrators can be deposited about the core of the coil and the output of the power source applied to a low frequency filter. The power source can be used with a Hartley oscillator with two series connected capacity diodes.

3,407,364
INTRACAVITY LASER PHASE MODULATOR
Edward H. Turner, Rumson, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 9, 1965, Ser. No. 446,967
7 Claims. (Cl. 332—7.51)



Resonant intracavity laser modulators in which the optical waves in the preferred cavity polarization are successively incident upon a quarter wave plate having axes at 45 degrees to the polarization plane; a rotating birefringent section having a small constant differential phase delay; and a second quarter wave plate also at 45 degrees. The energy energizing from the second quarter wave plate consists of two signals having orthogonal polarizations. The first signal has an amplitude related to the magnitude of the constant differential phase delay and a phase independent of the orientation angle, or rotation, of the birefringent section. The second signal also has a constant amplitude, but a phase which is directly proportional to the rotation of the birefringent section. By applying a varying rotation field to the birefringent section, the phase, and thus the frequency, of the second signal can be controlled.

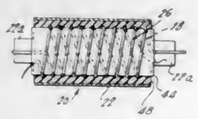
3,407,365
HYBRID RING MODULATOR
Harry W. Verlinden, Waterloo, Ontario, Canada, assignor to Electrohome Limited, a corporation of Canada
Filed June 1, 1965, Ser. No. 460,595
9 Claims. (Cl. 332—23)



A balanced modulator includes a hybrid ring with four pairs of terminals arranged in consecutive order around the ring, the four arms of the hybrid ring being of the

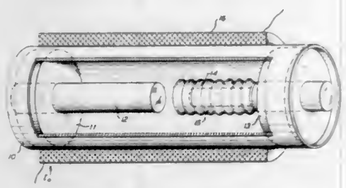
same length and characteristic impedance. One terminal of each pair is connected to a common potential. A signal is applied to the other terminal of the first pair. Modulating signals are applied to the other terminals of the second and fourth pairs via variable resistance diodes, the modulating signals being the same except 180° out of phase with respect to each other.

3,407,366
ANTENNA COUPLING APPARATUS FOR MULTIPLE RECEIVERS
Donald Z. Dworkin, Newark, N.J., assignor to Vikoa, Inc., a corporation of Delaware
Filed Oct. 6, 1964, Ser. No. 401,907
9 Claims. (Cl. 333—9)



An antenna coupling apparatus for multiple receivers. The directional coupler includes first and second paired helical conductors within a shield, spaced substantially uniformly therefrom and from each other. The shield is spaced from the two helical conductors to allow the characteristic impedance of each conductor to match that of the coaxial conductor system in which the coupler is used. The coupler is in a sense a rolled-up two-strip coupled device with two ground planes merged into a common cylinder.

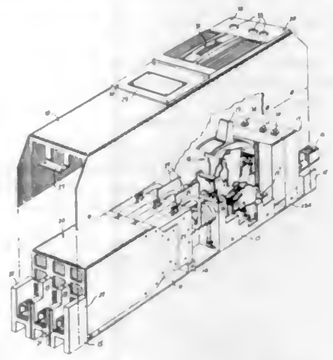
3,407,367
COAXIAL CABLE SWITCH
Ronald W. Kordos, Columbus, Ohio, assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Dec. 6, 1966, Ser. No. 599,504
3 Claims. (Cl. 335—5)



1. A coaxial cable switch comprising
an annular sheath of nonmagnetic electrically-conductive material,
a pair of magnetizable members coaxially aligned in said sheath with a separation between said members to form a discontinuous center conductor,
a bellows formed of material having both magnetizable and springlike properties and mounted on a first of said members so that in its expanded state it makes physical contact with the other of said members, and
means for expanding said bellows.

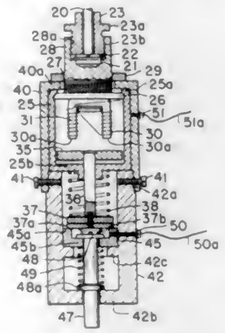
3,407,368
CURRENT-LIMITING CIRCUIT BREAKER
Eldon B. Heft, West Hartford, and Robert W. Laubenheimer, Farmington, Conn., assignors to General Electric Company, a corporation of New York
Filed Nov. 25, 1966, Ser. No. 597,118
7 Claims. (Cl. 335—16)

An electric circuit breaker of the current-limiting type, including arc extinguishing means, manually operable latching-type operating mechanism for operating the contacts, current responsive trip means for causing release of the latch of the operating mechanism upon the occurrence of predetermined current conditions, and high-speed solenoid means positioned between the arc ex-



tinguishing assembly and the operating mechanism and operating on the contacts to open them on the occurence of high short-circuit current conditions despite the non-release of the operating mechanism latch.

3,407,369
WARNING DEVICE AND SYSTEM FOR FLAME FAILURE
William J. Hardesty, Delmont, Pa., assignor, by mesne assignments, to Tele-Flame, Inc., Latrobe, Pa., a corporation of Pennsylvania
Filed Jan. 17, 1967, Ser. No. 609,886
11 Claims. (Cl. 335—156)

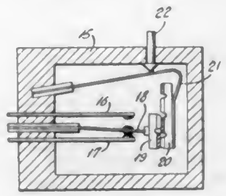


A warning device for flame failure employing a thermally-energized electric magnet and a magnetic contact plate to be magnetically held in a forward position by the magnet upon heat-induced energy thereto. An operating stem supports the contact plate for moving the plate into and out of engagement with the magnet.

3,407,370
MAGNETICALLY OPERATED SWITCH HAVING OPPOSED PLURAL MAGNETS
Otto Ramstetter, Prinzeneiche 22, Starnberg, Germany, and Niko Fast, Bensberg, Germany; said Fast assignor to said Ramstetter
Filed Dec. 27, 1966, Ser. No. 604,758
Claims priority, application Germany, Dec. 31, 1965, F 48,068; Aug. 18, 1966, R 43,944
15 Claims. (Cl. 335—206)

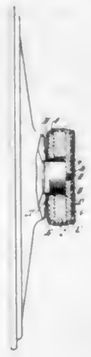
The switching part of a magnetically operated switch device is movably mounted to make electrical contact with one of a pair of spaced electrical contacts in one switching

position and to make electrical contact with the other of the electrical contacts in another switching position. A permanent switching magnet is affixed to the switching part. A permanent operating magnet is affixed, in operative proximity with the switching magnet, to an operating part which is movably mounted for movement in a direction substantially parallel to the direction of movement of the switching part. Each of the switching and operating magnets has a plurality of magnetic poles of alternating



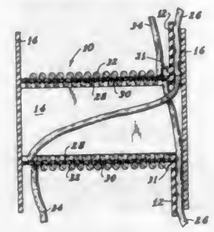
polarities linearly positioned in adjacent relationship in the direction of movement of its supporting part. The operating magnet has two more poles than the switching magnet. The magnetic poles of the switching and operating magnets face each other. The magnetic poles at one end of one of the magnets and at the corresponding end of the other of the magnets are of opposite polarity and the magnetic poles at the other end of one of the magnets and at the corresponding end of the other of the magnets are of opposite polarity.

3,407,371
LOUDSPEAKER MAGNET STRUCTURE
John W. Gosma, Kokomo, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application June 4, 1965, Ser. No. 461,285, now Patent No. 3,354,541, dated Nov. 28, 1967. Divided and this application Sept. 26, 1967, Ser. No. 670,556
3 Claims. (Cl. 335—231)



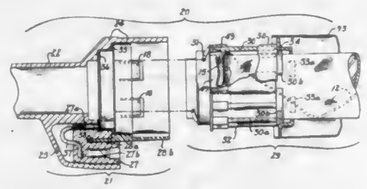
A loudspeaker magnet assembly which includes a metallic casing, having an inner lining of insulating resilient material, crimped over a permanent magnet and subassembly leaving one face of the resultant assembly open so that a desired driving means may be interposed adjacent the core of the assembly.

3,407,372
TRANSFORMER WITH WIRE END INSULATION MEANS
Ralph A. Elvers, 5482 Ashurst St., Indianapolis, Ind. 46220
Filed June 5, 1967, Ser. No. 643,529
10 Claims. (Cl. 336—208)



A transformer having an insulator member formed as a generally C-shaped sheet piece which snaps over the winding tube of the transformer, providing an insulating wall, behind which the radially-extending end portions of a wire winding may be passed. Thus those wire-ends, are kept insulated from any portion of another winding of the transformer.

3,407,373
CURRENT CONDUCTING VACUUM CLEANER HOSE WITH IMPROVED END FITTINGS
Robert J. Brown, South Salem, N.Y., and John T. Ferraris, Stamford, John J. Kowalewski, Riverside, and John J. Moughty, Old Greenwich, Conn., assignors to Electrolux Corporation, Old Greenwich, Conn., a corporation of Delaware
Filed Nov. 8, 1966, Ser. No. 592,827
10 Claims. (Cl. 339—5)

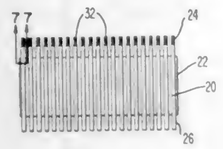


A suction hose having integral conductors; a bent end tube for vacuum cleaner apparatus, connected to one end of the hose, which is constructed to swivel relative to the hose, and includes a slip ring and contact arrangement for electrically coupling the hose conductors with an electrical outlet associated with the bent end tube, and a push connector for vacuum cleaner apparatus at the other end of the hose which includes an electric plug connector coupled with the hose conductors.

3,407,374
ELECTRICAL CONNECTOR
Gilbert R. Reid, Norristown, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 7, 1966, Ser. No. 532,140
8 Claims. (Cl. 339—17)

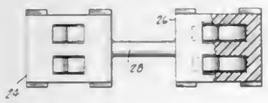
This invention comprises a plurality of flexible, contact fingers which are positioned upon an insulating substrate. The opposite terminal ends of the contact fingers extend over the opposite edges of the substrate. The ends at one terminal may be bowed and grooved to facilitate connection to a wire memory element. The ends at the remaining terminal are left exposed for connection to associated

apparatus as by soldering. An electrical insulating pressure plate is then secured over the frame holding the substrate, the contact fingers and the plated wires in order



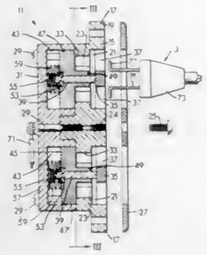
to provide the necessary contact pressure. Modification to the connector design permit the forming of a socket to receive a printed circuit board.

3,407,375
MOLDED BUS ASSEMBLY
David J. Crimmins, Pennington, N.J., assignor to The Thomas & Betts Co., Elizabeth, N.J., a corporation of New Jersey
Filed Oct. 20, 1965, Ser. No. 498,337
7 Claims. (Cl. 339—22)



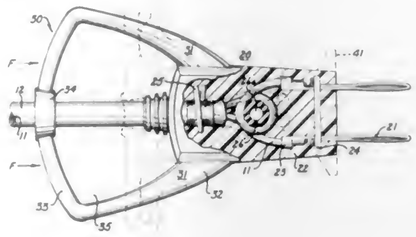
An integrally molded bus assembly having a body portion and at least one housing integrally molded with the body portion. The body portion encapsulates an electrically conductive but assembly having at least one tab extending into a channel provided in the housing. The housing is adapted to receive an electrical terminal which is affixed to the tab.

3,407,376
ELECTRICAL OUTLET CONNECTION MEANS
Henry W. Martin, 3407 Justine St., Memphis, Tenn. 38127
Filed Jan. 27, 1967, Ser. No. 612,158
4 Claims. (Cl. 339—41)



An electrical receptacle connected with power means adapted for the reception of a specialized appliance plug, which plug has out-turned contact legs and in which a receptacle device includes means for receiving the appliance plug and for the rotation of portions of the receptacle together with the appliance plug in order to make electrical connection between the appliance plug and the source of power and further with means for effectively retaining the appliance plug against accidental removal.

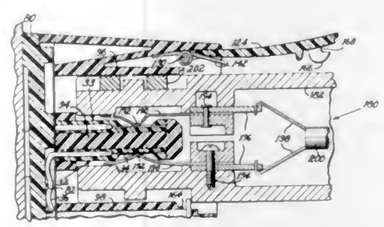
3,407,377
ELECTRIC CORD SET HAVING A STRESS RELIEVING PLUG
James Anderson, Montreal, Quebec, Canada, assignor to Electrolux Corporation, Old Greenwich, Conn., a corporation of Delaware
Filed June 29, 1967, Ser. No. 649,985
7 Claims. (Cl. 339—105)



An electric cord set in which the conductor wires are each wound one turn around a hollow insert or cleat-like member of resilient material such as vinyl plastic material. The insert or cleat is located in the plug body of the cord set adjacent the connection between the conductors of the cord and the terminals of the plug so that any tensile force applied to the cord, or similar force applied to the plug and tending to separate the cord and plug, is relieved by the resilient character of the insert. In effect the insert absorbs or dissipates these forces before the relatively weak joint or connection between the conductors of the cord and the terminals of the plug is damaged by breaking.

A cord set as described above adapted for use with a cordwinder which in addition includes a pair of energy absorbing, deformable arms integral with the plug and defining a collar or annulus which drags on or frictionally engages the jacket of the cord to absorb energy.

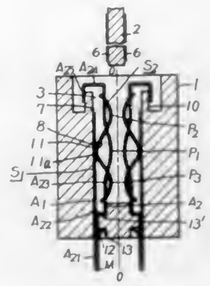
3,407,378
ELECTRICAL CONTACT SYSTEM
Robert Raymond Siders, Medfield, and Roger Williams Hood, North Attleboro, Mass., assignors to Hersey Sparling Meter Company, Dedham, Mass., a corporation of Massachusetts
Filed May 24, 1966, Ser. No. 552,605
7 Claims. (Cl. 339—176)



Electrical contact system having cartridge for receiving wire and housing to support cartridge, housing having opening for connector to contact wire in cartridge. Cartridge has hinged wall to clinch wire and cut away

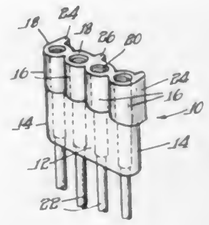
wall to expose wire for contact. Housing has magnetically latched door.

3,407,379
MULTI-CONNECTOR
Morimitsu Nakazawa, Tokyo, and Tokushige Sato, Saitama-ken, Japan, assignors to Taiyo Yuden Kabushiki-kaisha, Tokyo, Japan
Filed Oct. 31, 1966, Ser. No. 590,826
Claims priority, application Japan, May 11, 1966, 41/29,870
5 Claims. (Cl. 339—176)



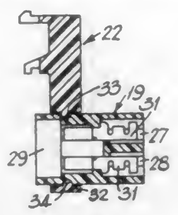
This invention relates to a connector adapted to receive a printed circuit board. Each contact of the connector is composed of two bowed resilient members. One member is secured to the insulating body of the connector and the other member is resiliently seated in longitudinal slots in the first member.

3,407,380
ELECTRICAL CONNECTOR
John H. Krebbiel, Downers Grove, Ill., assignor to Molex Products Company, Downers Grove, Ill., a corporation of Illinois
Original application Mar. 16, 1965, Ser. No. 440,075. Divided and this application June 9, 1966, Ser. No. 556,446
3 Claims. (Cl. 339—186)



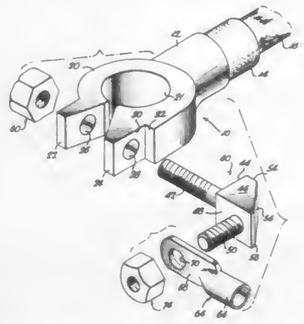
1. A plug-type electric connector comprising a plurality of cylindrical conductive terminal members in spaced apart, side-by-side parallel array, and an unsupported insulated resinous plastic housing positioning and supporting said terminals, said housing being generally wide and flat and having an entering end comprising a series of side-by-side adjoined hollow cylindrical sections each coaxial with and supporting one of said terminal members, the two laterally outermost of said cylindrical sections having projections extending therefrom and elongated axially of the terminals for positioning and keying said electric connector relative to a complementary electric connector.

3,407,381
VEHICLE HEADLAMP CONNECTORS
Raymond Hickton, Halesowen, and Frederick Henry Bond, King's Heath, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Aug. 15, 1966, Ser. No. 572,382
1 Claim. (Cl. 339—192)



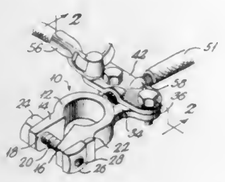
A vehicle headlamp connector includes a body defining a rectangular hole around three sides of which are sockets having electrical connectors which engage with complementary connectors on a seal beam unit to provide electrical connections to the filaments of the headlamp. The rectangular hole is divided into four by cruciform arms, and detachably engaged with the four holes thus defined is a clip which supports another bulb in close proximity to the rear of the sealed beam unit.

3,407,382
BATTERY CLAMP BOLT MEANS
Clarence B. Haegert, P.O. Box 318, Coffeyville, Kans. 67337
Filed May 11, 1967, Ser. No. 637,808
5 Claims. (Cl. 339—230)



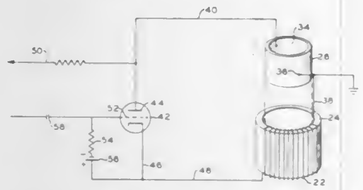
The battery bolt of the present invention includes a first substantially cylindrical threaded shank portion which is adapted to extend through the aligned openings in the free spaced ends of a conventional battery clamp. An enlarged head portion is formed at one end of said first shank portion, this enlarged bead having a plurality of flat faces thereon. A second substantially cylindrical threaded shank portion extends outwardly from said enlarged head portion, each of said shank portions extending substantially normally from one of said flat faces. The longitudinal axes of the two shank portions are disposed at substantially right angles to one another. The shank portions are also of substantially the same cross sectional dimension to provide a sturdy arrangement. A nut is adapted to be threaded upon the second shank portion for connecting an auxiliary electrical lead thereto. Additional threaded shank portions are provided in modified forms of the invention, these additional shank portions having longitudinal axes which extend substantially at right angles to various other of the shank portions.

3,407,383
BATTERY TERMINAL CLAMP WITH EMERGENCY AND/OR AUXILIARY WIRE CONNECTORS
Clarence B. Haegert, P.O. Box 318, Coffeyville, Kans. 67337
Filed Mar. 23, 1966, Ser. No. 536,743
5 Claims. (Cl. 339—230)



A battery terminal clamp comprises a one-piece split collar of resilient material defining spaced arms in a common plane. Means is provided for drawing the arms together to clamp a battery terminal. The body includes an integral laterally extending lug lying substantially in said plane, this lug having oppositely extending aligned wing portions with a strap connected thereto for clamping the battery cable. Connector means is provided for connecting an auxiliary electrical lead to the strap.

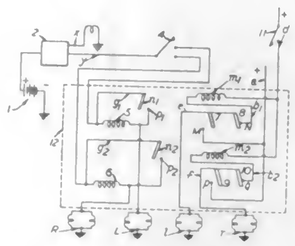
3,407,384
ACOUSTICAL SIGNAL GENERATOR
Bruce F. Wiley, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 22, 1966, Ser. No. 574,185
5 Claims. (Cl. 340—10)



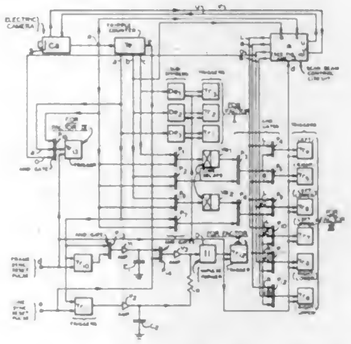
An acoustical signal generator is formed by a magnetostrictive member which is coupled to a piezoelectric member, such as by the use of a noncompressible fluid. A voltage is applied across the piezoelectric member, and circuit means are provided for discharging this voltage through a coil surrounding the magnetostrictive member such that composite movement of the two members serves to generate an acoustical signal.

3,407,385
WINKER SYSTEM FOR VEHICLES
Kasi Saminatha Gopalan, Kasi Gopala Ramanathan, and Kasi Gopala Mohandas, all % SRI M.V.M. Stores, Kumbeswarar Sannadhi, Kumbakonam, Madras, India
Filed June 17, 1965, Ser. No. 464,874
9 Claims. (Cl. 340—81)

A vehicle has a DC power source, left and right winking lamps, and left and right side lamps. One circuit connects the winker lamps to the power source and includes a winker and a turn indicator switch, a second circuit connects the side lamps to the power source and includes a control switch for the side lamps, and the first and second circuits are interconnected to produce simultaneous operation of the corresponding winking and side lamps during daytime driving to accentuate a turn signal in bright surrounds and operation of the side lamps independently of the winking lamps during night driving in response to actuation of the control switch.



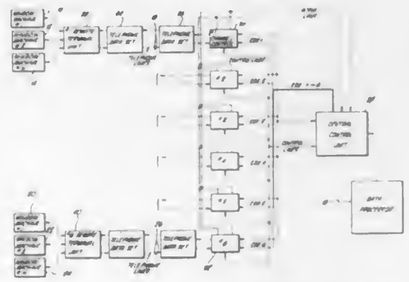
3,407,386
CHARACTER READING SYSTEM
Arie Adriaan Spanjersberg, Leiderdorp, Netherlands, assignor to De Staat der Nederlanden, ten Deze Vertegenwoordigd Door de Directeur-Generaal der Posterijen, Telegrafie en Telefonie, The Hague, Netherlands
Filed Dec. 24, 1964, Ser. No. 421,040
Claims priority, application Netherlands, Jan. 2, 1964, 6400004
12 Claims. (Cl. 340—146.3)



This invention comprises means for reading irregularly written characters or digits by projecting them on a photocathode screen. Then the image of each character on this screen is divided into halves and/or quadrants to determine the relative height and number of intersections or spots detected along each parallel scanning line relative to the intersections or spots along the center scanning line as the scanning lines scan from the center of each image out to its edges in each direction, and to determine where two lines of the image being so scanned merge, if at all.

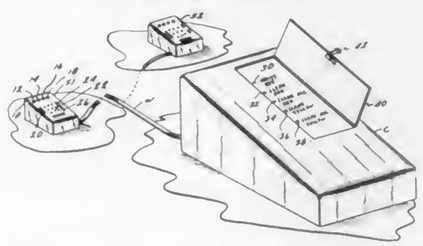
This is accomplished by first scanning the image or character on the photo-cathode screen to determine its leading and trailing edges, and from this, determining the center line of each image. With this information the height from the top of the first intersection or spot and the number of the intersections or spots along the center line is determined, and the height of the first and second intersection along this center line is recorded. Then the image of that character is scanned parallel to and away from the center line toward its trailing edge, and then away from the center line toward its leading edge, and the location or height of the intersections or spots on each of these parallel scan lines is then compared with the height or heights of the spots or intersections recorded along the center line of that image. Also if any scan line of an image has two or three intersections or spots, these spots are compared in successive parallel scan lines to determine if the spots merge, i.e., if two lines of the image intersect or form an outwardly closed loop, and in which half or quadrant of the image this merger occurs.

3,407,387
ON-LINE BANKING SYSTEM
Floyd W. Looschen and Iver C. Hansen, Arcadia, and Richard S. Sharp, Sierra Madre, Calif., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 1, 1965, Ser. No. 435,954
12 Claims. (Cl. 340—152)



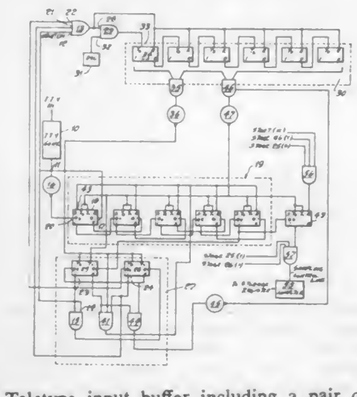
In an on-line banking system wherein a plurality of separate transmission channels provide communication between a plurality of teller windows and a central station having a data processing system. Each transmission channel connects a group of teller windows to a respective channel control unit. The control station having storage buffers for each channel control unit and means associated with each buffer for storing the address of a specific control unit and storing information designating whether the buffer is ready to send or receive data over the associated transmission channel or for communicating with the data processing system. Means for transmitting an address identification and coded information signal to each control unit and means at each unit when responsive for relaying the address designation back to the central station together with a coded signal.

3,407,388
CUSTOMER SERVICE UNIT
Robert N. Goldman, Pacific Palisades, Calif., assignor to Telecredit, Inc., a corporation of Delaware
Filed Oct. 11, 1965, Ser. No. 494,384
11 Claims. (Cl. 340—152)



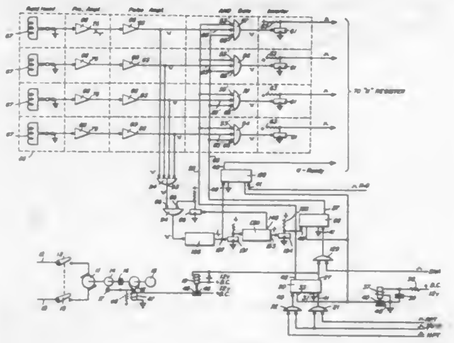
A status-indicating system is disclosed, directed specifically to provide information for regulating credit transactions and the like. An inquiry station includes structure for providing signals that identify a subject and also indicate whether or not the contemplated transaction suggests caution, e.g., cash will be returned on a check. The inquiry signals are transmitted to a primary register which has a location assigned for each subject and which locations record first signals (indicating that the subject is or is not authorized) and second signals (indicating the subject is or is not in question). The questionable status results from a relatively recent inquiry by a subject which involved a transaction of the type suggesting caution. Thus, such transactions result in the recording of the second signals, in the primary register. The system incorporates structure for selectively cancelling the first and second signals from the register, as well as for eliminating all the second signals (as at the close of a business day or other period). As disclosed, the register is a cyclic magnetic memory.

3,407,389
INPUT BUFFER
Ronald S. Klein, Cherry Hill, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Sept. 24, 1965, Ser. No. 490,147
8 Claims. (Cl. 340—172.5)



A Teletype input buffer including a pair of flip-flop registers and an input gate therefor connected to reset and start the registers counting only when a proper start bit is sensed.

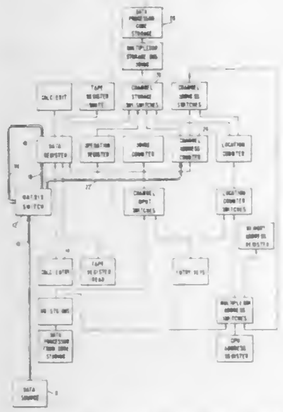
3,407,390
ELECTRONIC INTERPRETER
Robert W. Bains, Shreveport, La., assignor, by mesne assignments, to Universal Data Acquisition Company, Inc., a corporation of Texas
Filed Sept. 30, 1965, Ser. No. 491,842
27 Claims. (Cl. 340—172.5)



This application discloses an electronic data processing apparatus and more particularly a record or data inter-

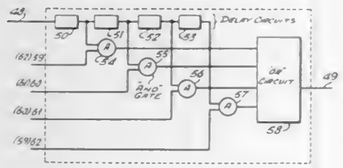
preter for sensing information recorded on magnetic tape in one code, such as a four-channel binary coded decimal code, and either converting it into another code or retaining the same code and making it available for use by another data processing component together with certain instructions or control signals responsive to requests from the data receiving and processing equipment component.

3,407,391
COMPUTER INPUT CHANNEL
John L. Craft, Beacon, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Mar. 28, 1966, Ser. No. 538,058
8 Claims. (Cl. 340—172.5)



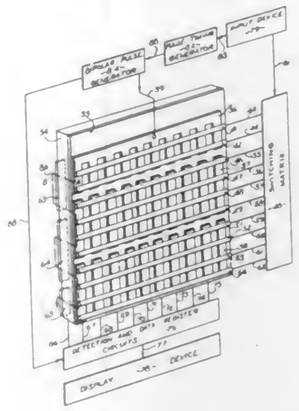
A computer input channel system for in-line, real time data reduction which includes a data register which receives input data words, and a channel address counter which increments and provides a series of ascending addresses of storage in which the data words are stored. A matrix type switching arrangement is provided which receives the input data words and is capable of transferring such data words to either the data register, the channel address counter or both. The system can be advantageously employed to use data words as addresses, to produce distribution diagrams, provide mapping, etc.

3,407,392
STORAGE ELEMENT LOCATION COMPENSATION IN MATRIX MEMORIES BY A DELAY MEANS
Takashi Ishidate, Minatoku, Tokyo, Japan, assignor to Nippon Electric Company Limited, Minatoku, Tokyo, Japan, a corporation of Japan
Filed Dec. 27, 1963, Ser. No. 333,829
12 Claims. (Cl. 340—173)



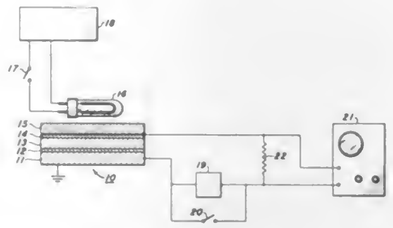
In a read-write arrangement for matrix memories which includes storage elements arranged in an array and each coupled to word and digit conductors, the location of the elements within the array, and hence the distance which signals must travel, and their attendant delay, are compensated by variable delay circuits under control of the word address selection circuits for variably delaying the application of control pulses to the read-write circuits in accordance with the position of the word address selected.

3,407,393
ELECTRO-OPTICAL ASSOCIATIVE MEMORY
Ralph W. Haas, Chatsworth, and Wilfried H. Hell, Woodland Hills, Calif., assignors to The Marquardt Corporation, Van Nuys, Calif., a corporation of California
Filed June 2, 1964, Ser. No. 372,027
28 Claims. (Cl. 340—173)



An associated memory for data processing is described which employs ferroelectric elements having two stable polarized states for digital storage and photoconductive elements for logical gating or path determination. The storage elements in which words are stored are connected in a series fashion and memory interrogation is accomplished by a combination of light and voltage signals. This film construction permits extremely high bit densities. Optional operating modes are described, including "write upon match," and masking to permit a variety of inquiry functions to be accomplished.

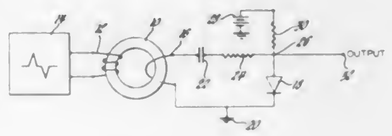
3,407,394
SELENIUM TRAPPING MEMORY
Jerome L. Hartke, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 23, 1964, Ser. No. 406,047
9 Claims. (Cl. 340—173)



A method and apparatus for the electrical storage and retrieval of information which utilizes the trapping of electrical charges within the bulk of the homogeneous photoconductive insulating material due to differential

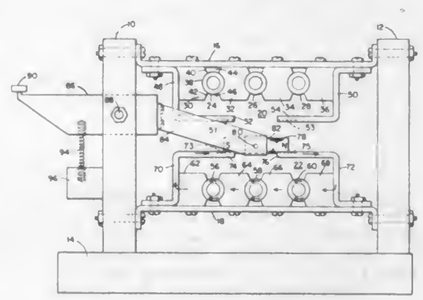
hole-electron mobility to form a space charge within that bulk is disclosed. The neutralization of this charge trapped within the bulk of the photoconductive insulating material may be utilized to produce an electrical signal indicative of the information stored. A layered structure comprising in sequence a conductive layer, a blocking layer, a light absorbing homogeneous photoconductive insulating layer which is adapted to trap at least one polarity of charge carrier, another electrical blocking layer, and an electrically conducting layer is utilized as a structure to carry out the desired functions. In general, at least one of the electrically conductive layers will be transparent to allow optical switching of the photoconductive layer.

3,407,395
CIRCUITRY TO INDICATE THE STATE OF A CORE
William G. Trabold, Royal Oak, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 28, 1964, Ser. No. 363,075
5 Claims. (Cl. 340—174)



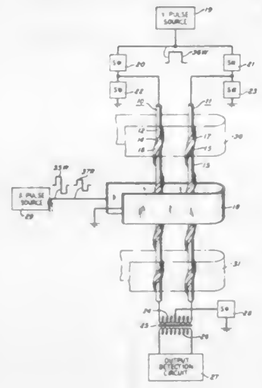
The magnetic state of a highly remnant magnetic core is positively and continuously indicated by means of a bistable circuit connected to the output winding of the core and containing its own power supply. Bistable feature is accomplished by a tunnel diode regulated between high and low voltage states by flux changes in the core.

3,407,396
DATA PROCESSING APPARATUS EMPLOYING PERMANENT MAGNET INHIBITING MEANS
Roman Lukianov, Framingham, Mass., assignor to Honeywell Inc., a corporation of Delaware
Filed Dec. 30, 1964, Ser. No. 422,378
10 Claims. (Cl. 340—174)



9. In a manually operable keyboard encoder, a succession of keyboard units positioned in spaced parallel planes, each of said units including a pair of mutually spaced mounting bars carrying a pair of substantially identical magnetic circuits symmetrically positioned between said bars in the plane thereof, each magnetic circuit comprising a plurality of core holders fastened to said mounting bar and successively spaced along the latter, an annular magnetic core having a high retentivity and a low coercive force positioned between the facing surfaces of each pair of successive core holders, each of said surfaces including a central, arcuate surface portion adapted to contact a portion of the periphery of said core and a pair of flat surface portions sloping away from said core on both sides of said arcuate portion, a pair of keeper bars positioned in said plane and fastened to said mounting bar so as to contact the end core holders, said keeper bars terminating in a pair of mutually spaced ends each including a rounded groove facing the other magnetic circuit in said plane, said keeper bars and said core holders consisting of a high-permeability, magnetic material having low retentivity, a permanent bar magnet of circular cross section positioned between said magnetic circuits in each plane and being symmetrically disposed with respect to the cores of each of said circuits, said magnet being adapted to bridge a pair of said ends by seating in the grooves thereof, and a key-operated mechanism corresponding to each of said planes for laterally transposing said magnet to complete a selected one of said pair of symmetrically positioned magnetic circuits in said plane, said permaanent magnet being adapted to saturate the selected magnetic circuit to prevent the cores therein from switching, the cores in each pair of said symmetrically positioned magnetic circuits being adapted to provide the assertion and the negation of a digital signal.

3,407,397
TERNARY MEMORY SYSTEM EMPLOYING MAGNETIC WIRE MEMORY ELEMENTS
Ronald C. Snare, Columbus, Ohio, assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 25, 1965, Ser. No. 458,623
19 Claims. (Cl. 340—174)

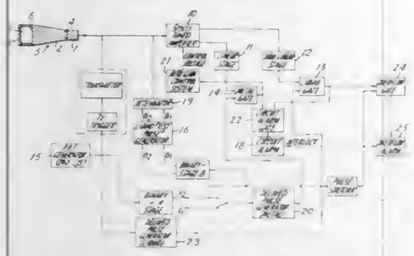


15. An electrical circuit for storing ternary information comprising a pair of memory elements each comprising an electrical conductor having magnetic tape helically wound therearound, said tape having substantially rectangular hysteresis characteristics, connecting means for connecting one end of said conductors together, a first write pulse source, means for selectively connecting said first write pulse source to the other ends of said first and second conductors, means for connecting said first write pulse source to the other end of said first and second conductors simultaneously, a solenoid inductively coupled to said tapes of said pair of wire memory elements, and a second write pulse source connected to said solenoid.

3,407,398
LIQUID PRESENCE DETECTOR

Richard John Stearn, Great Bookham, Surrey, England, assignor to The British Petroleum Company Limited, London, England, a corporation of England, and Kins Developments Limited, London, England, a British joint-stock corporation

Filed Jan. 5, 1965, Ser. No. 423,546
Claims priority, application Great Britain, Jan. 30, 1964, 3,967/64
6 Claims. (Cl. 340—244)

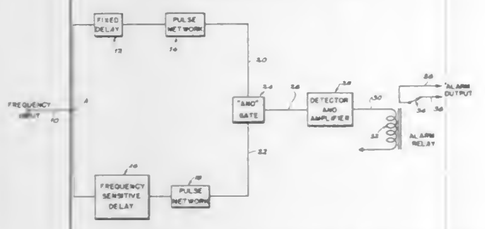


An ultrasonic probe comprising a solid elongated body portion incorporating an electro-acoustical transducer at one end and a reflector plate spaced from the other end of the body portion is positioned in a chamber and detects the presence of liquid between the plate and body portion by the appearance of ultrasonic reflections from the plate. Upon receipt of such reflected signals by the transducer a response circuit is actuated to control liquid flow.

3,407,399
HELICOPTER WARNING SYSTEM

Denton De Long, Hurst, and Jeff E. Freeman, Fort Worth, Tex., assignors to Bell Aerospace Corporation, Wheatfield, N.Y.

Continuation-in-part of application Ser. No. 210,152, July 16, 1962. This application June 21, 1965, Ser. No. 470,311
14 Claims. (Cl. 340—263)

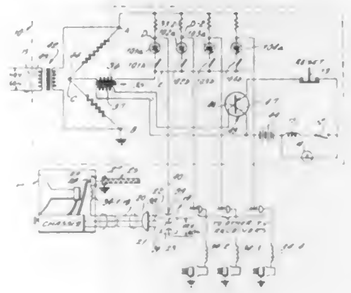


1. In a warning system comprising, in combination;
an alarm circuit including switch means adapted for disposition in dormant and signaling conditions;
gate means having a signal output for determining the condition of said switch means;
first and second pulse networks connected to said gate means and adapted to alter the signal output of said gate means in accord with coincidence of signals from such networks;
AC signal generating means adapted for connection to the mechanism being monitored;
a fixed delay circuit connected to said AC signal generating means and having its output connected to said first pulse network;
a frequency variable delay circuit connected to said AC signal generating means and having its output connected to said second pulse network, said frequency variable delay circuit comprising an LC phase shifting circuit connected to the AC signal generating means, a pulse forming circuit connected to the phase shifting circuit and having a positive pulse output in which the trailing edges of the positive pulses coincide with positive peak voltages of the AC signal generating input, a pulse amplifier, and a differentiating circuit connecting the pulse forming circuit to the amplifier, said amplifier being biased to respond only to negative-going input pulses thereto.

3,407,400
THEFT CONTROL SYSTEM

Eli M. Lurie, 9349 Abbott Ave., Surfside, Fla. 33154

Filed Aug. 20, 1965, Ser. No. 481,234
22 Claims. (Cl. 340—280)



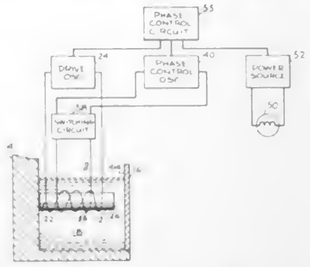
A theft control system for a plurality of appliances is constructed of a bridge circuit in which there is a common output terminal and a plurality of additional output terminals each individual to one of the appliances being protected. Under normal conditions the application of a potential difference across the input terminals of the bridge result in zero potential difference appearing between each of the additional output terminals and the common input terminal. Each of the appliances is provided with an impedance element forming part of the bridge circuit and connected to one of the additional output terminals in such a manner that when the energizing cable for the appliance is disconnected or severed, the impedance element located at this appliance is disconnected from the bridge, thereby unbalancing it and causing a potential difference to exist across the output terminals. The primary of a step-down transformer is connected in series with a neon indicator lamp with an individual lamp being provided for each appliance being protected and each of these lamps being connected in series with the transformer primary. These lamps are located at a central control panel together with an audible alarm connected to the transformer secondary.

3,407,401
REFLECTIVE ELECTRICAL OSCILLATING DISPLAY DEVICE

Hugh F. Frohbach, Sunnyvale, and Philip J. Rice, Atherton, Calif., assignors to Stanford Research Institute, Menlo Park, Calif., a corporation of California

Filed Jan. 22, 1965, Ser. No. 427,232
8 Claims. (Cl. 340—324)

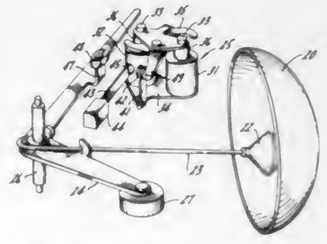
A display system consisting of a liquid-tight housing with a transparent side thereof, serving as a display panel. The housing contains an opaque white liquid and a matrix of oscillatory-type elements, each with a black end disposed adjacent and apart from the panel. A drive assembly is included to oscillate all the elements so that at a first portion of each cycle of oscillation, all the black ends abut the panel and are visible therethrough, to present a black surface. Control means are provided to vary the phase of oscillation of selected elements so that the ends of only the selected elements abut the panel at a second portion of each cycle, to produce a black pattern on a white background. The pattern configuration is a function of the relative locations of the selected elements in the matrix.



3,407,402
CLOCK ALARM MECHANISM HAVING IMPULSED STRIKER APPARATUS

David Morrison and Ralph C. Robinson, Athens, Ga., assignors to General Time Corporation, New York, N.Y., a corporation of Delaware

Filed June 3, 1965, Ser. No. 461,009
8 Claims. (Cl. 340—392)



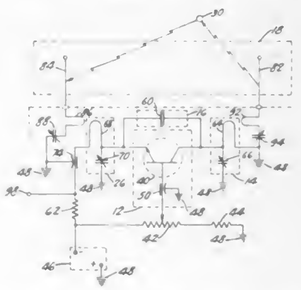
A percussion type alarm mechanism is disclosed. A pulsed relay causes movement of a striker arm away from a gravity stable position.

Upon return to the stable position, the striker contacts the gong.

3,407,403
ELECTRICAL DETECTING MEANS

Lincoln H. Charlot, Jr., Woodbury Heights Township, Washington County, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed Feb. 17, 1967, Ser. No. 616,924
15 Claims. (Cl. 343—7.5)



An electrical detecting apparatus utilizing a frequency shifting oscillator for generating a radio frequency signal which is transmitted by a radiating means in a propagated wave and intercepted by a target resulting in a reflected wave which is detected by a receiving means wherein the received reflected wave is used to shift the oscillator operating frequency for indicating target detection by a Doppler frequency shift is shown.

3,407,404
DIRECTIVE MICROWAVE ANTENNA CAPABLE OF ROTATING ABOUT TWO INTERSECTING AXES

John S. Cook, New Providence, and Franz T. Geyling, Summit, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 5, 1964, Ser. No. 401,294
14 Claims. (Cl. 343—765)

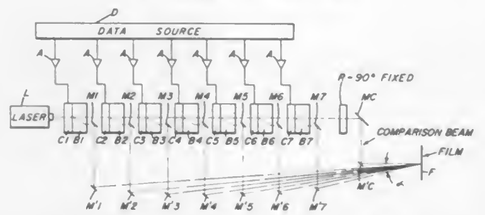


An offset antenna structure, of the Cassegrain configuration, is equipped with a subreflector supported outside of the illuminating area of a main reflector. Both reflectors are supported for rotation together on a slant-mounted housing. The axis of a waveguide feed horn is arranged to coincide with the slant axis of the housing. Consequently, since the horn need not move as the main and subreflectors rotate about the slant axis, it may connect rigidly and directly to a receiver located within the housing. By virtue of the slant mounting, the main reflector always tilts downward, the over-all structure presents a low silhouette, and operation without a protective radome is possible.

3,407,405
RECORDER FOR PRODUCING COMPOSITE DIFFRACTION GRATING PATTERN

Harvey O. Hoadley, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed May 18, 1966, Ser. No. 551,054
9 Claims. (Cl. 346—108)



Apparatus for recording digital data in the form of a plurality of superimposed but distinct single frequency diffraction gratings, the gratings being formed by interference patterns created between reference and "digit" beams derived from a laser source. Electro-optical phase altering cells and bi-refringent plates or prisms are used to control selectively the individual "digit" beams.

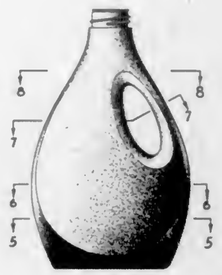
DESIGNS

OCTOBER 22, 1968

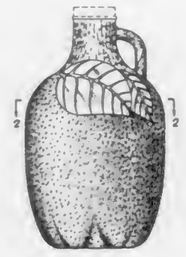
212,455
JUG OR SIMILAR ARTICLE
Livingston C. Douglas, Leonia, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Original design application Sept. 26, 1966, Ser. No. 4,015, now Patent No. 210,650, dated Apr. 2, 1968. Divided and this application Oct. 17, 1967, Ser. No. 9,149
Term of patent 14 years
(Cl. D9—40)



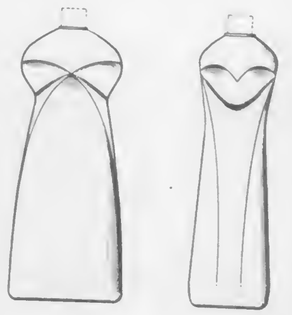
212,456
JUG
Harold J. Vanderhyde, North Merrick, N.Y., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 1, 1967, Ser. No. 9,612
Term of patent 14 years
(Cl. D9—42)



212,457
JUG OR SIMILAR ARTICLE
Floyd E. Pettengill, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Original design application June 1, 1966, Ser. No. 2,506. Divided and this application Sept. 26, 1967, Ser. No. 8,736
Term of patent 14 years
(Cl. D9—50)



212,458
BOTTLE
Alfred D. Sterges, Los Angeles, Calif., assignor to Purex Corporation, Ltd., Lakewood, Calif., a corporation of California
Filed Sept. 5, 1967, Ser. No. 8,498
Term of patent 14 years
(Cl. D9—90)



DESIGNS

OCTOBER 22, 1968

212,455

JUG OR SIMILAR ARTICLE

Livingston C. Douglas, Leonia, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

Original design application Sept. 26, 1966, Ser. No. 4,015, now Patent No. 210,650, dated Apr. 2, 1968. Divided and this application Oct. 17, 1967, Ser. No. 9,149

Term of patent 14 years

(Cl. D9—40)



212,457

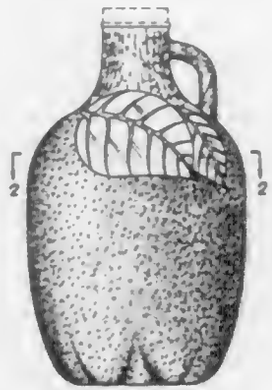
JUG OR SIMILAR ARTICLE

Floyd E. Pettengill, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware

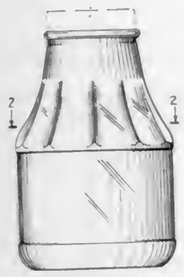
Original design application June 1, 1966, Ser. No. 2,506. Divided and this application Sept. 26, 1967, Ser. No. 8,736

Term of patent 14 years

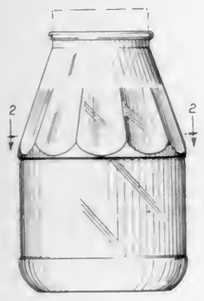
(Cl. D9—50)



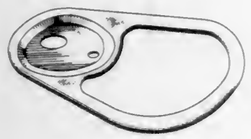
212,459
JAR OR SIMILAR ARTICLE
Floyd E. Pettengill, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed Sept. 23, 1966, Ser. No. 3,990
Term of patent 14 years
(Cl. D9—92)



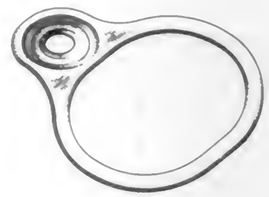
212,460
JAR OR SIMILAR ARTICLE
Floyd E. Pettengill, 1328 E. Fair Ave., Lancaster, Ohio 43130
Original design application Sept. 23, 1966, Ser. No. 3,990. Divided and this application Dec. 13, 1967, Ser. No. 9,757
Term of patent 14 years
(Cl. D9—92)



212,461
PULL TAB FOR A REMOVABLE TEAR PORTION
Don B. Peters and George T. Powell, Dayton, Ohio, assignors, by mesne assignments, to Ermal C. Fraze, Dayton, Ohio
Filed Feb. 12, 1968, Ser. No. 10,525
Term of patent 14 years
(Cl. D9—256)



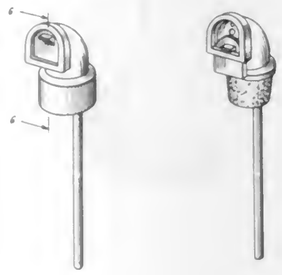
212,462
PULL TAB FOR A REMOVABLE TEAR PORTION
Don B. Peters and George T. Powell, Dayton, Ohio, assignors, by mesne assignments, to Ermal C. Fraze, Dayton, Ohio
Filed Feb. 12, 1968, Ser. No. 10,532
Term of patent 14 years
(Cl. D9—256)



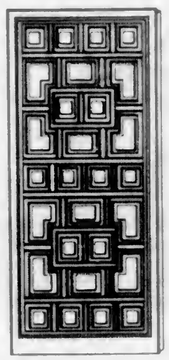
212,463
DISPENSING CLOSURE
Harold J. Vanderhyde, North Merrick, N.Y., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Jan. 29, 1968, Ser. No. 10,341
Term of patent 14 years
(Cl. D9—275)



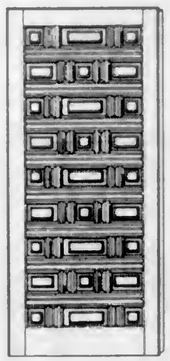
212,464
DISPENSING CLOSURE FOR A BOTTLE OR THE LIKE
Louis J. Koukal, 402 E. 78th St., New York, N.Y. 10021
Filed Oct. 6, 1967, Ser. No. 8,891
Term of patent 14 years
(Cl. D9—277)



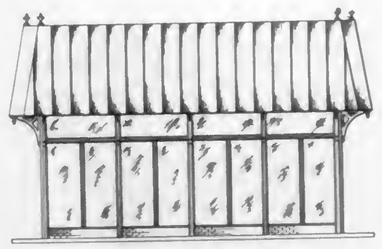
212,465
DOOR
Jacinto Esteban y Bartolome, Madrid, Spain, assignor to Esteban y Bartolome-Industrias de la Madera S.A., Madrid, Spain
Filed May 18, 1967, Ser. No. 7,179
Claims priority, application Spain Dec. 24, 1966
Term of patent 14 years
(Cl. D13—1)



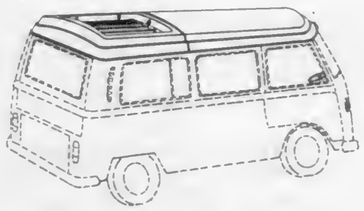
212,466
DOOR
Jacinto Esteban y Bartolome, Madrid, Spain, assignor to Esteban y Bartolome-Industrias de la Madera S.A., Madrid, Spain
Filed May 18, 1967, Ser. No. 7,180
Claims priority, application Spain Dec. 24, 1966
Term of patent 14 years
(Cl. D13—1)



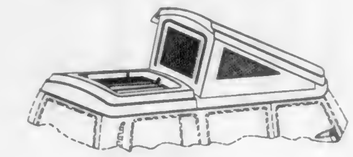
212,467
BUILDING
William R. West, Columbus, Ohio, assignor to Saxons, Incorporated, Columbus, Ohio, a corporation of Ohio
Filed Feb. 21, 1968, Ser. No. 10,671
Term of patent 14 years
(Cl. D13—1)

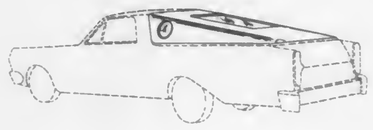


212,468
ADJUSTABLE ROOF FOR CAMPING VEHICLES
Herbert Kronefeld, Am Eidhagen 41, and Horst Mertz, Siechenstrasse 8/10, both of Wiedenbruck, Germany
Filed June 20, 1967, Ser. No. 7,531
Term of patent 14 years
(Cl. D14—27)



212,469
AUTOMOBILE LOAD COVER FOR PICKUP TRUCKS
Lawrence Kroll, 201 N. Custer, Weatherford, Okla. 73096
Filed Sept. 14, 1967, Ser. No. 8,594
Term of patent 14 years
(Cl. D14—27)





212,470
CHAIR
Sheldon M. Rutter, Miami, Fla., assignor to Birmingham Ornamental Iron Company, Inc., Birmingham, Ala., a corporation of Alabama
Filed Dec. 8, 1967, Ser. No. 9,710
Term of patent 3½ years
(Cl. D15—1)



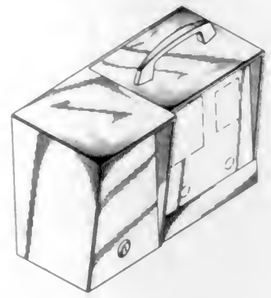
212,471
SERVICE PLATFORM LADDER
Commodore V. Wood, Sr., 1715 Tyler St., Amarillo, Tex.
Filed Oct. 17, 1967, Ser. No. 9,030
Term of patent 14 years
(Cl. D15—8)



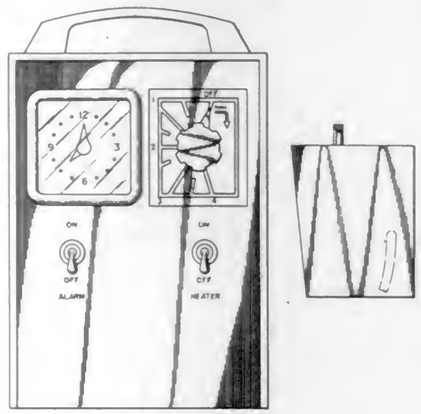
212,472
CHILD'S TRAINING CHAIR
Robert Von Heck, 3205 Udall St., San Diego, Calif. 92106
Filed June 13, 1967, Ser. No. 7,459
Term of patent 14 years
(Cl. D23—53)



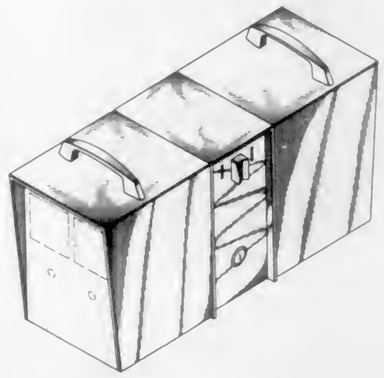
212,473
PASSENGER VEHICLE SERVICE UNIT
Terrence J. Mulligan, 2044B Best Place, Aurora, Ill., and John K. Morrison, 618 S. 4th St., Aurora, Ill. 60505
Filed Sept. 1, 1967, Ser. No. 8,477
Term of patent 14 years
(Cl. D23—73)



212,474
PASSENGER VEHICLE SERVICE UNIT
Terrence J. Mulligan, 2044B Best Place, Aurora, Ill., and John K. Morrison, 618 S. 4th St., Aurora, Ill. 60505
Filed Sept. 1, 1967, Ser. No. 8,478
Term of patent 14 years
(Cl. D23—73)



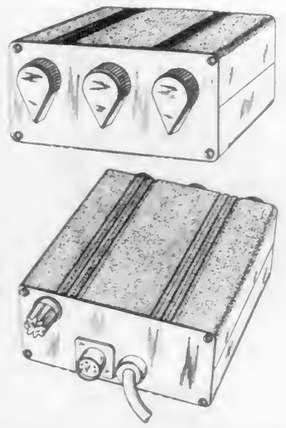
212,475
PASSENGER VEHICLE SERVICE UNIT
Terrence J. Mulligan, 2044B Best Place, Aurora, Ill., and John K. Morrison, 618 S. 4th St., Aurora, Ill. 60505
Filed Sept. 1, 1967, Ser. No. 8,474
Term of patent 14 years
(Cl. D23—73)



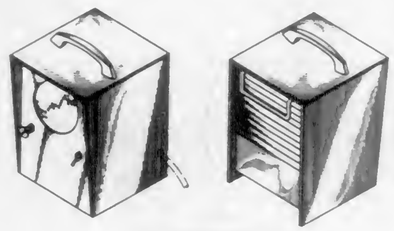
212,476
READER FOR PUNCHED CARDS AND MARK-SENSE DOCUMENTS
Donald Van Der Linden, Phoenix, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Nov. 13, 1967, Ser. No. 9,389
Term of patent 14 years
(Cl. D26—5)



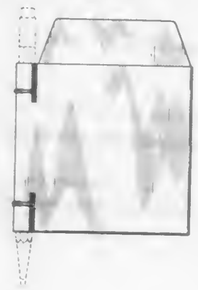
212,477
ELECTRICAL REMOTE CONTROL BOX FOR TELEVISION CAMERA
Angelo Nicosia, Glen Cove, N.Y., assignor to Zoomar, Inc., Glen Cove, N.Y., a corporation of New York
Filed Jan. 25, 1968, Ser. No. 10,305
Term of patent 7 years
(Cl. D26—5)



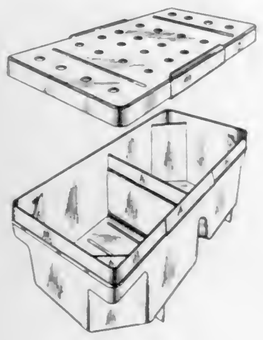
212,478
COMBINED SPEAKER AND HEATER UNIT
Terrence J. Mulligan, 2044B Best Place, Aurora, Ill., and John K. Morrison, 618 S. 4th St., Aurora, Ill. 60505
Filed Sept. 1, 1967, Ser. No. 8,453
Term of patent 14 years
(Cl. D26—14)



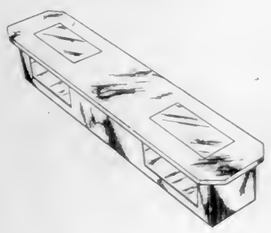
212,479
PENCIL AND IDENTIFICATION CARD HOLDER
Montague B. Price, 2607 E. 6th St., Topeka, Kans. 66607
Filed Oct. 2, 1967, Ser. No. 8,808
Term of patent 14 years
(Cl. D29—2)



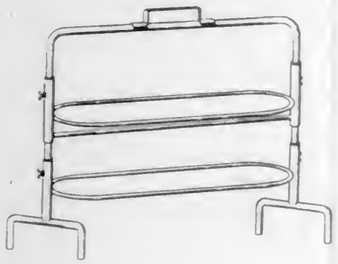
212,480
MOULDED PLASTIC CONTAINER FOR TRANSPORTING LIVE ANIMALS OR BIRDS
Peter Leonard Mead, Dunstable, England, assignor, by mesne assignments, to The Buxted Chicken Co. Limited, Buxted, Sussex, England, a British company
Filed May 9, 1967, Ser. No. 7,041
Term of patent 14 years
(Cl. D30—1)



212,481
COMBINED COFFEE TABLE AND DUAL AQUARIUM UNIT
Jack Hiland, 23545 Brook Road, Chatsworth, Calif. 91311
Filed Feb. 15, 1967, Ser. No. 5,824
Term of patent 14 years
(Cl. D30—11)



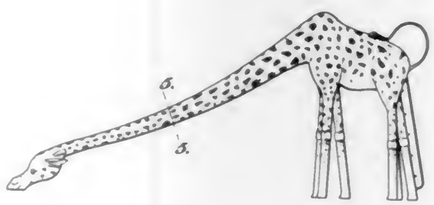
212,482
PORTABLE BALL RACK
Robert K. K. Lum, Torrance, Calif. (16649 Taylor Court, Gardena, Calif. 90247), and Ralph F. Gotto, 18640 Groverdale St., Covina, Calif. 91722
Filed June 5, 1967, Ser. No. 7,352
Term of patent 14 years
(Cl. D33—3)



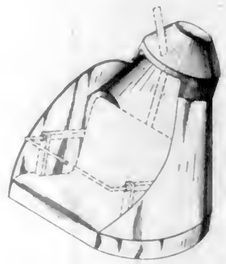
212,483
MERRY-GO-ROUND
Bobby L. Harness, 5052 Clark Drive, Shawnee Mission, Kans. 66205
Filed June 22, 1967, Ser. No. 7,557
Term of patent 14 years
(Cl. D34—5)



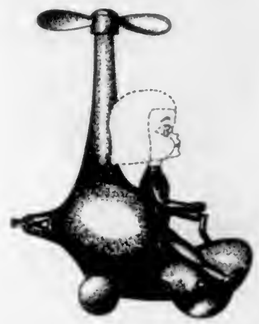
212,484
PLAYGROUND SLIDE
Bobby L. Harness, 5052 Clark Drive, Shawnee Mission, Kans. 66205
Filed June 22, 1967, Ser. No. 7,558
Term of patent 14 years
(Cl. D34—5)



212,485
PASSENGER CAB FOR AMUSEMENT RIDE
Samuel P. Goforth and Joseph A. Goforth, Shelby, N.C., assignors to Goforth Brothers, Inc., Shelby, N.C., a corporation of North Carolina
Filed July 25, 1967, Ser. No. 7,973
Term of patent 14 years
(Cl. D34—5)

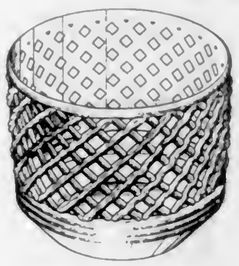


212,486
COMBINED DOLL AND VEHICLE
Guy J. Colwell, Hollywood, Christie M. Matson, Los Angeles, and C. Gordon Shireman, Rolling Hills Estates, Calif., assignors to Mattel, Inc., a corporation of California
Filed Nov. 16, 1967, Ser. No. 9,441
Term of patent 14 years
(Cl. D34—15)

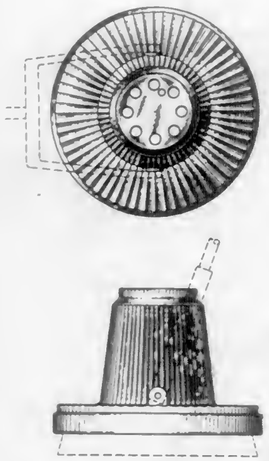


212,487
FLOWER POT HOLDER
Henry Black, Manilla Road, Industrial Estate, Southend-on-Sea, Essex, England
Filed Aug. 10, 1967, Ser. No. 8,252
Claims priority, application Great Britain Feb. 15, 1967
Term of patent 3½ years
(Cl. D35—3)

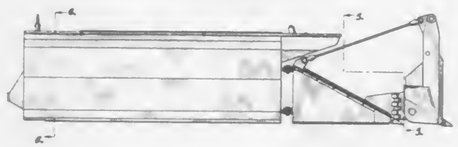




212,488
FLOOR POLISHER HEAD
Donald Lee, 3633 Strandhill Road, Shaker Heights, Ohio 44122
Filed Jan. 29, 1968, Ser. No. 10,340
Term of patent 14 years
(Cl. D37—3)



212,489
APPARATUS FOR LAYING PLASTIC PIPE
Charles F. Blinne, P.O. Box 445, Poplar Bluff, Mo. 63901
Filed Oct. 2, 1967, Ser. No. 8,810
Term of patent 14 years
(Cl. D39—1)



212,490
POWER MOWER
Anthony Sarlo, P.O. Box 1169, Fort Myers, Fla. 33902
Filed May 10, 1967, Ser. No. 7,063
Term of patent 14 years
(Cl. D40—1)

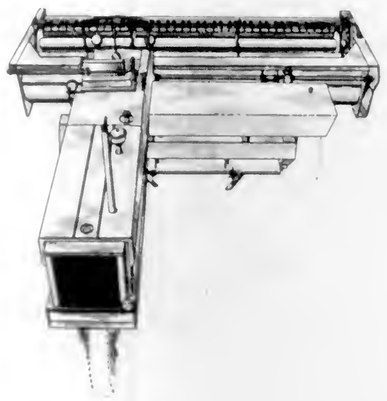


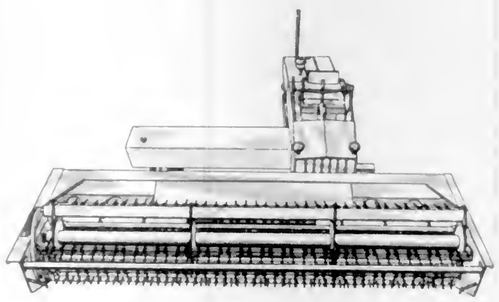


212,491
PIPE LAYER OR SIMILAR ARTICLE
Ralph W. Speiser and William C. Lindquist, Minneapolis, Minn., assignors to Toro Manufacturing Corporation, South Minneapolis, Minn., a corporation of Minnesota
Filed Sept. 5, 1967, Ser. No. 8,490
Term of patent 14 years
(Cl. D40—1)

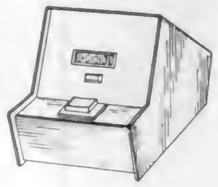


212,492
SELF-PROPELLED WINDROWER
Cecil L. Case, 415 E. 8th St., Newton, Kans. 67114, and Richard E. Ten Eyck, 7400 S. Seneca, Wichita, Kans. 67217
Filed June 29, 1967, Ser. No. 7,648
Term of patent 14 years
(Cl. D40—1)





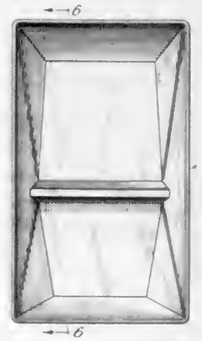
212,493
ELECTRIC TIMER
Alexander I. Newman, River Forest, Ill., assignor to Lab-Line Instruments, Inc., Melrose Park, Ill., a corporation of Delaware
Filed Nov. 22, 1967, Ser. No. 9,515
Term of patent 14 years
(Cl. D42—7)



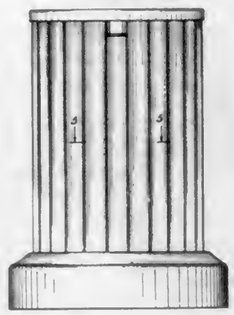
212,494
CUTTING BOARD
Francis E. Gruber, 265 Woodlawn Ave., St. Paul, Minn. 55105
Filed Oct. 26, 1967, Ser. No. 9,181
Term of patent 14 years
(Cl. D44—1)



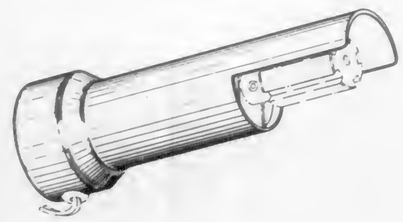
212,495
DIVIDED SNACK TRAY
Willis A. Stageberg, Minneapolis, Minn., assignor, by mesne assignments, to Plastics, Inc., St. Paul, Minn., a corporation of Delaware
Filed July 27, 1967, Ser. No. 8,026
Term of patent 14 years
(Cl. D44—10)



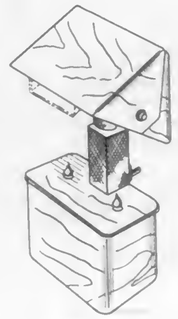
212,496
CASING FOR A GLASS CHILLER
Marvin Cooper, New Rochelle, N.Y., assignor to Dynamic Classics, Ltd., New York, N.Y., a corporation of New York
Filed Aug. 15, 1967, Ser. No. 8,271
Term of patent 3½ years
(Cl. D44—29)



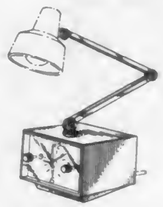
212,497
FISH SCALER OR SIMILAR ARTICLE
James N. Brophy, 180 Prospect St., Wakefield, Mass. 01880
Filed Sept. 22, 1967, Ser. No. 8,689
Term of patent 14 years
(Cl. D44—29)



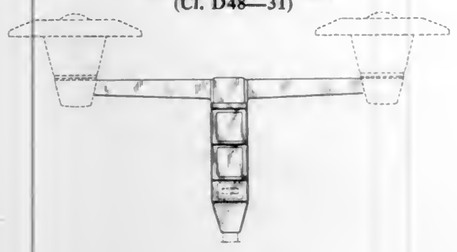
212,498
TABLE LAMP
Thomas J. Collings, Railroad Ave., Glen Head, N.Y. 11545
Filed Aug. 29, 1967, Ser. No. 8,422
Term of patent 7 years
(Cl. D48—20)



212,499
COMBINED LAMP AND CLOCK
Jay Monroe, Great Neck, N.Y., assignor to Tensor Corporation, Brooklyn, N.Y., a corporation of New York
Filed Feb. 6, 1968, Ser. No. 10,466
Term of patent 14 years
(Cl. D48—20)



212,500
BASE FOR POST TOP OUTDOOR LUMINAIRES
Bernard R. Stockwell, Sunbury, Ohio, assignor to Holophane Company, Inc., New York, N.Y., a corporation of Delaware
Original design application Nov. 9, 1966, Ser. No. 4,591, now Patent No. 209,465, dated Dec. 5, 1967. Divided and this application June 28, 1967, Ser. No. 8,204
Term of patent 14 years
(Cl. D48—31)



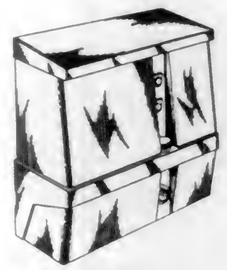
212,501
TRASH RECEPTACLE HOOD
Maurice C. Lumley, Cincinnati, Ohio, assignor to The F. H. Lawson Company, Cincinnati, Ohio, a corporation of Ohio
Filed Mar. 25, 1968, Ser. No. 11,115
Term of patent 14 years
(Cl. D49—35)



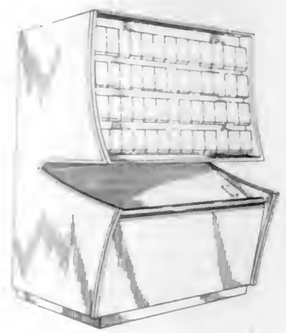
212,502
COVER FOR A LITTER RECEPTACLE
Eleanor V. Kingsley, 490 Preciado St., Pomona, Calif. 91766
Continuation of design applications Ser. No. 87,152, Sept. 24, 1965, and Ser. No. 87,796, Oct. 22, 1965. This application Apr. 3, 1967, Ser. No. 8,198
Term of patent 14 years
(Cl. D49—35)



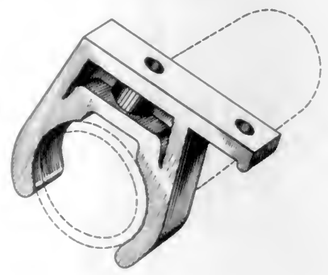
212,503
MASTER CONTROL UNIT FOR A CENTRALIZED OIL LUBRICATING SYSTEM OR THE LIKE
Robert M. Wolaver, Cleveland, Ohio, assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Apr. 3, 1967, Ser. No. 6,497
Term of patent 14 years
(Cl. D52—2)



212,504
CIGARETTE VENDING MACHINE
Janice M. Dirksen, Chicago, Ill., assignor to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware
Filed Nov. 29, 1967, Ser. No. 9,582
Term of patent 14 years
(Cl. D52—3)



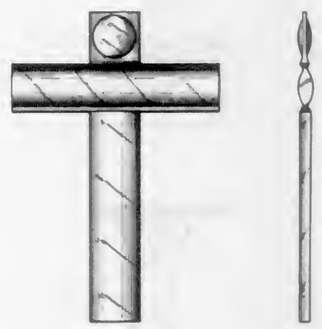
212,505
CONDUIT HOLDING CLIP
Fernando V. Guerrero, Chagrin Falls, Ohio, assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Jan. 24, 1968, Ser. No. 10,286
Term of patent 14 years
(Cl. D54—1)



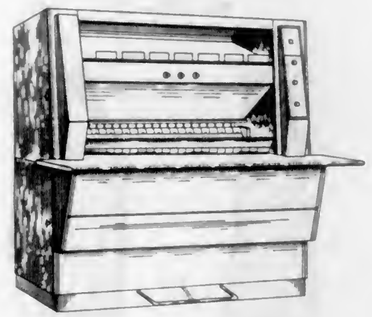
212,506
DIE MEMBER
William F. Johnson, 9 Roundabout Road, Smithtown, N.Y. 11787
Filed June 16, 1966, Ser. No. 2,703
Term of patent 14 years
(Cl. D54—4)



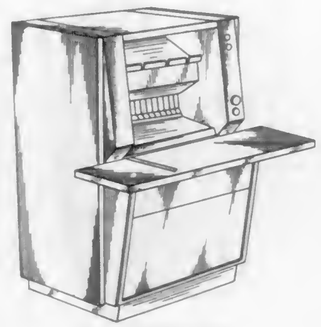
212,507
HAND MAGNIFIER
St. Barth Alaska, 3811 S. Scoville Ave., Berwyn, Ill. 60402
Filed Nov. 9, 1967, Ser. No. 9,345
Term of patent 14 years
(Cl. D57—1)



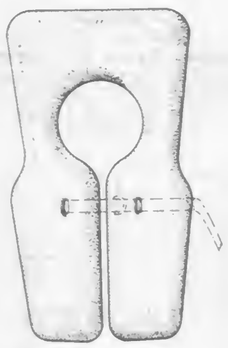
212,508
WHITEPRINT MACHINE
Joel W. Bravo, Montrose, Pa., assignor to GAF Corporation, a corporation of Delaware
Filed Nov. 14, 1967, Ser. No. 9,404
Term of patent 7 years
(Cl. D61—1)



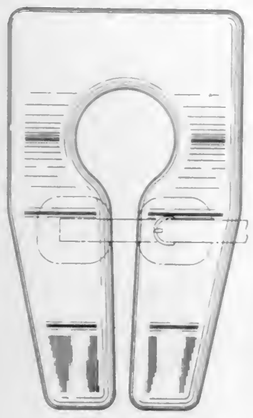
212,509
PHOTOCOPY MACHINE
Joel W. Bravo, Montrose, Pa., assignor to GAF Corporation, a corporation of Delaware
Filed May 8, 1967, Ser. No. 7,004
Term of patent 7 years
(Cl. D61—1)



212,510
SYMMETRICAL BUOYANT VEST
Edgar G. Baker, Carbondale, Pa., assignor to Gentex Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 21, 1967, Ser. No. 6,318
Term of patent 14 years
(Cl. D71—1)



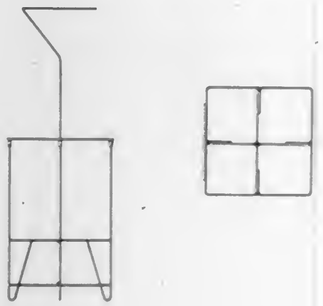
212,511
LIFEJACKET
Ralph G. Mallory, Orange, Conn., assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed May 15, 1967, Ser. No. 7,123
Term of patent 14 years
(Cl. D71—1)



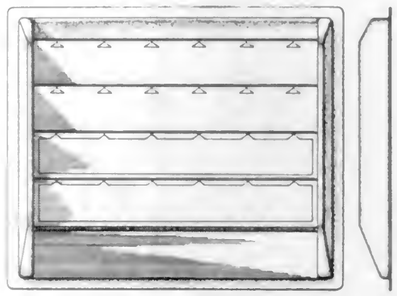
212,512
AIRCRAFT
Theodore R. Smith, Los Angeles, Calif., assignor to Ted Smith Aircraft Co., Inc., Northridge, Calif., a corporation of California
Filed Feb. 21, 1966, Ser. No. 1,123
Term of patent 14 years
(Cl. D71—1)



212,513
DISPLAY STAND
Lawrence Coleman, Wayne, N.J., assignor to Melrose Displays, Passaic, N.J., a corporation of New Jersey
Filed Sept. 1, 1967, Ser. No. 8,463
Term of patent 14 years
(Cl. D80—10)



212,514
DISPENSARY RACK
Russell J. Wolfe, 2095 E. Oakfield Road, Grand Island, N.Y. 14072
Filed May 12, 1967, Ser. No. 7,084
Term of patent 14 years
(Cl. D83—1)

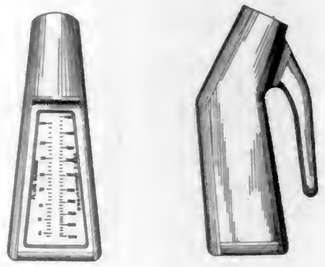


212,515
SHIELD FOR BULB TYPE SYRINGES
Tadashi Sakamoto, Dancho Koshien Nishinomiyashi, Japan, assignor to Shozo Urano, Fuse, Osaka, Japan
Filed Mar. 31, 1967, Ser. No. 6,459
Term of patent 14 years
(Cl. D83—1)

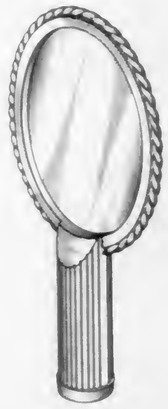




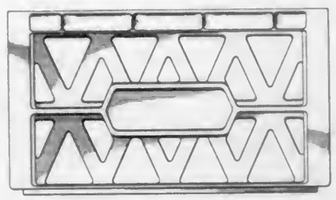
212,516
MALE URINAL OR SIMILAR ARTICLE
Frank R. Beich, Wilmette, Ill., assignor to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois
Filed July 13, 1967, Ser. No. 7,786
Term of patent 14 years
(Cl. D83—1)



212,517
COMBINED MIRROR AND LIPSTICK HOLDER
Mortimer J. Harrison, Santurce, Puerto Rico, assignor to Bishop Industries Inc., Union, N.J., a corporation of New York
Filed Nov. 24, 1967, Ser. No. 9,526
Term of patent 14 years
(Cl. D86—10)



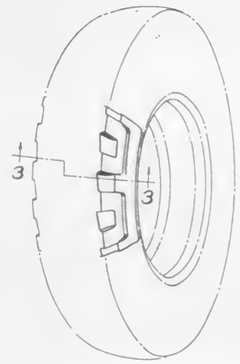
212,518
TOTE BOX
Jack H. Hofstetter, Anaheim, and Alfred D. Sterges, Los Angeles, Calif., assignors to Purex Corporation, Ltd., Lakewood, Calif., a corporation of California
Filed Jan. 2, 1968, Ser. No. 10,023
Term of patent 14 years
(Cl. D87—1)



212,519
TIRE
Aristides Makris, New Canaan, Conn., assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Apr. 24, 1968, Ser. No. 11,608
Term of patent 14 years
(Cl. D90—20)



212,520
TIRE
Charles A. Sangiovanni, Huntington Station, N.Y., assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Apr. 26, 1968, Ser. No. 11,631
Term of patent 14 years
(Cl. D90—20)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 22ND DAY OF OCTOBER, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Bugg, Kenly C., to Kendrick Mfg. Co. Rotary electrical contact assembly. Re. 26,480, 10–22–68, Cl. 200—166.
Cease Central, Inc.: *See*—
Cease, William W. Re. 26,479.
Cease, William W., to Cease Central, Inc. Food dispensing apparatus. Re. 26,479, 10–22–68, Cl. 221—69.
Evans, George Q. Stacking frame assembly for a pallet. Re. 26,481, 10–22–68, Cl. 108—53.
Kendrick Mfg. Co.: *See*—
Bugg, Kenly C. Re. 26,480.
Stroup, Howard R. Baled hay stacker, carrier and delivery apparatus. Re. 26,478, 10–22–68, Cl. 214—6.

LIST OF PLANT PATENTEES

Dauerheim, Inc.: *See*—
Nill, Alfred. 2,841.
Nill, Alfred, to Dauerheim, Inc. Azalea plant. 2,841, 10–22–68, Cl. 55.
Pecoff, Ronald. Myoporum plant. 2,840, 10–22–68, Cl. 54.

LIST OF DESIGN PATENTEES

Alaska, St. Barth. Hand magnifier. 212,507, 10–22–68, Cl. D57—1.
American Hospital Supply Corp.: *See*—
Beich, Frank R. 212,516.
Anchor Hocking Glass Corp.: *See*—
Pettengill, Floyd E. 212,457.
Pettengill, Floyd E. 212,459.
Baker, Edgar G., to Gentex Corp. Symmetrical buoyant vest. 212,510, 10–22–68, Cl. D71—1.
Bartolome, Esteban Y., Industries de La Madera S.A.: *See*—
Esteban Y Bartolome, Jacinto. 212,465.
Esteban Y Bartolome, Jacinto. 212,466.
Beich, Frank R., to American Hospital Supply Corp. Male urinal or similar article. 212,516, 10–22–68, Cl. D83—1.
Birmingham Ornamental Iron Co., Inc.: *See*—
Rutter, Sheldon M. 212,470.
Bishop Industries Inc.: *See*—
Harrison, Mortimer J. 212,517.
Black, Henry. Flower pot holder. 212,487, 10–22–68, Cl. D35—3.
Blinne, Charles F. Apparatus for laying plastic pipe. 212,489, 10–22–68, Cl. D39—1.
Bravo, Joel W., to GAF Corp. Whiteprint machine. 212,508, 10–22–68, Cl. D61—1.
Bravo, Joel W., to GAF Corp. Photocopy machine. 212,509, 10–22–68, Cl. D61—1.
Brophy, James N. Fish scaler or similar article. 212,497, 10–22–68, Cl. D44—29.
Buxted Chicken Co. Ltd., The: *See*—
Mead, Peter L. 212,480.
Case, Cecil L., and R. E. Ten Eyck. Self-propelled windrower. 212,492, 10–22–68, Cl. D40—1.
Coleman, Lawrence, to Melrose Displays. Display stand. 212,513, 10–22–68, Cl. D80—10.
Colgate-Palmolive Co.: *See*—
Douglas, Livingston C. 212,455.
Collings, Thomas J. Table lamp. 212,498, 10–22–68, Cl. D48—20.
Colwell, Guy J., C. M. Matson, and C. G. Shireman, to Mattel, Inc. Combined doll and vehicle. 212,486, 10–22–68, Cl. D34—15.
Continental Oil Co.: *See*—
Guerrero, Fernando V. 212,505.
Cooper, Marvin, to Dynamic Classics, Ltd. Casing for a glass chiller. 212,496, 10–22–68, Cl. D44—29.
Dirksen, Janice M., to The Seeburg Corp. Cigarette vending machine. 212,504, 10–22–68, Cl. D52—3.
Douglas, Livingston C., to Colgate-Palmolive Co. Jug or similar article. 212,455, 10–22–68, Cl. D9—40.
Dynamic Classics, Ltd.: *See*—
Cooper, Marvin. 212,496.
Eaton Yale & Towne Inc.: *See*—
Wolaver, Robert M. 212,503.
Esteban Y Bartolome, Jacinto, to Esteban Y. Bartolome, Industrias de La Madera S.A. Door. 212,465, 10–22–68, Cl. D13—1.
Esteban Y Bartolome, Jacinto, to Esteban Y. Bartolome, Industrias de La Madera S.A. Door. 212,466, 10–22–68, Cl. D13—1.
Fraze, Ermal C.: *See*—
Peters, Don B., and Powell. 212,461.
Peters, Don B., and Powell. 212,462.
GAF Corp.: *See*—
Bravo, Joel W. 212,508.
Bravo, Joel W. 212,509.
Gentex Corp.: *See*—
Baker, Edgar G. 212,510.
Goforth Brothers, Inc.: *See*—
Goforth, Samuel P. and J. A. 212,485.
Goforth, Joseph A.: *See*—
Goforth, Samuel P. and J. A. 212,485.
Goforth, Samuel P. and J. A., to Goforth Brothers, Inc. Passenger cab for amusement ride. 212,485, 10–22–68, Cl. D34—5.
Goodrich, B. F., Co., The: *See*—
Makris, Aristides. 212,519.
Mallory, Ralph G. 212,511.
Sangiovanni, Charles A. 212,520.
Gotto, Ralph F.: *See*—
Lum, Robert K. K., and Gotto. 212,482.
Gruber, Francis E. Cutting board. 212,494, 10–22–68, Cl. D44—1.
Guerrero, Fernando V., to Continental Oil Co. Conduit holding clip. 212,505, 10–22–68, Cl. D54—1.
Harness, Bobby L. Merry go round. 212,483, 10–22–68, Cl. D34—5.
Harness, Bobby L. Playground slide. 212,484, 10–22–68, Cl. D34—5.
Harrison, Mortimer J., to Bishop Industries Inc. Combined mirror and lipstick holder. 212,517, 10–22–68, Cl. D86—10.
Hiland, Jack. Combined coffee table and dual aquarium unit. 212,481, 10–22–68, Cl. D30—11.
Hofstetter, Jack H., and A. D. Sterges, to Purex Corp., Ltd. Tote box. 212,518, 10–22–68, Cl. D87—1.
Holophane Co., Inc.: *See*—
Stockwell, Bernard R. 212,500.
Johnson, William F. Die member. 212,506, 10–22–68, Cl. D54—4.
Kingsley, Eleanor V. Cover for a litter receptacle. 212,502, 10–22–68, Cl. D49—35.
Koukal, Louis J. Dispensing closure for a bottle or the like. 212,464, 10–22–68, Cl. D9—277.
Kroll, Lawrence. Automobile load cover for pickup trucks. 212,469, 10–22–68, Cl. D14—27.
Kronefeld, Herbert, and H. Mertz. Adjustable roof for camping vehicles. 212,468, 10–22–68, Cl. D14—27.
Lab-Line Instruments, Inc.: *See*—
Newman, Alexander I. 212,493.
Lawson, F. H., Co., The: *See*—
Lumley, Maurice C. 212,501.
Lee, Donald. Floor polisher head. 212,488, 10–22–68, Cl. D37—3.
Lindquist, William C.: *See*—
Speiser, Ralph W., and Lindquist. 212,491.
Lum, Robert K. K., and R. F. Gotto. Portable ball rack. 212,482. 10–22–68. Cl. D33—3.
Lumley, Maurice C., to The F. H. Lawson Co. Trash receptacle hood. 212,501, 10–22–68. Cl. D49—35.
Makris, Aristides, to The B. F. Goodrich Co. Tire. 212,519, 10–22–68, Cl. D90—20.
Mallory, Ralph G., to The B. F. Goodrich Co. Life jacket. 212,511, 10–22–68, Cl. D71—1.
Matson, Christie M.: *See*—
Colwell, Guy J., Matson, and Shireman. 212,486.
Mattel, Inc.: *See*—
Colwell, Guy J., Matson, and Shireman. 212,486.
Mead, Peter L., to The Buxted Chicken Co. Ltd. Moulded plastic container for transporting live animals or birds. 212,480, 10–22–68, Cl. D30—1.
Melrose Displays: *See*—
Coleman, Lawrence. 212,513.
Mertz, Horst: *See*—
Kronefeld, Herbert, and Mertz. 212,468.
Monroe, Jay, to Tensor Corp. Combined lamp and clock. 212,499, 10–22–68, Cl. D48—20.
Morrison, John K.: *See*—
Mulligan, Terrence J., and Morrison. 212,473.
Mulligan, Terrence J., and Morrison. 212,474.
Mulligan, Terrence J., and Morrison. 212,475.
Mulligan, Terrence J., and Morrison. 212,478.

LIST OF DESIGN PATENTEES

Motorola, Inc. : *See*—
Van Der Linden, Donald. 212,476.
Mulligan, Terrence J., and J. K. Morrison. Passenger vehicle service unit. 212,473, 10–22–68, Cl. D23—73.
Mulligan, Terrence J., and J. K. Morrison. Passenger vehicle service unit. 212,474, 10–22–68, Cl. D23—73.
Mulligan, Terrence J., and J. K. Morrison. Passenger vehicle service unit. 212,475, 10–22–68, Cl. D23—73.
Mulligan, Terrence J., and J. K. Morrison. Combined speaker and heater unit. 212,478, 10–22–68, Cl. D26—14.
Newman, Alexander I., to Lab-Line Instruments, Inc. Electric timer. 212,493, 10–22–68, Cl. D42—7.
Nicosia, Angelo, to Zoomar, Inc. Electrical remote control box for television camera. 212,477, 10–22–68, Cl. D26—5.
Peters, Don B., and G. T. Powell, to E. C. Fraze. Pull tab for a removable tear portion. 212,461, 10–22–68, Cl. D9—256.
Peters, Don B., and G. T. Powell, to E. C. Fraze. Pull tab for a removable tear portion. 212,462, 10–22–68, Cl. D9—256.
Pettengill, Floyd E., to Anchor Hocking Glass Corp. Jug or similar article. 212,457, 10–22–68, Cl. D9—50.
Pettengill, Floyd E., to Anchor Hocking Glass Corp. Jar or similar article. 212,459, 10–22–68, Cl. D9—92.
Pettengill, Floyd E. Jar or similar article. 212,460, 10–22–68, Cl. D9—92.
Plastics, Inc. : *See*—
Stageberg, Willis A. 212,495.
Powell, George T. : *See*—
Peters, Don B., and Powell. 212,461.
Peters, Don B., and Powell. 212,462.
Price, Montague B. Pencil and identification card holder. 212,479, 10–22–68, Cl. D29—2.
Procter & Gamble Co., The : *See*—
Vanderhyde, Harold J. 212,456.
Vanderhyde, Harold J. 212,463.
Purex Corp., Ltd. : *See*—
Sterges, Alfred D. 212,458.
Hofstetter, Jack H., and Sterges. 212,518.
Rutter, Sheldon M., to Birmingham Ornamental Iron Co., Inc. Chair. 212,470, 10–22–68, Cl. D15—1.
Sakamoto, Tadashi, to Shozo Urano. Shield for bulb type syringes. 212,515, 10–22–68, Cl. D83—1.
Saugiovanni, Charles A., to The B. F. Goodrich Co. Tire. 212,320, 10–22–68, Cl. D90—20.
Sarlo, Anthony. Power mower. 212,490, 10–22–68, Cl. D40—1.
Saxons Inc. : *See*—
West, William R. 212,467.
Seeburg Corp., The : *See*—
Dirksen, Janice M. 212,504.
Shireman, C. Gordon : *See*—
Colwell, Guy J., Matson, and Shireman. 212,486.
Shozo Urano : *See*—
Sakamoto, Tadashi. 212,515.
Smith, Ted, Aircraft Co., Inc. : *See*—
Smith, Theodore R. 212,512.
Smith, Theodore R., to Ted Smith Aircraft Co., Inc. Aircraft. 212,512, 10–22–68, Cl. D71—1.
Speiser, Ralph W., and W. C. Lindquist, to Toro Mfg. Corp. Pipe layer or similar article. 212,491, 10–22–68, Cl. D40—1.
Stageberg, Willis A., to Plastics, Inc. Divided snack tray. 212,495, 10–22–68, Cl. D44—10.
Sterges, Alfred D., to Purex Corp., Ltd. Bottle. 212,458, 10–22–68, Cl. D9—90.
Sterges, Alfred D. : *See*—
Hofstetter, Jack H., and Sterges. 212,518.
Stockwell, Bernard R., to Holophane Co., Inc. Base for post top outdoor luminaires. 212,500. 10–22–68, Cl. D48—31.
Ten Eyck, Richard E. : *See*—
Case, Cecil L., and Ten Eyck. 212,492.
Tensor Corp. : *See*—
Monroe, Jay. 212,499.
Toro Mfg. Corp. : *See*—
Speiser, Ralph W., and Lindquist. 212,491.
West, William R., to Saxons Inc. Building. 212,467, 10–22–68, Cl. D13—1.
Wolaver, Robert M., to Eaton Yale & Towne Inc. Master control unit for a centralized oil lubricating system or the like. 212,503, 10–22–68, Cl. D52—2.
Wolfe, Russell J. Dispensary rack. 212,514, 10–22–68, Cl. D83—1.
Wood, Commodore V., Sr. Service platform ladder. 212,471, 10–22–68, Cl. D15—8.
Vanderhyde, Harold J., to The Procter & Gamble Co. Jug. 212,456, 10–22–68, Cl. D9—42.
Vanderhyde, Harold J., to The Procter & Gamble Co. Dispensing closure. 212,463, 10–22–68, Cl. D9—275.
Van Der Linden, Donald, to Motorola, Inc. Reader for punched cards and mark-sense documents. 212,476, 10–22–68, Cl. D26—5.
Von Heck, Robert. Child's training chair. 212,472, 10–22–68, Cl. D23—53.
Zoomar, Inc. : *See*—
Nicosia, Angelo. 212,477.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 22ND DAY OF OCTOBER, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

AB Redev : *See*—
Ahrent, Gustav A., Siwersson, and Tell. 3,406,772.
ACF Industries, Inc. : *See*—
Cook, Robert M. 3,406,835.
AMP Inc. : *See*—
Nitzan, David. 3,407,308.
Abbott Laboratories : *See*—
Weiss, Ronald E., and Schleicher. 3,407,120.
Abex Corp. : *See*—
Diedrich, Paul E. 3,406,608.
Meisel, William H. 3,406,714.
Abildgaard, William H., to Becton, Dickinson of California, Inc. Package and packaging method for fragile articles. 3,406,746, 10–22–68, Cl. 165—46.
Acme Industries, Inc. : *See*—
Dilt, John C. 3,406,528.
Adams, Derek S. : *See*—
Phillips, Brian L., and Adams. 3,406,672.
Aerojet-General Corp. : *See*—
Braun, Edwin C. 3,406,638.
Aga-Platforadling Aktiolag : *See*—
Larsson, Gunnar. 3,406,441.
Agfa-Gevaert Aktiengesellschaft : *See*—
Simm, Walter. 3,406,660.
Ahrent, Gustav A., O. L. Siwersson, and K. G. Tell, to AB Redev. Wheel type chair-beds for invalids and patients. 3,406,772, 10–22–68, Cl. 180—9.24.
Air Factors, Inc. : *See*—
Lambert, Robert R. 3,406,623.
Air Gage Co. : *See*—
Persichini, Dominic J., and Freeman. 3,406,561.
Air Reduction Co., Inc. : *See*—
Perry, James L. 3,406,857.
Aizawa, Minoru, T. Matsuda, S. Kawabata, I. Omura, I. Amano, and T. Nakamura, to Toyo Jozo Co., Ltd. Process for preparing an active, dry powdery yeast. 3,407,072, 10–22–68, Cl. 99—96.
Akin, Alfred A., Jr., to D. Bushnell. Telescope mounting for firearms. 3,406,455, 10–22–68, Cl. 33—50.
Aktiebolaget Atomenergi : *See*—
Lange, Olof H. V. 3,406,497.
Aktiebolaget Hoganasmetoder : *See*—
Carlström, Börge I., Saarnak, and Ekedahl. 3,406,724.
Aladdin Industries Inc. : *See*—
Rownd, Robert M., and Bridges. 3,406,532.
Alaskaug, Inc. : *See*—
Miller, Robert W. 3,406,768.
Alexander, Jack P., to The Samuel Roberts Noble Foundation Inc. Soil sampling apparatus. 3,406,765, 10–22–68, Cl. 175—51.
Algemene Kunstzyde Unie N.V. : *See*—
Duncker, Michiel J., and Daamen. 3,406,994.
Allen-Bradley Co. : *See*—
Huetiger, Jean-Robert. 3,407,270.
Pearse, James N., Dykstra, and Mayer. 3,407,312.
Allied Breweries Ltd. : *See*—
Hall, Ronald D., and Howard. 3,407,069.
Allied Chemical Corp. : *See*—
Banush, Russell S., and Hagerty. 3,407,141.
Clarke, George R., Jr. 3,406,436.
Farah, Basil S., and Gilbert. 3,407,183.
Little, Edwin D., and Walter. 3,407,200.
Segre, George E. 3,407,171.
Tew, Wilson W. 3,406,437.
Allis-Chalmers Mfg. Co. : *See*—
Honsinger, Vernon B. 3,407,317.
Almquist, Edgar W., Jr., to Sparkomatic Corp. Spring control means for rear driven automobile axles. 3,406,957, 10–22–68, Cl. 267—67.
Alvey Convevor Mfg. Co. : *See*—
Smith, Cullen J. 3,406,841.
Amano, Isao : *See*—
Aizawa, Minoru, Matsuda, Kawabata, Omura, Amano, and Nakamura. 3,407,072.
Amazonen-Werke H. Dreyer : *See*—
Dreyer, Heinz. 3,406,915.
American Air Filter Co., Inc. : *See*—
Sylvan, Stig G. 3,406,504.
Weber, George K. 3,407,109.
American Bosch Arma Corp. : *See*—
Claffey, Frank J. 3,406,912.
American Cyanamid Co. : *See*—
Casebolt, George S. 3,407,155.
Casebolt, George S., and Cordier. 3,407,154.
Chew, Lois E. 3,407,147.
Klingsberg, Erwin. 3,407,213.
Landi, Henry P. 3,407,096.
Landi, Henry P. 3,407,249.
Lies, Thomas A. 3,407,222.
Maxwell, Charles S. 3,407,113.
Porter, John J. 3,407,236.
Savides, Christos, and Milks. 3,407,187.
Skoggard, Bruno B., and Post. 3,407,107.
Ziering, Lance K. 3,407,032.
American Enka Corp. : *See*—
Daamen, Jacobus J. H. G. 3,406,654.
Toussaint, Joseph D. 3,406,797.
American Home Products Corp. : *See*—
Douglas, George H., Walk, and Smith. 3,407,214.
Strike, Donald P., Teller, and Smith. 3,407,194.
American Metal Climax, Inc. : *See*—
Timmons, George A. 3,407,057.
American Optical Co. : *See*—
Wilkinson, Leonard A. 3,407,019.
American Potato Co. : *See*—
Rainwater, Joe H., Beck, and Parks. 3,407,080.
American Schack Co., Inc., The : *See*—
White, Alan J. 3,406,747.
American Standard Inc. : *See*—
Nelden, Richard M. 3,406,518.
American Sterilizer Co. : *See*—
Huston, Alfred B. 3,407,027.
Huston, Alfred B. 3,407,028.
Krahe, James B. 3,407,029.
Amrine, Herman E., and J. P. Martin, to International Business Machines Corp. Dual gain transistor circuit. 3,407,359, 10–22–68, Cl. 330—29.
Anchell, Owen L. Ash trays. 3,406,813, 10–22–68, Cl. 206—19.5.
Andersen, Arthur A. Grain drier. 3,406,463, 10–22–68, Cl. 34—56.
Anderson, Carl L., to The Tappan Co. Combination mechanical-thermal latch. 3,406,677, 10–22–68, Cl. 126—197.
Anderson, Greenwood & Co. : *See*—
Weise, Irvin B. 3,406,712.
Anderson, Gus L., to The Dentists Supply Co. of New York. Gothic arch bisector and relator. 3,406,451, 10–22–68, Cl. 32—32.
Anderson, James, to Electrolux Corp. Electric cord set having a stress relieving plug. 3,407,377, 10–22–68, Cl. 339—105.
Andrews of Aintree Ltd. : *See*—
McKechnie, Charles S. 3,406,855.
Andrews, Ronald W. J., J. R. Kenward, and J. R. Dewhurst, to South Eastern Gas Board. Control of gas flame characteristics. 3,407,022, 10–22–68, Cl. 431—8.
Apex Bearing Co., The : *See*—
Welchsel, Richard H. 3,407,013.
Appenzeller, Valentin : *See*—
Kuesters, Eduard, and Appenzeller. 3,406,542.
Apsco Products, Inc. : *See*—
Goodrich, Robert S. 3,406,805.
Aquarius, Conrardus H. Apparatus for moulding articles of candy. 3,406,644, 10–22–68, Cl. 107—69.
Aquarius Industries : *See*—
Boston, John. 3,406,828.
Araki, Tsuneo, and T. Takesa, to Tokyo Shibaura Electric Co., Ltd. System for reproducing magnetically recorded television signals including a vertical sync pulse generator. 3,407,266, 10–22–68, Cl. 178—6.6.
Argyle, Leroy C., and A. T. Bublitz, to Corning Glass Works. Automatic control means. 3,407,055, 10–22–68, Cl. 65—161.
Arizona Chemical Co. : *See*—
Savides, Christos, and Milks. 3,407,187.
Armbruster, Ronald H. D., to The E. W. Bliss Co. Flanging machine. 3,406,648, 10–22–68, Cl. 113—7.
Armstrong, John A., to International Business Machines Corp. X-ray holographic microscope having three diffracting crystals disposed in parallel along the X-ray beam path. 3,407,296, 10–22–68, Cl. 250—51.5.
Armstrong, Lee B., and M. A. Reid, to Coleman Engineering Co., Inc. Releasable fastener for camera cover. 3,406,431, 10–22–68, Cl. 24—73.
Arneson, Howard M., to Arneson Products, Inc. Swimming pool chlorinator. 3,406,870, 10–22–68, Cl. 222—57.
Arneson Products, Inc. : *See*—
Arneson, Howard M. 3,406,870.
Arnold, James S. Thermoacoustic loudspeaker. 3,407,273, 10–22–68, Cl. 179—108.
Arnold, Theodore M. Calculating device. 3,406,901, 10–22–68, Cl. 235—86.
Arraiza, Fermin S., to Industrias Zaldi, S.A. Magnetic brakes incorporated in electric motors. 3,407,319, 10–22–68, Cl. 310—77.
Arterbury, Bryant P., and T. C. Burrouchs, 33⅓% to R. L. Arterbury. Jarring tool. 3,406,770, 10–22–68, Cl. 175—299.
Arterbury, Roy L. : *See*—
Arterbury, Bryant P., and Burroughs. 3,406,770.
Arvin Industries, Inc. : *See*—
Wolfner, William F. 3,406,923.
Asahi Kasei Kogyo Kabushiki Kaisha : *See*—
Kominami, Naoya, Nakajima, and Tamura. 3,407,223.
Asakusa Toy Co., Ltd. : *See*—
Tachi, Ichiro. 3,406,481.
Atkey, Richard E., and L. F. Jaseph, to Dover Corp. Door operator mechanism. 3,406,484, 10–22–68, Cl. 49—363.
Atkins, John H., and G. A. Wood, Jr., to Oversewing Machine Co. of America. Automatic feed apparatus for book sewing machine. 3,406,842, 10–22–68, Cl. 214—6.
Atkins, John H. C., and A. Stephenson, to Baker Perkins, Inc. Method and apparatus for mixing dough. 3,406,643, 10–22–68, Cl. 107—36.

Atlantic Refining Co.: *See*—
Juda, Walter, Novack, Fowle, and D'Alessandro. 3,407,095.

Atlas Copco Aktiebolag: *See*—
Eriksson, Sven-Erik N. 3,406,718.
Sundberg, Nils O. 3,406,851.

Atrubin, Allan J., to International Business Machines Corp. Serial digital multiplier. 3,407,290, 10–22–68, Cl. 235—164.

Attewell, Oliver G., to McGraw-Edison Co. Starting and operating circuit for arc discharge lamps requiring a high starting voltage. 3,407,334, 10–22–68, Cl. 315—278.

Atwater, Marshall. Eight-way movement control. 3,406,585, 10–22–68, Cl. 74—471.

Automatic Electric Laboratories, Inc.: *See*—
Hribik, Joseph F., and Jallits. 3,407,274.

Automotive Conversion Corp.: *See*—
Rutzen, Robert E., Fry, and Squibb. 3,406,098.

Axelson, John S., and C. M. Dolan, to General Electric Co. Heat shield. 3,407,110, 10–22–68, Cl. 161—68.

Ayranto, Roy: *See*—
Lepp, Jacob H., and Ayranto. 3,406,914.

B. & K. Tool Die & Stamping Co., Inc.: *See*—
Kinkel, Konrad. 3,406,559.

Babcock & Wilcox Co., The: *See*—
North, Donald C., Jr., and Leirvik. 3,407,115.

Babunovic, Momir, to Barry-Wehmiller Co. Container discharge apparatus. 3,406,808, 10–22–68, Cl. 198—20.

Bach, Frederick O., and P. E. Frasher, to A. B. Dick Co. Electrophotographic offset master containing a coating of insolubilized polyacrylic acid and method of manufacture. 3,407,064, 10–22–68, Cl. 96—1.8.

Backman, Sture A., and K. L. Winquist. Fuel atomizing burner for liquid fuels. 3,406,906, 10–22–68, Cl. 239—101.

Bacon American Corp.: *See*—
Barefoot, Carlton K. 3,407,106.

Badische Anilin- & Soda-Fabrik Aktiengesellschaft: *See*—
Beck, Fritz, and Schuster. 3,407,227.

Badische Anilin- & Soda Fabrik Aktiengesellschaft: *See*—
Maisack, Herbert, Schlecht, and Urbach. 3,407,228.
Naarmann, Herbert, and Kastning. 3,407,184.

Baier, John P., to General Motors Corp. Drive mechanism having overload release means. 3,406,583, 10–22–68, Cl. 74—411.

Bailey, George M. Center-wind reel. 3,406,922, 10–22–68, Cl. 242—55.11.

Bains, Robert W., to Universal Data Acquisition Co., Inc. Electronic interpreter. 3,407,390, 10–22–68, Cl. 340—172.5.

Baker Castor Oil Co., The: *See*—
Frank, Fred M. 3,407,160.

Baker, John F., and P. W. Turner, to Cambridge Fender & Engineering Co., Ltd. Buffers or energy absorbers, 3,406,523, 10–22–68, Cl. 61—48.

Baker Perkins, Inc.: *See*—
Atkins, John H. C., and Stephenson. 3,406,643.

Ball Brothers Co., Inc.: *See*—
Fogelberg, Clement V., and Hough. 3,407,250.

Ballard, Kermit H., to E. I. du Pont de Nemours and Co. Noble metal paste compositions comprising novel liquid carriers. 3,407,081, 10–22–68, Cl. 106—1.

Ballenger, Robert J., and W. G. Ballenger, to Central Specialties Co. Dolley. 3,406,985, 10–22–68, Cl. 280—414.

Ballenger William G.: *See*—
Ballenger, Robert J., and W. G. 3,406,985.

Balzani, Pier L.: *See*—
Calvi, Pierluigi, Corbelli, Balzani, and Longhi. 3,407,168.

Bansho, Kiyoshi, to Shigeru Kakubari. Electronic timekeeper. 3,407,344, 10–22–68, Cl. 318—130.

Bantsh, Russell S., and D. P. Hagerty, to Allied Chemical Corp. Dissolution of metal with acidified hydrogen peroxide solutions. 3,407,141, 10–2–68, Cl. 252—79.4.

Barber, Alfred W. Control of photocell illumination by shutter having programmed movement. 3,407,192, 10–22–68, Cl. 250—229.

Bardic, Vinko: *See*—
Prata, John. 3,407,284.

Barefoot, Carlton K., to Bacon American Corp. Apparatus for retreading tires. 3,407,106, 10–22–68, Cl. 156—405.

Barker, Arthur F., to E. I. du Pont de Nemours and Co. Aerosol valve. 3,406,944, 10–22–68, Cl. 251—353.

Barker, Eardley M., to Better Spreads, Inc. Process for producing a low fat spread and the product thereof. 3,407,075. 10–22–68, Cl. 99—123.

Barmer Maschinenfabrik AG.: *See*—
Ramcke, Carsten. 3,406,918.
Turk, Herbert, Ramcke, and Snels. 3,406,919.

Barnett, Karl F., to Cadillac Products, Inc. Package of bags. 3,406,818, 10–22–68, Cl. 206—57.

Barocela, Edward C., to Instruments Corp. of America. Photographic sound system for eliminating film blemish noise. 3,407,272, 10–22–68, Cl. 179—100.3.

Baron, Herschel, to Jacobs Machine Corp. Tape advancing means. 3,406,962, 10–22–68, Cl. 271—33.

Barry, Adelbert, F. L. Chalmers, and J. B. Pearson, to Esso Production Research Co. Seismic wave source for use at marine locations. 3,406,778, 10–22–68, Cl. 181—.5.

Barry-Wehmiller Co.: *See*—
Babunovic, Momir. 3,406,808.

Bartoletti, Loredano: *See*—
Geneloni, Aldo, and Bartoletti. 3,406,958.

Bashaw, Robert N.: *See*—
Harper, Billy G., Bashaw, and Self. 3,407,138.

Bates, Willard. Gestation tabulator. 3,406,474, 10–22–68, Cl. 40—110.

Bath, David F., to The Procter & Gamble Co. Detergent composition. 3,407,144, 10–22–68, Cl. 252—108.

Batts, John H., to John Thomas Batts, Inc. Contoured one-piece hanger. 3,406,881, 10–22–68, Cl. 223—88.

Batts, John Thomas, Inc.: *See*—
Batts, John H. 3,406,881.

Bauer, Erich, and F. Reichard, to Osterreichische Mineralolverwaltung Aktiengesellschaft. Apparatus for the utilization of combustible waste gases of refineries or other plants. 3,406,895, 10–22–68, Cl. 230—6.

Baumstimler, August B. Well clean-out tool. 3,406,757, 10–22–68, Cl. 166—99.

Baxter Laboratories, Inc.: *See*—
Oliva, William E., and Schultz. 3,407,133.
Regan, Bernard M. 3,407,229.
Regan, Bernard M. 3,407,230.

Baynard, Joseph S., Jr., to Western Electric Co., Inc. Automatic telephone dialer utilizing a variable controlled multivibrator. 3,407,271, 10–22–68, Cl. 179—90.

Beach, David E.: *See*—
Hochreiter, William T., Kareken, and Beach. 3,406,620.

Beasley, William C., to Union Carbide Corp. Shredded carbonaceous fiber compactions and method of making the same. 3,407,038, 10–22–68, Cl. 23—209.2.

Beazer, Charles W., and C. I. Taverner, to Phillips Petroleum Co. Safety trip device for valves on mobile tanks. 3,406,700, 10–22–68, Cl. 137—39.

Bechtel International Corp.: *See*—
Dickinson, Ben W. O., III. 3,407,122.

Beck, Fritz, and L. Schuster, to Badische Anilin Soda Fabrik Aktiengesellschaft. Hydrogenation of carbon-carbon multiple bonds in the liquid phase. 3,407,227, 10–22–68, Cl. 260—537.

Beck, Hans. Guiding arrangement for material to be wrapped between moving foils. 3,406,494, 10–22–68, Cl. 53—372.

Beck, Roderick G.: *See*—
Rainwater, Joe H., Beck, and Parks. 3,407,080.

Becka, Michael M., and R. B. Field, to Jacob S. Kamborian. Method of stiffening a shoe upper. 3,406,415, 10–22–68, Cl. 12—146.

Beckenstein, Leonard A., to The Singer Co. Method and apparatus for knitting tie-in fleece fabrics. 3,406,538, 10–22–68, Cl. 66—9.

Becker, Frederick R., III, to West Virginia Pulp and Paper Co. Tag feeding device. 3,406,627, 10–22–68, Cl. 101—232.

Becker, Rudolf, and E. Karwat, to Linde Aktiengesellschaft. Process for the recovery of hydrogen-nitrogen mixtures with reduced carbon-monoxide content. 3,407,146, 10–22–68, Cl. 252—377.

Becton, Dickinson of California, Inc.: *See*—
Abildgaard, William H. 3,406,746.

Becton Dickinson and Co.: *See*—
Keller, George H. 3,406,686.
May, Edwin A. 3,406,685.

Behrens, Milton D., to Texaco Inc. Internal combustion engine system for exhaust emissions control. 3,406,515, 10–22–68, Cl. 60—30.

Beichel, Rudi: *See*—
Evans, Alvin W., Beichel, and Morghen. 3,406,667.

Bell Aerospace Corp.: *See*—
De Long, Denton, and Freeman. 3,407,399.
Jenney, Gavin D. 3,406,702.
Jenney, Gavin D. 3,406,719.
Jenney, Gavin D. 3,406,721.

Bell Telephone Laboratories, Inc.: *See*—
Cook, John S., and Geyling. 3,407,404.
Garrett, Charles G. B. 3,407,297.
Kordos, Ronald W. 3,407,367.
Kovanic, Edward F. 3,407,301.
Miller, Robert C. 3,407,309.
Snare, Ronald C. 3,407,397.
Turner, Edward H. 3,407,364.

Bemrose, John, to Sinclair Research, Inc. Method of seismic prospecting. 3,406,777, 10–22–68, Cl. 181—.5.

Bendix Corp., The: *See*—
Hurlburt, Charles E. 3,406,575.
Kraus, Thaddaus. 3,407,041.
Scotti, Anthony E. 3,406,576.

Benham, Ralph E., to Purex Corp., Ltd. Leak detector for swimming pool lights and the like. 3,407,337, 10–22–68, Cl. 317—18.

Beninger, Robert L., and H. H. Weber, to H. G. Weber and Co., Inc. Carton closer and sealer. 3,406,495, 10–22–68, Cl. 53—374.

Benjamin, Milton L., and D. D. Walker, to Erickson Tool Co. Cushioning cylinder for index fixtures and the like. 3,406,596, 10–22–68, Cl. 74—821.

Bennetch, Leonard M., to Chas. Pfizer & Co., Inc. White iron phosphate. 3,407,034, 10–22–68, Cl. 23—105.

Berger, George G. Chess board having interchangeable sections. 3,406,975, 10–22–68, Cl. 273—136.

Berger, Leo, A. Stempel, L. H. Sternbach, and E. Wenis, to Hoffman-La Roche Inc. Acylaminophenyl heterocyclic ketones. 3,407,211, 10–22–68, Cl. 260—326.3.

Berkeley Tonometer Co.: *See*—
Murr, William C. 3,406,565.

Bernard Plastics Molding Corp.: *See*—
Phillips, Robert. 3,406,882.

Bethlehem Steel Corp.: *See*—
List, Harold A. 3,406,547.

Bettcher Industries, Inc.: *See*—
Bettcher, Louis A. 3,406,486.

Bettcher, Louis A., to Bettcher Industries, Inc. Sharpening device for rotary knives. 3,406,486, 10–22–68, Cl. 51—5.

Better Spreads, Inc.: *See*—
Barker, Eardley M. 3,407,075.

Betteridge, Walter, and J. Hope, to The International Nickel Co., Inc. Separation of hydrogen from other gases. 3,406,496, 10–22–68, Cl. 55—58.

Bidgood, William H. Ambulance stretchers. 3,406,410, 10–22–68, Cl. 5—82.

Bienert, Walter B., and F. M. Gillen, to Martin-Marietta Corp. Process of making Mn_4Si_7 thermoelectric element and product of said process. 3,407,037, 10–22–68, Cl. 23—204.

Bieri, Leonard: *See*—
Offutt, Elmer B., and Bieri. 3,406,803.

Biland, Hans R.: *See*—
Luethi, Christian, Biland, Schellenbaum, and Duennenberger. 3,407,201.

Bishop, Leonard J., to Mechanical Handling Systems, Inc. Signal system for carrier conveyor systems. 3,406,639, 10–22–68, Cl. 104—88.

Black Clawson Co., The: *See*—
Notbohm, Willard C. 3,406,931.

Black, James D.: *See*—
Eyler, George, Easley, and Black. 3,406,581.

Black, Richard E.: *See*—
Bruns, Elton W., and Black. 3,406,924.

Black, Sivals & Bryson, Inc.: *See*—
Conover, William J. 3,406,844.

Blaha, Emil, to Selas Corp. of America. Reducing a mixture of ores and carbon. 3,407,059, 10–22–68, Cl. 75—33.

Blaho, Rudolph G.: *See*—
Brilando, Frank P., and Blaho. 3,406,587.

Blair, George S., H. Shaw, and J. Malshlish, to Toronto Star Ltd. Roller slat conveyor. 3,406,810, 10–22–68, Cl. 198—183.

Blake, Whitney, Co., The: *See*—
Hanlon, George A., and Garde. 3,406,514.

Blaskowski, Henry J., to Combustion Engineering, Inc. Waste heat boiler. 3,406,664, 10–22–68, Cl. 122—7.

Blazon, Inc.: *See*—
Grudoski, Daniel P. 3,406,934.

Blenkarn, Kenneth A., and A. Lubinski, to Pan American Petroleum Corp. Fluid-sonic pile driving. 3,406,524, 10–22–68, Cl. 61—53.5.

Bliss, E. W., Co., The: *See*—
Armbruster, Ronald H. D. 3,406,648.
Frentzel, Karl O. 3,406,582.
Gross, John, and Hiegel. 3,406,553.
Krauss, Carl F., and Wingard. 3,406,552.

Bloch, Roy W.: *See*—
Kaufman, Morris, and Bloch. 3,406,860.

Block Engineering, Inc.: *See*—
Young, Niels O. 3,406,907.

Blodgett, Edwin O., to Friden, Inc. Tabulating card reader program control structure. 3,407,287, 10–22–68, Cl. 235—61.11.

Bocceda, Francesco. Fluid flow controlling connector. 3,406,942, 10–22–68, Cl. 251—149.4.

Bodine, Albert G. Acoustical impedance transformer for coupling sonic energy to the earth. 3,406,782, 10–22–68, Cl. 181—.5.

Boettger, Richard M.: *See*—
Murray, Daniel G., Marotta, and Boettger. 3,407,070.

Boileau, Jacques, to Compagnie Generale des Etablissements Michelin, raison sociale Michelin & Cie. Tire covers. 3,406,733, 10–22–68, Cl. 152—362.

Bomar, Horace L.: *See*—
Wiesinger, Frederick C., Petko, and Fleming. 3,406,539.

Bond, Herbert M., to Minnesota Mining and Mfg. Co. Passive pressure-sensitive adhesive tape and process of making same. 3,406,820, 10–22–68, Cl. 206—59.

Bonnett, Roy E., to Ford Motor Co. Windshield washer nozzle. 3,406,908, 10–22–68, Cl. 239—284.

Boober, Robert K., to North American Rockwell Corp. Voltage protection device utilizing a field effect transistor. 3,47,339, 10–22–68, Cl. 317—33.

Bookwalter, George N., and F. H. Brock, to A. E. Staley Mfg. Co. Liquid shortening composition. 3,407,071, 10–22–68, Cl. 99—94.

Booth, Albert B., to Hercules Inc. Isomerization of 3-carene to 4-carene and further conversion of 4-carene. 3,407,241, 10–22–68, Cl. 260—675.5.

Booth, Albert B., to Hercules Inc. Isomerization of 3-carene to 4-carene and further conversion of the 4-carene. 3,407,242, 10–22–68, Cl. 260—675.5.

Booth, Gillian H.: *See*—
Booth, Septimus E. V. 3,406,898.

Booth, Septimus E. V.: deceased, by G. H. Booth, sole administratrix. Axial-flow air-moving devices. 3,406,898, 10–22–68, Cl. 230—270.

Boothroyd, Harold W.: *See*—
Reilly, John S., and Boothroyd. 3,406,905.

Borch, Niels R., to The Regents of the University of California. Safety flow controller for a hydraulic line. 3,406,713. 10–22–68, Cl. 137—498.

Boston, John, to Aquarius Industries. Home tap water purification device. 3,406,828, 10–22–68, Cl. 210—137.

Boston, Robert L., and C. A. Roth, to GAF Corp. Photocopy reroll assembly. 3,406,021, 10–22–68, Cl. 242—55.

Bouligny, R. H., Inc.: *See*—
Snyder, Robert L., Jr. 3,407,262.

Bounoure, Jean, and G. Durand, to Societe Nationale des Petroles d'Aquitaine. Treatment of polyamides. 3,407,180, 10–22–68, Cl. 260—78.

Bousquet, Euclid W., to E. I. du Pont de Nemours and Co. 2-substituted pyrazoloisoindolones. 3,407,206, 10–22–68, Cl. 260—310.

Bouwers, Albert, to N.V. Optische Industrie de Oude Delft. Telescope system. 3,407,302, 10–22–68, Cl. 250—213.

Bowman, Bradshaw. Method of manufacturing bricks, tiles, cobblestones and the like directly on the ground to be covered. 3,406,618, 10–22–68, Cl. 94—24.

Bowman, Russell A., and B. N. Wilson, to Hooker Chemical Corp. Polyurethane composition and process. 3,407,153, 10–22–68, Cl. 260—2.5.

Bowser, Inc.: *See*—
Topol, George J., and Vattay. 3,406,827.

Brand, Herbert W., to Albert Mann Engineering Co. Ltd. Variable depth groove rotary continuous casting machine. 3,406,739, 10–22–68, Cl. 164—278.

Brander, George T., to Owens-Illinois, Inc. Container construction. 3,406,819, 10–22–68, Cl. 206—65.

Brandstatter, Wilhelm, to Firma Maschinenfabrik Michael Kampf KG. Guilloche machine. 3,406,454, 10–22–68, Cl. 33—27.

Braun, Edwin C., to Aerojet-General Corp. Coded switch system for towline conveyors. 3,406,638, 10–22–68, Cl. 104—88.

Breckenridge, Robert M., to Selas Corp. of America. Tube heater with quench. 3,406,804, 10–22–68, Cl. 196—98.

Bremer, Georg F., to Dymo Industries, Inc. Embossing tools of simplified construction including means compensating for manufacturing tolerances. 3,406,806, 10–22–68, Cl. 197—6.7.

Brennan, James H. Oxygen lance support coupling. 3,406,990, 10–22–68, Cl. 285—310.

Breschinsky, Rene. Oil dispenser. 3,406,787, 10–22–68, Cl. 184—55.

Bresslein, Helmut, and K. Korte, to Firma Olympia Werke AG. Multiplication attachment for adding machine. 3,406,899, 10–22–68, Cl. 235—60.

Breuer, Wolfgang, to Maschinenfabrik Reinhausen Gebruder Scheubeck K.G. Transfer switch means for tapped transformers including a voltage limiting device. 3,407,275, 10–22–68, Cl. 200—11.

Bridges, John A.: *See*—
Rownd, Robert M., and Bridges. 3,406,532.

Brilando, Frank P., and R. G. Blaho, to Schwinn Bicycle Co. Bicycle gear shift mechanism. 3,406,587, 10–22–68, Cl. 74—475.

Brill, Edward F., and H. E. Shelley, to Westinghouse Air Brake Co. Boring type continuous mining machine with contour cutters. 3,407,000, 10–22–68, Cl. 299—59.

Briukmeyer, Francis M.: *See*—
McKay, Dwight L., and Brinkmeyer. 3,406,527.

Bristol-Myers Co.: *See*—
Siegal, Bernard, Gary, and Shin. 3,407,254.

British Petroleum Co., Ltd., The: *See*—
Stearn, Richard J. 3,407,398.

Brocades-Stheeman & Pharmacia: *See*—
Harma, August F. 3,407,258.

Brock, Frank H.: *See*—
Bookwalter, George N., and Brock. 3,407,071.

Borg-Warner Corp.: *See*—
Curran, Robert J. 3,406,798.

Brophy, Jere H.: *See*—
Trapp, Robert H. and G., Hayden, and Brophy. 3,407,050.

Brown, Edward J.: *See*—
Fogg, Clifford C. 3,406,711.

Brown, Gaylord W., to Brown Machine Co. of Michigan, Inc. Mold construction for differential pressure plastic molding machines. 3,406,428, 10–22–68, Cl. 18—19.

Brown, Henry T., to Esso Research and Engineering Co. Reactivating hydroforming catalysts. 3,407,135, 10–22–68, Cl. 208—139.

Brown, Hugh C., to Dura Corp. Pump assembly. 3,406,631, 10–22–68, Cl. 103—3.

Brown, Jesse J., Jr., to Sylvania Electric Products Inc. Fluorescent manganese activated magnesium digallate phosphor composition. 3,407,139, 10–22–68, Cl. 252—301.4.

Brown, Jesse J., Jr., to Sylvania Electric Products, Inc. Fluorescent manganese activated magnesium gallate phosphor and lamp. 3,407,325, 10–22–68, Cl. 313—109.

Brown Machine Co. of Michigan, Inc.: *See*—
Brown, Gaylord W. 3,406,428.

Brule, Daniel C., to Compagnie de Saint-Gobain. Photochromic means and methods. 3,407,145, 10–22–68, Cl. 252—300.

Bruns, Elton W., and R. E. Black, to Stamco, Inc. Apparatus for winding coils of metal strip material. 3,406,924, 10–22–68, Cl. 242—56.4.

Brunstrom, Gerald R.: *See*—
Dudley, Robert E. 3,406,473.

Brunswick Corp.: *See*—
Igel, Anthony A., Liesmann, and Pokras. 3,406,690.

Brunt, David L. Draft dampening means for railway cars. 3,406,834, 10–22–68, Cl. 213—8.

Bryant, Douglas E., to Norton Co. Oxidation of hydrogen chloride on copper exchanged mordenite. 3,407,039, 10–22–68, Cl. 23—219.

Brzeska, Henry G., to Sensor Corp. System for automatically sequentially signaling plural different alarm messages to different telephone subscribers. 3,407,269, 10–22–68, Cl. 179—5.

Bublitz, Arthur T.: *See*—
Argyle, Leroy C., and Bublitz. 3,407,055.

Buchanan, Richard G., and F. Spinuzza, to Tel Life Corp. Hydraulic clutch wear warning device. 3,406,800, 10–22–68, Cl. 192—91.

Buchmiller, Earl P.: *See*—
Gwinn, M. Benjamin, and Buchmiller. 3,406,611.

Buchner, Norbert, and R. Kohnlein, to Firma Fr. Hesser Maschinenfabrik A.G. Container, particularly for liquids with a deep drawn metal foil cover. 3,406,891, 10–22–68, Cl. 229—3.5.

Buck, Willard E., ½ to Fundamental Research Co. Apparatus for conserving energy in high pressure chemical reactors. 3,407,044, 10–22–68, Cl. 23—252.

Budd Co., The: *See*—
Buyze, Edwin K. 3,406,793.
Kennel, Robert E. 3,406,792.

Buhr, Jacob, to Electrohome Ltd. Networks for selectively amplifying certain frequencies more so than other frequencies. 3,407,360, 10–22–68, Cl. 330—29.

Buijle, Raoul, to Union Carbide Corp. Novel process for the preparation of diketopiperazines. 3,407,203, 10–22–68, Cl. 260—268.

Bukau, Fritz, to Gesellschaft fur Kernforschung m.b.H. Steam generator. 3,406,665, 10–22–68, Cl. 122—31.

Bull's Metal & Marine Ltd.: *See*—
Ovens, William, 3,406,485.
Burke, Edmund F. Supporting system for cables and the like. 3,406,932, 10–22–68, Cl. 248—68.
Burke, Robert C., to Dade Reagents, Inc. Capillary pipette and adapter-holder therefor. 3,406,573, 10–22–68, Cl. 73—425.6.
Burkhart, James H. Method and apparatus for drydocking a boat hull or other floating structure in a body of water. 3,406,649, 10–22–68, Cl. 114—45.
Burlington Industries, Inc.: *See*—
Jinnette, Allen J. 3,407,087.
Burndy Corp.: *See*—
Tillmann, Hans P. G., and Philips, 3,406,538.
Burns, Robert F., to Hoffman Specialty Mfg. Corp. Outlet connection for water closet. 3,406,409, 10–22–68, Cl. 4—252.
Burroughs Corp.: *See*—
Looschen, Floyd W., Hansen, and Sharp. 3,407,387.
Burroughs, Thomas C.: *See*—
Arterbury, Bryant P., and Burroughs. 3,406,770.
Busdiecker, Robert A., to Owens-Illinois, Inc. Method for sealing glass to metal and seal produced thereby. 3,407,091, 10–22–68, Cl. 117—129.
Bush, John H., and J. E. Weyand, to Millipore Filter Corp. Filter cartridge for filtering liquids. 3,406,831, 10–22–68, Cl. 210—438.
Bushnell, David: *See*—
Akin, Alfred A., Jr. 3,406,455.
Butcher, John W., and R. L. Samuel, to United Kingdom Atomic Energy Authority. Hot-pressing of metal powders having inert solid surface films by adding activator elements. 3,407,063, 10–22–68, Cl. 75—226.
Buthala, Darwin A., and G. E. Underwood, to The Upjohn Co. Combatting herpes simplex viruses with 4'-[2-nitro-1-(para-tolylthio)ethyl]acetanilide. 3,407,257, 10–22–68, Cl. 424—324.
Butz, Tom E., and S. N. Schlein, to The Fanner Mfg. Co., Div. of Textron Inc. Dead end. 3,406,513, 10–22–68, Cl. 57—145.
Buyze, Edwin K., to The Budd Co. Parking brake for a disc brake. 3,406,793, 10–22–68, Cl. 188—73.
Byk-Gulden Lomberg Chemische Fabrik G.m.b.H.: *See*—
Schoetensack, Wolfgang, Hallmann, and Haegele. 3,407,210.
CSF- Compagnie generale de Telegraphie San Fil: *See*—
Maillart, Daniel. 3,407,351.
Cabot Corp.: *See*—
Eyler, George, Easley, and Black. 3,406,581.
Greene, Michael J., and Wendell. 3,407,281.
Cadillac Products, Inc.: *See*—
Barnett, Karl F. 3,406,818.
California Fruit Concentrates, Inc.: *See*—
Weber, Eugene B. 3,406,979.
Calor Appareils Electro-Domestiques: *See*—
Trouilhet, Maurice M. A. 3,406,543.
Calumet & Hecla, Inc.: *See*—
Habdas, Edward P. 3,406,753.
Calvi, Pierluigi, L. Corbelli, P. L. Balzani, and P. Longhi, to Montesbell Petrochimica S.p.A. Alkylbenzenes as diluents for elastomeric olefin polymers. 3,407,168, 10–22–68, Cl. 260—33.6.
Cambridge Fender & Engineering Co., Ltd.: *See*—
Baker, John F., and Turner. 3,406,523.
Camell, Nazzareno, G. Sartori, and R. Sudati, to Montecatini Edison S.p.A. Process for the preparation of cyclododecadienes. 3,407,238, 10–22–68, Cl. 260—666.
Camell, Nazzareno, G. Censolo, G. Sartori, and A. Valvassori, to Montecatini Edison S.p.A. Synthesis of unsaturated bicyclic hydrocarbons. 3,407,239, 10–22–68, Cl. 260—666.
Canadian International Paper Co.: *See*—
Pherson, Perry O., Gibson, Watkins, Duke, and Murphy. 3,407,103.
Canadian Patents and Development Ltd.: *See*—
Thistle, William G. 3,407,291.
Capotosto, Augustine: *See*—
Petrocelli, Americo W., Marriott, Turco, and Capotosto. 3,407,129.
Carlström, Börge I., A. Saarnak, and B. A. L. Ekedahl, to Aktiebolaget Hoganasmetoder. Plastic tubes. 3,406,724, 10–22–68, Cl. 138—137.
Carr, James A., to E. I. du Pont de Nemours and Co. Batch polymerization of aqueous diamine-dicarboxylic acid salt. 3,407,179, 10–22–68, Cl. 260—78.
Carskaddan, Phillip S., to United States Steel Corp. Annealing base plate of nesting rings. 3,406,956, 10–22–68, Cl. 263—47.
Carstensen, Jens T., and J. J. Vance, to Hoffmann-La Roche Inc. Tablet coating compositions comprising methyl vinyl ethermaleic anhydride copolymer, plasticizer and surface active agent. 3,407,157, 10–22–68, Cl. 260—23.
Carter, Lloyd G., and D. K. Smith, to Halliburton Co. Method of well cementing with conduit coated with heat sensitive material. 3,406,756, 10–22–68, Cl. 166—21.
Casebolt, George S., to American Cyanamid Co. Aminotriazine decorative, dimensionally stable molding compound containing a polymerized aromatic monomer and hydroxyl containing vinyl monomers copolymer. 3,407,155, 10–22–68, Cl. 260—17.3.
Casebolt, George S., and D. E. Cordier, to American Cyanamid Co. Acid amide modified urea formaldehyde alpha-cellulose filled molding compound. 3,407,154, 10–22–68, Cl. 260—17.3.
Casellas, Juan, to Clemente F. Martin. Hydraulic force boosters for braking equipment and the like. 3,406,520, 10–22–68, Cl. 60—54.5.
Casellas, Juan, to Clemente F. Martin. Hydraulic boosters. 3,406,521, 10–22–68, Cl. 60—54.5.
Cast, Adolf, and K. Reich, to Karl M. Reich, Maschinenfabrik. Pneumatic nailing machine. 3,406,889, 10–22–68, Cl. 227—130.
Caterpillar Tractor Co.: *See*—
Fall, Harry W., and Miller. 3,406,470.
Cavagna, Giancarlo A., to West Virginia Pulp and Paper Co. Quaternary ammonium salts of lignin. 3,407,188, 10–22–68, Cl. 260—124.
Celanese Corp.: *See*—
Lyon, Charles R. 3,406,916.
Censolo, Gaetano: *See*—
Camell, Nazzareno, Censolo, Sartori, and Valvassori. 3,407,239.
Central Specialties Co.: *See*—
Ballenger, Robert J., and W. G. 3,406,985.
Cen-Trific-Air Products, Inc.: *See*—
Wisting, Walter L. 3,406,498.
Cerra, Joseph S., to Sylvania Electric Products Inc. Pin insertion tool. 3,406,764, 10–22–68, Cl. 173—55.
Chaboseau, Jean, to Compagnie Electro-Mecanique. Multiple impeller blower construction. 3,406,896, 10–22–68, Cl. 230—128.
Chalkley, Lyman. Photosensitive lithographic plate coating comprising dichromated colloid and unmordanted mordant dye. 3,407,065, 10–22–68, Cl. 96—33.
Chalmers, Franklin L.: *See*—
Barry, Adelbert, Chalmers, and Pearson. 3,406,778.
Chamness, Leland D., and A. F. Marion, to Friden, Inc. Driving means for high-speed printing apparatus. 3,406,625, 10–22–68, Cl. 101—93.
Chapin, Howard R., to Controls Co. of America. Pressure switch. 3,407,277, 10–22–68, Cl. 200—83.
Chapper, John. Universal coupling. 3,406,534, 10–22–68, Cl. 64—7.
Charlot, Lincoln H., Jr., to Minnesota Mining and Mfg. Co. Electrical detecting means. 3,407,403, 10–22–68, Cl. 343—7.5.
Chase Brass & Cooper Co, Inc.: *See*—
Davenport, William H. 3,407,127.
Chemerda, John M., E. W. Tristram, and R. J. Tull, to Merck & Co., Inc. Stereospecific synthesis of amino acids. 3,407,226, 10–22–68, Cl. 260—519.
Chemical Process Corp.: *See*—
Egbert, Robert B., Oricchio, and Giuodenis. 3,407,215.
Egbert, Robert B. 3,407,216.
Chemische Werke Huls Aktiengesellschaft: *See*—
Robl, Hermann. 3,407,036.
Cherdron, Egon: *See*—
Ruter, Hermann, Haerter, Cherdron, and Scheuermann. 3,406,033.
Chevron Research Co.: *See*—
Rundle, Victor A. 3,407,161.
Rundle, Victor A. 3,407,162.
Slentz, Loren W. 3,407,042.
Chew, Lois E., to American Cyanamid Co. Liquid styrenated phenolic antioxidant for rubber. 3,407,147, 10–22–68, Cl. 252—404.
Chicago Bridge & Iron Co.: *See*—
Lusk, Dudley T. 3,406,526.
Chiddix, Max E., D. J. Tracy, and V. Shah, to GAF Corp. Antioxidant composition comprising a synergistic mixture of a phenol and certain sulfones. 3,407,140, 10–22–68, Cl. 252—47.5.
Chinn, Leland J. to G. D. Searle & Co. 17α-alkyl-17β-methyl-8ξ,9ξ,13ξ,14ξ-gona-1,3,5(10)-trien-3-ols and congeners. 3,407,219, 10–22–68, Cl. 260—397.5.
Christensen, Kenneth M., to The Pillsbury Co. Sanitary immersion bearing for food products. 3,406,940, 10–22–68, Cl. 259—109.
Chubb, Francis L.: *See*—
McColl, John D., and Chubb. 3,407,193.
Ciarlariello, Thomas A., to Mine Safety Appliances Co. Method and apparatus for measuring the quality of a gaseous fluid. 3,406,563, 10–22–68, Cl. 73—29.
Ciba Ltd.: *See*—
Fuerer, Heini, and Rockenbauer. 3,407,031.
Goerg Alfred. 3,407,128.
Liechti, Peter, Maeder, Gugilelmetti, Duennenberger, and Siegrist. 3,407,196.
Luethi, Christian, Biland, Schellenbaum, and Duennenberger. 3,407 201.
Cities Service Oil Co.: *See*—
Jonusz, Daniel F., and Ryer. 3,407,136.
Claffey, Frank J., to American Bosch Arma Corp. Capsulated fuel injection nozzle. 3,406,912, 10–22–68, Cl. 239—533.
Clark Equipment Co.: *See*—
Gordon, Richard O. 3,406,703.
Clark, Eugene N., V. D. Cone, D. P. Masher, and W. R. Vincent, to Stanford Research Institute. Data processing and signal display system for radio communication sounding system. 3,407,355, 10–22–68, Cl. 325—67.
Clark, Raymond C., to Huyck Corp. Ventilation system for a papermaking machine. 3,406,464, 10–32–68, Cl. 34—111.
Clarke, George R., Jr., to Allied Chemical Corp. Crimping process. 3,406,436, 10–22–68, Cl. 28—72.
Clayson, Kenneth H.: *See*—
Needham, Thomas E., and Clayson. 3,406,802.
Clein, Brian: *See*—
Rohrlick, Michael K., and Clein. 3,406,647.
Clement, John H. Key case. 3,406,546, 10–22–68, Cl. 70—456.
Clifford, Alan F., and J. Jaffe, to Monsanto Co. Method of catalytically treating gases. 3,407,030, 10–22–68, Cl. 23—2.
Clifford, Francis P. Automatic measuring apparatus. 3,406,601, 10–22–68, Cl. 83—72.

Clough, Roy, to United Kingdom Atomic Energy Authority. Nuclear reactor fuel elements. 3,407,116, 10–22–68, Cl. 176—68.
Coal Industry (Patents) Ltd.: *See*—
Pidgeon, Brian G. 3,407,002.
Coapman, Richard T.: *See*—
Kulaga, Sylvester, Coapman, and MacDonald. 3,406,414.
Coleman Engineering Co., Inc.: *See*—
Armstrong, Lee B., and Reid. 3,406,431.
Colgate-Palmolive Co.: *See*—
Cubitt, Robert B. 3,406,688.
Colonial Knife Co., Inc.: *See*—
Paolantonio, Albert J. 3,406,815.
Columbian Carbon Co.: *See*—
Pobst, David F., Jr., and Rowlett. 3,406,420.
Colwell, Walter R. Bolt hole marker. 3,406,460, 10–22–68, Cl. 33—189.
Combustion Engineering, Inc.: *See*—
Blaskowski, Henry J. 3,406,664.
Lichtenberger, Harold V. 3,407,117.
Comitetul de Stat pentru Cultura si Arta Bucharest: *See*—
Morozan, Dumitru. 3,407,043.
Compagnie de Saint-Gobain: *See*—
Brule, Daniel C. 3,407,145.
Compagnie Electro-Mecanique: *See*—
Chaboseau, Jean. 3,406,896.
Compagnie Francaise Thomson-Hotchkiss Brandt: *See*—
Calopin, Claude: 3,407,361.
Compagnie Generale des Etablissements Michelin, raison sociale Michelin & Cie: *See*—
Boileau, Jacques. 3,406,733.
Massoubre, Jean-Marie. 3,407,046.
Computing Device of Canada, Ltd.: *See*—
Cox, William J. G. 3,407,292.
Conch International Methane Ltd.: *See*—
Huntress, Charles O., and Proctor. 3,407,052.
Jackson, Robert G. 3,406,838.
Nachshen, Maurice. 3,406,859.
Concut, Inc.: *See*—
Simms, Glen E., and Cook. 3,407,005.
Cone, Virgil D.: *See*—
Clark, Eugene N., Cone, Masher, and Vincent. 3,407,355.
Conover, William J., to Black, Sivals & Bryson, Inc. Method and structure for discharging granular material. 3,406,844, 10–22–68, Cl. 214—16.
Consolidated Foods Corp.: *See*—
Schlichter, Arthur I. 3,407,078.
Container Corp. of America: *See*—
Donaldson, David. 3,406,862.
Woelbel, Wilhelm, Owens, and Smith. 3,406,615.
Continental Can Co. Inc.: *See*—
Frankenberg, Henry E. 3,406,554.
Jasper, John C. 3,406,866.
Szajna, John L. 3,406,874.
Westphal, Teddy M., and Stec. 3,406,867.
Continental Oil Co.: *See*—
Every, Richard L., and Shock. 3,407,004.
Controls Co. of America: *See*—
Chapin, Howard R. 3,407,277.
Coody, John L. Pipe bending machine. 3,406,551, 10–22–68, Cl. 72—166.
Cook, David E.: *See*—
Simms, Glen E., and Cook. 3,407,005.
Cook, John S., and F. T. Geyling, to Bell Telephone Laboratories, Inc. Directive microwave antenna capable of rotating about two intersecting axes. 3,407,404, 10–22–68, Cl. 343—765.
Cook, Robert M., to ACF Industries, Inc. Cushioning structure for end of railway car. 3,406,835, 10–22–68, Cl. 213—8.
Cooper, Delbert P. Gullet-guarded, carbide-tipped saw. 3,406,729, 10–22–68, Cl. 143—133.
Cooperweld Steel Co.: *See*—
Washburn, Charles W. 3,406,926.
Copolymer Rubber & Chemical Corp.: *See*—
Hyde, Harold W., and Van Volkenburgh. 3,407,243.
Corbelli, Luigi: *See*—
Guglielmino, Agatino, Corbelli, and Di Giulio. 3,407,158.
Calvi Pierluigi, Corbelli, Balzani, and Longhi. 3,407,168.
Corbin, Patrick L.: *See*—
Naumann, Eugene C., and Corbin. 3,406,742.
Cordier, David E.: *See*—
Casebolt, George S., and Cordier. 3,407,154.
Cordova, Edward, ¼ to B. Sears III. Separating and counting apparatus. 3,406,869, 10–22–68, Cl. 221—199.
Cornell, Robert W., to United Aircraft Corp. Universal flexible suit joint. 3,406 723, 10–22–68, Cl. 138—121.
Cornils, Christie J., and C. R. Standt, to Stearns-Roger Corp. Distribution weir for falling-film evaporators. 3,406,716, 10–22–68, Cl. 137—590.
Corning Glass Works: *See*—
Argyle, Leroy C., and Bublitz. 3,407,055.
Fehlmer, Francis P. 3,407,125.
Hertl, William. 3,407,090.
Wesel, Peter E. and Zine. 3,406,886.
Cowell, Robert L.: *See*—
Ryan, John W., and Cowell. 3,406,482.
Cox, Frank T., Jr., to Rockwell-Standard Corp. Brake actuator. 3,406,609, 10–22–68, Cl. 92—63.
Cox, William J. G., to Computing Device of Canada, Ltd. Resolver system. 3,407,292, 10–22–68. Cl. 235—186.
Craft, John L., to International Business Machines Corp. Computer input channel. 3,407,391, 10–22–68, Cl. 340—172.5.
Crain, Allan M., to The Orville Simpon Co. Releasable screen tensioning and connecting means. 3,406,823, 10–22–68, Cl. 209—363.
Crandall, Eugene L. Fabric bonding process. 3,407,104, 10–22–68, Cl. 156—212.
Crane Packing Ltd.: *See*—
Wilkinson, Samuel C. W. 3,407,102.
Crane, Walton B. Garment hanger. 3,406,883, 10–22–68, Cl. 223—96.
Crettield, David F., to United Shoe Machinery Corp. Stacking devices for cutting presses. 3,406,602, 10–22–68, Cl. 83—92.
Crimmins, David J., to The Thomas & Betts Co. Molded bus assembly. 3,407,375, 10–22–68, Cl. 339—22.
Crothers, Roy E., and W. J. Gerstenmaier, to Sumington Wayne Corp. Shaft rotation pulsing device. 3,406,574, 10–22–68, Cl. 74—1.
Cryo-Cool Corp.: *See*—
Watkins, James F. 3,406,533.
Cubitt, Robert B., to Colgate-Palmolive Co. Diaper with paper face. 3,406,688, 10–22–68, Cl. 128—284.
Cull, John V. Circuit marker guard. 3,407,264, 10–22–68, Cl. 174—138.
Curran, Robert J., to Borg-Warner Corp. Overrunning clutch with automatic release. 3,406,798, 10–22–68, Cl. 192—35.
Curtis, Marland G. Lining ring assembly for rock crushers. 3,406,917, 10–22–68, Cl. 241—295.
Daamen, Jacobus J. H. G., to American Enka Corp. Cone marking apparatus. 3,406,654, 10–22–68, Cl. 118—2.
Daamen, Jacobus J. H. G.: *See*—
Duncker, Michiel J., and Daamen. 3,406,994.
Dahlund, Walter. Rotating drum grain dryer. 3,406,465, 10–22–68, Cl. 34—129.
Daimler-Benz Aktiengesellschaft: *See*—
Gotz, Hans. 3,406,622.
Helmer, Josef A. 3 406,799.
Suderow, Rudolf. 3,406,535.
Dakota Mfg. Co.: *See*—
Winckler, Elmer R. 3,406,852.
D'Alessandro, Alfred F.: *See*—
Juda, Walter, Novack, Fowle, and D'Alessandro. 3,407,095.
Dancygier, Chil. Device for mechanically forming a knitted border. 3,406,540, 10–22–68, Cl. 66—85.
Daniel, Charles E.: *See*—
Lacey, Byron. 3,406,774.
Danko, Richard A.: *See*—
Griffith, Herald E., and Danko. 3,406,856.
Griffith, Herald E., and Danko. 3,407,079.
Data-Control Systems, Inc.: *See*—
Ott, Owen J. 3,407,358.
Datatype Corp.: *See*—
Zappin, Joseph M. 3,406,580.
Davenport, William H., to Chase Brass & Copper Co. Inc. Method of recovering rhenium values from rhenium-containing scrap material. 3,407,127, 10–22–68, Cl. 204—82.
Davidson, Eugene M., to Hudson Engineering Corp. Tube assembling apparatus. 3,406,838, 10–22–68, Cl. 214—1.
Davis, Samuel L., to John Hancock Mutual Life Insurance Co. Insurance evaluation. 3,406,467, 10–22–68, Cl. 35—24.
Davis, Wilbern F., E. E. Masterson, and F. H. Schaller, to Honeywell Inc. Aligning device. 3,406,965, 10–22–68, Cl. 271—62.
Decker, Maurice S., Jr., and H. R. Hillier, to Midland-Ross Corp. Flange and backup ring for a conduit joint. 3,406,991, 10–22–68, Cl. 285—408.
De Coye de Castelet, Gaetan, to Regie Nationale des Usines Renault. Air heaters. 3,406,745, 10–22–68, Cl. 165—40.
Deere & Co.: *See*—
Shriver, George H., and Shaeffer. 3,406,506.
Soteropulos, Gust. 3,406,840.
Deering Milliken Research Corp.: *See*—
Mauldin, William L. 3,407,026.
De Flines, Jan, and W. F. van der Waard, to Koninklijke Nederland sche Gist- en Spiritusfabriek N.V. Process for microbiological side chain degradation of steroids of the pregnane series. 3,407,118, 10–22–68, Cl. 195—51.
De Flines, Jan, and W. F. van der Waard, to Koninklyke Nederlandsche Gist- en Spiritusfabriek NV. 9ξ,10α-steroids and methods of producing the same. 3,407,119, 10–22–68, Cl. 195—51.
De Gaston Raoul H. to H. L. Valette. Chair-adjusting means. 3,406,517, 10–22–68, Cl. 60—52.
De Graaf, Paul A.: *See*—
Elbogen, James S., and De Graaf. 3,406,709.
Della Vite, Romuald R., to Societe anonyme dite: Societe Francaise d'Etiquetage Virey & Garnier. Apparatus for applying labels to bottles. 3.407,108, 10–22–68, Cl. 156—458.
Delmor Lanes: *See*—
McClister, Harry A. and R. W. 3,406,902.
De Long, Denton, and J. E. Freeman, to Bell Aerospace Corp. Helicopter warning system. 3,407,399, 10–22–68, Cl. 340—263.
Del Vecchio, George D., and J. A. Hallagan, to Xerox Corp. Paper handling apparatus. 3,406,960, 10–22–68, Cl. 271—8.
Deming, Le Roy F. Soot eliminator. 3,406,500, 10–22–68, Cl. 55—241.
Denki Kagaku Kogyo Kabushiki Kaisha: *See*—
Horlie Shigeki, Sakaoka, Kurematsu, Hiraoka, and Sakamaki. 3,407,177.
Denki Onkyo Co., Ltd.: *See*—
Masuda, Noboru. 3,407,093.
Dentists Supply Co. of New York, The: *See*—
Anderson, Gus L. 3,406,451.
De Ridder, Ernst J., to Reynolds Metals Co. Method of providing an enlarged end on a member. 3,406,443, 10–22–68, Cl. 29—472.3.
De Vileg, Charles B., and R. A. Jerue, to De Vileg Machine Co. Machine tool spindle feed and drive mechanism and control system therefor. 3,406,796, 10–22–68, Cl. 192—.084.
De Vileg Machine Co.: *See*—
De Vileg, Charles B., and Jerue. 3,406,796.

Dewhurst, John R.: *See*—
Andrews, Ronald W. J., Kenward, and Dewhurst. 3,407,002.
Dexco Corp.: *See*—
Harris, William H., Jr. 3,406,489.
Dick, A. B., Co.: *See*—
Bach, Frederick O., and Frasher. 3,407,064.
Dickinson, Ben W. O., III, to Bechtel International Corp. Solar still with a cassegranian optical system. 3,407,122. 10–22–68, Cl. 202—83.
Diczhazy, Raymond B.: *See*—
Lawrence, Dennis I., and Diczhazy. 3,407,348.
Diedrich, Paul E., to Abex Corp. Control for variable volume pumps and motors. 3,406,608, 10–22–68, Cl. 91—368.
Diels, Karl G. K., to Leybold Holding AG. Mechanical vacuum pump. 3,406,897, 10–22–68, Cl. 230—138.
Dietzsch, Hans-Joachim, to Firma Schneider & Co. Apparatus for manufacturing ceramic elements having a honeycomb structure. 3,406,435, 10–22–68, Cl. 25—17.
Di Giulio, Enzo: *See*—
Guglielmino, Agatino, Corbelli, and Di Giulio. 3,407,158.
Dijt, John C., to Acme Industries, Inc. Air conditioning system. 3,406,528, 10–22–68, Cl. 62—89.
Dirks, Francis M. Hanger for bathtubs and the like. 3,406,936, 10–22–68, Cl. 248—216.
Doane, Elliott P., to Phillips Petroleum Co. Temperature control in multi-zone heat exchange operation. 3,406,740, 10–22–68, Cl. 165—1.
Doble Engineering Co.: *See*—
Doble, Frank C. 3,407,353.
Doble, Frank C., to Doble Engineering Co. Method and apparatus for compensating an electrical signal transmission path. 3,407,353, 10–22–68, Cl. 324—83.
Doerge, Herman P.: *See*—
Wismer, Marco, Doerge, Mosso, and Foote. 3,407,150.
Doering, John P., Jr. Clamp arrangement. 3,406,996, 10–22–68, Cl. 292—256.
Doerner, Frank, to Doerner Products Co. Ltd. Bell construction for chair support. 3,406,939, 10–22–68, Cl. 248—405.
Doerner Products Co. Ltd.: *See*—
Doerner, Frank. 3,406,939.
Doerner, Ralph W. International pipe cutter with screw threaded adjustment means. 3,406,449, 10–22–68, Cl. 30—107.
Dolan, Calvin M.: *See*—
Axelson, John S., and Dolan. 3,407,110.
Domer, Michel A. F., to Paulstra. Resilient coupling devices. 3,406,536, 10–22–68, Cl. 64—14.
Dominion Engineering Works, Ltd.: *See*—
Jenkinson, Richard I. 3,406,945.
Waterhouse, Peter. 3,406,925.
Donaldson, David, to Container Corp .of America. Venting closure. 3,406,862, 10–22–68, Cl. 220—44.
Donath, Hans, and G. Nothnagel, to Siemens Aktiengesellschaft. Arrangement for the fastening and contacting of a laminated conductor plate in a shield casing. 3,407,261, 10–22–68, Cl. 174—35.
Donnelly, Murray P., and J. E. Knoblock, to Ford Motor Co. Hydraulic tappet assembly. 3,406,668, 10–22–68, Cl. 123—90.
Doucet, Gilles, to Georges Lesieur & Ses Fils, Societe Anonyme. Devices for circularly sectioning plastic objects, notably for trimming bottles. 3,406,598, 10–22–68, Cl. 82—46.
Douglas, George H., C. R. Walk, and H. Smith, to American Home Products Corp. 5-hydroxy-6-oxagonan-3-ones. 3,407,214, 10–22–68, Cl. 260—345.3.
Dover Corp.: *See*—
Atkey, Richard E., and Jaseph. 3,406,484.
Dow Chemical Co., The: *See*—
Harder, Richard E. 3,406,947.
Harper, Billy G., Bashaw, and Self. 3,407,138.
Matthews, Russell E., and Foerster. 3,407,062.
Presley, Wayne E., and Hairston. 3,407,175.
Draudt, Donald A., and H. T. Thermo-plastic molding machine with floating screw spreader. 3,406,429, 10–22–68, Cl. 18—30.
Draudt, Herbert T.: *See*—
Draudt, Donald A., and H. T. 3,406,429.
Dreyer, Heinz, to Amazonen-Werke H. Dreyer. Fertilizer spreading apparatus. 3,406,915, 10–22–68, Cl. 239—683.
Dudley, Robert E., ⅛ to R. M. Tracey, and G. R. Brunstrom. Orbiting rolling display. 3,406,473, 10–22–68, Cl. 40—34.
Duennenberger, Max: *See*—
Liechti, Peter, Maeder, Gullelmetti, Duennenberger, and Siegrist. 3,407,196.
Luethi, Christian, Biland, Schellenbaum, and Duennenberger. 3,407,201.
Duflot, Jean, and P. Vayssiere, to Institut de Recherches de la Siderurgie Francaise Saint Germain-en-Laye. Apparatus and method for continuously casting of material, especially ferrous material. 3,406,737, 10–22–68, Cl. 164—86.
Duke, Marian F.: *See*—
Pherson, Perry O., Gibson, Watkins, Duke, and Murphy. 3,407,103.
Duncan, Lloyd P., to Zero Mfg. Co. Milking unit and process. 3,406,663, 10–22–68, Cl. 119—14.01.
Duncker, Michiel J., and J. J. H. G. Daamen, to Algemene Kunstzyde Unie N. V. Apparatus for making a yarn connection. 3,406,994, 10–22–68, Cl. 289—2.
Dunkel, Morris, to Universal Oil Products Co. 4,7-methanoindene derivatives. 3,407,225, 10–22–68, Cl. 260—488.
Duplessis, Gerard. Digger tooth locking pin. 3,406,471, 10–22–68, Cl. 37—142.
Du Pont de Nemours, E. I., and Co.: *See*—
Ballard, Kermit H. 3,407,081.
Barker, Arthur F. 3,406,944.
Bousquet, Euclid W. 3,407,206.
Du Pont de Nemours, E. I., and Co.: *See*—Continued
Carr, James A. 3,407,179.
Fan, Roxy N. 3,407,067.
Fan, Roxy N. 3,407,068.
Gage, Thomas B., and Mayberry. 3,407,092.
Hallstone, Robert B. 3,407,130.
Hallstone, Robert B. 3,407,131.
Karickhoff, Michael, and Miller. 3,407,112.
Kierstead, Roger C. 3,407,181.
La Berge, Robert W. 3,407,156.
Reinhardt, Heinz F. 3,407,247.
Sarrafidis, Christos. 3,407,244.
Sarrafidis, Christos. 3,407,245.
Duport, Jacques, and G. Martin, to Societe Grenobloise d'Etudes d'Applications Hydrauliques. Reversible hydraulic apparatus. 3,406,632, 10–22–68, Cl. 103—3.
Dura Corp.: *See*—
Brown, Hugh C. 3,406,631.
Durand, Georges: *See*—
Bounoure, Jean, and Durand. 3,407,180.
Durie, Robert W., to Shell Oil Co. Method of recovering hydrocarbons from an underground hydrocarbon-containing shale formation. 3,407,003, 10–22–68, Cl. 299—4.
Duriron Co., Inc., The: *See*—
Schenck, Robert C., Jr. 3,406,707.
Durkoppwerke Aktiengesellschaft: *See*—
Pollmeier, Konrad, and Frodermann. 3,406,646.
Dworkin, Donald Z., to Vikon, Inc. Antenna coupling apparatus for multiple receivers. 3,407,366, 10–22–68, Cl. 333—9.
Dye, Joe T. Archery arrow guide. 3,406,676, 10–22–68, Cl. 124—41.
Dykstra, Paul R.: *See*—
Pearse, James N., Dykstra, and Mayer. 3,407,312.
Dymo Industries, Inc.: *See*—
Bremer, Georg F. 3,406,806.
Dynamit Nobel Aktiengesellschaft: *See*—
Schöffl, Rainer. 3,406,606.
ESGE-Marby Gmbh & Co.: *See*—
Zurmuhlen, Emil. 3,406,885.
Easley, William G.: *See*—
Eyler, George, Easley, and Black. 3,406,581.
Eastman Kodak Co.: *See*—
Hoadley, Harvey O. 3,407,405.
Hochreiter, William T., Kareken, and Beach. 3,406,620.
McCall, Marvin A., and Guillet. 3,407,163.
Thompson, John W., and Ownby. 3,407,051.
Eastwood, Sylvander C., S. M. Oleck, and A. B. Schwartz, to Mobil Oil Corp. Minimizing deactivation of aluminosilicate catalysts due to changes in hydration level. 3,407,148, 10–22–68, Cl. 252—435.
Eaton Yale & Towne Inc.: *See*—
Gruber, Thomas J. 3,406,789.
Gruber, Thomas J. 3,406,790.
Trute, William C. 3,406,440.
Eclipse Fuel Engineering Co.: *See*—
Hirschberg, Erwin E., and Moore. 3,407,023.
Hirschberg, Erwin E., and Moore. 3,407,024.
Edwards, William D. Crankcase ventilation system. 3,406,669, 10–22–68. Cl. 123—119.
Egbert, Robert B., to Chemical Process Corp. Method for reducing phthalide content of phthalic anhydride. 3,407,216, 10–22–68, Cl. 260—346.7.
Egbert, Robert B., F. F. Oricchio, and T. J. Gluodenis, to Chemical Process Corp. Catalytic fluid bed oxidation of O-xylene to phthalic anhydride. 3,407,215, 10–22–68, Cl. 260—346.4.
Egleston, Harry B., and J. J. Feliks, to Ex-Cell-O Corp. Container closure. 3,406,892, 10–22–68, Cl. 229—37.
Eichorn, Roger H., to Xerox Corp. Adjustable pack holder. 3,406,964, 10–22–68, Cl. 271—61.
Eikos, Richard G.: *See*—
Hunder, David N., and Eikos. 3,406,987.
Ekco Products, Inc.: *See*—
Kaufman, Morris, and Bloch. 3,406,860.
Ekedahl, Bengt A. L.: *See*—
Carlstrom, Borge I., Saarnak, and Ekedahl. 3,406,724.
Elbogen, James S., and P. A. De Graaf, to Parker-Hannifin Corp. Tank filling and draining system and control valve assembly therefor. 3,406,709, 10–22–68, Cl. 137—389.
Electrohome Ltd.: *See*—
Buhr, Jacob. 3,407,360.
Verlinden, Harry W. 3,407,365.
Electrolux Corp.: *See*—
Anderson, James. 3,407,377.
Electro-Mechanical Research, Inc.: *See*—
Rome, Martin. 3,407,324.
Electronic Associates, Inc.: *See*—
Tonnessen, Alfred G. 3,407,293.
Electro-Optical Systems, Inc.: *See*—
Miller, Jack V. 3,407,018.
Ellamac Inc.: *See*—
MacChesney, Chester M., and Winkler. 3,406,696.
Elliott, William I., and J. L. Randall. Method for forming cooperatively threaded parts. 3,407,251, 10–22–68, Cl. 264—135.
Elvers, Ralph A. Transformer with wire end insulation means. 3,407,372, 10–22–68, Cl. 336—208.
Elwood Realties Ltd.: *See*—
Rohrlick, Michael K., and Clein. 3,406,647.
Embree, Ray R., to Physio-Control Corp. Electronic ground absence detector and protective device. 3,407,336, 10–22–68, Cl. 317—17.
Endo Laboratories, Inc.: *See*—
Pachter, Irwin J. 3,407,199.
Engelhard, William E., to Pyro-Serv Instruments, Inc. Thermocouple. 3,407,097, 10–22–68, Cl. 136—221.
Engstrom, Carl-Gunnar D. Respirator, Narcosis apparatus or the like having a delayed release safety valve. 3,406,682. 10–22–68, Cl. 128—145.6.

Erickson Tool Co.: *See*—
Benjamin, Milton L., and Walker. 3,406,596.
Erie Engineering Co.: *See*—
Kirsch, Jerry, and Robb. 3,406,837.
Eriksson, Sven-Erik N., to Atlas Copco Aktiebolag. Control valve assembly for fluid systems. 3,406,718, 10–22–68, Cl. 137—596.
Essex Wire Corp.: *See*—
Stol, Walter T. 3,407,278.
Esso Production Research Co.: *See*—
Barry, Adelbert, Chalmers, and Pearson. 3,406,778.
Esso Research and Engineering Co.: *See*—
Brown, Henry T. 3,407,135.
Gray, C. F., and Laurent. 3,407,058.
Heinrich, Raymond L. 3,407,178.
Slysh, Roman. 3,407,107.
Taylor, William F., and Sinfelt. 3,407,149.
Evans, Alvin W., R. Beichel, and K. Morghen. Ignition amplifying apparatus. 3,406,667, 10–22–68, Cl. 123—32.
Even, Shimon: *See*—
Spandorfer, Lester M., Tonik, and Even. 3,407,357.
Every, Richard L., and D. A. Shock, to Continental Oil Co. Solution mining of KCl-NaCl with solvent at ambient temperature. 3,407,004, 10–22–68, Cl. 299—5.
Ex-Cell-O Corp.: *See*—
Egleston, Harry B., and Feliks. 3,406,892.
Exner, Lawrence J., to Rohm & Haas Co. Light stabilized polyamide and process therefor. 3,407,170, 10–22–68, Cl. 260—41.
Eyler, George, W. G. Easley, and J. D. Black, to Cabot Corp. Pumping apparatus. 3,406,581, 10–22–68, Cl. 74—41.
F & F Enterprises, Inc.: *See*—
Gaber, Richard B. 3,406,589.
FMC Corp.: *See*—
Homilier, Irvin H. 3,406,591.
Fa Georg Fritzmeier KG: *See*—
Fritzmeier, Rupert. 3,407,000.
Fahey, Thomas D., to Steel, Inc. Method and apparatus for racking steel with a single hook hoist. 3,406,845, 10–22–68, Cl. 214—10.4.
Falkner, Chester B., Jr., to Shaffer Tool Works. Shock absorbing subassembly. 3,406,537, 10–22–68, Cl. 64—23.
Fall, Harry W., and L. J. Miller, to Caterpillar Tractor Co. Draft frames for scrapers. 3,406,470, 10–22–68, Cl. 37—129.
Fan, Roxy N., to E. I. du Pont de Nemours and Co. Photosolubilization with mercaptooxazoles. 3,407,067, 10–22–68, Cl. 96—107.
Fan, Roxy N., to E. I. du Pont de Nemours and Co. Photosolubilization. 3,407,068, 10–22–68, Cl. 96—107.
Fang, Frank F., to International Business Machines Corp. Insulated-gate field effect transistor exhibiting a maximum source-drain conductance at a critical gate bias voltage. 3,407,343, 10–22–68, Cl. 317—235.
Fanner Mfg. Co., The, Div. of Textron, Inc.: *See*—
Butz, Tom E., and Schlein. 3,406,518.
Fannon, John J., Jr., to Fostoria-Fannon, Inc. Apparatus for web drying. 3,406,954, 10–22–68, Cl. 263—3.
Farah, Basil S., and E. E. Gilbert, to Allied Chemical Corp. Acrylate and methacrylate esters and polymers thereof. 3,407,183, 10–22–68, Cl. 260—79.3.
Farbenfabriken Bayer Aktiengesellschaft: *See*—
Klauke, Erich Kühle, Hammann and Lorenz. 3,407,248.
Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
Fink, Walter, and Lehmann. 3,407,159.
Kuhlkamp, Alfred, Moschel and Nowack. 3,407,152.
Fassauer, Arthur L., to Gifford-Hill Western, Inc. Silo and silo components. 3,407,007, 10–22–68, Cl. 302—56.
Fast, Niko: *See*—
Ramstetter, Otto, and Fast. 3,407,370.
Faulk, Paul D. Game call. 3,406,479, 10–22–68, Cl. 46—180.
Fay, Clarence C. Master piston actuator. 3,406,522, 10–22–68, Cl. 60—54.6.
Feaster, Donavon L.: *See*—
Lane, Harrison R., and Feaster. 3,406,817.
Fehlmer, Francis P., to Corning Glass Works. Method of making filamentary metal structures. 3,407,125, 10–22–68, Cl. 204—20.
Felbush, Arthur M., and H. P. Kieltyka, to United States of America, Atomic Energy Commission. Impregnation of cellulosic materials with monomeric vinyl chloride with or without a dye and in situ polymerization by irradiation. 3,407,088, 10–22–68, Cl. 117—93.31.
Feliks, James J.: *See*—
Egleston, Harry B., and Feliks. 3,406,892.
Fellows, Thomas G.: *See*—
Perry, Forbes G. D. B., Fellows, and Petty. 3,406,597.
Felt Products Mfg. Co.: *See*—
Furstenburg, Alvin J., and Kujawa. 3,406,430.
Fernseh G.m.b.H.: *See*—
Krause, Gerhard. 3,407,265.
Sennhenn, Emil. 3,407,268.
Ferro Mfg. Corp.: *See*—
Pickles, Joseph. 3,406,594.
Pickles, Joseph. 3,406,795.
Fickweiler, August E. F., to Van der Heem N.V. Electric heating pad. 3,407,282, 10–22–68, Cl. 219—519.
Field, Robert B.: *See*—
Becka, Michael M., and Field. 3,406,415.
Finch, Walter G.: *See*—
McLean, William B. 3,407,320.
Fine, Arnold J.: *See*—
Green, James R., and Fine. 3,406,816.
Finger, Thomas H., and R. A. Heaton, to Owens-Illinois, Inc. Inspecting open mouth translucent containers for defects. 3,406,822, 10–22–68, Cl. 209—125.
Fink, Walter, and H. Lehmann, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Mixture of vinyl ester-vinyl phosphonic acid ester copolymers and natural and/or synthetic resins and its use as an adhesive. 3,407,159, 10–22–68, Cl. 260—27.
Fiquet, Claude J. J., and R. Leplat, to Societe d'Applications Techniques et Industrielles S.A.T.I. Perforator cap. 3,406,872, 10–22–68, Cl. 222—83.
Firma Fr. Hesser Maschinenfabrik A.G.: *See*—
Buchner, Norbert, and Kohnlein. 3,406,891.
Firma Ing. Erich Pfeiffer KG: *See*—
Pfeiffer, Erich R. 3,406,909.
Firma Maschinenfabrik Michael Kampf KG: *See*—
Brandstatter, Wilhelm. 3,406,454.
Firma Olympia Werke AG: *See*—
Bresslein, Helmut, and Korte. 3,406,899.
Firma Schneider & Co.: *See*—
Dietzsch, Hans-Joachim. 3,406,435.
Fischer & Porter Co.: *See*—
Rohmann, Charles P. 3,406,569.
Fischer, Stefan. Process and apparatus for the charging of a plurality of injection heads. 3,406,699, 10–22–68, Cl. 137—1.
Fisher, Mark E., and M. D. Smith, to General Motors Corp. Power transmission with power takeoff. 3,406,579, 10–22–68, Cl. 74—15.84.
Fitzgerald, Harry: *See*—
Lasbrey, Ian K. B., and Fitzgerald. 3,406,843.
Fives-Penhoet: *See*—
Lion, Rene. 3,406,752.
Fleisher, Harold, and K. M. Kosanke, to International Business Machines Corp. Element for optical logic. 3,407,017, 10–22–68, Cl. 350—150.
Fleissner, Heinz, to Vepa AG. Process and apparatus for drying and shrinking textile materials. 3,406,462, 10–22–68, Cl. 34—15.
Fleming, Joseph W.: *See*—
Wiesinger, Frederick C., Petko, and Fleming. 3,406,539.
Flord, Frederick, to Ozonair Engineering Co. Ltd. Automatic fabric air filter. 3,406,503, 10–22–68, Cl. 55—354.
Foerster, George S.: *See*—
Matthews, Russell E., and Foerster. 3,407,062.
Fogelberg, Clement V., and W. D. Hough, to Ball Brothers Co., Inc. Method for manufacturing hollow plastic articles. 3,407,250, 10–22–68, Cl. 264—99.
Fogg, Clifford C., to E. J. Brown. Float controlled valves. 3,406,711, 10–22–68, Cl. 137—443.
Foley, Henry T.: *See*—
Mustacchi, Henry, and Foley. 3,407,066.
Foote, James F.: *See*—
Wismer, Marco, Doerge, Mosso, and Foote. 3,407,150.
Ford Motor Co.: *See*—
Bonnett, Roy E. 3,406,908.
Donnelly, Murray P., and Knoblock. 3,406,668.
Frey, Stuart M. 3,406,433.
Jett, Robert W., McNeils, and Sowa. 3,406,736.
Kozicki, Henry J. 3,406,999.
Mitchell, Herbert C. 3,406,483.
Mitchell, James W., Jr., and Nida. 3,407,280.
Muzzi, Joseph M., and Rohn. 3,406,904.
Oster, Thomas H. 3,406,673.
Ounsted, Edwin J. 3,406,634.
Romine, Donald J. 3,407,326.
Forsberg, Arthur R. Stone and heavy grain discharge outlet for gravity separators. 3,406,824, 10–22–68, Cl. 209—467.
Fostoria-Fannon, Inc.: *See*—
Fannon, John J., Jr. 3,406,954.
Fowle, Merrill J.: *See*—
Juda, Walter, Novack, Fowle, and D'Alessandro. 3,407,095.
Foxboro Co., The: *See*—
Ridley, Walter H. 3,406,413.
Frangos, John, to Revlon, Inc. Pressure fluid dispensing and anti-clogging device. 3,406,877, 10–22–68, Cl. 222—402.1.
Frangos, John, to Revlon, Inc. Mechanical break-up actuator for fluid dispensers. 3,406,913, 10–22–68, Cl. 239—543.
Frank, Fred M., to The Baker Castor Oil Co. Rheological agents. 3,407,160, 10–22–68, Cl. 260—28.5.
Frankenberg, Henry E., to Continental Can Co. Inc. Apparatus for and method of forming containers. 3,406,554, 10–22–68, Cl. 72—333.
Franks, Joseph, to International Standard Electric Corp. Semiconductor device having the characteristics of a digital shift register. 3,407,341, 10–22–68, Cl. 317—234.
Franzen, Gustav: *See*—
Nimtz, Klaus, Franzen, and Lossa. 3,406,511.
Frasher, Paul E.: *See*—
Bach, Frederick O., and Frasher. 3,407,064.
Fredrickson, Bert E. Archery bow with handgrip adjusting means and arrow supply support. 3,406,675, 10–22–68, Cl. 124—24.
Freeman, Donald C., Jr., and M. C. Otto, to Union Carbide Corp. Superconducting articles and method of manufacture. 3,407,049. 10–22–68, Cl. 29—183.
Freeman, Jeff E.: *See*—
de Long, Denton, and Freeman. 3,407,399.
Freeman, Reginald F.: *See*—
Persichini, Dominic J., and Freeman. 3,406,561.
Frentzel, Karl O., to E. W. Bliss Co. Automatic belt tensioning device. 3,406,582. 10–22–68, Cl. 74—242.14.
Frey, Stuart M., to Ford Motor Co. Seat belt coupling device. 3,406,433. 10–22–68, Cl. 24—223.
Fricke, Arthur L.: *See*—
Overcashier, Robert H., and Fricke. 3,407,151.
Friden, Inc.: *See*—
Blodgett, Edwin O. 3,407,287.
Chamness, Leland D., and Marion. 3,406,625.
Fridley, Robert B., to The Regents of the University of California. Limb shaker for attachment to a tree. 3,406,508, 10–22–68, Cl. 56—328.

Fritzmeier, Rupert, to Fa Georg Fritzmeier KG. Vehicle roof structure. 3,407,000, 10–22–68, Cl. 296—137.
Frodermann, Helmut: *See*—
Pollmeier, Konrad, and Frodermann. 3,406,646.
Frohbach, Hugh F., and P. J. Rice, to Stanford Research Institute. Reflective electrical oscillating display device. 3,407,401, 10–22–68, Cl. 340—324.
Fruehauf, Hugo, and D. W. Shanfeldt. Variable delay windshield wiper system. 3,407,345, 10–22–68, Cl. 318—443.
Fry, Walter L., Jr.: *See*—
Rutzen, Robert E., Fry, and Squibb. 3,406,998.
Fuchs, Francis J., Jr., to Western Electric Co., Inc. Cold forming of articles. 3,406,535, 10–22–68, Cl. 72—377.
Fuerer, Heinl, and W. Rockenbauer, to Ciba Ltd. Process for the manufacture of inorganic chlorides. 3,407,031, 10–22–68, Cl. 23—15.
Fuerst, Milton J., to Kimberly-Clark Corp. Attachment means for mop head. 3,406,421, 10–22–68, Cl. 15—231.
Fujitsu Ltd.: *See*—
Isobe, Toyosaku, and Miyakawa. 3,407,350.
Fundamental Research Co.: *See*—
Buck, Willard E. 3,407,044.
Furstenburg, Alvin J., and E. J. Kujawa, to Felt Products Mfg. Co. Mold for molding strips. 3,406,430, 10–22–68, Cl. 18—42.
GAF Corp.: *See*—
Boston, Robert L., and Roth. 3,406,921.
Chiddix, Max E., Tracy, and Shah. 3,407,140.
GAF (Great Britain) Ltd.: *See*—
Mustacchi, Henry, and Foley. 3,407,066.
Gaber, Richard B., to F & F Enterprises, Inc. Push-push switch structures. 3,406,589, 10–22–68, Cl. 74—503.
Gage, Thomas B., and T. C. Mayberry, to E. I. du Pont de Nemours, and Co. Coated tire cord yarn. 3,407,092, 10–22–68, Cl. 117—138.8.
Galopin, Claude, to Compagnie Francaise Thomson-Hotchkiss Brandt. Automatic frequency control system with intermittent phase resetting means. 3,407,361, 10–22–68, Cl. 331—10.
Ganz, Alexander J., to Hercules Inc. Protein-polymer complexes and process. 3,407,076, 10–22–68, Cl. 99—139.
Garde, Albert J.: *See*—
Hanlon, George A., and Garde. 3,406,514.
Garrett, Charles G. B., to Bell Telephone Laboratories, Inc. Infrared laser beam detection utilizing a cavity resonator. 3,407,297, 10–22–68, Cl. 250—83.3.
Gary, Herbert H.: *See*—
Siegal, Bernard, Gary, and Shin. 3,407,254.
Gastaud, Jean M. Process for the preparation of 17-alpha-hydroxy-progesterone heptylate. 3,407,218, 10–22–68, Cl. 260—397.4.
Gebruder Giulini GmbH: *See*—
Ruter, Herman, Haerter, Cherdron, and Scheuermann. 3,407,033.
Gehman, Samuel D.: *See*—
Livingston, Daniel I., and Gehman. 3,406,566.
Geneloni, Aldo, and L. Bartoletti. Structure of a screw to fix pieces to be worked on a work bench of a tool machine type. 3,406,958, 10–22–68, Cl. 269—137.
General Binding Corp.: *See*—
Staats, Henry N., Levitan, and Morrissey. 3,407,105.
General Dynamics Corp.: *See*—
Petrocelli, Americo W., Marriott, Turco, and Capotosto. 3,407,129.
General Electric Co.: *See*—
Axelson, John S., and Dolan. 3,407,110.
Hartung, Edward C. 3,407,335.
Heft, Eldon B., and Laubenheimer. 3,407,368.
Kemeny, Julius. 3,406,578.
Lonerini, Donald F. 3,407,176.
Saum, George A. 3,407,322.
General Electrodynamics Corp.: *See*—
Salgo, Francis J. 3,407,331.
General Mills, Inc.: *See*—
Helin, Richard R. 3,407,077.
Reilly, Albert F. 3,407,111.
General Motors Corp.: *See*—
Baier, John P. 3,406,583.
Fisher, Mark E., and Smith. 3,406,579.
Gosma, John W. 3,407,371.
Huntzinger, Gerald O. 3,407,306.
Jacobs, James W. 3,407,285.
Kidder, Wayne B. 3,406,903.
Kronenberger, Paul E. 3,407,016.
Luther, Burton N. 3,406,773.
Marks, Craig. 3,406,951.
Perna, Frank, Jr., and Sperling. 3,406,562.
Roby, Alfred B. 3,407,286.
Ruschman, Donald C., and Schulte. 3,406,832.
Trabold, William G. 3,407,395.
White, Gerald A. 3,406,952.
General Time Corp.: *See*—
Morrison, David, and Robinson. 3,407,402.
Georges Lesieur & Ses Fils, Societe Anonyme: *See*—
Doucet, Gilles. 3,406,598.
Gerstenmaier, William J.: *See*—
Crothers, Roy E., and Gerstenmaier. 3,406,574.
Gerzon, Koert, and D. L. K. Kau, to Eli Lilly and Co. Adamantoates esters of nucleosides. 3,407,191, 10–22–68, Cl. 260—211.5.
Gesellschaft fur Kernforschung m.b.h.: *See*—
Bukau, Fritz. 3,406,665.
Haffer, Dieter. 3,406,783.
Geyling, Franz T.: *See*—
Cook, John S., and Geyling. 3,407,404.
Gibson, Menzie: *See*—
Pherson, Perry O., Gibson, Watkins, Duke, and Murphy. 3,407,103.
Giddings & Lewis Machine Tool Co.: *See*—
Tullis, Lyell C. 3,406,593.
Gifford-Hill Western, Inc.: *See*—
Fassauer, Arthur L. 3,407,007.
Gilbert, Everett E.: *See*—
Farah, Basil S., and Gilbert. 3,407,183.
Gillen, Floyd M.: *See*—
Bienert, Walter B., and Gillen. 3,407,037.
Giovanardi, Sandro: *See*—
Milano, Mario, and Giovanardi. 3,406,732.
Giuodenis, Thomas J.: *See*—
Egbert, Robert B., Oricchio, and Giuodenis. 3,407,215.
Goerg, Alfred, to Ciba Ltd. Process for the manufacture of chlorine, sodium hydroxide and hydrogen by the electrolysis of sodium chloride in mercury cells. 3,407,128, 10–22–68, Cl. 204—99.
Gogarty, William B., to Marathon Oil Co. Petroleum production utilizing miscible and thickened slugs. 3,406,754, 10–22–68, Cl. 166—9.
Golay & Co., Inc.: *See*—
Kuster, Harry B. 3,406,717.
Goldberg, Moses W.: *See*—
Teitel, Sydney, and Goldberg. 3,407,234.
Goldberg, Regina H.: *See*—
Teitel, Sidney, Goldberg M., and R. 3,407,234.
Golden, Bertie C. Plastic drawstring bag machine. 3,406,610, 10–22–68, Cl. 93—8.
Goldman, Robert N., to Telecredit, Inc. Customer service unit. 3,407,388, 10–22–68, Cl. 340—152.
Gomez, Alvaro S. Temperature and humidity controls for a cigar vending machine. 3,406,743, 10–22–68, Cl. 165—12.
Gonzales, Antonio R. Manufacture of containers for liquids. 3,406,442, 10–22–68, Cl. 29—455.
Goodrich, Robert S., to Apsco Products, Inc. Table or desk model tape embosser. 3,406,805, 10–22–68, Cl. 197—6.7.
Goodyear Tire & Rubber Co., The: *See*—
Livingston, Daniel I., and Gehman. 3,406,566.
Gordon, Richard O., to Clark Equipment Co. Pulsating hydraulic control. 3,406,703, 10–22–68, Cl. 137—99.
Gosma, John W., to General Motors Corp. Loudspeaker magnet structure. 3,407,371, 10–22–68, Cl. 335—231.
Goss, Harold J., to The International Paper Box Machine Co. Timed bottom feed magazine. 3,406,963, 10–22–68, Cl. 271—35.
Goto, Eizo: *See*—
Ose, Akira, and Goto. 3,407,054.
Gotz, Hans, to Daimler-Benz Aktiengesellschaft. Ventilation means for passenger motor vehicles. 3,406,622, 10–22–68, Cl. 98—2.
Grabaccio, Edward B., to McCoy Ellison, Inc. Eccentric for securing bobbins to a creel. 3,406,927, 10–22–68, Cl. 242—129.5.
Grace, W. R., & Co.: *See*—
Testa, Anthony J. 3,406,854.
Grad, Peter P., to Rotron Mfg. Co., Inc. Structure for securing motor winding heads. 3,407,321, 10–22–68, Cl. 310—270.
Grantham, Rodney E., to United States of America, Navy. Shock wave pumped laser. 3,407,362, 10–22–68, Cl. 331—94.5.
Gray, C. F., and S. M. Laurent, to Esso Research and Engineering Co. Process for producing metallic iron from hydrated oxidic iron ores. 3,407,058, 10–22–68, Cl. 75—26.
Great Lakes Carbon Corp.: *See*—
Joo, Louis A. 3,407,209.
Joo, Louis A., and Young. 3,407,208.
Greefkes, Johannes A., to North American Philips Co., Inc. Transistor device. 3,407,315, 10–22–68, Cl. 307—299.
Green, James R., and A. J. Fine, to Mattel Inc. Display container. 3,406,816, 10–22–68, Cl. 206—45.34.
Greenberg, Robert L., to Rudd-Melikian, Inc. High frequency heating apparatus. 3,407,279, 10–22–68, Cl. 219—10.55.
Greene, Michael J., and C. B. Wendell, to Cabot Corp. Plasma producing apparatus. 3,407,281, 10–22–68, Cl. 219—121.
Greensmith, Norman, to Naylor Bros. (Clayware) Ltd. Decanting columns. 3,406,830 10–22–68, Cl. 210—241.
Greenview Mfg. Co.: *See*—
Slemund, Herbert A. 3,406,420.
Greenwood, Walter: *See*—
Manetta, Peter J., Tabor and Greenwood. 3,406,836.
Grefco, Inc.: *See*—
Tarbell, Harlan E., and Mogg. 3,407,083.
Griesser, A. G.: *See*—
Griesser, Friedrich. 3,406,735.
Griesser, Friedrich, to A. G. Griesser. Venetian blinds. 3,406,735, 10–22–68, Cl. 160—133.
Griffith, Herald E., and R. A. Danko, to Star-Kist Foods, Inc. Package for prepared tart crusts. 3,406,856, 10–22–68, Cl. 220—4.
Griffith, Herald E., and R. A. Danko, to Star-Kist Foods, Inc. Pie crust package and method of packaging. 3,407,079, 10–22–68, Cl. 99—172.
Gross, Friedrich, to Westinghouse Bremsen-und Apparatebau G.m.b.H. Combined multiple fluid distribution panel blocks and connector means therefor. 3,406,989, 10–22–68, Cl. 285—137.
Gross, John, and J. J. Hiegel, to E. W. Bliss Co. Clamping and sticking guide. 3,406,553, 10–22–68, Cl. 72—252.
Grotness, Gunnar, to Pneumatic-Hydraulic Development Co., Inc. Angular and lateral self-aligning rod coupling. 3,406,992, 10–22–68, Cl. 287—91.
Grotz, Mike E. Potato peeler with eye removal cutting edge. 3,406,450, 10–22–68, Cl. 30—279.
Gruber, Thomas J., to Eaton Yale & Towne Inc. Reversing valve. 3,406,789, 10–22–68, Cl. 184—7.
Gruber, Thomas J., to Eaton Yale & Towne Inc. Series multiple type of two-line lubrication system. 3,406,790, 10–22–68, Cl. 184—7.

Grudoski, Daniel P., to Blazon, Inc. Safety frame for hobby-horses and other suspended seating devices. 3,406,934, 10–22–68, Cl. 248—165.
Guglielmino, Agatino, L. Corbelli, and E. Di Giulio, to Montecatini Edison S.p.A. Low temperature vulcanization of monoolefin-nonconjugated polyolefin elastomeric interpolymers using hydroperoxides. 3,407,158, 10–22–68, Cl. 260—23.5.
Guidarelli, Elio J., to Soy Food Products, Inc. Soybean treating process. 3,407,073, 10–22–68, Cl. 99—98.
Guillet, James E.: *See*—
McCall, Marvin A., and Guillet. 3,407,163.
Guilelmetti, Leonardo: *See*—
Liechti, Peter, Maeder, Guilelmetti, Duennenberger, and Siegrist. 3,407,196.
Gulliver, Richard F., to Waldorf Paper Products Co. Display cartons. 3,406,814, 10–22–68, Cl. 206—45.14.
Gunderson, B. Harry, Thread identifying device. 3,406,461, 10–22–68, Cl. 33—199.
Gwinn, M. Benjamin, and E. P. Buchmiller, to National Packaging Products. Apparatus for producing and stacking sheet-like items. 3,406,611, 10–22–68, Cl. 93—8.
Haas, Howard C., to Polaroid Corp. Pyridine esters of carboxylic acids, their synthesis and polymers thereof. 3,407,186, 10–22–68, Cl. 260—88.3.
Haas, Ralph W., and W. H. Hell, to The Marquardt Corp. Electro-optical associative memory. 3,407,393, 10–22–68, Cl. 340—173.
Habadas, Edward P., to Calumet & Hecla, Inc. Peg type heat exchangers for thermoelectric devices. 3,406,753, 10–22–68, Cl. 165—185.
Hackett, Norman H. Booster unit for vehicle hydraulic brake systems. 3,406,519, 10–22–68, Cl. 60—54.5.
Hackey, Donald, to Standon Associates Ltd. Golf practice device including distance and deviation measurement indicators. 3,406,571, 10–22–68, Cl. 73—379.
Haegele, Karl: *See*—
Schoetensack, Wolfgang, Hallmann, and Haegele. 3,407,210.
Haerter, Manfred: *See*—
Ruter, Hermann, Haerter, Cherdron, and Scheuermann. 3,406,033.
Haffer, Dieter, to Gesellschaft Fur Technischen Fortschritt m.b.H. Soundproof pipe connection. 3,406,783, 10–22–68, Cl. 181—33.
Hagerty, Donald P.: *See*—
Banush, Russell S., and Hagerty. 3,407,141.
Hailstone, Robert B., to E. I. du Pont de Nemours and Co. Process of treating polyvinylbutyral sheeting by an electric discharge in nitrogen to reduce blocking. 3,407,130, 10–22–68, Cl. 204—165.
Hailstone, Robert B., to E. I. du Pont de Nemours and Co. Process of treating polyvinylbutyral sheeting by an electric discharge to reduce blocking. 3,407,131, 10–22–68, Cl. 204—165.
Hairston, Thomas J.: *See*—
Presley, Wayne E., and Hairston. 3,407,175.
Halada, Ladislavo, to Ustredni reditelstvi Ceskoslovenskeho filmu. Method and apparatus for graphically illustrating the continuous movement of an object. 3,406,453, 10–22–68, Cl. 33—23.
Hall, C. P., Co.: *See*—
Kuceski, Vincent P., and McGuire. 3,407,166.
Hall, Ronald D., and Howard, to Allied Breweries Ltd. Continuous stream brewing process employing permeable yeast plug. 3,407,069, 10–22–68, Cl. 99—31.
Hallagan, John A.: *See*—
Del Vecchio, George D., and Hallagan. 3,406,960.
Halliburton Co.: *See*—
Carter, Lloyd G., and Smith. 3,406,756.
Hallmann, Guenther: *See*—
Schoetensack, Wolfgang, Hallmann, and Haegele. 3,407,210.
Hammann, Ingeborg: *See*—
Klauke, Erich, Kilhle, Hammann, and Lorenz. 3,407,248.
Hammond Corp.: *See*—
Schrecongost, Ray B. 3,407,260.
Hancock, John, Mutual Life Insurance Co.: *See*—
Davis, Samuel L. 3,406,467.
Hancox, Ronald N., to Sperry Rand Corp. Hydraulic system for excavator. 3,406,856, 10–22–68, Cl. 214—138.
Hand, Eugene E., to High Voltage Engineering Corp. Electrode structure for a charged particle accelerating apparatus, arrayed and biased to produce an electric field between and parallel to the electrodes. 3,407,323, 10–22–68, Cl. 313—63.
Hanks, Clovis H. Garment with a fluid heating system. 3,406,678, 10–22–68, Cl. 126—208.
Hanlon, George A., and A. J. Garde, to The Blake, Whitney Co. Communication cable quad and method of making same. 3,406,514, 10–22–68, Cl. 57—156.
Hansen, Carl W., to Picker Corp. Collimator and method of making same. 3,407,300, 10–22–68, Cl. 250—105.
Hansen, Iver C.: *See*—
Looschen, Floyd W., Hansen, and Sharp. 3,407,387.
Hansen, Theodore A., to Teletype Crop. Contact cleaning circuit. 3,407,311, 10–22–68, Cl. 307—137.
Hanson, Carl M. Harvesting and threshing combine. 3,406,505, 10–22–68, Cl. 56—21.
Hardcastle, Leonard: *See*—
Hastewell, Claude H., and Hardcastle. 3,406,725.
Harder, Richard E., to The Dow Chemical Co. Interfacial surface generator. 3,406,947, 10–22–68, Cl. 259—4.
Hardesty, William J., to Tele-Flame, Inc. Warning device and system for flame failure. 3,407,369, 10–22–68, Cl. 335—156.
Harding, Brian, to Metal Sections Ltd. Panelling arrangements. 3,406,491, 10–22–68, Cl. 52—238.
Hardison, Leslie C., to Universal Oil Products Co. Semi-catalytic infra-red heat producing unit. 3,407,025, 10–22–68, Cl. 431—329.
Harms, August F., to Brocades-Stheeman & Pharmacia. Methods of treating arteriosclerotic vertigo and depression. 3,407,258, 10–22–68, Cl. 424—339.
Harper, Billy G., R. N. Bashaw, and B. L. Self, to The Dow Chemical Co. Method and composition for extinguishing and preventing fires in flammable liquids. 3,407,138, 10–22–68, Cl. 252—2.
Harris, Alva F., to Monsanto Co. Mass polymerization process in the presence of polyhydric alcohol monoesters. 3,407,246, 10–22–68, Cl. 260—880.
Harris, Frederick J., to Olin Mathieson Chemical Corp. Rivet tool. 3,406,557, 10–22–68, Cl. 72—391.
Harris, William H., Jr., to Dexaco Corp. Abrading wheel structure. 3,406,489, 10–22–68, Cl. 51—356.
Hartke, Jerome L., to Xerox Corp. Selenium trapping memory. 3,407,394, 10–22–68, Cl. 340—173.
Hartung, Edward C., to General Electric Co. Overvoltage responsive control for shunt protective circuit. 3,407,335, 10–22–68, Cl. 317—16.
Hastewell, Claude H., and L. Hardcastle, to G. H. Norton & Co. Ltd. Variable height pile cutting means for double pile fabric looms and the method therefor. 3,406,725, 10–22–68, Cl. 139—21.
Hauser, William G.: *See*—
Milan, Henry J., and Hauser. 3,407,014.
Hayden, Howard W., Jr.: *See*—
Trapp, Robert H. and G., Hayden, and Brophy. 3,407,050.
Haynes, Theodore J. Core locked ferrule. 3,406,993, 10–22–68, Cl. 287—127.
Heatherwill Co.: *See*—
Hunter, William A. 3,406,738.
Heaton, Richard A.: *See*—
Finger, Thomas H., and Heaton. 3,406,822.
Heft, Eldon B., and R. W. Laubenheimer, to General Electric Co. Current-limiting circuit breaker. 3,407,368, 10–22–68, Cl. 335—16.
Heinrich, Raymond L., to Esso Research and Engineering Co. Water removal from continuous xylene-formaldehyde condensation reaction. 3,407,178, 10–22–68, Cl. 260—67.
Helin, Richard R., to General Mills, Inc. Handle for a heat-in-the-bag food package. 3,407,077, 10–22–68, Cl. 99—171.
Hell, Wilfried H.: *See*—
Haas, Ralph W., and Hell. 3,407,393.
Heller Roberts Instruments Corp.: *See*—
Le Gault, Richard L. 3,406,628.
Helmer, Josef A., to Daimler-Benz Aktiengesellschaft. Freewheeling clutch with gripping rollers. 3,406,799, 10–22–68, Cl. 192—45.
Heltzel, Carl J. Mobile batching plant. 3,406,839, 10–22–68, Cl. 214—2.
Henderson, John K. Method and devices for interconnecting subterranean boreholes. 3,406,766, 10–22–68, Cl. 175—61.
Henkels and McCoy, Inc.: *See*—
Kinnan, Frank R. 3,406,525.
Henry, Carlton W. Paint container and brush enclosure. 3,406,812, 10–22–68, Cl. 206—15.1.
Henry, Louis, to Societe de Prospection Electrique Schlumberger S.A. Acoustic method and apparatus for examining formations adjacent the walls of boreholes. 3,406,776, 10–22–68, Cl 181—.5.
Hercules Inc.: *See*—
Booth, Albert B. 3,407,241.
Booth, Albert B. 3,407,242.
Ganz, Alexander J. 3,407,076.
Hersey Sparling Meter Co.: *See*—
Siders, Robert R., and Hood. 3,407,378.
Hertl, William, to Corning Glass Works. Fibers of submicroscopic beta-silicon carbide crystals with sheath of silicon. 3,407,090, 10–22–68, Cl. 117—106.
Hewlett-Packard Co.: *See*—
Lacey, Richard F. 3,407,295.
Phillips, Edward H., and Osgood. 3,406,564.
Reiser, Ralph R. 3,407,288.
Heyer, Don. Operator means for rotary adjustor shafts. 3,406,577, 10–22–68, Cl. 74—10.8.
Heywood, Vincent E., to United States Envelope Co. Coating method and apparatus. 3,407,084, 10–22–68, Cl. 117—44.
Hickman, Wallace C., to North American Philips Co., Inc. Self-regulating emission control by a high leakage type transformer. 3,407,333, 10–22–68, Cl. 315—106.
Hicks, June R.: *See*—
Hicks, Melvin E. and J. R. 3,406,689.
Hicks, Melvin E. and J. R. Sanitary napkin system. 3,406,689, 10–22–68, Cl. 128—290.
Hiegel, Joseph J.: *See*—
Gross, John, and Hiegel. 3,406,553.
High Voltage Engineering Corp.: *See*—
Hand, Eugene E. 3,407,323.
Higley, Sandra S. Insulated lunch box. 3,406,811, 10–22–68, Cl. 206—4.
Hill, Alan E., to Lear Siegler, Inc. Method redistributing laser light. 3,407,294, 10–22–68, Cl. 240—46.01.
Hill, Carl J. Poultry gizzard processing machine. 3,406,425, 10–22–68, Cl. 17—11.
Hill, Walter P., to Walter P. Hill Inc. Tool changing and feed control mechanism. 3,406,607, 10–22–68, Cl. 90—56.
Hill, Walter P., Inc.: *See*—
Hill, Walter P. 3,406,607.
Hillier, Hartwell R.: *See*—
Decker, Maurice S., Jr., and Hillier. 3,406,991.
Hines, E. W., Associates: *See*—
Hines, Eugene W. 3,406,670.
Hines, Eugene W., to E. W. Hines Associates. Magnetostrictively actuated fuel system for engines. 3,406,670, 10–22–68, Cl. 123—139.

Hinton, Robert A., to Phillips Petroleum Co. Recovery of polyarylene sulfides. 3,407,182, 10–22–68, Cl. 260—79.
Hiraoka, Michikazu : *See*—
Horlie, Shigeki, Sakaoka, Kurematsu, Hiraoka, and Sakamaki. 3,407,177.
Hirschberg, Erwin E., and E. E. Moore, to Eclipse Fuel Engineering Co. Mounting for replaceable gas burner. 3,407,023, 10–22–68, Cl. 431—328.
Hirschberg, Erwin E., and E. E. Moore, to Eclipse Fuel Engineering Co. Gas burner. 3,407,024, 10–22–68, Cl. 431—328.
Hisano, Kiyoshi : *See*—
Kobayashi, Hiroshi, and Hisano. 3,407,347.
Hoadley, Harvey O., to Eastman Kodak Co. Recorder for producing composite diffraction grating pattern. 3,407,405, 10–22–68, Cl. 346—108.
Hobbins, James F., to Hurst-Campbell, Inc. Sound and vibration insulated gear shift stick. 3,406,586, 10–22–68, Cl. 74—473.
Hobbins, James F., to Hurst-Campbell, Inc. Reverse gear lockout lever. 3,406,588, 10–22–68, Cl. 74—476.
Hochreiter, William T., R. S. Kareken, and D. E. Beach, to Eastman Kodak Co. Automatic control for daylight or flash operation of a camera. 3,406,620, 10–22–68, Cl. 95—10.
Hoenisch, Walter H., to King-Seeley Thermos Co. Flaked ice dispenser. 3,406,871, 10–22–68, Cl. 222—56.
Hoerter, Rolf, to Mosstype Corp. Printing plate carrier transfer mounting system. 3,406,629, 10–22–68, Cl. 101—415.1.
Hoffman Specialty Mfg. Corp. : *See*—
Burns, Robert F. 3,406,409.
Hoffmann-La Roche Inc. : *See*—
Berger, Leo, Stempel, Sternbach, and Wenis. 3,407,211.
Carstensen, Jens T., and Vance. 3,407,157.
Teitel, Sidney, and Goldberg. 3,407,234.
Hogan Faximile Corp. : *See*—
Smith, John W. 3,407,267.
Holloway, Robert M. : *See*—
Mersereau, Everard C. 3,406,794.
Homiller, Irvin H., to FMC Corp. Cooling apparatus. 3,406,591, 10–22–68, Cl. 74—606.
Honeywell Inc. : *See*—
Davis, Wilbern F., Masterson, and Schaller. 3,406,965.
Lukianov, Roman. 3,407,396.
Honig, Arnold, to Research Corp. Long infrared to short infrared image converter. 3,407,298, 10–22–68, Cl. 250—83.3.
Honjo, Mikio, and K.-I. Imai, to Takeda Chemical Industries, Ltd. Method for the production of 5′-ribonucleotide. 3,407,190, 10–22–68, Cl. 260—211.5.
Honsinger, Vernon B., to Allis-Chalmers Mfg. Co. Ventilation system for rotating electrical machinery. 3,407,317, 10–22–68, Cl. 310—58.
Hood, Roger W. : *See*—
Siders, Robert R., and Hood. 3,407,378.
Hooker Chemical Corp. : *See*—
Bowman, Russell A., and Wilson. 3,407,153.
Paddock, Norman L., and Searle. 3,407,047.
Hoover Co., The : *See*—
Steele, Jonathan P., and Reynolds. 3,406,876.
Hoover, Maurice W., to North Carolina State University at Raleigh. Process for saccharifying and liquefying sweet potatoes. 3,407,074, 10–22–68, Cl. 99—100.
Hope, James : *See*—
Betteridge, Walter, and Hope. 3,406,496.
Horii, Masao, to Nihon Genshiryoku Kenkyu-sho. Method of and apparatus for alternating current to direct current conversion utilizing a liquid metal circulation loop. 3,407,316, 10–22–68, Cl. 310—11.
Horlie, Shigeki, E. Sakaoka, S. Kurematsu, M. Hiraoka, and S. Sakamaki, to Denki Kagaku Kogyo Kabushiki Kaisha. Method of preparing polyoxymethylene of high molecular weight. 3,407,177, 10–22–68, Cl. 260—67.
Horner, Frank W., Ltd. : *See*—
McColl, John D., and Chubb. 3,407,193.
Horton, Herbert D. Apparatus for cutting and grooving cement lined pipe. 3,406,599, 10–22–68, Cl. 82—101.
Hough, William D. : *See*—
Fogelberg, Clement V., and Hough. 3,407,250.
Howard, George A. : *See*—
Hall, Ronald D., and Howard. 3,407,069.
Howe, August W. Table container for lumpy or granulated goods. 3,406,861, 10–22–68, Cl. 220—36.
Hribik, Joseph F., and J. P. Jaillits, to Automatic Electric Laboratories, Inc. Apparatus for remotely testing telephone subsets. 3,407,274, 10–22–68, Cl. 179—175.2.
Hruby, John O., Jr., to Rain Jet Corp. Drain valve. 3,406,715, 10–22–68, Cl. 137—550.
Hudson Engineering Corp. : *See*—
Davidson, Eugene M. 3,406,838.
Hudson, Harry W., to Twentieth Century Products Corp. Flush valve tripping device. 3,406,408, 10–22–68, Cl. 4—67.
Hudson, John R. Fishing lure. 3,406,478, 10–22–68, Cl. 43—42.17.
Huetlger, Jean-Robert, to Allen-Bradley Co. Communication system and system to indicate signals therefrom infinite terms. 3,407,270, 10–22–68, Cl. 179—18.
Hufnagel, Andrew, to Westinghouse Air Brake Co. Fail-safe time delay relay. 3,407,340, 10–22–68, Cl. 317—142.
Hughes, Gordon A., and H. Smith ; said Hughes, assor. to said Smith. 8-Iso-13-polycarbonalkyl gonanes. 3,407,217, 10–22–68, Cl. 260—397.4.
Hunder, David N., and R. G. Elkos, to Minnesota Mining and Mfg. Co. Split-sleeve sheet metal pipe coupling. 3,406,987, 10–22–68, Cl. 285—22.
Hunt, George R. Powered slide rule assembly. 3,406,900, 10–22–68, Cl. 235—70.
Hunter, Irvin W. Electric sequential combination mechanism. 3,407,346, 10–22–68, Cl. 318—446.
Hunter, William A., to Heatherwill Co. Automatic matchplate moulding machine. 3,406,738, 10–22–68, Cl. 164—182.
Huntress, Charles O., and R. C. Proctor, Jr., to Conch International Methane Ltd. Natural gas liquefaction with controlled B.t.u. content. 3,407,052. 10–22–68, Cl. 48—196.
Huntzinger, Gerald O., to General Motors Corp. Cranking motor solenoid lockout circuit. 3,407,306, 10–22–68, Cl. 290—38.
Hurlburt, Charles E., to The Bendix Corp. Gyro bearing friction minimizing means. 3,406,575, 10–22–68, Cl. 74—5.5.
Hurley, Harry J., Jr., and W. B. Shelley. Lens-cleaning paper. 3,406,418. 10–22–68, Cl. 15—104.93.
Hurley, Thomas J., M. A. Robinson, and J. A. Scruggs, to Olin Mathieson Chemical Corp. Colorant film for aluminum surfaces. 3,407,098, 10–22–68, Cl. 148—6.1.
Hurst-Campbell, Inc. : *See*—
Hobbins, James F. 3,406,586.
Hobbins, James F. 3,406,588.
Huston, Alfred B., to American Sterilizer Co. Autoclave shell construction. 3,407,027, 10–22–68, Cl. 21—91.
Huston, Alfred B., to American Sterilizer Co. Sterilizer door. 3,407,028. 10–22–68, Cl. 21—91.
Hutchens, Charles T. Method of constructing suspension assemblies. 3,406,439, 10–22–68, Cl. 29—155.
Hutchison, Ralph G. Modern teepee tent. 3,406,698, 10–22–68, Cl. 135—1.
Hutkin, Irving J., to Whittaker Corp. Metal coating process. 3,407,061. 10–22–68, Cl. 75—208.
Huyck Corp. : *See*—
Clark, Raymond C. 3,406,464.
Hyde, Harold W., and R. Van Volkenburgh, to Copolymer Rubber & Chemical Corp. Novel catalyst and process for preparing acyclic polyolefins. 3,407,243. 10–22–68, Cl. 260—677.
Hydromation Engineering Co. : *See*—
Schouw, Arthur C. 3,406,825.
Ichimori, Masuo, M. Kita, and T. Isikawa. Automatic water-supply control system. 3,406,941, 10–22–68, Cl. 251—129.
Igel, Anthony A., G. E. Liesmann, and A. Pokras, to Brunswick Corp. Pediatric urine collector. 3,406,690, 10–22–68, Cl. 128—295.
Illinois Tool Works, Inc. : *See*—
Pescetto, James R. 3,407,276.
Vesey, Gary L. 3,406,593.
Imai, Kin-Ichi : *See*—
Honjo, Mikio, and Imai. 3,407,190.
Imperial Camera Corp. : *See*—
Irwin, George. 3,406,621.
Industrias Zaldi, S.A. : *See*—
Arraiza, Fermin S. 3,407,319.
Ingersoll-Rand Co. : *See*—
Kramer, Leo. 3,406,762.
Stoker, Robert J. 3,406,749.
Worman, Martin. 3,406,763.
Institut de Recherches de la Siderurgie Francaise Saint Germain-en-Laye : *See*—
Duflot, Jean, and Vayssiere. 3,406,737.
Instruments Corp. of America : *See*—
Barocela, Edward C. 3,407,272.
International Business Machines Corp. : *See*—
Amrine, Herman E., and Martin. 3,407,359.
Armstrong, John A. 3,407,296.
Atrubin, Allan J. 3,407,290.
Craft, John L. 3,407,391.
Fang, Frank F. 3,407,343.
Fleisher, Harold, and Kosanke. 3,407,017.
Kollar, Ernest P., Jensen, and Tiley. 3,406,477.
Koretzky, Herman. 3,407,126.
Schomburg, John F. 3,406 633.
International Harvester Co. : *See*—
Lepp, Jacob H., and Ayranto. 3,406,914.
International Nickel Co., Inc., The : *See*—
Betteridge, Walter, and Hope. 3,406,496.
International Paper Box Machine Co., The : *See*—
Goss, Harold J. 3,406,963.
International Standard Electric Corp. : *See*—
Franks, Joseph. 3,407,341.
Irwin, George, to Imperial Camera Corp. Camera construction. 3 406,621. 10–22–68, Cl. 95—31.
Ishidate, Takashi, to Nippon Electric Co. Ltd. Storage element location compensation in matrix memories by a delay means. 3,407,392. 10–22–68, Cl. 340—173.
Isikawa, Tadayuki : *See*—
Ichimori, Masuo, Kita, and Isikawa. 3,406,941.
Isobe, Toyosaku, and T. Miyakawa, to Fujitsu Ltd. Unidirectional frequency multiplier comprising non-linear reactance and resistance. 3,407,350, 10–22–68, Cl. 321—69.
Jackson, Robert G., to Conch International Methane Ltd. Containers for cold liquids. 3,406,858, 10–22–68, Cl. 220—9.
Jacobs, James W., to General Motors Corp. Domestic range with variable area cooking regions. 3,407,285, 10–22–68, Cl. 219—456.
Jacobs Machine Corp. : *See*—
Baron, Herschel. 3,406,962.
Jaffe, Joseph : *See*—
Clifford, Alan F., and Jaffe. 3,407,030.
Jalbert, Joseph O. Boat-mooring means. 3,406,651, 10–22–68, Cl. 114—230.
Jaillits, Joseph P. : *See*—
Hribik, Joseph F., and Jaillits. 3,407,274.
Japan Exlan Co. Ltd. : *See*—
Tsuji, Michio. 3,406,427.
Japanese Geon Co., Ltd., The : *See*—
Sakashita, Tatsuo, and Sakuragi. 3,407,240.
Jarreby, Karl A. B., to Skandinaviska Apparatindustri AB. Method for the manufacture of cooling rollers and similar articles for band-shaped material and rollers, manufactured according to the method. 3,406,748, 10–22–68, Cl. 165—89.
Jaseph, Lawrence F. : *See*—
Atkey, Richard E., and Jaseph. 3,406,484.
Jasper, John C., to Continental Can Co., Inc. Container panel with anti-fracture score. 3,406,866, 10–22–68, Cl. 220—54.

Jeannin, Paul B., to Sasieni Ltd. Tobacco pipes. 3,406,693, 10–22–68, Cl. 131—195.
Jehle, Robert E., to United States of America, Navy. Wide range radiation detector. 3,407,299, 10–22–68, Cl. 250—83.6.
Jenkinson, Richard L., to Dominion Engineering Works, Ltd. Laminated joint. 3,406 945, 10–22–68, Cl. 253—120.
Jenney, Gavin D., to Bell Aerospace Corp. Apparatus for comparing hydraeric pressure signals and detecting disparity therebetween. 3,406,702, 10–22–68, Cl. 137—87.
Jenney, Gavin D., to Bell Aerospace Corp. Sequential activating valve for redundant hydraeric control systems. 3,406,710, 10–22–68, Cl. 137—596.16.
Jenney, Gavin D., to Bell Aerospace Corp. Spool seizure output bypass valve. 3,406,721, 10–22–68, Cl. 137—625.69.
Jennings, Gerald P., to Phillips Petroleum Co. Conduit coupling. 3,406,986, 10–22–68, Cl. 285—21.
Jensen, Stanley M. : *See*—
Kollar, Ernest P., Jensen, and Tiley. 3,406,477.
Jerue, Richard A. : *See*—
De Vileg, Charles B., and Jerue. 3,406,796.
Jett, Robert W., J. I. McNeils, and S. Sown, to Ford Motor Co. Mold for sampling molten iron. 3,406,736, 10–22–68, Cl. 164—4.
Jinnette, Allen J., to Burlington Industries, Inc. Process for dulling glass fibers with oxalic acid including pretreatment with calcium salts. 3,407,087, 10–22–68, Cl. 117—72.
Joffe, Edward J., to Park Plastics Co., Inc. Toy vehicle. 3,406,480, 10–22–68, Cl. 46—201.
Johansson, Ida M. Fastening devices for buttons, and like elements. 3,406,432, 10–22–68, Cl. 24—112.
Johns-Manville Corp. : *See*—
Sadler, Thomas H. 3,407,137.
Johnson, Albin C., and R. C. Shaffer, to United States of America, Navy. Heat resistant adhesive. 3,407,160, 10–22–68, Cl. 260—38.
Johnson, Duane C., Jr. Golf tee having a hinged, enclosed, ground engaging spike. 3,406,978, 10–22–68, Cl. 273—207.
Johnson & Johnson : *See*—
Zackheim, Eli A. 3,406,873.
Johnston, Holbrooke G. Method and apparatus for blending. 3,406,948, 10–22–68, Cl. 259—6.
Joly, Robert, and J. Warnant, to Roussel-UCLAF, S.A. 17α - ethynyl - 13β - n - propyl-Δ$^{5(10)}$-gonene-17β-ol-3-one, its esters and use. 3,407,255, 10–22–68, Cl. 424—243.
Jones, Albert J. Joint. 3,406,988, 10–22–68, Cl. 285—24.
Jones, Glendale, and T. W. Little. Portable hunting blind. 3,406,784. 10–22–68, Cl. 182—87.
Jonusz, Daniel F., and J. Ryer, to Cities Service Oil Co. Nitrogen removal from distillate fuel with sulfur halides. 3,407,136, 10–22–68, Cl. 208—254.
Joó, Louis A., and H. J. Young, to Great Lakes Carbon Corp. Recovery of carbazole from coal tar fractions. 3,407,208, 10–22–68, Cl. 260—318.
Joó, Louis A., to Great Lakes Carbon Corp. Method for the recovery of carbazole from coal tar fractions. 3,407,209, 10–22–68, Cl. 260—318.
Jorns, Wilmer E. Feed bunk. 3,406,982. 10–22–68, Cl. 280—24.
Joy Mfg. Co. : *See*—
Zink, Edward F. 3,406,848.
Juda, Walter, to Prototech Inc. Method of in situ preparation of hydrogen and simultaneous hydrogen control in electrochemical cells. 3,407,094 10–22–68, Cl. 136—86.
Juda, Walter, R. L. Novack, M. J. Fowle, and A. F. D'Alessandro ; said Fowle and D'Alessandro assors., to Atlantic Refining Co., said Juda and said Novack assors., to Prototech Inc. Method of controlling utilization of hydrogen in electrolytic cell. 3,407 095, 10–22–68, Cl. 136—86.
Junkunc Bros. American Lock Co. : *See*—
Slegal, Burton L., and Waxman. 3,406 545.
Kabushiki Kaisha Yuryo Kikaskuhin Kenkyusho : *See*—
Tsujino, Jiromaru. 3,406,684.
Kadefors, Per R. : *See*—
Kaiser, Niels E. G., and Kadefors. 3,407,363.
Kaiser, Niels E. G., and P. R. Kadefors. Power source preferably for implantable, electric units and an H.F. transistor transmitter for operating same. 3,407,363. 10–22–68, Cl. 331—117.
Kamborian, Jacob S. : *See*—
Becka, Michael M., and Field. 3,406,415.
Kammerer, Archer W., Jr., ⅓ to J. K. Lamphere, and ⅔ to A. W. Kammerer. Reverse circulation rotary expansible drill bits. 3,406,769, 10–22–68, Cl. 175—269.
Kamp, Heinz, to W. Reiners. Device for releasing the starting end of a coil-wound thread held fast by a reserve winding. 3,406,920, 10–22–68, Cl. 242—35.6.
Kareken, Ronald S. : *See*—
Hochreiter, William T., Kareken, and Beach. 3,406,620.
Karen Supply Co., Inc. : *See*—
Randazzo, Marlon G. 3,406,617.
Karickhoff, Michael, and C. E. Miller, to E. I. du Pont de Nemours and Co. Polyethylene terephthalate film and process of preparation thereof. 3,407,112, 10–22–68, Cl. 161—165.
Karwat, Ernst : *See*—
Becker, Rudolf, and Karwat. 3,407,146.
Kastning, Ernst-Guenther : *See*—
Naarmann, Herbert, and Kastning. 3 407,184.
Katogir, Michael, to Mead Corp. Machine for closing the end panels of a closed end tubular type article carrier. 3,406,493, 10–22–68, Cl. 53—285.
Kau, Donald L. K. : *See*—
Gerzon, Koert, and Kau. 3,407,191.
Kaufman, Morris, and R. W. Bloch, to Ekco Products, Inc. 3,406,860, 10–22–68, Cl. 220—23.4.
Kawabata, Shuichi : *See*—
Aizawa, Minoru, Matsuda, Kawabata, Omura, Amano, and Nakamura. 3,407,072.
Kazan, Benjamin, to Xerox Corp. Scanned conversion tube. 3,407,329, 10–22–68, Cl. 315—12.
Keedwell, Cyril A. : *See*—
Pall, David B., and Keedwell. 3,407,252.
Keeney, Allen J., to Valve Corp. of America. Spray discharge button for swirling spray. 3,406,911, 10–22–68, Cl. 239—490.
Keller, George H., to Becton Dickinson and Co. Prefilled syringe. 3,406,680, 10–22–68, Cl. 128—218.
Kemeny, Julius, to General Electric Co. Shaft positioning mechanism. 3,406,578, 10–22–68, Cl. 74—10.54.
Kendall, Jackson W., Jr., to Varian Associates. Directly heated cathode supporting structure. 3,407,328, 10–22–68, Cl. 313—278.
Kennel, Robert E., to The Budd Co. Disk brake housing stabilizing means. 3,406,792, 10–22–68, Cl. 188—73.
Kenward, John R. : *See*—
Andrews, Ronald W. J., Kenward, and Dewhurst. 3,407,022.
Kertell, Frank W., ½ to Brooks Walker. Two volume flush valve. 3,406,940, 10–22–68, Cl. 251—40.
Kettenbach, Edward L. Surgical appliances. 3,406,691, 10–22–68, Cl. 128—350.
Keyser, Johan J. Method and apparatus for use in conection with pre-spinning, spinning and twisting. 3,406,510, 10–22–68, Cl. 57—58.49.
Kidder, Wayne B., to General Motors Corp. Engine exhaust fluid flow control valve. 3,406,903, 10–22–68, Cl. 236—102.
Kieltyka, Henry P. : *See*—
Felbush, Arthur M., and Kieltyka. 3,407,088.
Kierstead, Roger C., to E. I. du Pont de Nemours and Co. α - Methyl - α - dichlorophenyl - propiolactones and polymers thereof. 3,407,181, 10–22–68, Cl. 260—78.3.
Kilbey, George E., to Meyer Stamping & Mfg. Co. Vehicle steps. 3,406,984, 10–22–68, Cl. 280—166.
Kimberly-Clark Corp. : *See*—
Fuerst, Milton J. 3,406,421.
Kutchera, Don H., and Payant. 3,406,624.
Kinard, William H., J. H. Siviter, Jr., and C. C. Laney, Jr., to United States of America, National Aeronautics and Space Administration. Micrometeoroid penetration measuring device. 3,407,304, 10–22–68, Cl. 250—227.
King-Seeley Thermos Co. : *See*—
Hoenisch, Walter H. 3,406,871.
Kinkel, Konrad. to B. & K. Tool Die & Stamping Co., Inc. Push rods for flower stemming machine. 3,406,559, 10–22–68, Cl. 72—420.
Kinnan, Frank R., to Henkels and McCoy, Inc. Machine for laying cable. 3,406,525, 10–22–68, Cl. 61—72.6.
Kins Developments Ltd. : *See*—
Stearn, Richard J. 3,407,398.
Kirsch, Jerry, and G. D. Robb, to Erie Engineering Co. Lifting and swinging work transfer device. 3,406,837, 10–22–68, Cl. 214—1.
Kita, Motohiro : *See*—
Ichimori, Masuo, Kita, and Isikawa. 3,406,941.
Kitaj, Walter, and L. Levene, to Owens-Illinois Glass Co. Method of rendering glass surfaces abrasion-resistant and glass articles produced thereby. 3,407,085, 10–22–68, Cl. 117—72.
Klauke, Erich, E. Kühle, I. Hammann, and W. Lorenz, to Farbenfabriken Bayer Aktiengesellschaft. Alpha-hydroxy-beta-fluoro-beta, beta dichloro-ethyl phosphonic acid, O,O-diester. 3,407,248, 10–22–68, Cl. 260—953.
Klein, Ronald S., to United States of America, Navy. Input buffer. 3,407,389, 10–22–68, Cl. 340—172.5.
Klingsberg, Erwin, to American Cyanamid Co. Thiaselenolodithiole compound. 3,407,213, 10–22–68, Cl. 260—327.
Knoblock, John E. : *See*—
Donnelly, Murray P., and Knoblock. 3,406,608.
Kobayashi, Hiroshi, and K. Hisano, to Yawata Iron & Steel Co., Ltd. Asymmetrical three-phase ferro-resonance device. 3,407,347, 10–22–68, Cl. 321—7.
Koff, Richard M. Three-dimensional labyrinth. 3,406,971, 10–22–68, Cl. 273—109.
Kohnlein, Rolf : *See*—
Buchner, Norbert, and Kohnlein. 3,406,891.
Kollar, Ernest P., S. M. Jensen, and D. L. Tiley, to International Business Machines Corp. Film record card and method for making same. 3,406,477, 10–22–68, Cl. 40—158.
Kominami, Naoya, H. Nakajima, and N. Tamura, to Asahi Kasei Kogyo Kabushiki Kaisha. Process for producing saturated aliphatic nitriles. 3,407,223, 10–22–68, Cl. 260—465.3.
Koninklijke Nederland sche Gist- en Spiritusfabriek N. V. : *See*—
de Flines, Jan., and van der Waard. 3,407,118.
Koninklyke Nederlandsche Gist-en Spiritusfabriek NV. : *See*—
De Flines, Jan, and Van Der Waard. 3,407,119.
Konrad, Josef, and S. Nissler, to Weltmann & Konrad. Photoelectric apparatus for determining the height of a stack utilizing ambient light. 3,407,303, 10–22–68, Cl. 250—222.
Köpke, Günter, and F. W. Rabenau, to Karl Schmidt, G.m.b.H. Method for coating steel with white metal. 3,406,445, 10–22–68, Cl. 29—492.
Kordos, Ronald W., to Bell Telephone Laboratories, Inc. Coaxial cable switch. 3,407,367, 10–22–68, Cl. 335—5.
Koretzky, Herman, to International Business Machines Corp. Electrodeposition of magnetic thin films. 3,407,126, 10–22–68, Cl. 204—43.
Korte, Gerald A. Inertia welders. 3,406,890, 10–22–68, Cl. 228—2.
Korte, Klaus : *See*—
Bresslein, Helmut, and Korte. 3,406,899.
Korthaus, Helmut, and R. Wilke. Electromotive adjusting device. 3,407,318, 10–22–68, Cl. 310—75.
Kosanke, Kurt M. : *See*—
Fleisher, Harold, and Kosanke. 3,407,017.

Koski, William L.: *See*—
Swenson, Emil S., and Koski. 3,406,531.
Kottas, Milo. Pick. 3,406,412, 10–22–68, Cl. 7—17.
Kotuby, Paul M., to The Risdon Mfg. Co. Aerosol valve actuator and dispensing button. 3,406,878, 10–22–68, Cl. 222—402.1.
Koury, Frederic, and J. F. Waymouth, to Sylvania Electric Products Inc. High pressure electric discharge device containing mercury, halogen, scandium and alkali metal. 3,407,327, 10–22–68, Cl. 313—229.
Kovalic, Edward F., to Bell Telephone Laboratories, Inc. Electro-optical data processing system. 3,407,301, 10–22–68, Cl. 250—199.
Kowalenko, Witold. Method and apparatus for the production of lightweight aggregates. 3,406,955, 10–22–68, Cl. 263—40.
Kozicki, Henry J., to Ford Motor Co. Vehicle camper galley. 3,406,999. 10–22–68, Cl. 296—23.
Krahe, James B., to American Sterilizer Co. Combined sterilizer chambers and control. 3,407,029, 10–22–68, Cl. 21—93.
Kramer, Leo, to Ingersoll-Rand Co. Control apparatus for fluid powered tools. 3,406,762, 10–22–68, Cl. 173—12.
Kraus, Thaddaus, to The Bendix Corp. Method for the quantitative determination of nitrogen and oxygen in metal samples. 3,407,041, 10–22–68, Cl. 23—230.
Krause, Gerhard, to Fernsch G.m.b.H. Method and apparatus for producing colour television signals. 3,407,265, 10–22–68, Cl. 178—5.4.
Krauss, Carl F., and J. K. Wingard, to E. W. Bliss Co. Remotely operated fluid coupling mechanism for a rolling mill or a similar device. 3,406,552, 10–22–68, Cl. 72—236.
Krelbiel, John H., to Molex Products Co. Electrical connector. 3,407,380, 10–22–68, Cl. 339—186.
Kremen, Thomas S., to Standard Car Truck Co. Dampened car truck bolster. 3,406,640, 10–22–68, Cl. 105—197.
Kreul, Alvin L., and D. L. Spaulding, to Young Radiator Co. Crossflow radiator. 3,406,751, 10–22–68, Cl. 165—151.
Krock, Richard H., and E. J. Zdanuk, to P. R. Mallory & Co. Inc. Molybdenum composite materials and method of making the same. 3,407,048, 10–22–68, Cl. 29—182.1.
Kronenberger, Paul E., to General Motors Corp. Refrigerator divider shelf assembly. 3,407,016, 10–22–68, Cl. 312—296.
Kuceski, Vincent P., and J. J. McGuire, ½ to C. P. Hall Co. and ½ to Uniroyal Inc. Vinyl chloride resins plasticized with dimethyl fatty amides. 3,407,166, 10–22–68, Cl. 260—32.6.
Kuesters, Eduard, and V. Appenzeller. Device for the width treatment of textile breadths with a liquid. 3,406,542, 10–22–68, Cl. 68—175.
Kühle, Engelbert: *See*—
Klauke, Erich, Kuhle, Hammann, and Lorenz. 3,407,248.
Kuhlkamp, Alfred, A. Moschel, and R. Nowack, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Foam plastics and process for making them. 3,407,152, 10–22–68, Cl. 260—2.5.
Kujawa, Edmund J.: *See*—
Furstenburg, Alvin J., and Kujawa. 3,406,430.
Kulaga, Sylvester, R. T. Coapman, and M. A. MacDonald, to Tru-Tork, Inc. Apparatus for assembling nuts and washers or the like on bolts or the like. 3,406,414, 10–22–68, Cl. 10—155.
Kunkel, Lorenz V., to Pan American Petroleum Corp. Recovery of free sulfur from sour gases. 3,407,040, 10–22–68, Cl. 23—225.
Kurematsu, Susumu: *See*—
Horile, Shigeki, Sakaoka, Kurematsu, Hiraoka, and Sakamaki. 3,407,177.
Kuriyama, Tsuneto, T. Kuroda, S. Tanba, and I. Toshima, to Yoshitomi Seiyaku Kabushiki Kaisha and Mitsubishi Petrochemical Co. Ltd. Polyolefin composition stabilized with hydrazones. 3,407,173, 10–22–68, Cl. 260—45.9.
Kuriyama, Tsuneto, T. Kuroda, S. Tanba, and I. Toshima, to Yoshitomo Seiyaku Kabushiki Kaisha, and Mitsubishi Petrochemical Co. Ltd. Polyolefin composition stabilized with hydrazones. 3,407,174, 10–22–68, Cl. 260—45.9.
Kuroda, Toshinhiko: *See*—
Kuriyama, Tsuneto, Kuroda, Tanba, and Toshima. 3,407,173.
Kuroda, Toshinhiko: *See*—
Kuriyama, Tsuneto, Kuroda, Tanba, and Toshima. 3,407,174.
Kuster, Harry B., to Golay & Co., Inc. Cold water inlet orifice for hot water tank. 3,406,717, 10–22–68, Cl. 137—592.
Kutchera, Don H., and D. A. Payant, to Kimberly-Clark Corp. Wood chip crusher. 3,406,624, 10–22–68, Cl. 100—176.
Kviten, Sigurd, to Lockheed Aircraft Corp. Bolt with multiple load paths. 3,406,605, 10–22–68, Cl. 85—1.
Labatt, John, Ltd.: *See*—
Le Seelleur, Louis A., and Wilson. 3,407,121.
La Berge, Robert W., to E. I. du Pont de Nemours, and Co. Weatherable transparent coating composition for wood substrates. 3,407,156, 10–22–68, Cl. 260—22.
Lacey, Byron, ½ to C. E. Daniel. Automobile electrical system circuitry. 3,406,774, 10–22–68, Cl. 180—96.
Lacey, Richard F., to Hewlett-Packard Co. Elimination of frequency pulling due to Zeeman resonance in thallium atomic beam tubes. 3,407,295, 10–22–68, Cl. 250—41.3.
La Chance, George J.: *See*—
Walt, Robert E., and La Chance. 3,406,933.
Lambert, Robert R., to Air Factors, Inc. Plenum air diffuser assembly. 3,406,623, 10–22–68, Cl. 98—40.
Lamphere, Jean K.: *See*—
Kammerer, Archie W., Jr. 3,406,769.
Landi, Henry P., to American Cyanamid Co. Fuel cell and method for preparing the electrodes. 3,407,096, 10–22–68, Cl. 136—86.
Landi, Henry P., to American Cyanamid Co. Porous, extensively fibrillated polytetrafluoroethylene and method of preparing same. 3,407,249, 10–22–68, Cl. 264—49.
Lane, Harrison R., and D. L. Feaster, to Universal American Corp. Package for strand material. 3,406,817, 10–22–68, Cl. 206—52.
Laney, Charles C., Jr.: *See*—
Kinard, William H., Siviter, and Laney. 3,407,304.
Lang, Richard. Knock-down support. 3,406,786, 10–22–68, Cl. 182—226.
Lange, Olof H. V., to Aktiebolaget Atomenergi. Steam generator and separator. 3,406,407, 10–22–68, Cl. 55—204.
La Reis, Joseph I. Corner reinforcement for an upholstered article. 3,406,411, 10–22–68, Cl. 5—345.
Larsson, Gunnar, to Aga-Flattoradling Aktiebolag. Method and arrangement for mounting elastically flexible sealing rings in internal grooves. 3,406,441, 10–22–68, Cl. 29—451.
Lasbrey, Ian K. B., and H. Fitzgerald, to Short Brothers and Harland Ltd. Apparatus for classifying articles. 3,406,843, 10–22–68, Cl. 214—11.
Laubenheimer, Robert W.: *See*—
Heft, Eldon B., and Laubenheimer. 3,407,368.
Laurent, Sebastian M.: *See*—
Gray, C. F., and Laurent. 3,407,058.
Law, Russell O. Collapsible stove. 3,406,679, 10–22–68, Cl. 126—262.
Lawrence, Dennis I., and R. B. Diczhazy, to Lear Siegler, Inc. Logic and control circuit. 3,407,348, 10–22–68, Cl. 321—27.
Lawson, Monroe W.: *See*—
Tisdell, James R., and Lawson. 3,406,969.
Laycak, John F., to United States Steel Corp. Apparatus for automatically centering moving strip. 3,406,887, 10–22–68, Cl. 226—21.
Leach, John M. Process and apparatus for treating liquids. 3,406,741, 10–22–68, Cl. 165—1.
Lear Siegler, Inc.: *See*—
Hill, Alan E. 3,407,294.
Lawrence, Dennis I., and Diczhazy, Raymond B. 3,407,348.
Secunde, Richard R. 3,407,338.
Leeds & Northrup Co.: *See*—
Ross, Raymond W. 3,406,959.
Le Gault, Richard L., to Heller Roberts Instruments Corp. Web feed control means in multiple numbering and imprinting press. 3,406,628, 10–22–68, Cl. 101—288.
Lehmann, Heinz: *See*—
Fink, Walter, and Lehmann. 3,407,159.
Lehrer, Alvin E., and C. C. Remuzzi, Jr., to Sperry Rand Corp. Inverter circuit. 3,407,349, 10–22–68, Cl. 321—45.
Leirvik, Raymond M.: *See*—
North, Donald C., Jr., and Leirvik. 3,407,115.
Leplat, Robert: *See*—
Fiquet, Claude J. J., and Leplat. 3,406,872.
Lepp, Jacob H., and R. Ayranto, to International Harvester Co. Material unloader. 3,406,914, 10–22–68, Cl. 239—658.
Le Seelleur, Louis A., and G. E. Wilson, to John Labatt, Ltd. Fermenter yeast cropping and washing device. 3,407,121, 10–22–68, Cl. 195—134.
Levene, Leon: *See*—
Kitaj, Walter, and Levene. 3,407,085.
Levitan, Maurice D.: *See*—
Staats, Henry N., Levitan, and Morrissey. 3,407,105.
Leybold Holding AG: *See*—
Diels, Karl G. K. 3,406,897.
Lichtenberger, Harold V., to Combustion Engineering, Inc. Nuclear reactor control rod with guide members. 3,407,117. 10–22–68, Cl. 176—86.
Liechti, Peter, E. Maeder, L. Guglielmetti, M. Duennenberger, and A. E. Siegrist, to Ciba Ltd. Benzoxazolylstilbenes. 3,407,196, 10–22–68, Cl. 260—240.
Lies, Thomas A., to American Cyanamid Co. Preparation of 2-hydroxyalkyldithio carbamates from epoxides and amine salts of dithio-carbamic acid. 3,407,222, 10–22–68, Cl. 260—455.
Liesmann, George E.: *See*—
Igel, Anthony A., Liesmann, and Pokras. 3,406,690.
Lilly, Eli, and Co.: *See*—
Gerzon, Koert, and Kau. 3,407,191.
Limberger, Walter, to Lumoprint Zindler KG. Apparatus for producing copies. 3,406,655, 10–22–68, Cl. 118—10.
Linde Aktiengesellschaft: *See*—
Becker, Rudolf, and Karwat. 3,407,146.
Lion, Rene, to Fives-Penhoet. Method of forming tube plate by electronic welding of tubes and the article formed. 3,406,752. 10–22–68, Cl. 165—17.3.
Lipe-Rollway Corp.: *See*—
Root, Robert S. 3,406,801.
List, Harold A., to Bethlehem Steel Corp. Automatic gage control and method of operating for rolling mill. 3,406,547. 10–22–68, Cl. 72—8.
Little, Edwin D., and C. R. Walter, to Allied Chemical Corp. Novel isocyanurate compounds. 3,407,200, 10–22–68, Cl. 260—248.
Little, Tyner W.: *See*—
Jones, Glendale, and Little. 3,406,784.
Livingston, Daniel I., and S. D. Gehman, to The Goodyear Tire & Rubber Co. Puncture strength tester. 3,406,566, 10–22–68, Cl. 73—81.
Lockheed Aircraft Corp.: *See*—
Kviten, Sigurd. 3,406,605.
Lockshaw, James J. Method of making reinforced plastic pipe. 3,407,101, 10–22–68, Cl. 156—175.
Lonerini, Donald F., to General Electric Co. Polyamide-acids and polyimide from a mixture of dianhydrides. 3,407,176, 10–22–68, Cl. 260—47.
Longhi, Pierluigi: *See*—
Calvi, Pierluigi, Corbelli, Balzani, and Longhi. 3,407,168.

Longi, Paolo, R. Montagna, and R. Mazzocchi, to Montecatini Edison S.p.A. Process for obtaining amino derivatives. 3,407,207, 10–22–68, Cl. 260—315.
Loois, Hendrikus J.: *See*—
Oepkes, Jacob, and Loois. 3,407,165.
Looper, Glenn. Dispenser. 3,406,657, 10–22–68, Cl. 118—261.
Looschen, Floyd W., I. C. Hansen, and R. S. Sharp, to Burroughs Corp. On-line banking system. 3,407,387, 10–22–68, Cl. 340—152.
Lorenz, Walter: *See*—
Klauke, Erich, Kühle, Hammann, and Lorenz. 3,407,248.
Lossa, Ulrich: *See*—
Nimtz, Kalus, Franzen, and Lossa. 3,406,511.
Lovens Kemiske Fabrik Produktionsaktieselskab: *See*—
Tybring, Leif. 3,406,635.
Lowe, Joe, Co.: *See*—
Schlichter, Arthur I. 3,407,078.
Lubinski, Arthur: *See*—
Blenkarn, Kenneth A., and Lubinski. 3,406,524.
Lucas, Joseph (Industries), Ltd.: *See*—
Phillips, Brian L., and Adams. 3,406,672.
Yates, Thomas C. 3,406,516.
Ludwig, Walter, to Pentapco, Inc. Methods using one equipment for bubble-packaging differently-sized articles. 3,406,492, 10–22–68, Cl. 53—30.
Luebkeman, George C. Support base for earth anchorage. 3,406,937, 10–22–68, Cl. 248—346.
Luethi, Christian, H. R. Biland, M. Schellenbaum, and M. Duennenberger, to Ciba Ltd. Heterocyclically substituted monohalogeno-1,3,5-triazines. 3,407,201, 10–22–68, Cl. 260—248.
Lukianov, Roman, to Honeywell Inc. Data processing apparatus employing permanent magnet inhibiting means. 3,407,396, 10–22–68, Cl. 340—174.
Lummus Co., The: *See*—
O'Connor, Ward F. 3,406,846.
Lumoprint Zindler KG: *See*—
Limberger, Walter. 3,406,655.
Lumsden, John, to Metallurgical Processes Ltd., and Imperial Smelting Corp. (N.S.C.) Ltd., d.b.a. Metallurgical Development Co. Process for producing zinc in a blast furnace utilizing oxygen enriched air. 3,407,060, 10–22–68, Cl. 75—87.
Lurie, Ell M. Theft control system. 3,407,400, 10–22–68, Cl. 340—280.
Lusk, Dudley T., to Chicago Bridge & Iron Co. Double walled cryogenic vessel. 3,406,526, 10–22–68, Cl. 62—50.
Luther, Burton N., to General Motors Corp. Power steering gear. 3,406,773, 10–22–68, Cl. 180—79.2.
Lutz, Dolores M. Joint support. 3,406,406, 10–22–68, Cl. 2—24.
Lutz, Eugene F.: *See*—
Williams, Paul H., and Lutz. 3,407,220.
Lutz, Eugene F., to Shell Oil Co. Oxidation of olefins to carboxylic acids in the presence of cerium salts and nitric acid. 3,407,221, 10–22–68, Cl. 260—413.
Luvals, Inc.: *See*—
Shields, James L. 3,406,671.
Lyon, Charles R., to Celanese Corp. Attrition. 3,406,916, 10–22–68, Cl. 241—28.
MacCarthy, Richard W. Circular blade razor with toothed back-up ring having relative rotative and oscillative movement. 3,406,448, 10–22–68, Cl. 30—43.8.
MacChesney, Chester M., and R. Winkler, to Ellamac Inc. Desk-top machine for washing eyeglasses. 3,406,696, 10–22–68, Cl. 134—58.
MacDonald, Murdo A.: *See*—
Kulaga, Sylvester, Coapman, and MacDonald. 3,406,414.
Maeder, Erwin: *See*—
Liechti, Peter, Maeder, Guglielmetti, Duennenberger, and Siegrist. 3,407,196.
Magerlein, Helmut: *See*—
Meyer, Gehard, Siggel, Schopf, and Magerlein. 3,407,172.
Magne, Frank C.: *See*—
Skau, Evald L., Mod, and Magne. 3,407,205.
Magnuski, Henry, to Motorola, Inc. Vehicular speed indicator, odometer and automatic speed control system. 3,406,775, 10–22–68, Cl. 180—105.
Maidenform, Inc.: *See*—
Moskowitz, Murray. 3,406,434.
Pernas, Manuel. 3,406,692.
Mailiart, Daniel, to CSF. Compagnie generale de Telegraphie San Fil. Crossed-field ionization pressure gauge. 3,407,351, 10–22–68, Cl. 324—33.
Maisack, Herbert, H. Schlecht, and H. Urbach, to Badische Anilin- & Soda Fabrik Aktiengesellschaft. Continuous production of mucochloric acid. 3,407,228, 10–22–68, Cl. 260—539.
Maishlish, Joseph: *See*—
Blair, George S., Shaw, and Maishlish. 3,406,810.
Mallory, P. R., & Co. Inc.: *See*—
Krock, Richard H., and Zdanuk. 3,407,048.
Manetta, Peter J., R. L. Tabor, and W. Greenwood, to Simplex Corp. Transfer device. 3,406,836, 10–22–68, Cl. 214—1.
Manitowoc Shipbuilding, Inc.: *See*—
Miller, Robert H. 3,406,650.
Mann, Albert, Engineering Co. Ltd.: *See*—
Brand, Herbert W. 3,406,739.
Mantelet, Jean, Device allowing foodstuffs to be supplied in the form of slices. 3,406,730, 10–22–68, Cl. 146—2.
Marathon Oil Co.: *See*—
Gogarty, William B. 3,406,754.
Marion, Andre F.: *See*—
Chamness, Leland D., and Marion. 3,406,625.
Marker, Hannes: *See*—
Scheib, Hermann. 3,406,981.
Marks, Craig, to General Motors Corp. Fluid amplifier arrangement and fuel system incorporating same. 3,406,951, 10–22–68, Cl. 261—36.
Marotta, Nicholas G.: *See*—
Murray, Daniel G., Marotta, and Boettger. 3,407,070.
Marquardt Corp., The: *See*—
Haas, Ralph W., and Heil. 3,407,393.
Marriott, Jean A.: *See*—
Petrocelli, Americo W., Marriott, Turco, and Capotosto. 3,407,129.
Marshall, John D.: *See*—
Wiesinger, Frederick C., Petko, and Fleming. 3,406,539.
Marsiglia, Robert. Food molding device. 3,406,642, 10–22–68, Cl. 107—1.
Martin, Clemente F.: *See*—
Casellas, Juan. 3,406,520.
Casellas, Juan. 3,406,521.
Martin, Gilbert: *See*—
Duport, Jacques, and Martin. 3,406,632.
Martin, Henry W. Electrical outlet connection means. 3,407,376, 10–22–68, Cl. 339—41.
Martin, James P.: *See*—
Amrine, Herman E., and Martin. 3,407,359.
Martin-Marietta Corp.: *See*—
Blenert, Walter B., and Gillen. 3,407,037.
Martin, Roy M., and C. L. Wilson, to Reynolds Metal Co. Tubular member and method for making the same and container made therefrom. 3,406,614, 10–22–68, Cl. 93—80.
Maschinenfabrik Reinhausen Gebruder Scheubeck K.G.: *See*—
Breuer, Wolfgang. 3,407,275.
Masher, Dale P.: *See*—
Clark, Eugene N., Cone, Masher, and Vincent. 3,407,355.
Mason, Gussie. Isometric exercise boots. 3,406,968, 10–22–68, Cl. 272—57.
Masser, Lloyd D., to Neway Equipment Co. Suspension for automotive vehicles. 3,406,983, 10–22–68, Cl. 280—124.
Massoubre, Jean-Marie, to Compagnie Generale des Etablissements Michelin, raison sociale Michelin & Cie. Reactor for continuous polymerization. 3,407,046. 10–22–68. Cl. 23—285.
Masterson, Earl E.: *See*—
Davis, Wilbern F., Masterson, and Schaller. 3,406,965.
Masuda, Noboru, to Denki Onkyo Co., Ltd. Electronic recording film. 3,407,093, 10–22–68, Cl. 117—201.
Matsuda, Tetsuro: *See*—
Alzawa, Minoru, Matsuda, Kawabata, Omura, Amano, and Nakamura. 3,407,072.
Mattel Inc.: *See*—
Green, James R., and Fine. 3,406,816.
Ryan, John W., and Cowell. 3,406,482.
Matthews, Russel E., and G. S. Foerster, to Dow Chemical Co. Method of impact extruding. 3,407,062, 10–22–68, Cl. 75—214.
Mauldin, William L., to Deering Milliken Research Corp. Soil retention of aminoplast resin-softener-epichlorohydrin modified cellulosic fabrics obviated by inclusion of carboxymethyl cellulose in reaction system. 3,407,026, 10–22–68, Cl. 8—115.6.
Maxwell, Charles S., to American Cyanamid Co. Pulping of wet sternth paper with hypochlorous acid. 3,407,113, 10–22–68. Cl. 162—6.
May, Edwin A., to Becton Dickinson and Co. Catheter needle and method for its manufacture. 3,406,685, 10–22–68, Cl. 128—214.4.
May, Harry C., to Westinghouse Air Brake Co. Vacuum pressure control valve. 3,407,008. 10–22–68, Cl. 303—12.
Mayberry, Thomas C.: *See*—
Gage, Thomas B., and Mayberry. 3,407,092.
Maydock, Edward J., to The Ruleta Co., Inc. Valve locking attachment. 3,406,708, 10–22–68. Cl. 137—382.
Mayer, Joseph C.: *See*—
Pearse, James N., Dykstra, and Mayer. 3,407,312.
Mayrath, Martin. Swinging drive connection for auger conveyors. 3,406,809, 10–22–68, Cl. 198—92.
Mazzocchi, Romano: *See*—
Longi, Paolo, Montagna, and Mazzocchi. 3,407,207.
McCall, Marvin A., and J. E. Guillet, to Eastman Kodak Co. Polymeric compositions and method of preparing same. 3,407,163, 10–22–68, Cl. 260—28.5.
McCarthy, John J., to Norco, Inc. Releasable catch for equipment. 3,406,995, 10–22–68, Cl. 292—169.
McClister, Harry A., deceased (R. W. McClister and The Fidelity Bank, executors), to Delmor Lanes. Bowling scorer. 3,406,902. 10–22–68, Cl. 235—114.
McClister, Ruth W.: *See*—
McClister, Harry A. 3,406,902.
McColl, John D., and F. L. Chubb, to Frank W. Horner Ltd. Substituted biurets. 3,407,193, 10–22–68, Cl. 260—239.
McConville, Richard S. Dental rubber dam frame. 3,406,452, 10–22–68, Cl. 32—35.
McCord, Robert S., to McDonnell Douglas Corp. Heat transfer fluid. 3,407,142, 10–22–68, Cl. 252—78.
McCoy Ellison, Inc.: *See*—
Grabaccio, Edward B. 3,406,927.
McDonnell Douglas Corp.: *See*—
McCord, Robert S. 3,407,142.
McGraw-Edison Co.: *See*—
Attewell, Oliver G. 3,407,334.
McGuire, Joseph J.: *See*—
Kuceski, Vincent P., and McGuire. 3,407,166.
McIlvaine, Robert L., to National Engineering Co. Apparatus for conditioning material. 3,406,950, 10–22–68, Cl. 259—151.
McKay, Dwight L., and F. M. Brinkmeyer, to Phillips Petroleum Co. Separation by crystallization. 3,406,527, 10–22–68, Cl. 62—58.
McKechnie, Charles S., to Andrews of Aintree Ltd. Containers for the transportation of liquid in bulk. 3,406,855, 10–22–68, Cl. 220—1.5.
McKeown, Michael: *See*—
Stickley, Elmer E., and McKeown. 3,406,604.
McLean, Edwin L. Bridge and traffic system. 3,406,616, 10–22–68, Cl. 94—1.

McLean, William B., 50% to W. G. Finch, Wafer type submersible motor for underwater device. 3,407,320, 10–22–68, Cl. 310—87.
McLeod, La Martine S. Container with disposable liner. 3,406,853, 10–22–68, Cl. 215—11.
McManus, Charles P.: *See*—
Peterson, Harry L. 3,407,283.
McNelis, James I.: *See*—
Jett, Robert W., McNelis, and Sowa. 3,406,736.
Mead Corp.: *See*—
Katogir, Michael. 3,406,493.
Mechanical Handling Systems, Inc.: *See*—
Bishop, Leonard J. 3,406,639.
Meibel, William H., to Abex Corp. Anti-surge flow control valve. 3,406,714, 10–22–68, Cl. 137—501.
Mein, Richard L., to The Powermite Corp. Aquatic propulsion system. 3,406,653, 10–22–68, Cl. 115—70.
Mehta, Sebastiano. Mute for stringed instruments. 3,406,603, 10–22–68, Cl. 84—311.
Menardi & Co.: *See*—
Wilk, Einar. 3,406,502.
Menanda, James I., to Sperry Rand Corp. Digital synchronizer for pulses of known repetition interval but unknown phase. 3,407,356, 10–22–68, Cl. 328—55.
Merck & Co., Inc.: *See*—
Chemerda, John M., Tristram, and Tull. 3,407,226.
Merian, Ernest, to Sandoz, Ltd. Water-insoluble monoazo dyestuffs. 3,407,189, 10–22–68, Cl. 260—207.1.
Mersereau, Everard C., to R. M. Holloway and R. L. Ludington. Brake mechanism. 3,406,794, 10–22–68, Cl. 188—195.
Metal Sections Ltd.: *See*—
Harding, Brian. 3,406,491.
Metallgesellschaft Aktiengesellschaft: *See*—
Wiemer, Jean. 3,406,499.
Metallurgical Processes Ltd.: *See*—
Lumsden, John. 3,407,060.
Mettetal, Donald, Jr., to A. F. Wintercorn. Outboard motor tilting mechanisms. 3,406,652, 10–22–68, Cl. 115—41.
Meulendyk, John W., to Pneumo Dynamics Corp. Two-stage fluid control valve. 3,406,701, 10–22–68, Cl. 137—83.
Meyer, Donald K., to Minnesota Mining and Mfg. Co. Floating anode. 3,407,132, 10–22–68, Cl. 204—225.
Meyer, Gerhard, E. Siggel, A. Schopf, and H. Magerlein, to Vereinigte Glanzstoff-Fabriken AG. Stability of polyolefines. 3,407,172, 10–22–68, Cl. 260—45.7.
Meyer, Otto. Piston gate valve for high pressure media. 3,406,705, 10–22–68, Cl. 137—207.
Meyer Stamping & Mfg. Co.: *See*—
Kilbey, George E. 3,406,984.
Michael, Raymond F. Method and apparatus for compensating marine compasses. 3,406,560, 10–22–68, Cl. 73—1.
Midland-Ross Corp.: *See*—
Decker, Maurice S., Jr., and Hillier. 3,406,991.
Milan, Henry J., and W. G. Hauser, to The Singer Co. Cabinets and disappearing treadle mechanism for sewing machines. 3,407,014, 10–22–68, Cl. 312—21.
Milano, Mario, and S. Giovanardi, to Montecatini Edison S.p.A. Process for manufacturing and retreading tires and articles and the products obtained therefrom. 3,406,732, 10–22–68, Cl. 152—330.
Milks, John E.: *See*—
Savides, Christos, and Milks. 3,407,187.
Miller Bros.: *See*—
Miller, Norman K. 3,407,263.
Miller, Conrad E.: *See*—
Karickhoff, Michael, and Miller. 3,407,112.
Miller, Jack V., to Electro-Optical Systems, Inc. Two-axis angular positioning apparatus for adjusting the position of an optical element. 3,407,018, 10–22–68, Cl. 350—321.
Miller, Lawrence J.: *See*—
Fall, Harry W., and Miller. 3,406,470.
Miller, Norman K., to Miller Bros. Flexible electrical conductor. 3,407,263, 10–22–68, Cl. 174—113.
Miller, Robert C., to Bell Telephone Laboratories, Inc. Generation of second harmonic optical wave energy. 3,407,309, 10–22–68, Cl. 307—88.3.
Miller, Robert H., to Manitowoc Shipbuilding, Inc. Method for increasing the load capacity of a vessel. 3,406,650, 10–22–68, Cl. 114—77.
Miller, Robert W., to Alaskang, Inc. Rock drilling auger apparatus. 3,406,768, 10–22–68, Cl. 175—162.
Millipore Filter Corp.: *See*—
Bush, John H., and Weyand. 3,406,831.
Millmaster Onyx Corp.: *See*—
Shay, E. Griffin, and Wakeman. 3,407,204.
Mine Safety Appliances Co.: *See*—
Clariariello, Thomas A. 3,406,563.
Mineo, John R. Tire sealing composition. 3,407,082, 10–22–68, Cl. 106—33.
Minick, James E., to United States Steel Corp. Method of removing material from the inside of a coil. 3,406,600, 10–22–68, Cl. 83—13.
Minnesota Mining and Mfg. Co.: *See*—
Bond, Herbert M. 3,406,820.
Charlot, Lincoln H., Jr. 3,407,403.
Hunder, David N., and Elkos. 3,406,987.
Meyer, Donald K. 3,407,132.
Mitsch, Ronald A. 3,407,232.
Rykken, Kenley J. 3,406,488.
Minnick, Robert C., to Stanford Research Institute. Magnetic parity function generator. 3,407,307, 10–22–68, Cl. 307—88.
Minsker, Lawrence D. Article of furniture. 3,407,001, 10–22–68, Cl. 297—445.
Mitchell, Ernest H., and A. E. Mueller, to Western Technology Inc. Etching mechanism. 3,406,697, 10–22–68, Cl. 134—148.
Mitchell, Herbert C., to Ford Motor Co. Combination hinge-latch device. 3,406,483, 10–22–68, Cl. 49—192.
Mitchell, James W., Jr., and H. A. Nida, to Ford Motor Co. Spot weld hem joints. 3,407,280, 10–22–68, Cl. 219—91.
Mitsch, Ronald A., to Minnesota Mining and Mfg. Co. Bis(difluoroamino) perhalocarbons. 3,407,252, 10–22–68, Cl. 260—563.
Miyakawa, Tatsuo: *See*—
Isobe, Toyosaku, and Miyakawa. 3,407,350.
Mobil Oil Corp.: *See*—
Eastwood, Sylvander C., Oleck, and Schwartz. 3,407,148.
Sharp, Lorld G. 3,406,755.
Zemanek, Joseph, Jr. 3,406,780.
Zemanek, Joseph, Jr., and Straus. 3,406,779.
Mod, Robert M.: *See*—
Skau, Evald L., Mod, and Magne. 3,407,205.
Mogg, Donald W.: *See*—
Tarbell, Harlan E., and Mogg. 3,407,083.
Molex Products Co.: *See*—
Krehbiel, John H. 3,407,380.
Monroe, John E. Prefabricated furniture. 3,406,645, 10–22–68, Cl. 108—23.
Monsanto Co.: *See*—
Clifford, Alan F., and Jaffe. 3,407,030.
Harris, Alva F. 3,407,246.
Shen, Chung Y. 3,407,035.
Montagna, Riccardo: *See*—
Longi, Paolo, Montagna, and Mazzocchi. 3,407,207.
Montecatini Edison S.p.A.: *See*—
Calvi, Pierluigi, Corbelli, Balzani, and Longhi. 3,407,168.
Camell, Nazzareno, Sartori, and Sudati. 3,407,238.
Camell, Nazzareno, Censolo, Sartori, and Valvassori. 3,407,239.
Guglielmino, Agatino, Corbelli, and Di Giulio. 3,407,158.
Longi, Paolo, Montaga, and Mazzocchi. 3,407,207.
Milano, Mario, and Giovanardi. 3,406,732.
Natta, Giulio, Zambelli, and Pasquon. 3,407,185.
Moore, Edward E.: *See*—
Hirschberg, Erwin E., and Moore. 3,407,023.
Hirschberg, Erwin E., and Moore. 3,407,024.
Moore, Frank D., to U.S. Stoneware, Inc. Venturi-tube scrubber. 3,406,953, 10–22–68, Cl. 261—79.
Morghen, Karl: *See*—
Evans, Alvin W., Beichel, and Morghen. 3,406,667.
Morozan, Dumitru, to Comitetul de Stat pentru Cultura si Arta Bucharest. Method and apparatus for rapid determination of 1-phenyl-3-pyrazolidone(phenidone) in developing solutions. 3,407,043, 10–22–68, Cl. 23—230.
Morrison, David, and R. C. Robinson, to General Time Corp. Clock alarm mechanism having impulsed striker apparatus. 3,407,402, 10–22–68, Cl. 340—392.
Morrissey, Neal J.: *See*—
Staats, Henry N., Levitan, and Morrissey. 3,407,105.
Mosch, Alfred. Pocket utility device including writing instrument. 3,407,021, 10–22–68, Cl. 401—29.
Moschel, Albrecht: *See*—
Kuhlkamp, Alfred, and Nowack, Rudolf. 3,407,152.
Moskowitz, Murray, to Maidenform, Inc. Garter clasp. 3,406,434, 10–22–68, Cl. 24—245.
Mosso, Paul R.: *See*—
Wismer, Marco, Doerge, Mosso, and Foote. 3,407,150.
Mosstype Corp.: *See*—
Hoexter, Rolf. 3,406,629.
Motorola, Inc.: *See*—
Magnuski, Henry. 3,406,775.
Motor Wheel Corp.: *See*—
Wilcox, Raymond J. 3,406,548.
Moyer, James E., to Resiflex Laboratory. Guide and positioning means for a needle. 3,406,687, 10–22–68, Cl. 128—221.
Mudd, David L. Article with sealed cover and method of forming same. 3,406,490, 10–22–68, Cl. 52—3.
Mueller, Alvin E.: *See*—
Mitchell, Ernest H., and Mueller. 3,406,697.
Muir, Douglas F., Jr. Vacuum holder. 3,406,938, 10–22–68, Cl. 248—363.
Muldovan, Stephen A. Method of manufacturing laminated metal panel. 3,406,446, 10–22–68, Cl. 29—497.5.
Muller, Kurt, to Oerlikon-Buhrle Holding Ltd. Percussion fuze for shells. 3,406,630, 10–22–68, Cl. 102—73.
Munakata, Tomohiko: *See*—
Nakanishi, Michio, and Munakata. 3,407,256.
Munse, Robert A., to Vare Corp. Sleeve type fastener for studs. 3,406,734, 10–22–68, Cl. 151—41.75.
Murphy, James A.: *See*—
Pherson, Perry O., Gibson, Watkins, Duke, and Murphy. 3,407,103.
Murr, William C., to Berkeley Tonometer Co. Apparatus and method for tonography. 3,406,565, 10–22–68, Cl. 73—80.
Murray, Daniel G., N. G. Marotta, and R. M. Boettger, to National Starch and Chemical Corp. Manufacture of farinaceous-based, amylose-containing food products by means of an extrusion type process. 3,407,070, 10–22–68, Cl. 99—83.
Murray, Harley W. Extendable trailer. 3,406,980, 10–22–68, Cl. 280—34.
Murray, William: *See*—
Wunderlich, Donald K., and Murray. 3,407,134.
Musser, C. Walton, to United Shoe Machinery Corp. Spin fastener inserters. 3,406,556, 10–22–68, Cl. 72—391.
Mustacchi, Henry, and H. T. Foley, to GAF (Great Britain) Ltd. Light sensitive diazonium compounds and diazotype materials. 3,407,066, 10–22–68, Cl. 96—91.
Mutchnik, Henry and M. Mountings for furniture legs. 3,406,935, 10–22–68, Cl. 248—188.
Mutchnik, Melvin: *See*—
Mutchnik, Henry and M. 3,406,935.
Muzzi, Joseph M., and E. J. Rohn, to Ford Motor Co. Temperature control system. 3,406,904, 10–22–68, Cl. 237—2.
N.V. Maatschappij tot Exploiteren van Octrooien en Licenties "Matepa": *See*—
Swane, Albertus A. 3,406,893.
N.V. Optische Industrie de Oude Deft: *See*—
Bouwers, Albert. 3,407,302.

Naarmann, Herbert, and E.-G. Kastning, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of 1,3-diene polymers in aqueous media. 3,407,184, 10–22–68, Cl. 260—82.1.
Nachshen, Maurice, to Conch International Methane Ltd. Counterweighted roof for in-ground reservoirs for liquefied gases. 3,406,859, 10–22–68, Cl. 220—18.
Nagata, Wataru, to Shionogi & Co., Ltd. Processes for cyclizing compounds having the 8A carbamyl, 2-oxo naphthalene moiety to pyrrolidones and reacting the latter with a sulfonyl halide. 3,407,212, 10–22–68, Cl. 260—326.3.
Nakajima, Hitoshi: *See*—
Kominami, Naoyi, Nakajima, and Tamura. 3,407,223.
Nakamura, Takashi: *See*—
Aizawa, Minoru, Matsuda, Kawabata, Omura, Amano, and Nakamura. 3,407,072.
Nakazawa, Morimitsu, and T. Sato, to Taiyo Yuden Kabushikikaisha. Multi-connector. 3,407,379, 10–22–68, Cl. 339—176.
Nakanishi, Michio, and T. Munakata, to Yoshitomi Pharmaceutical Industries, Ltd. Psychotherapeutic compositions of N(4,4-substituted piperidino) lower alkyl-iminodibenzyl compounds. 3,407,256, 10–22–68, Cl. 424—267.
National Engineering Co.: *See*—
McIlvaine, Robert L. 3,406,950.
National Gypsum Co.: *See*—
Volsinet, Walter E. 3,407,086.
National Packaging Products: *See*—
Gwinn, M. Benjamin, and Buchmiller. 3,406,611.
National Research Development Corp.: *See*—
Perry, Forbes G. D., Fellows, and Petty. 3,406,597.
Young, Alec D. 3,406,929.
National Starch and Chemical Corp.: *See*—
Murray, Daniel G., Marotta, and Boettger. 3,407,070.
Natta, Giulio, A. Zambelli, and I. Pasquon, to Montecatini Edison S.p.A. Crystalline ethylene/butadiene copolymers. 3,407,185, 10–22–68, Cl. 260—85.3.
Naumann, Eugene C., and P. L. Corbin, to United States of America, National Aeronautics and Space Administration. Automatic fatigue test temperature programmer. 3,406,742, 10–22–68, Cl. 165—12.
Naylor Bros. (Clayware) Ltd.: *See*—
Greensmith, Norman. 3,406,830.
Neasham, Robert S. Cinematographic method. 3,407,020, 10–22–68, Cl. 352—38.
Needham, Thomas E., and K. H. Clayson, to Wilmot-Breeden Ltd. Object detection devices. 3,406,802, 10–22–68, Cl. 192—130.
Nelden, Richard M., to American Standard Inc. Fluid drive centrifugal valve control means. 3,406,518, 10–22–68, Cl. 60—54.
Nelson, William D. Game board with magnets and game pieces with magnetically actuated pointer elements. 3,406,974, 10–22–68, Cl. 273—134.
Neugart, Fernando M. Digital friction enhancing device. 3,406,658, 10–22–68, Cl. 118—264.
Neway Equipment Co.: *See*—
Masser, Lloyd D. 3,406,983.
Newell, George K., to Westinghouse Air Brake Co. Rotary valve device with coacting camming surfaces. 3,406,943, 10–22–68, Cl. 251—163.
Nichols, Joseph J. Mop wringer. 3,406,422, 10–22–68, Cl. 15—263.
Nida, Henry A.: *See*—
Mitchell, James W., Jr., and Nida. 3,407,280.
Nienhuis, Rijkert J., to North American Philips Co., Inc. Transistor circuit-arrangement. 3,407,332, 10–22–68, Cl. 315—27.
Nihon Genshiryoku Kenkyu-sho: *See*—
Hori, Masao. 3,407,316.
Niles, Cris L. and W. M. Combination washer and buffer. 3,406,417, 10–22–68, Cl. 15—4.
Niles, Wayne M.: *See*—
Niles, Cris L. and W. M. 3,406,417.
Nimtz, Klaus, G. Franzen, and U. Lossa, to Palitex Project-Co. G.m.b.H. Two-for-one twisting spindle with interior winding-up of the thread. 3,406,511, 10–22–68, Cl. 57—58.65.
Nippon Electric Co. Ltd.: *See*—
Ishidate, Takashi. 3,407,392.
Nissler, Siegfried: *See*—
Konrad, Josef, and Nissler. 3,407,303.
Nitzan, David, to AMP Inc. Current steering using mad's. 3,407,308, 10–22–68, Cl. 307—88.
Nor-Laks D. C. Vik & K. O. Vik: *See*—
Vik, Karstein O. and O. B. 3,406,662.
Norco, Inc.: *See*—
McCarthy, John J. 3,406,995.
North American Philips Co., Inc.: *See*—
Greefkes, Johannes A. 3,407,315.
Hickman, Wallace C. 3,407,333.
Nienhuis, Rijkert J. 3,407,332.
Steadson, Neil A. 3,407,313.
Booher, Robert K. 3,407,339.
North Carolina State University at Raleigh: *See*—
Hoover, Maurice W. 3,407,074.
North, Donald C., Jr., and R. M. Leirvik, to The Babcock & Wilcox Co. Fuel element-control rod assembly. 3,407,115, 10–22–68, Cl. 176—68.
Northwestern Steel and Wire Co.: *See*—
Robinson, Charles G. 3,407,259.
Norton Co.: *See*—
Bryant, Douglas E. 3,407,039.
Norton, G. H. & Co. Ltd.: *See*—
Hastewell, Claude H., and Hardcastle. 3,406,725.
Norvich Pharmacal Co.: *See*—
Snyder, Harry R., Jr. 3,407,195.
Notbohm, Willard C., to The Black Clawson Co. Thermal compensating tie beam assembly. 3,406,931, 10–22–68, Cl. 248—2.
Nothnagel, Gerd: *See*—
Donath, Hans, and Nothnagel. 3,407,261.
Novack, Robert L.: *See*—
Juda, Walter, Novack, Fowle, and D'Alessandro. 3,407,095.
Nowack, Rudolf: *See*—
Kuhlkamp, Alfred, Moschel, and Nowack. 3,407,152.
Nozaki, Kenzie, to Shell Oil Co. Dimethylacetamide production. 3,407,231, 10–22–68, Cl. 260—561.
Nufer, Hans L., to Pennsylvania Industrial Chemical Corp. Making substituted 2,4-dihydroxybenzophenones. 3,407,235, 10–22–68, Cl. 260—591.
Nutku, Ata. Controllable pitch propeller. 3,406,759, 10–22–68, Cl. 170—135.4.
Oberg, Paul E., to Sperry Rand Corp. Magnetic mask field induced anisotropy. 3,406,659, 10–22–68, Cl. 118—505.
O'Connor, Ward F., to The Lummus Co. Position control system for an article handling apparatus. 3,406,846, 10–22–68, Cl. 214—16.4.
Odence, Leon A. Combination hairbrush-applicator. 3,406,694, 10–22–68, Cl. 132—85.
O'Donnell, John R. Illuminated sign. 3,406,475, 10–22–68, Cl. 40—130.
Oepkes, Jacob, and H. J. Loois, to Shell Oil Co. Process for preparing surfacing compositions and resulting products. 3,407,165, 10–22–68, Cl. 260—29.8.
Oerlikon-Buhrle Holding Ltd.: *See*—
Muller, Kurt. 3,406,630.
Siebers, Gunter. 3,407,012.
Offutt, Elmer B., and L. Bierl, to The Vendo Co. Multi-price coin changer having a dual denomination payout. 3,406,803, 10–22–68, Cl. 194—2.
Oki Electric Industry Co., Ltd.: *See*—
Sasaki, Rentaro, and Sawaki. 3,406,807.
Oleck, Stephen M.: *See*—
Eastwood, Sylvander C., Oleck, and Schwartz. 3,407,148.
Olin Mathieson Chemical Corp.: *See*—
Harris, Frederick J. 3,406,557.
Hurley, Thomas J., Robinson, and Scruggs. 3,407,098.
Pauls, Theron F. 3,406,750.
Oliva, William E., and C. A. Schlutz, to Baxter Laboratories, Inc. Expendable electrophoresis apparatus. 3,407,133, 10–22–68, Cl. 204—299.
Olson, John W., Jr. Pumping means. 3,406,636, 10–22–68, Cl. 103—157.
Omura, Isao: *See*—
Aizawa, Minoru, Matsuda, Kawabata, Omura, Amano, and Nakamura. 3,407,072.
Oricchio, Faust F.: *See*—
Egbert, Robert B., Oricchio, and Giuodenis. 3,407,215.
Simpon, Orville, Co., The: *See*—
Crain, Allan M. 3,406,823.
Ose, Akira, and E. Goto, to Tokyo Shibaura Electric Co., Ltd. Method of making baseless lamp bulb. 3,407,054, 10–22–68, Cl. 65—55.
Osgood, Richard B.: *See*—
Phillips, Edward H., and Osgood. 3,406,564.
Oster, Thomas H., to Ford Motor Co. Internal combustion engine system. 3,406,673, 10–22–68, Cl. 123—169.
Osterreichische Mineralolverwaltung Aktiengesellschaft: *See*—
Bauer, Erich, and Reichard. 3,406,895.
Ott, Owen J., to Data-Control Systems, Inc. Apparatus for demodulating an FM carrier. 3,407,358, 10–22–68, Cl. 329—110.
Otto, Milton C.: *See*—
Freeman, Donald C., Jr., and Otto. 3,407,049.
Ounsted, Edwin J., to Ford Motor Co. Air conditioner compressor. 3,406,634, 10–22–68, Cl. 103—121.
Ovens, William, to Bull's Metal & Marine Ltd. Frames and framework members for windows, partitions and the like. 3,406,485, 10–22–68, Cl. 49—504.
Overcashier, Robert H., and A. L. Fricke, to Shell Oil Co. Production of expandable and cellular resin products. 3,407,151, 10–22–68, Cl. 260—2.5.
Oversewing Machine Co. of America: *See*—
Atkins, John H., and Wood. 3,406,842.
Owens, Emert E.: *See*—
Woelbel, Wilhelm, Owens, and Smith. 3,406,615.
Owens-Illinois, Inc.: *See*—
Brander, George T. 3,406,819.
Busdiecker, Robert A. 3,407,091.
Finger, Thomas H., and Heaton. 3,406,822.
Owens-Illinois Glass Co.: *See*—
Kitaj, Walter, and Levene. 3,407,085.
Ownby, James C.: *See*—
Thompson, John W., and Ownby. 3,407,051.
Ozonair Engineering Co. Ltd.: *See*—
Floyd, Frederick. 3,406,503.
Pachter, Irwin J., to Endo Laboratories, Inc. Tertiaryamino ethyl or propyl pyrrol-2-yl ketones. 3,407,199, 10–22–68, Cl. 260—247.5.
Pachter, Irwin J., and J. Weinstock, to Smith Kline & French Laboratories. 6 - amino - 5 - cyanomethylaminopyrimidines. 3,407,202, 10–22–68, Cl. 260—256.5.
Packman, Albert M., to William H. Rorer, Inc. Dimethylaminoalkoxy-di- and tri-methoxy-chalcones and the salts thereof. 3,407,233, 10–22–68, Cl. 260—570.7.
Paddock, Norman L., and H. T. Searle, to Hooker Chemical Corp. Preparation of phosphonitrilic chloride polymers. 3,407,047, 10–22–68, Cl. 23—357.
Page, John S., Jr. Tubing anchor. 3,406,758, 10–22–68, Cl. 166—212.
Palitex Project-Co. G.m.b.H.: *See*—
Nimtz, Klaus, Franzen, and Lossa. 3,406,511.
Pall Corp.: *See*—
Pall, David B., and Keedwell. 3,407,252.
Pall, David B., and C. A. Keedwell, to Pall Corp. Process for preparing filters having a microporous layer attached thereto. 3,407,252, 10–22–68, Cl. 264—131.

Pan American Petroleum Corp.: *See*—
Bienkarn, Kenneth A., and Lubinski. 3,406,524.
Kunkel, Lorenz V. 3,407,040.
Willner, Carl A. 3,406,781.

Paolantonio, Albert J., to Colonial Knife Co., Inc. Display package for portable articles. 3,406,815, 10–22–68, Cl. 206—45.24.

Park Plastics Co., Inc.: *See*—
Joffe, Edward J. 3,406,480.

Park, Robert H. Container closure. 3,406,875, 10–22–68, Cl. 222—151.

Parker, Angus R., and E. W. Rudolph. Method of making a joint. 3,406,444, 10–22–68, Cl. 29—482.

Parker-Hannifin Corp.: *See*—
Elbogen, James S., and De Graaf. 3,406,709.
Simmons, Harold C. 3,406,910.

Parkes, Lincoln J. Mobile suspensory apparatus for crippled household animals. 3,406,661, 10–22–68, Cl. 119—1.

Parks, Lyle H.: *See*—
Rainwater, Joe H., Beck, and Parks. 3,407,080.

Parlanti, Theodora N. Method and means for making a lined garment. 3,406,407, 10–22–68, Cl. 2—243.

Pasik, Leonard F., to Universal Oil Products Co. Method of analyzing trace water. 3,407,124, 10–22–68, Cl. 204—1.

Pasquon, Italo: *See*—
Natta, Giulio, Zambelli, and Pasquon. 3,407,185.

Patterson, Robert W., to United States Steel Corp. Apparatus for controlling coating thickness. 3,406,656, 10–22–68, Cl. 118—63.

Pauls, Theron F., to Olin Mathieson Chemical Corp. Composite panel heat exchanger and the method of manufacture. 3,406,750, 10–22–68, Cl. 165—148.

Paulstra: *See*—
Domer, Michel A. F. 3,406,536.

Payant, Donald A.: *See*—
Kutchera, Don H., and Payant. 3,406,624.

Pearse, James N., P. R. Dykstra, and J. C. Mayer, to Allen-Bradley Co. Timer. 3,407,312, 10–22–68, Cl. 307—141.

Pearson, John B.: *See*—
Barry, Adelbert, Chalmers, and Pearson. 3,406,778.

Pennsylvania Industrial Chemical Corp.: *See*—
Nufer, Hans L. 3,407,235.

Pentapco, Inc.: *See*—
Ludwig, Walter. 3,406,492.

Perkins, Neale A., to Safariland Leather Products. Holster. 3,406,884, 10–22–68, Cl. 224—2.

Perl, Richard L., to The Tappan Co. Vertical pump dishwasher. 3,406,637, 10–22–68, Cl. 103—218.

Perl, Richard L., to The Tappan Co. Detergent dispensing apparatus. 3,406,695, 10–22–68, Cl. 134—58.

Perna, Frank, Jr., and A. A. Sperling, to General Motors Corp. On-line exhaust data analysis system. 3,406,562, 10–22–68, Cl. 73—23.

Pernas, Manuel, to Maidenform, Inc. Girdle. 3,406,692, 10–22–68, Cl. 128—540.

Perry, Forbes G. D. B., T. G. Fellows, and J. W. L. Petty, to National Research Development Corp. Continuously variable ratio transmission system and control system therefor. 3,406,597, 10–22–68, Cl. 74—865.

Perry, James L., to Air Reduction Co., Inc. Insulated plastic vessel. 3,406,857, 10–22–68, Cl. 220—9.

Persichini, Dominic J., and R. F. Freeman, to Air Gage Co. Gear teeth checking gage. 3,406,561, 10–22–68, Cl. 73—1.

Pesetto, James R., to Illinois Tool Works, Inc. Snap action switch having improved terminal construction. 3,407,276, 10–22–68, Cl. 200—67.

Peterson, Carl L., to Sylvania Electric Products, Inc. Electric lamps and method of detecting leaks in such lamps. 3,407,123, 10–22–68, Cl. 204—1.

Peterson, Harry L., to C. P. McManus. Ice fishing hole heating device. 3,407,283, 10–22–68, Cl. 219—317.

Petko, Michael A.: *See*—
Wiesinger, Frederick C., Petko, and Fleming. 3,406,539.

Petrocelli, Americo W., J. A. Marriott, J. F. Turco, and A. Capotosto, General Dynamics Corp. Process for reclaiming spent electrolytes used for electrolytically descaling steel. 3,407,129, 10–22–68, Cl. 204—145.

Petty, John W. L.: *See*—
Perry, Forbes G. D. B., Fellows, and Petty. 3,406,597.

Pfarrwaller, Erwin, to Sulzer Bros. Ltd. Heddle frame. 3,406,726, 10–22–68, Cl. 139—91.

Pfeiffer, Erich R., to Firma Ing. Erich Pfeiffer KG. Liquid atomizer. 3,406,909, 10–22–68, Cl. 239—333.

Pfizer, Chas., & Co., Inc.: *See*—
Bennetch, Leonard M. 3,407,034.

Pherson, Perry O., M. Gibson, C. H. Watkins, M. F. Duke, and J. A. Murphy, to Canadian International Paper Co. Method of forming a disposable diaper pad. 3,407,103, 10–22–68, Cl. 156—202.

Phillips, Brian L., and D. S. Adams, to Joseph Lucas (Industries) Ltd. Spark ignition systems. 3,406,672, 10–22–68, Cl. 123—148.

Phillips, Edward H., and R. B. Osgood, to Hewlett-Packard Co. Ultrasonic transducer scanning system. 3,406,564, 10–22–68, Cl. 73—67.8.

Phillips Petroleum Co.: *See*—
Beazer, Charles W., and Taverner. 3,406,700.
Doane, Elliott P. 3,406,740.
Hinton, Robert A. 3,407,182.
Jennings, Gerald P. 3,406,986.
McKay, Dwight L., and Brinkmeyer. 3,406,527.
Pitchford, Armin C. 3,407,143.
Steery, Dan G. 3,407,305.

Phillips, Robert, to Bernard Plastics Molding Corp. Frame hanger for children's clothes. 3,406,882, 10–22–68, Cl. 223—88.

Phillips, Paul G.: *See*—
Tillmann, Hans P. G., and Phillips. 3,406,558.

Physio-Control Corp.: *See*—
Embree, Ray R. 3,407,336.

Picker Corp.: *See*—
Hansen, Carl W. 3,407,300.

Pickles, Joseph, to Ferro Mfg. Corp. Window regulator mechanism. 3,406,504, 10–22–68, Cl. 74—801.

Pickles, Joseph, to Ferro Mfg. Corp. Seat adjuster control mechanism. 3,406,795, 10–22–68, Cl. 192—.02.

Pidgeon, Brian G., to Coal Industry (Patents) Ltd. Remote control of mining machines. 3,407,002, 10–22–68, Cl. 299—1.

Pilcher, William B. Ladder supporting surface compensating means. 3,406,785, 10–22–68, Cl. 182—205.

Pillsbury Co., The: *See*—
Christensen, Kenneth M. 3,406,949.

Pitchford, Armin C., to Phillips Petroleum Co. Fire-resistant hydraulic fluid compositions. 3,407,143, 10–22–68, Cl. 252—75.

Pittsburgh Plate Glass Co.: *See*—
Wismer, Marco, Doerge, Mosso, and Foote. 3,407,150.

Pneumatic-Hydraulic Development Co., Inc.: *See*—
Grotness, Gunnar. 3,406,992.

Pneumo Dynamics Corp.: *See*—
Meulendyk, John W. 3,406,701.

Pobst, David F., Jr., and B. J. Rowlett, to Columbian Carbon Co. Apparatus for forming aggregates of powdered materials. 3,406,426, 10–22–68, Cl. 18—1.

Pokras, Adolph: *See*—
Igel, Anthony A., Liesmann, and Pokras. 3,406,690.

Polaroid Corp.: *See*—
Haas, Howard C. 3,407,186.

Pollak, Abraham; deceased H. M. and R. S. Pollak, co-executors, belt sanders. 3,406,487, 10–22–68, Cl. 51—147.

Pollak, Henry M.: *See*—
Pollak, Abraham, H. M., and R. S. 3,406,487.

Pollak, Robert Samuel: *See*—
Pollak, Abraham, and H. 3,406,487.

Polimeier, Konrad, and H. Frodermann, to Durkoppwerke Aktiengesellschaft. Sewing machine with cutting means. 3,406,646, 10–22–68, Cl. 112—127.

Poole, James C. Lawn bowling game with target. 3,406,973, 10–22–68, Cl. 273—123.

Popeil, Samuel J. Food processor. 3,406,590, 10–22–68, Cl. 74—545.

Porter, John J., to American Cyanamid Co. Fluoroalkyl orthoesters. 3,407,236, 10–22–68, Cl. 260—615.

Post, William C.: *See*—
Skoggard, Bruno B., and Post. 3,407,107.

Poulin, Arthur J. Spaceometer. 3,406,457, 10–22–68, Cl. 33—162.

Powermite Corp., The: *See*—
Mela, Richard L. 3,406,653.

Powers Regulator Co., The: See—
Thorburn, David H. 3,406,928.

Prata, John, 25% to V. Barcic. Electric air heater. 3,407,284, 10–22–68, Cl. 219—374.

Presby, Edwin E., and K. E. Price, to Rainbow Plastics. Wheel for swimming pool vacuum cleaner head. 3,406,416, 10–22–68, Cl. 15—1.7.

Presley, Wayne E., and T. J. Hairston, to The Dow Chemical Co. Reaction product of an epoxy resin and an adduct of an isocyanate and a polyamine. 3,407,175, 10–22–68, Cl. 260—47.

Price, Kenneth E.: *See*—
Presby, Edwin E., and Price. 3,406,416.

Procter & Gamble Co., The: *See*—
Bath, David F. 3,407,144.

Proctor, Russell C., Jr.: *See*—
Huntress, Charles O., and Proctor. 3,407,052.

Prontor-Werk Alfred Gauthier, G.m.b.H.: *See*—
Rentschler, Waldemar T. 3,406,619.

Prototech Inc.: *See*—
Juda, Walter. 3,407,094.

Prototech, Inc.: *See*—
Juda, Walter, Novack, Fowle, and D'Alessandro. 3,407,095.

Pujol, Jaime. Shoe with cushion insole. 3,406,468, 10–22–68, Cl. 36—2.5.

Purex Corp., Ltd.: *See*—
Benham, Ralph E. 3,407,337.

Pyro-Serv Instruments, Inc.: *See*—
Engelhard, William E. 3,407,097.

QPS, Inc.: *See*—
Schleich, Harold N. 3,406,456.

Quante G.m.b.H. Gesellschaft fur Zerstaubengstechnik: *See*—
Schmidt, Paul. 3,406,864.

Rabenau, Friedrich W.: *See*—
Köpke, Günter. 3,406,445.

Racki, Francis R., to Westinghouse Air Brake Co. Fluid pressure brake control valve device. 3,407,009, 10–22–68, Cl. 303—35.

Radio Corp. of America: *See*—
Wilmarth, Paul C. 3,407,330.

Railroad Machinery Development Corp.: *See*—
Rogers, Edward L. 3,406,771.

Rain Jet Corp.: *See*—
Hruby, John O., Jr. 3,406,715.

Rainbow Plastics: *See*—
Presby, Edwin E., and Price. 3,406,416.

Rainwater, Joe H., R. G. Beck, and L. H. Parks, to American Potato Co. Low density dried agglomerated foods including potatoes and process for their production. 3,407,080, 10–22–68, Cl. 99—207.

Ramcke, Carsten, to Barmer Maschinenfabrik AG. Control and switching device in mechanically or hydraulically operated traverse-motion systems in spinning, spooling and especially ring twist machines. 3,406,918, 10–22–68, Cl. 242—26.3.

Ramcke, Carsten: *See*—
Turk, Herbert, Ramcke, and Snels. 3,406,919.

Ramey, James G. Wire electrode feed mechanism for welding guns, and the like. 3,406,888, 10–22–68, Cl. 226—187.

Ramsey Controls, Inc.: *See*—
Wiesinger, Frederick C., Petko, and Fleming. 3,406,539.

Ramstetter, Otto, and N. Fast, said Fast assor. to said Ramstetter. Magnetically operated switch having opposed plural magnes. 3,407,370, 10–22–68, Cl. 335—206.

Randall, Jack L.: *See*—
Elliott, William I., and Randall. 3,407,251.

Randazzo, Marion G., to Karen Supply Co., Inc. Artificial ski surface. 3,406,617, 10–22–68, Cl. 94—13.

Randles, Arthur E., Jr. Egg carton forming machine. 3,406,613, 10–22–68, Cl. 93—37.

Read, George R. Skyline conveying device. 3,406,833, 10–22–68, Cl. 212—99.

Reagents, Dade, Inc.: *See*—
Burke, Robert C. 3,406,573.

Regan, Bernard M., to Baxter Laboratories, Inc. Phenylcarbamoylethylthiopseudoureas. 3,407,229, 10–22–68, Cl. 260—557.

Regan, Bernard M., to Baxter Laboratories, Inc. Benzamidoalkylthiopseudoureas. 3,407,230, 10–22–68, Cl. 260—558.

Regie Nationale des Usines Renault: *See*—
De Coye de Castelet, Gaetan. 3,406,745.

Reich, Karl M., Maschinenfabrik: *See*—
Cast, Adolf, and Reich. 3,406,889.

Reich, Kurt: *See*—
Cast, Adolf, and Reich. 3,406,889.

Reichard, Franz: *See*—
Bauer, Erich, and Reichard. 3,406,895.

Reid, Gilbert R., to Sperry Rand Corp. Electrical connector. 3,407,374, 10–22–68, Cl. 339—17.

Reid, Marvin A.: *See*—
Armstrong, Lee B., and Reid. 3,406,431.

Reilly, Albert F., to General Mills, Inc. Rigidizable structures and process. 3,407,111, 10–22–68, Cl. 161—160.

Reilly, Donald C., to Westinghouse Air Brake Co. Plastic-metal belt conveyor roller assembly. 3,406,438, 10–22–68, Cl. 29—116.

Reilly, John S., and H. W. Boothroyd, to United Shoe Machinery Corp. Apparatus for atomizing and spraying thermoplastic materials. 3,406,905, 10–22–68, Cl. 239—84.

Reiners, Walter: *See*—
Kamp, Heinz. 3,406,920.

Reinhardt, Heinz F., to E. I. du Pont de Nemours and Co. Process for the production of fluoroolefin copolymers. 3,407,247, 10–22–68, Cl. 260—881.

Reiser, Ralph R., to Hewlett-Packard Co. Decade. 3,407,288, 10–22–68, Cl. 235—92.

Remuzzi, Clinton C., Jr.: *See*—
Lebrer, Alvin E., and Remuzzi. 3,407,349.

Rentschler, Waldemar T., to Prontor-Werk Alfred Gauthier, G.m.b.H. Flash attachment device for photographic cameras. 3,406,619, 10–22–68, Cl. 95—10.

Research Corp.: *See*—
Honig, Arnold. 3,407,298.

Resilfiex Laboratory: *See*—
Moyer, James E. 3,406,687.

Revlon, Inc.: *See*—
Frangos, John. 3,406,877.
Frangos, John. 3,406,913.

Rexus, Fred. Portable continuous article bagging machine. 3,406,727, 10–22–68, Cl. 141—131.

Reynolds, Franklyn: *See*—
Steele, Jonathan P., and Reynolds. 3,406,876.

Reynolds Metals Co.: *See*—
De Ridder, Ernst J. 3,406,443.
Martin, Roy M., and Wilson. 3,406,614.

Rheinstal Huttenwerke AG: *See*—
Wenzel, Werner and W. 3,406,863.

Rice, Millard L.: *See*—
Scurlock, Arch C., Rumbel, and Rice. 3,407,100.

Rice, Philip J.: *See*—
Frohbach, Hugh F., and Rice. 3,407,401.

Ridley, Walter H., to The Foxboro Co. Method and apparatus for cooling and rinsing. 3,406,413, 10–22–68, Cl. 8—158.

Riello, Giordano. Air conditioner. 3,406,530, 10–22–68, Cl. 62—262.

Riggs & Lombard Inc.: *See*—
Wilcox, Harold R. 3,406,997.

Risdon Mfg. Co., The: *See*—
Kotuby, Paul M. 3,406,878.

Roantree Electro-Mech Corp.: *See*—
Roantree, William J. 3,406,584.

Roantree, William J., to Roantree Electro-Mech Corp. Differential roller nut. 3,406,584, 10–22–68, Cl. 74—424.8.

Robb, George D.: *See*—
Kirsch, Jerry, and Robb. 3,406,837.

Robbins, Leroy, to The Singer Co. Yarn feed indexing apparatus. 3,406,541, 10–22–68, Cl. 66—138.

Robillard, Jean J. A. Pressure transducer. 3,406,572, 10–22–68, Cl. 73—398.

Robinson, Charles G., to Northwestern Steel and Wire Co. Method of operating an electric furnace wherein the arc power is increased above 50 MVA. after the charge has begun to melt. 3,407,259, 10–22–68, Cl. 13—34.

Robinson, Martin A.: *See*—
Hurley, Thomas J., Robinson, and Scruggs. 3,407,098.

Robinson, Ralph C.: *See*—
Morrison, David, and Robinson. 3,407,402.

Roby, Alfred B., to General Motors Corp. Electronic control with unijunction transistor. 3,407,286, 10–22–68, Cl. 219—501.

Rockenbauer, Wilfried: *See*—
Fuerer, Heini, and Rockenbauer. 3,407,031.

Rockwell-Standard Corp.: *See*—
Cox, Frank T., Jr. 3,406,609.

Roden, Philip. Hydrotherapy apparatus. 3,406,680, 10–22–68, Cl. 128—66.

Rogers, Edward L., to Railroad Machinery Development Corp. Apparatus and method for weighing railroad cars in motion. 3,406,771, 10–22–68, Cl. 177—1.

Rogers, George M. Cup with attached drinking straw. 3,406,868, 10–22–68, Cl. 220—90.2.

Rohl, Hermann, to Chemische Werke Huls Aktiengesellschaft. Process for the production of hydroxylamine sulfate solutions by catalytic hydrolysis of hydroxylamine monosulfonate solutions. 3,407,030, 10–22–68, Cl. 23—117.

Rohlfs, John H., Sr., to The Turner and Seymour Mfg. Co. Straightening machine. 3,406,549, 10–22–68, Cl. 72—88.

Rohm & Haas Co.: *See*—
Exner, Lawrence J. 3,407,170.

Rohmann, Charles P., to Fischer & Porter Co. Magnetic flowmeter of improved linearity. 3,406,569, 10–22–68, Cl. 73—194.

Rohn, Elmer J.: *See*—
Muzzi, Joseph M., and Rohn. 3,406,904.

Rohrlick, Michael K., and B. Clein, to Elwood Realties Ltd. Single thread knotted lockstitch seam. 3,406,647, 10–22–68, Cl. 112—438.

Rome, Martin, to Electro-Mechanical Research, Inc. Electron multiplier comprising wafer having secondary-emissive channels. 3,407,324, 10–22–68, Cl. 313—95.

Romine, Donald J., to Ford Motor Co. Spark plug having a composite gold or gold alloy electrode and a process for its manufacture. 3,407,326, 10–22–68, Cl. 313—141.

Root, Robert S., to Lipe-Rollway Corp. Self-adjusting clutch. 3,406,801, 10–22–68, Cl. 192—99.

Rorer, William H., Inc.: *See*—
Packman, Albert M. 3,407,233.

Ross, Raymond W., to Leeds & Northrup Co. Method and apparatus for scoring and fan-folding strip material. 3,406,959, 10–22–68, Cl. 270—73.

Rost, Earl A. Portable saw table and guide. 3,406,728, 10–22–68, Cl. 143—132.

Rostron, George S.: *See*—
Sampson, Charles F., Rue, and Rostron. 3,407,089.

Roth, Carl A.: *See*—
Boston, Robert L., and Roth. 3,406,921.

Rotron Mfg. Co., Inc.: *See*—
Grad, Peter P. 3,407,321.

Roussel-UCLAF, S.A.: *See*—
Joly, Robert, and Warnant. 3,407,255.

Rowlett, Bobby J.: *See*—
Pobst, David F., Jr., and Rowlett. 3,406,426.

Rownd, Robert M., and J. A. Bridges, to Aladdin Industries Inc. Food and beverage containers having integral compartments containing a freezable liquid. 3,406,532, 10–22–68, Cl. 62—457.

Rudd-Melikian, Inc.: *See*—
Greenberg, Robert L. 3,407,279.

Rudolph, Earl W.: *See*—
Parker, Angus R., and Rudolph. 3,406,444.

Rue, Howard M.: *See*—
Sampson, Charles F., Rue, and Rostron. 3,407,089.

Ruleta Co., Inc., The: *See*—
Maydock, Edward J. 3,406,708.

Rumbel, Keith E.: *See*—
Scurlock, Arch C., Rumbel, and Rice. 3,407,100.

Rundle, Victor A., to Chevron Research Co. Nonblooming wax-polymer compositions. 3,407,161, 10–22–68, Cl. 260—28.5.

Rundle, Victor A., to Chevron Research Co. Hot tack high gloss wax compositions. 3,407,162, 10–22–68, Cl. 260—28.5.

Ruschman, Donald C., and F. O. Schulte, to General Motors Corp. Series parallel filter element. 3,046,832, 10–22–68, Cl. 210—457.

Rush, Roy C. Lawn and parking lot cleaner. 3,406,424, 10–22–68, Cl. 15—340.

Ruter, Hermann, M. Haerter, E. Cherdron, and E. Scheuermann, to Gebruder Giulini G.m.b.H. Method of treating titanium ores with hydrochloric acid to produce titanium tetrachloride therefrom. 3,407,033, 10–22–68, Cl. 23—87.

Ruth, Arthur P. Pressure tank equipment for water supply systems. 3,406,722 10–22–68, Cl. 138—30.

Rutzen, Robert E., W. L. Fry, Jr., and G. R. Squibb, to Automotive Conversion Corp. Stretcher-cot holding device. 3,406,998, 10–22–68, Cl. 296—19.

Ryan, John W., and R. L. Cowell, to Mattel, Inc. Facial animating means for a figure toy. 3,406,482, 10–22–68, Cl. 46—247.

Ryan, Thomas H. Power tool. 3,406,761, 10–22–68, Cl. 172—42.

Ryer, Jack: *See*—
Jonusz, Daniel F., and Ryer. 3,407,136.

Rykken, Kenley J., to Minnesota Mining and Mfg. Co. Abrasive flap wheel. 3,406,488, 10–22–68, Cl. 51—337.

Saarnak, Ago: *See*—
Carlström, Börge I., Saarnak, and Ekedahl. 3,406,724.

Sackett, Walter J., Sr., to The A. J. Sackett & Sons Co. Automatic bin leveling system. 3,406,847, 10–22–68, Cl. 214—17.

Sackett, A. J., & Sons Co., The: *See*—
Sackett, Walter J., Sr. 3,406,847.

Sadler, Thomas H., to Johns-Manville Corp. Removal of surface active agents from hydrocarbons and the like using chrysotile asbestos fibers. 3,407,137, 10–22–68, Cl. 208—300.

Sadowski, John J. Film inspection machine. 3,406,568, 10–22–68, Cl. 73—159.

Safariland Leather Products: *See*—
Perkins, Neale A. 3,406,884.

Sakamaki, Shozo: *See*—
Horlle, Shigeki, Sakaoka, Kurematsu, Hiraoka, and Sakamaki. 3,407,177.

Sakaoka, Eiji: *See*—
Horlle, Shigeki, Sakaoka, Kurematsu, Hiraoka, and Sakamaki. 3,407,177.

Sakashita, Tatsuo, and T. Sakuragi, to The Japanese Geon Co., Ltd. Method for inhibiting polymerization of conjugated dienes. 3,407,240, 10–22–68, Cl. 260—666.5.

Sakuragi, Taketami: *See*—
Sakashita, Tatsuo, and Sakuragi. 3,407,240.

Salgo, Francis J., to General Electrodynamics Corp. Display device. 3,407,331, 10–22–68, Cl. 315—21.

Salton, Robert B., to Westinghouse Air Brake Co. Variable pressure retainer device for brake cylinders. 3,406,720, 10–22–68, Cl. 137—599.2.

Sampson, Charles F., H. M. Rue, and G. S. Rostron, to Sun Oil Co. Coating composition for pyrophoric metal powders and shavings. 3,407,089, 10–22–68, Cl. 117—100.

Samuel, Robert L.: *See*—
Butcher, John W., and Samuel. 3,407,063.

Samuel Roberts Nobel Foundation Inc., The: *See*—
Alexander, Jack P. 3,406,765.

Sandoz, Ltd.: *See*—
Merian, Ernest. 3,407,189.

Saraidis, Christos, to E. I. du Pont de Nemours and Co. Cobalt salt-bisarsine-organometal catalysts for preparing 1,4-dienes. 3,407,244, 10–22–68, Cl. 260—680.

Saraidis, Christos, to E. I. du Pont de Nemours and Co. Organoaluminum-iron salt-bisarsine catalysts for use in preparing 1,4-dienes. 3,407,245, 10–22–68, Cl. 260—680.

Sartori, Guido: *See*—
Camell, Nazzareno, Censolo, Sartori, and Valvassori. 3,407,239.
Camell, Nazzareno, Sartori, and Sudati. 3,407,238.

Sasaki, Rentaro, and T. Sawaki, to Oki Electric Industry Co., Ltd. Printer in which type is projected and type head moved toward platen. 3,406,807, 10–22–68, Cl. 197—55.

Sasieni Ltd.: *See*—
Jeannin, Paul B. 3,406,693.

Sato, Tokushige: *See*—
Nakazawa, Morimitsu, and Sato. 3,407,379.

Saultz, Robert H. Safety rail for concrete building. 3,406,946. 10–22–68, Cl. 256—19.

Saum, George A., to General Electric Co. Infrared camera tube with cooling means for internal elements. 3,407,322. 10–22–68, Cl. 313—46.

Savides, Christos, and J. E. Milks, ½ to American Cyanamid Co., and Arizona Chemical Co. Antistatic agents. 3,407,187. 10–22–68, Cl. 260—89.5.

Sawaki, Toshiro: *See*—
Sasaki, Rentaro, and Sawaki. 3,406,807.

Schaller, Frank H.: *See*—
Davis, Wilbern F., Masterson, and Schaller. 3,406,965.

Scheib, Hermann, to Hannes Marker. Toe iron for safety ski bindings. 3,406,981, 10–22–68, Cl. 280—11.35.

Scheibler, Eduard, to Sulzer Brothers Ltd. Heating and air-conditioning apparatus. 3,406,744, 10–22–68, Cl. 165—27.

Schell, Robert C., to United States Steel Corp. Method and apparatus for spraying liquids on the surface of cylindrical articles. 3,407,099, 10–22–68, Cl. 148—153.

Schellenbaum, Max: *See*—
Luethi, Christian, Biland, Schellenbaum, and Duennenberger. 3,407,201.

Schenck, Robert C., Jr., to The Duriron Co., Inc. Top cap and stem seal for valves. 3,406,707, 10–22–68, Cl. 137—375.

Scheuermann, Eugen: *See*—
Ruter, Hermann, Haerter, Cherdron, and Scheuermann. 3,406,033.

Schlecht, Helmut: *See*—
Maisack, Herbert, Schlecht, and Urbach. 3,407,228.

Schleich, Harold N., to QPS Inc. Guide for cutting paper and the like. 3,406,456, 10–22–68, Cl. 33—106.

Schleicher, Joseph B.: *See*—
Weiss, Ronald E., and Schleicher. 3,407,120.

Schlein, Seymour N.: *See*—
Butz, Tom E., and Schlein. 3,406,513.

Schlichter, Arthur L., to Consolidated Foods Corp. d/b/a Joe Lowe Co. Method of packaging yeast-raised doughnuts. 3,407,078, 10–22–68, Cl. 99—172.

Schmidt, George F., to Standard Brands Chemical Industries, Inc. Polymeric dispersion, articles impregnated therewith and methods therefor. 3,407,164, 10–22–68, Cl. 260—29.7.

Schmidt, Karl, G.m.b.H.: *See*—
Köpke, Günter, and Rabenau. 3,406,445.

Schmidt, Paul, to Quante G.m.b.H. Gesellschaft fur Zerstenbengstechnik. Seal for pressure vessels. 3,406,864, 10–22–68, Cl. 220—46.

Schoetensack, Wolfgang, G. Hallmann, and K. Haegele, to Byk-Gulden Lomberg Chemische Fabrik G.m.b.H. Aminoethyl-benzofurous and derivatives thereof. 3,407,210, 10–22–68, Cl. 260—326.

Schöll, Rainer, to Dynamit Nobel Aktiengesellschaft. Device for the transport and launching of rocket projectiles having a rigd tail assembly. 3,406,606, 10–22–68, Cl. 89—1.815.

Schomburg, John F., to International Business Machines Corp. Collapsible chamber pump. 3,406,633, 10–22–68, Cl. 103—44.

Schopf, Albert: *See*—
Meyer, Gerhard, Siggel, Schopf, and Magerlein. 3,407,172.

Schouw, Arthur C., to Hydromation Engineering Co. Centripetal separation method and apparatus. 3,406,825, 10–22–68, Cl. 210—65.

Schreyengost, Ray B., to Hammond Corp. Electric organ polyphonic percussion system having multiple use keyers. 3,407,260, 10–22–68, Cl. 84—1.13.

Schreiber, Joseph. Padlock. 3,406,544, 10–22–68, Cl. 70—38.

Schulte, Fred O.: *See*—
Ruschman, Donald C., and Schulte. 3,406,832.

Schultz, Charles A.: *See*—
Oliva, William E., and Schultz. 3,407,133.

Schulz, Ernst O., to Veb Schaumglaswerk Taubenbach. Process for manufacturing glass in fine granular form. 3,407,053, 10–22–68, Cl. 65—21.

Schuster, Ludwig: *See*—
Beck, Fritz, and Schuster. 3,407,227.

Schwartz, Albert B.: *See*—
Eastwood, Sylvander C., Oleck, and Schwartz. 3,407,148.

Schwartz, Herbert. Herbicidal composition and method. 3,407,036, 10–22–68, Cl. 71—118.

Schwinn Bicycle Co.: *See*—
Brilando, Frank P., and Blaho. 3,406,587.

Scotti, Anthony E., to The Bendix Corp. Indexing gyro bearing friction minimizing means. 3,406,576, 10–22–68, Cl. 74—5.5.

Scruggs, James A.: *See*—
Hurley, Thomas J., Robinson, and Scruggs. 3,407,098.

Scurlock, Arch C., K. E. Rumbel, and M. L. Rice, to The Susquehanna Corp. Matrix propellant formulations containing aluminum. 3,407,100, 10–22–68, Cl. 149—19.

Searle, G. D., & Co.: *See*—
Chinn, Leland J. 3,407,219.

Searle, Harold T.: *See*—
Paddock, Norman L., and Searle. 3,407,047.

Sears, Boyd, III: *See*—
Cordova, Edward. 3,406,869.

Secunde, Richard R., to Lear Siegler, Inc. Voltage sensing and protection circuit. 3,407,338, 10–22–68, Cl. 317—22.

Segre, George E., to Allied Chemical Corp. Manufacture of rigid high impact resistant polyvinyl chloride-chlorinated polyethylene products. 3,407,171, 10–22–68, Cl. 260—41.

Seller, Edwin E. Fishing rod carrier. 3,406,930, 10–22–68, Cl. 244—118.

Selas Corp. of America: *See*—
Blaha, Emil. 3,407,059.
Breckenridge, Robert M. 3,406,804.

Self, Bernis L.: *See*—
Harper, Billy G., Bashaw, and Self. 3,407,138.

Sennheun, Emil, to Fernsch G.m.b.H. Television scanning system utilizing feedback for contrast compensation. 3,407,268, 10–22–68, Cl. 178—7.2.

Sensor Corp.: *See*—
Brzeska, Henry G. 3,407,269.

Settle, Aaron. Check and envelope. 3,406,894, 10–22–68, Cl. 229—70.

Shaeffer, Clarence L.: *See*—
Shriver, George H., and Shaeffer. 3,406,506.

Shaffer, Robert C.: *See*—
Johnson, Albin C., and Shaffer. 3,407,169.

Shaffer Tool Works: *See*—
Falkner, Chester B., Jr. 3,406,537.

Shah, Vasant: *See*—
Chiddix, Max E., Tracy, and Shah. 3,407,140.

Shanfeldt, Dennis W.: *See*—
Fruehauf, Hugo, and Shanfeldt. 3,407,345.

Sharp, Lorid G., to Mobil Oil Corp. Forward in situ combustion method for recovering hydrocarbons with production well cooling. 3,406,755, 10–22–68, Cl. 166—11.

Sharp, Richard S.: *See*—
Looschen, Floyd W., Hansen, and Sharp. 3,407,387.

Shaw, Harry: *See*—
Blair, George S., Shaw, and Maishlish. 3,406,810.

Shay, E. Griffin, and R. L. Wakeman, to Millmaster Onyx Corp. Quaternary ammonium aliphatic imides. 3,407,204. 10–22–68, Cl. 260—286.

Shell Oil Co.: *See*—
Durie, Robert W. 3,407,003.
Lutz, Eugene F. 3,407,221.
Nozaki, Kenzie. 3,407,231.
Oepkes, Jacob, and Loois. 3,407,165.
Overcashier, Robert H., and Fricke. 3,407,151.
Smutny, Edgar J. 3,407,224.
Williams, Paul H., and Lutz. 3,407,220.

Shelley, Howard E.: *See*—
Brill, Edward F., and Shelley. 3,407,006.

Shelley, Walter B.: *See*—
Hurley, Harry J., Jr., and Shelley. 3,406,418.

Shen, Chung Y., to Monsanto Co. Production of alkaline earth metal pyrophosphates. 3,407,035, 10–22–68, Cl. 23—109.

Shields, James L., to Luvals, Inc. Ignition system. 3,406,671, 10–22–68, Cl. 123—148.

Shigeru Kakubari: *See*—
Bansho, Kiyoshi. 3,407,344.

Shin, Chung T.: *See*—
Siegal, Bernard, Gary, and Shin. 3,407,254.

Shionogi & Co., Ltd.: *See*—
Nagata, Wataru. 3,407,212.

Shock, D'Arcy A.: *See*—
Every, Richard L., and Shock. 3,407,004.

Short Brothers and Harland Ltd.: *See*—
Lasbrey, Ian K. B., and Fitzgerald. 3,406,843.

Shriver, George H., and C. L. Shaeffer, to Deere & Co. Tobacco harvester with mechanism for orienting leaves before defoliation. 3,406,506, 10–22–68, Cl. 56—27.5.

Siders, Robert R., and R. W. Hood, to Hersey Sparling Meter Co. Electrical contact system. 3,407,378, 10–22–68, Cl. 339—176.

Siebers, Gunter, to Oerlikon-Buhrle Holding Ltd. Adjustable, hydrostatic plain bearing. 3,407,012, 10–22–68, Cl. 308—122.

Siegal, Bernard, H. H. Gary, and C. T. Shin, to Bristol-Myers Co. Antiperspirant compositions and method for their application. 3,407,254, 10–22–68, Cl. 424—66.

Siegal, Burton L., and J. S. Waxman, to Junkunc Bros. American Lock Co. Lock for locker doors and the like. 3,406,545. 10–22–68, Cl. 70—156.

Siegrist, Adolf E.: *See*—
Liechti, Peter, Maeder, Gulielmetti, Duennenberger, and Siegrist. 3,407,196.

Siemens Aktiengesellschaft: *See*—
Donath, Hans, and Nothnagel. 3,407,261.

Siemund, Herbert A., to Greenview Mfg. Co. Combination window washer, scraper and squeegee. 3,406,420, 10–22–68, Cl. 15—121.

Siggel, Erhard: *See*—
Meyer, Gerhard, Siggel, Schopf, and Magerlein. 3,407,172.

Silberberg, Philip. Spring-loaded multiple packaged product merchandising display device. 3,407,015, 10–22–68, Cl. 312—71.

Simm, Walter, to Agfa-Gevaert Aktiengesellschaft. Apparatus for the electrostatic atomization of liquids. 3,406,660, 10–22–68, Cl. 118—626.

Simms, Glen E., and D. E. Cook, to Concut, Inc. Pavement leveling and/or grooving machine. 3,407,005, 10–22–68, Cl. 299—39.

Simmons, Harold C., to Parker-Hannifin Corp. Fuel injection nozzle. 3,406,910, 10–22–68, Cl. 239—464.

Simplex Corp.: *See*—
Manetta, Peter J., Tabor, and Greenwood. 3,406,836.

Sinclair Research, Inc.: *See*—
Bemrose, John. 3,406,777.
Wunderlich, Donald K., and Murray. 3,407,134.

Sinfelt, John H.: *See*—
Taylor, William F., and Sinfelt. 3,407,149.

Singer Co., The: *See*—
Beckenstein, Leonard A. 3,406,538.
Milan, Henry J., and Hauser. 3,407,014.
Robbins, Leroy. 3,406,541.
Weiss, William. 3,406,788.

Siviter, James H., Jr.: *See*—
Kinard, William H., Siviter, and Laney. 3,407,304.

Siwersson, Olle L.: *See*—
Ahrent, Gustav A., Siwersson, and Teli. 3,406,772.

Skandinaviska Apparatindustri AB: *See*—
Jarreby, Karl A. B. 3,406,748.

Skau, Evald L., R. M. Mod, and F. C. Magne, to United States of America, Agriculture. N-(α-oleoyloxypropionyl) piperidine. 3,407,205, 10–22–68, Cl. 260—294.3.

Skoggard, Bruno B., and W. C. Post, to American Cyanamid Co. Apparatus for forming tubular reinforced plastic members. 3,407,107, 10–22–68, Cl. 156—432.

Slayton, Ransom D., to Teletype Corp. Contact cleaning circuit. 3,407,310, 10–22–68, Cl. 307—137.

Slentz, Loren W., to Chevron Research Co. Well testing method. 3,407,042, 10–22–68, Cl. 23—230.

Slyah, Roman, to Esso Research and Engineering Co. Furfuryl alcohol resin mortar composition. 3,407,167, 10–22–68, Cl. 260—33.6.

Smith, Cullen J., to Alvery Conveyor Mfg. Co. Connector for backstop hold and locking device. 3,406,841, 10–22–68, Cl. 214—6.

Smith, Curtis J.: *See*—
Woelbel, Wilhelm, Owens, and Smith. 3,406,615.

Smith, Dwight K.: *See*—
Carter, Lloyd G., and Smith. 3,406,756.

Smith, Herchel: *See*—
Douglas, George H., Walk, and Smith. 3,407,214.
Hughes, Gordon A., and Smith. 3,407,217.
Strike, Donald P., Teller, and Smith. 3,407,194.

Smith, Horace L., Jr., to White Consolidated Industries, Inc. Drying apparatus. 3,406,466, 10–22–68, Cl. 34—155.

Smith, John W., to Hogan Faximile Corp. Scanner with stabilized black level output. 3,407,267, 10–22—68, Cl. 178—6.8.

Smith Kline & French Laboratories: *See*—
Pachter, Irwin J., and Weinstock. 3,407,202.

Smith, Marion D.: *See*—
Fisher, Mark E., and Smith. 3,406,579.

Smith, William M., to Western Electric Co., Inc. Method of and apparatus for monitoring the thickness of a non-conductive coating on a conductive base. 3,407,352, 10–22–68, Cl. 324—40.

Smutny, Edgar J., to Shell Oil Co. Ester production. 3,407,224, 10–22–68, Cl. 260—476.

Snare, Ronald C., to Bell Telephone Laboratories, Inc. Ternary memory system employing magnetic wire memory elements. 3,407,397, 10–22–68, Cl. 340—174.

Snels, Joannes: *See*—
Turk, Herbert, Ramcke, and Snels. 3,406,919.

Snyder, Harry R., Jr., to Norvich Pharmacal Co. 4-methyl-1-(5-nitrofurfurylideneamino)-2-imidazolidinone. 3,407,195, 10–22–68, Cl. 260—240.

Snyder, Robert L., Jr., to R. H. Bouligny, Inc. Winding machine traverse cam and follower therefor. 3,407,262, 10–22–68, Cl. 74—57.

Societe anonyme dite: Societe Francaise d'Etiquetage Virey & Garnier: *See*—
Della Vite, Romuald R. 3,407,108.

Societe d'Applications Techniques et Industrielles S.A.T.I.: *See*—
Fiquet, Claude J. J., and Leplat. 3,406,872.

Societe de Prospection Electrique Schlumberger S.A.: *See*—
Henry, Louis. 3,406,776.

Societe Grenobloise d'Etudes d'Applications Hydrauliques: *See*—
Duport, Jacques, and Martin. 3,406,632.

Societe Nationale des Petroles d'Aquitaine: *See*—
Bounoure, Jean, and Durand. 3,407,180.

Solomon, Alvin I. Electrically heated pressing machine. 3,406,472, 10–22–68, Cl. 38—17.

Sorensen, George E. Method and means for evaluating hole diameters. 3,406,459, 10–22–68, Cl. 33—178.

Soteropulos, Gust, to Deere & Co. Agricultural bale handling machine. 3,406,840, 10–22–68, Cl. 214—6.

South Eastern Gas Board: *See*—
Andrews, Ronald W. J., Kenward, and Dewhurst. 3,407,022.

Sowa, Steven: *See*—
Jett, Robert W., McNelis, and Sowa. 3,406,736.

Soy Food Products, Inc.: *See*—
Guidarelli, Elio J. 3,407,073.

Spandorfer, Lester M., A. B. Tonik, and S. Even, to Sperry Rand Corp. Planar interconnecting network avoiding signal path crossovers. 3,407,357, 10–22–68, Cl. 328—92.

Sparkomatic Corp.: *See*—
Almquist, Edgar W., Jr. 3,406,957.

Spaulding, Donald L.: *See*—
Kreul, Alvin L., and Spaulding. 3,406,751.

Sperling, Anthony A.: *See*—
Perna, Frank, Jr., and Sperling. 3,406,562.

Sperry Rand Corp.: *See*—
Hancox, Ronald N. 3,406,850.
Lehrer, Alvin E., and Remuzzi. 3,407,349.
Meranda, James I. 3,407,356.
Oberg, Paul E. 3,406,659.
Reid, Gilbert R. 3,407,374.
Spandorfer, Lester M., Tonik, and Even. 3,407,357.

Spindelfabrik Sussen, Schurr, Stahlecker & Grill G.m.b.H.: *See*—
Stahlecker, Hans. 3,406,512.

Spinuzza, Frank: *See*—
Buchanan, Richard G., and Spinuzza. 3,406,800.

Springuel, Paul F. Cross machine control of papermaking. 3,407,114, 10–22–68, Cl. 162—341.

Squibb, George R.: *See*—
Rutzen, Robert E., Fry, and Squibb. 3,406,998.

Staadt, Charles R.: *See*—
Cornils, Christie J., and Staadt. 3,406,716.

Staats, Henry N., M. D. Levitan, and N. J. Morrissey, to General Binding Corp. Heat sealed binding. 3,407,105, 10–22–68, Cl. 156—253.

Stahlecker, Hans, to Spindelfabrik Sussen, Schurr, Stahlecker & Grill G.m.b.H. Spindle for spinning or twisting machines. 3,406,512, 10–22–68, Cl. 57—88.

Staley, A. E., Mfg. Co.: *See*—
Bookwalter, George N., and Brock. 3,407,071.

Stamco, Inc.: *See*—
Bruns, Elton W., and Black. 3,406,924.

Standard Brands Chemical Industries, Inc.: *See*—
Schmidt, George F. 3,407,164.

Standard Car Truck Co.: *See*—
Kremen, Thomas S. 3,406,640.
Williams, Ray C. 3,406,641.

Standon Associates Ltd.: *See*—
Hackey, Donald. 3,406,571.

Stanford Research Institute: *See*—
Clark, Eugene N., Cone, Masher, and Vincent. 3,407,355.
Frohbach, Hugh F., and Rice. 3,407,401.
Minnick, Robert C. 3,407,307.

Star-Kist Foods, Inc.: *See*—
Griffith, Herald E., and Danko. 3,406,856.
Griffith, Herald E., and Danko. 3,407,079.

Steadson, Neil A., to North American Philips Co., Inc. Monostable multivibrator with an auxiliary transistor in the timing circuit for broadening the output pulses. 3,407,313, 10–22–68, Cl. 307—273.

Stearn, Richard J., to The British Petroleum Co. Ltd., and Kins Developments Ltd. Liquid presence detector. 3,407,398, 10–22–68, Cl. 340—244.

Stearns-Roger Corp.: *See*—
Cornils, Christie J., and Staadt. 3,406,716.

Stec, Frederick J.: *See*—
Westphal, Teddy M., and Stec. 3,406,867.

Steel, Inc.: *See*—
Fahey, Thomas D. 3,406,845.

Steele, Jonathan P., and F. Reynolds, to The Hoover Co. Washing machine detergent dispenser. 3,406,876, 10–22–68, Cl. 222—193.

Stelger, Anton, to Sulzer Bros. Ltd. Method and apparatus for operating a diesel engine with a combination of liquid and gaseous fuels. 3,406,666, 10–22–68, Cl. 123—27.

Steinberg, Gustave. Therapeutic boot. 3,406,683, 10–22–68, Cl. 128—166.

Stempel, Arthur: *See*—
Berger Leo, Stempel, Sternbach, and Wenis. 3,407,211.

Stephenson, Arnold: *See*—
Atkins, John H. C., and Stephenson. 3,406,643.

Sternbach, Leo H.: *See*—
Berger, Leo, Stempel, Sternbach, and Wenis. 3,407,211.

Sterry, Dan G., to Phillip Petroleum Co. Optical rotational seismometer. 3,407,305, 10–22–68, Cl. 250—225.

Stickley, Elmer E., and M. McKeown. Time and rhythm indicating device. 3,406,604, 10–22–68, Cl. 84—484.

Stoi, Walter T., to Essex Wire Corp. Oscillatory electric switch construction. 3,407,278, 10–22–68, Cl. 200—153.

Stoker, Robert J., to Ingersoll-Rand Co. Steam manifold for condensers. 3,406,749, 10–22–68, Cl. 165—110.

Stokes, Jordan, III. Auger mounting for icemaking machine. 3,406,529, 10–22–68, Cl. 62—188.

Straus, Andrew J. D.: *See*—
Zemanek, Joseph, Jr., and Straus. 3,406,779.

Strike, Donald P., D. M. Teller, and H. Smith, to American Home Products Corp. Gon-5(10)-en-3β-ols. 3,407,194, 10–22–68, Cl. 260—239.55.

Stull, Morton B. Reclosable dispensing cap. 3,406,879, 10–22–68, Cl. 222—499.

Stull, Morton B. Dispensing closure cap. 3,406,880, 10–22–68, Cl. 222—521.

Sudati, Renato: *See*—
Camell, Nazzareno, Sartori, and Sudati. 3,407,238.

Suderow, Birgit: *See*—
Suderow, Rudolf. 3,406,535.

Suderow, Kathe: *See*—
Suderow, Rudolf. 3,406,535.

Suderow, Rudolf, deceased, by K., S., and B. Suderow, sole heirs, to Daimler-Benz Aktiengesellschaft. Coupling between the shaft of the compressor drive turbine and the compressor shaft of gas turbine drive units. 3,406,535, 10–22–68, Cl. 64—9.

Suderow, Sigrun : *See*—
Suderow, Rudolf. 3,406,535.

Sulzer Bros. Ltd. : *See*—
Pfarrwaller, Erwin. 3,406,726.
Scheibler, Eduard. 3,406,744.
Steiger, Anton. 3,406,666.

Sumington Wayne Corp. : *See*—
Crothers, Roy E., and Gerstenmaier. 3,406,574.

Sun Oil Co. : *See*—
Sampson, Charles F., Rue, and Rostron. 3,407,089.

Sundberg, Nils O., to Atlas Copco Aktiebolag. Self-loading power driven dump vehicles. 3,406,851, 10–22–68, Cl. 214—501.

Susquehanna Corp., The : *See*—
Scurlock, Arch C., Rumbel, and Rice. 3,407,100.

Swane, Albertus A., to N.V. Maatschappij tot Exploiteren van Octrooien en Licenties "Matepa." Transport case, especially a stacking container. 3,406,893, 10–22–68, Cl. 229—49.

Swenson, Emil S., and W. L. Koski. Apparatus for maintaining organs in a completely viable state. 3,406,531, 10–22–68, Cl. 62—306.

Sylvan, Stig G., to American Air Filter Co., Inc. Combined gas moving and gas cleaning apparatus. 3,406,504, 10–22–68, Cl. 55—408.

Sylvania Electric Products Inc. : *See*—
Brown, Jesse J., Jr. 3,407,139.
Brown, Jesse J., Jr. 3,407,325.

Sylvania Electric Products, Inc. : *See*—
Cerra, Joseph S. 3,406,764.
Koury, Frederic, and Waymouth. 3,407,327.
Peterson, Carl L. 3,407,123.

Szajna, John L., to Continental Can Co., Inc. Stacking container. 3,406,874, 10–22–68, Cl. 222—143.

Tabor, Ralph L. : *See*—
Manetta, Peter J., Tabor, and Greenwood. 3,406,836.

Tachi, Ichiro, to Asakusa Toy Co., Ltd. Moving toy direction-variable by a modulating ray. 3,406,481, 10–22–68, Cl. 46—244.

Taiyo Yuden Kabushikikaisha : *See*—
Nakazawa, Morimitsu, and Sato. 3,407,379.

Takeda Chemical Industries, Ltd. : *See*—
Honjo, Mikio, and Imai. 3,407,190.

Takesa, Taichi : *See*—
Araki, Tsuneo, and Takesa. 3,407,266.

Tamura, Nobuhiro : *See*—
Kominami, Naoya, Nakajima, and Tamura. 3,407,223.

Tanba, Shigeru : *See*—
Kuriyama, Tsuneto, Kuroda, Tanba, and Toshima. 3,407,-173.
Kuriyama, Tsuneto, Kuroda, Tanba, and Toshima. 3,407,-174.

Tappan Co., The : *See*—
Anderson, Carl L. 3,406,677.
Perl, Richard L. 3,406,637.
Perl, Richard L. 3,406,695.

Tarbell, Harlan E., and D. W. Mogg, to Grefco, Inc. Process for preparing insulation board adhesive. 3,407,083, 10–22–68, Cl. 106—152.

Taverner, Clarence I. : *See*—
Beazer, Charles W., and Taverner. 3,406,700.

Taylor, George W. Apparatus for forming wire cable grips. 3,406,550, 10–22–68, Cl. 72—141.

Taylor, William F., and J. H. Sinfelt, to Esso Research and Engineering Co. Promoted catalyst for methane production. 3,407,149, 10–22–68, Cl. 252—466.

Tecumseh Products Co. : *See*—
Von Kaler, Roland L. 3,406,592.

Teitel, Sidney, and M. W. Goldberg, deceased, by R. H. Goldberg, to Hoffmann-La Roche Inc. 4-(2-benzylalkylaminoalkoxy)-benzylamines. 3,407,234, 10–22–68, Cl. 260—570.7.

Tel Life Corp. : *See*—
Buchanan, Richard G., and Spinuzza. 3,406,800.

Telecredit, Inc. : *See*—
Goldman, Robert N. 3,407,388.

Tele-flame, Inc. : *See*—
Hardesty, William J. 3,407,369.

Teletype Corp. : *See*—
Hansen, Theodore A. 3,407,311.
Slayton, Ransom D. 3,407,310.

Tell, Karl G. : *See*—
Ahrent, Gustav A., Siwersson, and Tell. 3,406,772.

Teller, Daniel M. : *See*—
Strike, Donald P., Teller, and Smith. 3,407,194.

Temple, Arthur R. Gas purifier. 3,407,045, 10–22–68, Cl. 23—283.

Ternes, Norman A. Continuous control register. 3,406,626, 10–22–68. Cl. 101—211.

Terry, Cyrl W., to United States of America, Navy. Portable shear test device. 3,406,567, 10–22–68. Cl. 73—101.

Terry, Sydney L. Locking means. 3,406,731, 10–22–68, Cl. 151—30.

Terzuoli, Dominick. Apparatus for incising paper or other fibrous sheet material. 3,406,612, 10–22–68, Cl. 93—8.

Testa, Anthony J., to W. R. Grace & Co. Gasket-forming plastisols comprising vinyl chloride resin fatty acid amides and salt of lauryl sulfate. 3,406,854, 10–22–68, Cl. 215—40.

Teszner, Stanislas. Integral grid and multichannel field effect devices. 3,407,342, 10–22–68, Cl. 317—235.

Tew, Wilson W., to Allied Chemical Corp. Process for treating yarn. 3,406,437, 10–22–68, Cl. 28—72.6.

Texaco, Inc. : *See*—
Behrens, Milton D. 3,406,515.

Thistle, William G., to Canadian Patents and Development Ltd. Computer for evaluating integrals using a statistical computing process. 3,407,291, 10–22–68, Cl. 235—183.

Thomas & Betts Co., The : *See*—
Crimmins, David J. 3,407,375.

Thompson, John W., and J. C. Ownby, to Eastman Kodak Co. Thermally stabilized, liquid hydrocarbon fuels. 3,407,-051, 10–22–68, Cl. 44—63.

Thorburn, David H., to The Powers Regulator Co. Pneumatic tube system. 3,406,928, 10–22–68, Cl. 243—5.

Tiley, Darwyn L. : *See*—
Kollar, Ernest P., Jensen, and Tiley. 3,406,477.

Tillman, Hans P. G., and P. G. Phillips, to Burndy Corp. Crimping tool. 3,406,558, 10–22–68, Cl. 72—416.

Timmons, George A., to American Metal Climax, Inc. Molybdenum powder for use in spray coating. 3,407,057, 10–22–68, Cl. 75—.5.

Tinnerman, George A. Pull tab for opening container. 3,406,-865, 10–22–68, Cl. 220—54.

Tisdell, James R., and M. W. Lawson. Roping trainer comprising a roping object movable over a pair of parallel spaced tracks forming a closed loop. 3,406,969, 10–22–68, Cl. 273—1.

Tokyo Shibaura Electric Co., Ltd. : *See*—
Araki, Tsuneo, and Takesa. 3,407,266.
Ose, Akira, and Goto. 3,407,054.

Tonik, Albert B. : *See*—
Spandorfer, Lester M., Tonik, and Even. 3,407,357.

Tonnessen, Alfred G., to Electronic Associates, Inc. Fuse-test for coefficient potentiometers. 3,407,293, 10–22–68, Cl. 235—193.

Topol, George J., and J. G. Vattay, to Bowser, Inc. Moisture sensing valve means for fuse filter. 3,406,827, 10–22–68, Cl. 210—96.

Toronto Star Ltd. : *See*—
Blair, George S., Shaw, and Maishlish. 3,406,810.

Toshima, Isae : *See*—
Kuriyama, Tsuneto, Kuroda, Tanba, and Toshima. 3,407,-173.
Kuriyama, Tsuneto, Kuroda, Tanba, and Toshima. 3,407,-174.

Toussaint, Joseph D., to American Enka Corp. Criss cross guides for a latch operated clutch. 3,406,797, 10–22–68, Cl. 192—27.

Toyo Boseki Kabushiki Kaisha : *See*—
Yoshimura, Shohei, and Yamaguchi. 3,407,253.

Toyo Jozo Co., Ltd. : *See*—
Aizawa, Minoru, Matsuda, Kawabata, Omura, Amano, and Nakamura. 3,407,072.

Trabold, William G., to General Motors Corp. Circuitry to indicate the state of a core. 3,407,395, 10–22–68, Cl. 340—174.

Tracey, Richard M. : *See*—
Dudley, Robert E. 3,406,473.

Tracy, David J. : *See*—
Chiddix, Max E., Tracy, and Shah. 3,407,140.

Trapp, Gloria W. : *See*—
Trapp, Robert H., Hayden, and Brophy. 3,407,050.

Trapp, Robert H., deceased (by G. W. Trapp, executrix), H. W. Hayden, Jr., and J. H. Brophy, to United States of America, Treasury. Duplex nickel material. 3,407,050, 10–22–68, Cl. 29—199.

Travlos, Constantine J. Carton cutter. 3,406,447, 10–22–68, Cl. 30—2.

Tristram, Edward W. : *See*—
Chemerda, John M., Tristram, and Tull. 3,407,226.

Trouilhet, Maurice M. A., to Calor Appareils Electro-Domestiques. Washing machines, notably laundry machines. 3,406,543, 10–22–68, Cl. 68—132.

Tru-Tork, Inc. : *See*—
Kulaga, Sylvester, Coapman, and MacDonald. 3,406,414.

Trute, William C., to Eaton Yale & Towne Inc. Method of forming multi-groove pulleys. 3,406,440, 10–22–68, Cl. 29—159.

Tsuji, Michio, to Japan Exlan Co. Ltd. Apparatus for spinning composite fibers. 3,406,427, 10–22–68, Cl. 18—8.

Tsujino, Jiromaru, to Kabushiki Kaisha Yuryo Kikaskuhin Kenkyusho. Jet type, medical injection instrument. 3,406,-684, 10–22–68, Cl. 128—173.

Tull, Roger J. : *See*—
Chemerda, John M., Tristram, and Tull. 3,407,226.

Tullis, Lyell C., to Giddings & Lewis Machine Tool Co. Index unit. 3,406,595, 10–22–68, Cl. 74—814.

Turco, Joseph F. : *See*—
Petrocelli, Americo W., Marriott, Turco, and Capotosto. 3,407,129.

Turk, Herbert, C. Ramcke, and J. Snels, to Barmer Maschinenfabrik AG. Hydraulic means for controlling the movement of a ring or spindle rail. 3,406,919, 10–22–68, Cl. 242—26.4.

Turner, Edward H., to Bell Telephone Laboratories, Inc. Intracavity laser phase modulator. 3,407,364, 10–22–68, Cl. 332—7.51.

Turner, Philip W. : *See*—
Baker, John F., and Turner. 3,406,523.

Turner and Seymour Mfg. Co., The : *See*—
Rohlfs, John H., Sr. 3,406,549.

Twentieth Century Products Corp. : *See*—
Hudson, Harry W. 3,406,408.

Tybring, Leif, to Lovens Kemiske Fabrik Produktionsaktieselskab. Progressive dilution series apparatus. 3,406,635, 10–22–68, Cl. 103—149.

U.S. Stoneware, Inc. : *See*—
Moore, Frank D. 3,406,953.

Underwood, Gerald E. : *See*—
Buthala, Darwin A., and Underwood. 3,407,257.

Union Carbide Corp. : *See*—
Beasley, William C. 3,407,038.
Buijle, Raoul. 3,407,203.
Freeman, Donald C., Jr., and Otto. 3,407,049.

Uniroyal Inc. : *See*—
Kuceski, Vincent P., and McGuire. 3,407,166.

United Aircraft Corp. : *See*—
Cornell, Robert W. 3,406,723.

United Kingdom Atomic Energy Authority : *See*—
Butcher, John W., and Samuel. 3,407,063.
Clough, Roy. 3,407,116.

United Shoe Machinery Corp. : *See*—
Creffield, David F. 3,406,602.
Musser, C Walton. 3,406,556.
Reilly, John S., and Boothroyd. 3,406,905.
Walton, Richard R. 3,406,961.
Walton, Richard R. 3,406,966.

United States of America
Agriculture : *See*—
Skau, Evald L., Mod, and Magne. 3,407,205.
Atomic Energy Commission : *See*—
Feibush, Arthur M., and Kieltyka. 3,407,088.
National Aeronautics and Space Administration : *See*—
Kinard, William H., Siviter, and Laney. 3,407,304.
Naumann, Eugene C., and Corbin. 3,406,742.
Navy : *See*—
Grantham, Rodney E. 3,407,302.
Jehle, Robert E. 3,407,299.
Johnson, Albin C., and Shaffer. 3,407,169.
Klein, Ronald S. 3,407,389.
Terry, Cyrl W. 3,406,567.
Williams, Kenneth G. 3,407,289.
Wolff, Julius E. 3,407,314.
Treasury : *See*—
Trapp, Robert H., Hayden, and Brophy. 3,407,050.

United States Envelope Co. : *See*—
Heywood, Vincent E. 3,407,084.

United States Steel Corp. : *See*—
Carskaddan, Phillip S. 3,406,956.
Laycak, John F. 3,406,887.
Minick, James E. 3,406,600.
Patterson, Robert W. 3,406,656.
Schell, Robert C. 3,407,099.

Universal American Corp. : *See*—
Lane, Harrison R., and Feaster. 3,406,817.

Universal Data Acquisition Co., Inc. : *See*—
Bains, Robert W. 3,407,390.

Universal Oil Products Co. : *See*—
Dunkel, Morris. 3,407,225.
Hardison, Leslie C. 3,407,025.
Pasik, Leonard F. 3,407,124.
Vesely, Jerome A. 3,407,237.

University of California, The Regents of the : *See*—
Borch, Niels R. 3,406,713.
Fridley, Robert B. 3,406,508.

Upjohn Co., The : *See*—
Buthalt, Darwin A., and Underwood. 3,407,257.
Wright, John B. 3,407,197.
Wright, John B. 3,407,198.

Urbach, Hans : *See*—
Maisack, Herbert, Schlecht, and Urbach. 3,407,228.

Ustredni reditelstvi Ceskoslovenskeho filmu : *See*—
Halada, Ladislavo. 3,406,453.

Valette, Henri L. : *See*—
De Gaston, Raoul H. 3,406,517.

Valvassori, Alberto : *See*—
Cameli, Nazzareno, Censolo, Sartori, and Valvassori. 3,407,239.

Valve Corp. of America : *See*—
Keeney, Allen J. 3,406,911.

Vance, John J. : *See*—
Carstensen, Jens T., and Vance. 3,407,157.

Vande Bosche, John P. Floor drain. 3,406,829, 10–22–68, Cl. 210—164.

Van der Heem N.V. : *See*—
Fickweiler, August E. F. 3,407,282.

Van der Waard, Willem F. : *See*—
De Flines, Jan, and Van der Waard. 3,407,118.
De Flines, Jan, and Van Der Waard. 3,407,119.

Van Fossen, Harvey G., to The Wheelabrator Corp. Flow regulating valve for magnetic particles. 3,406,704, 10–22–68, Cl. 137—251.

Van Volkenburgh, Ross : *See*—
Hyde, Harold W., and Van Volkenburgh. 3,407,243.

Van Woert, Kenneth B., Jr. Toy bank. 3,406,976, 10–22–68, Cl. 273—143.

Vare Corp. : *See*—
Munse, Robert A. 3,406,734.

Varian Associates : *See*—
Kendall, Jackson W., Jr. 3,407,328.

Vattay, John G. : *See*—
Topol, George J., and Vattay. 3,406,827.

Vayssiere, Pierre : *See*—
Duflot, Jean, and Vayssiere. 3,406,737.

Veb Schaumglaswerk Taubenbach : *See*—
Schulz, Ernst O. 3,407,053.

Vendo Co., The : *See*—
Offutt, Elmer B., and Bieri. 3,406,803.

Vepa AG : *See*—
Fleissner, Heinz. 3,406,462.

Vereingte Glanzstoff-Fabriken AG. : *See*—
Meyer, Gerhard, Siggel, Schopf, and Magerlein. 3,407,-172.

Verlinden, Harry W., to Electrohome Ltd. Hybrid ring modulator. 3,407,365, 10–22–68, Cl. 332—23.

Vesely, Jerome A., to Universal Oil Products Co. Preparation of hydroxylated aromatic compounds. 3,407,237, 10–22–68, Cl. 260—621.

Vesey, Gary L., to Illinois Tool Works, Inc. Limited slip differential mechanism. 3,406,593, 10–22–68, Cl. 74—711.

Vik, Karstein O. and O. B., to Nor-Laks D. C. Vik & K. O. Vik. Method for breeding fish, such as salmon or sea trout. 3,406,662, 10–22–68, Cl. 119—3.

Vik, Olav B. : *See*—
Vik, Karstein O. and O. B. 3,406,662.

Vikoa, Inc. : *See*—
Dworkin, Donald Z. 3,407,366.

Vincent, Wilbur R. : *See*—
Clark, Eugene N., Cone, Masher, and Vincent. 3,407,355.

Vishay Intertechnology, Inc. : *See*—
Zandman, Felix. 3,406,681.

Vodu, Eugene M., to Whirlpool Corp. Pump control for dispensing liquid additives. 3,406,710, 10–22–68, Cl. 137—394.

Voelkerding, Frank J. Adjusting golf tee and sight. 3,406,977, 10–22–68, Cl. 273—202.

Volsinet, Walter E., to National Gypsum Co. Asbestos-cement product and process. 3,407,086, 10–22–68, Cl. 117—72.

Von Kaler, Roland L., to Tecumseh Products Co. Differential. 3,406,592, 10–22–68, Cl. 74—710.

Wait, Robert E., and G. J. La Chance. Adjustable sewer drain hose support. 3,406,033, 10–22–68, Cl. 248—80.

Wakeman, Reginald L. : *See*—
Shay, E. Griffin, and Wakeman. 3,407,204.

Waldorf Paper Products Co. : *See*—
Gulliver, Richard F. 3,406,813.

Walk, Charles R. : *See*—
Douglas, George H., Walk, and Smith. 3,407,214.

Walker, Brooks : *See*—
Kertell, Frank W. 3,406,940.

Walker, David D. : *See*—
Benjamin, Milton L., and Walker. 3,406,596.

Wallace, David A. Irrigating device. 3,406,907, 10–22–68, Cl. 230—177.

Wallace-Murray Corp. : *See*—
Weir, Thomas J. 3,406,760.

Walter, Charles R. : *See*—
Little, Edwin D., and Walter. 3,407,200.

Walton, Richard R., to United Shoe Machinery Corp. Fabric feeding means. 3,406,961, 10–22–68, Cl. 271—10.

Walton, Richard R., to United Shoe Machinery Corp. Machines for stacking flexible sheets. 3,406,966, 10–22–68, Cl. 271—68.

Warnant, Julien : *See*—
Joly, Robert, and Warnant. 3,407,255.

Warren, Edwin G. Vehicle conveyor system. 3,406,849, 10–22–68, Cl. 214—83.26.

Washburn, Charles W., to Cooperweld Steel Co. Apparatus for unspooling wire and the like. 3,406,926, 10–22–68, Cl. 242—128.

Waterhouse, Peter, to Dominion Engineering Works, Ltd. Roll ejector. 3,406,925, 10–22–68, Cl. 242—66.

Watkins, Cecil H. : *See*—
Pherson, Perry O., Gibson, Watkins, Duke, and Murphy. 3,407,103.

Watkins, David R. Automobile engine exhaust filter. 3,406,-501, 10–22–68, Cl. 55—316.

Watkins, James F., to Cryo-Cool Corp. Refrigeration system including liquified gas tank. 3,406,533, 10–22–68, Cl. 62—217.

Watts, James P. Multiple auger assembly. 3,406,767, 10–22–68, Cl. 175—108.

Waxman, Jay S. : *See*—
Siegal, Burton L., and Waxman. 3,406,545.

Waymouth, John F. : *See*—
Koury, Frederic, and Waymouth. 3,407,327.

Webb, Lee H., Jr. Ball game board having removable side panels. 3,406,970, 10–22–68, Cl. 273—85.

Weber, Charles L., Jr., to Westinghouse Air Brake Co. Brake cylinder pressure retaining valve. 3,407,010, 10–22–68, Cl. 303—75.

Weber, Eugene B., ½ to California Fruit Concentrates, Inc. Reinforced O-ring. 3,406,979, 10–22–68, Cl. 277—80.

Weber, George K., to American Air Filter Co., Inc. Filamentous mats. 3,407,109, 10–22–68, Cl. 161—58.

Weber, H. G., and Co., Inc. : *See*—
Beninger, Robert L., and Weber. 3,406,495.

Weber, Herbert H. : *See*—
Beninger, Robert L., and Weber. 3,406,495.

Weichsel, Richard H., to The Apex Bearing Co. Bearing systems. 3,407,013, 10–22–68, Cl. 308—122.

Weinstock, Joseph : *See*—
Pachter, Irwin J., and Weinstock. 3,407,202.

Weir, Thomas J., to Wallace-Murray Corp. Flexible blade fan. 3,406,760, 10–22–68, Cl. 170—160.5.

Weise, Irvin B., to Anderson, Greenwood & Co. Pressure operated snap acting valve. 3,406,712, 10–22–68, Cl. 137—470.

Weiss, Ronald E., and J. B. Schleicher, to Abbott Laboratories. Tissue culture propagator and method. 3,407,120, 10–22–68, Cl. 195—104.

Weissberg, Roman. Container for precious stones. 3,406,821, 10–22–68, Cl. 206—75.

Weisz, William, to The Singer Co. Sewing machine lubrication method and system. 3,406,788, 10–22–68, Cl. 184—1.

Weitmann & Konrad : *See*—
Konrad, Josef, and Nissler. 3,407,303.

Welch, Gerald C. Sine bar gage. 3,406,458, 10–22–68, Cl. 33—174.

Wendell, Charles B. : *See*—
Greene, Michael J., and Wendell. 3,407,281.

Wenis, Edward : *See*—
Berger, Leo, Stempel, Sternbach, and Wenis. 3,407,211.

Wenzel, Walter : *See*—
Wenzel, Werner, and Walter. 3,406,863.

Wenzel, Werner and Walter ; said Werner Wenzel assor. to Rheinstal Huttenwerke AG., and said Walter Wenzel. Pressure vessel closure and method of forming. 3,406,863, 10–22–68, Cl. 220—46.

Wesel, Peter E., and A. R. Zine, Jr., to Corning Glass Works. Method for cutting glass tubing. 3,406,886, 10–22–68, Cl. 225—2.

West, Mack A. Cotton picker compressor assembly. 3,406,507, 10–22–68, Cl. 56—44.
West Virginia Pulp and Paper Co.: *See*—
Becker, Frederick R. 3,406,627.
Cavagna, Giancarlo A. 3,407,188.
Western Electric Co., Inc.: *See*—
Baynard, Joseph S., Jr. 3,407,271.
Fuchs, Francis J., Jr. 3,406,555.
Smith, William M. 3,407,352.
Western Technology, Inc.: *See*—
Mitchell, Ernest H., and Mueller. 3,406,697.
Westinghouse Air Brake Co.: *See*—
Brill, Edward F., and Shelley. 3,407,006.
Hufnagel, Andrew. 3,407,340.
May, Harry C. 3,407,008.
Newell, George K. 3,406,943.
Rackl, Francis R. 3,407,009.
Reilly, Donald C. 3,406,438.
Salton, Robert B. 3,406,720.
Weber, Charles L., Jr. 3,407,010.
Williams, Samuel L. 3,406,791.
Westinghouse Bremsen-und Apparatebau G.m.b.H.: *See*—
Gross, Friedrich. 3,406,989.
Westphal, Teddy M., and F. J. Stec, to Continental Can Co., Inc. Easy opening container end. 3,406,867, 10–22–68, Cl. 220—54.
Weyand, John E.: *See*—
Bush, John H., and Weyand. 3,406,831.
Wheelabrator Corp., The: *See*—
Van Fossen, Harvey G. 3,406,704.
Wheeler, Joseph P. Communication system having high immunity to unauthorized interception of signals. 3,407,354, 10–22–68, Cl. 325—35.
Whirlpool Corp.: *See*—
Woda, Eugene M. 3,406,710.
White, Alan J., to The American Schack Co., Inc. Heat exchanger having concentric supply and exhaust conduits. 3,406,747, 10–22–68, Cl. 165—74.
White Consolidated Industries, Inc.: *See*—
Smith, Horace L., Jr. 3,406,466.
White, Gerald A., to General Motors Corp. Carburetor. 3,406,952, 10–22–68, Cl. 261—50.
White, Wilfrid G. Electric anemometers. 3,406,570, 10–22–68, Cl. 73—229.
Whittaker Corp.: *See*—
Hutkin, Irving J. 3,407,061.
Wiemer, Jean, to Metallgesellschaft Aktiengesellschaft. Apparatus for the wet treatment of dust-laden gases. 3,406,499, 10–22–68, Cl. 55—230.
Wiesinger, Frederick C., M. A. Petko, and J. W. Fleming; said Wiesinger and Petko assors. to John D. Marshall and Horace L. Bomar, trustees, and said Fleming assor. to Ramsey Controls, Inc. Speed control system for knitting machine. 3,406,539, 10–22–68, Cl. 66—56.
Wilk, Einar, to Menardi & Co. Baghouse apparatus. 3,406,502, 10–22–68, Cl. 55—341.
Wilcox, Harold R., to Riggs & Lombard Inc. Pressure door locking mechanism. 3,406,997, 10–22–68, Cl. 292—256.
Wilcox, Lucia. Method and apparatus for exhibiting ornamental designs. 3,406,476, 10–22–68, Cl. 40—137.
Wilcox, Raymond J., to Motor Wheel Corp. Method and apparatus for making wheel rims. 3,406,548, 10–22–68, Cl. 72—71.
Wilke, Richard: *See*—
Korthaus, Helmut, and Wilke. 3,407,318.
Wilkinson, Leonard A., to American Optical Co. Slit lamp. 3,407,019, 10–22–68, Cl. 351—14.
Wilkinson, Samuel C. W., to Crane Packing Ltd. Method of making a flexible reinforced bellows. 3,407,102, 10–22–68, Cl. 156—192.
Williams, Kenneth G., to United States of America, Navy. Electronic digital correlator. 3,407,289, 10–22–68, Cl. 235—150.5.
Williams, Paul H., and E. F. Lutz, to Shell Oil Co. Production of aliphatic carboxylic acids. 3,407,220, 10–22–68, Cl. 260—413.
Williams, Ray C., to Standard Car Truck Co. Railway car center plate and auxiliary bearings. 3,406,641, 10–22–68, Cl. 105—199.
Williams, Samuel L., to Westinghouse Air Brake Co. Fluid pressure operated brake apparatus for railway car truck. 3,406,791, 10–22–68, Cl. 188—52.
Willner, Carl A., to Pan American Petroleum Corp. Deactivating system in seismic prospecting. 3,406,781, 10–22–68, Cl. 181—.5.
Willock, Charles B. Artificial kidney liquid metering and dispensing device. 3,406,826, 10–22–68, Cl. 210—87.
Wilmarth, Paul C., to Radio Corp. of America. Protection circuit for cathode ray tube. 3,407,330, 10–22–68, Cl. 315—20.
Wilmot-Breeden Ltd.: *See*—
Needham, Thomas E., and Clayson. 3,406,802.
Wilson, Bruce N.: *See*—
Bowman, Russell A., and Wilson. 3,407,153.
Wilson, Calvin L.: *See*—
Martin, Roy M., and Wilson. 3,406,614.
Wilson, Gerald E.: *See*—
Le Seelleur, Louis A., and Wilson. 3,407,121.
Winckler, Elmer R., to Dakota Mfg. Co. Combination towing vehicle and trailer and hitch assembly therefor. 3,406,852, 10–22–68, Cl. 214—506.
Wingard, James R.: *See*—
Krauss, Carl F., and Wingard. 3,406,552.
Winkler, Richard: *See*—
MacChesney, Chester M., and Winkler. 3,406,696.
Winquist, Knut L.: *See*—
Backman, Sture A., and Winquist. 3,406,906.
Wintercorn, Andrew F.: *See*—
Mettetal, Donald, Jr. 3,406,652.
Wismer, Marco, H. P. Doerge, P. R. Mosso, and J. F. Foote, to Pittsburgh Plate Glass Co. Oxyalkylated phosphorus acid esters as urethane fire-retardants. 3,407,150, 10–22–68, Cl. 260—2.5.
Wisting, Walter L., to Cen-Trific-Air Products, Inc. Air treating apparatus. 3,406,498, 10–22–68, Cl. 55—227.
Woebel, Wilhelm, E. E. Owens, and C. J. Smith, to Container Corp. of America. Mandrel drive assembly for convolute winder. 3,406,615, 10–22–68, Cl. 93—81.
Wolff, Julius E., to United States of America, Navy. Transient protection. 3,407,314, 10–22–68, Cl. 307—297.
Wolfner, William F., to Arvin Industries, Inc. Fixture for tape cartridges. 3,406,923, 10–22–68, Cl. 242—55.19.
Wong, Albert H. Educational game employing magnetic attraction. 3,406,972, 10–22–68, Cl. 273—118.
Wood, George A., Jr.: *See*—
Atkins, John H., and Wood. 3,406,842.
Wood, George C. Rotary side delivery rakes. 3,406,509, 10–22–68, Cl. 56—377.
Worman, Martin, to Ingersoll-Rand Co. Rock drill. 3,406,763, 10–22–68, Cl. 173—47.
Wright, John B., to The Upjohn Co. 2H-1,2,3-benzothiadiazine-1,1-dioxides and process for their production. 3,407,197, 10–22–68, Cl. 260—243.
Wright, John B., to The Upjohn Co. 2H-1,2,3-benzothiadiazine-1,1-dioxides. 3,407,198, 10–22–68, Cl. 260—243.
Wunderlich, Donald K., and W. Murray, to Sinclair Research Inc. Process for hydrocracking an asphaltic hydrocarbon feed stock in the presence of a hydrogenated hydrocarbon and hydrocracking catalyst. 3,407,134, 10–22–68, Cl. 208—111.
Xerox Corp.: *See*—
Del Vecchio, George D., and Hallagan. 3,406,960.
Eichorn, Roger H. 3,406,964.
Hartke, Jerome L. 3,407,394.
Kazan, Benjamin. 3,407,329.
Yamaguchi, Takeshi: *See*—
Yoshimura, Shohei, and Yamaguchi. 3,407,253.
Yates, Thomas C., to Joseph Lucas (Industries), Ltd. Speed control devices for gas turbine engines. 3,406,516, 10–22–68, Cl. 60—39.28.
Yawata Iron & Steel Co., Ltd.: *See*—
Kobayashi, Hiroshi, and Hisano. 3,407,347.
Yoshimura, Shohei, and T. Yamaguchi, to Toyo Boseki Kabushiki Kaisha. Oriented, porous polyolefin-elastomer blend sheets and process of making same. 3,407,253, 10–22–68, Cl. 264—289.
Yoshitomi Pharmaceutical Industries, Ltd.: *See*—
Nakanishi, Michio, and Munakata. 3,407,256.
Yoshitomi Seiyaku Kabushiki Kaisha and Mitsubishi Petrochemical Co. Ltd.: *See*—
Kuriyama, Tsuneuto, Kuroda, Tanba, and Toshima. 3,407,173.
Kuriyama, Tsuneuto, Kuroda, Tanba, and Toshima. 3,407,174.
Young, Alec D., to National Research Development Corp. Aerofoils. 3,406,929, 10–22–68, Cl. 244—40.
Young, Chester W. Self-polishing cover for golf club heads. 3,406,419, 10–22–68, Cl. 15—104.94.
Young, Harvey J.: *See*—
Joó, Louis A., and Young. 3,407,208.
Young, Niels O., to Block Engineering, Inc. Loop erecting device. 3,406,907, 10–22–68, Cl. 272—8.
Young Radiator Co.: *See*—
Kreul, Alvin L., and Spaulding. 3,406,751.
Young, Werner W. Street cleaning machine. 3,406,423, 10–22–68, Cl. 15—340.
Zackheim, Eli A., to Johnson & Johnson. Collapsible container. 3,406,873, 10–22–68, Cl. 222—107.
Zakka, Jorge C. F. C. Ball valve assembly including snap ring retention means. 3,406,706, 10–22–68, Cl. 137—331.
Zambelli, Adolfo: *See*—
Natta, Giulio, Zambelli, and Pasquon. 3,407,185.
Zandman, Felix, to Vishay Intertechnology, Inc. Method of determining strain condition of the eye. 3,406,681, 10–22–68, Cl. 128—2.
Zappia, Joseph M., to Datatype Corp. Scanner drive device. 3,406,580, 10–22–68, Cl. 74—37.
Zdanuk, Edward J.: *See*—
Krock, Richard H., and Zdanuk. 3,407,048.
Zeidler, Herman R. Adjustable V bearing for guiding translating shafts. 3,407,011, 10–22–68, Cl. 308—6.
Zemanek, Joseph, Jr., and A. J. D. Straus, to Mobil Oil Corp. Acoustic well logging tool. 3,406,779, 10–22–68, Cl. 181—.5.
Zemanek, Joseph, Jr., to Mobil Oil Corp. Acoustic well logging tool and method. 3,406,780, 10–22–68, Cl. 181—.5.
Zero Mfg. Co.: *See*—
Duncan, Lloyd P. 3,406,663.
Ziering, Lance K., to American Cyanamid Co. Method for preparing reduced tungsten oxide. 3,407,032, 10–22–68, Cl. 23—22.
Zine, Anthony R., Jr.: *See*—
Wesel, Peter E., and Zine. 3,406,886.
Zink, Edward F., to Joy Mfg. Co. Self-loading vehicle. 3,406,848, 10–22–68, Cl. 214—78.
Zone, Charles J. Centrifugally operated spring responsive ball throwing device. 3,406,074, 10–22–68, Cl. 124—7.
Zurmuhlen, Emil, to ESGE-Marby G.m.b.H. Co. Bicycle luggage carrier. 3,406,885, 10–22–68, Cl. 224—39.

CLASSIFICATION OF PATENTS

ISSUED OCTOBER 22, 1968

NOTE.—First number, class; second number, subclass; third number, patent number

2– 24	3,406,406	37–129	3,406,470	72–333	3,406,554	99–123	3,407,075	132– 85	3,406,694	173– 47	3,406,763
243	3,406,407	142	3,406,471	377	3,406,555	139	3,407,076	134– 58	3,406,695	55	3,406,764
4– 67	3,406,408	38– 17	3,406,472	391	3,406,556	171	3,407,077		3,406,696	174– 35	3,407,261
252	3,406,409	40– 34	3,406,473		3,406,557	172	3,407,078	148	3,406,697	113	3,407,263
5– 82	3,406,410	110	3,406,474	416	3,406,558		3,407,079	135– 1	3,406,698	138	3,407,264
345	3,406,411	130	3,406,475	420	3,406,559	207	3,407,080	136– 86	3,407,094	175– 51	3,406,765
7– 17	3,406,412	137	3,406,476	73– 1	3,406,560	100–176	3,406,624		3,407,095	61	3,406,766
8–115.6	3,407,026	158	3,406,477		3,406,561	101– 93	3,406,625		3,407,096	108	3,406,767
158	3,406,413	43– 42.17	3,406,478	23	3,406,562	211	3,406,626	221	3,407,097	162	3,406,768
10–155	3,406,414	44– 63	3,407,051	29	3,406,563	232	3,406,627	137– 1	3,406,699	269	3,406,769
12–146	3,406,415	46–180	3,406,479	67.8	3,406,564	288	3,406,628	39	3,406,700	299	3,406,770
13– 34	3,407,259	201	3,406,480	80	3,406,565	415.1	3,406,629	83	3,406,701	176– 68	3,407,115
15– 1.7	3,406,416	244	3,406,481	81	3,406,566	102– 73	3,406,630	87	3,406,702		3,407,116
4	3,406,417	247	3,406,482	101	3,406,567	103– 3	3,406,631	99	3,406,703	86	3,407,117
104.93	3,406,418	48–196	3,407,052	159	3,406,568		3,406,632	207	3,406,705	177– 1	3,406,771
.94	3,406,419	49–192	3,406,483	194	3,406,569	44	3,406,633	251	3,406,704	178– 5.4	3,407,265
121	3,406,420	363	3,406,484	229	3,406,570	121	3,406,634	331	3,406,706	6.6	3,407,266
231	3,406,421	504	3,406,485	379	3,406,571	149	3,406,635	375	3,406,707	.8	3,407,267
263	3,406,422	51– 5	3,406,486	398	3,406,572	157	3,406,636	382	3,406,708	7.2	3,407,268
340	3,406,423	147	3,406,487	425.6	3,406,573	218	3,406,637	389	3,406,709	179– 5	3,407,269
	3,406,424	337	3,406,488	74– 1	3,406,574	104– 88	3,406,638	394	3,406,710	18	3,407,270
17– 11	3,406,425	356	3,406,489	5.5	3,406,575		3,406,639	443	3,406,711	90	3,407,271
18– 1	3,406,426	52– 3	3,406,490		3,406,576	105–197	3,406,640	470	3,406,712	100.3	3,407,272
8	3,406,427	238	3,406,491	10.54	3,406,578	199	3,406,641	498	3,406,713	108	3,407,273
19	3,406,428	53– 30	3,406,492	.8	3,406,577	406– 1	3,407,081	501	3,406,714	175.2	3,407,274
30	3,406,429	285	3,406,493	15.84	3,406,579	33	3,407,082	550	3,406,715	180– 9.24	3,406,772
42	3,406,430	372	3,406,494	37	3,406,580	152	3,407,083	590	3,406,716	79.2	3,406,773
21– 91	3,407,027	374	3,406,495	41	3,406,581	107– 1	3,406,642	592	3,406,717	96	3,406,774
	3,407,028	55– 58	3,406,496	57	3,407,262	36	3,406,643	596	3,406,718	105	3,406,775
93	3,407,029	204	3,406,497	242.14	3,406,582	69	3,406,644	.16	3,406,719	181– .5	3,406,776
23– 2	3,407,030	227	3,406,498	411	3,406,583	108– 23	3,406,645	599.2	3,406,720		3,406,777
15	3,407,031	230	3,406,499	424.8	3,406,584	53	RE.26,481	625.69	3,406,721		3,406,778
22	3,407,032	241	3,406,500	471	3,406,585	112–127	3,406,646	138– 30	3,406,722		3,406,779
87	3,407,033	316	3,406,501	473	3,406,586	438	3,406,647	121	3,406,723		3,406,780
105	3,407,034	341	3,406,502	475	3,406,587	113– 7	3,406,648	137	3,406,724		3,406,781
109	3,407,035	354	3,406,503	476	3,406,588	114– 45	3,406,649	139– 21	3,406,725		3,406,782
117	3,407,036	408	3,406,504	503	3,406,589	77	3,406,650	91	3,406,726	33	3,406,783
204	3,407,037	56– 21	3,406,505	545	3,406,590	230	3,406,651	141–131	3,406,727	182– 97	3,406,784
209.2	3,407,038	27.5	3,406,506	606	3,406,591	115– 41	3,406,652	143–132	3,406,728	205	3,406,785
219	3,407,039	44	3,406,507	710	3,406,592	70	3,406,653	133	3,406,729	226	3,406,786
225	3,407,040	328	3,406,508	711	3,406,593	117– 44	3,407,084	146– 2	3,406,730	184– 1	3,406,788
230	3,407,041	377	3,406,509	801	3,406,594	72	3,407,085	148– 6.1	3,407,098	7	3,406,789
	3,407,042	57– 58.49	3,406,510	814	3,406,595		3,407,086	153	3,407,099		3,406,790
	3,407,043	.65	3,406,511	821	3,406,596		3,407,087	149– 19	3,407,100	55	3,406,787
252	3,407,044	88	3,406,512	865	3,406,597	93.31	3,407,088	151– 30	3,406,731	188– 52	3,406,791
283	3,407,045	145	3,406,513	75– .5	3,407,057	100	3,407,089	41.75	3,406,734	73	3,406,792
285	3,407,046	156	3,406,514	26	3,407,058	106	3,407,090	152–330	3,406,732		3,406,793
357	3,407,047	60– 30	3,406,515	33	3,407,059	129	3,407,091	362	3,406,733	195	3,406,794
24– 73	3,406,431	39.28	3,406,516	87	3,407,060	138.8	3,407,092	156–175	3,407,101	192– .02	3,406,795
112	3,406,432	52	3,406,517	208	3,407,061	201	3,407,093	192	3,407,102	.084	3,406,796
223	3,406,433	54	3,406,518	214	3,407,062	118– 2	3,406,654	202	3,407,103	27	3,406,797
245	3,406,434	.5	3,406,519	226	3,407,063	10	3,406,655	212	3,407,104	35	3,406,798
25– 17	3,406,435		3,406,520	82– 46	3,406,598	63	3,406,656	253	3,407,105	45	3,406,799
28– 72	3,406,436		3,406,521	101	3,406,599	261	3,406,657	405	3,407,106	91	3,406,800
.6	3,406,437	.6	3,406,522	83– 13	3,406,600	264	3,406,658	432	3,407,107	99	3,406,801
29–116	3,406,438	61– 48	3,406,523	72	3,406,601	505	3,406,659	458	3,407,108	130	3,406,802
155	3,406,439	53.5	3,406,524	92	3,406,602	626	3,406,660	160–133	3,406,735	194– 2	3,406,803
159	3,406,440	72.6	3,406,525	84– 1.13	3,407,260	119– 1	3,406,661	161– 58	3,407,109	195– 51	3,407,118
182.1	3,407,048	62– 50	3,406,526	290	3,406,603	3	3,406,662	68	3,407,110		3,407,119
183	3,407,049	58	3,406,527	484	3,406,604	14.01	3,406,663	160	3,407,111	104	3,407,120
199	3,407,050	89	3,406,528	85– 1	3,406,605	122– 7	3,406,664	165	3,407,112	134	3,407,121
451	3,406,441	188	3,406,529	89– 1.815	3,406,606	31	3,406,665	162– 6	3,407,113	196– 98	3,406,804
455	3,406,442	217	3,406,533	90– 56	3,406,607	123– 27	3,406,666	341	3,407,114	197– 6.7	3,406,805
472.3	3,406,443	262	3,406,530	91–368	3,406,608	32	3,406,667	164– 4	3,406,736		3,406,806
482	3,406,444	306	3,406,531	92– 63	3,406,609	90	3,406,668	86	3,406,737	55	3,406,807
492	3,406,445	457	3,406,532	93– 8	3,406,610	119	3,406,669	182	3,406,738	198– 20	3,406,808
497.5	3,406,446	64– 7	3,406,534		3,406,611	139	3,406,670	278	3,406,739	92	3,406,809
30– 2	3,406,447	9	3,406,535		3,406,612	148	3,406,671	165– 1	3,406,740	183	3,406,810
43.8	3,406,448	14	3,406,536	37	3,406,613		3,406,672		3,406,741	200– 11	3,407,275
107	3,406,449	23	3,406,537	80	3,406,614	169	3,406,673	12	3,406,742	67	3,407,276
279	3,406,450	65– 21	3,407,053	81	3,406,615	124– 7	3,406,674		3,406,743	83	3,407,277
32– 32	3,406,451	55	3,407,054	94– 1	3,406,616	24	3,406,675	27	3,406,744	153	3,407,278
35	3,406,452	161	3,407,055	13	3,406,617	41	3,406,676	40	3,406,745	166	RE.26,480
33– 23	3,406,453	66– 9	3,406,538	24	3,406,618	126–197	3,406,677	46	3,406,746	202– 83	3,407,122
27	3,406,454	56	3,406,539	95– 10	3,406,619	208	3,406,678	74	3,406,747	204– 1	3,407,123
50	3,406,455	85	3,406,540		3,406,620	262	3,406,679	89	3,406,748		3,407,124
107	3,406,456	138	3,406,541	31	3,406,621	128– 2	3,406,681	110	3,406,749	20	3,407,125
162	3,406,457	68–132	3,406,543	96– 1.8	3,407,064	66	3,406,680	148	3,406,750	43	3,407,126
174	3,406,458	175	3,406,542	33	3,407,065	145.6	3,406,682	151	3,406,751	82	3,407,127
178	3,406,459	70– 38	3,406,544	91	3,407,066	166	3,406,683	173	3,406,752	99	3,407,128
189	3,406,460	156	3,406,545	107	3,407,067	173	3,406,684	185	3,406,753	145	3,407,129
199	3,406,461	456	3,406,546		3,407,068	214.4	3,406,685	166– 9	3,406,754	165	3,407,130
34– 15	3,406,462	71–118	3,407,056	98– 2	3,406,622	218	3,406,686	11	3,406,755		3,407,131
56	3,406,463	72– 8	3,406,547	40	3,406,623	221	3,406,687	21	3,406,756	225	3,407,132
111	3,406,464	71	3,406,548	99– 31	3,407,069	284	3,406,688	99	3,406,757	299	3,407,133
129	3,406,465	88	3,406,549	83	3,407,070	290	3,406,689	212	3,406,758	206– 4	3,406,811
155	3,406,466	141	3,406,550	94	3,407,071	295	3,406,690	170–135.4	3,406,759	15.1	3,406,812
35– 24	3,406,467	166	3,406,551	96	3,407,072	350	3,406,691	160.5	3,406,760	19.5	3,406,813
36– 2.5	3,406,468	236	3,406,552	98	3,407,073	540	3,406,692	172– 42	3,406,761	45.14	3,406,814
	3,406,469	252	3,406,553	100	3,407,074	131–195	3,406,693	173– 12	3,406,762	.24	3,406,815

206–	45.34	3,406,816	222–521	3,406,880	250–225	3,407,305	260–268	3,407,203	273–202	3,406,977	317–235	3,407,343
	52	3,406,817	223– 88	3,406,881	227	3,407,304	286	3,407,204	207	3,406,978	318–130	3,407,344
	57	3,406,818		3,406,882	251– 40	3,406,940	294.3	3,407,205	277– 80	3,406,979	443	3,407,345
	59	3,406,820	96	3,406,883	129	3,406,941	310	3,407,206	280– 11.35	3,406,981	446	3,407,346
	65	3,406,819	224– 2	3,406,884	149.4	3,406,942	315	3,407,207	24	3,406,982	321– 7	3,407,347
	75	3,406,821	39	3,406,885	163	3,406,943	318	3,407,208	34	3,406,980	27	3,407,348
208–	11	3,407,134	225– 2	3,406,886	353	3,406,944		3,407,209	124	3,406,983	45	3,407,349
	139	3,407,135	226– 21	3,406,887	252– 2	3,407,138	326	3,407,210	166	3,406,984	69	3,407,350
	254	3,407,136	187	3,406,888	47.5	3,407,140	.3	3,407,211	414	3,406,985	324– 33	3,407,351
	300	3,407,137	227–130	3,406,889	75	3,407,143		3,407,212	285– 21	3,406,986	40	3,407,352
209–	125	3,406,822	228– 2	3,406,890	78	3,407,142	327	3,407,213	22	3,406,987	83	3,407,353
	263	3,406,823	229– 3.5	3,406,891	79.4	3,407,141	345.3	3,407,214	24	3,406,988	325– 35	3,407,354
	467	3,406,824	37	3,406,892	108	3,407,144	346.4	3,407,215	137	3,406,989	67	3,407,355
210–	65	3,406,825	49	3,406,893	300	3,407,145	.7	3,407,216	310	3,406,990	328– 55	3,407,356
	87	3,406,826	70	3,406,894	301.4	3,407,139	397.4	3,407,217	408	3,406,991	92	3,407,357
	96	3,406,827	230– 6	3,406,895	377	3,407,146		3,407,218	287– 91	3,406,992	329–110	3,407,358
	137	3,406,828	128	3,406,896	404	3,407,147	.5	3,407,219	127	3,406,993	330– 29	3,407,359
	164	3,406,829	138	3,406,897	455	3,407,148	413	3,407,220	289– 2	3,406,994		3,407,360
	241	3,406,830	270	3,406,898	466	3,407,149		3,407,221	290– 38	3,407,306	331– 10	3,407,361
	438	3,406,831	235– 60	3,406,899	253–120	3,406,945	455	3,407,222	292–169	3,406,995	94.5	3,407,362
	457	3,406,832	61.11	3,407,287	256– 19	3,406,946	465.3	3,407,223	256	3,406,996	117	3,407,363
212–	99	3,406,833	70	3,406,900	259– 4	3,406,947	476	3,407,224		3,406,997	332– 7.51	3,407,364
213–	8	3,406,834	86	3,406,901	6	3,406,948	488	3,407,225	296– 19	3,406,998	23	3,407,365
		3,406,835	92	3,407,288	109	3,406,949	519	3,407,226	23	3,406,999	333– 9	3,407,366
214–	1	3,406,836	114	3,406,902	151	3,406,950	537	3,407,227	137	3,407,000	335– 5	3,407,367
		3,406,837	150.5	3,407,289	260– 2.5	3,407,150	539	3,407,228	297–445	3,407,001	16	3,407,368
		3,406,838	164	3,407,290		3,407,151	557	3,407,229	299– 1	3,407,002	156	3,407,369
	2	3,406,839	183	3,407,291		3,407,152	558	3,407,230	4	3,407,003	206	3,407,370
	6	RE.26,478	186	3,407,292		3,407,153	561	3,407,231	5	3,407,004	231	3,407,371
		3,406,840	193	3,407,293	17.3	3,407,154	563	3,407,232	39	3,407,005	336–208	3,407,372
		3,406,841	236–102	3,406,903		3,407,155	570.7	3,407,233	59	3,407,006	339– 5	3,407,373
		3,406,842	237– 2	3,406,904	22	3,407,156		3,407,234	302– 56	3,407,007	17	3,407,374
	11	3,406,843	239– 84	3,406,905	23	3,407,157	591	3,407,235	303– 12	3,407,008	22	3,407,375
	16	3,406,844	101	3,406,906	.5	3,407,158	615	3,407,236	35	3,407,009	41	3,407,376
	.4	3,406,845	177	3,406,907	27	3,407,159	621	3,407,237	75	3,407,010	105	3,407,377
		3,406,846	284	3,406,908	28.5	3,407,160	666	3,407,238	307– 88	3,407,307	176	3,407,378
	17	3,406,847	333	3,406,909		3,407,161		3,407,239		3,407,308		3,407,379
	78	3,406,848	464	3,406,910		3,407,162	.5	3,407,240	.3	3,407,309	186	3,407,380
	83.26	3,406,849	490	3,406,911		3,407,163	675.5	3,407,241	137	3,407,310	192	3,407,381
	138	3,406,850	533	3,406,912	29.7	3,407,164		3,407,242		3,407,311	230	3,407,382
	501	3,406,851	543	3,406,913	.8	3,407,165	677	3,407,243	141	3,407,312		3,407,383
	506	3,406,852	658	3,406,914	32.6	3,407,166	680	3,407,244	273	3,407,313	340– 10	3,407,384
215–	11	3,406,853	683	3,406,915	33.6	3,407,167		3,407,245	297	3,407,314	81	3,407,385
	40	3,406,854	240– 46.01	3,407,294		3,407,168	880	3,407,246	299	3,407,315	146.3	3,407,386
219–	10.55	3,407,279	241– 28	3,406,916	38	3,407,169	881	3,407,247	308– 6	3,407,011	152	3,407,387
	91	3,407,280	295	3,406,917	41	3,407,170	953	3,407,248	122	3,407,012		3,407,388
	121	3,407,281	242– 26.3	3,406,918		3,407,171	261– 36	3,406,951		3,407,013	172.5	3,407,389
	317	3,407,283	.4	3,406,919	45.7	3,407,172	50	3,406,952	310– 11	3,407,316		3,407,390
	374	3,407,284	35.6	3,406,920	.9	3,407,173	79	3,406,953	58	3,407,317		3,407,391
	456	3,407,285	55	3,406,921		3,407,174	263– 3	3,406,954	75	3,407,318	173	3,407,392
	501	3,407,286	.11	3,406,922	47	3,407,175	40	3,406,955	77	3,407,319		3,407,393
	519	3,407,282	.19	3,406,923		3,407,176	47	3,406,956	87	3,407,320		3,407,394
220–	1.5	3,406,855	56.4	3,406,924	67	3,407,177	264– 49	3,407,249	270	3,407,321	174	3,407,395
	4	3,406,856	66	3,406,925		3,407,178	99	3,407,250	312– 21	3,407,014		3,407,396
	9	3,406,857	128	3,406,926	78	3,407,179	131	3,407,252	71	3,407,015		3,407,397
		3,406,858	129.5	3,406,927		3,407,180	135	3,407,251	296	3,407,016	244	3,407,398
	18	3,406,859	243– 5	3,406,928	.3	3,407,181	289	3,407,253	313– 46	3,407,322	263	3,407,399
	23.4	3,406,860	244– 40	3,406,929	79	3,407,182	267– 67	3,406,957	63	3,407,323	280	3,407,400
	36	3,406,861	118	3,406,930	.3	3,407,183	269–137	3,406,958	95	3,407,324	324	3,407,401
	44	3,406,862	248– 2	3,406,931	82.1	3,407,184	270– 73	3,406,959	109	3,407,325	392	3,407,402
	46	3,406,863	68	3,406,932	85.3	3,407,185	271– 8	3,406,960	141	3,407,326	343– 7.5	3,407,403
		3,406,864	80	3,406,933	88.3	3,407,186	10	3,406,961	229	3,407,327	765	3,407,404
	54	3,406,865	165	3,406,934	89.5	3,407,187	33	3,406,962	278	3,407,328	346–106	3,407,405
		3,406,866	188	3,406,935	124	3,407,188	35	3,406,963	315– 12	3,407,329	350–150	3,407,017
		3,406,867	216	3,406,936	207.1	3,407,189	61	3,406,964	20	3,407,330	321	3,407,018
	90.2	3,406,868	346	3,406,937	211.5	3,407,190	62	3,406,965	21	3,407,331	351– 14	3,407,019
221–	69	RE.26,479	363	3,406,938		3,407,191	68	3,406,966	27	3,407,332	352– 38	3,407,020
	199	3,406,869	405	3,406,939	239	3,407,193	272– 8	3,406,967	106	3,407,333	401– 29	3,407,021
222–	56	3,406,871	250– 41.3	3,407,295	.55	3,407,194	57	3,406,968	278	3,407,334	424– 66	3,407,254
	57	3,406,870	51.5	3,407,296	240	3,407,195	273– 1	3,406,969	317– 16	3,407,335	243	3,407,255
	83	3,406,872	83.3	3,407,297		3,407,196	85	3,406,970	17	3,407,336	267	3,407,256
	107	3,406,873		3,407,298	243	3,407,197	109	3,406,971	18	3,407,337	324	3,407,257
	143	3,406,874	.6	3,407,299		3,407,198	118	3,406,972	22	3,407,338	339	3,407,258
	151	3,406,875	105	3,407,300	247.5	3,407,199	123	3,406,973	33	3,407,339	431– 8	3,407,022
	193	3,406,876	199	3,407,301	248	3,407,200	134	3,406,974	142	3,407,340	328	3,407,023
	402.1	3,406,877	213	3,407,302		3,407,201	136	3,406,975	234	3,407,341		3,407,024
		3,406,878	222	3,407,303	256.5	3,407,202	143	3,406,976	235	3,407,342	329	3,407,025
	499	3,406,879	225	3,407,192								

CLASSIFICATION OF DESIGNS

D 9–	40	212,455	D13– 1	212,466	D26– 5	212,477	D37– 3	212,488	D48– 20	212,499	D71– 1	212,510
	42	212,456		212,467	14	212,478	D39– 1	212,489	31	212,500		212,511
	50	212,457	D14– 27	212,468	D29– 2	212,479	D40– 1	212,490	D49– 35	212,501		212,512
	90	212,458		212,469	D30– 1	212,480		212,491		212,502	D80– 10	212,513
	92	212,459	D15– 1	212,470	11	212,481		212,492	D52– 2	212,503	D83– 1	212,514
		212,460	8	212,471	D33– 3	212,482	D42– 7	212,493	3	212,504		212,515
	256	212,461	D23– 53	212,472	D34– 5	212,483	D44– 1	212,494	D54– 1	212,505		212,516
		212,462	73	212,473		212,484	10	212,495	4	212,506	D86– 10	212,517
	275	212,463		212,474		212,485	29	212,496	D57– 1	212,507	D87– 1	212,518
	277	212,464		212,475	15	212,486		212,497	D61– 1	212,508	D90– 20	212,519
D13–	1	212,465	D26– 5	212,476	D35– 3	212,487	D48– 20	212,498		212,509		212,520

CLASSIFICATION OF PLANTS

P. – 54	2,840	P. – 55	2,841				

GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

(NOTE.–CODES ARE CHANGED AS OF JANUARY 1, 1967)

Alabama	1	Kentucky	21	Oregon	41
Alaska	2	Louisiana	22	Pennsylvania	42
American Samoa	3	Maine	23	Puerto Rico	43
Arizona	4	Maryland	24	Rhode Island	44
Arkansas	5	Massachusetts	25	South Carolina	45
California	6	Michigan	26	South Dakota	46
Canal Zone	7	Minnesota	27	Tennessee	47
Colorado	8	Mississippi	28	Texas	48
Connecticut	9	Missouri	29	Utah	49
Delaware	10	Montana	30	Vermont	50
District of Columbia	11	Nebraska	31	Virginia	51
Florida	12	Nevada	32	Virgin Islands	52
Georgia	13	New Hampshire	33	Washington	53
Guam	14	New Jersey	34	West Virginia	54
Hawaii	15	New Mexico	35	Wisconsin	55
Idaho	16	New York	36	Wyoming	56
Illinois	17	North Carolina	37	U.S. Air Force	57
Indiana	18	North Dakota	38	U.S. Army	58
Iowa	19	Ohio	39	U.S. Navy	59
Kansas	20	Oklahoma	40		

(First number in listing denotes location according to above key. Refer to patent number in body of the Official Gazette to obtain details as to inventor name, location, etc.)

PATENTS

1	3,406,422	6	3,406,782	8	3,406,408	12	3,406,573	17	3,407,024	21	3,407,109
	3,406,656		3,406,805		3,406,477		3,406,580		3,407,064	22	3,406,426
4	3,406,411		3,406,806		3,406,611		3,406,616		3,407,071		3,406,479
	3,406,691		3,406,816		3,406,716		3,406,946		3,407,105		3,406,627
	3,406,767		3,406,828		3,406,727		3,407,400		3,407,120		3,407,058
	3,406,933		3,406,849		3,406,754	13	3,406,425		3,407,124		3,407,205
	3,407,020		3,406,869		3,406,845		3,406,493		3,407,134		3,407,243
5	3,406,507		3,406,870		3,406,922		3,406,605		3,407,166		3,407,390
6	RE.26,481		3,406,883		3,407,250		3,406,657		3,407,219	23	3,406,457
	3,406,407		3,406,884		3,407,345		3,406,676		3,407,229	24	3,406,574
	3,406,416		3,406,888	9	3,406,459		3,406,853		3,407,230		3,406,638
	3,406,417		3,406,930		3,406,464		3,407,241		3,407,237		3,406,698
	3,406,431		3,406,940		3,406,498		3,407,242		3,407,259		3,406,847
	3,406,447		3,406,972		3,406,514		3,407,402		3,407,260		3,406,935
	3,406,448		3,406,973		3,406,549	15	3,406,546		3,407,274		3,406,938
	3,406,452		3,406,979		3,406,557	16	3,407,080		3,407,276		3,406,948
	3,406,455		3,406,980		3,406,664	17	3,406,420		3,407,277		3,407,037
	3,406,460		3,406,988		3,406,708		3,406,430		3,407,310		3,407,065
	3,406,482		3,406,996		3,406,878		3,406,438		3,407,311		3,407,289
	3,406,490		3,407,005		3,406,911		3,406,469		3,407,380		3,407,314
	3,406,502		3,407,018		3,406,912		3,406,470	18	RE.26,480		3,407,362
	3,406,508		3,407,042		3,406,995		3,406,506		3,406,409	25	3,406,413
	3,406,517		3,407,044		3,407,032		3,406,526		3,406,579		3,406,415
	3,406,537		3,407,061		3,407,098		3,406,533		3,406,671		3,406,467
	3,406,550		3,407,101		3,407,103		3,406,545		3,406,704		3,406,534
	3,406,556		3,407,122		3,407,117		3,406,554		3,406,717		3,406,572
	3,406,564		3,407,133		3,407,127		3,406,587		3,406,760		3,406,653
	3,406,565		3,407,142		3,407,154		3,406,589		3,406,817		3,406,764
	3,406,567		3,407,151		3,407,155		3,406,590		3,406,829		3,406,831
	3,406,577		3,407,161		3,407,158		3,406,593		3,406,923		3,406,842
	3,406,613		3,407,162		3,407,215		3,406,621		3,406,984		3,406,854
	3,406,617		3,407,169		3,407,216		3,406,640		3,406,992		3,406,875
	3,406,618		3,407,220		3,407,269		3,406,641		3,407,030		3,406,905
	3,406,623		3,407,221		3,407,316		3,406,652		3,407,104		3,406,961
	3,406,625		3,407,224		3,407,358		3,406,696		3,407,106		3,406,965
	3,406,667		3,407,231		3,407,368		3,406,738		3,407,191		3,406,966
	3,406,679		3,407,251	10	3,406,862		3,406,750		3,407,306		3,406,967
	3,406,687		3,407,273		3,406,944		3,406,771		3,407,330		3,406,997
	3,406,689		3,407,288		3,407,076		3,406,775		3,407,371		3,407,039
	3,406,697		3,407,307		3,407,092		3,406,786		3,407,372		3,407,048
	3,406,702		3,407,308		3,407,130		3,406,798	19	3,406,840		3,407,084
	3,406,709		3,407,320		3,407,131		3,406,800		3,406,844		3,407,094
	3,406,713		3,407,329		3,407,164		3,406,860		3,406,977		3,407,095
	3,406,715		3,407,337		3,407,181		3,406,866		3,407,070		3,407,123
	3,406,719		3,407,339		3,407,206		3,406,867	20	3,406,645		3,407,186
	3,406,721		3,407,355		3,407,244		3,406,874		3,407,052		3,407,246
	3,406,743		3,407,359		3,407,245		3,406,928		3,407,382		3,407,281
	3,406,746		3,407,387		3,407,247		3,406,950		3,407,383		3,407,295
	3,406,758		3,407,388	11	3,407,354		3,406,985	21	3,406,478		3,407,323
	3,406,769		3,407,393	12	3,406,487		3,407,023		3,406,504		3,407,327

25 : 3,407,353
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37 : 3,406,509
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3,407,182
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41 : 3,406,424
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3,406,826
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42 : 3,406,418
3,406,451
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3,407,194
3,407,214
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3,407,235
3,407,263
3,407,279
3,407,325
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3,407,369
3,407,374
43 : 3,406,468
44 : 3,406,815
3,407,129
45 : 3,406,437
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3,407,026
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3,407,236
46 : 3,406,461
3,406,852
46 : 3,406,936
47 : 3,406,484
3,406,529
3,406,532
3,406,785
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3,407,208
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49 : 3,407,328
51 : 3,406,436
3,406,443
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53 : 3,406,473
3,406,505
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54 : 3,406,446
3,406,678
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55 : 3,406,421
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3,406,974
3,406,982
3,407,006
3,407,025
3,407,270
3,407,312
3,407,334
56 : 3,406,450

Design Patents

4 : 212,476
6 : 212,458
212,472
212,481
212,482
212,486
212,502
212,512
212,518
9 : 212,511
9 : 212,519
12 : 212,470
212,490
17 : 212,473
212,474
212,475
212,478
212,493
212,504
212,507
17 : 212,516
20 : 212,479
212,483
212,484
212,492
25 : 212,497
27 : 212,491
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212,495
29 : 212,489
34 : 212,455
212,513
36 : 212,456
212,463
212,464
212,477
212,496
212,498
212,499
212,506
36 : 212,514
212,520
37 : 212,485
39 : 212,457
212,459
212,460
212,461
212,462
212,467
212,488
39 : 212,500
212,501
212,503
212,505
40 : 212,469
42 : 212,508
212,509
212,510
43 : 212,517
48 : 212,471

Plant Patents

6 : 2,840
36 : 2,841

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

October 22, 1968 Volume 855 Number 4

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 22,406 (COCA-COLA), The Coca Cola Company. Tonic syrup or beverage; **Reg. No. 238,145**, same, Beverages and syrups for the manufacture of such beverages; **Reg. No. 238,146**, same; **Reg. No. 415,755** (COKE), same, Nonalcoholic maltless beverages and the syrups for making such beverages, **filed** July 5, 1968, D.C., E.D. Va. (Norfolk), Doc. C/A 6878N, *The Coca-Cola Company* v. *Burroughs Enterprises, Inc., doing business as Ranch House and Winfield Scott Beeman.* **Same, filed** July 19, 1968, D.C., E.D. Va. (Norfolk), Doc. C/A 6898N, *The Coca Cola Company* v. *A.L.K. Corp., doing business as The Paper Box et al.*

Reg. No. 231,380 (ALCOA), Aluminum Company of America, Ingots of aluminum and aluminum base alloys; **Reg. No. 284,996**, same, Aluminum sand mold and permanent mold castings, aluminum billets and ingots, aluminum forgings and extruded shapes, aluminum foil and sheet, aluminum solder, and granulated aluminum; **Reg. No. 288,976**, same, Aluminum shingles, corrugated roofing, down spouts, and gutters and flashings, **filed** June 20, 1968, D.C.N.J. (Newark), Doc. C–628–68, *Aluminum Company of America* v. *Apco Industries, Inc., and William Appel, Jack Appel and Rose Appel.* Consent judgment for permanent injunction, July 29, 1968.

Reg. No. 238,145. (See Reg. No. 22,406.)

Reg. No. 238,146. (See Reg. No. 22,406.)

Reg. No. 284,996. (See Reg. No. 231,389.)

Reg. No. 288,976. (See Reg. No. 231,389.)

Reg. No. 382,071 (LIVING), International Latex Corporation, Girdles; **Reg. No. 604,907**, same, Girdles, gloves and brassieres; **Reg. No. 627,138**, same, All purpose cosmetic creams useful as a cleansing, night or hand cream or foundation base; **Reg. No. 640,481**, same, Baby powder; **Reg. No. 703,495**, same, Novelty and toy dolls, **filed** July 1, 1966, D.C., S.D.N.Y., Doc. 66–C–1969, *International Latex Corporation* v. *Living Lashes, Inc.* Consent judgment, defendants enjoined, July 30, 1968.

Reg. No. 415,755. (See Reg. No. 22,406.)

Reg. No. 420,804 (IH), International Harvester Company, Ferrous castings and forgings; **Reg. No. 705,836**, same, Preliminarily processed ferrous metals, **filed** June 27, 1968, D.C.N.H. (Concord), Doc. 2899–C, *Hitchiner Manufacturing Co., Inc.* v. *International Harvester Company.*

Reg. No. 511,195. (See 3,104,121.)

Reg. No. 538,608 (NYLATRON), The Polymer Corporation, Nylon in rod, strip and tube form, **filed** July 29, 1968, D.C. Del. (Wilmington), Doc. 3591, *The Polymer Corporation* v. *Rexall Drug and Chemical Company, doing business as Fiber-Fil.*

Reg. No. 600,018 (PLAYBOY), HMH Publishing Co., Inc., Monthly magazine; **Reg. No. 643,926** (DESIGN OF RABBIT'S

CONDITION OF TRADEMARK APPLICATIONS AS OF AUGUST 31, 1968

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	15,629
Date of oldest new application	August 1, 1967
Date of oldest amended application (filing date)	April 28, 1965

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	1- 9-68	10-27-65
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	11-22-67	6- 6-66
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	11- 6-67	4-28-65
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	8- 1-67	1-17-66
Renewals (All Classes)	7-22-68	
Sec. 12(c) Publications (All Classes)	7-29-68	

Applications filed during the month of August 1968—2,487

Registrations Issued ---------- 431—No. 858,713 to No. 859,143
Renewals Issued ---------- 100

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PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

HEAD), same; **Reg. No. 827,336** (PMOC), same, Services for the sales promotion of goods of others through the medium of advertising and promotion in publications and at the point of sale, **filed** July 29, 1968, D.C., S.D. Fla. (Miami), Doc. 68–887–C–WM, *HMH Publishing Co., Inc.* v. *Carl Herman, doing business as Island Playboy et al.*

Reg. No. 804,907. (See Reg. No. 382,071.)

Reg. No. 827,138. (See Reg. No. 382,071.)

Reg. No. 827,996 (UNITED AIR LINES AND DESIGN), United Air Lines, Inc., Transportation of persons, mail, and property by air; **Reg. No. 676,462** (UNITED), same, **filed** July 12, 1966, D.C., S.D.N.Y., Doc. 66–C–2066, *United Air Lines, Inc., et ano* v. *Dan Brechner & Co., Inc.* Consent decree, defendants' counterclaim dismissed, July 31, 1968.

Reg. No. 640,481. (See Reg. No. 382,071.)

Reg. No. 643,926. (See Reg. No. 600,018.)

Reg. No. 676,462. (See Reg. No. 627,996.)

Reg. No. 703,495. (See Reg. No. 382,071.)

Reg. No. 705,836. (See Reg. No. 420,804.)

Reg. No. 713,110 (US MONOGRAM), Union Special Machine Company, Industrial sewing machines, accessories therefor, and parts thereof, **filed** Aug. 13, 1963, D.C., S.D.N.Y., Doc. 68–C–2433, *United States Blind Stitch Machine Corp.* v. *Union Special Machine Company.* Judgment in favor of defendant dismissing the complaint, July 31, 1968.

Reg. No. 740,005 (DESIGN OF CROSSED SWORDS), Royal Saxe Corporation, Tea and dinner ware sets made of porcelain or china—namely, plates, cups and saucers, vases and decorative serving tea tiles; **Reg. No. 772,301** (PRINCE DE SAXE AND DESIGN), same, Tea and dinnerware sets made of porcelain or china—namely, plates, cups and saucers, glasses and decorative serving tea tiles, **filed** May 17, 1968, D.C., S.D.N.Y., Doc. 68–C–2043, *D.M. & Antique Import Corp.* v. *F. W. Methloe.*

Reg. No. 772,301. (See Reg. No. 740,005.)

Reg. No. 789,815. (See 3,384,992.)

Reg. No. 801,100 (A TO Z), A to Z Rental, Inc., Service of renting tools, equipment, and vehicles, **filed** Apr. 3, 1968, D.C., S.D. Iowa (Davenport), Doc. 3–775–D, *A to Z Rental, Inc.* v. *Cyril Kunkel, doing business as A-Z Rental Company.* Trademark valid and subsisting, defendant permanently enjoined, June 5, 1968.

Reg. No. 825,460 (HOMEMAKERS), Homemakers, Inc., Health, family, and household services—namely, nursing, companionship, visting, housekeeping, domestic help, maids, cooks, and home maintenance, **filed** June 4, 1968, D.C. Oreg. (Portland), Doc. 68–311–C, *Homemakers, Inc.* v. *Beverly Helms and Hardon Corporation.*

Reg. No. 827,336. (See Reg. No. 600,018.)

Reg. No. 838,646 (HALO "THE PARTY PEOPLE" AND DESIGN), Halo Sales Corporation, doing business as The Party People, Candles, **filed** Aug. 1, 1968, D.C., M.D. Fla. (Jacksonville), Doc. 68–11–C–OC, *Halo Sales Corporation* v. *Pioneer Products, Inc.*

3,104,121, Nordin and Hall, HIGH PRESSURE SEAL ASSEMBLY; **Reg. No. 511,195** (TC), Thornhill-Craver Company, Inc., Pipe unions and fittings—namely, crosses, T's, elbows, couplings, chokes, wing valves, ball joints, and connections, **filed** May 15, 1968, D.C., S.D. Tex. (Houston), Doc. 68–H–423, *Thornhill-Craver Company* v. *Stonebor, Inc.*

3,384,992, H. C. Heffron, PLANT SHELTER; **Reg. No. 789,815** (ROSE KONE), G.I. Plastics Corporation, Plant shelter for protecting plants, **filed** July 12, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c1293, *Gotham Industries, Inc.* v. *L.M. Plastics Company, Inc. et al.*

PROPOSED INTERNATIONAL NON-PROPRIETARY NAMES (PROP. INN) LIST 20[1]

In accordance with article 3 of the Procedure for the Selection of Recommended International Non-Proprietary Names for Pharmaceutical Preparations,[2] notice is hereby given that the following names are under consideration by the World Health Organization as Proposed International Non-Proprietary Names.

Comments on, or formal objections to the proposed names may be forwarded by any person to the Pharmaceuticals Unit of the World Health Organization within four months of the date of their publication in *WHO Chronicle*.

The inclusion of a name in the lists of proposed international non-proprietary names does not imply any recommendation for the use of the substance in medicine or pharmacy.

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION, MOLECULAR AND GRAPHIC FORMULAE
acidum canrenoicum canrenoic acid	17-hydroxy-3-oxo-17α-pregna-4,6-diene-21-carboxylic acid $C_{22}H_{30}O_4$
acidum cicrotoicum cicrotoic acid	β-methylcyclohexaneacrylic acid $C_{10}H_{16}O_2$
acidum clofibricum clofibric acid	2-(*p*-chlorophenoxy)-2-methylpropionic acid $C_{10}H_{11}ClO_3$
acidum clorindanicum clorindanic acid	7-chloro-4-hydroxy-5-indancarboxylic acid $C_{10}H_9ClO_3$
acidum iobutoicum iobutoic acid	4-[2,4,6-triiodo-3-(morpholinocarbonyl)phenoxy]butyric acid $C_{15}H_{16}I_3NO_5$
acidum metiazinicum metiazinic acid	10-methylphenothiazine-2-acetic acid $C_{15}H_{13}NO_2S$
benmoxinum benmoxin	benzoic acid 2-(α-methylbenzyl)hydrazide $C_{15}H_{16}N_2O$
boldenonum boldenone	17β-hydroxyandrosta-1,4-dien-3-one $C_{19}H_{26}O_2$
bromhexinum bromhexine	3,5-dibromo-N^6-cyclohexyl-N^6-methyltoluene-α-2-diamine $C_{14}H_{20}Br_2N_2$
bufexamacum bufexamac	2-(*p*-butoxyphenyl)-acetohydroxamic acid $C_{12}H_{17}NO_3$
canrenoatum kalium canrenoate potassium	3-oxo-17α-pregna-4,6-diene-21-carboxylate $C_{22}H_{29}KO_4$
canrenonum canrenone	17-hydroxy-3-oxo-17α-pregna-4,6-diene-21-carboxylic acid T-lactone $C_{22}H_{28}O_3$
carbazochromum carbazochrome	3-hydroxy-1-methyl-5,6-indolinedione semicarbazone $C_{10}H_{12}N_4O_3$
carbenicillinum carbenicillin	*N*-(2-carboxy-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]hept-6-yl)-2-phenylmalonamic acid $C_{17}H_{18}N_2O_6S$
cingestolum cingestol	19-nor-17α-pregn-5-en-20-yn-17-ol $C_{20}H_{28}O$
cletoquinum cletoquine	2-({4-[(7-chloro-4-quinolyl)amino]pentyl}amino)ethanol $C_{18}H_{22}ClN_3O$
clinimycinum clinimycin	methyl 7-chloro-6,7,8-trideoxy-6-*trans*-(1-methyl-4-propyl-*L*-2-pyrrolidinecarboxamido)-1-thio-*L-threo*-α-*D-galacto*-octopyranoside $C_{18}H_{33}ClN_2O_5S$
clomegestonum clomegestone	6-chloro-17-hydroxy-16α-methylpregna-4,6-diene-3,20-dione $C_{22}H_{29}ClO_3$
clopidolum clopidol	3,5-dichloro-2,6-dimethyl-4-pyridinol $C_7H_7Cl_2NO$
cloprothiazolum cloprothiazole	5-(3-chloropropyl)-4-methylthiazole $C_7H_{10}ClNS$
clotioxonum clotioxone	2-phenyl-4-[(trichloromethyl)thio]-Δ^2-1,3,4-oxadiazolin-5-one $C_9H_5Cl_3N_2O_2S$
creatinolfosfatum creatinolfosfate	1-(2-hydroxyethyl)-1-methylguanidine dihydrogen phosphate (ester) $C_4H_{12}N_3O_4P$
danazolum danazol	17α-pregna-2,4-dien-20-yno[2,3-*d*]isoxazol-17-ol $C_{22}H_{27}NO_2$
daunorubicinum daunorubicin	a glucosidic antibiotic obtained from cultures of *Streptomyces peucetius* or *Streptomyces coeruleorubidus*, or the same substance obtained by any other means $C_{27}H_{29}NO_{10}$
decoquinatum decoquinate	ethyl 6-(decyloxy)-7-ethoxy-4-hydroxy-3-quinoline-carboxylate $C_{31}H_{55}NO_6$
deprodonum deprodone	11β,17-dihydroxypregna-1,4-diene-3,20-dione $C_{21}H_{28}O_4$
desoximetasonum desoximetasone	9-fluoro-11β,21-dihydroxy-16α-methylpregna-1,4-diene-3,20-dione $C_{22}H_{29}FO_4$
dexivacainum dexivacaine	(+)-1-methyl-2′,6′-pipecoloxylidide $C_{15}H_{22}N_2O$
etolorexum etolorex	2-[(*p*-chloro-α,α-dimethylphenethyl)amino]ethanol $C_{12}H_{18}ClNO$
filipinum filipin	3,5,7,9,11,13,15,26,27-nonahydroxy-2-(1-hydroxyhexyl)-16-methyl-16,18,20,22,24-octacosapentaenoic acid 1,27-lactone $C_{35}H_{58}O_{11}$
fipexidum fipexide	1-[(*p*-chlorophenoxy)acetyl]-4-piperonylpiperazine $C_{20}H_{21}ClN_2O_4$
flualamidum flualamide	2-(allyloxy)-*N*-[2-diethylamino)ethyl]-α,α,α-trifluoro-*p*-toluamide $C_{17}H_{23}F_3N_2O_2$
flurazepamum flurazepam	7-chloro-1-[2-(diethylamino)ethyl]-5-(*o*-fluorophenyl)-1,3-dihydro-2*H*-1,4-benzodiazepin-2-one $C_{21}H_{23}ClFN_3O$

[1] Other lists of proposed international non-proprietary names can be found in *Chron. Wld Hlth Org.*, 1953, *7*, 299; 1954, *8*, 216, 313; 1956, *10*, 28; 1957, *11*, 231; 1958, *12*, 102; 1959, *13*, 105; *WHO Chronicle*, 1959, *13*, 152; 1960, *14*, 168, 244; 1961, *15*, 314; 1962, *16*, 385; 1963, *17*, 389; 1964, *18*, 433; 1965, *19*, 446; 1966, *20*, 216; 1967, *21*, 70, 478; 1968, *22*, 112.

Lists of recommended international non-proprietary names were published in *Chron. Wld Hlth Org.*, 1955, *9*, 185; 1959, *13*, 106; *WHO Chronicle*, 1959, *13*, 463; 1962, *16*, 101; 1965, *19*, 165, 206, 249; 1966, *20*, 421; 1967, *21*, 538.

[2] *Off Rec. Wld Hlth Org.*, *60*, 3 and 55 (resolution EB15.R7).

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION, MOLECULAR AND GRAPHIC FORMULAE
fopirtolinum fopirtoline	4-[2-[(6-chloro-2-pyridyl)thio]ethyl]morpholine $C_{11}H_{15}ClN_2OS$
geroquinolum geroquinol	2-geranylhydroquinone $C_{16}H_{22}O_2$
gloxazonum gloxazone	3-ethoxy-2-oxobutyraldehyde bis(thiosemicarbazone) $C_8H_{16}N_6OS_2$
guanadrelum guanadrel	(1,4-dioxaspiro[4.5]dec-2-ylmethyl)guanidine $C_{10}H_{19}N_3O_2$
halofenatum halofenate	(*p*-chlorophenyl)[(α,α,α-trifluoro-*m*-tolyl)oxy]acetic acid ester with *N*-(2-hydroxyethyl)acetamide $C_{19}H_{17}ClF_3NO_4$
homopipramolum homopipramol	4-[3-(5*H*-dibenz[*b,f*]azepin-5-yl)propyl]hexahydro-1*H*-1,4-diazepine-1-ethanol $C_{26}H_{33}N_3O$
kalafunginum kalafungin	an antibiotic obtained from cultures of *Streptomyces tanashiensis* strain *kala*, or the same substance obtained by any other means
lidimycinum lidimycin	an antibiotic obtained from cultures of *Streptomyces lydicus*, or the same substance obtained by any other means
mecloralurea mecloralurea	1-methyl-3-(2,2,2-trichloro-1-hydroxyethyl)urea $C_4H_7Cl_3N_2O_2$
medazepamum medazepam	7-chloro-2,3-dihydro-1-methyl-5-phenyl-1*H*-1,4-benzodiazepine $C_{16}H_{15}ClN_2$
metampicillinum metampicillin	3,3-dimethyl-6-[2-(methyleneamino)-2-phenylacetamido]-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid $C_{17}H_{19}N_3O_4S$
metoserpatum metoserpate	methyl *O*-methyl-18-epireserpate $C_{24}H_{34}N_2O_9$
mianserinum mianserin	1,2,3,4,10,14b-hexahydro-2-methyldibenzo[*c,f*]pyrazino[1,2-*a*]azepine $C_{18}H_{20}N_2$
milipertinum milipertine	5,6-dimethoxy-3-[2-[4-(o-methoxyphenyl)-1-piperazinyl]ethyl]-2-methylindole $C_{24}H_{31}N_3O_3$
mitobronitolum mitobronitol	1,6-dibromo-1,6-dideoxy-*D*-mannitol $C_6H_{12}Br_2O_4$
mitoguazonum mitoguazone	1,1′-[(methylethanediylidene)dinitrilo]diguanidine $C_5H_{12}N_8$
moquizonum moquizone	2,3-dihydro-1-(morpholinoacetyl)-3-phenyl-4(1*H*)-quinazolinone $C_{20}H_{21}N_3O_3$
niclofolanum niclofolan	4,4′-dichloro-6,6′-dinitro-*o,o*-biphenol $C_{12}H_6Cl_2N_2O_6$
nifurfolinum nifurfoline	3-(morpholinomethyl)-1-[(5-nitrofurfurylidene)amino]hydantoin $C_{13}H_{18}N_6O_6$
nifurpiponum nifurpipone	4-methyl-1-piperazineacetic acid (5-nitrofurfurylidene) hydrazide $C_{12}H_{17}N_5O_4$
nifursolum nifursol	3,5-dinitrosalicylic acid (5-nitrofurfurylidene) hydrazide $C_{12}H_7N_5O_6$
nimazonum nimazone	3-(*p*-chlorophenyl)-4-imino-2-oxo-1-imidazolidineacetonitrile $C_{11}H_9ClN_4O$
norfluranum norflurane	1,1,1,2-tetrafluoroethane $C_2H_2F_4$
nortetrazepamum nortetrazepam	7-chloro-5-(1-cyclohexen-1-yl)-1,3-dihydro-2*H*-1,4-benzodiazepin-2-one $C_{15}H_{15}ClN_2O$
noxiptilinum noxiptiline	10,11-dihydro-5*H*-dibenzo[*a,d*]cyclohepten-5-one *O*-[2-(dimethylamino)ethyl]oxime $C_{19}H_{22}N_2O$
orpressinum orpressin	8-ornithinevasopressin $C_{45}H_{68}N_{13}O_{12}S_2$
oxifentorexum oxifentorex	*N*-benzyl-*N*,α-dimethylphenethylamine N-oxide $C_{17}H_{21}NO$
oxprenololum oxprenolol	1-(o-allyloxyphenoxy)-3-(isopropylamino)-2-propanol $C_{15}H_{23}NO_3$
phoximum phoxim	phenylglyoxylnitrile oxime *O,O*-diethyl phosphorothioate $C_{12}H_{15}N_2O_3PS$
pimeclonum pimeclone	2-(piperidinomethyl)cyclohexanone $C_{12}H_{21}NO$
pipratecolum pipratecol	α-(3,4-dihydroxyphenyl)-4-(2-methoxyphenyl)-1-piperazineethanol $C_{19}H_{24}N_2O_4$
prifinii bromidum prifinium bromide	3-(diphenylmethylene)-1,1-diethyl-2-methylpyrrolidinium bromide $C_{22}H_{26}BrN$
prafadolum prafadol	*m*-(1-methyl-3-propyl-3-pyrrolidinyl)phenol $C_{14}H_{21}NO$
quazodinum quazodine	4-ethyl-6,7-dimethoxyquinazoline $C_{12}H_{14}N_2O_2$
racefenicolum racefenicol	(+)-*threo*-2,2-dichloro-*N*-[β-hydroxy-α-(hydroxymethyl)-*p*-(methylsulfonyl)phenethyl]acetamide $C_{12}H_{15}Cl_2NO_5S$
rapimycinum rapimycin	an antibiotic obtained from cultures of *Streptomyces lincolnensis*, or the same substance obtained by any other means $C_{12}H_{18}O_5$
riboprinum riboprine	*N*-(3-methyl-2-butenyl)adenosine $C_{15}H_{21}N_5O_4$
salbutamolum salbutamol	α-[(*tert*-butylamino)methyl]-4-hydroxy-*m*-xylene-, ′-diol $C_{13}H_{21}NO_3$
saletamidum saletamide	*N*-[2-(diethylamino)ethyl]salicylamide $C_{13}H_{20}N_2O_2$
soterenolum soterenol	2′-hydroxy-5′-[1-hydroxy-2-(isopropylamino)ethyl]methanesulfonanilide $C_{12}H_{20}N_2O_4S$
steffimycinum steffimycin	an antibiotic obtained from cultures of *Streptomyces steffisburgensis* var. *steffisburgensis*, sp. n., or the same substance obtained by any other means.
sumetizidum sumetizide	6-chloro-3,4-dihydro-3-succinimidomethyl-2*H*-1,2,4-benzothiadiazine-7-sulfonamide 1,1-dioxide $C_{12}H_{13}ClN_4O_6S_2$
tetridaminum tetridamine	4,5,6,7-tetrahydro-2-methyl-3-(methylamino)-2*H*-indazole $C_9H_{15}N_3$
tigestolum tigestol	19-nor-17α-pregn-5(10)-en-20-yn-17-ol $C_{20}H_{28}O$
tribenosidum tribenoside	ethyl 3,5,6-tri-*O*-benzyl-*D*-glucofuranoside $C_{29}H_{34}O_6$
tropirinum tropirine	3α[(5*H*-benzo[4.5]cyclohepta[1.2-*b*]pyridyl)-5-oxy]tropane $C_{22}H_{24}N_2O$

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 266,426. The Johnson Rubber Company, Middlefield, Ohio. Filed Mar. 10, 1967.

JOHNSONITE

Class 5—Adhesives

For Adhesives Comprising Waterproof Mastic Resins and Epoxy Compounds (Int. Cl. 1).

Class 12—Construction Materials

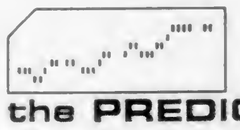
For Construction Materials Comprising Vinyl or Rubber Stair Nosings, Rubber Floor Coverings, Underfloor Suspension Pads, Bumper Guards, Cove Base and Cove Base End Strips, Stair Treads, Stringer Material and Edging Strips, Rubber Landing Mats, and Caulking Compounds (Int. Cls. 19 and 27).

Class 52—Detergents and Soaps

For Waterless Hand Cleaner Containing Lanolin (Int. Cl. 3).

First use at least as early as January 1954.

SN 266,707. The Predictor, Incorporated, West Hartford, Conn. Filed Mar. 15, 1967.



Class 38—Prints and Publications

For Newsletters Related to Investments (Int. Cl. 16).

Class 100—Miscellaneous

For Investment Advisory Services (Int. Cl. 42).

First use on or about Dec. 9, 1966.

SN 268,626. Stanley Gibbons Limited, London, England. Filed Apr. 7, 1967.

STANGIB

Owner of British Reg. No. 682,774, dated Sept. 28, 1949.

Class 22—Games, Toys, and Sporting Goods

For Stamp Hinges and Perforation Gauges (Int. Cl. 3).

Class 38—Prints and Publications

For Printed Matter Used in Connection With Philatelic Articles—Namely, Stamp Albums and Loose Sheets Therefor (Int. Cl. 16).

First use 1934; in commerce in or about 1934.

SN 269,377. Bergdorf & Goodman Company, New York, N.Y. Filed Apr. 18, 1967.

BIGI

Owner of Reg. No. 804,717.

Class 28—Jewelry and Precious-Metal Ware

For Jewelry—Namely, Pins, Necklaces, Bracelets, Earrings, and Rings (Int. Cl. 14).

Class 39—Clothing

For Women's Clothing and Accessories—Namely, Coats, Dresses, Furs, Gloves, Hats, Jackets, Raincoats, Scarves, Slacks, Skirts, Stockings and Sweaters (Int. Cl. 25).

First use March 1965.

SN 270,310. L'Oreal, Paris, France. Filed May 1, 1967.

L'ORÉAL OF PARIS

Applicant disclaims the words "of Paris" apart from their use in the mark. Owner of U.S. Reg. Nos. 540,541, 661,746, and Others.

Class 51—Cosmetics and Toilet Preparations

For Hair Coloring Preparations, Face Make-Up, Face Lotion, Face Powder, Blusher, Liquid Rouge, Blemish Cover Up Stick, Eye Shadow, Mascara, Eyebrow Pencil, Eyeliner, Roll-On Personal Deodorant, Moisturizer, Cosmetic Skin Cleansing Lotion, Facial Masque, Astringent, Night Cream, Lipstick, Feminine Shave Cream, Men's Aftershave Lotion, Skin Creams and Lotions, Cologne, Bath Oil, Dusting Powder, Talcum Powder, Nail Enamel, Base and Top Coats for Nails, Nail Polish Remover, Liquid Cuticle Remover, Hair Bleaches, Hair Color Developers, Hair Color Intensifiers, Hair Conditioners, Hair Oils, Permanent Waving and Hair Curling Liquids (Int. Cls. 3 and 5).

Class 52—Detergents and Soaps

For Hair Shampoos (Int. Cl. 3).

First use Nov. 30, 1959; in commerce Nov. 30, 1959.

SN 274,836. North-East Industries, Tulsa, Okla. Filed June 27, 1967.

SPRAY MASTER

The word "Spray" is disclaimed apart from the mark as shown.

Class 4—Abrasives and Polishing Materials

For Appliance Polish and Furniture Polish (Int. Cl. 3).

Class 6—Chemicals and Chemical Compositions

For Insect Repellent, Deicer, Roach and Ant Spray, Insect Spray, Dust Mop Treatment, Air Filter Spray, Mildew Spray, Surface Disinfectant, Bowling Shoe Sanitary Spray, Non-Toxic Bug Spray, Water and Stain Repellent, Fire Extinguisher Solution, Spray To Discourage Birds From Roosting on Ledges, Flea and Tick Spray for Dogs, and Air Freshener (Int. Cls. 1 and 5).

Class 15—Oils and Greases

For Silicone Lubricant and Silicone Releasing Agent (Int. Cl. 4).

Class 18—Medicines and Pharmaceutical Preparations

For Mentholated Vapor for Coughs and Colds, Medicated First Aid Spray, and Medicated Bee and Wasp Spray (Int. Cl. 5).

Class 51—Cosmetics and Toilet Preparations

For Shaving Cream, Sun Tan Spray, Protective Hand Cleanser, Pet Cologne, Lavender Sachet, Bath Oil Spray, Hair Spray Set, Personal Deodorant, Hair Oil, and Sun Burn Lotion (Int. Cls. 3 and 5).

Class 52—Detergents and Soaps

For Glass Cleaner, Chalk Board Cleaner, Oven Cleaner, Waterless Hand Cleaner, Solvent Degreaser, All Purpose Cleaner, and Rug and Fabric Spotter (Int. Cl. 3).

First use June 2, 1966.

SN 276,931. Erowerk G.m.b.H., Mulheim (Ruhr)-Styrum, Germany. Filed July 27, 1967.

EROTOL

Owner of German Reg. No. 617,587, dated Mar. 7, 1952.

Class 18—Medicines and Pharmaceutical Preparations

For Cough Drops (Int. Cl. 5).

Class 46—Foods and Ingredients of Foods

For Sugar Products—Namely, Candies (Int. Cl. 30).

SN 277,961. The Predictor, Incorporated, West Hartford, Conn. Filed Aug. 10, 1967.

the PREDICTOR

Class 38—Prints and Publications

For Newsletter Related to Investments (Int. Cl. 16).

Class 100—Miscellaneous

For Investment Advisory Services (Int. Cl. 42).

First use on or about Dec. 9, 1966.

SN 282,026. Chase & Sons, Inc., Randolph, Mass. Filed Oct. 9, 1967.

CHASE & SONS, Inc.

Class 12—Construction Materials

For Tapes and Sheets for Wrapping Pipes, Tuebs, and the Like To Prevent Corrosion (Int. Cl. 17).

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Insulating and Conducting Sheets and Tapes (Int. Cls. 9 and 17).

First use Sept. 21, 1967.

SN 285,369. Clairol Incorporated, New York, N.Y. Filed Nov. 22, 1967.

THE SOFT ONE

Class 51—Cosmetics and Toilet Preparations

For Hair Tinting, Dyeing and Coloring Preparations (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use Oct. 27, 1967.

SN 287,694. Kewaunee Scientific Equipment Corporation, Adrian, Mich. Filed Dec. 28, 1967.

KEM-PONENT

Class 26—Measuring and Scientific Appliances

For Stock Laboratory Equipment and Furniture Made of Metal—Namely, Cabinets, Cabinet Bases, Storage Cases, Work Tops, Laboratory Tables, Laboratory Pegboards, Laboratory Sink Assemblies, and Parts Thereof (Int. Cl. 9).

Class 31—Filters and Refrigerators

For Air Filters and Housings Therefor (Int. Cl. 11).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Air Blowers, Air Chambers, Fume Hoods, and Parts Thereof (Int. Cl. 11).

First use Nov. 28, 1967.

SN 288,152. Arthur O. Wood, Jr., d.b.a. The Wood Instrument Co., Sea Cliff, N.Y. Filed Dec. 21, 1967.

WOODCO

Class 26—Measuring and Scientific Appliances

For Laboratory Equipment—Namely, Micro Cover Glasses, Hemacytometer Cover Glasses, Stopcocks, Chemical Thermometers, Micro Slides, Cavity Slides, and Alcohol Lamps (Int. Cl. 9).

Class 44—Dental, Medical, and Surgical Appliances

For Medical and Surgical Instruments—Namely, Sphygmomanometers, Clinical Thermometers, Hypodermic Syringes, Hypodermic Needles, Catheter Tip Irrigating Syringes, and Stethoscopes (Int. Cl. 10).

First use Nov. 1, 1961.

SN 291,658. Amiel's Beef A-Miel, Inc., Rochester, N.Y. Filed Feb. 23, 1968.

BEEF-A-MIEL

Class 46—Foods and Ingredients of Foods

For Sandwiches (Int. Cl. 29).

Class 100—Miscellaneous

For Restaurant Services (Int. Cl. 42).

First use on or about Oct. 18, 1966.

SN 291,659. Amiel's Beef A-Miel, Inc., Rochester, N.Y. Filed Feb. 23, 1968.



Class 46—Foods and Ingredients of Foods

For Sandwiches (Int. Cl. 29).

Class 100—Miscellaneous

For Restaurant Services (Int. Cl. 42).

First use on or about Oct. 18, 1966.

SN 293,194. Medical Supply Company (Missouri corporation), Rockford, Ill., assignee of Medical Supply Company (Illinois corporation), Rockford, Ill. Filed Mar. 14, 1968.

MSCO

Owner of Reg. Nos. 579,605, 734,256, and 747,496.

Class 6—Chemicals and Chemical Compositions

For Spray Dog Repellent (Int. Cl. 5).

Class 18—Medicines and Pharmaceutical Preparations

For Ammonia Inhalants; Antiseptic Applicators and Swabs, Both Combined With Antiseptic Medicaments; Salt Tablets; and Benzocaine Burn Compounds Sold in Spray and Ointment Form (Int. Cl. 5).

Class 44—Dental, Medical, and Surgical Appliances

For First Aid Kits and Components Thereof; Bandages; Compresses; Resuscitators for Mouth-To-Mouth Resuscitation; Resuscitators/Inhalators and Control Valves Therefor; and Other Miscellaneous First Aid Items—Namely, Stretchers, Bandage Scissors, Forceps, Snake-Bite Lancets, Snake-Bite Syringes, Venom Extractors, Tourniquets, Finger Cots, Splints, Topical Anesthetics for Burns in Spray Applicators, and Eye First Aid Units (Int. Cls. 5 and 10).

First use at least as early as Aug. 21, 1961.

SN 294,767. Oneida Ltd., Oneida, N.Y. Filed Apr. 3, 1968.

MATCHMAKERS

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Stainless Steel Flatware (Int. Cl. 8).
First use Nov. 8, 1967.

Class 28—Jewelry and Precious-Metal Ware

For Flatware Made of, or Coated With, Precious Metals (Int. Cl. 8).
First use Mar. 18, 1968.

SN 294,897. Wells Television, Inc., New York, N.Y. Filed Apr. 4, 1968.

WELLPLEX

Owner of Reg. Nos. 817,581, 830,970, and others.

Class 103—Construction and Repair

For Servicing and Maintenance of Communication Equipment Including Nurse Call Units and Television Equipment in Hospitals, Hotels, and the Like (Int. Cl. 37).

Class 104—Communication

For Rental of Communication Equipment Including Nurse Call Units and Television Equipment in Hospitals, Hotels, and the Like (Int. Cl. 38).

First use February 1968.

SN 299,808. Welsh Manufacturing Company, Providence, R.I. Filed June 6, 1968.

WELSHGARD

Owner of Reg. No. 820,718 and others.

Class 26—Measuring and Scientific Appliances

For Sport Glasses, Industrial Safety Goggles, Face Shields, Magnifying Lens for Welders' Headgear, and Welders' Helmets Incorporating Magnifying Lens (Int. Cl. 9).

Class 39—Clothing

For Safety Hats and Caps, Welding Gloves, Face Shields, and Welders' Helmets (Int. Cl. 9).

Class 44—Dental, Medical, and Surgical Appliances

For Respirators for Removing Air Contaminants (Int. Cl. 9).

First use November 1967.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1 — Raw or Partly Prepared Materials

SN 275,708. Thiem Corporation, Wauwatosa, Wis. Filed July 10, 1967.



For Parting Compound—Namely, Refractory Coated Material for Use in Foundry Cores and Molds (Int. Cl. 1).
First use Sept. 16, 1966.

SN 281,994. C. W. Martin & Sons Limited, London, England. Filed Oct. 6, 1967.

ACCOLADE

Owner of British Reg. No. 872,546, dated Dec. 1, 1964.
For Fur Pelts and Skins (Int. Cl. 18).

SN 284,667. International Foam Products, Inc., Long Island City, N.Y. Filed Nov. 13, 1967.

ANGEL PUFF

For Fibrous Material Sold in Sheet Form and Used in the Contouring of Brassiere Cups (Int. Cl. 17).
First use January 1967.

SN 296,085. Yeager & Sullivan, Inc., Camden, Ind. Filed Apr. 22, 1968.



For Feeder Pigs (Int. Cl. 31).
First use Jan. 3, 1968.

Class 2 — Receptacles

SN 274,780. Stella KG Werner Deussen, Niederwalluf (Rhine), Germany. Filed June 26, 1967.

JANUS-PACKUNG

Priority claimed under Sec. 44(d) on German application filed May 2, 1967; Reg. No. 834,770, dated July 6, 1967. The English equivalent of the word "Packung" is "package."
For Packaging Cartons (Int. Cl. 16).

SN 286,954. Olinkraft, Inc., West Monroe, La. Filed Dec. 14, 1967.

SEA CHEST

The word "Chest" is disclaimed apart from the mark as shown.
For Corrugated Containers (Int. Cl. 20).
First use Oct. 11, 1966.

SN 296,672. The Dow Chemical Company, Midland, Mich. Filed Apr. 26, 1968.

ZIP-ZAG

Owner of Reg. Nos. 658,393, 782,633, and others.
For Plastic Bags (Int. Cl. 22).
First use Dec. 19, 1966.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 289,357. Trisco Plastic, Inc., Lima, Ohio. Filed Jan. 22, 1968.

FLYIN DUTCHMAN

For Luggage Bag for Mounting on a Motorcycle or Bicycle (Int. Cl. 18).
First use July 1, 1967.

Class 4 — Abrasives and Polishing Materials

SN 289,760. American Chain & Cable Company, Inc., New York, N.Y. Filed Jan. 29, 1968.

ALLISON

For Abrasive Cutting Wheels and Grinding Wheels (Int. Cl. 7).
First use in or about 1948.

Class 5 — Adhesives

SN 288,772. Borg-Warner Corporation, Chicago, Ill. Filed Jan. 15, 1968.

MarBond

Owner of Reg. No. 344,059.
For Modified Epoxy Bonding Materials for Use With ABS and Other Plastic Materials (Int. Cl. 1).
First use on or prior to June 17, 1965.

SN 289,435. Union Carbide Corporation, New York, N.Y. Filed Jan. 23, 1968.

PRESTONE

For Gasket Paste (Int. Cl. 1).
First use on or about Sept. 22, 1967.

Class 6 — Chemicals and Chemical Compositions

SN 273,285. Imperial Chemical Industries Limited, Millbank, London, England. Filed June 7, 1967.

SILCOLEASE

Owner of British Reg. No. 824,758, dated Aug. 29, 1961.
For Silicone Solutions for Non-Stick Paper and for Other Packaging Materials (Int. Cl. 1).

SN 273,617. Eastern Shore Laboratories, Inc., Laurel, Del. Filed June 12, 1967.

EXTROL

For Highly Concentrated Cresylic Acid Formulation for the Preparation of a Litter Spray, Insecticide, and Acaricide (Int. Cl. 5).
First use Nov. 9, 1965.

SN 276,035. Adolph Posner and Richard Inglima (joint owners), New York, N.Y. Filed July 14, 1967.

APLACOTE

For Coating or Stain for Tonometer End Plates (Int. Cl. 1).
First use on or about June 27, 1967.

SN 280,035. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany. Filed Sept. 11, 1967.

DESMORAPID

Owner of German Reg. No. 656,597, dated Apr. 26, 1954.
For Chemical Compositions Useful as Catalytic Agents, Activators, and Accelerators (Int. Cl. 1).

SN 284,078. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Nov. 3, 1967.

CHROMATOTEST

For Kit Containing Vials of Laboratory Reagents for Chromatographic Test for Phenylketonuria (PKU) and Other Disorders of Amino Acid Metabolism (Int. Cl. 1).
First use Dec. 29, 1966.

SN 286,341. Gevaert-Agfa N.V., Mortsel, Belgium. Filed Dec. 6, 1967.

GEVAFIX

Priority claimed under Sec. 44(d) on Belgian Reg. No. 19,956, dated Nov. 20, 1967.
For Chemicals for Use in Photography—Namely, Developers, Fixers, Hardeners, and Replenishers (Int. Cl. 1).

SN 286,385. Sterling Drug Inc., New York, N.Y. Filed Dec. 6, 1967.

SANI SOFT

Applicant makes no claim to the exclusive right to the use of the word "Soft," apart from the mark as shown.
For Fabric Softeners (Int. Cl. 3).
First use Nov. 1, 1967.

SN 291,927. West Chemical Products, Inc., Long Island City, N.Y. Filed Feb. 26, 1968.

ASSAULT-500

Owner of Reg. No. 777,201.
For Liquid Weed Killer (Int. Cl. 5).
First use Dec. 13, 1967.

SN 293,028. Geigy Chemical Corporation, Ardsley, N.Y. Filed Mar. 12, 1968.

DALOTOP

Owner of Reg. Nos. 719,834, 819,342, and others.
For Chemical Ingredient Used in the Manufacture of Herbicides (Int. Cl. 1).
First use Feb. 7, 1968.

SN 293,029. Geigy Chemical Corporation, Ardsley, N.Y. Filed Mar. 12, 1968.

DALOPRIM

Owner of Reg. Nos. 720,195, 790,904, and others.
For Chemical Ingredient Used in the Manufacture of Herbicides (Int. Cl. 1).
First use Feb. 7, 1968.

SN 293,030. Geigy Chemical Corporation, Ardsley, N.Y. Filed Mar. 12, 1968.

MILOGARD

Owner of Reg. No. 819,353.
For Herbicides (Int. Cl. 5).
First use Jan. 16, 1968.

SN 293,096. American Aniline Products, Inc., Paterson, N.J. Filed Mar. 13, 1968.

AMATEX

Owner of Reg. Nos. 334,940, 843,508, and others.
For Anionic Textile Dyeing Assistants (Int. Cl. 2).
First use Feb. 1, 1968.

SN 293,097. American Cyanamid Company, Wayne, N.J. Filed Mar. 13, 1968.

CYZATE

For Accelerator for the Vulcanization of Rubber (Int. Cl. 1).
First use Feb. 14, 1968.

SN 297,923. Kenco Chemical & Manufacturing Co., Inc., Jacksonville, Fla. Filed May 13, 1968.

RID-A-BUG

For Household Insecticides (Int. Cl. 5).
First use Dec. 15, 1964.

Class 7 — Cordage

SN 290,456. The Wear-Flex Corporation, Milwaukee, Wis. Filed Feb. 7, 1968.

CHOKE-TOTE

For Load Lifting Slings (Int. Cl. 22).
First use June 30, 1966.

Class 12 — Construction Materials

SN 266,739. Dallas Ceramic Company, Dallas, Tex. Filed Mar. 15, 1967.

DAL-ROMAN

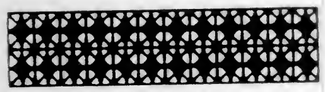
Owner of Reg. Nos. 502,630, 806,590, and others.
For Ceramic Tile for Construction Purposes (Int. Cl. 19).
First use Apr. 1, 1964.

SN 266,742. Dallas Ceramic Company, Dallas, Tex. Filed Mar. 15, 1967.

DAL-FAIENCE

Owner of Reg. Nos. 502,630, 806,590, and others.
For Ceramic Tile for Construction Purposes (Int. Cl. 19).
First use Dec. 1, 1964.

SN 268,243. Trëm, Inc., Oklahoma City, Okla. Filed Apr. 3, 1967.



For Metal Panels Used in Construction (Int. Cl. 6).
First use Feb. 1, 1966.

SN 295,044. J. Mueller Co., Monroe, N.Y. Filed Apr. 5, 1968.

SIL-EN-SEAL

For Weather-Stripped Door Stops (Int. Cl. 17).
First use Jan. 2, 1965.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 258,422. Sterno, Inc., New York, N.Y. Filed Nov. 10, 1966.

COUNTRY COOKERY

For Steel Cookware Coated With Porcelain Enamel (Int. Cl. 21).
First use Feb. 18, 1966.

SN 273,582. Allied Tube & Conduit Corporation, Harvey, Ill. Filed June 12, 1967.

COLORDIZED

For Metal Tubing and Conduit, and Galvanized Metal Tubing and Conduit (Int. Cl. 6).
First use May 25, 1967.

SN 273,584. Armstrong Plastic Specialties Company, Los Angeles, Calif. Filed June 12, 1967.

ARMSTRONG SPRAYMATIC

For Lawn Sprinklers (Int. Cl. 11).
First use Oct. 5, 1966.

SN 273,761. Robert A. Gilmour, d.b.a. Gilmour Manufacturing Co., Somerset, Pa. Filed June 13, 1967.

WAVE-O-LATOR

For Lawn Sprinklers (Int. Cl. 11).
First use Dec. 28, 1966.

SN 284,795. Barton Products Corporation, West Bend, Wis. Filed Nov. 14, 1967.

swissbar

The drawing is lined for the color yellow.
For Custom Made Screw Machine Products (Int. Cl. 6).
First use May 5, 1967; July 13, 1966, as to "Swissbar."

SN 285,266. William E. Stieler, d.b.a. Quality House, Marlette, Mich. Filed Nov. 20, 1967.

PINRING

For Drapery Hangers (Int. Cl. 20).
First use Aug. 25, 1967.

SN 290,364. Bunnell Plastics, Inc., Camden, N.J. Filed Feb. 6, 1968.

PRESURTUBE

For Plastic Tubing for Use in Conveying Gases and Liquids (Int. Cl. 17).
First use Dec. 21, 1967.

SN 302,000. Ametek, Inc., New York, N.Y. Filed July 5, 1968.

AMETEK

The drawing is lined for red. Owner of Reg. Nos. 744,348, 794,058, and others.
For Springs, Fluid Valves, and Water Service Boxes for In-Ground Valves in Water Systems (Int. Cl. 6).
First use Mar. 22, 1967.

SN 302,816. Camwil Inc., Honolulu, Hawaii. Filed July 16, 1968.

LUALEI

For Toilet Seats (Int. Cl. 11).
First use on or about Jan. 3, 1968.

Class 15 — Oils and Greases

SN 271,429. Bardahl Manufacturing Corporation, Seattle, Wash. Filed May 15, 1967.

SAVOIL

For Oil Additive for Stabilizing Lubricating Oil So As To Reduce Excessive Consumption and for Freeing Sticky Rings, Valves and Valve Lifters (Int. Cl. 1).
First use Nov. 1, 1961.

SN 302,282. Halo Sales Corporation, San Francisco, Calif. Filed July 9, 1968.

"the party people"

Owner of Reg. No. 838,646.
For Candles (Int. Cl. 4).
First use Dec. 14, 1966.

Class 16 — Protective and Decorative Coatings

SN 245,514. Sanders Associates, Inc., Nashua, N.H. Filed May 12, 1966.



Owner of Reg. Nos. 770,747, 786,739, and 786,806.
For Resin Masking Coating for the Prevention of Solder Adhesion to Electronic Circuit Boards and the Like (Int. Cl. 2).
First use Nov. 22, 1963.

SN 270,866. Allied Compositions Co., Inc., Maspeth, N.Y. Filed May 8, 1967.

EPOXOLITE

For Two-Component Heavy Duty Industrial Coating for Concrete (Int. Cl. 2).
First use Apr. 6, 1959.

SN 272,768. Waterlac Finish Company, Inc., Danvers, Mass. Filed May 31, 1967.

WATERLAC

For Lacquers, Emulsions, Thinners, Solvents, and Paints (Int. Cl. 2).
First use October 1962.

SN 275,845. The Egyptian Lacquer Manufacturing Company, Kearny, N.J. Filed July 12, 1967.



For Nitrocellulose and Synthetic Resin Base Finishes and Associated Finishing Materials—Namely, Lacquers, Varnishes, Clears, Enamels, Primers, Fillers, Glazes, Thinners, Reducers, and Paint Solvents (Int. Cl. 2).
First use Apr. 6, 1927.

SN 287,944. Polyastics Corporation, Croydon, Pa. Filed Jan. 2, 1968.

POLYASTICS
FLORBRITE

For Modified Acrylic Emulsions in the Nature of Paint (Int. Cl. 2).
First use Aug. 1, 1966.

SN 288,952. Harrison Paint Corp., Canton, Ohio. Filed Jan. 16, 1968.

Executive house

For Paint (Int. Cl. 2).
First use Oct. 25, 1967.

SN 295,080. PPG Industries, Inc., Pittsburgh, Pa. Filed Apr. 8, 1968.

MAJOR HALL

For Interior Wall and Woodwork Coating Compositions (Int. Cl. 2).
First use at least as early as Nov. 17, 1967.

SN 298,180. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed May 15, 1968.

GREEN LITE

Owner of Reg. No. 841,922.
For Liquid Compound Useful for Striping Roadways, Highways, Parking Lots, and the Like (Int. Cl. 2).
First use Apr. 24, 1968.

SN 302,025. Woolsey Marine Industries, Inc., New York, N.Y. Filed July 5, 1968.

ULTIMATE

For Marine Paint (Int. Cl. 2).
First use June 11, 1968.

Class 17—Tobacco Products

SN 287,640. Douwe Egberts Koninklijke Tabaksfabriek-Koffiebranderijen-Theehandel N.V., Joure, Netherlands. Filed Dec. 27, 1967.

SHERLOCK HOLMES

The mark is the name of the fictional detective originated by the English novelist, Sir Arthur Conan Doyle. Owner of Dutch Reg. No. 103,976, dated Feb. 13, 1950.
For Pipe Tobacco (Int. Cl. 34).

Class 18—Medicines and Pharmaceutical Preparations

SN 270,716. Southwest Products, Inc., San Antonio, Tex. Filed May 4, 1967.

STING STOPPER

Owner of Reg. No. 736,177.
For Neutralizer Composition for Relieving Discomfort Resulting From Bites or Stings of Insects, Pricks or Stings From Certain Sea-Life, and Irritating Effects From Certain Plants (Int. Cl. 5).
First use Apr. 13, 1961.

SN 276,780. Willows Francis Limited, Epsom, Surrey, England. Filed July 25, 1967.

PIROTHESIN

Owner of British Reg. No. 898,266, dated Aug. 11, 1966.
For Local Anaesthetics (Int. Cl. 5).

SN 277,460. Richardson-Merrell S.p.A., Florence, Italy, by merger and change of name from Istituto Chimico Eurosud S.p.A., Rome, Italy. Filed Aug. 3, 1967.

SMOG

Owner of Italian Reg. No. 179,483, dated July 14, 1966.
For Medicated Lozenges, Tablets, and Caramels, for Use in Alleviating or Eliminating Coughs (Int. Cl. 5).

SN 278,992. Rachelle Laboratories, Inc., Long Beach, Calif. Filed Aug. 24, 1967.

VETQUAMYCIN

For Antibiotics for Livestock and Poultry Use (Int. Cl. 5).
First use July 15, 1966.

SN 279,390. Forest Laboratories, Inc., Elizabeth, N.J. Filed Aug. 30, 1967.

X-17

For Dermatological Preparation Having Fungicidal and Antiviral Properties (Int. Cl. 5).
First use Aug. 24, 1967.

SN 279,999. Abbott Laboratories, North Chicago, Ill. Filed Sept. 11, 1967.

LIFE-ADE

For Vitamin Preparation for Animal Use (Int. Cl. 5).
First use June 29, 1966.

SN 280,221. Endo Laboratories Inc., Garden City, N.Y. Filed Sept. 13, 1967.

DERMAPHEN

For Medicinal Preparation Used To Treat and Clean Oily Skin and Acne Associated Therewith (Int. Cl. 5).
First use Aug. 1, 1967.

SN 287,512. Armour Pharmaceutical Company, Chicago, Ill. Filed Dec. 26, 1967.

THYROSYN

For Preparation for the Treatment of Hypothyroidism (Int. Cl. 5).
First use on or prior to Dec. 19, 1967.

SN 287,674. Santen Pharmaceutical Company, Limited, Higashi-Yodogawa-ku, Osaka, Japan. Filed Dec. 27, 1967.

THIOLA

Owner of Japanese Reg. No. 609,886, dated Apr. 25, 1963.
For Detoxicating Agents in Tablet and Liquid Form and Liquid Liver Protective Agents (Int. Cl. 5).

SN 287,750. Medics Pharmaceutical Corporation, Decatur, Ga. Filed Dec. 28, 1967.

MEDIGESIC

For Tablets of a Pharmaceutical Preparation To Be Used as Skeletal Muscle Relaxant and Analgesic (Int. Cl. 5).
First use Feb. 3, 1960.

SN 287,766. Sterling Drug Inc., New York, N.Y. Filed Dec. 28, 1967.

WinKinase

For Preparation for the Treatment of Clots in Blood Vessels (Int. Cl. 5).
First use Sept. 20, 1967.

SN 289,223. Towne, Paulsen & Co., Inc., Monrovia, Calif. Filed Jan. 19, 1968.

LIVETTES

For Anti-Fatigue Agent (Int. Cl. 5).
First use Dec. 11, 1967.

SN 290,650. Richardson-Merrell Inc., New York, N.Y. Filed Feb. 8, 1968.

VA-TRO-NOL

Owner of Reg. Nos. 312,831 and 322,105.
For Preparation for Nasal Medication for Relief of Head Cold and Hay Fever Symptoms (Int. Cl. 5).
First use Dec. 19, 1933.

SN 290,812. American Home Products Corporation, New York, N.Y. Filed Feb. 12, 1968.

JOWL-VAC

For Veterinary Vaccine (Int. Cl. 5).
First use Jan. 31, 1968.

SN 294,256. Bristol-Myers Company, New York, N.Y. Filed Mar. 27, 1968.

ACHIEVE

Owner of Reg. No. 846,947.
For Cold Tablet (Int. Cl. 5).
First use Mar. 7, 1968.

SN 302,571. Richardson-Merrell Inc., New York, N.Y. Filed July 12, 1968.

VANAMIL

For Antacid (Int. Cl. 5).
First use June 25, 1968.

Class 19—Vehicles

SN 254,409. Universal American Corporation, New York, N.Y. Filed Sept. 13, 1966.

AMPULCO

For Steel Hand or Power Operated Trucks—Namely, Appliance Trucks, Barrel Cradle Trucks, Industrial Wheels, Baggage Trucks, Platform Trucks, Skid Trucks, Pallet Trucks, and Carboy Tilters (Int. Cl. 12).
First use Feb. 7, 1957.

SN 260,915. American Hospital Supply Corporation, Evanston, Ill. Filed Dec. 16, 1966.

TOMAC

For Basket, Pan Tray, Service, Anesthesia, Isolation, Housekeeping, Dressings, and Chart Holder Carts; and Shelf and Utility Trucks (Int. Cl. 12).
First use on or before Mar. 1, 1964.

SN 271,903. American Marine and Machinery Co., Inc., Nashville, Tenn. Filed May 19, 1967.

AMMCO

Owner of Reg. No. 799,799.
For Dredge Tenders, and Off-Shore Work-Over Barges (Int. Cl. 12).
First use May 1961 on dredge tenders.

SN 274,167. American Marine Industries, Inc., Tacoma, Wash. Filed June 19, 1967.

Web-Cor
Hull Construction

The representation of the boat hull and the term "Hull Construction" are disclaimed apart from the mark as shown.
For Boat Hulls (Int. Cl. 12).
First use May 31, 1967.

SN 285,219. C. E. Erickson Co., Inc., Des Moines, Iowa. Filed Nov. 20, 1967.

SF

The drawing is lined for the color gray, but the color does not form a part of the mark.
For Snowmobiles (Int. Cl. 12).
First use Sept. 21, 1967.

SN 285,220. C. E. Erickson Co., Inc., Des Moines, Iowa. Filed Nov. 20, 1967.

SNO-FLITE SF

The drawing is lined for the colors red, brown, and gray, but such colors do not form a part of the mark.
For Snowmobiles (Int. Cl. 12).
First use Sept. 21, 1967.

SN 286,252. Ferrari S.p.A. Esercizio Fabbriche Automobili e Corse, Modena, Italy. Filed Dec. 5, 1967.

Dino

For Automobiles (Int. Cl. 12).
First use Nov. 14, 1965; in commerce Aug. 19, 1966.

SN 291,550 Hellstar Corporation, Wahoo, Nebr. Filed Feb. 21, 1968.

HELLSTAR

The lines on the outline map are meant to indicate shading. Applicant disclaims the representation of the outline map apart from the mark as shown.
For Equipment Designed for Attachment to Automotive Vehicles—Namely, Camper Jacks, Tire Carriers, Bike Carriers, and Cab Steps (Int. Cls. 8 and 12).
First use on or about June 1, 1967.

SN 294,189. Hart, Incorporated, Cincinnati, Ohio. Filed Mar. 26, 1968.

PLAYAK

For Small Pleasure Boats (Int. Cl. 12).
First use Mar. 7, 1968.

SN 302,473. R.F.D., Incorporated, Richwood, W. Va. Filed July 11, 1968.

ZEEBIRD

For Inflatable Boats (Int. Cl. 12).
First use Sept. 8, 1965.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 248,179. Texaco Inc., New York, N.Y. Filed June 15, 1966.

TRAVEL CHIEF

For Batteries (Int. Cl. 9).
First use Mar. 28, 1966.

SN 248,180. Texaco Inc., New York, N.Y. Filed June 15, 1966.

SUPER CHIEF

For Batteries (Int. Cl. 9).
First use Mar. 28, 1966.

SN 248,182. Texaco Inc., New York, N.Y. Filed June 15, 1966.

ECONO CHIEF

For Batteries (Int. Cl. 9).
First use Mar. 28, 1966.

SN 254,687. Interlake Steel Corporation, Chicago, Ill. Filed Sept. 19, 1966.

INTERLAKE

For Automatic and Semi-Automatic Electrical Powered Strapping Machines—Namely, Strapping Machines for Encircling, Tensioning, and Sealing a Strap Loop Around an Object; Electrical Powered Binder Strap Tensioners; Electrical Powered Stapling Machines; Electrical Power Strap Dispensers; and Electric Armored Cable (Int. Cls. 7 and 9).
First use at least as early as Oct. 28, 1965.

SN 271,002. Zenith Radio Corporation, Chicago, Ill. Filed May 8, 1967.

ZENITH

Owner of Reg. Nos. 164,341, 828,809, and others.
For Radio Carrying Cases (Int. Cl. 9).
First use at least as early as 1947.

SN 278,816. The Mosler Safe Company, Hamilton, Ohio. Filed Aug. 22, 1967.

TELLERVUE

For Electrically Controlled Cash Depository and Record Verification System, Utilizing a Closed Television Circuit, for Bank Tellers' Use (Int. Cl. 9).
First use September 1955.

SN 281,123. Saxton Products, Inc., Congers, N.Y. Filed Sept. 25, 1967.

THE BIG EAR

For Combination of Parabolic Mounted Microphone and Associated Earphone Connected Thereto (Int. Cl. 9).
First use about 1962.

SN 282,789. Eaton Yale & Towne Inc., Cleveland, Ohio. Filed Oct. 18, 1967.

AUTOMATIC

Owner of Reg. No. 552,636.
For Batteries (Int. Cl. 9).
First use July 31, 1967.

SN 284,456. Eaton Yale & Towne Inc., Cleveland, Ohio. Filed Nov. 9, 1967.



Owner of Reg. No. 552,636.
For Batteries (Int. Cl. 9).
First use on or about Oct. 17, 1967.

SN 285,592. Tranex, Inc., Mountain View, Calif. Filed Nov. 24, 1967.

TRANEX

For Transformers (Int. Cl. 9).
First use at least as early as July 1, 1961.

SN 285,593. Tranex, Inc., Mountain View, Calif. Filed Nov. 24, 1967.



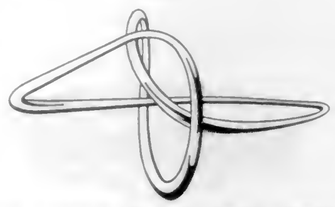
For Transformers (Int. Cl. 9).
First use at least as early as Sept. 1, 1966.

SN 287,408. TRW, Inc., New York, N.Y. Filed Dec. 22, 1967.

PIP

For Miniature Transformers for Use in Transistor Circuits (Int. Cl. 9).
First use July 9, 1962.

SN 287,988. American Enka Corporation, Enka, N.C. Filed Jan. 2, 1968.



The mark represents a three-dimensional geometrical figure formed from an endless funicular structure which is asymmetrical regardless of viewing angle.
For Electrical Wire and Cable (Int. Cl. 9).
First use Apr. 28, 1967.

SN 289,325. Robert H. Nelson, d.b.a. Ronel Company, Goleta, Calif. Filed Jan. 22, 1968.

RONEL

For Resistors, Electrical Networks, Coils, Inductors, and Delay Lines (Int. Cl. 9).
First use Nov. 27, 1963.

SN 291,085. Northern Electric Company Limited, Montreal, Quebec, Canada. Filed Feb. 14, 1968.

MINIBAR

Owner of Canadian Reg. No. 145,105, dated Apr. 29, 1966.
For Electric Switches Suitable for Use as Components of Telephone Switching Systems (Int. Cl. 9).

SN 291,254. Emerson Electric Co., St. Louis, Mo. Filed Feb. 16, 1968.

SPECIALIST

For Commercial Fluorescent Lighting Fixtures (Int. Cl. 11).
First use Jan. 18, 1968.

SN 291,336. Alpha Wire Corporation, Elizabeth, N.J. Filed Feb. 19, 1968.

alpha

Owner of Reg. Nos. 667,338, 808,048, and others.
For Electrical and Electronic Wire, Insulating Tubing and Sleeving (Int. Cls. 9 and 17).
First use Jan. 4, 1968.

SN 291,975. Electro-Nite Co., Philadelphia, Pa. Filed Feb. 27, 1968.

9-11

For Electro-Mechanical Alarm System for Requesting Emergency Assistance From Preselected Sources (Int. Cl. 9).
First use Feb. 15, 1968.

SN 292,111. The Kroger Co., Cincinnati, Ohio. Filed Feb. 28, 1968.

HOME PRIDE

For Flashlight Batteries (Int. Cl. 9).
First use at least as early as Oct. 6, 1967.

SN 292,264. Electrohome Limited, Kitchener, Ontario, Canada. Filed Mar. 1, 1968.

ENVOY

Owner of Canadian Reg. No. 143,094, dated Dec. 10, 1965.
For Television Sets (Int. Cl. 9).

SN 293,305. Rosemount Engineering Company, Minneapolis, Minn. Filed Mar. 14, 1968.

ALPHALINE

For Transmitters for Receiving Signals From Transducers Sensing Physical Data and Transmitting the Signals to Readout Equipment (Int. Cl. 9).
First use at least as early as Dec. 21, 1967.

SN 293,408. Sony Corporation, Shinagawa-ku, Tokyo, Japan. Filed Mar. 15, 1968.

DIGIMATIC

For Radio Alarm Clocks (Int. Cl. 9).
First use Feb. 17, 1968; in commerce Feb. 17, 1968.

SN 294,777. Hummel Manufacturing Co., Inc., Howard Beach, N.Y. Filed Apr. 3, 1968.

HUMMEL

For Electric Motor Operated Antenna and Outrigger (Int. Cl. 9).
First use January 1963.

SN 295,357. Mitralux Corporation of America, Los Angeles, Calif. Filed Apr. 10, 1968.

MITRALUX

For High Intensity Projectors of Light and Light Images (Int. Cl. 9).
First use Oct. 15, 1967.

Class 22 — Games, Toys, and Sporting Goods

SN 260,583. Qualitoys Limited, Weston, Ontario, Canada. Filed Dec. 12, 1966.

QUALITOYS

Priority claimed under Sec. 44(d) on Canadian application filed June 13, 1966; Reg. No. 152,184, dated July 21, 1967.
For Miniature Vehicles, Miniature Construction Equipment, Miniature Ships and Boats, Miniature Accessories for Use With the Aforesaid Miniature Toys, Toy Garages, Miniature Typewriters, and Roller Skates (Int. Cl. 28).

SN 271,765. Bull-Sled Corporation, Stockton, Calif. Filed May 18, 1967.

BULL-SLED

For Training Apparatus for Teaching Football Players Blocking and Similar Phases of Contact Football (Int. Cl. 28).
First use Mar. 10, 1967.

SN 271,864. Wilson Sporting Goods Co., River Grove, Ill., assignee of Wilson Sporting Goods Co., River Grove, Ill. Filed May 18, 1967.

STRAP-LOCK

For Football Shoes (Int. Cl. 25).
First use 1960.

SN 274,882. Muscle-Matic, St. Petersburg, Fla. Filed June 27, 1967.

TONE O MATIC

For Flexible Muscle and Body Toner Exercise Weight Belts and Members for Attachment to Waists, Wrists, Ankles, etc. of the Wearer (Int. Cl. 28).
First use July 30, 1963.

SN 274,941. Bel-Air Pools, Inc., Southfield, Mich. Filed June 28, 1967.

AIR STREAM

For Golf Balls (Int. Cl. 28).
First use Mar. 3, 1967.

SN 280,925. Aurora Plastics Corporation, West Hempstead, N.Y. Filed Sept. 22, 1967.

SKiTTLE-BoWL

For Equipment Sold as a Unit for Playing a Ten Pin Bowling Type Parlor Game (Int. Cl. 28).
First use July 24, 1967.

SN 287,934. Modern Products, Inc., Kansas City, Mo. Filed Jan. 2, 1968.

WHITIE

For Toy Stuffed Animals (Int. Cl. 28).
First use Aug. 17, 1967.

SN 292,896. Douglas Company, Inc., Keene, N.H. Filed Mar. 11, 1968.



"PRIDE OF AMERICA"

No exclusive right is claimed in the expression "of America" nor in the representation of the goods, apart from the mark as shown. Owner of Reg. No. 663,084.
For Stuffed Toys (Int. Cl. 28).
First use Jan. 2, 1968; about May 1965 in another form.

SN 293,428. Berkley & Company, Inc., Spirit Lake, Iowa. Filed Mar. 18, 1968.

"TENSIMATIC"

For Monofilament Nylon Fishing Line (Int. Cl. 28).
First use August 1967.

SN 294,322. Morris Struhl, Inc., New York, N.Y. Filed Mar. 27, 1968.

Valiant

Owner of Reg. No. 712,093.
For Baseball Gloves and Golf Balls (Int. Cl. 28).
First use on or about Oct. 3, 1960.

SN 294,361. Stylist Shoe Company, Dallas, Tex. Filed Mar. 28, 1968.

Stylist THE PRESTIGE NAME

Applicant disclaims "The Prestige Name."
For Golf Shoes (Int. Cl. 25).
First use Mar. 2, 1959.

SN 294,795. The Allen Company, Inc., Charlottesville, Va. Filed Apr. 3, 1968.

RIGHT-OF-WAY

For Equipment Sold as a Unit for Playing a Card Game While Traveling (Int. Cl. 28).
First use Mar. 12, 1968.

SN 294,796. The Allen Company, Inc., Charlottesville, Va. Filed Apr. 3, 1968.

FACULTY GRAMS

Owner of Reg. No. 794,406.
For Equipment Sold as a Unit for Playing a Card Game While Traveling (Int. Cl. 28).
First use Mar. 12, 1968.

SN 295,479. Henry D. Whittlesey, d.b.a. Whittlesey-Powers, Hayward, Calif. Filed Apr. 11, 1968.

THUNDERBIRD

Owner of Reg. No. 671,131.
For Skis and Ski Poles (Int. Cl. 28).
First use Apr. 16, 1959.

SN 295,967. Stuart Sport Specialties, Inc., d.b.a. Al's Goldfish Lure Co., Indian Orchard, Mass. Filed Apr. 18, 1968.

KING-KLIP

For Metal Clips for Attaching Fish Hooks, Lures, and the Like to Fishing Lines (Int. Cl. 28).
First use March 1968.

SN 296,350. The Rushton Company, Atlanta, Ga. Filed Apr. 23, 1968.

TEEN STUFF BY RUSHTON

For Stuffed Dolls, Stuffed Animals, and Stuffed Toys (Int. Cl. 28).
First use on or about Mar. 1, 1967.

SN 296,725. Howard Sparber, Morristown, N.J. Filed Apr. 26, 1968.

SHOTZIE

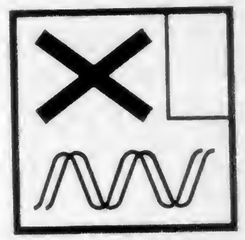
For Toy Animal (Int. Cl. 28).
First use May 1961.

SN 296,853. Marcy Gymnasium Equipment Co., Los Angeles, Calif. Filed Apr. 29, 1968.

CIRCUIT

For Multi-Station Body Development or Physical Fitness Machine (Int. Cl. 28).
First use Jan. 18, 1966.

SN 297,651. Brunswick Corporation, Chicago, Ill. Filed May 8, 1968.



For Automatic Bowling Scorer and Accessories (Int. Cl. 28).
First use Nov. 7, 1967.

SN 297,732. Accurate Systems, Inc., Costa Mesa, Calif. Filed May 9, 1968.



For Equipment for Playing a Shuffleboard Game (Int. Cl. 28).
First use on or about Apr. 12, 1968.

SN 297,787. Kenner Products Company, Cincinnati, Ohio. Filed May 9, 1968.

EASY-SHOW

For Toy Projectors (Int. Cl. 28).
First use Aug. 5, 1965.

SN 301,310. Mattel, Inc., Hawthorne, Calif. Filed June 25, 1968.

WOODY

For Toy Miniature Automobiles and Station Wagons (Int. Cl. 28).
First use May 16, 1968.

SN 302,471. Plakie Toys Inc., Youngstown, Ohio. Filed July 11, 1968.

Judy-Dean

For Baby Toys (Int. Cl. 28).
First use at least as early as September 1965.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 226,315. Houdaille Industries, Inc., Buffalo, N.Y., assignee of Universal Engineering Company, Frankenmuth, Mich. Filed Aug. 23, 1965.

ACURA-GRIP

For Holders or Chucks, Particularly for Tools (Int. Cl. 7).
First use June 18, 1965.

SN 246,198. Randel's Mfg. Co., Inc., Oklahoma City, Okla. Filed May 20, 1966.



Applicant disclaims the representation of the muffler apart from the mark as shown.
For Tailpipes, Mufflers, and Pipe Bending Machines (Int. Cls. 7 and 12).
First use Feb. 15, 1966.

SN 264,804. Air Products and Chemicals Inc., Allentown, Pa. Filed Feb. 17, 1967.

CRYO-TRIM

For Machines for Cryogenic Deflashing of Molded Articles, Motor Drive and Temperature Control Units Sold as a Part Thereof or as a Replacement Part Therefor, and Replacement Parts for Such Machines (Int. Cl. 7).
First use on or about May 12, 1966.

SN 266,298. Ateliers Roannais de Constructions Textiles, Roanne, France. Filed Mar. 9, 1967.



For Textile Machinery—Namely, Precision Cone Winders, Uptwisters, and Ring Twisters (Int. Cl. 7).
First use July 11, 1959; in commerce July 11, 1959.

SN 268,518. National Engineering Company, Chicago, Ill. Filed Apr. 6, 1967.

RHEWUM

For Mechanically Vibrated Screening Apparatus, Component Parts Thereof, and Screen Mesh Therefor, for Use in Separating Particulate Materials of Different Particle Sizes and Removing Solids From Liquids (Int. Cl. 7).
First use on or about Mar. 28, 1967.

SN 269,506. Carmet Company, Pittsburgh, Pa. Filed Apr. 19, 1967.

AMCARB

Owner of Reg. No. 705,949.
For Dies; Die Assembly Holders; Die Inserts; Mandrel Inserts; Punches for Cold Forming; Cut-Off Quills and Knives; Mandrels; Floating Plugs; Notching Punches; Cut Edge Tooling; Sectional Die Tooling; Rolls; Extrusion Tooling and Compacting Tooling; and Machine Parts (Int. Cl. 7).
First use on or about June 8, 1955.

SN 271,708. Hughes Tool Company, Houston, Tex. Filed May 17, 1967.

ROAD-BOR

For Pavement and Rock Drilling and Cutting Machines (Int. Cl. 7).
First use Feb. 18, 1967.

SN 272,820. Epsco, Incorporated, Westwood, Mass. Filed June 1, 1967.

EDITYPER

For Electrically Controlled Automatic Typewriting Machine (Int. Cl. 16).
First use Mar. 3, 1967.

SN 274,007. UMC Industries, Inc., St. Louis, Mo. Filed June 15, 1967.

BREW·SAN

For Mechanical Apparatus Using Water and a Cleaning Agent for Use With Coffee Vending Machines for Cleaning and Sanitizing the Coffee Brewing Components Thereof (Int. Cl. 9).
First use May 12, 1967.

SN 274,369. The Union Fork and Hoe Company, Columbus, Ohio. Filed June 20, 1967.

GREEN TREE

Owner of Reg. No. 544,013 and others.
For Hand-Operated Lawn and Garden Tools—Namely, Drags, Forks, Grass Trimmers, Hoes, Hoe-Type Cultivators, Hooks, Lawn Edgers, Lawn Shears, Rakes, Scoops, Scrapers, Shovels, Spades, Weeders, and Weed Cutters (Int. Cl. 8).
First use Feb. 17, 1967.

SN 274,551. UMC Industries, Inc., St. Louis, Mo. Filed June 22, 1967.

NATIONAL VENDORS

Applicant makes no claim to the word "Vendors" apart from the mark as shown.
For Vending Machines and Apparatus, Installations of Groups of Such Machines, and Parts, Attachments, and Accessories for Such Machines (Int. Cl. 9).
First use about May 1933.

SN 274,697. Amchem Products, Inc., Ambler, Pa. Filed June 26, 1967.

MICRO FOIL

For Agricultural Spraying Apparatus for Attachment to Aircraft (Int. Cl. 7).
First use February 1967.

SN 276,311. The Clark-Aiken Company, Lee, Mass. Filed July 19, 1967.

AIR SLICE

For Pneumatic Dispensing Apparatus for Creating Air Streams Under Paper for Use With Rotary Knife Cutters and Tape Systems for Handling Paper Webs (Int. Cl. 7).
First use Jan. 13, 1967.

SN 279,946. Hermann Kronseder, d.b.a. Hermann Kronseder Maschinenfabrik, Neutraubling, Bavaria, Germany. Filed Sept. 8, 1967.

ROTIX

For Container Labeling Machines (Int. Cl. 7).
First use April 1967; in commerce April 1967.

SN 281,568. Firth Sterling Corporation, McKeesport, Pa., assignee of Firth Sterling Inc., Pittsburgh, Pa. Filed Oct. 2, 1967.

FIRLOK

For Tool Holders and Inserts Used Therewith (Int. Cl. 7).
First use Oct. 6, 1965.

SN 282,088. Hurst-Campbell, Inc., Warminster, Pa. Filed Oct. 9, 1967.

STREET and STRIP

For Gear Shift Mechanisms for Internal Combustion Engines (Int. Cl. 7).
First use Sept. 8, 1967.

SN 284,232. Oneida Ltd., Oneida, N.Y. Filed Nov. 6, 1967.

LIDO

Owner of Reg. No. 375,116.
For Stainless Steel Flatware (Int. Cl. 8).
First use Oct. 1, 1964.

SN 285,331. Insta-Dok Corporation, Riverview, Mich. Filed Nov. 21, 1967.

INSTA-DOK

For Adjustable Ramp and Platform Apparatus for Use in Material Handling Operations Between Two Different Levels (Int. Cl. 7).
First use May 15, 1967.

SN 285,776. Welex Incorporated, King of Prussia, Pa. Filed Nov. 28, 1967.

WELEX

For High-Intensity Impeller-Type Mixers for Mixing Solids With Solids or Liquids (Int. Cl. 7).
First use Oct. 27, 1967.

SN 286,896. The Bahnson Company, Winston-Salem, N.C. Filed Dec. 14, 1967.

AERO-SWEEP

For Industrial-Type Traveling Blowers for Cleaning Off Ceiling Surfaces (Int. Cl. 7).
First use Dec. 4, 1967.

SN 288,399. Wright Machinery Company, Inc., Durham, N.C. Filed Jan. 8, 1968.

WM TILT-FILL

Owner of Reg. No. 660,746.
For Bag Forming and Filling Machines (Int. Cl. 7).
First use July 24, 1967.

SN 290,551. Western Auto Supply Company, Kansas City, Mo. Filed Feb. 7, 1968.

WESTLINE

For Electric Power Tools—Namely, Portable Electric Drills (Int. Cl. 7).
First use on or about Sept. 6, 1967.

SN 292,147. W. S. Tyler, Incorporated, Mentor, Ohio. Filed Feb. 28, 1968.

TY-SIFTER

Owner of Reg. Nos. 594,104, 783,586, and others.
For Screening Machine (Int. Cl. 7).
First use Nov. 27, 1967.

SN 298,900. Fleischer Manufacturing, Inc., Columbus, Nebr. Filed May 23, 1968.

Buffalo

Owner of Reg. No. 788,457.
For Farm Equipment—Namely, Tractor and Industrial Seats, Field Shellers, Till Planter Attachments, 4- and 6-Row Till Planter Units, Planter Markers, Gate Controls, and Chain Detachers (Int. Cl. 7).
First use July 31, 1957.

Class 24 — Laundry Appliances and Machines

SN 296,441. McGraw-Edison Company, Elgin, Ill. Filed Apr. 24, 1968.

FAST BACK

For Utility Garment Press (Int. Cl. 7).
First use Mar. 18, 1968.

Class 26 — Measuring and Scientific Appliances

SN 245,510. Radio Corporation of America, New York, N.Y. Filed May 12, 1966.

VIDEOSCAN

For Electronic Optical Character Reader (Int. Cl. 9).
First use at least as early as Sept. 30, 1963.

SN 254,552. Mutoh Industry Ltd., Setagayu-ku, Tokyo, Japan. Filed Sept. 15, 1966.

MICRO PLOTTER

Applicant disclaims the word "Plotter" apart from the mark as shown. Owner of Japanese Reg. No. 628,450, dated Nov. 5, 1963.
For Drafting Equipment—Namely, High Precision Drafting Instruments (Int. Cl. 16).
First use February 1966; in commerce Mar. 30, 1966.

SN 265,890. Colab Laboratories, Inc., Chicago Heights, Ill. Filed Mar. 3, 1967.

AUXOTAB

For Test Device Containing Reaction Sites Impregnated With Known Reagents Which Can Be Used To Determine the Presence of Specific Reactions Characteristic of Specific Microorganisms (Int. Cl. 9).
First use Jan. 24, 1967.

SN 273,178. Burke and James, Inc., Chicago, Ill. Filed June 6, 1967.

OXFORD

For Photographic Equipment—Namely, Cameras and Photograph Contact and Proof Printers (Int. Cl. 9).
First use on or about June 20, 1949.

SN 275,786. The Rank Organisation Limited, London, England. Filed July 11, 1967.

VIDITAL

For Photographic Lenses (Int. Cl. 9).
First use Feb. 2, 1957; in commerce Feb. 2, 1957.

SN 278,520. North American Philips Company, Inc., New York, N.Y. Filed Aug. 17, 1967.

NORELCO

For Educational Kits for Teaching Basic Electronics and Mechanics Consisting of a Small Electric Motor, Resistors, Potentiometers, Loudspeaker, Earphone, Semiconductors, Capacitors, Coils, Wire, Plates, Wheels, Tubes, Cord, Springs, Lamps, Pulley, and Instruction Books Therefor (Int. Cl. 9).
First use Aug. 18, 1964.

SN 278,744. Tasco Sales, Inc., Miami, Fla. Filed Aug. 21, 1967.



Owner of Reg. No. 705,966.
For Educational Dissecting Kit Consisting Essentially of a Scissors, Scalpel, Probe, Pincer, and Magnifying Glass (Int. Cl. 9).
First use July 1, 1952.

SN 279,183. GAF Corporation, New York, N.Y., by change of name from General Aniline & Film Corporation, New York, N.Y. Filed Aug. 28, 1967.

AUTOSET

Owner of Reg. No. 724,808.
For Exposure Control for Use on Diazotype Copying Machines (Int. Cl. 9).
First use Dec. 9, 1965.

SN 280,412. GAF Corporation, New York, N.Y., by change of name from General Aniline & Film Corporation, New York, N.Y. Filed Sept. 15, 1967.



Owner of Reg. Nos. 509,124, 744,454, and others.
For Photographic Cameras, Parts and Accessories Therefor; Photographic Projectors, Parts and Accessories Therefor; Projection Screens, Stereoscopes, Viewers and Holders for Photographic Transparencies; Light-Sensitive Photographic and Cinematographic Film and Color Film; Light-Sensitive Copying and Photographic Paper and Color Paper; Sensitized Electrophotographic Paper; Photographic Printing and Developing Equipment; Electrophotographic and Photocopying Machines, Printing and Developing Machines, Parts and Accessories Therefor, for the Printing and Development of Diazotype Light-Sensitive Photocopy Materials, Light-Sensitive Diazotype Papers, Cloths and Films (Int. Cls. 1 and 9).
First use January 1965.

SN 283,182. Warren Automatic Tool Company, Houston, Tex. Filed Oct. 23, 1967.

BARREL-O-GRAF

For Indicator and Recorder of Total Barrels of Mud in Active Service Mud System With Audible Alarm (Int. Cl. 9).
First use at least as early as June 1962.

SN 283,345. Randomatic Data Systems, Inc., Trenton, N.J., assignee of John R. Kurth and Leo A. Urbanski, Greensburg, Pa. Filed Oct. 25, 1967.

COMP-U-CODE

For Combined Operating and Display Panel for Information Storage and Retrieval Equipment (Int. Cl. 9).
First use Sept. 18, 1967.

SN 284,768. Wang Laboratories, Inc., Tewksbury, Mass. Filed Nov. 13, 1967.



The mark consists primarily of the letter "W" within a distorted letter "L" which forms part of a circle surrounding the letter "W."
For Digital Electronic Equipment—Namely, Calculators, Computers, and Parts Therefor (Int. Cl. 9).
First use June 1956.

SN 285,190. Benthos, Inc., North Falmouth, Mass. Filed Nov. 20, 1967.

BOOMERANG

For Oceanographic Equipment—Namely, Corers and Cameras (Int. Cl. 9).
First use in or about December 1964.

SN 286,783. Universal Data Acquisition Co., Inc., Houston, Tex. Filed Dec. 12, 1967.



The drawing is lined for the color red, but no claim is made for any particular color.
For Measuring and Scientific Appliances—Namely, Digital Data Recording and Processing Apparatus (Int. Cl. 9).
First use July 1967.

SN 286,865. Ritter Pfaulder Corporation, Rochester, N.Y. Filed Dec. 14, 1967.

ULTRALINE

For Stationary X-Ray Grids Used in X-Ray Photography (Int. Cl. 9).
First use Nov. 27, 1966.

SN 287,419. Continental Oil Company, Ponca City, Okla. Filed Dec. 22, 1967.

CONDEP

For Cable Depth Controllers Adapted To Be Secured to an Underwater Cable and Maintain Said Cable at a Predetermined Depth (Int. Cl. 9).
First use Dec. 5, 1967.

SN 289,827. Photo Mechanics Corporation, Norwalk, Conn. Filed Jan. 29, 1968.

POSI-PROOF

For Camera Back Adapters for Polaroid Film (Int. Cl. 9).
First use Aug. 28, 1967.

SN 291,624. Microwave Instruments Limited, Shiremoor, Northumberland, England. Filed Feb. 21, 1968.

MOISTREX

Owner of British Reg. No. 898,491, dated Aug. 17, 1966.
For Moisture Measuring Meters (Int. Cl. 9).

SN 292,088. Fujiya Electric Co. Ltd., Tokyo, Japan. Filed Feb. 28, 1968.

FENCO

Owner of Reg. No. 843,714.
For Motion Picture Projectors (Int. Cl. 9).
First use Jan. 1, 1966; in commerce Jan. 1, 1966.

SN 292,121. Parker-Hannifin Corporation, Cleveland, Ohio. Filed Feb. 28, 1968.

TRU-AIR

For Tire Pressure Gages (Int. Cl. 9).
First use Nov. 10, 1967.

SN 295,592. Applied Communications Corporation, Menlo Park, Calif. Filed Apr. 15, 1968.

PHONETYPE

For Terminal Unit Used With Telephonic Equipment for Automatically Converting Signals (Int. Cl. 9).
First use Feb. 13, 1968.

SN 296,922. Heli-Coil Corporation, Danbury, Conn. Filed Apr. 30, 1968.

HELI-COIL

Owner of Reg. No. 514,560.
For Combination Timer and Counter for Use as Delay or Interval Timers, Event Timers, Stop Clocks, Safety Monitors, Totalizing Counters or Predetermining Counters, and the Like (Int. Cl. 9).
First use May 3, 1967.

Class 29 — Brooms, Brushes, and Dusters

SN 294,326. Morris Struhl, Inc., New York, N.Y. Filed Mar. 27, 1968.

Valiant

Owner of Reg. No. 712,093.
For Paint Brushes (Int. Cl. 16).
First use February 1962.

SN 297,071. Louket Markets, Inc., Jersey City, N.J. Filed May 1, 1968.

PATHMARK

For Toothbrushes (Int. Cl. 21).
First use Feb. 29, 1968.

SN 297,515. Baker Brush Co., Inc., New York, N.Y. Filed May 7, 1968.

BAK-O-TEX

Owner of Reg. Nos. 508,508, 566,290, and 575,885.
For Paint Roller Sleeves (Int. Cl. 16).
First use at least as early as Jan. 1, 1960.

Class 31 — Filters and Refrigerators

SN 263,188. Continental/Moss-Gordin, Inc., Prattville, Ala., assignee of Gerald F. McDonnell, New Orleans, La. Filed Jan. 24, 1967.

BANANA-MATIC

For Refrigerated Display Unit To Keep Fruit From Spoiling (Int. Cl. 11).
First use Aug. 10, 1965.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 263,187. Continental/Moss-Gordin, Inc., Prattville, Ala., assignee of Gerald F. McDonnell, New Orleans, La. Filed Jan. 24, 1967.

RIPE-A-MATIC

For Thermostatically Controlled Heating and/or Cooling Unit for Ripening and Storing Fruit (Int. Cl. 11).
First use Jan. 25, 1965.

SN 272,075. Liquid Carbonic Corporation, Chicago, Ill. Filed May 22, 1967.



For Automatic Pulsed Arc Welding Systems and Parts Thereof (Int. Cl. 9).
First use Apr. 18, 1967.

SN 276,953. Rheem Manufacturing Company, New York, N.Y. Filed July 27, 1967.

IMPERIAL

Owner of Reg. No. 797,801.
For Electric Water Heaters (Int. Cl. 11).
First use May 1946.

SN 279,287. Dean Products, Inc., Brooklyn, N.Y. Filed Aug. 29, 1967.

STEEMSINK

Owner of Reg. No. 745,465.
For Heating Platens and Plates, Emersion Heaters, Heating Ovens, Heat Exchangers, Melting Tanks, Drum Warmers, Heat Treating Furnaces, Heating Tanks, Heated Filter Presses, Heated Dip Pans, Utensils for Heating Food, Chemicals, Gases and Liquids, Heated Counter Tops and Heaters for Sterilizing Laboratory Equipment (Int. Cl. 11).
First use September 1966.

SN 282,841. Union Carbide Corporation, New York, N.Y. Filed Oct. 18, 1967.

PUROX

Owner of Reg. No. 126,591.
For Welding and Cutting Apparatus and Parts Thereof (Int. Cl. 9).
First use on or about Nov. 12, 1917.

SN 291,193. S. & S. Machinery Co., Brooklyn, N.Y. Filed Feb. 15, 1968.

SANDSCO

For Foundry Furnaces (Int. Cl. 11).
First use Dec. 1, 1966.

SN 291,968. Coen Manufacturing Corporation of New Jersey, Caldwell, N.J. Filed Feb. 27, 1968.

MANIFILM

For Oil Heaters (Int. Cl. 11).
First use Oct. 9, 1967.

SN 292,101. Industrial Heating and Finishing Co., Inc., Birmingham, Ala. Filed Feb. 28, 1968.

HOT SHOT

For Ovens for Drying Coatings on Furniture and the Like (Int. Cl. 11).
First use Jan. 12, 1968.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 271,901. Algripco, Inc., Monroeville, Pa. Filed May 19, 1967.

ALGRIPCO

For Metal Studs for Use in Vehicle Tires (Int. Cl. 6).
First use on or about July 22, 1966.

SN 283,002. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Oct. 20, 1967.

Neothane

Owner of Reg. Nos. 689,536, 696,923, and 749,131.
For Belts and Belting for Use as Drive and Idler Belts on Engines and Motors (Int. Cl. 7).
First use Aug. 23, 1967.

SN 288,457. Union Oil Company of California, Los Angeles, Calif. Filed Jan. 9, 1968.

SPORTS OVAL

The word "Oval" is disclaimed apart from the mark as a whole.
For Vehicle Tires (Int. Cl. 12).
First use Oct. 6, 1967.

SN 293,709. Federal-Mogul Corporation, Southfield, Mich. Filed Mar. 20, 1968.

VANGUARD

For Bearing Seals (Int. Cl. 7).
First use Feb. 12, 1968.

SN 294,174. Dunlop Tire and Rubber Corporation, Buffalo, N.Y. Filed Mar. 26, 1968.

REMINGTON AUTOBAND

Owner of Reg. Nos. 530,345 and 822,865.
For Tires (Int. Cl. 12).
First use Mar. 7, 1968.

SN 294,177. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Mar. 26, 1968.

STRATO-STREAK

For Resilient Vehicle Tires (Int. Cl. 12).
First use Mar. 13, 1968.

Class 36 — Musical Instruments and Supplies

SN 264,020. Canary Record Company, Redwood City, Calif. Filed Feb. 6, 1967.

CANARY



The drawing is lined for the color yellow, however, color is not claimed as a feature of the mark.
For Phonograph Records (Int. Cl. 9).
First use Jan. 23, 1965.

SN 265,685. American Stylus Company, d.b.a. Pageant Needles, Scranton, Pa. Filed Mar. 1, 1967.

Pageant

For Phonograph Needles and Phonograph Record Accessories—Namely, Spindles, Record Adaptors, Polishing Cloths, Brushes, and Tone Arm Lifts (Int. Cl. 9).
First use Nov. 25, 1959.

SN 265,753. Victor Compnay of Japan, Limited, Kanagawa-ku, Yokohama, Japan. Filed Mar. 1, 1967.

NIVICO

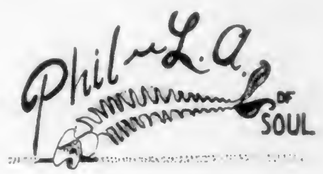
Owner of U.S. Reg. No. 761,585.
For Phonograph Records (Int. Cl. 9).
First use Feb. 1, 1959; in commerce Dec. 1, 1959.

SN 266,144. Columbia Broadcasting System, Inc., New York, N.Y. Filed Mar. 7, 1967.



For Grooved Phonograph Records (Int. Cl. 9).
First use Nov. 17, 1966.

SN 267,952. Landa Records, Inc., Philadelphia, Pa. Filed Mar. 30, 1967.



The term "Soul" is disclaimed apart from the mark as shown.
For Phonograph Records (Int. Cl. 9).
First use Jan. 18, 1967.

SN 270,954. Rheem Manufacturing Company, New York, N.Y. Filed May 8, 1967.

BASS FUZZ

Applicant disclaims the word "Bass" apart from the mark as shown.
For Electronic Organs and Electronic Organ Parts (Int. Cl. 15).
First use Mar. 27, 1967.

SN 271,912. Beltek Corporation, Ohta-ku, Tokyo, Japan. Filed May 19, 1967.

BELTEK

For Cartridge Tape Players for Use in Motor Vehicles and Boats, and Tape Recorders (Int. Cl. 9).
First use Apr. 12, 1967; in commerce Apr. 12, 1967.

SN 272,580. Cameo-Parkway Records, Inc., Philadelphia, Pa. Filed May 29, 1967.

CAMEO

Owner of Reg. Nos. 690,252, 712,863, and 772,829.
For Phonograph Records (Int. Cl. 9).
First use in or about January 1967.

SN 272,581. Cameo-Parkway Records, Inc., Philadelphia, Pa. Filed May 29, 1967.

FAIRMOUNT

Owner of Reg. Nos. 690,252, 712,863, and 772,829.
For Phonograph Records (Int. Cl. 9).
First use in or about January 1967.

SN 272,582. Cameo-Parkway Records, Inc., Philadelphia, Pa. Filed May 29, 1967.

PARKWAY

Owner of Reg. Nos. 690,252, 712,863, and 772,829.
For Phonograph Records (Int. Cl. 9).
First use in or about January 1967.

SN 272,907. Albert Augustine, Ltd., New York, N.Y. Filed June 2, 1967.



AUGUSTINE

For Strings for the Guitar, Classical Guitar, Lute, Mandolin, Harp, Dulcimer, Viola d'Amore, Viola da Gamba, Rebec, Scheitholt, Theorbo, Mandola, l'Aud, Chitarrone, Harp Lute, Psaltery, Irish Harp, Sordino, Lyre, Welsh Crwth, Cittern, Tromba, Marrina, Vihuela and Bandurria (Int. Cl. 15).
First use May 15, 1947.

SN 279,234. Telephone Dynamics Corp., North Bellmore, N.Y. Filed Aug. 28, 1967.

Senda-MESSAGE

For Magnetic Recording Tapes (Int. Cl. 9).
First use Sept. 1, 1966.

SN 287,748. Magyar Hanglemezgyarto Vallalat, Budapest, Hungary. Filed Dec. 28, 1967.

HUNGAROTON

Owner of Hungarian Reg. No. 109,945, dated July 14, 1967.
For Phonograph Records and Unrecorded and Prerecorded Magnetic Tapes (Int. Cl. 9).

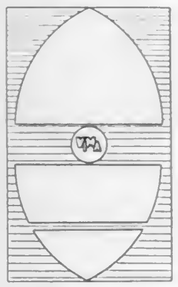
SN 290,505. Metro-Goldwyn-Mayer Inc., New York, N.Y. Filed Feb. 7, 1968.

MUSIC FACTORY

Applicant disclaims the word "Music" apart from the mark as shown.
For Phonograph Records (Int. Cl. 9).
First use Nov. 25, 1967.

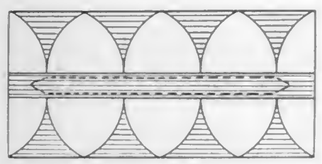
Class 37 — Paper and Stationery

SN 256,646. Cartiera di Cairate S.p.A., Milan, Italy. Filed Oct. 18, 1966.



The drawing is lined for the color blue, which is claimed as part of the mark. Italian Reg. No. 171,853, dated Sept. 29, 1965.
For Wadding and Cellulose Products—Namely, Facial Tissues (Int. Cl. 16).

SN 256,648. Cartiera di Cairate S.p.A., Milan, Italy. Filed Oct. 18, 1966.



The drawing is lined for the color blue, which is claimed as part of the mark. Owner of Italian Reg. No. 171,852, dated Sept. 29, 1965.
For Wadding and Cellulose Products—Namely, Facial Tissues (Int. Cl. 16).

SN 282,364. Franklin Press, Inc., El Paso, Tex. Filed Oct. 12, 1967.

design house

For Recipe Cards, Letterheads, Envelopes, Sheet Paper, Note Paper, Postal Cards, Phonograph Record Labels, Book Plates and Memo Pads (Int. Cl. 16).
First use Aug. 7, 1967, on note paper.

SN 287,353. Edmond Printing Company, Inc., Philadelphia, Pa. Filed Dec. 21, 1967.

ADVERT-A-BAND

For Wrappers—Namely, a Binding Strip for Multi-Item Packaging (Int. Cl. 16).
First use in or about October 1967.

SN 288,108. Moore Business Forms, Inc., Niagara Falls, N.Y. Filed Jan. 4, 1968.

DEMOPAC

For Packaged Business Forms (Int. Cl. 16).
First use Sept. 25, 1967.

SN 291,471. Scripture Press Publications, Inc., Wheaton, Ill. Filed Feb. 20, 1968.

FLEXI-RECORD

For Sunday School Record Systems—Namely, Record Cards, Notebooks, Honor Seals, Binders and Envelopes (Int. Cl. 16).
First use on or about Aug. 1, 1959.

Class 38 — Prints and Publications

SN 271,029. CPS Industries, Inc., Chicago, Ill. Filed May 9, 1967.

CHATTERBOARDS

For Greeting Cards (Int. Cl. 16).
First use Feb. 8, 1967.

SN 288,440. Magazine Management Company, d.b.a. Marvel Comics Group, New York, N.Y. Filed Jan. 9, 1968.

GROOVY

For Magazine Published Periodically (Int. Cl. 16).
First use on or about Dec. 19, 1967.

SN 288,800. Diamond Abrasives Corporation, New York, N.Y. Filed Jan. 15, 1968.

DAC BULLETIN

Applicant disclaims the word "Bulletin" apart from the mark as shown.
For Periodical Publication—Namely, a Trade Magazine (Int. Cl. 16).
First use June 20, 1967.

SN 289,139. Warner Woven Label Company Inc., Paterson, N.J. Filed Jan. 18, 1968.

W-A

For Woven Labels (Int. Cl. 16).
First use May 1964.

SN 291,175. Norcross, Inc., New York, N.Y. Filed Feb. 15, 1968.

SNACK BAR

For Greeting Cards (Int. Cl. 16).
First use Sept. 28, 1966.

SN 296,914. American Society of Tool and Manufacturing Engineers, Dearborn, Mich. Filed Apr. 30, 1968.

THE MANUFACTURING ENGINEER

Owner of Reg. No. 702,279.
For Magazine Issued Periodically (Int. Cl. 16).
First use Apr. 16, 1968.

SN 296,929. Radio Corporation of America, New York, N.Y. Filed Apr. 30, 1968.

RCA

Owner of Reg. No. 417,179 and others.
For House Organs, Newsletters, Catalogues, Pamphlets, Circulars, Handbooks, Service Notes, Operating Manuals, Instruction Books, and Other Publications Issued Periodically and From Time to Time (Int. Cl. 16).
First use July 1923.

SN 298,275. Western Publishing Company, Inc., Racine, Wis. Filed May 15, 1968.

SOUND A ROUND

For Series of Children's Books (Int. Cl. 16).
First use Feb. 26, 1968.

SN 301,876. Helzberg's Diamond Shops, Inc., Kansas City, Mo. Filed July 3, 1968.

I AM LOVED

Owner of Reg. No. 852,718.
For Pop Art Posters (Int. Cl. 16).
First use May 16, 1968.

Class 39 — Clothing

SN 269,313. I.B.J. Corporation, Dallas, Tex. Filed Apr. 17, 1967.

PANCE

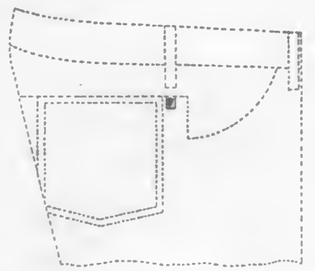
For Dresses With Attached Shorts (Int. Cl. 25).
First use Jan. 23, 1967.

SN 272,119. Volk Bros. Company, Dallas, Tex. Filed May 22, 1967.

PIA DESIGN

The word "Design" is disclaimed apart from the mark as shown.
For Misses' and Juniors' Ready-To-Wear and Sportswear—Namely, Blouses, Dresses, Jackets, Skirts, Slacks, Suits, Sweaters, and Shoes (Int. Cl. 25).
First use Dec. 8, 1966.

SN 275,042. Farah Manufacturing Company, Inc., El Paso, Tex. Filed June 29, 1967.



The mark consists of a tab bearing the letter "F" in script sewed into a seam of the garment and located between the right rear and side pockets.
For Men's and Boys' Slacks, Shorts, and Jeans (Int. Cl. 25).
First use Apr. 15, 1967.

SN 280,822. The Strouse, Adler Company, New Haven, Conn. Filed Sept. 20, 1967.

BUCKY PANTS

The word "Pants" is disclaimed apart from the mark as shown.
For Foundation Garments (Int. Cl. 25).
First use Sept. 13, 1967.

SN 281,188. Gina Sportswear Company, Inc., Allentown, Pa. Filed Sept. 26, 1967.

GENEE PETITE

Applicant disclaims the word "Petite" apart from the mark as shown.
For Children's Sportswear—Namely, Jackets, Shirts, Skirts, Pants, Shorts, and Ensembles Thereof (Int. Cl. 25).
First use Sept. 20, 1967.

SN 283,828. Susan Thomas Incorporated, New York, N.Y. Filed Oct. 31, 1967.

THE KNIT BEAT

The word "Knit" is disclaimed apart from the mark as shown.
For Blouses, Skirts, Jackets, Dresses, Pants, Sweaters; Knitwear—Namely, Dresses, Blouses, Skirts, Jackets, Pants, Suits and Coats; Hosiery, Suits, Coats, and Raincoats (Int. Cl. 25).
First use Sept. 26, 1967.

SN 285,949. J. P. Stevens & Co., Inc., New York, N.Y. Filed Nov. 30, 1967.

SALANGE

For Hosiery (Int. Cl. 25).
First use Nov. 1, 1967.

SN 286,351. Kinney Shoe Corporation, New York, N.Y. Filed Dec. 6, 1967.

CASUAL CIRCLE

For Women's Sports Clothing—Namely, Women's Suits (Int. Cl. 25).
First use Feb. 1, 1967.

SN 289,474. Burberrys Limited, London, England. Filed Jan. 24, 1968.



Applicant disclaims the letter "B" apart from the mark as shown. Owner of British Reg. No. 901,848, dated Nov. 21, 1966; and U.S. Reg. Nos. 93,819, 756,953, and others.
For Coats, Topcoats, Jackets, Suits, Breeches, Trousers, Slacks, Shorts, Riding Habits, Waistcoats, Gaiters, Leggings, Overalls, Skirts, Fur Coats, Fur Jackets, Capes, Hats, Caps, Helmets, Bonnets, Hoods, Toques, Berets, Neckties, Stockings, Socks, Braces, Suspenders, Garters, Belts, Boots, Shoes, Slippers, Sandals, Underwear, Gloves, Shirts, Collars, Pyjamas, Lingerie, Dressing Gowns, Cardigans, Sweaters, Pullovers, Scarves, Corsetry, Foundation Garments, Brassieres, Blouses, Swimwear, Beach Robes, Dresses, Ski-Wear, Fishing Waders, and Handkerchiefs (Int. Cl. 25).

SN 290,175. Keller Glove Manufacturing Co., Plumsteadville, Pa. Filed Feb. 2, 1968.

TERRY MILL
BY KELNIT

For Industrial Gloves (Int. Cl. 25).
First use Sept. 29, 1967.

SN 290,740. The Manhattan Shirt Company, New York, N.Y. Filed Feb. 9, 1968.

SHAPERED

For Outer Dress and Sports Shirts for Women (Int. Cl. 25).
First use Jan. 27, 1968.

SN 290,749. J. C. Penney Company, New York, N.Y. Filed Feb. 9, 1968.

RANCHCRAFT

Owner of Reg. No. 434,349.
For Men's and Boys' Pants, Shirts, Jackets, and Shoes; and Women's and Girls' Hats and Shoes (Int. Cl. 25).
First use Aug. 9, 1946.

SN 291,210. Unishops, Inc., Jersey City, N.J. Filed Feb. 15, 1968.

Jean Country

The word "Jean" is disclaimed apart from the mark as shown.
For Men's and Boys' Jeans, Sportcoats, Suits, Jackets, Overcoats, Sport Shirts, Pajamas, Sweaters, Gloves, Hosiery, Knit Shirts, and Bathing Trunks (Int. Cl. 25).
First use Jan. 8, 1968.

SN 292,055. B. W. Mayer & Cohan, Ltd., Beau Brummel Ties Division, Cincinnati, Ohio. Filed Feb. 28, 1968.

PORTALEGRO

For Men's Neckties (Int. Cl. 25).
First use Jan. 9, 1968.

SN 293,350. The Bobby Company, New York, N.Y. Filed Mar. 15, 1968.

MAGICAP

For Plastic, Latex and Rubber Caps Used in Beauty Parlors for Tipping and Frosting, and for Use Generally as a Protective Head Covering at Home and in Hospitals (Int. Cl. 25).
First use March 1966.

SN 294,636. Manufacturas del Vestido S.A., Madrid, Spain. Filed Apr. 1, 1968.

CORTEFIEL

Owner of U.S. Reg. No. 854,216.
For Men's, Women's, and Children's Outerwear—Namely, Jackets, Coats, Raincoats, Slacks, Suits, Sport Jackets, Shirts, Sweaters, Socks, Handkerchiefs, Scarves, Apparel Belts, Shoes, Dresses, Skirts, Beach Robes, and Bath Robes (Int. Cl. 25).
First use 1945; in commerce June 27, 1956.

SN 294,820. Diana Manufacturing Company, Green Bay, Wis. Filed Apr. 3, 1968.

LULLABY

For Disposable Diapers (Int. Cl. 25).
First use July 1954.

SN 294,908. Apollo Apparel, Inc., Andalusia, Ala. Filed Apr. 4, 1968.

DURA SONIC

For Men's Dress Shirts, Work Shirts, Work Pants, Sport Shirts, Pajamas, and Shorts (Int. Cl. 25).
First use Feb. 16, 1968.

SN 295,324. Formaid Co., Boston, Mass. Filed Apr. 10, 1968.

CHICAS

The word "Chicas" is the Spanish word for "young girls."
For Panties and Bikinis (Int. Cl. 25).
First use Mar. 13, 1968.

SN 298,456. Lady Marlene Brassiere Corp., New York, N.Y. Filed May 17, 1968.

MINI-DOLL

For Girdles and Corselettes (Int. Cl. 25).
First use Apr. 1, 1967.

Class 40—Fancy Goods, Furnishings, and Notions

SN 281,367. Fashion Tress, Inc., Miami Beach, Fla. Filed Sept. 28, 1967.

CANNES

For Ladies' Wigs and Hairpieces (Int. Cl. 26).
First use on or about Sept. 1, 1967.

SN 281,369. Fashion Tress, Inc., Miami Beach, Fla. Filed Sept. 28, 1967.

MONTE CARLO

For Ladies' Wigs and Hairpieces (Int. Cl. 26).
First use on or about Sept. 1, 1967.

SN 281,891. House of Barri, Inc., New York, N.Y. Filed Oct. 5, 1967.

PUFYS

For Sachet Pads (Int. Cl. 3).
First use Sept. 1, 1966.

SN 284,588. Bristol-Myers Company, New York, N.Y. Filed Nov. 13, 1967.

SUDDEN SET

Applicant disclaims the word "Set" apart from the mark as shown.
For Hair Styling Curlers (Int. Cl. 26).
First use Oct. 4, 1967.

SN 297,072. Louket Markets, Inc., Jersey City, N.J. Filed May 1, 1968.

PATHMARK

For Hair Pins (Int. Cl. 26).
First use Feb. 29, 1968.

SN 301,308. Fashion Tress, Inc., Miami Beach, Fla. Filed June 25, 1968.

NEW BORN

For Ladies' Wigs and Hairpieces Made of Human Hair (Int. Cl. 26).
First use on or about Apr. 1, 1968.

Class 41—Canes, Parasols, and Umbrellas

SN 301,881. Helzberg's Diamond Shops, Inc., Kansas City, Mo. Filed July 3, 1968.

I AM LOVED

Owner of Reg. No. 852,718.
For Umbrellas (Int. Cl. 18).
First use May 28, 1968.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 301,884. Helzberg's Diamond Shops, Inc., Kansas City, Mo. Filed July 3, 1968.

I AM LOVED

Owner of Reg. No. 852,718.
For Fabrics for Making Into Dresses, Blouses, Coats, Suits, and the Like (Int. Cl. 24).
First use May 28, 1968.

Class 44—Dental, Medical, and Surgical Appliances

SN 252,593. Adolph Reiter, New York, N.Y. Filed Aug. 17, 1966.

JOY

For Hand-Held and Manipulated Massagers (Int. Cl. 10).
First use Aug. 16, 1966.

SN 270,836. Simaplast, Inc., Yonkers, N.Y. Filed May 5, 1967.

SIMAPLAST

For Mammary Prostheses (Int. Cl. 10).
First use Dec. 15, 1966.

SN 290,814. American Hospital Supply Corporation, Evanston, Ill. Filed Feb. 12, 1968.

MUELLER-MATTE

For Surgical Instruments With Non-Glare Finishes—Namely, Surgical Forceps, Surgical Needle Holders, Clamps, Retractors, and Scissors (Int. Cl. 10).
First use on or before Aug. 22, 1967.

SN 291,753. Loenco, Inc., Altadena, Calif. Filed Feb. 23, 1968.

VORTEX-VIAL

For Blood Reactor Bottles for Use in Blood Analysis (Int. Cl. 10).
First use Mar. 8, 1967.

SN 292,211. Arthur E. Look, Inc., West Roxbury, Mass. Filed Feb. 29, 1968.

POLYVIOLENE

For Sutures (Int. Cl. 10).
First use Feb. 13, 1968.

SN 292,512. Soss Manufacturing Company, Detroit, Mich. Filed Mar. 5, 1968.

INSTAMOMETER

For Clinical Thermometers (Int. Cl. 9).
First use Mar. 4, 1968.

SN 293,183. Unitek Corporation, Monrovia, Calif. Filed Mar. 13, 1968.

UNISIL

For Wire for Orthodontic Appliances (Int. Cl. 10).
First use at least as early as Feb. 27, 1968.

SN 293,539. Medical Supply Company (Missouri corporation), Rockford, Ill., assignee of Medical Supply Company (Illinois corporation), Rockford, Ill. Filed Mar. 18, 1968.

C-LIV

For Demand Valve Resuscitator/Inhalators for Controlled Gas Flow During External Cardiac Compression, and Inhalation (Int. Cl. 10).
First use Sept. 21, 1967.

Class 45 — Soft Drinks and Carbonated Waters

SN 267,648. National Nugrape Company, Atlanta, Ga. Filed Mar. 27, 1967.



No claim is made to the representation of the container for the goods separately and apart from the mark. Owner of Reg. No. 164,168.
For Soft Drinks (Int. Cl. 32).
First use during November 1954.

SN 284,602. Canada Dry Corporation, New York, N.Y. Filed Nov. 13, 1967.

TEXAS TORNADO

For Carbonated Beverages Used as Soft Drinks and as Mixers (Int. Cl. 32).
First use on or before Oct. 17, 1967.

SN 284,605. Canada Dry Corporation, New York, N.Y. Filed Nov. 13, 1967.

LEAPIN LEMON

No claim is made to the word "Lemon" apart from the mark as shown.
For Lemon Flavored Carbonated Beverages Used as Soft Drinks and as Mixers (Int. Cl. 32).
First use on or before Oct. 17, 1967.

SN 291,833. Canada Dry Corporation, New York, N.Y. Filed Feb. 26, 1968.

SLEEPER

For Carbonated Beverages Used as Soft Drinks and as Mixers (Int. Cl. 32).
First use in or before January 1968.

Class 46 — Foods and Ingredients of Foods

SN 220,665. Alliance Associates, Incorporated, Coldwater, Mich., by change of name from Jobbers Service, Incorporated, Coldwater, Mich. Filed June 8, 1965.

GIANT PRIDE

For Canned Foods and Ingredients of Foods—Namely, Vegetables, Fruits, Vegetable and Fruit Juices, Coffee, Tea, Catsup, Chili Sauce, Jams, Jellies, Preserves, Canned Fish, Peanut Butter, Table Syrup, Salad Dressing, Mayonnaise, All Purpose Flour, Evaporated Milk, Vegetable Shortening, and Vegetable Oil (Int. Cls. 29, 30, and 32).
First use 1960.

SN 237,994. Toshimasa Mizugaki, Ashiya-shi, Hyogo, Japan. Filed Feb. 3, 1966.



For Canned Sukiyaki (Int. Cl. 29).
First use December 1962; in commerce Dec. 12, 1965.

SN 255,100. Robert E. La Joie and John F. Joliat (joint owners), Birmingham, Mich. Filed Sept. 26, 1966.

SIGN OF THE BEEFEATER

For Black Pepper, a Seasoning Containing Salt and Other Spices and Salad Dressing (Int. Cls. 29 and 30).
First use May 16, 1961.

SN 259,411. Crest Brokerage Company, Inc., Los Angeles, Calif. Filed Nov. 25, 1966.

VOYAGER

For Fresh Frozen Headless Shrimp (Int. Cl. 29).
First use Nov. 3, 1966.

SN 262,713. Riviana Foods Inc., Houston, Tex. Filed Jan. 17, 1967.

CAROLINA QUICK 'N EASY

Owner of Reg. Nos. 541,907, 822,983, and others.
For Rice (Int. Cl. 30).
First use Dec. 7, 1966.

SN 271,454. Dog Pound, Greenville, S.C. Filed May 15, 1967.

DOG POUND

For Cooked Hot Dogs Inside of a Bun, Sold in Wrappers (Int. Cl. 29).
First use January 1967.

SN 271,807. The E. Kahn's Sons Company, Cincinnati, Ohio. Filed May 18, 1967.

KASOCO

Owner of Reg. No. 393,434.
For Sausage and Shortening Composed of Refined and Hydrogenated Meat Fats (Int. Cl. 29).
First use on or about Apr. 23, 1937.

SN 273,789. Philip Morris Incorporated, d.b.a. Clark Gum Co., New York, N.Y. Filed June 13, 1967.

PEPPIMINT

Owner of Reg. No. 823,817.
For Chewing Gum (Int. Cl. 30).
First use May 26, 1967.

SN 275,250. Fairmont Foods Company, Omaha, Nebr. Filed July 3, 1967.

FAIRMAID

For Fluid Milk (Int. Cl. 29).
First use June 1929.

SN 275,569. United Fruit Company, Boston, Mass. Filed July 7, 1967.

CRANDALL HOUSE

The drawing is lined for gold, but no claim to color is made.
For Fountain Syrups and Toppings for Sundaes—Namely, Fruit, Nut, Butterscotch, Marshmallow and Fudge, Whole and Crushed Maraschino Cherries, and Chocolate Syrup (Int. Cl. 30).
First use 1869.

SN 277,096. Philips Roxane, Inc., New York, N.Y. Filed July 20, 1967.

HORSE & SHOW

The word "Horse" is disclaimed apart from the mark as shown.
For Veterinary Food Supplement—Namely, Livestock Feeding Blocks (Int. Cl. 31).
First use May 9, 1967.

SN 278,070. Mead Johnson & Company (Delaware corporation), Evansville, Ind., assignee of Mead Johnson & Company (Indiana corporation), Evansville, Ind. Filed Aug. 11, 1967.

FRIENDCHIPS

For Low Calorie Snack Chips of a Cereal Nature (Int. Cl. 5).
First use on or prior to Aug. 3, 1967.

SN 281,917. M. Polaner & Son, Inc., Newark, N.J. Filed Oct. 5, 1967.

polaner

Owner of Reg. No. 596,870.
For Jam, Jelly, and Marmalade (Int. Cl. 29).
First use at least as early as Jan. 31, 1967; at least as early as 1898 as to "Polaner."

SN 282,469. Harry M. Levin, d.b.a. Vogeler Co., Philadelphia, Pa. Filed Oct. 13, 1967.

TOP 'N-DIP

For Dressing Containing Cheese for Snacks, Salads, and Desserts (Int. Cl. 29).
First use Aug. 10, 1967.

SN 282,594. Merck & Co., Inc., Rahway, N.J. Filed Oct. 16, 1967.

LACTACEL

For Lactic Acid Starter Culture for Use in Food Processing (Int. Cl. 1).
First use Sept. 28, 1967.

SN 285,766. Riviana Foods Inc., Houston, Tex. Filed Nov. 28, 1967.

CAROLINA

Owner of Reg. Nos. 541,907, 822,983, and others.
For Rice Oil (Int. Cl. 29).
First use Oct. 30, 1967.

SN 287,149. Cook's Frozen Seafoods, Inc., Bena, Va. Filed Dec. 18, 1967.



The words "Cook's Best" are disclaimed apart from the design. The drawing is lined for blue.
For Frozen Breaded Oysters (Int. Cl. 29).
First use Oct. 1, 1967.

SN 288,443. Merchants Trading Co., Inc., New York, N.Y. Filed Jan. 9, 1968.

METCO

For Natural and/or Processed Cheeses (Int. Cl. 29).
First use January 1966.

SN 289,539. G. S. Suppiger Co., St. Louis, Mo. Filed Jan. 24, 1968.

TONADA

"Tonada" is translated to mean "a metrical composition suited for singing and music set to it."
For Tomato Products—Namely, Canned Tomatoes, Tomato Catsup, Tomato Paste, Tomato Puree, Pizza Sauce, Tomato Juice, Diced Tomatoes; Canned Vegetable and Fruit Products—Namely, Green Beans, Peas, Fruit Cocktail, Peaches; Dehydrated and Instant Foods—Namely, Potato Flakes and Chopped Onions (Int. Cls. 29, 30, and 32).
First use Dec. 28, 1967.

SN 289,839. Spread Eagle Farms, Inc., Klingerstown, Pa. Filed Jan. 29, 1968.

Spread Eagle Farm

For Fresh Eggs and Angel Food Cakes (Int. Cls. 29 and 30).
First use July 15, 1957.

SN 290,817. Bell Brand Foods, Ltd., Los Angeles, Calif. Filed Feb. 12, 1968.

LITES

For Salted Peanuts (Int. Cl. 29).
First use Dec. 28, 1967.

SN 291,113. Western Grain Co., Inc., Birmingham, Ala. Filed Feb. 14, 1968.

Jim Dandy

Owner of Reg. Nos. 176,763, 816,195, and others.
For Dog Food (Int. Cl. 31).
First use Aug. 23, 1967.

SN 291,430. Revere Sugar Refinery, Charlestown, Mass. Filed Feb. 19, 1968.

REVERE

Owner of Reg. No. 102,174.
For Sugar (Int. Cl. 30).
First use April 1912.

SN 291,579. John Boyd Company, Lynn, Mass. Filed Feb. 21, 1968.



For Potato Chips (Int. Cl. 29).
First use 1907.

SN 291,783. Skaggs and Kelly, Inc., Wood River, Ill. Filed Feb. 23, 1968.

ROMAINE CAESAR DRESSING
by
Skaggs & Kelly INC.

No claim is made to the words "Romaine Caesar Dressing," apart from the mark as shown, without waiving any common law rights therein.
For Salad Dressing (Int. Cl. 29).
First use Jan. 2, 1968.

SN 293,154. Frederick F. Lowenfels & Son, New York, N.Y. Filed Mar. 13, 1968.

HOTEL BAR
Chef's Special

Applicant disclaims the word "Bar" apart from the mark as shown. Owner of Reg. No. 514,370.
For Butter (Int. Cl. 29).
First use Mar. 1, 1968.

SN 293,994. Santa Cruz Canning Co., Moss Landing, Calif. Filed Mar. 25, 1968.

VELERA

"Velera" is a Spanish word meaning "swift sailing." Owner of Reg. No. 241,529.
For Canned Seafood (Int. Cl. 29).
First use July 10, 1927.

SN 294,278. H & J Trading Co., San Francisco, Calif. Filed Mar. 27, 1968.

MARIA

For Canned Carrots, Water Chestnuts, and Artichokes (Int. Cl. 29).
First use about May 1, 1965.

SN 294,855. Quality Chekd Dairy Products Association, Hinsdale, Ill. Filed Apr. 3, 1968.

NICK NOG

Applicant disclaims exclusive right to use of the word "Nog" apart from the mark as shown.
For Non-Alcoholic Egg Nog (Int. Cl. 32).
First use Dec. 4, 1967.

SN 294,856. Quality Chekd Dairy Products Association, Hinsdale, Ill. Filed Apr. 3, 1968.

SAVOR

For Imitation Milk Made of Vegetable Oil (Int. Cl. 29).
First use Feb. 13, 1968.

SN 295,370. Prospect Farms, Inc., Fort Atkinson, Wis. Filed Apr. 10, 1968.



The drawing is lined for red.
For Pre-Cooked Frozen Chicken (Int. Cl. 29).
First use on or about Jan. 1, 1964.

SN 295,371. Prospect Farms, Inc., Fort Atkinson, Wis. Filed Apr. 10, 1968.



The drawing is lined for red.
For Pre-Cooked Frozen Chicken (Int. Cl. 29).
First use on or about Jan. 1, 1964.

SN 296,132. Eric's Kitchens, Inc., Billings, Mont. Filed Apr. 22, 1968.

VIKO

Owner of Reg. No. 825,405.
For Chip-Type Fried Food Products, Comprising Reconstituted Potato Flakes and Farinaceous Flours (Int. Cl. 30).
First use at least as early as Apr. 10, 1968.

SN 297,013. Morton International, Inc., Chicago, Ill. Filed May 1, 1968.

STAR FLAKE

Applicant disclaims the word "Flake" apart from the mark as shown. Owner of Reg. Nos. 24,007, 240,820, and 534,869.
For Salt (Int. Cl. 30).
First use on or about June 8, 1965.

SN 297,252. General Mills, Inc., Minneapolis, Minn. Filed May 3, 1968.

SIX GUNS

Owner of Reg. No. 796,082.
For Ready To Eat Breakfast Cereal (Int. Cl. 30).
First use on or prior to July 3, 1967.

SN 297,503. A. Giuriani & Bro., d.b.a. Morland Packing Co., Sunnyvale, Calif. Filed May 7, 1968.

GOLDEN GATE

For Edible Olive Oil, Salad Olives With Red Peppers, Spanish Style Olives; and Pickled Vegetable Products—Namely, Holland Onions, Sweet Cherry Peppers, Garden Salad Mix, Hot Cauliflower, Italian Peppers, Spiced Cauliflower, Hot Mix-Vegetables and Golden Peppers (Int. Cl. 29).
First use 1902 on olive oil.

SN 298,672. General Mills, Inc., Minneapolis, Minn. Filed May 21, 1968.

GENERAL MILLS

Owner of Reg. Nos. 408,285, 814,114, and others.
For Dehydrated Potato Products—Namely, Au Gratin, Scalloped, and Instant Mashed; Dehydrated Onions, Protein Bits Having a Flavor Like Smoke Cured Bacon, Cake Mixes, Pudding Mixes, Cream Pie Mixes, Icing Mixes, Muffin Mixes, Gingerbread Mixes, Date Bars; Bar Mixes—Namely, Brownies, Butterscotch Squares, German Chocolate, Walnut, Chocolate Chip and Chocolate Chip Butterscotch, Coconut Macaroon Mix; Casserole Mixes—Namely, Noodles and Rice Casseroles; Ready-To-Eat Cereals; Sauce Mixes—Namely, Cheese, Spaghetti and Spaghetti With Meat Gravy Mixes; Cereal Derived Ready-To-Eat Snacks, Cake Flour, Pie Crust Mixes, Vegetable Derived Cream Substitutes, Filled Baked Products Composed of Layers of Baked Dough With Intermediate Filler Layer Intended To Be Warmed in a Toaster Before Serving; and Pancake and Waffle Mixes (Int. Cls. 29 and 30).
First use in or prior to June 1963.

SN 300,870. General Mills, Inc., Minneapolis, Minn. Filed June 20, 1968.

Chipos

Owner of Reg. No. 795,344.
For Potato Chips (Int. Cl. 29).
First use on or prior to Oct. 9, 1967.

SN 302,468. Edlo Enterprises, Inc., San Francisco, Calif. Filed July 11, 1968.

UP N' LIV

For Low Fat Milk (Int. Cl. 29).
First use June 27, 1968.

Class 47 — Wines

SN 293,594. Sinner A.G., Karlsruhe-Grunwinkel, Germany. Filed Mar. 18, 1968.

SINNER

Owner of German Reg. No. 387,217, dated June 1, 1928.
For Wine (Int. Cl. 33).

Class 48 — Malt Beverages and Liquors

SN 293,593. Sinner A.G., Karlsruhe-Grunwinkel, Germany. Filed Mar. 18, 1968.

SINNER

Owner of German Reg. No. 387,217, dated June 1, 1928.
For Beer (Int. Cl. 32).

SN 301,139. Jos. Schlitz Brewing Company, Milwaukee, Wis. Filed June 24, 1968.

SCENE ONE

For Beer (Int. Cl. 32).
First use May 24, 1968.

Class 49 — Distilled Alcoholic Liquors

SN 301,306. Continental Distilling Corporation, Philadelphia, Pa. Filed June 26, 1968.

DIXIE DELIGHT

Owner of Reg. No. 440,440.
For Gin (Int. Cl. 33).
First use at least as early as June 5, 1968.

Class 50 — Merchandise Not Otherwise Classified

SN 281,084. Kramer Brothers Corp., Pine Brook, N.J. Filed Sept. 25, 1967.

Flair

Applicant disclaims the representation of the palette and and paint brushes apart from the marks as shown.
For Artists' Kits, Consisting of Brushes, Paints, Canvases, Palettes, Knives, Cups, Linseed Oil, Turpentine, and Charcoal (Int. Cl. 16).
First use February 1966.

SN 284,187. Film View International Corporation, Sherman Oaks, Calif. Filed Nov. 6, 1967.

MOTIVISION

For Advertising Display Sign Which Exhibits a Series of Decorative or Advertising Pictures by Means of a Continuous, Transparent Moving Belt Which Contains Said Pictures and Which Belt Is Illuminated From the Rear (Int. Cl. 9).
First use Aug. 15, 1967.

SN 285,338. London Litho Aluminum Company, Incorporated, Lincolnwood, Ill. Filed Nov. 21, 1967.

TEMPERPLATE

For Aluminum Alloy Plate for Lithographic Use (Int. Cl. 16).
First use July 26, 1966.

SN 287,214. Accro Systems, Inc., Richmond, Va. Filed Dec. 19, 1967.

ACCRO-FLEX

For Holders in the Form of Flat Sheets of Metal or Other Rigid Material With a Set of Flanges Extending Along the Sides Thereof, for Holding a Series of Separate Strips Having Information Printed Thereon (Int. Cl. 16).
First use Nov. 17, 1967.

Class 51 — Cosmetics and Toilet Preparations

SN 252,584. Ferdinand Mulhens, d.b.a. Eau de Cologne & Parfumerie-Fabrik Glockengasse, Cologne (Rhine), Germany. Filed Aug. 17, 1966.

CORSAR

For Eau de Cologne, Eau de Toilette, and Perfume (Int. Cl. 3).
First use Mar. 14, 1966; in commerce July 7, 1966.

SN 270,837. Clairol Incorporated, New York, N.Y. Filed May 5, 1967.

KEEP IT CLEAR

Applicant disclaims the word "Clear" apart from the mark as shown.
For Colorless Nail Polish (Int. Cl. 3).
First use Dec. 19, 1966.

SN 274,239. Revlon, Inc., New York, N.Y. Filed June 19, 1967.

'BODY SILK'

Applicant disclaims the word "Body" apart from the mark as shown.
For Fragrance Lotion (Int. Cl. 3).
First use May 3, 1967.

SN 283,904. Kenneth Beauty Salons & Products, Inc., New York, N.Y. Filed Nov. 1, 1967.

EYE GRAPHICS

The word "Eye" is disclaimed apart from the mark as shown.
For Eyeshadow, Eyeliner, Brow Color, and Mascara (Int. Cl. 3).
First use Sept. 12, 1967.

SN 284,017. Kenneth Beauty Salons & Products, Inc., New York, N.Y. Filed Nov. 2, 1967.

LOVE PAINT

The word "Paint" is disclaimed apart from the mark as shown.
For Face Powder, Lipstick, Eye Make-Up, Nail Lacquer, and Make-Up Base (Int. Cl. 3).
First use Sept. 12, 1967.

SN 285,638. Aladdin House, Ltd., New York, N.Y. Filed Nov. 28, 1967.

Classique

For Perfume and Eau de Toilette (Int. Cl. 3).
First use Apr. 18, 1967.

SN 285,907. Colgate-Palmolive Company, New York, N.Y. Filed Nov. 30, 1967.

NATURAL VELVET

Owner of Reg. No. 816,287.
For Facial Cleanser (Int. Cl. 3).
First use Oct. 26, 1967.

SN 286,026. Merle Norman Cosmetics, Inc., Los Angeles, Calif. Filed Dec. 1, 1967.

FROSTIQUES

For Lipstick (Int. Cl. 3).
First use Nov. 1, 1967.

SN 288,172. Armour and Company, Chicago, Ill. Filed Jan. 5, 1968.

COVENTRY CREAM

The word "Cream" is disclaimed apart from the mark as shown.
For Personal Deodorant (Int. Cl. 5).
First use on or prior to Nov. 17, 1967.

SN 288,521. Johnson Publishing Company, Inc., Chicago, Ill. Filed Jan. 10, 1968.

NEW LIFE

For Hair Conditioning Setting Gel (Int. Cl. 3).
First use June 11, 1964.

SN 288,586. Avon Products, Inc., New York, N.Y. Filed Jan. 11, 1968.

SEAGRASS

For After Shave Spray, Talcum Powder, Personal Deodorant, Cream Hair Dress, After Shave Lotion, and Cologne (Int. Cls. 3 and 5).
First use Dec. 28, 1967.

SN 288,588. Avon Products, Inc., New York, N.Y. Filed Jan. 11, 1968.

FRECKLES 'N' FRILLS

For Cologne, Cream Sachet, Hand Cream, Bubble Bath, Lip Pomade, Dusting Powder, Talcum Powder, and Skin Cream Lotion (Int. Cl. 3).
First use Dec. 28, 1967.

SN 288,590. Avon Products, Inc., New York, N.Y. Filed Jan. 11, 1968.

FLOWER GIRL

For Cologne, Cream Sachet, Hand Cream, Bubble Bath, Lip Pomade, Dusting Powder, Talcum Powder, and Skin Cream Lotion (Int. Cl. 3).
First use Dec. 28, 1967.

SN 288,592. Avon Products, Inc., New York, N.Y. Filed Jan. 11, 1968.

DOLL HOUSE

For Cologne, Cream Sachet, Hand Cream, Bubble Bath, Lip Pomade, Dusting Powder, Talcum Powder, and Skin Cream Lotion (Int. Cl. 3).
First use Dec. 28, 1967.

SN 290,606. Helene Curtis Industries, Inc., Chicago, Ill. Filed Feb. 8, 1968.

SURE THING

For Hair Spray (Int. Cl. 3).
First use on or about Jan. 22, 1968.

SN 298,901. Home Dental Aids Company, d.b.a. Home Dental Aids Co., Inc., Bakersfield, Calif. Filed May 23, 1968.

Super-dent

Owner of Reg. No. 822,116.
For Denture Adhesive Powder (Int. Cl. 3).
First use May 13, 1968.

SN 300,033. American Home Products Corporation, New York, N.Y. Filed June 10, 1968.

THE OTHER ONE

For Personal Deodorant (Int. Cl. 5).
First use May 24, 1968.

SN 300,507. Alberto-Culver Company, Melrose Park, Ill. Filed June 17, 1968.

FDS

Owner of Reg. Nos. 831,204 and 848,781.
For Personal Deodorant, Personal Deodorant Towelette, and Bath Oil Preparations (Int. Cls. 3 and 5).
First use Aug. 2, 1966.

SN 302,474. Skyline Ind., Inc., Charlottesville, Va. Filed July 11, 1968.

THE CORINTHIAN

For Hair Spray for Men (Int. Cl. 3).
First use May 31, 1968.

Class 52 — Detergents and Soaps

SN 272,363. Dallas Fountain & Fixture Co., Dallas, Tex. Filed May 25, 1967.

AQUA JET

For All-Purpose Detergent Cleaner for Household and Commercial Use (Int. Cl. 3).
First use Dec. 1, 1966.

SN 272,364. Dallas Fountain & Fixture Co., Dallas, Tex. Filed May 25, 1967.

AQUA STAR

For Bio-Degradable Detergent for Dishwashing and Laundry Use (Int. Cl. 3).
First use Dec. 1, 1966.

SN 275,765. Leathercraft Products, Corp., New York, N.Y. Filed July 11, 1967.

Glove-Crafter

Owner of Reg. No. 535,218.
For Cleaning Fluid for Cleaning Leathers and Suedes (Int. Cl. 3).
First use Jan. 4, 1967.

SN 276,142. Laboratorios Huba, S.A., Mexico City, Mexico. Filed July 17, 1967.

HUBA SEBRYL

The drawing is lined for red.
For Hair Shampoos (Int. Cl. 3).
First use Mar. 24, 1967; in commerce Mar. 24, 1967.

SN 285,075. Tescott-Duray Corporation, Bronx, N.Y. Filed Nov. 16, 1967.

KWANI

For All-Purpose Cleaner (Int. Cl. 3).
First use Nov. 6, 1967.

SN 288,173. Armour and Company, Chicago, Ill. Filed Jan. 5, 1968.

COVENTRY CREAM

The word "Cream" is disclaimed apart from the mark as shown.
For Bath and Toilet Soap (Int. Cl. 3).
First use on or prior to Nov. 17, 1967.

SN 300,233. Premier Industrial Corporation, Cleveland, Ohio. Filed June 12, 1968.

HIT-THE-DIRT

For Concentrated Cleaner for General Plant Maintenance (Int. Cl. 3).
First use Oct. 31, 1967.

SERVICE MARKS

Class 100 — Miscellaneous

SN 257,759. Armour Agricultural Chemical Company, Atlanta, Ga. Filed Nov. 2, 1966.

PPP

PREDICTABLE PROFIT PROGRAM

No claim is made to the exclusive use of the words "Predictable Profit Program" apart from the mark as shown.

For Service to Crop Growers Which Provides for Analysis of Soil and Recommendations for Crop Production and Crop Protection (Int. Cl. 42).
First use on or prior to Aug. 30, 1966.

Class 101 — Advertising and Business

SN 262,817. System Development Corporation, Santa Monica, Calif. Filed Jan. 18, 1967.

SIRS

For Receiving and Recording Salary, Compensation, Job Classification, and Related Data, and Furnishing Such Data as Requested by Customers (Int. Cl. 35).
First use Jan. 10, 1966.

SN 264,728. Electrical Employers' Trust of Santa Barbara County, Santa Barbara, Calif. Filed Feb. 15, 1967.

L.I.T.E. eLectrical Industry Training AND Education OF SANTA BARBARA CO.

Applicant disclaims all wording in the mark except the notation "L.I.T.E."
For Promoting the Business of Professional Licensed Contractors by Informing the Public and the Business World of the Vital Importance of Having All Electrical Work Done by Such Contractors (Int. Cl. 35).
First use Nov. 1, 1965.

SN 270,971. Streater Store Fixtures, Inc., Albert Lea, Minn. Filed May 8, 1967.

For Creation and Production of Advertising Copy, and the Preparation and Production of Decor, Display, Packaging, and Store Front Designs Associated Therewith (Int. Cl. 35).
First use on or about Jan. 4, 1967.

SN 271,761. American National Bank and Trust Company, St. Paul, Minn. Filed May 18, 1967.

FARMAC

For Financial Data Processing and Bookkeeping Services for Farmers (Int. Cl. 35).
First use Mar. 1, 1967.

SN 277,580. Xerox Corporation, Rochester, N.Y. Filed Aug. 4, 1967.

DATRIX

For Reference Services—Namely, Providing Bibliographic References to Dissertations (Int. Cl. 35).
First use on or before Apr. 19, 1967.

SN 287,658. Micro-Reproduction Services, Incorporated, Montebello, Calif. Filed Dec. 27, 1967.

M-R-S

For Filming, Copying, Reproducing, Preparation, Delivery, and Storage of Documents (Int. Cl. 35).
First use as early as October 1964.

SN 287,659. Micro-Reproduction Services, Incorporated, Montebello, Calif. Filed Dec. 27, 1967.

M R S

For Filming, Copying, Reproducing, Preparation, Delivery, and Storage of Documents (Int. Cl. 35).
First use as early as May 1966.

Class 102 — Insurance and Financial

SN 257,644. Carl W. Otis, d.b.a. Merit Business Service, Wilmette, Ill. Filed Oct. 31, 1966.

MERIT-CHEK

For Collection Agency Services (Int. Cl. 36).
First use March 1966.

SN 288,189. Commercial Credit Corporation, Baltimore, Md. Filed Jan. 5, 1968.

Wheel-Estate

For Furnishing Credit Services—Namely, Providing Retail Financing and Wholesale Financing of Mobile Homes and Travel Trailers (Int. Cl. 36).
First use June 14, 1964.

SN 288,190. Commercial Credit Corporation, Baltimore, Md. Filed Jan. 5, 1968.

FLOAT-A-BOAT

For Furnishing Credit Services—Namely, Providing Retail and Wholesale Financing of Marine Equipment (Int. Cl. 36).
First use July 15, 1966.

Class 103 — Construction and Repair

SN 259,551. Kayo Oil Company, Chattanooga, Tenn. Filed Nov. 28, 1966.



Owner of Reg. No. 808,226.
For Automobile and Truck Supply and Maintenance Service (Int. Cl. 37).
First use 1959.

SN 273,643. International Bakerage, Inc., Atlanta, Ga. Filed June 12, 1967.



For Removal of Food Wastes From Industrial Plants, Including the Removal of Waste Bakery Products (Int. Cl. 37).
First use on or about Apr. 1, 1967.

Class 106 — Material Treatment

SN 269,025. Monkey Color, Inc., Hialeah, Fla. Filed Apr. 13, 1967.

MONKEY COLOR

The word "Color" is disclaimed apart from the mark as shown.
For Color Photograph Developing Services (Int. Cl. 40).
First use September 1961.

SN 285,157. Spectrum Systems, Inc., Waltham, Mass. Filed Nov. 17, 1967.



For Applying Reflecting, Anti-Reflecting, Transmitting, Absorbing and Light-Filtering Coatings to Optical Members Such as Lenses, Filters, Mirrors, Optical Flats, and Lasers (Int. Cl. 40).
First use Oct. 19, 1964.

SN 288,225. National Molding Corp., Farmingdale, N.Y. Filed Jan. 5, 1968.



For Custom Molding of Articles of Synthetic Resin for Others (Int. Cl. 40).
First use June 1965.

Class 107 — Education and Entertainment

SN 276,854. The Critters, Inc., New York, N.Y., assignee of Original Critters, Inc., Hillside, N.J. Filed July 26, 1967.

THE CRITTERS

For Entertainment Services—Namely, Renditions of a Rock and Roll Type Band (Int. Cl. 41).
First use during January 1964.

SN 299,070. Macmillan Ring-Free Oil Co., Inc., New York, N.Y. Filed May 27, 1968.

GOLD HELMET AWARD

The word "Award" is disclaimed apart from the mark as shown.
For Entertainment Services—Namely, Promoting Automobile Racing Through the Grant of Awards (Int. Cl. 41).
First use Jan. 23, 1966.

SN 301,588. Leila Holiday, New York, N.Y. Filed June 28, 1968.

THE EXEMPTIONS

For Vocal Musical Entertainment Services (Int. Cl. 41).
First use Apr. 15, 1968.

CERTIFICATION MARKS

Class A — Goods

SN 280,684. The Asphalt Institute, College Park, Md. Filed Sept. 19, 1967.

DEEP-LIFT

The mark certifies that the asphalt pavement is one in which the asphalt base course is laid in one or more lifts of four or more inches compacted thickness. Owner of Reg. No. 801,120.
For Asphalt Pavement.
First use in or about August 1966.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

858,713. REDON. Phrix-Werke Aktiengesellschaft. MULTIPLE CLASS (Classes 1, 39, 42, 43, and 50). SN 251,853. Pub. 8-6-68. Filed 8-8-66.

858,714. OXY. Occidental Petroleum Corporation. SN 270,501. Pub. 8-6-68. Filed 5-2-67.

858,715. MISCELLANEOUS DESIGN. Cargill, Incorporated. MULTIPLE CLASS (Classes 1, 6, and 105). SN 270,732. Pub. 8-6-68. Filed 5-5-67.

858,716. MEDI-GARD. Medical Plastics Corporation of America. SN 289,558. Pub. 8-6-68. Filed 1-25-68.

Class 2 — Receptacles

858,717. WFS AND DESIGN. World Famous Sales Co. MULTIPLE CLASS (Classes 2, 3, 9, 10, 22, 23, 26, 34, and 39). SN 224,828. Pub. 8-6-68. Filed 8-2-65.

858,718. ICE-TAINER. Stainless Ice-Tainer Company. SN 253,350. Pub. 8-6-68. Filed 8-29-66.

858,719. STRESS-SAFE. Bemis Company, Inc. SN 274,173. Pub. 8-6-68. Filed 6-19-67.

858,720. THERMI-CICLE. Rexall Drug and Chemical Company, d.b.a. Tupperware. SN 279,413. Pub. 8-6-68. Filed 8-30-67.

858,721. UNIPAT. Unipat Corporation of America. SN 280,825. Pub. 8-6-68. Filed 9-20-67.

858,722. ZIP N KLIP. Unipat Corporation of America. SN 280,826. Pub. 8-6-68. Filed 9-20-67.

858,723. THE PILLIKIN. Anny Faltin, d.b.a. Jewelry Award Designs. SN 280,864. Pub. 8-6-68. Filed 9-21-67.

858,724. STERNCO AND DESIGN. Sternco Industries, Inc. MULTIPLE CLASS (Classes 2, 6, 13, 21, 23, 31, 35, and 50). SN 281,254. Pub. 8-6-68. Filed 9-27-67.

858,725. FB AND DESIGN. The Interstate Folding Box Company MULTIPLE CLASS (Classes 2, 23, and 37). SN 287,240. Pub. 8-6-68. Filed 12-20-67.

858,726. TARALENE. Tucker Plastic Products Limited. MULTIPLE CLASS (Classes 2 and 23). SN 291,238. Pub. 8-6-68. Filed 2-16-68.

858,727. BAGIT-ALL. Home Metal Products Company. SN 291,266. Pub. 8-6-68. Filed 2-16-68.

858,728. INSUL-SERVER. King-Seeley Thermos Co. SN 291,876. Pub. 8-6-68. Filed 2-26-68.

858,729. MAZE SEAL. National Distillers and Chemical Corporation, d.b.a. National Distillers Products Co. SN 292,283. Pub. 8-6-68. Filed 3-1-68.

858,730. QUIKEE-PAK. Product Research & Development Corp. SN 292,291. Pub. 8-6-68. Filed 3-1-68.

858,731. PLASTI-STEEL. Plasti-Steel, Inc. SN 292,416. Pub. 8-6-68. Filed 3-4-68.

858,732. SATIN KOTE. Hoerner Waldorf Corporation. SN 292,580. Pub. 8-6-68. Filed 3-6-68.

858,733. SHIELD KOTE. Hoerner Waldorf Corporation. SN 292,581. Pub. 8-6-68. Filed 3-6-68.

858,734. LENNOX. Lennox Industries Inc. SN 292,587. Pub. 8-6-68. Filed 3-6-68.

858,735. CORCO. The Cornelius Company. SN 292,892. Pub. 8-6-68. Filed 3-11-68.

858,736. PLASTRUSIONS. CTP Industries Inc. SN 293,224. Pub. 8-6-68. Filed 3-14-68.

858,737. FLAVOR-TRU. Illinois Tool Works Inc. SN 294,051. Pub. 8-6-68. Filed 3-25-68.

858,738. CONO. Continental Can Company, Inc. SN 294,376. Pub. 8-6-68. Filed 3-28-68.

858,739. SIZZLE-SERVER. West Bend Thermo-Serv, Inc. SN 295,394. Pub. 8-6-68. Filed 4-10-68.

858,740. WING-PAK. West Virginia Pulp and Paper Company. SN 295,396. Pub. 8-6-68. Filed 4-10-68.

858,741. THESCO. The J. & B. Smith Co. SN 297,636. Pub. 8-6-68. Filed 5-8-68.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

858,717. (See Class 2 for this trademark.)

858,742. SOCK IT TO ME. John J. Rehill, Jr., d.b.a. John Rehill Novelties. SN 293,615. Pub. 8-6-68. Filed 3-19-68.

Class 4 — Abrasives and Polishing Materials

858,743. WARNER. Warner Electric Company, Inc. MULTIPLE CLASS (Classes 4, 6, 21, and 23). SN 243,614. Pub. 5-7-68. Filed 4-18-66.

858,744. OWL AND DESIGN. Guilleaume-Werk. SN 276,128. Pub. 8-6-68. Filed 7-17-67.

858,745. NAPA AND DESIGN. National Automotive Parts Association. SN 277,692. COLLECTIVE MARK. Pub. 8-6-68. Filed 8-7-67.

858,746. BISOSPRAY. Bison Corporation. SN 284,442. Pub. 8-6-68. Filed 11-9-67.

858,747. CERIROUGE. Thorium Limited. SN 287,774. Pub. 8-6-68. Filed 12-28-67.

Class 5 — Adhesives

858,748. NAPA AND DESIGN. National Automotive Parts Association. SN 277,690. COLLECTIVE MARK. Pub. 8-6-68. Filed 8-7-67.

858,749. GAFTAPE. GAF Corporation, by change of name from General Aniline & Film Corporation. SN 287,540. Pub. 6-25-68. Filed 12-26-67.

Class 6 — Chemicals and Chemical Compositions

858,715. (See Class 1 for this trademark.)

858,724. (See Class 2 for this trademark.)

858,743. (See Class 4 for this trademark.)

858,750. DRU-DRY. Drew Chemical Corporation. SN 224,179. Pub. 8-6-68. Filed 7-26-65.

858,751. YOUR MONEY BUYS DEPENDABILITY. Cirillo Bros. Petroleum Co., Inc. MULTIPLE CLASS (Classes 6 and 15). SN 257,227. Pub. 8-6-68. Filed 10-26-66.

858,752. OXY AND DESIGN. Occidental Petroleum Corporation. SN 270,508. Pub. 8-6-68. Filed 5-2-67.

858,753. FLO MO. Billy H. Sellers. SN 277,715, Pub. 8-6-68. Filed 8-7-67.

858,754. URESOLVE. Amicon Corporation. SN 277,970. Pub. 8-6-68. Filed 8-10-67.

858,755. LIFE. Wisconsin Ice & Coal Co. SN 278,339. Pub. 8-6-68. Filed 8-15-67.

858,756. LIQUISPERS. Basic Incorporated. SN 278,864. Pub. 8–6–68. Filed 8–23–67.

858,757. VEN-FIX. Ventron Corporation. SN 279,761. Pub. 8–6–68. Filed 9–6–67.

858,758. ONE SQUIRT. International Dioxcide, Inc. SN 280,594. Pub. 8–6–68. Filed 9–18–67.

858,759. JET AIR. Jet Air Products Company. MULTIPLE CLASS (Classes 6 and 15). SN 288,735. Pub. 8–6–68. Filed 1–15–68.

858,760. LAVOL. Fritzsche Brothers, Inc. SN 295,484. Pub. 8–6–68. Filed 4–12–68.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

858,717. (See Class 2 for this trademark.)

858,761. MATCH SANDWICH AND DESIGN. Harriette D. Collette, d.b.a. Harriette Crafts. SN 276,736. Pub. 8–6–68. Filed 7–25–67.

858,762. IRONSIGHTER. J. B. Holden Company. SN 279,193. Pub. 8–6–68. Filed 8–28–67.

Class 10 — Fertilizers

858,763. OXY AND DESIGN. Occidental Petroleum Corporation. SN 270,505. Pub. 8–6–68. Filed 5–2–67.

858,764. O X Y. Occidental Petroleum Corporation. SN 270,506. Pub. 8–6–68. Filed 5–2–67.

858,765. HENDU AND DESIGN. Berry Best Egg Company, Inc. SN 274,301. Pub. 8–6–68. Filed 6–20–67.

858,766. LIFE. Wisconsin Ice & Coal Co. SN 278,338. Pub. 8–6–68. Filed 8–15–67.

858,767. FERTILMIX. A. H. Hoffman, Inc. SN 285,133. Pub. 8–6–68. Filed 11–17–67.

Class 12 — Construction Materials

858,768. WIREWELD. G.K.N. Reinforcements Limited. SN 264,318. Pub. 8–6–68. Filed 2–9–67.

858,769. TAPER-TITE. Remington Arms Company, Inc. SN 267,978. Pub. 8–6–68. Filed 3–30–67.

858,770. ETHYL. Ethyl Corporation. SN 269,876. Pub. 8–6–68. Filed 4–24–67.

858,771. AIR-SPACE, INC. AND DESIGN. Air-Space, Inc. SN 273,580. Pub. 8–6–68. Filed 6–12–67.

858,772. LYF-GARD. Niedermeyer-Martin Company. SN 278,157. Pub. 8–6–68. Filed 8–14–67.

858,773. HOOKER. Hooker Chemical Corporation. SN 278,892. Pub. 8–6–68. Filed 8–23–67.

858,774. MTB. Eagle-Picher Industries, Inc. SN 283,434. Pub. 8–6–68. Filed 10–26–67.

858,775. P (DESIGN). Pecora Chemical Corporation. SN 283,923. Pub. 8–6–68. Filed 11–1–67.

858,776. GAF AND DESIGN. GAF Corporation, by change of name from General Aniline & Film Corporation. SN 289,292. Pub. 7–2–68. Filed 1–22–68.

858,777. GAF. GAF Corporation, by change of name from General Aniline & Film Corporation. SN 289,293. Pub. 7–9–68. Filed 1–22–67.

858,778. F (DESIGN). Flangeklamp Corporation. SN 291,146. Pub. 8–6–68. Filed 2–15–68.

858,779. HENDON AND DESIGN. Hendon Construction Company. SN 291,510. Pub. 8–6–68. Filed 2–20–68.

858,780. TRI-LINE. H & D, Inc. SN 291,983. Pub. 8–6–68. Filed 2–27–68.

858,781. READY-COVE. The Johnson Rubber Company. SN 292,106. Pub. 8–6–68. Filed 2–28–68.

858,782. PERMA-DOOR. The Perma-Door Company. SN 293,170. Pub. 8–6–68. Filed 3–13–68.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

858,724. (See Class 2 for this trademark.)

858,783. MULTIPLEX. Multiplex Company. MULTIPLE CLASS (Classes 13, 23, and 31). SN 261,743. Pub. 8–6–68. Filed 12–30–66.

858,784. "IN-GENIA." Overseas Housewares Company. MULTIPLE CLASS (Classes 13 and 23). SN 269,610. Pub. 11–28–67. Filed 4–20–67.

858,785. THORNTON PAY-LEVER. The F. C. Thornton Co. SN 276,261. Pub. 8–6–68. Filed 7–18–67.

858,786. FLUIDAMP. Northeast Engineering, Inc. SN 276,947. Pub. 8–6–68. Filed 7–27–67.

858,787. JETS-TAP. Johnson Enterprises, Inc. SN 279,397. Pub. 8–6–68. Filed 8–30–67.

858,788. FASHION MODE. Pentapco, Inc., d.b.a. Penn Products Co. SN 279,492. Pub. 8–6–68. Filed 8–31–67.

858,789. TEMPTROL. Symmons Engineering Company. SN 280,275. Pub. 8–6–68. Filed 9–13–67.

858,790. ULTRA-LINE. Phillips Petroleum Company. SN 283,551. Pub. 8–6–68. Filed 10–27–67.

858,791. HI-LINE. Phillips Petroleum Company. SN 283,552. Pub. 8–6–68. Filed 10–27–67.

858,792. KEY LINE. Phillips Petroleum Company. SN 283,553. Pub. 8–6–68. Filed 10–27–67.

858,793. MAIN-LINE. Phillips Petroleum Company. SN 283,554. Pub. 8–6–68. Filed 10–27–67.

858,794. MINE-LINE. Phillips Petroleum Company. SN 283,555. Pub. 8–6–68. Filed 10–27–67.

858,795. MODERN LINE. Phillips Petroleum Company. SN 283,556. Pub. 8–6–68. Filed 10–27–67.

858,796. S-LINE. Phillips Petroleum Company. SN 283,557. Pub. 8–6–68. Filed 10–27–67.

858,797. THRIFT-LINE. Phillips Petroleum Company. SN 283,558. Pub. 8–6–68. Filed 10–27–67.

Class 14 — Metals and Metal Castings and Forgings

858,798. HAMILTON PRECISION METALS-LANCASTER, PENNA. AND DESIGN. Hamilton Watch Company. SN 245,476. Pub. 8–6–68. Filed 5–12–66.

858,799. FILAMETS. Rexall Drug and Chemical Company, d.b.a. Fiberfil. SN 291,525. Pub. 8–6–68. Filed 2–20–68.

858,800. HOME PRIDE AND DESIGN. The Kroger Co. SN 292,585. Pub. 8–6–68. Filed 3–6–68.

Class 15 — Oils and Greases

858,751. (See Class 6 for this trademark.)

858,759. (See Class 6 for this trademark.)

858,801. ENCO AND DESIGN. Humble Oil & Refining Company. SN 123,720. Pub. 11–14–61. Filed 7–13–61.

858,802. AGWAY. Agway, Inc., by merger from Cooperative Grange League Federation Exchange, Inc. SN 189,667. Pub. 9–6–66. Filed 3–26–64.

Class 16 — Protective and Decorative Coatings

858,803. AGWAY. Agway, Inc., by merger from Cooperative Grange League Federation Exchange, Inc. SN 189,668. Pub. 11–15–66. Filed 3–26–64.

858,804. POLY-PREP. Foy-Johnston, Inc. SN 263,046. Pub. 7–25–67. Filed 1–23–67.

858,805. NAPA AND DESIGN. National Automotive Parts Association. SN 264,841. COLLECTIVE MARK. Pub. 8–6–68. Filed 2–16–67.

858,806. 3M. Minnesota Mining and Manufacturing Company. SN 290,450. Pub. 8–6–68. Filed 2–7–68.

858,807. PLAID DESIGN. Minnesota Mining and Manufacturing Company. SN 293,091. Pub. 8–6–68. Filed 3–13–68.

Class 18 — Medicines and Pharmaceutical Preparations

858,808. ACTONATE. Takeda Chemical Industries, Ltd. SN 268,628. Pub. 8–6–68. Filed 4–7–67.

858,809. A.M. Bristol-Myers Company. SN 270,884. Pub. 8–6–68. Filed 5–8–67.

858,810. MORE LIFE. Stonewall Witcher. SN 272,530. Pub. 8–6–68. Filed 5–26–67.

858,811. HMS. Allergan Pharmaceuticals. SN 273,456. Pub. 8–6–68. Filed 6–9–67.

858,812. MAGCINE. Medicinal Research Laboratories, Inc. SN 274,224. Pub. 8–6–68. Filed 6–19–67.

858,813. RO-BURN. Max J. Gruhin, d.b.a. Ro-Fay Products. SN 274,427. Pub. 8–6–68. Filed 6–21–67.

858,814. ELIXAMIN-B. Dartell Laboratories, Inc., d.b.a. Dartell Laboratories. SN 276,542. Pub. 8–6–68. Filed 7–21–67.

858,815. LIQUITAB. Mission Pharmacal Company. SN 277,468. Pub. 8–6–68. Filed 8–3–67.

858,816. MAIN EVENT! AND DESIGN. Madison Chemical Corporation. SN 280,438. Pub. 8–6–68. Filed 9–15–67.

858,817. CUMEDCO. CMC, Inc. SN 281,765. Pub. 8–6–68. Filed 10–4–67.

858,818. MEDI-SWAB. L. T. York Company, d.b.a. Medi-Kay Pharmacal Co. SN 281,841. Pub. 8–6–68. Filed 10–4–67.

858,819. MEDI-SEPTIC. L. T. York Company, d.b.a. Medi-Kay Pharmacal Co. SN 281,843. Pub. 8–6–68. Filed 10–4–67.

858,820. AM-O-LOZ. Bristol-Myers Company. SN 282,264. Pub. 8–6–68. Filed 10–11–67.

858,821. PLESTROVIS. Warner-Lambert Research Institute. SN 294,362. Pub. 8–6–68. Filed 3–28–68.

858,822. DILANTIN-125. Parke, Davis & Company. SN 296,746. Pub. 8–6–68. Filed 4–29–68.

858,823. VEETIDS. E. R. Squibb & Sons, Inc. SN 296,750. Pub. 8–6–68. Filed 4–29–68.

858,824. V-TIDS. E. R. Squibb & Sons, Inc. SN 296,751. Pub. 8–6–68. Filed 4–29–68.

Class 19 — Vehicles

858,717. (See Class 2 for this trademark.)

858,825. KEYSTONE SHOCK CONTROL. Keystone Railway Equipment Company. SN 196,970. Pub. 8–6–68. Filed 7–2–64.

858,826. ELIMINATOR. The Murray Ohio Manufacturing Co. SN 275,547. Pub. 8–6–68. Filed 7–7–67.

858,827. LUBBOCK. Lubbock Manufacturing Company. SN 280,434. Pub. 8–6–68. Filed 9–15–67.

858,828. GO-TRACT. Go-Tract Limited. SN 281,069. Pub. 8–6–68. Filed 9–25–67.

858,829. LANCER. Thompson Boat Company of New York, Inc. SN 288,387. Pub. 8–6–68. Filed 1–8–68.

858,830. STARCRAFT. Starcraft Corporation. SN 288,551. Pub. 8–6–68. Filed 1–10–68.

858,831. GHIA. Ghia S.p.A. SN 289,093. Pub. 8–6–68. Filed 1–18–68.

858,832. MAN. Maschinenfabrik Augsburg-Nürnberg, A.G. SN 289,202. Pub. 8–6–68. Filed 1–19–68.

858,833. XRL. White Motor Corporation. SN 289,226. Pub. 8–6–68. Filed 1–19–68.

858,834. SPACEWAGON. Wheel Camper Corporation. SN 289,364. Pub. 8–6–68. Filed 1–22–68.

858,835. SPORTSMASTER. Kit Manufacturing Company. SN 289,993. Pub. 8–6–68. Filed 1–31–68.

858,836. MOJAVE. Troutman-Barnes. SN 296,473. Pub. 8–6–68. Filed 4–24–68.

Class 21 — Electrical Apparatus, Machines, and Supplies

858,724. (See Class 2 for this trademark.)

858,743. (See Class 4 for this trademark.)

858,837. SPECTROL. Spectrol Electronics Corporation. SN 263,705. Pub. 8–6–68. Filed 1–31–67.

858,838. NAPA AND DESIGN. National Automotive Parts Association. SN 264,844. COLLECTIVE MARK. Pub. 8–6–68. Filed 2–16–67.

858,839. BOGEN. Lear Siegler, Inc. SN 268,963. Pub. 8–6–68. Filed 4–12–67.

858,840. MISCELLANEOUS DESIGN. "Automatic" Sprinkler Corporation of America. SN 269,735. Pub. 8–6–68. Filed 4–21–67.

858,841. MHOBOND. The Dexter Corporation, by merger from Hysol Corporation. SN 273,638. Pub. 8–6–68. Filed 6–12–67.

858,842. CETME. Centro de Estudios Tecnicos de Materiales Especiales Ini-Cetme. SN 274,410. Pub. 8–6–68. Filed 6–21–67.

858,843. BREWEAVE. Richard D. Brew & Company, Inc. SN 276,097. Pub. 8–6–68. Filed 7–17–67.

858,844. CHEM FORM. KMS Industries, Inc., assignee of Keco, Inc. SN 276,606. Pub. 7–9–68. Filed 7–24–67.

858,845. MAGNA-LINE. Grady E. and Edna R. Jordan (joint owners), d.b.a. Casper Grinding and Supply. SN 277,180. Pub. 6–11–68. Filed 7–31–67.

858,846. CAPTURED COLOR. Setchell-Carlson, Inc. SN 277,716. Pub. 8–6–68. Filed 8–7–67.

858,847. WORLD WIDE ELECTRONICS AND DESIGN. Lo Duca Bros. Musical Instruments, Inc. SN 278,805. Pub. 8–6–68. Filed 8–22–67.

858,848. MARK C. Fred H. Cole, d.b.a. Cole Instrument. SN 279,051. Pub. 8–6–68. Filed 8–25–67.

858,849. NYL-CEL. Kerrigan Lewis Manufacturing Co. SN 280,068. Pub. 8–6–68. Filed 9–11–67.

858,850. HELI-NOTCH. Espey Mfg. & Electronics Corp. SN 280,305. Pub. 8–6–68. Filed 9–14–67.

858,851. POCKET-PAK. Carol Wire & Cable Corp. SN 281,963. Pub. 8–6–68. Filed 10–6–67.

858,852. MINI-COOL. Sarex Corporation. SN 282,214. Pub. 8–6–68. Filed 10–10–67.

858,853. BEAUCHAINE. Beauchaine & Sons, Inc. MULTIPLE CLASS (Classes 21 and 23). SN 284,532. Pub. 8–6–68. Filed 11–13–67.

858,854. GAFTAPE. GAF Corporation, by change of name from General Aniline & Film Corporation. SN 287,544. Pub. 7–9–68. Filed 12–26–67.

858,855. KORRY. Korry Manufacturing Co. SN 288,100. Pub. 8–6–68. Filed 1–4–68.

858,856. VIKOAX. Vikoa, Incorporated. SN 291,565. Pub. 8–6–68. Filed 2–21–68.

858,857. AMCO. Amco Engineering Company. SN 292,652. Pub. 8–6–68. Filed 3–7–68.

Class 22 — Games, Toys, and Sporting Goods

858,717. (See Class 2 for this trademark.)

858,858. NAVY UNIT II. Pittman Products, Inc., d.b.a. Pittman Rubber Co., assignee, by mesne assignment, of Sportsways, Inc. SN 244,755. Pub. 8–6–68. Filed 5–2–66.

858,859. GEZE-STEP. Vereinigte Baubeschlagfabriken Gretsch & Co. GmbH. SN 254,341. Pub. 8–6–68. Filed 9–12–66.

858,860. BATMAN. National Periodical Publications, Inc. SN 256,368. Pub. 8–6–68. Filed 10–13–66.

858,861. TIME. Professional Tape Co., Inc., d.b.a. Time Products Company. SN 278,416. Pub. 8–6–68. Filed 8–16–67.

858,862. NORIS SHAKESPEARE. Shakespeare Company. SN 287,322. Pub. 8–6–68. Filed 12–20–67.

858,863. COLOR AND CLEAR. Learning Research Corporation, Inc. SN 288,702. Pub. 8–6–68. Filed 1–12–68.

858,864. COMFORT-KING. Gentex Corporation. SN 289,499. Pub. 8–6–68. Filed 1–24–68.

858,865. AQUA-SKEE. Gentex Corporation. SN 289,500. Pub. 8–6–68. Filed 1–24–68.

858,866. WHAT SHALL I BE? Selchow & Righter Company. SN 290,336. Pub. 8–6–68. Filed 2–5–68.

858,867. CONCORDE. British Aircraft Corporation (Operating) Limited. SN 290,576. Pub. 8–6–68. Filed 2–8–68.

858,868. TAK-A-PEG. Transogram Company, Inc. SN 290,665. Pub. 8–6–68. Filed 2–8–68.

858,869. HOOKSETTER. Alfred M. George, Jr., d.b.a. AMH Industries. SN 290,840. Pub. 8–6–68. Filed 2–12–68.

858,870. WHIRL-A-WHEEL. Funway Inc. SN 290,841. Pub. 8–6–68. Filed 2–12–68.

858,871. STRANGE CHANGE. Mattel, Inc. SN 291,331. Pub. 8–6–68. Filed 2–19–68.

858,872. ARROW-LOCK. Boone Bait Company, Inc. SN 291,489. Pub. 8–6–68. Filed 2–20–68.

858,873. PIVOT PETE AND DESIGN. Donco Products Corp. SN 297,006. Pub. 8–6–68. Filed 5–1–68.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

858,717. (See Class 2 for this trademark.)

858,724. (See Class 2 for this trademark.)

858,725. (See Class 2 for this trademark.)

858,726. (See Class 2 for this trademark.)

858,743. (See Class 4 for this trademark.)

858,783. (See Class 13 for this trademark.)

858,784. (See Class 13 for this trademark.)

858,853. (See Class 21 for this trademark.)

858,874. C AND DESIGN. Centri-Spray Corporation. MULTIPLE CLASS (Classes 23 and 31). SN 232,494. Pub. 8–6–68. Filed 11–12–65.

858,875. SURE-SEAL. Westrac Company. MULTIPLE CLASS (Classes 23 and 35). SN 235,879. Pub. 8–6–68. Filed 1–5–66.

858,876. DUNHILL. Alfred Dunhill Limited. SN 238,190. CONCURRENT USE. Pub. 3–21–67. Filed 2–7–66.

858,877. WARNER & SWASEY. The Warner & Swasey Company. MULTIPLE CLASS (Classes 23 and 26). SN 241,403. Pub. 8–6–68. Filed 3–21–66.

858,878. SAFE-T-GRIP. Industrial Specialties Corporation. SN 247,231. Pub. 8–6–68. Filed 6–3–66.

858,879. DIAL-A-STITCH. A. C. Weber Co., Inc. SN 259,869. Pub. 8–6–68. Filed 12–1–66.

858,880. THERMAL SKIN. United Aircraft Corporation. SN 260,688. Pub. 8–6–68. Filed 12–13–66.

858,881. MISCELLANEOUS DESIGN. Elpo Industries Inc. SN 262,414. Pub. 8–6–68. Filed 1–12–67.

858,882. MOBILCRETE. Royal Industries, Inc. SN 263,698. Pub. 8–6–68. Filed 1–31–67.

858,883. MADRAS. Imperial Knife Associated Companies, Inc. SN 263,918. Pub. 8–6–68. Filed 2–3–67.

858,884. DYNA-JET. Dyna-Jet Products, Inc. SN 264,396. Pub. 8–6–68. Filed 2–10–67.

858,885. AMER-CAN AND DESIGN. Jamesway Co. Limited. SN 264,877. Pub. 8–6–68. Filed 1–11–67.

858,886. BRYCE. Bryce Berger Limited. SN 265,397. Pub. 8–6–68. Filed 2–24–67.

858,887. REBAR-MATIC. Schenck Corporation. SN 267,448. Pub. 8–6–68. Filed 3–23–67.

858,888. PRINCESS. Watsco, Inc., assignee of Winslow Manufacturing Corporation. SN 268,260. Pub. 8–6–68. Filed 4–3–67.

858,889. AIR-DROLICS AND DESIGN. The Air-Drolics Company. SN 269,391. Pub. 8–6–68. Filed 4–18–67.

858,890. PANIC STOPS. Kelley Company, Inc. SN 272,069. Pub. 8–6–68. Filed 5–22–67.

858,891. DRI-FLO. Mason Edward Morgan. SN 273,512. Pub. 8–6–68. Filed 6–9–67.

858,892. SANDALWOOD. Textron, Inc., assignee of Gorham Corporation. SN 273,889. Pub. 8–6–68. Filed 6–14–67.

858,893. WAGNER AND DESIGN. Josef Wagner, d.b.a. Ing. Josef Wagner. SN 274,273. Pub. 8–6–68. Filed 6–19–67.

858,894. DIAL MASTER. Clarence T. Bickner, d.b.a. Kitten Kraft. SN 274,398. Pub. 8–6–68. Filed 6–21–67.

858,895. WHIRLWIND. Powers & Eaton Industries, Inc. SN 274,654. Pub. 8–6–68. Filed 6–23–67.

858,896. FPI. Flinchbaugh Products, Inc. SN 274,731. Pub. 8–6–68. Filed 6–26–67.

858,897. HARVEY HARVESTER. Harvey Harvesters, Inc. SN 275,263. Pub. 8–6–68. Filed 7–3–67.

858,898. GAS-O-MISER. Tanaka Bussan Company Limited. SN 275,966. Pub. 8–6–68. Filed 7–13–67.

858,899. HUB CITY AND DESIGN. Safeguard Precision Products, Inc. SN 279,958. Pub. 8–6–68. Filed 9–8–67.

858,900. PORTA LATHE. Morris-Young-Owens Co. SN 280,080. Pub. 8–6–68. Filed 9–11–67.

858,901. ULEX. John Strange Paper Company. SN 280,982. Pub. 8–6–68. Filed 9–22–67.

858,902. FOTOMAT. Werkzeugmaschinenfabrik Oerlikon Bührle & Co. SN 284,257. Pub. 8–6–68. Filed 11–6–67.

858,903. FACE-A-MATIC. Kutz-Kwik, Inc. SN 285,558. Pub. 8–6–68. Filed 11–24–67.

858,904. WESCON. Conchemco Incorporated, d.b.a. Western Control Company. SN 287,398. Pub. 8–6–68. Filed 12–22–67.

Class 24 — Laundry Appliances and Machines

858,905. EKON-O-FEEDER. Ametek, Inc. SN 297,338. Pub. 8–6–68. Filed 5–6–68.

Class 25 — Locks and Safes

858,906. CHENEY. C. W. Cheney & Son Limited. SN 279,169. Pub. 8–6–68. Filed 8–28–67.

Class 26 — Measuring and Scientific Appliances

858,717. (See Class 2 for this trademark.)

858,877. (See Class 23 for this trademark.)

858,907. MATE. Milgo Electronic Corporation. SN 245,939. Pub. 8–6–68. Filed 5–18–66.

858,908. MISCELLANEOUS DESIGN. Mitutoyo Mfg. Co., Ltd. SN 248,047. Pub. 8–6–68. Filed 6–14–66.

858,909. VELOPEX. Medivance (Instruments) Limited, by change of name from N. & J. Motors Limited. SN 260,267. Pub. 8–6–68. Filed 12–7–66.

858,910. PEC AND DESIGN. Products Engineering Corp. SN 266,089. Pub. 8–6–68. Filed 3–6–67.

858,911. TRANSIT-LITE. Spectra-Physics, Inc. SN 266,941. Pub. 8–6–68. Filed 3–16–67.

858,912. SIGOMATIC. Swiss Industrial Company. SN 267,193. Pub. 8–6–68. Filed 3–20–67.

858,913. DIAL-A-PUMP. Durrum Instrument Corporation. SN 267,510. Pub. 8–6–68. Filed 3–24–67.

858,914. WALK-A-MATIC. Chadwick-Miller, Inc., assignee of Chadwick-Miller Importers. SN 268,382. Pub. 8–6–68. Filed 4–5–67.

858,915. UNIVOLT. Stewart-Warner Corporation. SN 273,212. Pub. 8–6–68. Filed 6–6–67.

858,916. LE. Lewis Engineering Company. SN 276,456. Pub. 8–6–68. Filed 7–20–67.

858,917. AUTOCRITIC. DeJur-Amsco Corporation. SN 278,288. Pub. 8–6–68. Filed 8–15–67.

858,918. TASCO. Tasco Sales, Inc. SN 278,745. Pub. 8–6–68. Filed 8–21–67.

858,919. PORT-O-WEIGH. The Firestone Tire & Rubber Company. SN 286,114. Pub. 8–6–68. Filed 12–4–67.

858,920. SKOPOGRAPH. Impulsphysik G.m.b.H. SN 287,018. Pub. 8–6–68. Filed 12–15–67.

858,921. TUKON. American Chain & Cable Company, Inc. SN 287,130. Pub. 8–6–68. Filed 12–18–67.

858,922. BUTYREX. Lusteroid Container Company, Inc. SN 287,305. Pub. 8–6–68. Filed 12–20–67.

858,923. CABOMETER. Cabometer, Inc. SN 288,675. Pub. 8–6–68. Filed 1–12–68.

858,924. VACU-FLO. Rotolite Corporation. SN 288,861. Pub. 8–6–68. Filed 1–15–68.

858,925. ZIP-CLIP. Testron, Inc. SN 296,779. Pub. 8–6–68. Filed 4–29–68.

Class 27 — Horological Instruments

858,926. BELL TIME. Sunbeam Corporation. SN 230,098. Pub. 8–6–68. Filed 10–13–65.

858,927. TOUCH ALARM. Sunbeam Corporation. SN 240,978. Pub. 8–6–68. Filed 3–14–66.

Class 28 — Jewelry and Precious-Metal Ware

858,928. DUNHILL. Alfred Dunhill Limited. SN 238,192. Pub. 4–4–67. Filed 2–7–66.

858,929. INITIALLY YOURS. Melvin Taubman, d.b.a. Melson Jewelry Co. SN 286,043. Pub. 8–6–68. Filed 12–1–67.

858,930. SAVOY. The Richelieu Corp. SN 286,776. Pub. 8–6–68. Filed 12–12–67.

Class 29 — Brooms, Brushes, and Dusters

858,931. AGWAY. Agway, Inc., by merger from Cooperative Grange League Federation Exchange, Inc. SN 189,675. Pub. 9–6–66. Filed 3–26–64.

858,932. SYSTON. The Kendall Company. SN 285,137. Pub. 8–6–68. Filed 11–17–67.

Class 30 — Crockery, Earthenware, and Porcelain

858,933. AR. VEB Staatliche Porzellan-Manufaktur Meissen. MULTIPLE CLASS (Classes 30 and 50). SN 252,501. Pub. 8–6–68. Filed 8–16–66.

Class 31 — Filters and Refrigerators

858,724. (See Class 2 for this trademark.)

858,783. (See Class 13 for this trademark.)

858,874. (See Class 23 for this trademark.)

858,934. AGWAY. Agway, Inc., by merger from Cooperative Grange League Federation Exchange, Inc. SN 189,676. Pub. 9–6–66. Filed 3–26–64.

858,935. NAPA AND DESIGN. National Automotive Parts Association. SN 277,691. COLLECTIVE MARK. Pub. 8–6–68. Filed 8–7–67.

858,936. MISCELLANEOUS DESIGN. Walker Manufacturing Company. SN 286,051. Pub. 8–6–68. Filed 12–1–67.

858,937. GOLDEN GEM. Golden Gem Growers Inc. SN 286,264. Pub. 8–6–68. Filed 12–5–67.

858,938. PORET. Olin Mathieson Chemical Corporation. SN 296,616. Pub. 8–6–68. Filed 4–26–68.

Class 32 — Furniture and Upholstery

858,939. DUNHILL. Alfred Dunhill Limited. SN 238,194. Pub. 3–21–67. Filed 2–7–66.

858,940. EASY READER. Norbert Miotke. SN 276,760. Pub. 8–6–68. Filed 7–25–67.

858,941. SEVEN SEAS. Seven Seas Incorporated. SN 281,925. Pub. 8–6–68. Filed 10–5–67.

858,942. BREEZ-ILATED. Heckethorn Manufacturing Company. SN 286,141. Pub. 8–6–68. Filed 12–4–67.

858,943. STAK-PAL. Cerco Corporation, assignee of C. E. Robinson Company. SN 291,289. Pub. 8–6–68. Filed 2–16–68.

Class 34 — Heating, Lighting, and Ventilating Apparatus

858,717. (See Class 2 for this trademark.)

858,944. GENIE. The Alliance Manufacturing Company, Inc., assignee of Slant/Fin Corporation. SN 225,611. Pub. 3–22–66. Filed 8–12–65.

858,945. FLEXI/JET. CRS Industries, Inc. SN 251,086. Pub. 8–6–68. Filed 7–5–66.

858,946. FOLAX. F. L. Smidth & Co. SN 264,766. Pub. 8–6–68. Filed 2–15–67.

858,947. AIRLUME. Solar Light Manufacturing Co. SN 270,294. Pub. 8–6–68. Filed 4–28–67.

858,948. IDEAS BY ADELWINE. Ida Weinman. SN 272,231. Pub. 8–6–68. Filed 5–23–67.

858,949. GASILATOR. The Majestic Company, Inc. SN 285,374. Pub. 8–6–68. Filed 11–22–67.

858,950. CAPRICE. The Majestic Company, Inc. SN 285,435. Pub. 8–6–68. Filed 11–22–67.

858,951. JOLO LIGHTING AND DESIGN. Daryl Industries, Inc. SN 286,756. Pub. 8–6–68. Filed 12–12–67.

858,952. SOUNDPLENUM. Baldwin-Ehret-Hill, Incorporated. SN 296,504. Pub. 8–6–68. Filed 4–25–68.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

858,724. (See Class 2 for this trademark.)

858,875. (See Class 23 for this trademark.)

858,953. STEAM ACE. The Gates Rubber Company. SN 279,819. Pub. 8–6–68. Filed 9–7–67.

858,954. SCOT HAWK. McCreary Tire & Rubber Company. SN 290,508. Pub. 8–6–68. Filed 2–7–68.

858,955. SCOT HUGGER. McCreary Tire & Rubber Company. SN 290,511. Pub. 8-6-68. Filed 2-7-68.

858,956. BUFFALO. N.V. Rubberfabriek Vredestein. SN 291,417. Pub. 8-6-68. Filed 2-19-68.

858,957. DYNAGLASS. The Armstrong Rubber Company. SN 291,576. Pub. 8-6-68. Filed 2-21-68.

Class 36 — Musical Instruments and Supplies

858,958. UHER 4000 REPORT-L. Martel Electronics Sales Incorporated. SN 251,553. Pub. 8-6-68. Filed 8-2-66.

858,959. ROOSTER AND SUN (DESIGN). Penco Record Company. SN 266,083. Pub. 8-6-68. Filed 3-6-67.

858,960. KEE-BASS. Rheem Manufacturing Company. SN 270,955. Pub. 8-6-68. Filed 5-8-67.

858,961. THE MOTOWN SOUND. Motown Record Corporation. SN 277,686. Pub. 8-6-68. Filed 8-7-67.

858,962. D'ANGELICO NEW YORK AND DESIGN. D'Merle Guitars, Inc. SN 283,111. Pub. 8-6-68. Filed 10-23-67.

858,963. LEGACY. Columbia Broadcasting System, Inc. SN 289,971. Pub. 8-6-68. Filed 1-31-68.

Class 37 — Paper and Stationery

858,725. (See Class 2 for this trademark.)

858,964. Dunhill. Alfred Dunhill Limited. SN 238,196. CONCURRENT USE. Pub. 3-14-67. Filed 2-7-66.

858,965. AUD-IT-QUIK. Aud-It-Quik Systems Company, Inc. SN 254,109. Pub. 8-6-68. Filed 9-9-66.

858,966. EZ WAY AND DESIGN. Jas. (Jim) Milton Sherrill, d.b.a. E-Z-WAY Business and Tax Record. SN 261,252. Pub. 8-6-68. Filed 12-21-66.

Class 38 — Prints and Publications

858,967. COMPLETE-A-PLATE. O. O. Ressel, d.b.a. Woodrow Wilson Co. SN 249,578. Pub. 8-6-68. Filed 7-5-66.

858,968. ABC CLIO AND DESIGN. Clio Press. SN 271,420. Pub. 8-6-68. Filed 5-15-67.

858,969. FAMILY CIRCLE. The Family Circle, Inc. SN 273,386. Pub. 8-6-68. Filed 6-8-67.

858,970. VIEWPOINT BOOKS COLOPHON. Loeffler & Co., Inc., d.b.a. Viewpoint Books. SN 276,240. Pub. 8-6-68. Filed 7-18-67.

858,971. THE SOYBEAN DIGEST BLUE BOOK ISSUE. The American Soybean Association. SN 280,535. Pub. 8-6-68. Filed 9-18-67.

858,972. "QUOTO FOTO" AND DESIGN. Morris A. Hertzon. SN 284,200. Pub. 8-6-68. Filed 11-6-67.

858,973. PUBLISHERS OF BOOKS FOR YOUNG PEOPLE AND DESIGN. Creative Educational Society, Inc. SN 284,624. Pub. 8-6-68. Filed 11-13-67.

Class 39 — Clothing

858,713. (See Class 1 for this trademark.)

858,717. (See Class 2 for this trademark.)

858,974. STYLE WISE. Steinmetz Bros., Inc. SN 244,626. Pub. 8-6-68. Filed 4-29-66.

858,975. THE LION'S DEN. The Wurzburg Company. SN 255,668. Pub. 3-5-68. Filed 10-3-66.

858,976. CITGO AND DESIGN. Cities Service Oil Company. SN 255,963. Pub. 8-6-68. Filed 10-7-66.

858,977. MISCELLANEOUS DESIGN. Anwelt Corporation. SN 276,899. Pub. 8-6-68. Filed 3-30-67.

858,978. STORM MASTER. Endicott Johnson Corporation. SN 270,481. Pub. 8-6-68. Filed 5-2-67.

858,979. DUX RAFEL AND DESIGN. Generos de Punto Rafel, S.A. MULTIPLE CLASS (Classes 39 and 42). SN 272,533. Pub. 8-6-68. Filed 5-29-67.

858,980. THE RED EYE AND DESIGN. Aileen, Inc. SN 274,576. Pub. 8-6-68. Filed 6-23-67.

858,981. MISS MARLEIGH JR. Martin's, d.b.a. Martins, Inc. and Martin's, Inc. SN 275,381. Pub. 8-6-68. Filed 7-5-67.

858,982. FRANK MERRIWELL. Rapid-American Corporation. SN 276,866. Pub. 8-6-68. Filed 7-26-67.

858,983. AIRLOOM BY HANSEN. Hansen Glove Corporation. SN 278,796. Pub. 8-6-68. Filed 8-22-67.

858,984. LINFLOR. Danchin, Societe Anonyme. SN 279,379. Pub. 8-6-68. Filed 8-30-67.

858,985. WAIST-AWAYS. Wayne-Gossard Corporation. SN 279,508. Pub. 8-6-68. Filed 8-31-67.

858,986. MILTON'S CLOTHING CUPBOARD AND DESIGN. Milton Julian. SN 280,360. Pub. 8-6-68. Filed 9-11-67.

858,987. TINA LEE. Levy Bros. Frocks, Inc. SN 280,608. Pub. 8-6-68. Filed 9-18-67.

858,988. TEEN MATES. Youthcraft Creations Inc. SN 290,927. Pub. 8-6-68. Filed 2-12-68.

858,989. TAFF-SMOOTH. Maidenform, Inc. SN 291,557. Pub. 8-6-68. Filed 2-21-68.

858,990. THE NOW GENERATION. Alamo Manufacturing Co., Inc. SN 291,807. Pub. 8-6-68. Filed 2-26-68.

858,991. ACTIVE EDITIONS. Active Editions, Ltd. SN 293,889. Pub. 8-6-68. Filed 3-22-68.

Class 40 — Fancy Goods, Furnishings, and Notions

858,992. LOVELEE LIFT. All-American Brush Mfg. Corp. SN 287,711. Pub. 8-6-68. Filed 12-28-67.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

858,713. (See Class 1 for this trademark.)

858,979. (See Class 39 for this trademark.)

858,993. THE LOOK AND DESIGN. Toby Textiles, Inc. SN 266,601. Pub. 8-6-68. Filed 3-13-67.

858,994. AMERICAN HOME. Ely & Walker, Inc. SN 288,202. Pub. 8-6-68. Filed 1-5-68.

858,995. MOORESVILLE AND DESIGN. Burlington Industries, Inc. SN 288,595. Pub. 8-6-68. Filed 1-11-68.

858,996. FILTERTEMP. J. P. Stevens & Co., Inc. SN 288,882. Pub. 8-6-68. Filed 1-15-68.

Class 43 — Thread and Yarn

858,713. (See Class 1 for this trademark.)

Class 44 — Dental, Medical, and Surgical Appliances

858,997. FEB FOLEY AND DESIGN. Selfiate Corporation, assignee of Foley Bag Catheter, Inc. SN 148,345. Pub. 10-20-64. Filed 2-28-62.

858,998. RED VUE. Popper & Sons, Inc. SN 264,238. Pub. 8-6-68. Filed 2-8-67.

858,999. HYDRO AND DESIGN. Hydro Manufacturing, Inc. SN 288,055. Pub. 8-6-68. Filed 1-4-68.

859,000. TRU-TORC. American Hospital Supply Corporation. SN 289,256. Pub. 8-6-68. Filed 1-22-68.

859,001. CARE-ETTE. Air Reduction Company, Incorporated. SN 289,464. Pub. 8-6-68. Filed 1-24-68.

Class 45 — Soft Drinks and Carbonated Waters

859,002. STRIPE-TOP. Canada Dry Corporation. SN 280,146. Pub. 8-6-68. Filed 9-12-67.

859,003. SACI. The Coca-Cola Company. SN 289,941. Pub. 8-6-68. Filed 1-31-68.

859,004. CAL FRESH. Arden-Mayfair, Inc., d.b.a. Low Cost Mkts. SN 292,834. Pub. 8-6-68. Filed 3-11-68.

Class 46 — Foods and Ingredients of Foods

859,005. SUGAR & SPICE. Colonial Stores Incorporated. SN 143,935. Pub. 8-6-68. Filed 5-7-62.

859,006. MOHRS AND DESIGN. Mohr Orchards, Inc. SN 248,152. Pub. 8-6-68. Filed 6-15-66.

859,007. SPOON N' SERVE. Rich Products Corporation. SN 269,349. Pub. 8-6-68. Filed 4-17-67.

859,008. THREE LAKES. Malaga Co-Ops, Inc. SN 269,905. Pub. 8-6-68. Filed 4-24-67.

859,009. GO-GO BURGERS. World Foods Corporation. SN 269,940. Pub. 8-6-68. Filed 4-24-67.

859,010. SMOOOTHIE. Max Russer Inc. SN 270,280. Pub. 8-6-68. Filed 4-28-67.

859,011. SCHNITZEL BUDS. John Kraft Sesame Corporation. SN 270,394. Pub. 8-6-68. Filed 5-1-67.

859,012. CRY BABY. Anthony Guerriero. SN 270,675. Pub. 8-6-68. Filed 5-4-67.

859,013. LINDT CHOCOLETTI. Chocoladefabriken Lindt & Sprungli AG. SN 272,884. Pub. 8-6-68. Filed 6-2-67.

859,014. KERN LAND. Kern County Land Company (Delaware corporation), assignee of Kern County Land Company (California corporation). SN 273,782. Pub. 8-6-68. Filed 6-13-67.

859,015. KERN LAND AND DESIGN. Kern County Land Company (Delaware corporation), assignee of Kern County Land Company (California corporation). SN 273,783. Pub. 6-13-67.

859,016. MISCELLANEOUS DESIGN. Mister Donut of America, Inc. SN 274,821. Pub. 8-6-68. Filed 6-26-67.

859,017. WHITE CREST. SCM Corporation, assignee of The Glidden Company, d.b.a. Durkee Famous Foods. SN 275,257. Pub. 8-6-68. Filed 7-3-67.

859,018. FLASH. Land O'Lakes Creameries, Inc., d.b.a. Dairy Maid Products. SN 275,536. Pub. 8-6-68. Filed 7-7-67.

859,019. TRIMITS. Brooke Bond Foods, Inc., by change of name from Brooke Bond Tea Co., Inc. SN 276,814. Pub. 8-6-68. Filed 7-26-67.

859,020. 8 MINUTE AND DESIGN. National Oats Company, Inc., assignee of National Oats Company. SN 276,942. Pub. 8-6-68. Filed 7-27-67.

859,021. KETTLE-BLEND. Hunt-Wesson Foods, Inc. SN 279,650. Pub. 8-6-68. Filed 9-5-67.

859,022. VR VETERINARY RESEARCH BRAND. The Veterinary Research Co., Inc. SN 280,116. Pub. 8-6-68. Filed 9-11-67.

859,023. AJI-NO-MOTO AND DESIGN. Ajinomoto Kabushiki Kaisha, d.b.a. Ajinomoto Co., Inc. SN 282,521. Pub. 8-6-68. Filed 10-16-67.

859,024. MILK NUT LOAF AND DESIGN. Walter M. Lowney Company Limited. SN 283,448. Pub. 8-6-68. Filed 10-26-67.

859,025. FROZEN EASY EGGS FARM FRESH WHOLE EGGS PASTURIZED AND DESIGN. Easy Eggs Corporation. SN 283,644. Pub. 8-6-68. Filed 10-30-67.

859,026. CHERRYSTONE. Earl C. Smith, d.b.a. Cherrystone Co. SN 284,053. Pub. 8-6-68. Filed 11-2-67.

859,027. CLICK'N CHICK'N. Click'n Chick'n, Inc. SN 284,267. Pub. 8-6-68. Filed 10-23-67.

859,028. SLENDERELLA. Louis Sherry, Inc., assignee of Slenderella, Inc. SN 285,260. Pub. 8-6-68. Filed 11-20-67.

859,029. PROSUP. African Explosives and Chemical Industries Limited. SN 285,887. Pub. 8-6-68. Filed 10-23-67.

859,030. GOLDEN WEST. McCormick & Company, Incorporated. SN 286,163. Pub. 8-6-68. Filed 12-4-67.

859,031. TUDOR QUEEN. Antony Worham Limited. SN 286,228. Pub. 8-6-68. Filed 12-4-67.

859,032. FRANCISCO. Oroweat Baking Company. SN 286,711. Pub. 8-6-68. Filed 12-11-67.

859,033. BUTTERBURST. The Pillsbury Company. SN 286,957. Pub. 8-6-68. Filed 12-14-67.

859,034. AMERFOND. American Sugar Company. SN 287,133. Pub. 8-6-68. Filed 12-18-67.

859,035. JOEY CHIPS. General Mills, Inc. SN 288,158. Pub. 7-9-68. Filed 1-5-68.

859,036. BEEFOGETTI. American Home Products Corporation. SN 290,989. Pub. 8-6-68. Filed 2-14-68.

859,037. GRAHAM CLACKERS. General Mills, Inc. SN 291,941. Pub. 7-23-68. Filed 2-27-68.

859,038. VALLEY FARMS. National Dairy Products Corporation. SN 292,744. Pub. 8-6-68. Filed 3-8-68.

859,039. VALLEY RANCH. Ocoma Foods Company, d.b.a. Hayden House Foods Co. SN 292,746. Pub. 8-6-68. Filed 3-8-68.

859,040. DOG CHOP. Sternco Industries, Inc. SN 292,821. Pub. 8-6-68. Filed 3-8-68.

859,041. TRU TENDR. Swift & Company. SN 292,826. Pub. 8-6-68. Filed 3-8-68.

859,042. TATER TOWN. Artie's Food Products, Inc. SN 293,880. Pub. 8-6-68. Filed 3-22-68.

859,043. HAM CHEDDARTON. Thomas J. Lipton, Inc. SN 294,554. Pub. 8-6-68. Filed 4-1-68.

859,044. FLATS. General Mills, Inc. SN 297,138. Pub. 8-6-68. Filed 5-2-68.

859,045. OPEN RANGE. General Mills, Inc. SN 297,253. Pub. 8-6-68. Filed 5-3-68.

859,046. SHUCKS. General Mills, Inc. SN 297,255. Pub. 8-6-68. Filed 5-3-68.

859,047. CREMAGIC. General Mills, Inc. SN 297,256. Pub. 8-6-68. Filed 5-3-68.

Class 48 — Malt Beverages and Liquors

859,048. MILLER HIGH LIFE ON NECK LABEL. Miller Brewing Company. SN 288,706. Pub. 8-6-68. Filed 1-12-68.

Class 49 — Distilled Alcoholic Liquors

859,049. HOPSCOTCH. Continental Distilling Corporation. SN 292,999. Pub. 8-6-68. Filed 3-12-68.

859,050. OLD OAK RUM AND DESIGN. Angostura Bitters (Dr. J. G. B. Siegert & Sons) Limited. SN 295,282. Pub. 8-6-68. Filed 4-10-68.

Class 50 — Merchandise Not Otherwise Classified

858,713. (See Class 1 for this trademark.)

858,724. (See Class 2 for this trademark.)

858,933. (See Class 30 for this trademark.)

859,051. CLING-FOIL. The Borden Company. SN 265,972. Pub. 8–6–68. Filed 3–6–67.

Class 51 — Cosmetics and Toilet Preparations

859,052. DUNHILL. Alfred Dunhill Limited. SN 238,199. Pub. 3–14–67. Filed 2–7–66.

859,053. BE BLONDE PLUS II. La Maur, Inc. SN 264,428. Pub. 4–23–68. Filed 2–10–67.

859,054. LUCILLE BOUCHARD. Lucille Bouchard Salon, Inc. SN 272,157. Pub. 8–6–68. Filed 5–23–67.

859,055. FREND. Farah Manufacturing Company, Inc., d.b.a. Farah Industries. SN 276,115. Pub. 8–6–68. Filed 7–17–67.

859,056. ANA MARIA AND DESIGN. Ana Maria, Inc. SN 290,928. Pub. 8–6–68. Filed 2–13–68.

859,057. CHEMHOT. Carter-Wallace, Inc. SN 295,878. Pub. 8–6–68. Filed 4–18–68.

859,058. WHITE HEAT. Carter-Wallace, Inc. SN 295,879. Pub. 8–6–68. Filed 4–18–68.

Class 52 — Detergents and Soaps

859,059. AGWAY. Agway, Inc., by merger from Cooperative Grange League Federation Exchange, Inc. SN 189,684. Pub. 9–6–66. Filed 3–26–64.

859,060. GENERAL FIVE STAR ETC. AND DESIGN. General Five Star Products, Inc. SN 252,092. Pub. 8–6–68. Filed 8–10–66.

859,061. AUDIOTEX AND DESIGN. Hydrometals, Inc., d.b.a. G.C. Electronics Company. SN 264,321. Pub. 8–6–68. Filed 2–9–67.

859,062. CLAYTON. Clayton Manufacturing Company. SN 270,231. Pub. 8–6–68. Filed 4–28–67.

859,063. KLEER O FOG. Winters Chemical Laboratories, Inc. SN 271,667. Pub. 8–6–68. Filed 5–16–67.

859,064. FORMULA "OOTW." Woodland Chemical & Paper Corporation. SN 271,743. Pub. 8–6–68. Filed 5–17–67.

859,065. RESPOND. Colgate-Palmolive Company. SN 279,717. Pub. 8–6–68. Filed 9–6–67.

859,066. BANGALORE. Avon Products, Inc. SN 281,670. Pub. 8–6–68. Filed 10–3–67.

859,067. STEEPLECHASE. Avon Products, Inc. SN 281,673. Pub. 8–6–68. Filed 10–3–67.

859,068. ON VIEW. Avon Products, Inc. SN 281,675. Pub. 8–6–68. Filed 10–3–67.

859,069. OMNOSOL. Geigy Chemical Corporation. SN 284,358. Pub. 8–6–68. Filed 11–8–67.

859,070. CHEMSHEEN. Chemfil Miles Chemical and Filter Company, Inc. SN 286,092. Pub. 8–6–68. Filed 12–4–67.

859,071. PROPALON. Chromex Chemical Corp. SN 286,095. Pub. 8–6–68. Filed 12–4–67.

Service Marks

Class 100 — Miscellaneous

859,072. DER WIENERSCHNITZEL. Der Wienerschnitzel International, Inc. SN 234,630. Pub. 8–6–68. Filed 12–15–65.

859,073. MISCELLANEOUS DESIGN. Litton Industries, Inc., assignee of Streater Store Fixtures, Inc. MULTIPLE CLASS (Classes 100 and 103). SN 240,121. Pub. 5–14–68. Filed 3–3–66.

859,074. THE GRIFFIN WELLPOINT SYSTEMS ETC. AND DESIGN. Griffin Wellpoint Corporation. MULTIPLE CLASS (Classes 100 and 103). SN 273,636. Pub. 8–6–68. Filed 6–12–67.

859,075. IMAGINEERING. Wed Enterprises, Inc. SN 275,803. Pub. 8–6–68. Filed 7–11–67.

859,076. PROFESSIONALYSIS. American Professional Salesmen's Association, Incorporated. SN 276,798. Pub. 8–6–68. Filed 7–26–67.

859,077. FUZZY'S HOBO CAFE. Edward S. Corey, d.b.a. Fuzzy's Hobo Cafe and Drive-In. SN 279,530. Pub. 8–6–68. Filed 9–1–67.

859,078. VOISIN. Restaurant Voisin, Inc. SN 283,459. Pub. 8–6–68. Filed 10–26–67.

859,079. PIONEER GIRLS. Pioneer Girls. SN 284,236. Pub. 8–6–68. Filed 11–6–67.

Class 101 — Advertising and Business

859,080. 5–10. Hipodromo de Tijuana. SN 255,981. Pub. 8–6–68. Filed 10–7–66.

859,081. MINKO. Gittelman's Sons, Inc. SN 268,402. Pub. 8–6–68. Filed 4–5–67.

859,082. "TIME IS AN ELEMENT OF PROFIT." V. T. Mancusi, Inc. SN 270,841. Pub. 8–6–68. Filed 5–8–67.

859,083. BEAU-MONDE. Beau-Mondé Ltd. SN 272,798. Pub. 8–6–68. Filed 6–1–67.

859,084. DIAL-A-BOOK SERVICE. Thomas F. Thornton, d.b.a. Dial-A-Gift Co. SN 278,844. Pub. 6–11–68. Filed 8–21–67.

859,085. AAA AND DESIGN. Austin Auctions, Inc. SN 281,952. Pub. 8–6–68. Filed 10–6–67.

859,086. AGRICULTURAL INSIGHT. Agricultural Insight, Inc. SN 282,757. Pub. 8–6–68. Filed 10–18–67.

Class 102 — Insurance and Financial

859,087. MISCELLANEOUS DESIGN. The Marquette National Bank of Minneapolis, d.b.a. Marquette National Bank. SN 272,290. Pub. 8–6–68. Filed 5–24–67.

859,088. DESIGN OF FOUR ELEMENTS. Exchange National Bank of Chicago. SN 285,534. Pub. 8–6–68. Filed 11–24–67.

859,089. MISCELLANEOUS DESIGN. Exchange National Bank of Chicago. SN 285,535. Pub. 8–6–68. Filed 11–24–67.

859,090. BERKSHIRE LIFE. Berkshire Life Insurance Company. SN 293,075. Pub. 8–6–68. Filed 3–13–68.

859,091. BERKSHIRE LIFE AND DESIGN. Berkshire Life Insurance Company. SN 293,076. Pub. 8–6–68. Filed 3–13–68.

859,092. INA LIFE AND DESIGN. Insurance Company of North America. SN 293,087. Pub. 8–6–68. Filed 3–13–68.

Class 103 — Construction and Repair

859,073. (See Class 100 for this trademark.)

859,074. (See Class 100 for this trademark.)

859,093. IEC AND DESIGN. Interstate Engineering Corporation. SN 229,707. Pub. 8–6–68. Filed 10–11–65.

859,094. MAN IN SCOTTISH COSTUME HOLDING MOP (DESIGN). MacClean Service Co. Inc. SN 273,968. Pub. 8–6–68. Filed 6–15–67.

859,095. MAN IN SCOTTISH COSTUME HOLDING WRENCH (DESIGN). MacClean Service Co. Inc. SN 273,969. Pub. 8–6–68. Filed 6–15–67.

Class 104 — Communication

859,096. UNITED TELEPHONE SYSTEM. United Utilities, Incorporated. SN 282,843. Pub. 8–6–68. Filed 10–18–67.

Class 105 — Transportation and Storage

858,715. (See Class 1 for this trademark.)

859,097. THRUTAINER. Universal Carloading and Distributing Co. SN 272,230. Pub. 8–6–68. Filed 5–23–67.

859,098. CAROP. Carop-Verenigde Europese Autoverhuurbedrijven N.V. SN 272,807. Pub. 8–6–68. Filed 6–1–67.

859,099. DOX. Dixie Ohio Express, Inc. SN 279,462. Pub. 8–6–68. Filed 8–31–67.

859,100. MISCELLANEOUS DESIGN. Universal Carloading and Distributing Company. SN 280,188. Pub. 8–6–68. Filed 9–12–67.

859,101. HAUL WITH HALL. Hall Drive-It-Yourself Company. SN 281,191. Pub. 8–6–68. Filed 9–26–67.

Class 106 — Material Treatment

859,102. EUROCOLOR. L'Aluminium Francais. SN 258,557. Pub. 8–6–68. Filed 11–14–66.

859,103. UNION CARBIDE AND DESIGN. Union Carbide Corporation. SN 279,426. Pub. 8–6–68. Filed 8–30–67.

Class 107 — Education and Entertainment

859,104. PERSONALYSIS AND DESIGN. Lloyd Burke Bronston, d.b.a. Personalysis. SN 276,638. Pub. 8–6–68. Filed 7–24–67.

859,105. PIONEER VILLAGE. Harold Warp, d.b.a. Pioneer Village. SN 285,688. Pub. 8–6–68. Filed 11–27–67.

Collective Membership Mark

Class 200

859,106. MISCELLANEOUS DESIGN. Subud International Services, Inc. SN 262,815. Pub. 8–6–68. Filed 1–18–67.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

SECTION 1

(Combined Certificates)

859,111. Compagnie Fermiere de L'Etablissement Thermal de Vichy, Paris, France. SN 257,547. Filed P.R. 10–28–66; Am. S.R. 7–9–68.



The drawing is lined for the color blue. Owner of French Reg. No. 474,404, dated Sept. 4, 1958 (Paris); Natl. Inst. No. 112,833; and U.S. Reg. No. 299,186.

Class 18—Medicines and Pharmaceutical Preparations

For Pastilles Made From Mineral Water (Int. Cl. 5).

Class 45—Soft Drinks and Carbonated Waters

For Mineral Water (Int. Cl. 32).

Class 46—Foods and Ingredients of Foods

For Barley Sugar and Bonbons (Int. Cl. 30).

SECTION 2

Class 2 — Receptacles

859,107. Coordinated Plastics Inc., Brooklyn, N.Y. SN 275,641. Filed P.R. 7–10–67; Am. S.R. 8–1–68.

PAK 'N TOTE

For Polyethylene Bags With Handle (Int. Cl. 16).
First use June 9, 1967.

Class 4 — Abrasives and Polishing Materials

859,108. Schaffner Manufacturing Company, Inc., Pittsburgh, Pa. SN 261,596. Filed P.R. 12–28–66; Am. S.R. 8–1–68.

SATINIZER

For Buffing Wheels (Int. Cl. 7).
First use on or about Jan. 9, 1962.

Class 7 — Cordage

859,109. Royal Industries, Inc., Pasadena, Calif. SN 246,369. Filed P.R. 5–23–66; Am. S.R. 6–3–68.

FLEX-TIES

For Tie Strips or Bag Ties (Int. Cl. 22).
First use at least as early as October 1965.

Class 15 — Oils and Greases

859,110. Special Oils Manufacturing Co., West New York, N.J. SN 272,521. Filed P.R. 5–26–67; Am. S.R. 7–15–68.

'NO SOOT'

For Fuel Oil Conditioning Additive To Dissolve Sludge, Inhibit Corrosion and Reduce Soot (Int. Cl. 1).
First use May 17, 1967.

Class 18 — Medicines and Pharmaceutical Preparations

859,111. See Section 1 (Combined Certificate).

Class 19 — Vehicles

859,112. Coronado Manufacturing Company, Long Beach, Calif. SN 278,469. Filed P.R. 8–17–67; Am. S.R. 8–9–68.

RE-SET

For Rear View Mirrors for Vehicles (Int. Cl. 12).
First use Apr. 20, 1967.

Class 22 — Games, Toys, and Sporting Goods

859,113. J. C. Penney Company, New York, N.Y. SN 244,732. Filed P.R. 5–2–66; Am. S.R. 8–12–68.

SANTA MOUSE

For Stuffed Toys (Int. Cl. 28).
First use Oct. 14, 1965.

859,114. Cossman & Levine, Inc., Los Angeles, Calif. SN 268,157. Filed P.R. 4–3–67; Am. S.R. 7–29–68.

GIANT

For Toys—Namely, Ant Vivaria (Int. Cl. 28).
First use Mar. 7, 1958.

859,115. Everlast World's Boxing Headquarters Corporation, Bronx, N.Y. SN 272,369. Filed P.R. 5–25–67; Am. S.R. 7–8–68.

ZIP AMATS

For Gymnasium Mats (Int. Cl. 27).
First use December 1965.

Class 32 — Furniture and Upholstery

859,116. Gibboney-Hammond, Chamblee, Ga. SN 273,758. Filed P.R. 6–13–67; Am. S.R. 8–12–68.

SOF-SEAT

For Inflatable Cushions (Int. Cl. 20).
First use Feb. 9, 1967.

Class 38 — Prints and Publications

859,117. Visual Impact, Inc., Gardner, Kans. SN 256,783. Filed P.R. 10–19–66; Am. S.R. 3–18–68.

VISUAL IMPACT

For Three Dimensional and Animated Printed Display Pieces for Use in Advertising, Graphic Arts, Publishing and the Like (Int. Cl. 16).
First use Oct. 4, 1966.

859,118. Gordon Publications, Inc., Morristown, N.J. SN 274,868. Filed 6–27–67.

ARCHITECTURAL PRODUCTS

For Trade Magazine (Int. Cl. 16).
First use at least as early as June 1, 1966.

859,119. Gordon Publications, Inc., Morristown, N.J. SN 274,869. Filed 6–27–67.

CHEMICAL EQUIPMENT

For Trade Magazine (Int. Cl. 16).
First use at least as early as June 1, 1962.

859,120. Jacques C. Schiff, Jr., New York, N.Y. SN 275,176. Filed P.R. 6–30–67; Am. S.R. 7–5–68.

"ESPECIALLY FOR SPECIALISTS"

For Printed Booklet Used in Connection With the Sale of Stamps at Public Auction (Int. Cl. 16).
First use May 15, 1964.

Class 39 — Clothing

859,121. Malcolm Kenneth Co., Boston, Mass. SN 283,256. Filed P.R. 10–24–67; Am. S.R. 5–21–68.

FEATHERLITE CONSTRUCTION

For Topcoats and Overcoats (Int. Cl. 25).
First use August 1948.

859,122. Arlan's Dept. Stores, Inc., New York, N.Y. SN 283,415. Filed P.R. 10–26–67; Am. S.R. 8–14–68.

MISS JORDAN

For Girls' and Infants' Sweaters and Sleepwear, Including Gowns and Pajamas (Int. Cl. 25).
First use July 1966.

Class 44 — Dental, Medical, and Surgical Appliances

859,123. Arlan's Dept. Stores, Inc., New York, N.Y. SN 231,012. Filed P.R. 10–22–65; Am. S.R. 8–14–68.

Arlan's

For Cotton Swabs, Adhesive Plastic Strips, Cotton for Use in Bandaging and Applying Medical Preparations to the Skin, Cotton Balls, Adhesive Cloth Strips, Gauze Pads for Covering Skin Cuts, Sanitary Belts, and Sanitary Napkins (Int. Cl. 5).
First use December 1962 on cotton swabs.

859,124. Edwards Laboratories, Inc., Santa Ana, Calif. SN 274,724. Filed P.R. 6–26–67; Am. S.R. 8–13–68.

FOGARTY

For Catheters, Surgical Clamps and Jaw Inserts for Surgical Clamps (Int. Cl. 10).
First use Nov. 26, 1963.

Class 45 — Soft Drinks and Carbonated Waters

859,111. See Section 1 (Combined Certificate).

Class 46 — Foods and Ingredients of Foods

859,111. See Section 1 (Combined Certificate).

859,125. Ray Moss Farms, Inc., Chattanooga, Tenn. SN 244,007. Filed 4–21–66.



For Fluid Milk—Namely, Homogenized, Chocolate, Skim and Buttermilk, and Bottled Orange Food Drink, Orange Juice, Grape Food Drink, Egg Nog, Fruit Punch, Lemonade, and Apple Cider (Int. Cls. 29, 30, 32, and 33).
First use Mar. 31, 1960.

859,126. Lekas & Drivas, Inc., Brooklyn, N.Y. SN 261,379. Filed P.R. 12–23–66; Am. S.R. 6–28–68.

PASTICCIO

The word "Pasticcio" in Italian means "pie, pastry or cake."
For Macaroni (Int. Cl. 30).
First use Oct. 13, 1953.

859,127. General Foods Corporation, White Plains, N.Y. SN 278,963. Filed P.R. 8–24–67; Am. S.R. 8–6–68.

SHAKE 'N FRY

For Seasoned Coating Mix for Sea Food, Poultry, and Meat (Int. Cl. 30).
First use May 22, 1967.

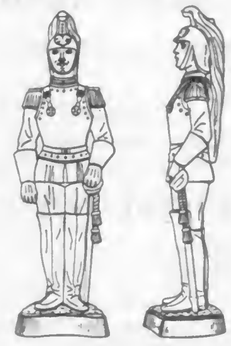
859,128. Fruen Milling Company, Minneapolis, Minn. SN 279,180. Filed P.R. 8–28–67; Am. S.R. 8–21–68.

PEP-PELLETS

For Livestock Feed (Int. Cl. 31).
First use Dec. 28, 1961.

Class 47 — Wines

859,129. Paterno Imports, Ltd., Chicago, Ill. SN 274,455. Filed 7–26–68.



The mark consists of the conformation of a bottle used as a container for applicant's wine.
For Wine (Int. Cl. 33).
First use Sept. 20, 1966.

859,130. The Stellenbosch Farmers' Winery Limited, Stellenbosch, Cape Province, Republic of South Africa. SN 280,344. Filed P.R. 9–14–67; Am. S.R. 8–9–68.

LIEBERSTEIN

Owner of U.S. Reg. No. 791,222 and South African Reg. No. 0021/60, dated Jan. 5, 1960.
For Wines (Int. Cl. 33).

Class 49 — Distilled Alcoholic Liquors

859,131. John Gross & Co., d.b.a. The Carlton Company, Baltimore, Md. SN 284,657. Filed P.R. 11–13–67; Am. S.R. 8–5–68.

PUKKA

For Scotch Whisky (Int. Cl. 33).
First use July 27, 1967.

Class 50 — Merchandise Not Otherwise Classified

859,132. American Biltrite Rubber Co., Inc., Chelsea, Mass. SN 272,905. Filed P.R. 6–2–67; Am. S.R. 7–18–68.

MAISON KARPET MATS

The words "Karpet Mats" are disclaimed except in association with the entire mark.
For Pile Type Carpet Mats on a Rubber Backing (Int. Cl. 27).
First use Apr. 28, 1967.

Class 51 — Cosmetics and Toilet Preparations

859,133. Yardley of London, Inc., Totowa, N.J. SN 263,309. Filed P.R. 1-25-67; Am. S.R. 8-12-68.

CREME BATH

For Skin Moisturizing Lotion and Skin Cleansing Cream (Int. Cl. 3).
First use Jan. 3, 1967.

859,134. Estee Lauder, Incorporated, d.b.a. Estee Lauder, New York, N.Y. SN 278,496. Filed P.R. 8-17-67; Am. S.R. 7-22-68.

CORAL GOLD

For Lipsticks (Int. Cl. 3).
First use July 1, 1967.

859,135. Studio Girl-Hollywood, Inc., d.b.a. Studio Girl, Chicago, Ill. SN 290,767. Filed 2-9-68.

AMBER GLOW

For Lipstick and Nail Enamel (Int. Cl. 3).
First use on or about April 1965.

Class 52 — Detergents and Soaps

859,136. Bristol-Myers Company, New York, N.Y. SN 277,431. Filed P.R. 8-3-67; Am. S.R. 8-8-68.

WIAPERS

For Tissue Premoistened With a Cleaning Agent (Int. Cl. 3).
First use June 20, 1967.

859,137. West Chemical Products, Inc., Long Island City, N.Y. SN 279,341. Filed P.R. 8-29-67; Am. S.R. 8-14-68.



For Germicidal Liquified Disinfectant (Int. Cl. 5).
First use May 5, 1967; July 15, 1899 as to "CN."

859,138. Bristol-Myers Company, New York, N.Y. SN 279,363. Filed P.R. 8-30-67; Am. S.R. 8-1-68.

A FREE SHINE WITH EVERY SHAMPOO

For Hair Shampoo (Int. Cl. 3).
First use June 15, 1967.

Service Marks

Class 100 — Miscellaneous

859,139. Ruth Young Block, Chicago, Ill. SN 264,296. Filed P.R. 2-9-67; Am. S.R. 8-13-68.

STERIL AIRE

For Removing Superfluous Hair From the Human Body (Int. Cl. 42).
First use on or about Jan. 18, 1967.

859,140. Arby's, Inc., Youngstown, Ohio. SN 270,455. Filed P.R. 5-2-67; Am. S.R. 7-24-67.

CONSTANTLY GROWING COAST TO COAST

For Restaurant Services (Int. Cl. 42).
First use at least as early as July 1964.

859,141. Leonard J. Totta, d.b.a. Dixon's Famous Chili Parlor, Kansas City, Mo. SN 279,236. Filed P.R. 8-28-67; Am. S.R. 5-27-68.

DIXON'S FAMOUS CHILLI

The words "Famous Chili" are disclaimed apart from the mark as shown, without relinquishing any rights therein under the common law.
For Restaurant Services (Int. Cl. 42).
First use Aug. 14, 1919.

Class 101 — Advertising and Business

859,142. Courtesy Associates, Inc., Washington, D.C. SN 287,806. Filed 12-29-67.

Executive Offices

For Providing Office Space and Conference Rooms on a Part Time Basis With All the Services of an Office Staff (Int. Cl. 35).
First use on or about June 16, 1964.

Class 107 — Education and Entertainment

859,143. Eisenhower College, Seneca Falls, N.Y. SN 255,788. Filed P.R. 10-5-66; Am. S.R. 5-29-68.

EISENHOWER COLLEGE

For Resident and Nonresident College Educational Services (Int. Cl. 41).
First use Jan. 28, 1965.

TRADEMARK REGISTRATIONS RENEWED

69,026. PANYAN. Cl. 46 (Int. Cl. 29). 5-12-08.
70,257. DENNISON'S. Cl. 5 (Int. Cl. 16). 8-18-08.
72,284. PAPRUS. Cl. 2 (Int. Cl. 21). 1-12-09.
72,392. GLOSSILLA. Cl. 43 (Int. Cl. 23). 1-19-09.
72,457. "K" AND REPRESENTATION OF STAR. Cl. 2 (Int. Cl. 21) 1-26-09.
72,571. PLYMOUTH FURS. Cl. 39 (Int. Cl. 25). 2-2-09.
242,260. EUTHERME. Cl. 21 (Int. Cl. 11). 5-22-28.
242,781. SEVENTEEN. Cl. 51 (Int. Cl. 3). 6-5-28.
242,891. AGM (MONOGRAM). Cl. 21 (Int. Cl. 11). 6-5-28.
244,116. GASTEX. Cl. 6 (Int. Cl. 1). 7-10-28.
245,108. "CHIEF ENAMELED BLOTTING" AND REPRESENTATION OF AN INDIAN CHIEF. Cl. 37 (Int. Cl. 16). 8-7-28.
245,490. NABS. Cl. 36 (Int. Cl. 30). 8-14-28.
245,500. NAB. Cl. 46 (Int. Cl. 30). 8-14-28.
245,508. "DODGE" AND DIAMOND DESIGN. Cl. 14 (Int. Cl. 6). 8-14-28.
245,592. CATALIN. Cl. 1 (Int. Cl. 20). 8-14-28.
245,639. "BERING" ETC. AND DESIGN. Cl. 17 (Int. Cl. 34). 8-21-28.
245,778. "BERING" AND DESIGN. Cl. 17 (Int. Cl. 34). 8-21-28.
245,795. "INDIAN BLOTTINGS" AND REPRESENTATION OF INDIAN HEAD. Cl. 37 (Int. Cl. 16). 8-21-28.
245,961. CLINTON. Cl. 40 (Int. 26). 8-28-28.
248,155. CARRENE. Cl. 6 (Int. Cl. 1). 10-16-28.
440,419. SPLASH. Cl. 52 (Int. Cl. 3). 8-31-48.
400,857. WESTERN FLYER. Cl. 22 (Int. Cls. 12 and 28). 10-5-48.
441,415. BEST & CO. Cl. 51 (Int. Cls. 3 and 5). 11-23-48.
441,445. LO-LEADER. Cl. 22 (Int. Cl. 1). 11-30-48.
441,644. DRYOMATIC. Cl. 34 (Int. Cl. 11). 12-21-48.
441,675. SUNBEAM. Cl. 21 (Int. Cl. 11). 12-28-48.
441,708. CANNON BEAUTETTES AND DESIGN. Cl. 39 (Int. Cl. 25). 12-28-48.
441,871. ADVAWET. Cl. 6 (Int. Cl. 1). 1-18-49.
441,911. TAFFETA BY MINX MODES. Cl. 51 (Int. Cl. 3). 1-25-49.
500,314. S AND DESIGN. Cl. 6 (Int. Cl. 1). 5-11-48.
248,227. ONEIDA VICTOR. Cl. 50 (Int. Cl. 6). 10-16-28.
248,269. "THE STANDARD CARD CLOTHING CO." ETC. AND DESIGN. Cl. 23 (Int. Cl. 7). 10-16-28.
248,611. "CRAYOLA." Cl. 37 (Int. Cl. 16). 10-23-28.
249,320. PACO. Cl. 6 (Int. Cl. 1). 11-13-28.
249,346. PURE GOLD. Cl. 46 (Int. Cls. 29 and 30). 11-13-28.
249,483. "ROCKINGHAM" ETC. AND DESIGN. Cl. 39 (Int. 25). 11-13-28.
250,623. SALT RIVER. Cl. 46 (Int. Cl. 31). 12-11-28.
250,586. PACO. Cl. 49 (Int. Cl. 1). 12-11-28.
251,212. FORMAID. Cl. 39 (Int. Cl. 25). 1-1-29.
440,244. DOLSOX. Cl. 39 (Int. Cl. 25). 8-17-48.
500,559. 2B. Cl. 39 (Int. Cl. 25). 6-1-48.
500,934. THE RADIO MAN'S RADIO. Cl. 21 (Int. Cl. 9). 7-6-48.
500,964. TRUFLEX. Cl. 14 (Int. Cl. 6). 7-13-48.
501,469. PORTITE. Cl. 12 (Int. Cl. 1). 8-10-48.
501,495. KOCOSOPE. Cl. 52 (Int. Cl. 3). 8-10-48.
501,652. AMFILE. Cl. 32 (Int. Cl. 20). 8-17-48.
501,720. TU-TONE. Cl. 50 (Int. Cl. 27). 8-17-48.
501,764. WORTHMORE. Cl. 46 (Int. Cl. 30). 8-24-48.
501,765. WARWICK. Cl. 46 (Int. Cl. 30). 8-24-48.
501,767. COLD STREAM AND DESIGN. Cl. 46 (Int. Cl. 29). 8-24-48.
502,103. KS. Cl. 35 (Int. Cl. 12). 9-14-48.
502,445. VUECOTE. Cl. 1 (Int. Cl. 1). 9-28-48.
502,476. UNITEMP. Cl. 26 (Int. Cl. 9). 9-28-48.
502,654. LORRAINE. Cl. 52 (Int. Cl. 3). 10-5-48.
502,658. HI-FLO. Cl. 11 (Int. Cl. 2). 10-5-48.
502,664. HI-FLO. Cl. 11 (Int. Cl. 2). 10-5-48.
503,143. FLOTITE. Cl. 6 (Int. Cl. 1). 10-19-48.
503,144. BEL-CLARO. Cl. 18 (Int. Cl. 5). 10-19-48.
503,424. STERLING. Cl. 5 (Int. Cl. 17). 10-26-48.
503,435. TROJAN. Cl. 5 (Int. Cls. 16 and 17). 10-26-48.
503,608. RICHMIX KOPALD AND DESIGN. Cl. 46 (Int. Cl. 29). 11-2-48.
503,711. CHICAGO. Cl. 13 (Int. Cl. 11). 11-9-48.
503,759. UNIVERZOL. Cl. 15 (Int. Cl. 4). 11-9-48.
503,767. CASTLE. Cl. 26 (Int. Cl. 9). 11-9-48.
503,793. BEST-TEST. Cl. 5 (Int. Cl. 1). 11-9-48.
503,927. CROWN. Cl. 34 (Int. Cl. 11). 11-16-48.
503,982. DAMAS. Cl. 27 (Int. Cl. 14). 11-16-48.
504,004. DOMESTIC ENGINEERING. Cl. 38 (Int. Cl. 16). 11-16-48.
504,066. CORDLEY. Cl. 31 (Int. Cl. 11). 11-23-48.
504,125. INDIAN TRAIL AND DESIGN. Cl. 39 (Int. Cl. 25). 11-23-48.
504,308. H & V CO. Cl. 37 (Int. Cl. 16). 11-30-48.
504,342. KEYSTONE KITCHENS ETC. AND DESIGN. Cl. 32 (Int. Cl. 20). 11-30-48.
504,372. YOUNGSTOWN Y AND DESIGN. Cl. 14 (Int. Cl. 6). 11-30-48.
504,385. CATHEDRAL. Cl. 36 (Int. Cl. 15). 11-30-48.
504,635. STURACO. Cl. 15 (Int. Cl. 4). 12-7-48.
504,764. RELIANCE. Cl. 26 (Int. Cl. 9). 12-14-48.
504,909. SCROPTITE. Cl. 1 (Int. Cl. 1). 12-21-48.
504,937. JUNIATA. Cl. 1 (Int. Cl. 1). 12-21-48.
505,169. PACO. Cl. 6 (Int. Cl. 1). 12-28-48.
505,195. TILTVIEW. Cl. 26 (Int. Cl. 9). 12-28-48.
505,214. KEM. Cl. 22 (Int. Cl. 16). 12-28-48.
505,215. KEM AND DESIGN. Cl. 22 (Int. Cl. 16). 12-28-48.
505,224. BUSTER BROWN. Cl. 39 (Int. Cl. 25). 12-28-48.
505,225. BUSTER BROWN AND DESIGN. Cl. 39 (Int. Cl. 25). 12-28-48.
505,273. BABY PINK. Cl. 51 (Int. Cl. 3). 12-28-48.
505,295. DELSTEEL. Cl. 14 (Int. Cl. 6). 12-28-48.
505,378. BUNN PACKAGE TYING MACHINE. Cl. 23 (Int. 7). 1-4-49.
505,422. POWERHOLD. Cl. 35 (Int. Cl. 7). 1-4-49.
505,538. HEATHER-LAINE. Cl. 43 (Int. Cl. 23). 1-4-49.
505,807. MENNEN. Cl. 51 (Int. Cl. 3). 1-18-49.
505,813. FIENDOIL AND DESIGN. Cl. 6 (Int. Cl. 2). 1-18-49.
505,815. STANBACK. Cl. 18 (Int. Cl. 5). 1-18-49.
505,893. SWISS FARMS AND DESIGN. Cl. 1 (Int. Cl. 1). 1-18-49.
505,981. 1000 JOKES MAGAZINE. Cl. 38 (Int. Cl. 16). 1-25-49.
505,992. RURAL GRAVURE. Cl. 38 (Int. Cl. 16). 1-25-49.
506,063. CORPORATION TOPICS. Cl. 38 (Int. Cl. 16). 1-25-49.
506,129. SHEPHERD GIRL. Cl. 46 (Int. Cl. 29). 2-1-49.
506,159. STA-SOL. Cl. 46 (Int. Cl. 29). 2-1-49.
506,259. ELLEN KAYE ORIGINAL. Cl. 39 (Int. Cl. 25). 2-1-49.
506,309. SHIP N' SHORE. Cl. 39 (Int. Cl. 25). 2-1-49.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

585,915. "QD" MAUREY FUL-GRIP SHEAVE. Cl. 23. 2-23-54.

Section 8

155,752. EVEREST. Cl. 32. 6-6-22.
157,120. SANTALETTE. Cl. 39. 7-25-22.
157,706. LOTTMAN'S SOUTHERN QUEEN. Cl. 32. 8-15-22.
348,497. CELOSILK. Cl. 6. 7-27-37.
395,544. INDIAN HEAD (DESIGN). Cl. 14. 6-2-42.
430,211. ECCOSIZE. Cl. 6. 6-10-47.
435,346. LUXRITE. Cl. 11. 12-16-47.
735,950. ON-GUARD. Cl. 21. 8-14-62.

The following registrations issued Sept. 4, 1962

736,948. CERVIT. Cl. 1.
736,957. BLACK BLAST AND DESIGN. Cl. 4.

736,962. LIFE. Cl. 6.
736,966. VEGETROL BRAND AND ARROW DESIGN. Cl. 6.
736,972. PATHOPHENE. Cl. 6.
736,975. ANTOZITE. Cl. 6.
736,978. PRO-RAD. Cl. 6.
736,979. EZON. Cl. 6.
736,985. VERONYL. Cl. 6.
736,990. LAWN-MIST. Cl. 10.
736,996. METALCEL. Cl. 12.
736,997. GRI AND DESIGN. Cl. 12.
736,998. GRI. Cl. 12.
736,999. "X." Cl. 12.
737,001. WEATHER-TAB. Cl. 12.
737,010. SUPPORT-A-DOOR. Cl. 13.
737,012. MAYFLEX. Cl. 13.
737,017. LADY THERESA AND DESIGN. Cl. 15.
737,019. WESTERN CHEROOT. Cl. 17.
737,023. SORB. Cl. 18.
737,026. BLISTE-RID WITHIN A SOLID OVAL. Cl. 18.
737,027. DAYLONG. Cl. 18.
737,028. ULONE. Cl. 18.
737,029. VAGINETS. Cl. 18.
737,032. G-TRIL. Cl. 18.
737,033. ASPIGRIP. Cl. 18.
737,037. TRIANGLE ETC. AND DESIGN. Cl. 18.
737,038. FOUNTAIN-FACIAL. Cl. 18.
737,042. DART FUNSTER AND DESIGN. Cl. 19.
737,044. IMC AND DESIGN. Cl. 19.
737,049. DYNAMIC AND DESIGN. Cl. 21.
737,052. FLAVORAMA. Cl. 21.
737,053. REGULUS AND DESIGN. Cl. 21.
737,060. FIELD-TEX. Cl. 21.
737,066. V-R-X. Cl. 21.
737,068. TEL-O-BALE. Cl. 21.
737,069. CONVERT-O-MATIC. Cl. 21.
737,076. BUSY BEAVER. Cl. 22.
737,078. ARMORLITE. Cl. 22.
737,079. CHOICE. Cl. 22.
737,081. CORONET AND CROWN DESIGN. Cl. 22.
737,083. VOSTRA AND DESIGN. Cl. 22.
737,084. TINA-MARIE. Cl. 22.
737,086. ANGLE-RITE. Cl. 23.
737,087. NEPTUNE. Cl. 23.
737,088. HI-LO SNO JET. Cl. 23.
737,090. REXON. Cl. 23.
737,112. PLASTRONICS. Cl. 26.
737,118. MO EMBLEM. Cl. 26.
737,120. VERI-OPTICS AND DESIGN. Cl. 26.
737,129. IPI (DESIGN). Cl. 26.
737,131. LINE-A-TOR. Cl. 26.
737,132. DIELECTROL. Cl. 26.
737,134. TRIAUTO. Cl. 26.
737,139. PRINCESS ANNE. Cl. 28.
737,143. TOWN HOUSE. Cl. 32.
737,147. WOODLAWN AND DESIGN. Cl. 32.
737,148. SHAPE-MAKER. Cl. 32.
737,150. PLATEEN. Cl. 32.
737,151. THERM-X. Cl. 34.
737,152. ROTO-PAC. Cl. 34.
737,169. PRIMOSET. Cl. 37.
737,172. REDI-REFERENCE. Cl. 38.
737,174. INTERNATIONAL ART MARKET. Cl. 38.
737,175. AMERICAN MILK REVIEW. Cl. 38.
737,176. COMPUTOPICS AND DESIGN. Cl. 38.
737,177. BULOVA IMPULSES. Cl. 38.
737,179. JOHNNY JASON TEEN REPORTER. Cl. 38.
737,185. CINDY-SUE. Cl. 39.
737,186. KODIAK KLOTH. Cl. 39.
737,190. YUM YUM. Cl. 39.
737,191. ALWAYS IN THE BEST OF COMPANY. Cl. 39.
737,194. FIBRE-SPUN. Cl. 39.
737,200. SPORTLAND USA ETC. AND DESIGN. Cl. 39.
737,204. AQUA-QUEEN. Cl. 39.
737,206. 725. Cl. 39.
737,208. MUFFET. Cl. 39.
737,209. DOWNHILL. Cl. 39.
737,212. DRIVE-IN SLEEP-INS. Cl. 39.
737,215. COOL PUFF. Cl. 42.
737,219. FLEXI-DRAPE-FOAM. Cl. 42.
737,224. TALISMAN. Cl. 43.
737,226. SURGILIFT. Cl. 44.
737,227. GRA-BELL. Cl. 44.
737,230. CHAMP. Cl. 44.
737,233. TOPS. Cl. 44.
737,253. BONNIE MAE AND DESIGN. Cl. 46.
737,254. MAMA MARIA'S AND DESIGN. Cl. 46.
737,258. NORM. Cl. 46.
737,265. JOLLY JACK. Cl. 46.
737,269. GEN. CASSIUS CLAY. Cl. 49.
737,270. GASLIGHT SQUARE. Cl. 49.
737,273. D AND DESIGN. Cl. 50.
737,276. MISS TEEN. Cl. 51.
737,283. SNUGGERS. Cl. 51.
737,287. CAPTIVE BEAUTY. Cl. 51.
737,288. RUGARD AND DESIGN. Cl. 51.
737,294. EN-IRT. Cl. 52.
737,298. MIRACLE MAGIC ETC. AND DESIGN. Cl. 52.
737,300. SAN FRANCISCO CHAMBER OF COMMERCE ETC. AND DESIGN. Cl. 100.
737,301. SOLE SOURCE OF FAITH ETC. AND DESIGN. Cl. 100.
737,306. TASK FORCE AND DESIGN. Cl. 101.
737,315. CHECKERS & CAN CAN. Cl. 107.
737,320. BTU/HR COOLING CAPACITY CERTIFIED NEMA ETC. AND DESIGN. Cl. A.
737,323. GLAS-LINE. Cl. 7.
737,336. SCAR-PROOF AND DESIGN. Cl. 32.
737,339. ELKINS EASI-MIX. Cl. 46.
737,344. DERMOCARE. Cl. 52.
737,346. "I.I.I. SELLS MUTUAL FUNDS." Cl. 102.
737,347. NITE N' DAY LAUNDER CENTER AND DESIGN. Cl. 103.

Section 18

677,700. TIFFANY. Cl. 32. 4-28-59.
800,340. TRANSMATIC. Cl. 26. 12-14-65.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

298,995. 3 MUSKETEERS AND DESIGN. Cl. 46. 11-15-32. Mars Incorporated, Chicago, Ill. Amended to appear:



430,763. CARFA AND DESIGN. Cl. 11. 6-24-47. Carfa AG Fabrik Chemisch-Technischer Bureaumaterialien, Bern, Switzerland. Amended to appear:



687,143. DYNA-TORQ. Cl. 21. 10-27-59. Eaton Manufacturing Company. Eaton Yale & Towne Inc., Cleveland, Ohio. Amended to appear:

DYNA-TORQ

744,096. MONTEREY MAT. Cl. 37. 1-22-63. Crown Zellerbach Corporation, San Francisco, Calif. Amended to appear:

MONTEREY/WEB MAT

746,371. THRIFT WAY AND DESIGN. Cl. 101. 3-5-63. Thriftway Foods, Inc., King of Prussia, Pa. Amended to appear:

THRIFTWAY

783,782. CALGON. Cl. 51. 1-19-65. Calgon Corporation, Pittsburgh, Pa. Corrected: In the statement, column 2, line 1, "beads" should be deleted and *compositions* should be inserted.

788,361. STOEGER. Cl. 9. 4-20-65. Stoeger Arms Corporation, South Hackensack, N.J. Corrected: In the statement, column 1, line 1, "New Jersey" should be deleted and *New York* should be inserted.

795,068. IRVIN PARA-SPACE CENTER ETC. AND DESIGN. Cl. 19. 8-31-65. Irving Air Chute Company, Inc. Irvin Industries Inc., Lexington, Ky. Amended: In the statement, column 1, line 1, after "Inc." , *now by change of name Irvin Industries Inc.* is inserted.

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(c), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

555,455. WO-X-OM. Cl. 6. Walter Willett. 2-26-52. New Cert. Sec. 7(c) to Con-O-Lite Corporation, Lynchburg, Va.

781,518. UNIQUE. Cl. 52. Royse Myers, doing business as Armco. 12-8-64. New Cert. Sec. 7(c) to Simoniz Company, Chicago, Ill.

796,169. SSS. Cl. 200. Standardized Sanitation Systems Inc. 9-14-65. New Cert. Sec. 7(c) to Standardized Sanitation Systems, Inc., Burlington, Mass.

816,874. ELASTEEL. Cl. 10. Astro Plastics Corporation. 10-18-66. New Cert. Sec. 7(c) to C. Franklin Donyes, Downey, Calif.

826,163. WEIGHT-WATCHERS. Cls. 45 and 46. The Low Calorie Candy Co., Inc. 3-21-67. New Cert. Sec. 7(c) to Weight Watchers International, Inc., Forest Hills, N.Y.

835,994. LIVELY LADY. Cl. 39. Chadbourn Gotham, Inc. 9-26-67. New Cert. Sec. 7(c) to Foremost-McKesson, Inc., New York, N.Y.

INDEX OF REGISTRANTS

OCTOBER 22, 1968

(Registered ; Renewed ; Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates ; 12c Publications.)

AMH Industries : *See*—
George, Alfred M., Jr.
Active Editions, Ltd., New York, N.Y. 858,991, pub. 8–6–68. Cl. 39.
Advance Solvents & Chemical Corp., New York, N.Y., to Carlisle Chemical Works, Inc., Reading, Ohio. 441,871, ren. 10–22–68. Cl. 6.
African Explosives & Chemical Industries Ltd., Transvaal, Republic of South Africa. 859,029, pub. 8–6–68. Cl. 46.
Agricultural Insight, Inc., Des Moines, Iowa. 859,086, pub. 8–6–68. Cl. 101.
Agway, Inc., Syracuse, from Cooperative Grange League Federation Exchange, Inc., Ithaca, N.Y. 858,802–3, pub. 9–6–66. Cl. 15.
Agway, Inc., Syracuse, from Cooperative Grange League Federation Exchange, Inc., Ithaca, N.Y. 858,931, pub. 9–6–66. Cl. 29.
Agway, Inc., Syracuse, from Cooperative Grange League Federation Exchange, Inc., Ithaca, N.Y. 858,934, pub. 9–6–66. Cl. 31.
Agway, Inc., Syracuse, from Cooperative Grange League Federation Exchange, Inc., Ithaca, N.Y. 859,059, pub. 9–6–66. Cl. 52.
Aileen, Inc., New York, N.Y. 858,980, pub. 8–6–68. Cl. 39.
Air Reduction Co., Inc., New York, N.Y. 859,001, pub. 8–6–68. Cl. 44.
Air-Drolics Co., The, Middlesex, N.J. 858,889, pub. 8–6–68. Cl. 23.
Air-Space, Inc., Worcester, Mass. 858,771, pub. 8–6–68. Cl. 12.
Ajinomoto Co., Inc. : *See*—
Ajinomoto Kabushiki Kaisha.
Ajinomoto Kabushiki Kaisha, d.b.a. Ajinomoto Co., Inc., Tokyo, Japan. 859,023, pub. 8–6–68. Cl. 46.
Alamo Mfg. Co., Inc., New York, N.Y. 858,990, pub. 8–6–68. Cl. 39.
All-American Brush Mfg. Corp., Newark, N.J. 858,992, pub. 8–6–68. Cl. 40.
Allergan Pharmaceuticals, Santa Ana, Calif. 858,811, pub. 8–6–68. Cl. 18.
Alliance Mfg. Co., Inc., The, Alliance, Ohio, from Slant/Fin Corp., Richmond Hill, N.Y. 858,944, pub. 3–22–66. Cl. 34.
Alligator Co., Inc., The : *See*—
Marks, Harry, Clothing Co., Inc.
Alligator Co., The, St. Louis, Mo. 737,206, canc. Cl. 39.
Aluminum Goods Mfg. Co., to Mirro Aluminum Co., Manitowoc, Wis. 242 891, ren. 10–22–68. Cl. 21.
Amberg File & Index Co., Kankakee, Ill. 501,652, ren. 10–22–68. Cl. 32.
Amco Engineering Co., Chicago, Ill. 858,857, pub. 8–6–68. Cl. 21.
American Biltrite Rubber Co., Inc., Chelsea, Mass. 859,132. Cl. 50.
American Catalin Corp., New York, N.Y., to Ashland Oil & Refining Co., Ashland, Ky. 245,592. ren. 10–22–68. Cl. 1.
American Chain & Cable Co., Inc., New York, N.Y. 858,921, pub. 8–6–68. Cl. 26.
American Home Products Corp., New York, N.Y. 859,036, pub. 8–6–68. Cl. 46.
American Hospital Supply Corp., Evanston, Ill. 859,000, pub. 8–6–68. Cl. 44.
American Iatro-Dynamics Corp., Inglewood, Calif. 737,226, canc. Cl. 44.
American Milk Review, Inc., Mount Morris, Ill., from Urner-Barry Co., New York, N.Y. 737,175, canc. Cl. 38.
American Professional Salesmen's Association, Inc., Dallas, Tex. 859,076, pub. 8–6–68. Cl. 100.
American Soybean Association, The, Hudson, Iowa. 858,971, pub. 8–6–68. Cl. 38.
American Sugar Co., New York, N.Y. 859,034, pub. 8–6–68. Cl. 46.
Ametek, Inc., East Moline, Ill. 858,905, pub. 8–6–68. Cl. 24.
Amicon Corp., Lexington, Mass. 858 754, pub. 8–6–68. Cl. 6.
Angostura Bitters (Dr. J. G. B. Siegert & Sons) Ltd., Trinidad, West Indies. 859,050, pub. 8–6–68. Cl. 49.
Animal Trap Co. of America, to Woodstream Corp., Lititz, Pa. 248,227, ren. 10–22–68. Cl. 50.
Anwelt Corp., Fitchburg, Mass. 858,977, pub. 8–6–68. Cl. 39.
Arby's, Inc., Youngstown, Ohio. 859,140. Cl. 100.
Arden-Mayfair, Inc., d.b.a. Low Cost Mkts., Los Angeles, Calif. 859,004, pub. 8–6–68. Cl. 45.
Arizona Citrus Growers, Phoenix, to Mesa Citrus Growers, Mesa, Ariz. 250,623, ren. 10–22–68. Cl. 46.
Arlan's Dept. Stores, Inc., New York, N.Y. 859,122–3. Cl. 39.
Armco : *See*—
Myers, Royse.
Armstrong Knitting Mills : *See*—
Bernat, Emile, & Sons Co.
Armstrong Rubber Co., The, West Haven, Conn. 858,957, pub. 8–6–68. Cl. 35.
Artie's Food Products, Inc., Indianapolis, Ind. 859,042, pub. 8–6–68. Cl. 46.
Ashland Oil & Refining Co. : *See*—
American Catalin Corp.
Askania Corp., Irvington (On Hudson), N.Y. 501,469, ren. 10–22–68. Cl. 12.
Association for Computing Machinery Association, Washington, D.C. 737,176, canc. Cl. 38.
Astro Plastics Corp., to C. Franklin Donyes, Downey, Calif. 816,874, new cert. Cl. 16.
Aud-It-Quik Systems Co., Inc., Brentwood, Md. 858,965, pub. 8–6–68. Cl. 37.
Auros Electronic Corp., Milwaukee, Wis. 737,227, canc. Cl. 44.
Austin Auctions, Inc., Fort Collins, Colo. 859,085, pub. 8–6–68. Cl. 101.
"Automatic" Sprinkler Corp. of America, Cleveland, Ohio. 858,840, pub. 8–6–68. Cl. 21.
Avon Products, Inc., New York, N.Y. 859,066–8, pub. 8–6–68. Cl. 52.
Baldwin-Ehret-Hill, Inc., Trenton, N.J. 858,952, pub. 8–6–68. Cl. 34.
Barber, W. H., Co., Minneapolis, Minn., to W. H. Barber Oil Co., Chicago, Ill. 503,759, ren. 10–22–68. Cl. 15.
Barber, W. H., Oil Co. : *See*—
Barber, W. H., Co.
Basic Inc., Cleveland, Ohio. 858,756, pub. 8–6–68. Cl. 6.
Beauchaine & Sons, Inc., Laconia, N.H. 858,853, pub. 8–6–68. Multiple Class (Classes 21 and 23).
Beau-Monde Ltd., Overland Park, Kans. 859,083, 8–6–68. Cl. 101.
Beguelin & Co. S.A., Manufacture des Montres Damas et Tramelan Watch Co., Tramelan-Dessus, Switzerland. 503,982, ren. 10–22–68, Cl. 27.
Bemis Co., Inc., Minneapolis, Minn. 858,719, pub. 8–6–68. Cl. 2.
Berger, Bryce, Ltd., Hucclecote, Gloucester, England. 858,886, pub. 8–6–68. Cl. 23.
Berkshire Life Insurance Co., Pittsfield, Mass. 859,090–1. pub. 8–6–68. Cl. 102.
Bernat, Emile, & Sons Co., Jamaica Plain, Mass., from Armstrong Knitting Mills, West Roxbury, Mass. 737,224, canc. Cl. 43.
Berry Best Egg Co., Inc., Rockport, Ind. 858,765, pub. 8–6–68, Cl. 10.
Best & Co., Inc., to McCrory Corp., New York, N.Y. 441,415, ren. 10–22–68. Cl. 51.
Blason Corp., Canton, Ohio. 885,746, pub. 8–6–68. Cl. 4.
Bickner, Clarence T., d.b.a. Kitten Kraft, El Sobrante, Calif. pub. 8–6–68. Cl. 23.
Binney & Smith Co., to Binney & Smith Inc., New York, N.Y. 248,611, ren. 10–22–68. Cl. 37.
Binney & Smith Inc. : *See*—
Binney & Smith Co.
Blanchard, Irene S., Los Altos, Calif. 737,204, canc. Cl. 39.
Block, Ruth Y., Chicago, Ill. 859,139. Cl. 100.
Bonnie-Mae Potato Chip Co., Inc., Woonsocket, R.I. 737,253, canc. Cl. 46.
Boone Bait Co., Inc. 858,872, pub. 8–6–68. Cl. 22.
Borden Co., The, New York, N.Y. 859,051, pub. 8–6–68. Cl. 50.
Bouchard, Lucille, Salon, Inc., New York, N.Y. 859,054, pub. 8–6–68. Cl. 51.
Brawn Wholesale, Inc. 737,037, canc. Cl. 18.
Brew, Richard D., & Co., Inc., Concord, N.H. 858,843, pub. 8–6–68. Cl. 21.
Bristol-Myers Co., New York, N.Y. 858,809, pub. 8–6–68. Cl. 18.
Bristol-Myers Co., New York, N.Y. 858,820, pub. 8–6–68. Cl. 18.
Bristol-Myers Co., New York, N.Y. 859,130. Cl. 52.
Bristol-Myers Co., New York, N.Y. 859,138. Cl. 52.
British Aircraft Corp. (Operating) Ltd., Bristol, England. 858,867, pub. 8–6–68. Cl. 22.
British Music & Tennis Strings Ltd., London, England. 504,385, ren. 10–22–68. Cl. 36.
Bronston, Lloyd B., d.b.a. Personalysis, Overland Park, Kans. 859,104, pub. 8–6–68. Cl. 107.
Brooke Bond Foods, Inc., from Brooke Bond Tea Co., Inc., New York, N.Y. 859,019, pub. 8–6–68. Cl. 46.
Brooke Bond Tea Co., Inc. : *See*—
Brooke Bond Foods, Inc.
Brownsville Shrimp Exchange & Cold Storage Corp., Brownsville, Tex. 737,265, canc. Cl. 46.
Bulova Watch Co., Inc., Flushing, N.Y. 737,177, canc. Cl. 38.
Bunn, B. H., Co., Chicago, Ill. 505,378, ren. 10–22–68. Cl. 23.
Burlington Industries, Inc., New York, N.Y. 858,995, pub. 8–6–68. Cl. 42.
Burnett, Ernest W., d.b.a. Busy Beaver Mfg. Co., Salem, Oreg. 737,076, canc. Cl. 22.
Busch, James E., d.b.a. Door Supporting Co., Chicago, Ill. 737,010, canc. Cl. 13.
Buster Brown Textiles, Inc. : *See*—
United Hosiery Mills Corp.
Busy Beaver Mfg. Co. : *See*—
Burnett, Ernest W.
C & C Laboratory, Inc., Dallas, Tex. 737,026, canc. Cl. 18.
CMC, Inc., Nashville, Tenn. 858,817, pub. 8–6–68. Cl. 18.
CRS Industries, Inc., Dresher, Pa. 858,945, pub. 8–6–68. Cl. 34.

CTP Industries Inc., Brooklyn, N.Y. 858,736, pub. 8–6–68. Cl. 2.
Cubometer, Inc., Anniston, Ala. 858,923, pub. 8–6–68. Cl. 26.
Cabot Corp.: *See*—
Cabot, Godfrey L., Inc.
Grasselli Chemical Co., The.
Cabot, Godfrey L., Inc., to Cabot Corp., Boston, Mass. 502,658, ren. 10–22–68. Cl. 11.
Cabot, Godfrey L., Inc., to Cabot Corp., Boston, Mass. 502,664, ren. 10–22–68. Cl. 11.
Calgon Corp., Pittsburgh, Pa. 783,782, cor. Cl. 51.
Canada Dry Corp., New York, N.Y. 859,002, pub. 8–6–68. Cl. 45.
Cannon Shoe Co., Baltimore, Md. 441,708, ren. 10–22–68. Cl. 39.
Carfa Ag Fabrik Chemisch-Technischer Bureaumaterialien, Bern, Switzerland. 430,763. Am. 7(d). Cl. 11.
Cargill, Inc., Minneapolis, Minn. 858,715, pub. 8–6–68. Multiple Class (Classes 1, 6, and 105).
Carlisle Chemical Works, Inc.: *See*—
Advance Solvents & Chemical Corp.
Carlton Co., The: *See*—
Gross, John, & Co.
Carol Wire & Cable Corp., Pawtucket, R.I. 858,851, pub. 8–6–68. Cl. 21.
Carop-Verenigde Europese Autoverhuurbedrijven N.V., Amsterdam, Netherlands. 859,098, pub. 8–6–68. Cl. 105.
Carrier Corp.: *See*—
Carrier Engineering Corp.
Carrier Engineering Corp., Newark, N.J., to Carrier Corp., Syracuse, N.Y. 248,155, ren. 10–22–68. Cl. 6.
Carter-Wallace, Inc., New York, N.Y. 859,057–8, pub. 8–6–68. Cl. 51.
Casper Grinding & Supply: *See*—
Jordan, Grady E., & Edna R.
Central Sportwear Mfg. Co., Inc., Boston, Mass. 737,209, canc. Cl. 39.
Centri-Spray Corp., Livonia, Mich. 858,874, pub. 8–6–68. Multiple Class (Classes 23 and 31).
Centro de Estudios Technicos de Materiales Especiales Inl-Cetme, Madrid, Spain. 858,842, pub. 8–6–68. Cl. 21.
Cerco Corp., from C. E. Robinson Co., Joliet, Ill. 858,943, pub. 8–6–68. Cl. 32.
Chadbourn Gotham, Inc., to Foremost-McKesson, Inc., New York, N.Y. 835,994, new cert. Cl. 39.
Chadwick-Miller Importers: *See*—
Chadwick-Miller, Inc.
Chadwick-Miller, Inc., Boston, from Chadwick-Miller Importers, South Boston, Mass. 858,914, pub. 8–6–68. Cl. 26.
Charles of the Ritz Distributors Corp., to Lavin-Charles of the Ritz, Inc., New York, N.Y. 505,273, ren. 10–22–68. Cl. 51.
Checkers & Can Can, Philadelphia, Pa. 737,315, canc. Cl. 107.
Chef Roberto Food Products, Inc., Miami, Fla. 737,254, canc. Cl. 46.
Chemfil Miles Chemical & Filter Co., Inc., Troy, Mich. 859,070, pub. 8–6–68. Cl. 52.
Cheney, C. W., & Son Ltd., Hockley, Birmingham, England. 858,906, pub. 8–6–68. Cl. 25.
Cherrystone Co.: *See*—
Smith, Earl C.
Chicago Faucet Co., The, Des Plaines, Ill. 503,711, ren. 10–22–68. Cl. 13.
Chicago Flexible Shaft Co., now by change of name Sunbeam Corp., to Sunbeam Corp., Chicago, Ill. 441,675, ren. 10–22–68. Cl. 21.
Chicopee Mfg. Corp., New Brunswick, N.J. 737,215, canc. Cl. 42.
Chocoladefabriken Lindt & Sprungli AG, Kilchberg, Switzerland. 859,013, pub. 8–6–68. Cl. 46.
Chromex Chemical Corp., Brooklyn, N.Y. 859,071, pub. 8–6–68. Cl. 52.
Cirillo Bros. Petroleum Co., Inc., Bronx, N.Y. 858,751, pub. 8–6–68. Multiple Class (Classes 6 and 15).
Cities Service Oil Co., Tulsa, Okla. 858,976, pub. 8–6–68. Cl. 39.
Clark-Reliance Corp., The: *See*—
Reliance Gauge Column Co., The.
Clayton Mfg. Co., El Monte, Calif. 859,062, pub. 8–6–68. Cl. 52.
Clinman & Sons, Inc., Providence, R.I. 737,139, canc. Cl. 28.
Clesco National, Inc., Dover, Del. 737,347, canc. Cl. 103.
Click'n Chick'n, Inc., South Elgin, Ill. 859,027, pub. 8–6–68. Cl. 46.
Clio Press, Santa Barbara, Calif. 858,968, pub. 8–6–68. Cl. 38.
Coca-Cola Co., The, Atlanta, Ga. 859,003, pub. 8–6–68. Cl. 45.
Cohen, Joseph H., & Sons, Inc.: *See*—
Hirsch Bros. Inc.
Cole, Fred H., d.b.a. Cole Instrument, Costa Mesa, Calif. 858,848, pub. 8–6–68. Cl. 21.
Cole Instrument: *See*—
Cole, Fred H.
Colgate & Co., Jersey City, N.J., and New York, N.Y., to Alfred A. Dubin, West Nyack, N.Y. 242,781, ren. 10–22–68. Cl. 51.
Colgate-Palmolive Co., New York, N.Y. 859,065, pub. 8–6–68. Cl. 52.
Collette, Harriette D., d.b.a. Harriette Crafts, Helena, Ark. 858,761, pub. 8–6–68. Cl. 9.
Colonial Stores Inc., Norfolk, Va. 859,005 ,pub. 8–6–68. Cl. 46.
Columbia Broadcasting System, Inc., New York, N.Y. 858,963, pub. 8–6–68. Cl. 36.
Compagnie Fermiere de l'Etablissement Thermal de Vichy, Societe Anonyme, Paris, France. 859,111. Multiple Class (Classes 18, 45, and 46).
Conchemco Inc., d.b.a. Western Control Co., Kansas City, Mo. 858,904, pub. 8–6–68. Cl. 23.
Con-O-Lite Corp.: *See*—
Willett, Walter E.
Continental Can Co., Inc., New York, N.Y. 858,738, pub. 8–6–68. Cl. 2.
Continental Cigar Co., Moosic, Pa. 737,019, canc. Cl. 17.
Continental Distilling Corp., Philadelphia, Pa. 859,049, pub. 8–6–68. Cl. 49.
Continental Laboratories, Inc., Palo Alto, Calif. 736,972, canc. Cl. 6.
Cooperative Grange League Federation Exchange, Inc.: *See*—
Agway, Inc.
Cooperative Marketing, Inc., Beverly Hills, Calif. 737,283, canc. Cl. 51.
Coordinated Plastics Inc., Brooklyn, N.Y. 859,107. Cl. 2.
Cordley & Hayes, Troy, Mich. 504,066, ren. 10–22–68. Cl. 31.
Corey, Edward S., d.b.a. Fuzzy's Hobo Cafe & Drive-In, Alexandria, La. 859,077, pub. 8–6–68. Cl. 100.
Cornelius Co., The, Anoka, Minn. 858,735, pub. 8–6–68. Cl. 2.
Coronado Mfg. Co., Long Beach, Calif. 859,112. Cl. 19.
Corral, Wodiska y Ca., Tampa, Fla. 245,639, ren. 10–22–68. Cl. 17.
Corral, Wodiska y Ca., Tampa, Fla. 245,778, ren. 10–22–68. Cl. 17.
Cossman & Levine, Inc., Los Angeles, Calif. 859,114. Cl. 22.
Courtesy Associates, Inc., Washington, D.C. 859,142. Cl. 101.
Creative Educational Society, Inc., Mankato, Minn. 858,973, pub. 8–6–68. Cl. 38.
Crow Scales, Inc., Waco, Tex. 737,068, canc. Cl. 21.
Crown Stove Works, Chicago, Ill. 503,927, ren. 10–22–68. Cl. 34.
Crown Zellerbach Corp., San Francisco, Calif. 744,096. Am. 7(d). Cl. 37.
Custer, B. L., Co.: *See*—
Custer, Benjamin L.
Custer, Benjamin L., d.b.a. B. L. Custer Co., Marietta, Ga., to Dol-Wear, Inc., Jasper, Tenn. 440,244, ren. 10–22–68. Cl. 39.
Daggett & Ramsdell, Inc., New York, N.Y. 737,276, canc. Cl. 51.
Dairy Maid Products: *See*—
Land O'Lakes Creameries, Inc.
Danchin, Societe Anonyme, Madeleine, France. 858,984, pub. 8–6–68. Cl. 39.
Dartell Laboratories: *See*—
Dartell Laboratories, Inc.
Dartell Laboratories, Inc., d.b.a. Dartell Laboratories, Los Angeles, Calif. 858,814, pub. 8–6–68. Cl. 18.
Daryl Industries, Inc., Miami, Fla. 858,951, pub. 8–6–68. Cl. 34.
DeJur-Amsco Corp., Long Island City, N.Y. 858,917, pub. 8–6–68. Cl. 26.
Delaware Tool Steel Corp., Wilmington, Del. 505,295, ren. 10–22–68. Cl. 14.
Dell Publishing Co., Inc., New York, N.Y. 505,981, ren. 10–22–68. Cl. 38.
Dell Publishing Co. Inc., New York, N.Y. 737,179, canc. Cl. 38.
De Luxe Girdlecraft Co. Inc., to De Luxe Girdlecraft Co., Inc., New York, N.Y. 500,559, ren. 10–22–68. Cl. 39.
Dennison Mfg. Co., Boston, Mass., to Dennison Mfg. Co., Framingham, Mass. 70,257, ren. 10–22–68. Cl. 5.
Denver Chemical Mfg. Co., The: *See*—
White Laboratories, Inc.
Der Wienerschnitzel International, Inc., Long Beach, Calif. 859,072, pub. 8–6–68. Cl. 100.
Dermocare Formula Soap Co. Inc., Tuckahoe, N.Y. 737,344, canc. Cl. 52.
Detrex Chemical Industries, Inc.: *See*—
Eaton-Clark Co.
Dexter Corp., The, Windsor Locks, Conn., from Hysol Corp., Olean, N.Y. 858,841, pub. 8–6–68. Cl. 21.
Dial-A-Gift Co.: *See*—
Thornton, Thomas F.
Dick, Arthur E., III, d.b.a. Sportland U.S.A., Sybertsville, Pa. 737,200, canc. Cl. 39.
Dixie Ohio Express, Inc., Akron, Ohio. 858,099, pub. 8–6–68. Cl. 105.
Dixon's Famous Chili Parlor: *See*—
Totta, Leonard J.
D'Merle Guitars, Inc., Huntington Station, N.Y. 858,962, pub. 8–6–68. Cl. 36.
Dodge, Inc., Chicago, Ill. 737,273, canc. Cl. 50.
Dodge Mfg. Corp., Mishawaka, Ind., and Oneida, N.Y., to The Reliance Electric & Engineering Co., Euclid, Ohio. 245,508, ren. 10–22–68. Cl. 14.
Dol-Wear, Inc.: *See*—
Custer, Benjamin L.
Domestic Engineering Co., to Medalist Publications, Inc., Chicago, Ill. 504,004, ren. 10–22–68. Cl. 38.
Donco Products Corp., Lakeview, Oreg. 858,873, pub. 8–6–68. Cl. 22.
Donyes, C. Franklin: *See*—
Astro Plastics Corp.
Door Supporting Co.: *See*—
Busch, James E.
Douglas Furniture Corp., Chicago, Ill. 737,150, canc. Cl. 32.
Drew Chemical Corp., New York, N.Y. 858,750, pub. 8–6–68. Cl. 6.
Dubin, Alfred A.: *See*—
Colgate & Co.
Dunhill, Alfred, Ltd., London, England. 858,876, pub. 3–21–67. Cl. 23.
Dunhill, Alfred, Ltd., London, England. 858,928, pub. 4–4–67. Cl. 28.

Dunhill, Alfred, Ltd., London, England. 858,939, pub. 3–21–67. Cl. 32.
Dunhill, Alfred, Ltd., London, England. 858,964, pub. 3–14–67. Cl. 37.
Dunhill, Alfred, Ltd., London, England. 859,052, pub. 3–14–67. Cl. 51.
Durkee Famous Foods: *See*—
SCM Corp.
Durrum Instrument Corp., Palo Alto, Calif. 858,913, pub. 8–6–68. Cl. 26.
Dyna-Jet Products, Inc., Shawnee Mission, Kans. 858,884, pub. 8–6–68. Cl. 23.
Dynamic Electronics-New York, Inc., Richmond Hill, N.Y. 737,049, canc. Cl. 21.
Eagle-Picher Industries, Inc., Cincinnati, Ohio. 858, 774, pub. 8–6–68. Cl. 12.
Easy Eggs Corp., Whitesboro, N.Y. 859,025, pub. 8–6–68. Cl. 46.
Eaton Chemical Corp.: *See*—
Eaton-Clark Co.
Eaton-Clark Co., from Eaton Chemical Corp., Detroit, Mich. 348,497, canc. Cl. 6.
Eaton-Clark Co., from Detrex Chemical Industries, Inc., Detroit, Mich. 430,211, canc. Cl. 6.
Eaton Mfg. Co., to Eaton Yale & Towne Inc., Cleveland, Ohio. 687,143. Am. 7(d). Cl. 21.
Edwards Laboratories, Inc., Santa Ana, Calif. 859,124, pub. Cl. 44.
Eisenhower College, Seneca Falls, N.Y. 859,143, pub. Cl. 107.
Elkin, Isidore, New York, N.Y. 737,339, canc. Cl. 46.
Elpo Industries Inc., Fair Lawn, N.J. 858,881, pub. 8–6–68. Cl. 23.
Ely & Walker, Inc., Wilmington, Del. 858,994, pub. 8–6–68. Cl. 42.
Endicott Johnson Corp., Endicott, N.Y. 858,978, pub. 8–6–68. Cl. 39.
Englander Co., Inc., The, Chicago, Ill. 737,143, canc. Cl. 32.
Enterprise-J. M. Fields, Inc.: *See*—
F. F.-Fields, Inc.
Epperson, V. R., Co.: *See*—
Epperson, Victor R.
Epperson, Victor R., d.b.a. V. R. Epperson Co., Salt Lake City, Utah. 737,134, canc. Cl. 26.
Espey Mfg. & Electronics Corp., Saratoga Springs, N.Y. 858,850, pub. 8–6–68. Cl. 21.
Estee Lauder: *See*—
Estee Lauder, Inc.
Estee Lauder, Inc., d.b.a. Estee Lauder, New York, N.Y. 859,134. Cl. 51.
Ethyl Corp., Richmond, Va. 858,770, pub. 8–6–68. Cl. 12.
Evelyn Hat Co., Inc., Boston, Mass. 737,208, canc. Cl. 39.
Everlast World's Boxing Headquarters Corp., Bronx, N.Y. 859,115. Cl. 22.
Ever-Ready Automatic Burglar Alarm Co., Inc., New York, N.Y. 735,950, canc. Cl. 21.
Evyan Perfumes, Inc.: *See*—
Lorraine Compounds Corp.
Exchange National Bank of Chicago, Chicago, Ill. 859,088–9, pub. 8–6–68. Cl. 102.
E-Z-Way Business & Tax Record: *See*—
Sherrill, Jas. (Jim) M.
F. F.-Fields, Inc., Jersey City, N.J., from Enterprise-J. M. Fields, Inc., Boston, Mass. 737,060, canc. Cl. 21.
Faltin, Anny, d.b.a. Jewelry Award Designs, New York, N.Y. 858,723, pub. 8–6–68. Cl. 2.
Family Circle, Inc., The, New York, N.Y. 858,969, pub. 8–6–68. Cl. 38.
Farah Industries: *See*—
Farah Mfg. Co., Inc.
Farah Mfg. Co., Inc., d.b.a. Farah Industries, El Paso, Tex. 859,055, pub. 8–6–68. Cl. 51.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 737,033, canc. Cl. 18.
Fiberfil: *See*—
Rexall Drug & Chemical Co.
Firestone Tire & Rubber Co., The, Akron, Ohio. 858,919, pub. 8–6–68. Cl. 26.
Flangeklamp Corp., Buffalo, N.Y. 858,778, pub. 8–6–68. Cl. 12.
Flinchbaugh Products, Inc., Redco, Pa. 858,896, pub. 8–6–68. Cl. 23.
Foley Bag Catheter, Inc.: *See*—
Selflate Corp.
Foot Form Shoe Shops, Inc., New York, N.Y. 504,125, ren. 10–22–68. Cl. 39.
Foremost-McKesson, Inc.: *See*—
Chadbourn Gotham, Inc.
Formaid Co.: *See*—
Standish, Eula S.
Foy-Johnston, Inc., Cincinnati, Ohio. 858,804, pub. 7–25–67. Cl. 16.
Fritzsche Bros., Inc., New York, N.Y. 858,760, pub. 8–6–68. Cl. 6.
Fruen Milling Co., Minneapolis, Minn. 859,128. Cl. 46.
Funway Inc., Kansas City, Mo. 858,870, pub. 8–6–68. Cl. 22.
Fuzzy's Hobo Cafe & Drive-In: *See*—
Corey, Edward S.
GAF Corp., from General Aniline & Film Corp., New York, N.Y. 858,749, pub. 6–25–68. Cl. 5.
GAF Corp., from General Aniline & Film Corp., New York, N.Y. 858,776–7, pub. 7–2–68. Cl. 12.
GAF Corp., from General Aniline & Film Corp., New York, N.Y. 858,854, pub. 7–9–68. Cl. 21.
G. C. Electronics Co.: *See*—
Hydrometals, Inc.
G.K.N. Reinforcements Ltd., Smethwick, England. 858,768, pub. 8–6–68. Cl. 12.
Gates Rubber Co., The, Denver, Colo. 858,953, pub. 8–6–68. Cl. 35.
General Aniline & Film Corp.: *See*—
GAF Corp.
General Fire Extinguisher Corp., Culver City, Calif. 737,087, canc. Cl. 23.
General Five Star Products, Inc., Maitland, Fla. 859,060, pub. 8–6–68. Cl. 52.
General Foods Corp., White Plains, N.Y. 859,127. Cl. 46.
General Mills, Inc., Minneapolis, Minn. 859,035, pub. 7–9–68. Cl. 46.
General Mills, Inc., Minneapolis, Minn. 859,037, pub. 7–23–68. Cl. 46.
General Mills, Inc., Minneapolis, Minn. 859,044–7, pub. 8–6–68. Cl. 46.
General Slag Corp., New York, N.Y. 736,957, canc. Cl. 4.
Generos de Punto Rafel, S.A., Barcelona, Spain. 858,979, pub. 8–6–68. Multiple Class (Classes 39 and 42).
Gentex Corp., New York, N.Y. 858,864–5, pub. 8–6–68. Cl. 22.
George, Alfred M., Jr., d.b.a. AMH Industries, Santa Ana, Calif. 858,869, pub. 8–6–68. Cl. 22.
Ghia S.p.A., Turin, Italy. 858,831, pub. 8–6–68. Cl. 19.
Gibboney-Hammond, Chamblee, Ga. 859,116. Cl. 32.
Glegy Chemical Corp., Ardsley, N.Y. 859,069, pub. 8–6–68. Cl. 52.
Gittelman's Sons, Inc., Philadelphia, Pa. 859,081, pub. 8–6–68. Cl. 101.
Glas-Line Co., The: *See*—
McGrane, William N., Cordage Co., Inc.
Glidden Co., The: *See*—
SCM Corp.
Godden Chemical, Inc., Circleville, Ohio. 736,990, canc. Cl. 10.
Golden Gem Growers Inc., Umatilla, Fla. 858,937, pub. 8–6–68. Cl. 31.
Goodrich, B. F., Co., The, Akron, Ohio. 736,975, canc. Cl. 6.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 501,720, ren. 10–22–68. Cl. 50.
Gordon Publications, Inc., Morristown, N.J. 859,118–19. Cl. 38.
Gorham Corp.: *See*—
Textron, Inc.
Go-Tract Ltd., Quebec, Canada. 858,828, pub. 8–6–68. Cl. 19.
Granite Research Industries, Inc., Somerville, Mass. 736,997–8, canc. Cl. 12.
Grasselli Chemical Co., The, Cleveland, Ohio, to Cabot Corp., Boston, Mass. 244,116, ren. 10–22–68. Cl. 6.
Great Atlantic & Pacific Tea Co., Inc., The: *See*—
Great Atlantic & Pacific Tea Co., The.
Great Atlantic & Pacific Tea Co., The, to The Great Atlantic & Pacific Tea Co., Inc., New York, N.Y. 501,764–5, ren. 10–22–68. Cl. 46.
Great Atlantic & Pacific Tea Co., The, to The Great Atlantic & Pacific Tea Co., Inc., New York, N.Y. 501,767, ren. 10–22–68. Cl. 46.
Great Lakes Foundry Sand Co., Detroit, Mich. 504,937, ren. 10–22–68. Cl. 1.
Green, Michael L., Milwaukee, Wis. 737,172, canc. Cl. 38.
Griffin Wellpoint Corp., New York, N.Y. 859,074, pub. 8–6–68. Multiple Class (Classes 100 and 103).
Gross, John, & Co., d.b.a. The Carlton Co., Baltimore, Md. 859,131, pub. Cl. 49.
Gruhin, Max J., d.b.a. Ro-Fay Products, Carteret, N.J. 858,813, pub. 8–6–68. Cl. 18.
Guerriero, Anthony, Fresno, Calif. 859,012, pub. 8–6–68. Cl. 46.
Guilleaume-Werk, Beuel-Bonn, Rhine, Germany. 858,744, pub. 8–68–68. Cl. 4.
Gummed Products Co., The, Troy, Ohio, to St. Regis Paper Co., New York, N.Y. 503,424, ren. 10–22–68. Cl. 5.
Gummed Products Co., The, Troy, Ohio, to St. Regis Paper Co., New York, N.Y. 503,435, ren. 10–22–68. Cl. 5.
H & D, Inc., Everett, Wash. 858,780, pub. 8–6–68. Cl. 12.
Haldon Corp., Youngstown, Ohio. 737,298, canc. Cl. 52.
Hall Drive-It-Yourself Co., St. Louis, Mo. 859,101, pub. 8–6–68. Cl. 105.
Hallicrafters Co., The, Chicago, Ill., to The Hallicrafters Co., Rolling Meadows, Ill. 500,934, ren. 10–22–68. Cl. 21.
Hamilton Watch Co., Lancaster, Pa. 858,798, pub. 8–6–68. Cl. 14.
Hansen Glove Corp., Milwaukee, Wis. 858,983, pub. 8–6–68. Cl. 39.
Harriette Crafts: *See*—
Collette, Harriette D.
Harris, B. W., Mfg. Co., St. Paul, Minn. 737,186, canc. Cl. 39.
Harvey Harvesters, Inc., Grand Haven, Mich. 858,897, pub. 8–6–68. Cl. 23.
Hayden House Foods Co.: *See*—
Ocoma Foods Co.
Heckethorn Mfg. Co., Dyersburg, Tenn. 858,942, pub. 8–6–68. Cl. 32.
Hendon Construction Co., Little Ferry, N.J. 858,779, pub. 8–6–68. Cl. 12.
Hertzon, Morris A., Miami Beach, Fla. 858,972, pub. 8–6–68. Cl. 38.
Hipodromo De Tijuana, Tijuana, Baja California, Mexico. 859,080, pub. 8–6–68. Cl. 101.
Hirsch Brothers Inc., Atlanta, Ga., from Joseph H. Cohen & Sons, Inc., New York, N.Y. 737,194, canc. Cl. 39.
Hoffman, A. H., Inc., Landisville, Pa. 858,767, pub. 8–6–68. Cl. 10.
Holden, J. B., Co., Livonia, Mich. 858,762, pub. 8–6–68. Cl. 9.
Hollingsworth & Vose Co., East Walpole, Mass. 504,308, ren. 10–22–68. Cl. 37.
Home Metal Products Co., Plano, Tex. 858,727, pub. 8–6–68. Cl. 2.

Hooker Chemical Corp., Niagara Falls, N.Y. 858,773, pub. 8–6–68. Cl. 12.
Hopkins Chemicals, Inc., Baltimore, Md. 737,038, canc. Cl. 18.
Humble Oil & Refining Co., Houston, Tex. 858,801, pub. 11–14–61. Cl. 15.
Humko Co., The, Memphis, Tenn., to National Dairy Products Corp., New York, N.Y. 503,608, ren. 10–22–68. Cl. 46.
Hunt-Wesson Foods, Inc., Fullerton, Calif. 859,021, pub. 8–6–68. Cl. 46.
Hydro Mfg., Inc., Los Angeles, Calif. 858,999, pub. 8–6–68. Cl. 44.
Hydrometals, Inc., d.b.a. G. C. Electronics Co., Rockford, Ill. 859,061, pub. 8–6–68. Cl. 52.
Hysol Corp.: *See*—
Dexter Corp., The.
Illinois Tool Works Inc., Chicago, Ill. 858,737, pub. 8–6–68. Cl. 2.
Imperial Knife Associated Companies, Inc., Providence, R.I. 858,883, pub. 8–6–68. Cl. 23.
Impulsphysik G.m.b.H., Hamburg-Rissen, Germany. 858,920, pub. 8–6–68. Cl. 26.
Indian Head Inc.: *See*—
Ulmann, Bernhard, & Co.
Bernhard Ulmann Co. Inc.
Industrial Herbicides Corp., Memphis, Tenn. 736,966, canc. Cl. 6.
Industrial Incomes Inc. of North America, New York, N.Y. 737,346, canc. Cl. 102.
Industrial Marine, Inc., Warsaw, Ind. 737,044, canc. Cl. 19.
Industrial Soap Co., St. Louis, Mo. 502,654, ren. 10–22–68. Cl. 52.
Industrial Specialties Corp., Fort Worth, Tex. 858,878, pub. 8–6–68. Cl. 23.
Ing. Josef Wagner: *See*—
Wagner, Josef.
Instant Photoscreen, Inc., Dayton, Ohio. 737,129, canc. Cl. 26.
Insurance Co. of North America, Philadelphia, Pa. 859,092, pub. 8–6–68. Cl. 102.
International Art Auctions, New York, N.Y. 737,174, canc. Cl. 38.
International Dioxcide, Inc., New York, N.Y. 858,758, pub. 8–6–68. Cl. 6.
International Flavor Machines, Inc., Olivette, Mo. 737,052, canc. Cl. 21.
Interstate Engineering Corp., Anaheim, Calif. 859,093, pub. 8–6–68. Cl. 103.
Interstate Folding Box Co., The, Middletown, Ohio. 858,725, pub. 8–6–68. Multiple Class (Classes 2, 23, and 37).
Irving Air Chute Co., Inc., to Irvin Industries Inc., Lexington, Ky. 795,068. Am. 7(d). Cl. 19.
Jamesway Co. Ltd., Preston, Ontario, Canada. 858,885, pub. 8–6–68. Cl. 23.
Jet Air Products Co., Dallas, Tex. 858,759, pub. 8–6–68. Multiple Class (Classes 6 and 15).
Jewelry Award Designs: *See*—
Faltin, Anny.
Johns-Manville Corp., New York, N.Y. 737,001, canc. Cl. 12.
Johnson Enterprises, Inc., Rockford, Ill. 858,787, pub. 8–6–68. Cl. 13.
Johnson Rubber Co., The, Middlefield, Ohio. 858,781, pub. 8–6–68. Cl. 12.
Jordan, Grady E., & Edna R., d.b.a. Casper Grinding & Supply, Casper, Wyo. 858,845, pub. 6–11–68. Cl. 21.
Julian, Milton, Chapel Hill, N.C. 858,986, pub. 8–6–68. Cl. 39.
KMS Industries, Inc., Ann Arbor, Mich., from Keco, Inc., Pompano Beach, Fla. 858,844, pub. 7–9–68. Cl. 21.
Keco, Inc.: *See*—
KMS Industries, Inc.
Kelley Co., Inc., Milwaukee, Wis. 858,890, pub. 8–6–68. Cl. 23.
Kelly-Springfield Tire Co., The, Cumberland, Md. 502,103, ren. 10–22–68. Cl. 35.
Kem Plastic Playing Cards, Inc., New York, N.Y. 505,214–15, ren. 10–22–68. Cl. 22.
Kemperdick, Rugard, & Co., Porz, near Koln, Germany. 737,-238, canc. Cl. 51.
Kendall Co., The, Walpole, Mass. 858,932, pub. 8–6–68. Cl. 29.
Kenneth, Malcolm, Co., Boston, Mass. 859,121. Cl. 39.
Kern County Land Co., from Kern County Land Co., San Francisco, Calif. 859–014–15, pub. 8–6–68. Cl. 46.
Keyes Fibre Co., Fairfield, to Keyes Fibre Co., Waterville, Maine. 72,284, ren. 10–22–68. Cl. 2.
Keyes Fibre Co., Fairfield, to Keyes Fibre Co., Waterville, Maine. 72,457, ren. 10–22–68. Cl. 2.
Keystone Cabinet Co., Littlestown, Pa. 504,342, ren. 10–22–68. Cl. 32.
Keystone Railway Equipment Co., Chicago, Ill. 858,825, pub. 8–6–68. Cl. 19.
Kimberly-Clark Corp., Neenah, Wis. 737,169, canc. Cl. 37.
King-Seeley Thermos Co., Ann Arbor, Mich. 858,728, pub. 8–6–68. Cl. 2.
Kit Mfg. Co., Long Beach, Calif. 858,835, pub. 8–6–68. Cl. 19.
Kitten Kraft: *See*—
Bickner, Clarence T.
Kleinert, I. B., Rubber Co., New York, N.Y. 157,120, canc. Cl. 39.
Korry Mfg. Co., Seattle, Wash. 858,855, pub. 8–6–68. Cl. 21.
Kraft, John, Sesamè Corp., Paris, Tex. 859,011, pub. 8–6–68. Cl. 46.
Krewson, John W., d.b.a. Laymen's Home Missionary Movement of the Apokalypsis, Philadelphia, Pa. 737,301, canc. Cl. 100.
Kroger Co., The, Cincinnati, Ohio. 858,800, pub. 8–6–68. Cl. 14.
Kutz-Kwik, Inc., La Grange, Ill. 858,903, pub. 8–6–68. Cl. 23.
Kyle Products Co., Wilmington, Del. 737,294, canc. Cl. 52.
L'Aluminium Francais, Paris, France. 859,102, pub. 8–6–68. Cl. 106.
La Maur, Inc., Minneapolis, Minn. 859,053, pub. 4–23–68. Cl. 51.
Land O'Lakes Creameries, Inc., d.b.a. Dairy Maid Products, Minneapolis, Minn. 859,018, pub. 8–6–68. Cl. 46.
Lang-Kohn, Inc., to R. Lowenbaum Mfg. Co., St. Louis, Mo. 506,259, ren. 10–22–68. Cl. 39.
Lavin-Charles of the Ritz, Inc.: *See*—
Charles of the Ritz Distributors Corp.
Laymen's Home Missionary Movement of the Apokalypsis: *See*—
Krewson, John W.
Lear Siegler, Inc., Paramus, N.J. 858,839, pub. 8–6–68. Cl. 21.
Learning Research Corp., Inc., Oak Lawn, Ill. 858,863, pub. 8–6–68. Cl. 22.
Lekas & Drivas, Inc., Brooklyn, N.Y. 859,126. Cl. 46.
Lennox Industries Inc., Marshalltown, Iowa. 858,734, pub. 8–6–68. Cl. 2.
Levy Bros. Frocks, Inc., New York, N.Y. 858,987, pub. 8–6–68. Cl. 39.
Lewis Engineering Co., Naugatuck, Conn. 858,916, pub. 8–6–68. Cl. 26.
Lewis, Kerrigan, Mfg. Co., Chicago, Ill. 858,849, pub. 8–6–68. Cl. 21.
Line-A-Tor, Inc., Jackson, Tenn. 737,131, canc. Cl. 26.
Lipton, Thomas J., Inc., Englewood Cliffs, N.J. 859,043, pub. 8–6–68. Cl. 46.
Litton Industries, Inc., Beverly Hills, Calif., from Streater Store Fixtures, Inc., Albert Lea, Minn. 859,073, pub. 5–14–68. Multiple Class (Classes 100 and 103).
Lo Duca Bros. Musical Instruments, Inc., Milwaukee, Wis. 858,847, pub. 8–6–68. Cl. 21.
Loeffler & Co., Inc., d.b.a. Viewpoint Books, San Diego, Calif. 858,970, pub. 8–6–68. Cl. 38.
Logetronics Inc.: *See*—
Urdahl, Thomas H.
Lorco Corp.: *See*—
Lorraine Compounds Corp.
Lorraine Compounds Corp., now by change of name Lorco Corp., to Evyan Perfumes, Inc., New York, N.Y. 440,419, ren. 10–22–68. Cl. 52.
Lottman, C. F., & Sons, Houston, Tex. 155,752, canc. Cl. 32.
Lottman, C. F., & Sons, Houston, Tex. 157,706, canc. Cl. 32.
Low Calorie Candy Co., Inc., The, to Weight Watchers International, Inc., Forest Hills, N.Y. 826,163, new cert. Multiple Class (Classes 45 and 46).
Low Cost Mkts.: *See*—
Arden-Mayfair.
Lowenbaum, R., Mfg. Co.: *See*—
Lang-Kohn, Inc.
Lowenbaum, R., Mfg. Co., St. Louis, Mo. 441,911, ren. 10–22–68. Cl. 51.
Lowney, Walter M., Co. Ltd., Sherbrooke, Quebec, Canada. 859,024, pub. 8–6–68. Cl. 46.
Lubbock Mfg. Co., Lubbock, Tex. 858,827, pub. 8–6–68. Cl. 19.
Lusteroid Container Co., Inc., Maplewood, N.J. 858,922, pub. 8–6–68. Cl. 26.
M.B.C. Nome Co., Menlo Park, Calif. 737,079, canc. Cl. 22.
M & M Rubber Co., Inc., Kansas City, Mo. 737,233, canc. Cl. 44.
MacAndrews & Forbes Co., Camden, N.J. 503,143–4, ren. 10–22–68. Cl. 6.
MacClean Service Co., Inc., Bellerose, N.Y., 859,094–5, pub. 8–6–68. Cl. 103.
Maconochie Brothers (Hadfield) Ltd.: *See*—
Maconochie Bros. Ltd.
Maconochie Bros. Ltd. London, England, to Maconochie Brothers (Hadfield) Ltd., York, England. 69,026, ren. 10–22–68. Cl. 46.
Madison Chemical Corp., Maywood, Ill. 858,816, pub. 8–6–68. Cl. 18.
Maidenform, Inc., New York, N.Y. 858,989, pub. 8–6–68. Cl. 39.
Majestic Co., Inc., The, Huntington, Ind. 858,949–50, pub. 8–6–68. Cl. 34.
Malaga Co-Ops, Inc., Malaga, Wash. 859,008, pub. 8–6–68. Cl. 46.
Mancusi, V. T., Inc., Jamaica, N.Y. 859,082, pub. 8–6–68. Cl. 101.
Manifold Supplies Co., New York, N.Y. 435,346, canc. Cl. 11.
Maria, Ana, Inc., Beverly Hills, Calif. 859,056, pub. 8–6–68. Cl. 51.
Marks, Harry, Clothing Co., Inc., Richmond, Va., to The Alligator Co., Inc., St. Louis, Mo. 249,483, ren. 10–22–68. Cl. 39.
Marquette National Bank: *See*—
Marquette National Bank of Minneapolis, The.
Marquette National Bank of Minneapolis, The, d.b.a. Marquette National Bank, Minneapolis, Minn. 859,087, pub. 8–6–68. Cl. 102.
Mars Inc., Chicago, Ill. 298,995. Am. 7(d). Cl. 46.
Martel Electronics Sales Inc., Los Angeles, Calif. 858,958, pub. 8–6–68. Cl. 36.
Martin-Marietta Corp.: *See*—
Metals Disintegrating Co., Inc.

Martin's, d.b.a. Martins, Inc., and Martin's, Inc., Brooklyn, N.Y. 858,981, pub. 8–6–68. Cl. 39.
Martin's, Inc.: *See*—
Martin's.
Martins, Inc.: *See*—
Martin's.
Maschinenfabrik Augsburg-Nurnberg, A.G., Munich, Germany. 858,832, pub. 8–6–68. Cl. 19.
Masonite Corp., Chicago, Ill. 736,999, canc. Cl. 12.
Mattel, Inc., Hawthorne, Calif. 858,871, pub. 8–6–68. Cl. 22.
Maurey Mfg. Corp., Chicago, Ill. 585,915, canc. Cl. 23.
Mayfair Industries, Inc., Lafayette, La. 737,012, canc. Cl. 13.
McCambridge & McCambridge Co., The, Baltimore, Md., to The Miflin, McCambridge Co., Riverdale, Md. 505,813, ren. 10–22–68. Cl. 6.
McCord Corp., Detroit, Mich. 736,996, canc. Cl. 12.
McCormick & Co., Inc., Baltimore, Md. 859,030, pub. 8–6–68. Cl. 46.
McCreary Tire & Rubber Co., Indiana, Pa. 858,954–5, pub. 8–6–68. Cl. 35.
McCrory Corp.: *See*—
Best & Co. Inc.
McGrane, William N., Cordage Co., Inc., d.b.a. The Glas-Line Co., Brooklyn, N.Y. 737,323, canc. Cl. 7.
Medallist Publications, Inc.: *See*—
Domestic Engineering Co.
Medical Plastics Corp. of America, Greensboro, N.C. 858,716, pub. 8–6–68. Cl. 1.
Medicinal Research Laboratories, Inc., Philadelphia, Pa. 858,812, pub. 8–6–68. Cl. 18.
Medi-Kay Pharmacal Co.: *See*—
York, L. T., Co.
Medivance (Instruments) Ltd., from N. & J. Motors Ltd., London, England. 858,909, pub. 8–6–68. Cl. 26.
Melson Jewelry Co.: *See*—
Taubman, Melvin.
Mennen Co., The, Morris Township, N.J. 505,807, ren. 10–22–68. Cl. 51.
Mesa Citrus Growers: *See*—
Arizona Citrus Growers.
Metals & Controls Corp., Attleboro, Mass., to Texas Instruments Inc., Dallas, Tex. 500,964, ren. 10–22–68. Cl. 14.
Metals Disintegrating Co., Inc., Union, N.J., from Martin-Marietta Corp., Chicago, Ill. 395,544, canc. Cl. 14.
Miflin, McCambridge Co., The: *See*—
McCambridge & McCambridge Co., The.
Milgo Electronic Corp., Miami, Fla. 858,907, pub. 8–6–68. Cl. 26.
Miller Brewing Co., Milwaukee, Wis. 859,048, pub. 8–6–68. Cl. 48.
Miller, Earl A., Orem, Utah. 737,083, canc. Cl. 22.
Minnesota Mining & Mfg. Co., St. Paul, Minn. 858,806–7, pub. 8–6–68. Cl. 16.
Miotke, Norbert, Detroit, Mich. 858,940, pub. 8–6–68. Cl. 32.
Mirro Aluminum Co.: *See*—
Aluminum Goods Mfg. Co.
Mission Pharmacal Co., San Antonio, Tex. 858,815, pub. 8–6–68. Cl. 18.
Mister Donut of America, Inc., Westwood, Mass. 859,016, pub. 8–6–68. Cl. 46.
Mitutoyo Mfg. Co., Ltd., Tokyo, Japan. 858,908, pub. 8–6–68. Cl. 26.
Mohr Orchards, Inc., Fogelsville, Pa. 859,006, pub. 8–6–68. Cl. 46.
Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 502,445, ren. 10–22–68. Cl. 1.
Monsanto Chemical Co., St. Louis, Mo. 504,909, ren. 10–22–68. Cl. 1.
Monsanto Co.: *See*—
Monsanto Chemical Co.
Morgan, Mason E., Denver, Colo. 858,891, pub. 8–6–68. Cl. 23.
Morris-Young-Owens Co., Houston, Tex. 858,900, pub. 8–6–68. Cl. 23.
Moss, Ray, Farms, Inc., Chattanooga, Tenn. 859,125. Cl. 46.
Motec Industries, Inc., Hopkins, Minn. 737,118, canc. Cl. Cl. 2.
Motown Record Corp., Detroit, Mich. 858,961, pub. 8–6–68. Cl. 36.
Multiplex Co., St. Louis, Mo. 858,783, pub. 8–6–68. Multiple Class (Classes 13, 23, and 31).
Murray Ohio Mfg. Co., The, Nashville, Tenn. 858,826, pub. 8–6–68. Cl. 19.
Myers, Royse, d.b.a. Armco, to Simoniz Co., Chicago, Ill. 781,-518, new cert. Cl. 52.
N.A.P.A. Buffalo Warehouse: *See*—
Unit Parts Corp.
N. & J. Motors Ltd.: *See*—
Medivance (Instruments) Ltd.
N.V. Rubberfabriek Vredestein, The Hague, Netherlands. 858,-956, pub. 8–6–68. Cl. 35.
National Automotive Parts Association, Chicago, Ill. 858,745, pub. 8–6–68. Cl. 4.
National Automotive Parts Association, Chicago, Ill. 858,748, pub. 8–6–68. Cl. 5.
National Automotive Parts Association, Chicago, Ill. 858,805, pub. 8–6–68. Cl. 16.
National Automotive Parts Association, Chicago, Ill. 858,838, pub. 8–6–68. Cl. 21.
National Automotive Parts Association, Chicago, Ill. 858,935, pub. 8–6–68. Cl. 31.
National Biscuit Co., New York, N.Y. 245,490–500, ren. 10–22–68. Cl. 46.
National Chemsearch Corp. of Texas, Dallas, Tex. 736,962, canc. Cl. 6.
National Dairy Products Corp.: *See*—
Humko Co., The.
National Dairy Products Corp., New York, N.Y. 859,038, pub. 8–6–68. Cl. 46.
National Distillers & Chemical Corp., d.b.a. National Distillers Products Co., Richmond, Va. 858,729, pub. 8–6–68. Cl. 2.
National Distillers Products Co.: *See*—
National Distillers & Chemical Corp.
National Electrical Manufacturers Association, New York, N.Y. 737,320, canc. Cl. A.
National Homes Corp., Lafayette, Ind. 737,336, canc. Cl. 32.
National Oats Co.: *See*—
National Oats Co., Inc.
National Oats Co., Inc., from National Oats Co., Cedar Rapids, Iowa. 859,020, pub. 8–6–68. Cl. 46.
National Periodical Publications, Inc., New York, N.Y. 858,-860, pub. 8–6–68. Cl. 22.
Netzky, William, d.b.a. Susquehanna Waist Co., Upland, to Ship n' Shore, Inc., Chester, Pa. 506,309, ren. 10–22–68. Cl. 39.
Niedermeyer-Martin Co., Portland, Oreg. 858,772, pub. 8–6–68. Cl. 12.
Nielsen Saw & Mfg. Co., Eugene, Oreg. 737,086, canc. Cl. 23.
Northeast Engineering, Inc., Hamden, Conn. 858,786, pub. 8–6–68. Cl. 13.
Occidental Petroleum Corp., Los Angeles, Calif. 858,714, pub. 8–6–68. Cl. 1.
Occidental Petroleum Corp., Los Angeles, Calif. 858,752, pub. 8–6–68. Cl. 6.
Occidental Petroleum Corp., Los Angeles, Calif. 858,763–4, pub. 8–6–68. Cl. 10.
Ocoma Foods Co., d.b.a. Hayden House Foods Co., Omaha, Nebr. 859,039, pub. 8–6–68. Cl. 46.
Olin Mathieson Chemical Corp., New York, N.Y. 858,938, pub. 8–6–68. Cl. 31.
Oroweat Baking Co., Los Angeles, Calif. 859,032, pub. 8–6–68. Cl. 46.
Overseas Housewares Co., Yonkers, N.Y. 858,784, pub. 11–28–67. Multiple Class (Classes 13 and 23).
Owens-Illinois Glass Co., Toledo, Ohio. 736,948, canc. Cl. 1.
Parke, Davis & Co., Detroit, Mich. 858,822, pub. 8–6–68. Cl. 18.
Paterno Imports, Ltd., Chicago, Ill. 859,129. Cl. 47.
Pecora Chemical Corp., Philadelphia, Pa. 858,775, pub. 8–6–68. Cl. 12.
Penco Record Co., New Bedford, Mass. 858,959, pub. 8–6–68. Cl. 36.
Penn Products Co.: *See*—
Pentapco, Inc.
Penney, J. C., Co., New York, N.Y. 859,113. Cl. 22.
Pentapco, Inc., d.b.a. Penn Products Co., Elizabeth, N.J. 858,788, pub. 8–6–68. Cl. 13.
Pepperell Mfg. Co., Boston, Mass. 737,219, canc. Cl. 42.
Perma-Door Co., The, Cincinnati, Ohio. 858,782, pub. 8–6–68. Cl. 12.
Personalysis: *See*—
Bronston, Lloyd B.
Phillips Petroleum Co., Bartlesville, Okla. 858,790–7, pub. 8–6–68. Cl. 13.
Phrix-Werke Aktiengesellschaft, Hamburg, Germany. 858,713, pub. 8–6–68. Multiple Class (Classes 1, 39, 42, 43, and 50).
Pictorial Productions, Inc., Mount Vernon, N.Y. 737,120, canc. Cl. 26.
Pillsbury Co., The, Minneapolis, Minn. 737,258, canc. Cl. 46.
Pillsbury Co., The, Minneapolis, Minn. 859,033, pub. 8–6–68. Cl. 46.
Pioneer Girls, Wheaton, Ill. 859,079, pub. 8–6–68. Cl. 100.
Pioneer Village: *See*—
Warp, Harold.
Pittman Products, Inc., d.b.a. Pittman Rubber Co., Huntington Park, from Sportsways, Inc., Paramount, Calif. 858,-858, pub. 8–6–68. Cl. 22.
Pittman Rubber Co.: *See*—
Pittman Products, Inc.
Plastic Applicators, Inc., Houston, Tex. 737,112, canc. Cl. 26.
Plasti-Steel, Inc., Wichita, Kans. 858,731, pub. 8–6–68. Cl. 2.
Plymouth Fur Co., The, to Plymouth Furs, Inc., Minneapolis, Minn. 72,571, ren. 10–22–68. Cl. 39.
Plymouth Furs Inc.: *See*—
Plymouth Fur Co., The.
Ponper & Sons, Inc., New York, N.Y. 858,998, pub. 8–6–68. Cl. 44.
Powers & Eaton Industries, Inc., Hawthorne, N.J. 858,895, pub. 8–6–68. Cl. 23.
Process Chemicals Co., Santa Fe Springs, Calif. 736,978, canc. Cl. 6.
Product Research & Development Corp., Blue Bell, Pa. 858,-730, pub. 8–6–68. Cl. 2.
Products Engineering Corp., Los Angeles, Calif. 858,910, pub. 8–6–68. Cl. 26.
Professional Tape Co., Inc., d.b.a. Time Products Co., Riverside, Ill. 858,861, pub. 8–6–68. Cl. 22.
Publicker Commercial Alcohol Co., of Delaware, to Publicker Industries, Inc., Philadelphia, Pa. 250,586, ren. 10–22–68. Cl. 49.
Publicker, Inc., to Publicker Industries, Inc., Philadelphia, Pa. 249,320, ren. 10–22–68. Cl. 6.
Publicker Industries, Inc.: *See*—
Publicker, Inc.
Publicker Commercial Alcohol Co., of Delaware.
Publicker Industries Inc., Philadelphia, Pa. 505,169, ren. 10–22–68. Cl. 6.
Purity Cheese Co., Mayville, Wis. 506,129, ren. 10–22–68. Cl. 46.
Rapid-American Corp., New York, N.Y. 858,982, pub. 8–6–68. Cl. 39.

Rechr, William, Co., Inc., New York, N.Y. 737,090, canc. Cl. 23.
Registrar & Transfer Co., New York, N.Y. 506,063, ren. 10–22–68. Cl. 38.
Regulus Inc., Mt. Gilead, Ohio. 737,053, canc. Cl. 21.
Rehill, John J., Jr., d.b.a. John Rehill Novelties, Wayne, N.J. 858,742, pub. 8–6–68. Cl. 3.
Rehill, John, Novelties: *See*—
Rehill, John J., Jr.
Reliance Electric & Engineering Co., The: *See*—
Dodge Mfg. Corp.
Reliance Gauge Column Co., The, to The Clark-Reliance Corp., Cleveland, Ohio. 502,476, ren. 10–22–68. Cl. 26.
Reliance Gauge Column Co., The, to The Clark-Reliance Corp., Cleveland, Ohio. 504,764, ren. 10–22–68. Cl. 26.
Reliance Gauge Column Co., The, to The Clark-Reliance Corp., Cleveland, Ohio. 505,195, ren. 10–22–68. Cl. 26.
Remington Arms Co., Inc., Bridgeport, Conn. 858,769, pub. 8–6–68. Cl. 12.
Ressel, O. O., d.b.a. Woodrow Wilson Co., Newport Beach, Calif. 858,967, pub. 8–6–68. Cl. 38.
Restaurant Voisin, Inc., New York, N.Y. 859,078, pub. 8–6–68. Cl. 100.
Rexall Drug & Chemical Co., d.b.a. Tupperware, Los Angeles, Calif. 858,720, pub. 8–6–68. Cl. 2.
Rexall Drug & Chemical Co., d.b.a. Fiberfil, Los Angeles, Calif. 858,799, pub. 8–6–68. Cl. 14.
Rheem Mfg. Co., New York, N.Y. 858,960, pub. 8–6–68. Cl. 36.
Rhoads, J. E., & Sons, Philadelphia, Pa., to J. E. Rhoads & Sons, Inc., Wilmington, Del. 505,422, ren. 10–22–68. Cl. 35.
Rhoads, J. E., & Sons, Inc.: *See*—
Rhoads, J. E., & Sons.
Rich Products Corp., Buffalo, N.Y. 859,007, pub. 8–6–68. Cl. 46.
Richelieu Corp., The, Holbrook, N.Y. 858,930, pub. 8–6–68. Cl. 28.
Riker Laboratories, Inc., Northridge, Calif. 737,028, canc. Cl. 18.
Robe-Tex, Inc., New York, N.Y. 737,212, canc. Cl. 39.
Robinson, C. E., Co.: *See*—
Cerco Corp.
Rochester Paper Co., to Rochester Paper Co., Rochester, Mich. 245,108, ren. 10–22–68. Cl. 37.
Rochester Paper Co., to Rochester Paper Co., Rochester, Mich. 245,795, ren. 10–22–68. Cl. 37.
Ro-Hay Products: *See*—
Gruhin, Max J.
Rotolite Corp., Stirling, N.J. 858,924, pub. 8–6–68. Cl. 26.
Roy, Milton, Co., Philadelphia, Pa. 737,132, canc. Cl. 26.
Royal Industries, Inc., Pasadena, Calif. 858,882, pub. 8–6–68. Cl. 23.
Royal Industries, Inc., Pasadena, Calif. 859,109. Cl. 7.
Rupp Mfg., Inc., Mansfield, Ohio. 737,042, canc. Cl. 19.
Rural Gravure Service, Inc., Madison, Wis. 505,992, ren. 10–22–68. Cl. 38.
Russer, Max, Inc., Rochester, N.Y. 859,010, pub. 8–6–68. Cl. 46.
SCM Corp., New York, N.Y. 800,340, canc. Cl. 26.
SCM Corp., New York, N.Y., from The Glidden Co., d.b.a. Durkee Famous Foods, Cleveland, Ohio. 859,017, pub. 8–6–68. Cl. 46.
Safeguard Precision Products, Inc., Aberdeen, S. Dak. 858,899, pub. 8–6–68. Cl. 23.
St. Regis Paper Co.: *See*—
Gummed Products Co., The.
San Francisco Chamber of Commerce, San Francisco, Calif. 737,300, canc. Cl. 100.
Sapos S.A., Geneva, Switzerland. 737,032, canc. Cl. 18.
Sarex Corp., Carteret, N.J. 858,852, pub. 8–6–68. Cl. 21.
Schaffner Mfg. Co., Inc., Pittsburgh, Pa. 859,108. Cl. 4.
Schiff, Jacques C., Jr., New York, N.Y. 859,120. Cl. 38.
Scientific Anglers, assor. to Scientific Anglers, Inc., Midland, Mich. 441,445, ren. 10–22–68. Cl. 22.
Scientific Anglers, Inc.: *See*—
Scientific Anglers.
Scovill Mfg. Co., Waterbury, Conn. 245,961, ren. 10–22–68. Cl. 40.
Seamless Rubber Co., The, New Haven, Conn. 736,979, canc. Cl. 6.
Sears, Roebuck & Co., Chicago, Ill. 737,027, canc. Cl. 18.
Selchow & Righter Co., Bayshore, N.Y. 858,866, pub. 8–6–68. Cl. 22.
Selfiate Corp., from Foley Bag Catheter, Inc., St. Paul, Minn. 858,997, 10–20–64. Cl. 44.
Sellers, Billy H., Metairie, La. 858,753, pub. 8–6–68. Cl. 6.
Setchell-Carlson, Inc., St. Paul, Minn. 858,846, pub. 8–6–68. Cl. 21.
Seven Seas Inc., Westport, Conn. 858,941, pub. 8–6–68. Cl. 32.
Shakespeare Co., Kalamazoo, Mich. 858,862, pub. 8–6–68. Cl. 22.
Shenck Corp., York, Pa. 858,887, pub. 8–6–68. Cl. 23.
Sherman, David, Corp., St. Louis, Mo. 737,269–70, canc. Cl. 49.
Sherrill, Jas. (Jim) M., d.b.a. E-Z-Way Business & Tax Record, Memphis, Tenn. 858,966, pub. 8–6–68. Cl. 37.
Sherry, Louis, Inc., from Slenderella, Inc., New Hyde Park, N.Y. 859,028, pub. 8–6–68. Cl. 46.
Ship n' Shore, Inc.: *See*—
Netzky, William.
Simoniz Co.: *See*—
Myers, Royse.
Slant/Fin Corp.: *See*—
Alliance Mfg. Co., Inc., The.
Slenderella, Inc.: *See*—
Sherry, Louis, Inc.
Slumberest Co., Georgetown, Ky. 737,069, canc. Cl. 21.
Smidth, F. L., & Co., New York, N.Y. 858,946, pub. 8–6–68. Cl. 34.
Smith, Earl C., d.b.a. Cherrystone Co., Amityville, N.Y. 859,026, pub. 8–6–68. Cl. 46.
Smith, J. & B., Co., The, Atlanta, Ga. 858,741, pub. 8–6–68. Cl. 2.
Societe Lyonnaise des Rechauds Catalytiques, Caluire (Rhone), France. 737,151, canc. Cl. 34.
Solar Light Mfg. Co., Melrose Park, Ill. 858,947, pub. 8–6–68. Cl. 34.
Special Oils Mfg. Co., West New York, N.Y. 859,110. Cl. 15.
Spectra-Physics, Inc., Mountain View, Calif. 858,911, pub. 8–6–68. Cl. 26.
Spectrol Electronics Corp., City of Industry, Calif. 858,837, pub. 8–6–68. Cl. 21.
Sportland U.S.A.: *See*—
Dick, Arthur E., III.
Sportsways, Inc.: *See*—
Pittman Products, Inc.
Squibb, E. R., & Sons, Inc., New York, N.Y. 858,823–4, pub. 8–6–68. Cl. 18.
Stainless Ice-Tainer Co., San Antonio, Tex. 858,718, pub. 6–8–68. Cl. 2.
Staley, A. E., Mfg. Co., Decatur, Ill. 506,159, ren. 10–22–68. Cl. 46.
Stanback Co., Ltd., Salisbury, N.C. 505,815, ren. 10–22–68. Cl. 18.
Standard Card Clothing Co., The, Stafford Springs, Conn. 248,269, ren. 10–22–68. Cl. 23.
Standardized Sanitation Systems, Inc., to Standardized Sanitation Systems, Inc., Burlington, Mass. 796,169, new cert. Cl. 200.
Standish, Eula S., Providence, R.I., to Formaid Co., Boston, Mass. 251,212, ren. 10–22–68. Cl. 39.
Starcraft Corp., Goshen, Ind. 858,830, pub. 8–6–68. Cl. 19.
Statistical Tabulating Corp., Chicago, Ill. 737,306, canc. Cl. 101.
Stauffer Chemical Co., San Francisco, Calif., to Stauffer Chemical Co., New York, N.Y. 500,314, ren. 10–22–68. Cl. 6.
Steel Stamping Co., The, Lorain, Ohio. 737,081, canc. Cl. 22.
Steinmetz Bros., Inc., New York, N.Y. 858,974, pub. 8–6–68. Cl. 39.
Stellenbosch Farmers' Winery Ltd., The, Cape Province, Republic of South Africa. 859,130. Cl. 47.
Sterling Drug Inc.: *See*—
U.S. Sanitary Specialties Corp.
Stern, Harold L., Houston, Tex. 737,230, canc. Cl. 44.
Sternco Industries, Inc., Harrison, N.J. 858,724, pub. 8–6–68. Multiple Class (Classes 2, 6, 13, 21, 23, 31, 35, and 50).
Sternco Industries, Inc., Harrison, N.J. 859,040, pub. 8–6–68. Cl. 46.
Stevens, J. P., & Co., Inc., New York, N.Y. 858,996, pub. 8–6–68. Cl. 42.
Stewart-Warner Corp., Chicago, Ill. 858,915, pub. 8–6–68. Cl. 26.
Stoeger Arms Corp., South Hackensack, N.J. 788,361, cor. Cl. 9.
Stonewall Witcher, Robbins, Ill. 858,810, pub. 8–6–68. Cl. 18.
Strange, John, Paper Co., Menasha, Wis. 858,901, pub. 8–6–68. Cl. 23.
Streater Store Fixtures, Inc.: *See*—
Litton Industries, Inc.
Stuart, D. A., Oil Co., Ltd., Chicago, Ill. 504,635, ren. 10–22–68. Cl. 15.
Studio Girl: *See*—
Studio Girl-Hollywood, Inc.
Studio Girl-Hollywood, Inc., d.b.a. Studio Girl, Chicago, Ill. 859,135. Cl. 51.
Subud International Services, Inc., New York, N.Y. 859,106, pub. 8–6–68. Cl. 200.
Sunbeam Corp.: *See*—
Chicago Flexible Shaft Co.
Sunbeam Corp., Chicago, Ill. 858,926–7, pub. 8–6–68. Cl. 27.
Sure-Fit Products Co., Bethlehem, Pa. 737,148, canc. Cl. 32.
Susquehanna Waist Co.: *See*—
Netzky, William.
Swift & Co., Chicago, Ill. 859,041, pub. 8–6–68. Cl. 46.
Swiss Farms Inc.: *See*—
Weigelt, Rene.
Swiss Industrial Co., Schaffhouse, Switzerland. 858,912, pub. 8–6–68. Cl. 26.
Symmons Engineering Co., Boston, Mass. 858,789, pub. 8–6–68. Cl. 13.
Takeda Chemical Industries, Ltd., Higashi-ku, Osaka, Japan. 858,808, pub. 8–6–68. Cl. 18.
Tanaka Bussan Co. Ltd., Cooksville, Ontario, Canada. 858,898, pub. 8–6–68. Cl. 23.
Tasco Sales, Inc., Miami, Fla. 858,918, pub. 8–6–68. Cl. 26.
Taubman, Melvin, d.b.a. Melson Jewelry Co., New York, N.Y. 858,929, pub. 8–6–68. Cl. 28.
Testron, Inc., Chicago, Ill. 858,925, pub. 8–6–68. Cl. 26.
Texas Instruments Inc.: *See*—
Metals & Controls Corp.
Texas Scientific Laboratories, Inc., Houston, Tex. 737,029, canc. Cl. 18.
Textron, Inc., from Gorham Corp., Providence, R.I. 858,892, pub. 8–6–68. Cl. 23.
Therma AG (Therma SA) (Therma Ltd.): *See*—
Therma Fabrik fur Elektrische Heizung A.-G.
Therma Fabrik fur Elektrische Heizung A.-G., vormals S. Blumer, to Therma AG (Therma SA) (Therma Ltd.) Schwanden, Switzerland. 224,260, ren. 10–22–68. Cl. 21.

Thompson Boat Co. of New York, Inc., Cortland, N.Y. 858,829, pub. 8–6–68. Cl. 19.
Thorium Ltd., London, England. 858,747, pub. 8–6–68. Cl. 4.
Thornton, F. C., Co., The, Cleveland, Ohio. 858,785, pub. 8–6–68. Cl. 13.
Thornton, Thomas F., d.b.a. Dial-A-Gift Co., Old Greenwich, Conn. 859,084, pub. 6–11–68. Cl. 101.
Thriftway Foods, Inc., King of Prussia, Pa. 746,371. Am. 7(d). Cl. 101.
Tiffany Stand Co., St. Louis, Mo. 677,700, canc. Cl. 32.
Time Products Co.: *See*—
Professional Tape Co., Inc.
Toby Textiles, Inc., Long Island City, N.Y. 858,993, pub. 8–6–68. Cl. 42.
Todd Shipyards Corp., New York, N.Y. 737,152, canc. Cl. 34.
Totta, Leonard J., d.b.a. Dixon's Famous Chili Parlor, Kansas City, Mo. 859,141. Cl. 100.
Transogram Co., Inc., New York, N.Y. 858,868, pub. 8–6–68. Cl. 22.
Troutman-Barnes, Culver City, Calif. 858,836, pub. 8–6–68. Cl. 19.
Tucker Plastic Products Ltd., Toronto, Ontario, Canada. 858,726, pub. 8–6–68. Multiple Class (Classes 2 and 23).
Tupperware: *See*—
Rexall Drug & Chemical Co.
Turnstyle Corp., The, Lynn, Mass. 737,185, canc. Cl. 39.
Ulman, Max, Inc., New York, N.Y. 737,190, canc. Cl. 39.
Ulmann, Bernhard, & Co., to Indian Head Inc., New York, N.Y. 72,392, ren. 10–22–68. Cl. 43.
Ulmann, Bernhard, & Co. Inc., Long Island City, N.Y., to Indian Head Inc., New York, N.Y. 505,538, ren. 10–22–68. Cl. 43.
Union Carbide Corp., New York, N.Y. 859,103, pub. 8–6–68. Cl. 106.
Union Rubber & Asbestos Co., Trenton, N.J. 503,793, ren. 10–22–68. Cl. 5.
Union Steel Products Co., Albion, Mich. 737,088, canc. Cl. 23.
Unipat Corp. of America, Chicago, Ill. 858,721–2, pub. 8–6–68. Cl. 2.
Unit Parts Corp., d.b.a. N. A. P. A. Buffalo Warehouse, Buffalo, N.Y. 737,066, canc. Cl. 21.
United Aircraft Corp., East Hartford, Conn. 858,880, pub. 8–6–68. Cl. 23.
United Hosiery Mills Corp., Chattanooga, Tenn., to Ilusster Brown Textiles, Inc., Greenwich, Conn. 505,224–5, ren. 10–22–68. Cl. 39.
United Utilities, Inc., Westwood, Kans. 859,096, ren. 8–6–68. Cl. 104.
United World Films, Inc., to Universal City Studios, Inc., New York, N.Y. 503,767, ren. 10–22–68. Cl. 26.
U.S. Sanitary Specialties Corp., Chicago, Ill., to Sterling Drug Inc., New York, N.Y. 501,495, ren. 10–22–68. Cl. 52.
Universal Candies, Inc., Los Angeles, Calif. 737,017, canc. Cl. 15.
Universal Carloading & Distributing Co., Inc., New York, N.Y. 859,097, pub. 8–6–68. Cl. 105.
Universal Carloading & Distributing Co., New York, N.Y. 859,100, pub. 8–6–68. Cl. 105.
Universal City Studios, Inc: *See*—
United World Films, Inc.
Urdahl, Thomas H., assor., by mesne assignments, to Dryomatic Corp. of America, Orlando, Fla., to Logetronics Inc., Springfield, Va. 441,644, ren. 10–22–68. Cl. 34.
Urner-Barry Co.: *See*—
American Milk Review, Inc.
Veb Staatliche Porzellan-Manufaktur Meissen, Meissen, Germany. 858,933, pub. 8–6–68. Multiple Class (Classes 30 and 50).
Ventron Corp., Beverly, Mass. 858,757, pub. 8–6–68. Cl. 6.
Vereinigte Baubeschlagfabriken Gretsch & Co., G.m.b.H., Stuttgart, Germany. 858,859, pub. 8–6–68. Cl. 22.
Verona-Pharma Chemical Corp., Union, N.J. 736,985, canc. Cl. 6.
Veterinary Research Co., Inc., The, Oceanside, N.Y. 859,022, pub. 8–6–68. Cl. 46.
Viewpoint Books: *See*—
Loeffler & Co., Inc.
Vikon, Inc., Hoboken, N.J. 858,856, pub. 8–6–68. Cl. 21.
Visual Impact, Inc., Gardner, Kans. 859,117. Cl. 38.
Wagner, Josef, d.b.a. Ing. Josef Wagner, Fischbach, Germany. 858,893, pub. 8–6–68. Cl. 23.
Waldorf, Hoerner, Corp., St. Paul, Minn. 858,732–3, pub. 8–6–68. Cl. 2.
Wales Mfg. Co., Boston, Mass. 737,191, canc. Cl. 39.
Walker Mfg. Co., Racine, Wis. 858,936, pub. 8–6–68. Cl. 31.
Wampole Laboratories: *See*—
White Laboratories, Inc.
Warner Electric Co., Inc., Chicago, Ill. 858,743, pub. 8–6–68. Multiple Class (Classes 4, 6, 21, and 23).
Warner & Swasey Co., The, Cleveland, Ohio, 858,877, pub. 8–6–68. Multiple Class (Classes 23 and 26).
Warner-Lambert Research Institute, Morris Plains, N.J. 858,821, pub. 8–6–68. Cl. 18.
Warp, Harold, d.b.a. Pioneer Village, Minden, Nebr. 859,105, pub. 8–6–68. Cl. 107.
Watsco, Inc., from Winslow Mfg. Corp., Hialeah, Fla. 858,888, pub. 8–6–68. Cl. 23.
Wayne-Gossard Corp., Humboldt, Tenn. 858,985, pub. 8–6–68. Cl. 39.
Weber, A. C., Co., Inc., Chicago, Ill. 858,879, pub. 8–6–68. Cl. 23.
Wed Enterprises, Inc., Glendale, Calif. 859,075, pub. 8–6–68. Cl. 100.
Weigelt, Rene, to Swiss Farms Inc., Philmont, N.Y. 505,893, ren. 10–22–68. Cl. 1.
Weight Watchers International, Inc.: *See*—
Low Calorie Candy Co., Inc., The.
Weinman, Ida, Rego Park, N.Y. 858,948, pub. 8–6–68. Cl. 34.
Weller, J., Co., The, Oak Harbor, Ohio. 249,346, ren. 10–22–68. Cl. 46.
Werkzeugmaschinenfabrik Oerlikon Buhrle & Co., Zurich, Switzerland. 858,902, pub. 8–6–68. Cl. 23.
West Bend Thermo-Serv, Inc., Anoka, Minn. 858,739, pub. 8–6–68. Cl. 2.
West Chemical Products, Inc., Long Island City, N.Y. 859,137. Cl. 52.
West Virginia Pulp & Paper Co., New York, N.Y. 858,740, pub. 8–6–68. Cl. 2.
Western Auto Supply Co., Kansas City, Mo. 400,857, ren. 10–22–68. Cl. 22.
Western Control Co.: *See*—
Conchemco Inc.
Westrac Co., Torrance, Calif. 858,875, pub. 8–6–68. Multiple Class (Classes 23 and 35).
Wheel Camper Corp., Centreville, Mich. 858,834, pub. 8–6–68. Cl. 19.
White Laboratories, Inc., Kenilworth, N.J. from The Denver Chemical Mfg. Co., d.b.a. Wampole Laboratories, Stamford, Conn. 737,023, canc. Cl. 18.
White Motor Corp., Cleveland, Ohio. 858,833, pub. 8–6–68. Cl. 19.
Willett, Walter E., to Con-O-Lite Corp., Lynchburg, Va. 555,455, new cert. Cl. 6.
Wilson Sporting Goods Co., River Grove, Ill. 737,078, canc. Cl. 22.
Wilson, Woodrow, Co.: *See*—
Ressel, O. O.
Winslow Mfg. Corp.: *See*—
Watsco, Inc.
Winters Chemical Laboratories, Inc., Reading Pa. 859,063, pub. 8–6–68. Cl. 52.
Wisconsin Ice & Coal Co., Milwaukee, Wis. 858,755, pub. 8–6–68. Cl. 6.
Wisconsin Ice & Coal Co., Milwaukee, Wis. 858,766, pub. 8–6–68. Cl. 10.
Woodland Chemical & Paper Corp., Mineola, N.Y. 859,064, pub. 8–6–68. Cl. 52.
Woodlawn Furniture Corp., Chappaqua, N.Y. 737,147, canc. Cl. 32.
Woodstream Corp.: *See*—
Animal Trap Co. of America.
Woolworth, F. W., Co., New York, N.Y. 737,084, canc. Cl. 22.
Worham, Antony, Ltd., London, England. 859,031, pub. 8–6–68. Cl. 46.
World Famous Sales Co., Chicago, Ill. 858,717, pub. 8–6–68. Multiple Class (Classes 2, 3, 9, 19, 22, 23 26, 34, and 39).
World Foods Corp., Boulder, Colo. 859,009, pub. 8–6–68. Cl. 46.
Wurzburg Co., The, Grand Rapids, Mich. 858,975, pub. 3–5–68. Cl. 39.
Yardley & Co. Ltd., London, England. 737,287, canc. Cl. 51.
Yardley of London, Inc., Totowa, N.J. 859,133. Cl. 51.
York, L. T., Co., d.b.a. Medi-Kav Pharmacal Co., Brookfield, Mo. 858,818–19, pub. 8–6–68. Cl. 18.
Youngstown Sheet & Tube Co., The, Boardman, Ohio. 504,372, ren. 10–22–68. Cl. 14.
Youthcraft Creations Inc., New York, N.Y. 858,988, pub. 8–6–68. Cl. 39.

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PATENTS
NOTICES

Board of Appeals Decisions Rendered in the Month of August 1968

Examiner affirmed	146
Examiner affirmed in part	18
Examiner reversed	41
Total	205

Final Rejection—Time for Response

In clarification of the Notice of August 7, 1967, published in the OFFICIAL GAZETTE of August 29, 1967 (841 O.G. 1411), the filing of a timely response after a final rejection is construed as including a request for a one month extension of the shortened statutory period.

If the response is complete but fails to place the application in condition for allowance, the request will be granted. The entry of any further amendments filed during the additional month shall be restricted to those which *prima facie* place the application in condition for allowance.

RICHARD A. WAHL,
Sept. 26, 1968. *Assistant Commissioner.*

Defensive Publication Program

The open season of the New Defensive Publication Program, originally announced in the OFFICIAL GAZETTE of May 7, 1968 (850 O.G. 1) as terminating November 1, 1968, is hereby extended. Accordingly, until January 1, 1969, this program will be open for any pending application awaiting first action by the Patent Office at the time of the request without regard to the filing date of that application.

As originally announced this program will continue to be open until further notice to any applicant having an application awaiting action by the Patent Office and who files a written request no later than eight (8) months after the earliest U.S. effective filing date of the designated application.

RICHARD A. WAHL,
Oct. 1, 1968. *Assistant Commissioner.*

Disclaimer

3,290,312.—*Rudolf Tscheuche*, Ittottgen, near Bonn, and *Gerhard Sturm*, Ippendorf, near Bonn, Germany. TRIAMINOPTERIDINE COMPOUNDS. Patent dated Dec. 6, 1966. Disclaimer filed Sept. 10, 1968, by the assignee, *E. R. Squibb & Sons, Inc.*

Hereby enters this disclaimer to claims 1, 2, 3, 6 and 9 of said patent.

Adverse Decisions in Interferences

In the designated interferences involving the indicated claims of the following patents final decisions have been rendered that the respective patentees were not the first inventors with respect to the claims listed.

Patent No. 3,060,236, J. Kollar and J. G. D. Schulz, PROCESS OF PRODUCING ALPHA-BETA UNSATURATED CARBONYL-CONTAINING COMPOUNDS, decided Apr. 25, 1968, Interference No. 95,440, claim 2.

Patent No. 3,123,750, J. L. Hutson and F. B. Hoff, Jr., MULTIPLE JUNCTION SEMICONDUCTOR DEVICE, decided Aug. 23, 1968, Interference No. 95,681, claims 1, 2, 3, 6 and 7.

Patent No. 3,131,578, R. H. Elliott, LOCKING DIFFERENTIAL, decided Apr. 30, 1968, Interference No. 95,293, claim 8.

Patent No. 3,131,579, R. H. Elliott, DIFFERENTIAL STRUCTURE, decided Apr. 30, 1968, Interference No. 95,294, claim 14.

Patent No. 3,142,043, H. W. Schrimpf, INFORMATION HANDLING APPARATUS FOR DISTRIBUTING DATA IN A STORAGE APPARATUS, decided Aug. 26, 1968, Interference No. 95,692, claims 1–10.

Patent No. 3,160,677, F. K. Duxbury, POLYAMIDE-POLYOXAMIDE BLENDS, decided Mar. 28, 1968, Interference No. 95,115, claims 1, 7 and 8.

Patent No. 3,173,057, W. A. Thornton, Jr., ELECTROLUMINESCENT COMBINATION, decided May 31, 1968, Interference No. 95,086, claim 1.

Patent No. 3,178,331, E. L. Bishop and S. C. Sabo, TIRE BUILDING DRUM, decided Sept. 13, 1968, Interference No. 96,276, claims 1, 3 and 4.

Patent No. 3,195,011, H. S. Polin, ELECTRONIC CLOCKS, decided Aug. 1, 1968, Interference No. 95,558, claim 1.

Patent No. 3,213,634, A. J. Granata, METHOD AND APPARATUS FOR INDIVIDUAL QUICK FREEZING, decided Aug. 12, 1968, Interference No. 96,079, claims 1, 2 and 3.

Patent No. 3,232,358, R. C. Heiberg, CABLE PLOW, decided Aug. 8, 1968, Interference No. 96,094, claims 2 and 5.

Patent No. 3,268,791, J. W. Burns and E. H. Halsted, CENTRIFUGAL EXTRACTION MACHINE HAVING SPEED

New Applications Received During August 1968

Patents	7445
Designs	371
Plant Patents	6
Reissues	27
Total	7849

Issue—October 29, 1968

Patents	1251—	No. 3,407,406 to No.	3,408,656, incl.
Designs	59—	No. 212,521 to No.	212,579, incl.
Plant Patents	2—	No. 2,842 to No.	2,843, incl.
Total	1312		

CONTROL MEANS RESPONSIVE TO VIBRATION, decided Sept. 13, 1968, Interference No. 96,072, claims 1, 4, 6 and 7.

Patent No. 3,272,803, K. G. Holden, 2,2-ETHYLENETESTOSTERONES, decided Sept. 17, 1968, Interference No. 96,144, claims 1 and 4.

Patent No. 3,293,324, F. E. Tropp and R. T. Corkum, 2-DIMETHYLAMINO - 2 - METHYL - 1 - PROPANOL-p-TOLUENE SULFONATE WITH UREA-FORMALDEHYDE RESIN AND ALKYD RESIN, decided Sept. 17, 1968, Interference No. 96,969, claim 1.

Patent No. 3,300,739, W. S. Mortley, FREQUENCY-DISPERSIVE ELECTRO-MECHANICAL DELAY CELL UTILIZING GRATING, decided Sept. 17, 1968, Interference No. 96,073, claims 1, 2, 3, 4 and 8.

Patent No. 3,320,222, S. M. Cohen, COPOLYMERS OF ETHYLENE AND 2-HYDROXY-METHYL-5-NORBORNENE, decided Aug. 7, 1968, Interference No. 96,208, claim 1.

Patent No. 3,321,777, L. Pokorny, Jr., SOFA-BED ASSEMBLY, decided Aug. 20, 1968, Interference No. 96,297, claims 1, 2, 4 and 5.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF OCTOBER 8, 1968

PATENT EXAMINING OPERATIONS AND GROUPS * Denotes date of oldest application for each Operation.	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION		
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	6-07-66	1-27-64
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	5-10-66	*6-03-63
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	7-18-66	2-05-64
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—J. R. LIBERMAN, Director Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	*1-04-66	6-17-63
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	5-04-66	4-23-64
ELECTRICAL EXAMINING OPERATION		
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—W. S. COLE, Director Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	7-27-66	3-05-64
SECURITY, GROUP 220—S. BOYD, Director Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	5-18-67	4-26-65
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—M. L. LEVY, Director Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*8-25-65	*10-23-62
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	1-11-66	8-07-63
PHYSICS, GROUP 280—R. L. EVANS, Director Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	10-24-66	4-21-65
DESIGNS, GROUP 290—S. BOYD, Director Industrial Arts; Household, Personal and Fine Arts.	1-26-68	4-12-67
MECHANICAL EXAMINING OPERATION		
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	3-15-67	9-24-65
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—N. BERGER, Director Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	12-01-66	12-01-65
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	11-14-66	7-15-64
HEAT AND POWER ENGINEERING, GROUP 340—C. F. GAREAU, Director Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	10-04-67	12-05-66
FIXED CONSTRUCTIONS, SUPPORTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Director Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures.	5-01-67	1-18-65
TEXTILES, CLEANING AND FLUID HANDLING, GROUP 360—F. H. BRONAUGH, Director Fluid Handling, including Valves; Conduits; Filling Receptacles; Lubrication; Joint Packing; Bathroom Fixtures; Centrifugal Separators; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes and their Manufacture; Sewing Machines; Winding and Reeling.	*6-01-66	*5-31-63

Total number of pending applications (excluding Designs)	188,709
Total number of Design applications pending	2,564

Expiration of patents: The patents within the range of numbers indicated below expire during October 1968, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their term curtailed by disclaimer under the provisions of 35 U.S.C. 253.

Patents	Numbers 2,569,436 to 2,573,673, inclusive
Plant Patents	Numbers 1,042 to 1,047, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE KAREL H. N. SCHULPEN

No. 7870. Decided March 14, 1968

[55 CCPA—; 390 F.2d 1009; 157 USPQ 52]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"DEVICE FOR THE MANUFACTURE OF OBJECTS OF YIELDABLY DEFORMABLE MATERIAL."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Device for the Manufacture of Objects of Yieldably Deformable Material" as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 623,210.

REVERSED.

Stevens, Davis, Miller & Mosher, Donald G. Welsh, John H. Lewis, Jr., for appellant.

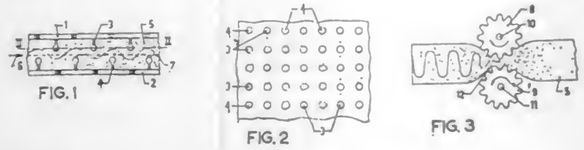
Joseph Schimmel (*Fred W. Sherling*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, Justice CLARK [1] and Judges RICH, SMITH, and KIRKPATRICK [2]

KIRKPATRICK, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Board of Appeals affirming the rejection of claims 15, 16 and 17, the only remaining claims, of appellant's application Serial No. 623,210, filed November 19, 1956, entitled "Device for the Manufacture of Objects of Yieldably Deformable Material." The sole issue is whether the claimed invention is obvious, under 35 U.S.C. 103, in view of a patent to Hendry.[3] We conclude that it is not.

The application relates to a machine for subdividing a block of foam rubber or like deformable and compressible material under controlled compression in such manner as to produce two substantially identical articles having contoured surfaces. FIGURES 1, 2 and 3 are as follows:



FIGURES 1 and 2 show an embodiment wherein 1 and 2 designate endless conveyor belts carrying spaced projections 3 and 4, respectively, in staggered relationship. A block 5 of foam rubber or a similar material is carried in compressed condition between the belts and projections past a cutting knife at 6. The material thus is cut along a line which, when compression is relieved, results in the division of the block of material into two sections with the separation along a surface with the configuration represented by the sinuous line 7. Thus, two similar articles, such as mattress components, may be produced from a single block of foam rubber without any material being wasted.

FIGURE 3 represents a modification in which a block of compressible material is propelled by and compressed between rollers 8 and

[1] Associate Justice, retired, Supreme Court of the United States, sitting by designation.
[2] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.
[3] No. 2,214,461, granted September 10, 1940.

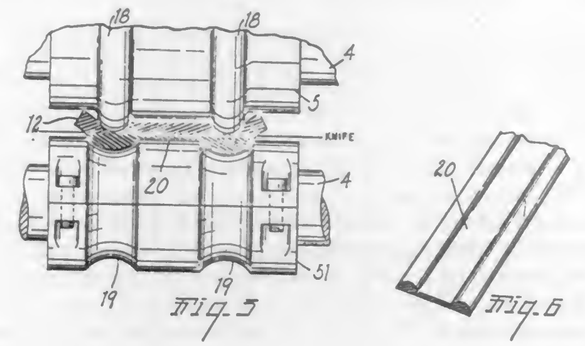
9 to be cut by a knife at 12. The block is thereby severed in such manner that, when compression is relieved, the zone of separation is represented by the sinuous line shown to the left of the knife 12.

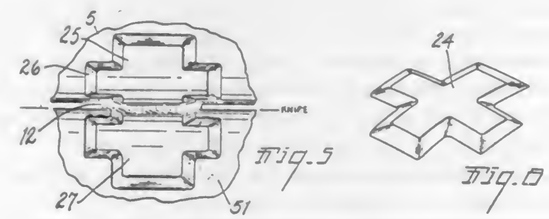
Claim 16 is representative:

16. A device for the simultaneous formation of at least two profiled objects of yieldably deformable material from a sheet of said material, each of said objects having a profiled surface, which surfaces are substantially similar to one another, said device comprising at least a pair of co-operating spaced compressing rollers for compressing the said sheet therebetween, said rollers being provided with projections and recesses between said projections, the projections and recesses of both rollers having substantially the same shape, said rollers being turned over an angle relative to each other so that at the place which the sheet of material is compressed, the projections and recesses of one of said rollers are in staggered position relative to the projections and recesses of the other one of said rollers, a subdividing means being interposed between the co-operating compressing means and coinciding with a flat plane passing between said co-operating means for being moved relative to said block of material according to a straight line perpendicular to the direction in which the material is compressed by the said co-operating compressing means.

Claim 15 differs from claim 16 in reciting cooperating "compressing means" instead of being limited to rollers. Claim 17 is more restricted than claim 16 in additionally reciting projections and recesses arranged in rows lengthwise of the rollers and in staggered relationship in the rows.

The Hendry patent relates to devices for cutting tire patches from a strip of tire casing. Its most pertinent structures are illustrated in FIGURES 3 and 6 and FIGURES 5 and 8, respectively:





In FIGURE 3, an upper roller 5 having two axially spaced, rounded radial projections 18 is disposed in cooperation with a lower roller 51 having two corresponding radial depressions 19. Tire fabric or other strip stock 12 is driven by the rollers and compressed therebetween to be severed, while in compressed condition, by a cutting knife dis-

posed along the line designated "Knife," which line is level with the greatest radius of projections 18. Upon the stock passing out from the rollers and being relieved of compression, the lower part cut from the strip assumes the shape of the tire patch 20, shown in FIGURE 6. The upper part of the strip is of a different shape for which no use is set forth.

In the modified apparatus of FIGURE 5, the upper roller 5 is provided with a projection 25 in the outline of the cross-shaped patch 24 of FIGURE 8, which is to be produced thereby. A mating depression 27 of similar outline is provided in the lower roller 51. A cutting knife operates on the compressed strip along the line designated "Knife," which line is flush with the upper surface of the roller 51, to excise the tire patch 24 from the strip. The remaining portion of the strip has a different shape and no use is disclosed for it.

In applying FIGURE 3 of Hendry to the claims, the Examiner stated:

> * * * FIG. 3 discloses a pair of cooperating compressing means 5, 51 carried by shafts 4, 4. The compressing means 5 is provided with projections 18, 18 spaced by a recess. The cooperating compressing means 51 is provided with recesses 19, 19 spaced by a projection (the outer periphery of 51). The projections 18 coact with the recesses 19 and the recess, as defined above and located in 5, coacts with the projection located on 51. Thus, the several projections and recesses are in staggered relation, as recited in the claim. As the Examiner interprets the Hendry disclosure, there is one recess on 5 and one projection on 51. However, it is the Examiner's contention that it would be obvious and within the skill of the art to mount additional units 5, 51 on the respective shafts if it were desired to provide plural projections and recesses as recited in the claim. * * *

While it might well be obvious to mount one or more additional rollers 5 and 51 on the shafts adjacent the single pair of rollers shown in FIGURE 3 to produce a plurality of the strips 20 of FIGURE 6, no reason is apparent for arranging for more than one pair of rollers to act on a single strip. In any event, the modification would not provide the structure recited in the claims or produce the result attained by that structure. Even regarding the plurality of rollers on each shaft as a unit, the projections and recesses on one compressing means or roller would not be of substantially the same shape or configuration as those on the other compressing means or roller that cooperates therewith, as required by the claims. Neither would the claim requirement that projections and recesses of the same shape on the two cooperating compressing means or rollers are in staggered relationship be met.

We cannot agree with the view, also expressed by the Examiner, that the provision of recesses and projections of the same shape on the two rollers would be no more than a matter of design. It is that very difference from Hendry, in combination with the recited staggered relationship, that results in appellant being able to produce two useful articles of substantially the same shape from a single block while Hendry can produce only one useful article of the desired shape with the other portion of the material constituting waste.

Moreover, the Board did not adopt the reasoning of the Examiner discussed above, but stated instead:

> While the patent [Hendry] is primarily directed to the manufacture of a single article and merely shows in FIGURE 6, for example, the article desired and produced by the adjustment shown in FIGURE 3, it is apparent that what appellant terms to be a scrap has a profile which corresponds to the profile on the lower roll. Thus, the two structures produced have profiles that correspond to the profiles of the rollers, and the rollers in FIGURE 3 have projections and recesses. The recitals in the claims which describe the projections and recesses of both rollers as "having substantially the same shape" are broad in that they embrace profiles which follow a simple and well known sine curve in cross section, which profiles are no more than arbitrary and obvious variants of the profiles on the rollers shown in FIGURE 3 of the patent.

We are no more able to agree with the Board's reasoning than we are with the reasoning of the Examiner. While a sine curve is simple and well known, there is no suggestion whatever in Hendry that a profile of sine curve shape be employed for its tire patches or that its apparatus be modified to produce any other object with such a profile. Moreover, a sinuous or similar profile, such as results from the claim requirement that the projections and recesses on the rollers be of substantially the same shape and staggered, provides the novel and unexpected result that both portions of the severed block of material may be in the form of substantially the same useful article.

At oral argument, the Solicitor advanced yet another variation in the theory of rejection, suggesting that one projection 18 and its cooperating recess 19 be interchanged between the rollers 5 and 51 in the FIGURE 3 arrangement of Hendry. Rather than being made obvious by the reference, such modification would run counter to its teaching by rendering the apparatus inoperative to produce the disclosed tire patches. It seems plain that the Solicitor's suggestion must have originated with appellant's own disclosure and such disclosure, of course, cannot be used against him under 35 U.S.C. 103. *In re Sandiford*, 53 CCPA 1087, 358 F.2d 756, 149 USPQ 301. Additionally, recitations in claims 16 and 17 relative to the rollers being turned at an angle relative to each other would not appear to be satisfied by the modification in question.

For the reasons stated, it is our opinion that the prior art of record fails to demonstrate that the claimed invention is obvious under the statute.

[1] The decision is reversed.

REVERSED.

U.S. Court of Customs and Patent Appeals

IN RE THOMAS F. PETERSON

No. 7828. Decided February 15, 1968

[55 CCPA —; 390 F.2d 735; 156 USPQ 504]

1. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—REMAND—ISSUE NOT RAISED BELOW.

   "Appellant has raised a preliminary question by renewing a motion, previously denied by this court, to remand the appeal to the Patent Office 'for consideration of the availability of United States Patent No. 2,761,273 [Peterson '273] as a prior art reference against the claims on appeal.' The basis for the motion is appellant's Peterson Patent No. 3,007,300, which issued November 7, 1961 on an application filed September 20, 1946 and thus was copending with Peterson '273. * * * Appellant takes the position that such remand would enable him to seek the benefit of the filing date of the application resulting in Patent No. 3,007,300 and overcome Peterson '273 as a reference. Noting that appellant did not raise any question before the Patent Office of the effect of Peterson '273 and the present application being copending with No. 3,007,300 and that admittedly '[t]he Peterson '300 patent is not of record in this appeal,' we find the renewed motion to raise no question not raised and considered prior to its initial denial. The motion is therefore denied."

2. PATENTABILITY—CLAIMS—ADVANTAGE OF ELECTRICALLY CONDUCTIVE MATERIAL IRRELEVANT WHERE MATERIAL NOT CLAIMED.

   On the issue "whether the advantages asserted to be possessed by appellant's device when constructed of electrically conductive material and used to make

an electrical connection or splice are to be considered as evidence of unobviousness where the claims of the application are not limited to a device which is electrically conductive but also encompass a structure which is suitable for only a mechanical splice," *Held* that "Numerous decisions of this court demonstrate that the advantages which are said to arise when the device of the present claim is made of electrically conducting material to provide an electrically conducting splice are not material to the issue of patentability here."

3. SAME—SAME—SAME.

In the present case, it may well be that the advantages asserted to result from using appellant's disclosed structure to make *electrically conducting splices* amount to unexpected superior results which would demonstrate unobviousness of claims limited to structure which will provide those results. However, the applied claims are not so limited and no unobvious results are shown to arise from the features they do require. On that basis we find no reversible error in the Board's decision.

4. SAME—PARTICULAR SUBJECT MATTER—"APPLIANCE FOR LINEAR BODIES."

The refusal of certain claims in an application entitled "Appliance for Linear Bodies," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 96,522.

AFFIRMED.

Henry L. Brinks, *Robert L. Harmon* (*Clyde F. Willian*, of counsel) for appellant.

Joseph Schimmel (*Jere W. Sears*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, RICH, SMITH, ALMOND, *Associate Judges*, and WILLIAM H. KIRKPATRICK [1]

KIRKPATRICK, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Board of Appeals affirming the rejection of claims 4, 5, 7, 8 and 9 of appellant's application Serial No. 96,522, filed March 17, 1961, for "Appliance for Linear Bodies." The Board reversed the rejection of two other claims.

The invention relates to appliances for use with suspended linear bodies, such as electrical conductors and the like, which appliances are constructed from elements helically formed prior to application to the linear bodies. The specification acknowledges that appliances constructued from preformed helices enjoy widespread usage, referring to certain of appellant's previously issued patents disclosing such appliances and particularly to one such appliance which is "especially suited for mechanically splicing two lengths of a linear body and maintaining the ends in a closely spaced relationship" and which "has enjoyed considerable commercial success."

However, it is further stated in the specification that several disadvantages resulted where a splice is "constructed in the conventional manner" to splice two electrical conductors together with the helically formed construction being used to "shunt" the current from one conductor to the other. The disadvantages include the fact that the contact resistance between the appliance elements and the conductors is not uniform because the elements are forced to expand in a way that results in varying pressure and because non-conducting oxide may be present along the contact lengths. Those conditions are said to cause uneven distribution of current in the elements with the result that those elements carrying a larger portion of the current are apt to become overheated and subject to oxidation. It is also said that a high current load on one of the elements may tend to cause discharge and arcing between elements and between elements and conductors.

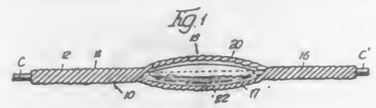
[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

The specification further states:

The subject invention has the foremost feature of providing a homogeneous distribution of current and thus obviating the difficulty encountered with prior art splices and other similar appliances constructed from helically formed elements where the appliance shunts current around another splicing device. At the same time, the subject invention includes substantially all of the advantages of appliances constructed from helically formed elements, such as ease of applicability, natural resiliency, gripping characteristics, minimum of stress concentration and the like.

Briefly, the invention may be characterized as a plurality of helically formed elements which include an intermediate portion in which the elements have been tightly intertwisted to form an essentially closed lay or stranded cable-like construction having an internal diameter substantially smaller than that of the portions adjacent their ends. In this manner the elements are forced into electrical and mechanical contact with each other. In some instances it may be desirable to twist the elements onto some suitable core material, such as conducting flock, shavings, wire, or a short strand, to further insure contact between the elements.

Constructions in accordance with the invention are shown in FIGURES 1 and 5 of the application drawings:



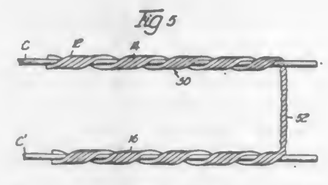


FIGURE 1 shows an embodiment used for electrically splicing two conductors in co-axial relationship. The helically formed elements 12 are applied to conductors C and C′, respectively. The elements are helically formed throughout portions 14 and 16 to a pitch length and internal diameter slightly smaller than the external diameter of the conductors so that the elements tightly grip the conductors. Intermediate the portions 14 and 16, the elements are diverted from their normal helical courses to form two groups of elements 20 and 22. Each group includes approximately a half lay of the elements tightly intertwisted to form a closed lay having an internal diameter substantially smaller than that of the portions 14 and 16. The conductors in this construction are shown as mechanically spliced by a "wiped sleeve" construction 17 "of a conventional type."

The embodiment of FIGURE 5 is described in the brief as showing a spacing appliance "adapted to bridge between adjacent parallel conductors where it is desired to shunt current from one to another." There the appliance 50 includes spaced helical portions 14 and 16 which are of open pitch adapted to be wrapped around the conductors C and C′, respectively. A tightly wound closed pitch helical portion 52 is formed between the portions 14 and 16.

Claim 5 is representative:

5. The combination comprising a pair of linear bodies, a plurality of elements which have been helically formed prior to application to one of said linear bodies along two spaced portions of their lengths to a mutually conforming internal diameter and pitch length of sufficient magnitude so that the helically formed portions may be applied to at least one of said linear bodies from the side

without exceeding the elastic limit, said elements being intertwisted intermediate the helically formed spaced portions to form a closed lay having an internal diameter substantially smaller than the internal diameter of said helically formed spaced portions, the helically formed portions adjacent one end of said elements being wrapped around and coaxial with one of said linear bodies and the helically formed portions adjacent the other end of said elements being wrapped around and coaxial with the other of said linear bodies, said intertwisted portion being intermediate said linear bodies.

Other claims include such features as the linear bodies being arranged in parallel spaced relationship with the helically formed elements U-shaped or being disposed at right angles.

The references relied on by the Board are:

Peterson, 2,761,273, September 4, 1956.

Peterson, 2,959,632, November 8, 1960.

The pertinent features of the Peterson '273 construction are best understood from FIGURES 3 and 6 thereof:



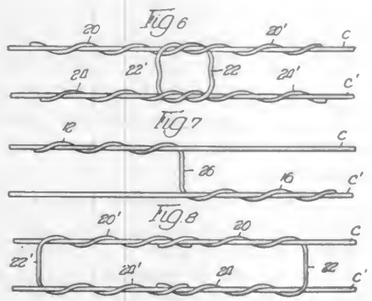
Fig. 3



Fig. 6

The object of the invention of this patent is "to apply helically-preformed elements in the formation of dead-ends and guy grips on wires, strands, cables, and rods, or to any other elongated body to which the teachings hereof are applicable." FIGURE 3 shows a tubular body made up of helically-preformed elements which are "typical of those applied to the uses and purposes of the * * * invention." FIGURE 6 shows an arrangement wherein a bight B is formed at the end of a cable C by means of a helical body having a closed lay 10 about the cable and a closed lay 5' forming the bight.

Peterson '632 is primarily of interest for its showings in FIGURES 6, 7, 8 and 11.



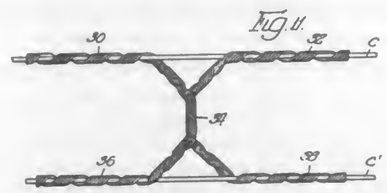


FIGURE 6 shows helically-preformed part 20 embracing conductor C, with an intermediate part 22 carried over to a spaced conductor C' in bridging relationship and thence along the latter at 24. One such preformed part may be so applied to space the conductors, or "another similar" part, such as that designated 20', 22' and 24', may be applied also "to form a substantial circle or square through which the spacing function is carried out." In FIGURE 7, a bridge portion 26 may be disposed between helical parts 12 and 16 on the respective conductors C and C'. The arrangement of FIGURE 8 uses helical parts which are of the same shape as those of FIGURE 6 but have the bridged portions spaced farther apart. FIGURE 11 shows a similar construction including a plurality of helical devices.

The Board considered it obvious under 35 U.S.C. 103 to utilize the dead-end appliance shown in FIGURE 6 of Peterson '273 to form a splice. It also regarded the disclosure of helically preformed members of U-shape engaging generally parallel linear bodies in Peterson '632 to suggest an analogous use for the helically formed device of Peterson '273.

The Board stated that it found "a clear indication" of the alternative use of "the devices 10" of Peterson '273 for either a splicing or dead-end purpose to lie in the following statement in that patent:

In order to increase the holding power of the envelopes 10 when used as splices or deadends, a suitable grit or abrasive, such as aluminum oxide, carborundum, etc., usually in a suitable liquid vehicle, may be applied between the envelope and the underlying body. * * *

[1] Appellant has raised a preliminary question by renewing a motion, previously denied by this court, to remand the appeal to the Patent Office "for consideration of the availability of United States Patent No. 2,761,273 [Peterson '273] as a prior art reference against the claims on appeal." The basis for the motion is appellant's Peterson Patent No. 3,007,300, which issued November 7, 1961 on an application filed September 20, 1946 and thus was copending with Peterson '273. No. 3,007,300 includes a disclosure of the FIGURE 6 embodiment of Peterson '273 and the statement quoted therefrom hereinabove referring to use of the envelopes 10 "as splices or dead-ends." Appellant takes the position that such remand would enable him to seek the benefit of the filing date of the application resulting in Patent No. 3,007,300 and overcome Peterson '273 as a reference. Noting that appellant did not raise any question before the Patent Office of the effect of Peterson '273 and the present application being copending with No. 3,007,300 and that admittedly "[t]he Peterson '300 patent is not of record in this appeal," we find the renewed motion to raise no question not raised and considered prior to its initial denial. The motion is therefore denied.

In keeping with the tenor of the specification, the arguments of appellant are based on the advantages his device is asserted to have

over the prior art structure *when used as an electrical connector*. Appellant urges that the Peterson '273 and '632 patents are not concerned with the problem solved by the present invention, stating:

> * * * there is no mention in either Peterson '273 or Peterson '632 (nor, indeed, in *any* record reference) of the fact that the normal use of helically preformed elements in conductive applications results in non-uniform current distribution among the elements. There is no recognition of the problems of arcing and corona discharge nor of the desirability of maintaining homogeneous current distribution.

Appellant also states:

> The claimed invention is directed to a *particular* splice, *or* a line spacer, or a tap wire hanger which is *so constructed as to provide uniform current distribution among the elements.*

It thus becomes a significant issue whether the advantages asserted to be possessed by appellant's device when constructed of electrically conductive material and used to make an electrical connection or splice are to be considered as evidence of unobviousness where the claims of the application are not limited to a device which is electrically conductive but also encompass a structure which is suitable for only a mechanical splice. Appellant urges on this point:

> The fundamental purpose of the present invention, to insure uniform current distribution, cannot be ignored * * *.

As authority, he relies on *United States* v. *Adams*, 383 U.S. 39 (1966).

Adams involved a suit for infringement of a patent on a battery wherein a magnesium electropositive electrode and a fused cuprous chloride electronegative electrode were used in connection with a container receiving water as an electrolyte. Although claims 1 and 10 did not recite the water electrolyte, they were held valid. The court observed that, taken with the stated object of disclosing a water-activated cell, the lack of reference to any electrolyte in claims 1 and 10 indicates that water alone could be used. It also considered it significant that other claims did include reference to specific electrolyte solutions and noted that an electrolyte is a necessary element of any battery, recognizing that the claims designated the recited subject matter as a battery.

In contrast to *Adams*, there is no warrant for attributing the property of electrical conductivity to the "linear bodies" or "plurality of elements" set out in the claims appealed here. Appellant discloses in his specification that "the invention is not limited to use as a shunt and may certainly be applicable in those instances where current is not to be transmitted by the appliance." Also, the Examiner rejected the claims as incomplete under 35 U.S.C. 112 in failing to recite the electrical conductivity feature but appellant induced the Board to reverse that rejection, the Board observing that "the Examiner appears to have overlooked the inherent mechanical capabilities thereof, in the way of a supporting or tying function, for example." Moreover, appellant does not argue that the claims are limited to an electrically conducting device but only contends that advantages which would arise from use as such should be considered in determining patentability.

[2] Numerous decisions of this court demonstrate that the advantages which are said to arise when the device of the present claim is made of electrically conducting material to provide an electrically conducting splice are not material to the issue of patentability here.

Thus, *In re Kebrich*, 40 CCPA 780, 201 F.2d 951, 96 USPQ 411 (1953) states:

> Whatever may be the practice of the courts in the interpretation of claims in infringement proceedings in order to sustain patents once granted, it is very definitely settled by a line of consistent decisions rendered during a long period of time that in the initial consideration of the question of patentability neither the tribunals of the Patent Office nor the courts in reviewing their action may properly read unexpressed limitations into claims, and it is equally as well settled that, so limited, the tribunals and the reviewing courts in the initial consideration of patentability will give claims the broadest interpretation which, within reason, may be applied.

See also *In re Fields*, 50 CCPA 709, 304 F.2d 691, 134 USPQ 242 (1962).

This court said in *In re Richards*, 38 CCPA 900, 187 F.2d 643, 89 USPQ 64 (1951):

> The right of an applicant to a patent is dependent not only upon the new and unobvious results his device will produce, but also upon whether or not the claims recite structure which would bring about those results. This court has held that the right of an applicant to a patent depends, not only on what his device will do but what he claims for it. [Citation omitted.] The court has also held that the particular feature or fact upon which an applicant predicates patentability must not only be disclosed in the specification but also brought out in the claims. [Citations omitted.]

More recently, the court decided *In re Boice*, 51 CCPA 975, 326 F.2d 1014, 140 USPQ 385 (1964), in which it declined to give weight to asserted advantages not supported by limitations in the claims. There it was stated:

> It may be that there are specific size relationships in the embodiment of appellant's invention described in his specification which produced unexpectedly superior results; but if there are, they are not defined in his claims nor is any argument predicated on them beyond the contention that his "invention" would not be obvious from the teachings of the references. We are bound to treat the invention as it is claimed.

[3] In the present case, it may well be that the advantages asserted to result from using appellant's disclosed structure to make *electrically conducting splices* amount to unexpected superior results which would demonstrate unobviousness of claims limited to structure which will provide those results. However, the applied claims are not so limited and no unobvious results are shown to arise from the features they do require. On that basis we find no reversible error in the Board's decision.

Thus the device of FIGURE 6 of Peterson '273 is assembled on the cable by first disposing a half-lay at one end of the elements about the end of the cable and then, with the central portion pretwisted to form a closed lay, intertwisting the open lay at the other end of the elements about the cable with the first open lay. We think that it would be obvious to dispose the open lay at the second end of the elements about a second cable to form a mechanical splice. We also think it would be obvious to modify the device of FIGURE 6 of Peterson '273 for use as a spacer between a pair of conductors in accordance with the Peterson '632 constructions. In particular, it would be obvious to dispose the open lay at one end of the device about one conductor and the open lay at the other end about the second conductor in the configuration shown for one of the two devices in the arrangements of FIGURES 6, 8 and 11 of the latter patent. Similarly, use of the device for mechanically splicing at right angles to a wire would be no more than an obvious adaptation of those modifications or that in the

construction of FIGURE 6 of Peterson '273 similarly modified in accordance with FIGURE 7 of Peterson '632.

Since Peterson Patent No. 3,007,300 is not of record and has not been considered by the Patent Office tribunals, we have not considered what effect its timely citation by appellant might have had, or what pertinent action he might have based thereon. It will also be noted that we have reached the conclusion that splicing appliances within the terms of the appealed claims are obvious over Peterson '273 and Peterson '632 without relying on the statement in the former quoted hereinabove, specifically referring to use as splices and dead ends.

[4] The decision is affirmed.

AFFIRMED.

RICH, *J.*, concurs in the result.

U.S. Court of Customs and Patent Appeals

IN RE KARL ZIEGLER, HEINZ BREIL, ERHARD HOLZKAMP, AND HEINZ MARTIN

No. 7854. Decided February 15, 1968

[55 CCPA —; 390 F.2d 762; — USPQ —]

1. APPLICATION—DISCLOSURE—SUFFICIENCY OF DISCLOSURE—EVIDENCE—INHERENCY MUST BE CERTAIN.

"In our view, appellants have not effectively overcome this statement of the situation [by the Board of Appeals, that inherency in the disclosure to be relied on, must be certain]. In their argument, as in the disclosure they prepared in the instant application to create a basis for copying the claims, they have produced no tangible evidence of the inherency they contend for, but only argument, and that by lawyers, not by experts in the field so far as the record shows."

2. SAME—BENEFIT OF FILING DATE OF EARLIER APPLICATION—EVIDENCE—INHERENCY MUST BE PROVED.

We agree with the Board that if appellants wish to rely on what inherently happens in the examples taken from their parent applications, as support for claimed subject matter which is clearly not *specifically* disclosed, they must prove their case. This they have not done. Of course, what they have written into the present application by way of interpretation and contention can avail them nothing. It is mere self-serving declaration and it is too late anyway.

3. SAME—SAME—CATALYSTS.

The Examiner and the Board were further persuaded of the correctness of their views on the ground that full equivalence between the use of the tetrahalide and trihalide, as contended for argumentatively by appellants, is not necessarily a fact. For this they cited Gaylord whose teaching is that the same results are not obtained from catalysts made from tetrahalide and from trihalide. If the results are not the same it would follow, assuming all other conditions to be constant, that the catalysts are not the same, on which basis the Patent Office Solicitor in his brief takes the position that "the copied claims do not embrace in the [infringement sense], nor would they be supported by, a catalyst obtained by reduction of titanium tetrahalide," which is all of relevance the parent applications disclose.

4. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—ARGUMENT BY COUNSEL IN REFERENCE PATENT APPLICATION NOT RAISED BELOW.

There has been a dispute in this appeal about the propriety of including as two pages of the printed record an extract from what appears to have been mere argument of Anderson's attorney in the "Remarks" portion of an amendment dated September 20, 1960. The Patent Office moved to strike them, the motion was denied without prejudice, and it was renewed at oral argument. The attorney appears to have been arguing for support in Anderson I for the claims in Anderson II, so that they would have the earlier filing date. It is said that this subject matter was not considered by the Board as it was not called to its attention, which would be reason enough for us to refuse to consider it. In any event, it is nothing more than a contention made by counsel in another application and without probative value here. It would not change our views if it were properly part of the record. However, not being part of the record made below, the motion is granted.

5. APPLICATION—DISCLOSURE—BENEFIT OF FILING DATE OF EARLIER APPLICATION—INHERENCY MUST BE PROVED.

Since it is our opinion that appellants have (*a*) failed to show any specific disclosure of the claimed subject matter [in their parent applications] antedating the Anderson II patent and (*b*) have failed to demonstrate to our satisfaction any necessary inherency of the invention in what they did disclose prior to Anderson II, the decision of the Board rejecting all claims is affirmed.

APPEAL from the Patent Office. Serial No. 301,609.

AFFIRMED.

Burgess, Dinklage & Sprung, Arnold Sprung for appellants.

Joseph Schimmel (*Jere W. Sears*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, RICH, SMITH, ALMOND, *Associate Judges*, and WILLIAM H. KIRKPATRICK [1]

RICH, *J.*, delivered the opinion of the court.

This appeal is from a decision of the Patent Office Board of Appeals,[2] affirming the rejection of claims 1–19 in application Serial No. 301,609, filed August 12, 1963, entitled "Polymerization Catalysts." No claim has been allowed.

The reference relied on are:

Anderson et al. [I], 2,905,645, Sept. 22, 1959.
Anderson et al. [II], 3,050,471, Aug. 21, 1962.
Gaylord and Mark [Gaylord], Linear and Stereo-regular Addition Polymers, page 94 (1959).

All of the appealed claims were copied from Anderson II for the purpose of provoking an interference with that patent. The application at bar was filed just short of a year after the issuance of Anderson II and its general disclosure was clearly written for the specific purpose of supporting the copied claims. There is no question but that it does. There is also obviously no question but that Anderson II is fully anticipatory prior art against the claims copied from it unless appellants can establish that they are entitled to an earlier filing date as to those claims, sufficiently early to at least antedate Anderson II, and Anderson I as well insofar as it is pertinent. This appellants have attempted to do by claiming the benefit of several copending U.S. applications each of which has a German priority date. The appealed application states that it is "a continuation-in-part consolidation" of nine such prior applications, five of which are relied on in the brief.[3] It is stated that all of the 23 specific examples of the appealed application were copied verbatim from these five. That may be taken as true.

The Examiner's rejection was that all claims are fully met by Anderson I or Anderson II and that appellants are unable to antedate these references on the basis of their earlier U.S. and Germany applications for the reason that they do not disclose the subject matter of the

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[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

[2] Consisting of Asp and Lidoff, Examiners-in-Chief and Rosdol, Acting Examiner-in-Chief, opinion by Lidoff.

[3] The oath states "That this application discloses and claims only subject matter disclosed in our co-pending applications" and then lists eleven U.S. applications. The Examiner said in the final rejection: "Obviously, this case is not a continuation of each of the prior applications as implied by the oath. A new oath in the continuation-in-part form is required." The implication of that statement is that this application adds matter not to be found in any of the parent applications. As will appear, this is a fact not disputed by appellants.

appealed claims. Whether this position, affirmed by the Board, is correct is the sole issue before us.

Appellants' specification describes their invention as essentially a catalyst composition obtained by reacting titanium halide with an organometallic compound containing at least one hydrocarbon radical bonded to metal. It contains the following elaboration:

> The titanium halide is preferably a titatium *tetra*halide such as titanium *tetra*chloride, titanium *tetra*bromide, or the like.
>
> Since the organo-metallic compound or hydride when admixed with the titanium halide exerts a reducing effect on the titanium halide, the titanium *tri*halide, such as the *tri*chloride or bromide may be used in place of the *tetra*halide. *The tetrahalide is initially reduced to the trihalide so that the tetra-and-trihalide may be considered complete equivalents and the use of the tetrahalide in fact involved the use of the trihalide as the same is converted to the trihalide or passes through the trivalent state.* [Emphasis ours.]

The soundness, as a legal proposition, of the last italicized passage in construing the appealed claims and the disclosures of the several parent applications of appellants is the crux of this case. All of the appealed claims specify titanium *tri*halide as one of the reactants used to produce a catalyst wherein the valence of the titanium has been reduced "at least in part, to below three," a limitation of all claims. Claim 1 is typical. Note that it is drawn to a reaction product and that one reactant is stated to be a *tri*halide. Claim 1 (including correction of an obvious word transposition) reads:

> 1. A catalyst composition consisting essentially of the reaction product obtained on *admixing a titanium trihalide* with an organometallic compound containing at least one hydrocarbon radical bonded to metal, the quantity of the organometallic compound being sufficient to lower the valence state of the titanium, *at least in part, to below three.* [Emphasis added.]

The References

Anderson I teaches the use of titanium halides in making catalysts and lowering the valence state of the titanium "at least in part, to below 3." Of its 19 specific examples, all of them referring to titanium halide specify the *tetra*chloride or *tetra*fluoride except Example XIV, which discloses *tri*chloride. The disclosure states more generally:

> It has been discovered in accordance with the present invention that extraordinary and highly useful effects are produced by combining divalent titanium with organic compounds containing ethylenic unsaturation. * * * divalent titanium is generally obtained by admixing a titanium compound having a valence state in excess of two with a reducing agent. The quantity of reducing agent which is present must be sufficient to convert the titanium at least in part to a valence state of two.

Anderson II is a continuation-in-part of Anderson I. Among its introductory paragraphs is the following:

> In accordance with the present invention, it has been discovered that extraordinary and highly useful effects are produced when titanium at a valence state below three is combined with ethylenically unsaturated hydrocarbon compounds. In specific embodiments, it has been found that complexes containing titanium at a valence state below three can be effectively used in the polymerization of ethylenically unsaturated compounds, such as ethylene, propylene, butene-1 and related olefins. The complex, containing titanium in a valence state below three, may be obtained in a number of ways. In a *preferred method*, a titanium *tri*halide is admixed with a metallic reducing agent. The resulting reaction product contains the titanium in the catalytically active valence state. [Emphasis added.]

The Anderson II specification includes twenty-eight examples, each of which describes the preparation of a catalyst using titanium trihalide as a starting material. Example XXV discloses titanium *tri*bromide and all the others *tri*chloride. There is no mention of *tetra*halide in the patent.

The one page of Gaylord in the record is cited for the following statement:

> Although it is presumed that compounds of a higher valence state are reduced to a lower valence state during the preparation of the Ziegler catalyst, in order to obtain increased yields of isotactic polymer from the α-olefins, it is often feasible and desirable to utilize lower valence state compounds in the initial preparation of the Ziegler catalyst.
>
> In order to obtain high yields of isotactic polymer from propylene, butene, and higher α-olefins * * *, styrene * * *, and 1,1-disubstituted ethylenes, such as 3-methyl-1-butene, 4-methyl-1-pentene and 1-hexene and 5-methyl-1-hexene * * *, *the preferred catalysts are the trihalides* of the group IV—VI metals, *rather than the tetrahalides.* [Emphasis added.]

The Rejection

The Board affirmed the rejection of all claims on Anderson II. Since we find that rejection to have been correct we need not consider separately some of the claims which it also held properly rejected on Anderson I.

All appealed claims call for a catalyst which is a reaction product of titanium *tri*halide and an organometallic compound, the valence state of the titanium being reduced in said product at least in part to below three.

Noting that appellants must show disclosure of such a product in parent applications having dates sufficiently early to antedate the Anderson patents as references, the Board held that they had failed to do so.

The best appellants have been able to find in their parent applications is what they have extracted therefrom in the way of specific examples for incorporation in the appealed application. There are 23 such examples. They all disclose titanium *tetra*chloride except Example 23 which discloses titanium *tetra*bromide.

To bridge the gap and fill in by inference a disclosure of *tri*halide, appellants rely on what is presumed to take place chemically during the making of the catalysts of the examples, as they have set it forth in their application and in their arguments. This is, in brief, that *tri*halide is formed *in situ* by reduction of *tetra*halide and, further, that the valence state of the trihalide titanium is then still further reduced at least in part to below three. The Board said:

> We have carefully studied the disclosures in each of the parent U.S. and German applications set forth in the first paragraph of the specification and the oath herein. We are unable to discern in any of these applications support for admixing a preformed titanium trihalide with an organometallo or metal hydride reducing agent. We are further unable to discover any disclosure or suggestion that the valence state of the titanium halide employed is lowered at least in part to below three. The terms of the claims copied from Anderson et al. (II) therefore find no antecedent basis in appellants' alleged parent applications.
>
> We have found specific disclosure that the titanium halide is not reduced to titanium metal but there is no positive statement indicating the titanium salt to be reduced below the trivalent state.

Finding this lack of specific disclosure, the Board further concluded:

> Appellants' reliance upon inherency of formation of titanium trihalide *in situ* from the tetrahalide required in the specific examples of the parent U.S. and the corresponding German priority applications overlooks the fact that inherency, to be relied upon, must be certain. There is no positive evidence that the same catalyst is produced where the heavy metal component is the tetrahalide

as opposed to the preformed trihalide. There is no teaching of the employment of preformed titanium trichloride nor of the production thereof *in situ* followed by further reduction to a valence lower than three as required in the claims at issue. None of the disclosures supports such requirement and none positively discloses reduction of the titanium at least in part to a valence below three. The Examiner's rejection of the appealed claims as fully met (35 U.S.C. 102) by Anderson et al. (II) must therefore be sustained. Appellants are unable to antedate the effective date thereof.

[1] In our view, appellants have not effectively overcome this statement of the situation. In their argument, as in the disclosure they prepared in the instant application to create a basis for copying the claims, they have produced no tangible evidence of the inherency they contend for, but only argument, and that by lawyers, not by experts in the field so far as the record shows.

[2] We agree with the Board that if appellants wish to rely on what inherently happens in the examples taken from their parent applications, as support for claimed subject matter which is clearly not *specifically* disclosed, they must prove their case. This they have not done. Of course, what they have written into the present application by way of interpretation and contention can avail them nothing. It is mere self-serving declaration and it is too late anyway.

[3] The Examiner and the Board were further persuaded of the correctness of their views on the ground that full equivalence between the use of the tetrahalide and trihalide, as contended for argumentatively by appellants, is not necessarily a fact. For this they cited Gaylord whose teaching is that the same results are not obtained from catalysts made from tetrahalide and from trihalide. If the results are not the same it would follow, assuming all other conditions to be constant, that the catalysts are not the same, on which basis the Patent Office Solicitor in his brief takes the position that "the copied claims do not embrace [in the infringement sense], nor would they be supported by, a catalyst obtained by reduction of titanium tetrahalide," which is all of relevance the parent applications disclose.

[4] There has been a dispute in this appeal about the propriety of including as two pages of the printed record an extract from what appears to have been mere argument of Anderson's attorney in the "Remarks" portion of an amendment dated September 20, 1960. The Patent Office moved to strike them, the motion was denied without prejudice, and it was renewed at oral argument. The attorney appears to have been arguing for support in Anderson I for the claims in Anderson II, so that they would have the earlier filing date. It is said that this subject matter was not considered by the Board as it was not called to its attention, which would be reason enough for us to refuse to consider it. In any event, it is nothing more than a contention made by counsel in another application and without probative value here. It would not change our views if it were properly part of the record. However, not being part of the record made below, the motion is granted.

[5] Since it is our opinion that appellants have (*a*) failed to show any specific disclosure of the claimed subject matter antedating the Anderson II patent and (*b*) have failed to demonstrate to our satisfaction any necessary inherency of the invention in what they did disclose prior to Anderson II, the decision of the Board rejecting all claims is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE HUBERT J. TIERNEY AND BERTRAND Y. AUGER

No. 7874. Decided January 11, 1968

[55 CCPA—; 388 F.2d 1018; 156 USPQ 248]

1. PATENTABILITY—AFFIDAVIT—OBVIOUSNESS.
"Appellants attempted to overcome the obviousness rejection by the filing of two affidavits. The Modig affidavit attempted to show that the Tallman web containing a veil could not be produced having a glass/resin ratio in the claimed range without crushing of the veil. The issue, however, is whether it would be obvious to *omit* the veil from the Tallman product. The affidavit does not touch this issue at all, and is therefore ineffective in attempting to overcome the rejection."

2. SAME—EVIDENCE—LONG-FELT NEED.
"The Tierney affidavit presented evidence that the product of the invention had satisfied long-felt needs in the production of certain laminated articles. Such considerations do have relevance to the issue of obviousness, *Graham* v. *John Deere Co.*, 383 U.S. 1. However, we agree with the Board that the showing of the affidavit lacks sufficient weight to overcome the strong evidence of obviousness presented by the references."

3. SAME—PARTICULAR SUBJECT MATTER—"REINFORCED RESINOUS STRUCTURAL MATERIAL."
The refusal of certain claims in an application entitled "Reinforced Resinous Structural Material," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 354,822.

AFFIRMED.

Robert E. Granrud, Walter N. Kirn, Jr., Carpenter, Kinney & Coulter for appellants.

Joseph Schimmel (*Jere W. Sears*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, RICH, SMITH, ALMOND, *Associate Judges*, and WILLIAM H. KIRKPATRICK [1]

ALMOND, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Patent Office Board of Appeals affirming the rejection of all claims in appellants' application [2] entitled "Reinforced Resinous Structural Sheet Material."

Appellants' invention concerns reinforced resinous sheet material consisting of parallel glass filaments of small diameter and of a length substantially equal to the length of the sheet, saturated with an extremely viscous uncured epoxy resin. The glass content is from 35 to 65 percent by volume of the sheet, and the filaments have a diameter of 0.00015 to 0.0006 inch. The epoxy resin component has a viscosity of 1 to 35 million poises at room temperature, so that the resin-impregnated glass, although somewhat tacky, is capable of being handled in sheet form. The epoxy resin contains a latent curing agent which will react rapidly with the epoxy resin at elevated temperatures to form a hard, tough thermoset material, but which will not so react for extended periods of time at normal room temperatures.

The product of the invention is produced by combining into a flat compact dense layer and in parallel alignment a plurality of glass filaments. The filaments are passed through a bath of solvent-free liquid epoxy resin at a temperature high enough to reduce the viscosity of the resin sufficiently to permit thorough saturation of the glass web but below the temperature required to cause reaction of the epoxy resin with the curing agent dissolved therein. The resultant resin-

[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.
[2] Serial No. 354,822, filed March 23, 1964.

impregnated glass web is then squeezed between a pair of rollers to flatten the web, eliminate entrained air, and squeeze out sufficient resin to arrive at the desired glass/resin ratio.

The resin-impregnated web is cooled to room temperature whereupon it solidifies sufficiently to be handled. It is then wound on rolls and shipped to customers. The user cuts the sheet material to size, lays one or more layers over a form or mold, and heats the material under pressure to a temperature sufficient to activate the latent curing agent and form a thermoset article.

Claim 1 is illustrative:

1. As a new product of manufacture, a roll of at least 100 feet in length of thin, flexible, self-sustaining resinous sheet reinforced solely with nonwoven lineally-aligned glass filaments, and capable of extended storage and transportation, the resinous sheet upon unwinding being capable of being rolled and rerolled to pencil size in the crosswise direction without longitudinal splitting, of undergoing substantial crosswise stretching to conform it to complex surfaces without splitting, and inherently capable of being laid up in stacked segments and converted under heat and pressure to coherent multiple-layer, high structural strength, hard, uniform, void-free reinforced resinous structural members, which resinous sheet as manufactured in roll form for sale consists essentially of: a flat integral layer of uniformly-distributed, non-woven, lineally-aligned bundles of continuous glass filaments having a resin-receptive surface treatment and a diameter of 0.00015–0.0006 inch and saturated with and exclusively held together by a solvent-free thermosetting resin binder composition filling the layer; said resin composition essentially consisting of a polyglycidyl ether of a polyhydric phenol, having a viscosity of 1 to 35 million poises at room temperature and being capable of remaining within this viscosity range for at least two weeks under storage conditions at room temperature, but being fusible and heat-curable to a hard tough resin firmly bonded to said filaments; said sheet having a glass:resin volume ratio between about 65:35 and 35:65, having a uniform caliper thickness of about 6 to 20 mils, and having a nonporous, homogeneous cross-section; and the self-sustaining crosswise strength of the entire resinous sheet being due solely to the combination of the resin composition with said lineally-aligned filaments.

The other claims add recitations that the bundles of glass filaments are in nonoverlapping, shoulder-to-shoulder relationship, that the thickness of the sheet is from 6 to 10 mils, and that the article produced from the sheet material has certain minimum strength characteristics.

The claims of this application were rejected both on the ground of *res judicata* in view of an adverse decision by the Board of Appeals in appellants' parent application,[3] and on 35 U.S.C. 103 in view of the same art which had been used in rejecting the claims of the parent application.

The references relied upon in rejecting the claims under 35 U.S.C. 103 are patents to Tallman 2,552,124 and Mohrman 2,534,617.

Tallman discloses a resin-impregnated glass fabric having two layers. One layer consists of glass filaments of .00015 to .0003 inch diameter arranged "substantially in parallelism and substantially in lateral contact. The fibers of this sheet are preferably held together in the sheet by binding material distributed throughout the sheet and received in the spaces between the fibers." The second layer is a very fine veil of haphazardly arranged interlaced fibers. The veil itself is much thinner than the layer of parallel filaments, and the fibers in the veil are much finer than the parallel filaments. The purpose of the veil is explained by the patentee:

The combination of the veil with the sheet of parallelly arranged fibers resists splitting of the sheet along lines extending in the direction of the fibers of the sheet when the fabric is subjected to stresses applied transversely to the direction of the parallelly related fibers of the sheet.

[3] Serial No. 767,583, filed October 16, 1958.

The Tallman sheet material can either be made by bringing the two layers together before passing them through the resin bath or each layer can be impregnated separately. Tallman's description of this latter embodiment is very similar to appellants' disclosure of the process for producing their material. Tallman says:

The sheet of parallel fibers may also be formed by an operation similar to the conventional warping procedure in which a multiplicity of intertwisted yarns or untwisted strands are drawn from the spools or other packages thereof and brought into parallelism in close adjacency to form a warp. This warp may also have a binding material applied thereto by spraying a solution of the material thereon or by passing the warp through a bath of the binding material in solution.

The preferred Tallman material would appear to contain only 2 to 10% resin, and thus require the addition of more resin for laminating purposes at the time of use. However, Tallman also discloses an embodiment in which sufficient resin is added to the glass at the time of production of the web to obviate the need for later resin addition. The patent states:

In place of or in addition to the small amount of binding material applied to the fabric as previously mentioned, there may be applied to the parallel fibers of the sheet and, if desired, also to the fibers of the veil prior to the combining of the sheet and veil into the fabric, or to the sheet and veil after such combination, a laminating resin in a partially cured plastic state. The resin should be sufficiently viscous so that it will not run off the fabric but should also have a definite plastic stage that will exist for a fair length of time so that it does not harden before the fabric can be laid up as a laminate.

The Board of Appeals concluded that the Tallman product "appears to correspond generally to appellants' product, lacking only an explicit statement of the proportions of glass and resin." To supply this deficiency, the Board relied on the Mohrman patent. This reference also discloses a web of parallel glass fibers held together with 1–2% of crosswise fibers and impregnated with resin. The glass/resin ratio is from 30:70 to 70:30. The Board felt it obvious to combine these references to produce the Tallman product with a glass/resin ratio within the claimed range.

Appellants argue that Tallman and Mohrman considered a veil and crosswise fibers respectively to be essential ingredients of their webs, and that there is no basis for concluding that they suggest a web having solely lineally-aligned filaments. As the Solicitor points out, however, Tallman uses the veil only for crosswise support and strongly intimates that the veil is at least somewhat detrimental to the web characteristics:

The fabric made in this way is highly suited to the manufacture of plastic laminates and other reinforced resinous articles since it provides the high density of fibrous material and the great strength achieved from the presence of the sheet of compactly arranged parallel glass fibers while the veils of haphazardly arranged fibers not only increase the integrity of the fabric and prevent tearing or splitting thereof during handling and transportation but also is of such thickness as not to *appreciably* detract from the compact relation of the parallel fibers and the consequent overall high density of the laminate. [Emphasis added.]

This disclosure appears to suggest that the veil should desirably be eliminated whenever possible, and this should be possible in the embodiment wherein laminating resin is added to the web, "adhesively securing the fibers together."

Appellants also argue that neither reference suggests a resin binder having a viscosity of 1 to 35 million poises and capable of maintaining that viscosity for extended periods of time. However, Tallman does disclose a resin having "a definite plastic stage that will exist for a fair length of time so that it does not harden before the fabric can be laid up as a laminate." Appellants' epoxy resin would appear to have been an obvious candidate for use as Tallman's preimpregnating resin, the Board's uncontroverted finding on this point being "that appellants are using a known resin in a known relationship for its known advantages."

Appellants further attempt to distinguish their invention from the prior art in requiring the use of a solvent-free thermosetting resin. Tallman, however, does not indicate that her laminating resin is in solution form, but says instead that it is "in a partially cured plastic state" and "should be sufficiently viscous so that it will not run off the fabric." Appellants' epoxy resin would appear to be suggested by this disclosure.

The other recitations appearing in the various claims on appeal do not impress us as defining subject matter which is patentable in view of the prior art.

[1] Appellants attempted to overcome the obviousness rejection by the filing of two affidavits. The Modig affidavit attempted to show that the Tallman web containing a veil could not be produced having a glass/resin ratio in the claimed range without crushing of the veil. The issue, however, is whether it would be obvious to *omit* the veil from the Tallman product. The affidavit does not touch this issue at all, and is therefore ineffective in attempting to overcome the rejection.

[2] The Tierney affidavit presented evidence that the product of the invention had satisfied long-felt needs in the production of certain laminated articles. Such considerations do have relevance to the issue of obviousness, *Graham* v. *John Deere Co.*, 383 U.S. 1. However, we agree with the Board that the showing of the affidavit lacks sufficient weight to overcome the strong evidence of obviousness presented by the references.

[3] Our study of the record in this case and the arguments presented by counsel fail to persuade us that the Board erred in its affirmance of the rejection under 35 U.S.C. 103 and that decision is therefore affirmed. In view of this affirmance, we find it unnecessary to consider the *res judicata* rejection.

AFFIRMED.

SMITH, *J.*, concurring.

I agree with the decision of the majority on the issue of "non-obviousness" over the prior art under 35 U.S.C. 103. However, I believe that before this issue can properly be decided, it is necessary to dispose of the rejection of appellants' claims on the ground of res judicata. My opinion is that this rejection should have been reversed. *In re Hellbaum*, 54 CCPA 1051, 371 F.2d 1022, 152 USPQ 571 (1967).

The application here on appeal is denominated by the appellants as a "continuation" of Serial No. 767,583 filed October 16, 1958, in which an appeal to the Board of Appeals resulted in a decision adverse to the appellants. All of the presently appealed claims were rejected on the ground of res judicata in view of a prior decision by the Board on the claims in the earlier application.

It seems to me that a primary consideration necessarily is whether this rejection on the ground of res judicata is proper. If proper, the rationale which underlies it is that the same *issues* now presented to the Board had been decided adversely to appellants' position. Here, we have alternative grounds of rejection, but the res judicata rejection, if sustainable, would, in my view, be dispositive.

Turning then to the merits of the res judicata rejection, I note that the Examiner enumerated the following differences in the appealed claims over the previously adjudicated claims:

> * * * The only differences between the present claims and the previously considered claims and as admitted by appellants (note page 9, last paragraph of the brief) is that claims 1 and 4 define the resin composition as "being capable of remaining within the viscosity range (1 to 35 million poises) for at least two weeks under storage conditions at room temperature." Claims 2 and 3 specify stability "for months" under the same conditions. The present claims are otherwise structurally similar to claims 8–10 of the appealed [parent] application and the Court of Appeals has previously held that claims in an applicants' earlier application considered unpatentable over certain patents, the applicants are bound by that decision, and only if the claims on appeal are patentably different from the subject matter of those claims is appellant entitled to have them considered on their merits. *In re Prutton* [40 CCPA 975, 204 F.2d 291, 97 USPQ 447 (1953)]. The present claims merely by more clearly reciting viscosity conditions under specified storage conditions are not deemed patentably distinct over the previously considered claims which were rejected as unpatentable over the patents of record. * * *

The Board affirmed, elaborating somewhat to the effect that:

> The first change is mentioned on page 18 of appellants' brief while at the same time acknowledging that the prior art shows a roll of material, but there is no indication why the figure of 100 feet was selected, other than the fact that it is a round figure of three digits. Clearly, appellants cannot assert that a 50 foot roll or a 90 foot roll is patentably distinguishable from "a roll of at least 100 feet in length." We do not consider this change to be worthy of further discussion.
>
> The second change involves a more precise definition of the storage conditions, *causing the Examiner to omit a rejection on the ground of indefiniteness*, but the substantive aspect of the claim, as regards its patentability over the art, has not been affected in any way.
>
> * * * * * * *
>
> The foregoing holding leads to the conclusion that *res judicata* is here applicable, consistently with the decisions in *In re Prutton* [supra] and *In re Lundberg et al.* [47 CCPA 1140, 280 F.2d 865, 126 USPQ 412 (1960)] unless there is some good reason why the principles of these decisions are not controlling.
>
> Appellants contend that the affidavits of Gerald R. Modig and Hubert J. Tierney in the present record constitute evidence justifying a different decision and they rely upon certain decisions to support their position. [Emphasis added.]

After distinguishing certain decisions, the Board stated:

> In accordance with the foregoing discussion, the newly submitted affidavits of Modig and Tierney can have no effect on the issue of *res judicata*, and the rejection on this ground must be sustained.

I think it is quite clear that the decision of the Board affirming the Examiner's rejection on that ground may not stand. Initially, the claims here presented in this appeal, differing as they do from the claims previously adjudicated may well present different issues of patentability than were previously decided. *In re Hellbaum*, supra; *In re Szwarc*, 50 CCPA 1571, 319 F.2d 277, 138 USPQ 208 (1963); *In re Fried*, 50 CCPA 954, 312 F.2d 930, 136 USPQ 429 (1963). The Board's reliance upon our decisions in *Prutton* and *Lundberg* in de-

ciding that the change in appellants' claims present again the *same* issues of patentability is not proper. See *In re Herr*, 54 CCPA 1315, 377 F.2d 610, 153 USPQ 548 (1967) (especially concurring opinions). Moreover, appellants' change eliminated the prior rejection on the ground of indefiniteness. A "definite" claim, in my view, presents a substantially different issue of patentability than an "indefinite" claim.

In any event, the fundamental error of the Board resides in its failure to give "effect" to the "newly submitted affidavits of Modig and Tierney." *In re Herr*, supra. Appellants' development of a broader factual base upon which to urge patentability is the essence upon upon which legal conclusions under section 103 are predicated. That development may not be arbitrarily foreclosed by the Patent Office by improperly asserting that the *same* issues had previously been decided.[4] Thus, I would reverse the decision of the Board insofar as it affirms the Examiner on the issue of res judicata.

[4] See Schwartz, Res Judicata as Applied in Patent Office Prosecution and Patent Enforcement Litigation, 49 J.P.O.S. 637 (1967).

U.S. Court of Customs and Patent Appeals

FORT HOWARD PAPER COMPANY *v.* KIMBERLY-CLARK CORPORATION

No. 7915. Decided March 14, 1968

[55 CCPA —; 390 F.2d 1015; 157 USPQ 55]

1. TRADEMARK—OPPOSITION—CONFUSING SIMILARITY—EVIDENCE.

"Both parties produced trade witnesses who testified, for the opposer, that confusion would in their opinion be likely, and, for the applicant, that confusion would not be likely. We agree with the Board that this testimony is conflicting and subsequently equally balanced and therefore of no net probative force."

2. SAME—CONFUSING SIMILARITY—"E–Z NAPS" AND "HANDINAPS" PAPER NAPKINS.

"It is not necessary to discuss the marks beyond noting the facts that they have the syllable 'naps' in common, which is obviously derived from the word 'napkins,' and that the remainder is 'E–Z' in the case of applicant and 'HANDI' in the case of opposer. It becomes a matter of subjecting opinion whether, considering sound, appearance and meaning of the marks as a whole and probable manner of use by vendors, distributors, users, and purchasers, concurrent use on the same goods is likely to result in confusion, mistake or deception. The Board did not think so and neither do we."

APPEAL from the Patent Office. Opposition No. 43,376.

AFFIRMED.

Morsell & Morsell, Curtis B. Morsell (*Arthur L. Morsell*, of counsel) for appellant.

Hume, Clement, Hume & Lee, Jerome Gilson (*Dean A. Olds*, of counsel) for appellee.

Before WORLEY, *Chief Judge*, and Judges RICH, SMITH, ALMOND, and KIRKPATRICK *

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Trademark Trial and Appeal Board, 146 USPQ 593, dismissing appellant's opposition to appellee's application to register the trademark "E–Z NAPS," Serial No. 149,844, filed July 26, 1962, for facial tissue, toilet tissue, paper napkins, and paper towels.

* Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

The sole issue is likelihood of confusion, mistake, or deception within the meaning of section 2(d) of the Lanham Act, 15 U.S.C. 1052(d). Opposer is the prior user and owner of registrations of "handinap" and "HANDINAPS," Reg. Nos. 616,224 and 616,225 of Nov. 15, 1955, for paper napkins. Applicant's earliest claimed date of use is July 5, 1962. The goods being in part the same, we proceed on the basis that there is no difference in the goods. The decision is therefore determined primarily by the differences and similarities in the marks.

[1] Both parties produced trade witnesses who testified, for the opposer, that confusion would in their opinion be likely, and, for the applicant, that confusion would not be likely. We agree with the Board that this testimony is conflicting and subsequently equally balanced and therefore of no net probative force.

[2] It is not necessary to discuss the marks beyond noting the facts that they have the syllable "naps" in common, which is obviously derived from the word "napkins," and that the remainder is "E–Z" in the case of applicant and "HANDI" in the case of opposer. It becomes a matter of subjective opinion whether, considering sound, appearance and meaning of the marks as a whole and probable manner of use by vendors, distributors, users, and purchasers, concurrent use on the same goods is likely to result in confusion, mistake or deception. The Board did not think so and neither do we.

While, as we have often noted, prior decisions are not of much value in cases of this kind, we note appellant's reliance on our opinion in *Magnavox Co.* v. *Multivox Corp. of America*, 52 CCPA 1025, 341 F.2d 139, 144 USPQ 501 (1965). Several other decisions are cited but this one is stressed. A more pertinent case, in our view, is *E. L. Bruce Co.* v. *American Termicide Co.*, 48 CCPA 762, 285 F.2d 462, 128 USPQ 341 (1960), where we held that concurrent use of "TERMICIDE" and "TERMINIX" for insect exterminating services and insecticides, respectively, particularly in the termite control field, would not be reasonably likely to cause confusion. The parallel between the syllable "termi" in the termite control field and the syllable "nap" in the napkin field should be self-evident.

We have considered opposer's contentions with respect to its alleged possession of a family of "nap" marks but, like the Board, we do not find that the record supports the existence of a publicly recognized family of such marks linked with appellant-opposer as a source. Opposer has not relied on any registrations other than the two mentioned above.

The decision of the Board is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE CHARLES W. GARVIN

No. 7895. Decided April 4, 1968

[55 CCPA—; 392 F.2d 286; 157 USPQ 190]

1. CLAIM—UNDUE BREADTH—35 U.S.C. 112.

"As we view the rejection here, it is couched in the posture of whether the claims are 'broader' than the disclosure. See, e.g., *In re Holmen*, 52 CCPA 1626, 347 F.2d 852, 146 USPQ 290; *In re Corr*, 52 CCPA 1505, 347 F.2d 478, 146 USPQ 69; *In re Gidlow*, 52 CCPA 1308, 345 F.2d 196, 145 USPQ 472; *In re Sus*, 49 CCPA 1301, 306 F.2d 494, 134 USPQ 301. Thus, we agree with the Examiner and the Board that the appealed claims are broader than the in-

vention described in the specification and for this reason fail to meet the requirements of 35 U.S.C. 112."

APPEAL from the Patent Office. Serial No. 326,122.

AFFIRMED.

Alvin Guttag, *Cushman, Darby & Cushman* (*C. Edward Parker*, *Brooke W. Banbury*, of counsel) for appellant.

Joseph Schimmel (*Jere W. Sears*, of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, and Judges SMITH, ALMOND, and KIRKPATRICK [1]

ALMOND, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Patent Office Board of Appeals affirming the final rejection of all of the claims of appellant's application.[2]

The invention relates to the treatment of polyethylene with a corona discharge. The effect of such treatment is said to be an improvement in the ink receptivity of the polyethylene.

Claims 73 and 76 are illustrative:

73. The process of treating a polyethylene surface which comprises subjecting the said surface to the action of corona discharge.

76. Corona discharge treated polyethylene.

The claims were rejected as unpatentable in view of prior art under 35 U.S.C. 103; as failing to define the invention under 35 U.S.C. 112; and as being unpatentable over the count of an interference in which appellant was the losing party. Since we agree with the Board that the claims fail to define the invention under 35 U.S.C. 112, we need not consider the other two grounds of rejection.

In his specification, which, incidently, is entitled "printing," appellant states in his first paragraph:

This invention relates to wrappings, namely, printed and decorated bags and sheetings, as well as molded products, e.g., bottles, of polyethylene resin. We have discovered that polyethylene either as flat stock, preformed tubular stock, or the actual finished articles, notably, bags, bottles and similar containers which are to be decorated and printed upon may be surface treated in a manner whereby the surface of the polyethylene has imparted to it improved ink receptive and retentive qualities. As a result, the adherence of the decoration or printing applied upon the surface-treated polyethylene base is substantially permanent. For instance, when untreated polyethylene film and treated polyethylene film each having printed and decorated areas thereon, are simultaneously immersed in carbontetrachloride for ten minutes and then removed and gently stroked between the thumb and forefinger while still wet with carbontetrachloride, the printing and decoration on the untreated film slides off, while that on the treated film does not. This test is a severe one and is most significant because the carbontetrachloride swells the polyethylene film and unless a good adhesion bond is present, the printing or decoration will slide off the film.

The entire specification is directed to modifying polyethylene in such a way as to achieve adherent printing, and the use of the corona discharge is only one of the methods disclosed for this purpose. The specification gives no details as to the voltage required to produce the necessary discharge, the proximity of the film to the discharge, or other operating parameters, but it does give an explicit disclosure of a "critical test" to determine whether the polyethylene has been sufficiently treated:

In the present invention, as explained above, areas treated as described herein, can no longer be fused by a heat weld. This is a critical test of whether or not the polyethylene is uniformly and successfully treated to impart uniform ink receptivity and retentivity.

[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.
[2] Serial No. 326,122, filed December 15, 1952.

This disclosure is emphasized at another point of the specification:

* * * the important test as to whether or not our treatment has been properly accomplished, is carried out by attempting to adhere face-to-face two treated areas by heat and pressure to form a customary heat weld. Failure to produce a heat weld in such cases indicates (1) that the treatment has been uniform, and (2) that the treated film may be printed upon with the assurance that permanent uniform adherence of the printing will be obtained over the entire treated area.

There is no disclosure in the specification indicating that corona discharge of any greater or lesser amount is contemplated, or that any result other than improvement of ink receptivity is achieved by the treatment.

In the final rejection, the Examiner stated:

Claims 73–77 are rejected as being broader than and unsupported by the disclosure in this application. The object and process disclosed in this application is to use corona as one of many pretreatments to cause printing ink to firmly adhere to polyethylene. There is no support in the specification for the broad concept of corona treatment set forth in these claims. The type of corona used must be specified since corona can be used for physically removing static or for chemically making the polyethylene adherent to printing. The type of corona used for removing static is different than the type of corona used for adherence to printing. Each of these treatments involve separate and distinct methods and resultant products. As now worded, these claims are so broad as to read on both of these independent methods and articles. Based on the disclosure which discloses methods of printing, the corona treatment must be limited to the type of corona suitable for subsequent printing.

In the Examiner's answer, he again stated the rejection as being on "the ground of undue breadth since [the claims] call for applying corona to the sheet material for many [sic] and all purposes." The Examiner referred to six references to support this rejection. He stated:

As a matter of fact, corona treatment of sheet material has been used for many purposes other than printing or release of static charge as clearly shown by any one of the six references grouped above. These references are not a new ground of rejection but merely serve to show how broad are the present claims which call for the single step of exposing a surface to corona. In addition, it is pointed out that these claims are not supported by the instant disclosure which deals solely with the problem of oxidizing the surface to render it adherent to printing ink by using corona. The claims should therefore be restricted to this method and not just to the broad treatment of exposure to corona without any stated purpose. Since exposing a sheet to corona may accomplish many different results and each result is dependent upon a particular way of applying said corona, it would be necessary to specify the manner in which the corona is applied.

The Board, in affirming that rejection, specifically referred to that rejection as arising under 35 U.S.C. 112 on the ground of "undue breadth," and stated:

We have considered appellant's arguments on this point but we find ourselves in agreement with the Examiner that the appealed claims are not sufficiently explicit to satisfy the requirements of the second paragraph of 35 U.S.C. 112. It is clear from the very title and the opening sentence of the present application that the improvement resides in making polyethylene receptive to printing ink. The principal method of accomplishing this end is by flame treatment, with incidental disclosure of treatment with corona discharge or oxidizing solutions. It is impossible to find a broad disclosure of corona discharge treatment of any and all degrees for any and all purposes. Corona discharge may be used for a variety of purposes, such as static discharge, electrostatic charging, graft polymerization, chemical modification, perforating, or even pyrolysis. * * *

We are not called upon to rule that the claims must set forth a purpose; all that we must decide is whether the claims as they stand satisfy the requirements of 35 U.S.C. 112. We are firm in our conclusion that the claims are inadequate to define the subject matter disclosed, namely, the treatment of polyethylene with corona discharge in such manner as to result in ink adhesion and the resulting product.

While appellant's argument here that 35 U.S.C. 112 does not require a statement of intended use may be persuasive in other contexts, it is somewhat misdirected to an issue of whether a claim is "unduly broad" within the meaning of the second paragraph of that statute. **[1]** As we view the rejection here, it is couched in the posture of whether the claims are "broader" than the disclosure. See, e.g., *In re Holmen*, 52 CCPA 1626, 347 F.2d 852, 146 USPQ 290; *In re Corr*, 52 CCPA 1505, 347 F.2d 578, 146 USPQ 69; *In re Gidlow*, 52 CCPA 1308, 345 F.2d 196, 145 USPQ 472; *In re Sus*, 49 CCPA 1301, 306 F.2d 494, 134 USPQ 301. Thus, we agree with the Examiner and the Board that the appealed claims are broader than the invention described in the specification and for this reason fail to meet the requirements of 35 U.S.C. 112.

The decision of the Board of Appeals is therefore affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE JOHN V. HARRINGTON AND HENNINO BORCHERS

IN RE DETLEF WINKELMANN

Nos. 8138 and 8160. Decided April 25, 1968

[55 CCPA—; 392 F.2d 653; 157 USPQ 387]

1. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MOTION TO STRIKE.
   "Compliance with these rules [of the court] is necessary to regulate the business before the court in an orderly, expeditious and fair manner and to facilitate the prompt disposition of cases pending before the court. While the current rules are silent as to the form and content of motions to strike the brief of an opposing party, in a proper case, a motion to strike a brief or a portion thereof may be granted, or, in the alternative, the objectionable matter may be ignored in reaching a decision on the merits."
2. SAME—SAME.
   "• • • a motion to strike the brief of any party to an appeal before this court is an extraordinary remedy and should be granted only in cases where there has been a flagrant disregard of our rules. For example, portions of a brief were stricken in *Shoe Corp. of America* v. *Juvenile Shoe Corp. of America*, supra, on the ground that they contained 'improper "allegations and vituperative statements challenging the correctness of the record and reflecting both upon counsel [for appellant] and this court."'"
3. SAME—SAME—REPLY BRIEF—Rule 27.
   "Where, as here, the points presented in the appellants' motions to strike should have been presented in support of a motion to file a reply brief pursuant to Rule 27, or at oral argument before the court, the motions to strike the brief for the Solicitor in PA 8138 and PA 8160 are denied in all respects."

APPEAL from the Patent Office. Serial Nos. 8,522 and 146,256.

MOTION DENIED.

James E. Bryan for appellants.

Joseph Schimmel (*Joseph F. Nakamura*, of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, RICH, SMITH and ALMOND, *Associate Judges*

PER CURIAM:

The issue presented for determination in each of these appeals, consolidated here solely for purposes of the present decision, is whether a motion to strike the brief for the Solicitor, filed by the party appellant in each case, should be granted.

In Patent Appeal 8138, appellants moved to strike the brief for the Solicitor on the ground that the "[b]rief is replete with misstatements of fact and law." Appellants' main challenge to the Solicitor's brief centers upon the accuracy of the Solicitor's statements as to what some of the reference in fact disclose. The factual questions there involved are whether certain of the references teach that heat-hardenable phenol-formaldehyde resins are "equivalent" to epoxy resins, and whether the phenol-formaldehyde condensation products are "thermoplastic" or "thermosetting." Appellants attempt to sustain their motion by reference to passages of their brief, statements of the Board, and reference to certain technical encylopediae. Appellants also challenge a statement of the Solicitor that appellants' specification does not establish that "contrary to the prior art, thermoplasticity is critical," urging that the test is "unobviousness" and not "criticality." Appellants conclude that the Solicitor should be required to file a new brief "in conformity with the facts related to this appeal in order that the issues on appeal may be properly adjudicated."

The Solicitor opposed this motion on the ground that:

• • • said motion is merely an ill-disguised attempt by appellant to file a reply brief in typewritten form without permission of the court, contrary to Rule 27 of this court.

The opposition to the motion to strike also variously characterizes the points asserted in the motion as "an attempt to counter" or "an attempt to take issue with" arguments advanced by the Solicitor, and "an attempt to dispute the Solicitor's interpretation" of the holding of the Board.

Similarly, in Patent Appeal 8160, appellant moved to strike the brief for the Solicitor on the grounds:

• • • (*a*) it is replete with misstatements of law and fact, and (*b*) it is not responsive to the issues to be decided on this appeal.

In support of his motion, appellant specifically takes exception to particular portions of the Solicitor's brief. He also refers to his reasons of appeal, a certain reference in the record, and raises issues as to the propriety of certain of the Solicitor's arguments. In particular, appellant here challenges an argument by the Solicitor that two patents, apparently referred to in the disclosure of a reference of record below, are not "properly before the court." Appellant views an alleged admission by the Solicitor that these two patents were not considered by the Examiner or Board as requiring the conclusion that appellant has not received a complete examination "as required by Rule 105 of the Rules of Practice."

Thus, appellant concludes that the Solicitor's brief "steadfastly avoids coming to grips with the primary issue to be adjudicated in this appeal" and for that reason "it is entitled to no weight whatsoever and should be stricken from the record."

As in Patent Appeal 8138, the Solicitor opposed appellant's motion, characterizing it as "an ill-disguised attempt to file a reply brief in typewritten form without permission of the court, contrary to Rule 27 of the court." The Solicitor's brief in opposition to appellant's motion adds:

In the instant motion, each and every point asserted therein is essentially an attempt to advance rebuttal argument which properly should be done by way of a reply brief or oral argument at the hearing of the appeal.

Appellant replied to the opposition filed by the Solicitor largely reiterating arguments in his motion to strike.

Rule 27 of the rules of this court sets forth the requirements for the contents of the brief for each party, in pertinent part as follows:

* * * The brief for the appellant shall contain, in the order here stated:

(*a*) A concise statement of the case, presenting succinctly the questions involved and the manner in which they are raised.

(*b*) Such of the errors as shall be relied upon.

(*c*) *A clear statement of the points of law or fact to be discussed*, with reference to the pages of the record and the authorities relied on in support of each point. [Emphasis added.]

(*d*) Every brief of more than 15 pages shall contain on its front fly leaves a subject index with page references, the subject index to be supplemented by a list of all authorities referred to, together with references to pages thereof.

* * * * * * *

At the time of filing his brief in this court the appellee shall serve three copies on appellant or his counsel of record. *Such brief shall be of like character to that required of the appellant*, except that no statement of the case is required, unless that presented by the appellant be controverted or denied to be sufficiently full and complete to present the questions for review. [Emphasis added.]

Rule 27(9) states the conditions to be met before reply or supplemental briefs will be received:

Reply and supplemental briefs may not be filed except by leave of the court or any judge thereof, for good cause shown. If under special circumstances, permission is granted to file typewritten reply or supplemental briefs, the pages thereof shall conform to the size required for printed briefs.

[1] Compliance with these rules is necessary to regulate the business before the court in an orderly, expeditious and fair manner and to facilitate the prompt disposition of cases pending before the court. While the current rules are silent as to the form and content of motions to strike the brief of an opposing party, in a proper case, a motion to strike a brief or a portion thereof may be granted, or, in the alternative, the objectionable matter may be ignored in reaching a decision on the merits. See, e.g., *Shoe Corp. of America* v. *Juvenile Shoe Corp. of America*, 46 CCPA 868, 266 F.2d 793, 121 USPQ 510 (1959); *Radio Corp. of America* v. *Rayon Corp. of America*, 31 CCPA 808, 139 F.2d 833, 60 USPQ 246 (1943); *Wemple* v. *Peirce*, 22 CCPA 1064, 75 F.2d 998, 25 USPQ 37 (1935); *Dreyfus* v. *Lilienfeld*, 18 CCPA 1526, 49 F.2d 1055, 9 USPQ 499 (1931).

[2] However, a motion to strike the brief of any party to an appeal before this court is an extraordinary remedy and should be granted only in cases where there has been a flagrant disregard of our rules. For example, portions of a brief were stricken in *Shoe Corp. of America* v. *Juvenile Shoe Corp. of America*, supra, on the ground that they contained "improper 'allegations and vituperative statements challenging the correctness of the record and reflecting both upon counsel [for appellant] and this court.'" In that same case, this court stated:

* * * The balance of appellee's arguments as to the propriety of considering the evidence in question should not be stricken, as they represent, in our opinion, legitimate argument on behalf of appellee as to what this court should consider in its review of the case.

For other examples of situations where a motion to strike was denied, see: *Beall* v. *Ormsby*, 33 CCPA 959, 154 F.2d 663, 69 USPQ 314 (1946); *Mitchell* v. *Hennion*, 31 CCPA 1129, 143 F.2d 623, 62 USPQ 81 (1944); *Holdsworth* v. *Goldsmith*, 29 CCPA 1047, 129 F.2d 571, 54 USPQ 90 (1942); *Coast* v. *Dubbs*, 24 CCPA 1023, 88 F.2d 734, 33 USPQ 91 (1937); *Chrysler Corp.* v. *Trott*, 23 CCPA 1098, 83 F.2d 302, 29 USPQ 363 (1936); *In re Peiler*, 20 CCPA 1059, 64 F.2d 984, 17 USPQ 453 (1933); *In re Burnham*, 19 CCPA 723, 53 F.2d 534, 11 USPQ 134 (1931). It may also be noted that in some cases, a motion to strike may be denied by this court, without prejudice to renewal at oral argument. See *Shoe Corp. of America* v. *Juvenile Shoe Corp. of America*, supra.

We have examined the issues raised by the respective papers of the parties to these appeals and have concluded that appellant's motion in each case should be denied. It seems that the gist of the appellant's criticisms of the Solicitor's brief in each instance appears to be little more than a reply argument to rebut the position of the Solicitor. Under our Rule 27, quoted above, the parties are entitled to set forth the points of fact and law which are to be discussed. Moreover, the court is to receive favorably fair argument designed to aid a just and accurate decision on the merits of the appeal.

[3] Where, as here, the points presented in the appellants' motions to strike should have been presented in support of a motion to file a reply brief pursuant to Rule 27, or at oral argument before the court, the motions to strike the brief for the Solicitor in PA 8138 and PA 8160 are denied in all respects.

SO ORDERED.

U.S. Court of Customs and Patent Appeals

IN RE GEORGE B. MYRTETUS AND CHARLES H. PANCOAST

No. 7946. Decided April 25, 1968

[55 CCPA—; 393 F.2d 863; 157 USPQ 386]

1. PATENTABILITY—OBVIOUSNESS—ASSEMBLY LINE AUTOMOBILE TESTING.
   "The Examiner deemed it obvious to use 'any of the conventional well-known [automobile] diagnostic tests taught by Poling in the assembly line type servicing method of Iker.' The Board agreed. We agree."
2. SAME—EVIDENCE—COMMERCIAL SUCCESS.
   "Appellants have presented evidence of commercial success. We do not think that such evidence can overcome the conclusion of obviousness compelled by the references in this case."
3. SAME—PARTICULAR SUBJECT MATTER—"AUTOMOTIVE VEHICLE SERVICING."
   The decision of the Board of Appeals, refusing certain claims in an application entitled "Automotive Vehicle Servicing" as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 276,702.

AFFIRMED.

Richard K. Stevens (*O. G. Hayes, James F. Powers, Stevens, Davis, Miller & Mosher*, of counsel) for appellants.

Joseph Schimmel (*Jere W. Sears*, of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, and Judges SMITH, ALMOND, and KIRKPATRICK [1]

RICH, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Ap-

[1] Senior District Judge, Eastern District of Pennsylvania, sitting by designation.

peals,[2] affirming the rejection of claims 62–65 in appellants' application Serial No. 276,702, filed April 30, 1963, entitled "Automotive Vehicle Servicing." No claim has been allowed.

The invention is a method of finding deficiencies in automobiles. The autos are driven one after another to a series of stations at each of which they are stopped and tested. The tests require sophisticated and expensive equipment, e.g., dynamometers, the use of which, however, is concededly old.

Claim 62 is illustrative:

62. A method of diagnosing a line of automotive road vehicles for deficient conditions and operating characteristics thereof, which comprises rolling a continuing line of such vehicles one after another in normal manner along a vehicle transit path progressively to and then beyond each of a plurality of sequentially positioned diagnostic stations, performing substantially the same diagnostic test on each vehicle in said line at each of the respective diagnostic stations sequentially as each vehicle reaches each station, said diagnostic tests on each vehicle in said line comprising a different test at each said station, effecting sequentially on each said vehicle in said line at at least one of said respective diagnostic stations transfer of energy between a rotating wheel of each vehicle and diagnostic equipment external thereto, initiating a diagnostic test on a vehicle in said line at one station and, before completion thereof, initiating a different diagnostic test on at least one preceding vehicle in said line which has theretofore been tested at said one station thereby accumulating combined data on said preceding vehicle, continuing to initiate tests on successive vehicles in said line at respective stations thereby accumulating further combined data on each vehicle as it progresses to and beyond said respective stations, performing on all of said vehicles in said line substantially only diagnostic tests and related operations necessary thereto, and discharging said vehicles successively from said line, each diagnosed to substantially the same and overall extent sufficient to provide a master record of the deficient conditions and operating characteristics which need correction and thereby enabling correction thereof subsequent to the diagnosis.

The following references were relied upon:

S. Iker, Production Line Service, Motor Service, December 1959, at 42, 43, 92, 94 and 98.

J. Poling, New Clinic Gives Cars Family-Doctor Care, Popular Science, May 1950, at 142–143.

Iker describes an "assembly line" method of automotive maintenance in which the component steps of a thorough inspection, complete tune-up, and major lubrication are performed at seven successive stations. The automobiles are rolled to stations 1, 2, and 7. They are otherwise transported from station to station on chain-driven dollies. The work done is not complex, only that demanded by the lubrication and tune-up.

Poling describes the use of sophisticated test equipment, e.g., dynamometers, engine analyzers, etc., in the inspection of automobiles. The equipment is moved to the automobiles which remain stationary.

[1] The Examiner deemed it obvious to use "any of the conventional well-known diagnostic tests taught by Poling in the assembly line type servicing method of Iker." The Board agreed. We agree.

Appellants argue that the automobiles in Iker are moved from station to station on dollies. The point is valid, as a matter of fact, only for the movement from the second to the sixth stations. We think, however, as the Examiner did, that the "conventional method of rolling or driving a test automobile from place to place within the automotive garage is certainly a more common and obvious method of moving the vehicle than is the chain driven dolly system shown by

[2] Consisting of Dracopoulos and Bailey, Examiners-in-Chief, and Reynolds, Acting Examiner-in-Chief, opinion by Reynolds.

Iker." We do not think unobviousness can be predicated on the elimination of the dollies.

The Poling reference shows test equipment such as used in appellants' method to be old. Appellants do not argue to the contrary. They urge that the combination of references is "improper" since the Poling method is built upon the principle: "Don't move the car. Bring the equipment to it." We are unpersuaded. We think it was perfectly clear at the time of appellants' invention that the disclosed test equipment could be used regardless of whether the automobiles were moved to it or vice-versa.[3]

[2] Appellants have presented evidence of commercial success. We do not think that such evidence can overcome the conclusion of obviousness compelled by the references in this case.

[3] The decision of the Board is affirmed.

AFFIRMED.

[3] The Examiner and Board also relied upon the typical state inspection station to show the obviousness of appellants' method.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,421,806, F. R. Perry, CLEANING METHOD AND MATERIAL THEREFOR; **Re. 23,422**, same, **filed** June 30, 1965, D.C., S.D.N.Y., Doc. 65–C–2011. *Agrashell, Inc.* v. *Composition Materials Co., Inc.* Dismissed on stipulation and order, May 3, 1968.

2,515,403, Greenleaf and Webster, BACK PRESSER MOP; **2,667,653**, A. L. Le Febvre, COMBINED MOP AND WRINGER, **filed** Sept. 13, 1966, D.C., W.D. Okla. (Oklahoma City), Doc. 66–337–C, *The Drackett Company* v. *Ingle Bros. Co.* Patent No. 2,515,403 is owned by plaintiff; is valid and infringed by defendant. Defendant is permanently enjoined, May 20, 1968.

2,667,653. (See 2,515,403.)

2,813,341. (See 2,972,188.)

2,840,962, Stremke, Stremke, Jr., and Pazderski, WRAPPING METHOD AND APPARATUS; **2,917,885**, same, SEMI-AUTOMATIC WRAPPING MACHINE; **2,917,886**, same; **3,045,406**, same; **3,194,710**, same, AUTOMATIC LABELLING MACHINE, **filed** Aug. 30, 1965, D.C., E.D. Wis. (Milwaukee), Doc. 65–C–231, *Sturtevant Industries, Inc.* v. *William F. Stremke et al.* Consent judgment against plaintiff for infringement, Apr. 4, 1968.

2,909,934. (See 3,227,981.)

2,917,885. (See 2,840,962.)

2,917,886. (See 2,840,962.)

2,949,580. (See 3,227,981.)

2,951,260, Harrison and Smucker, MOLDING MECHANISM AND HEATING ARRANGEMENT; **3,125,780**, same, APPARATUS AND METHOD FOR MAKING PLASTIC CONTAINERS, **filed** Mar. 26, 1964, D.C., N.D. Calif. (San Francisco), Doc. 42224, *Crown Machine & Tool Co.* v. *KVP-Sutherland Paper Co.* Entered judgment, dismissing the complaint, declaring claims invalid; dismissing counterclaim of defendant, May 9, 1968.

2,972,188, W. Kaufman, MAKING GRADED PATTERNS FOR GARMENTS; **2,813,341**, A. Di Mino, MULTIPLE PATTERN GRADER, **filed** May 28, 1968, D.C., S.D.N.Y., Doc. 68–C–2186, *William Kaufman, doing business as Precision Pattern* v. *Photo-Marker Corp.*

3,045,406. (See 2,840,962.)

3,102,763, Knoll and Cafiero, DRAWER STRUCTURE, **filed** Mar. 21, 1966, D.C., S.D.N.Y., Doc. 66–C–810, *Art Metal, Inc.* v. *Steelcase, Inc.* Stipulation and order dismissing action, May 7, 1968.

3,104,121, Nordin and Hall, HIGH PRESSURE SEAL ASSEMBLY; **Reg. No. 511,195** (TC), Thornhill-Craver Company, Inc., Pipe unions and fittings—namely, crosses, T's, elbows, couplings, chokes, wing valves, ball joints, and connections, **filed** May 15, 1968, D.C., S.D. Tex. (Houston), Doc. 68–H–423, *Thornhill-Craver Company* v. *Stonebor, Inc.*

3,111,679, A. Reinsberg, HAIR SCREEN, **filed** May 21, 1968, D.C., S.D. Fla. (Miami), Doc. 68–583–C–CA, *Ad Reinsberg Enterprises, Inc.* v. *Adolph Reinsberg and Adolph Reinsberg, doing business as Ad Reinsberg Associates.*

3,115,207, A. M. Wiggins, UNIDIRECTIONAL MICROPHONE, **filed** Feb. 11, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c212, *Electro-Voice, Incorporated* v. *Behrend's et al.* By agreement, order dismissing cause without prejudice, May 13, 1968.

3,125,780. (See 2,951,260.)

3,145,291, H. B. Brainerd, IDENTIFICATION SYSTEM, **filed** Apr. 9, 1968, D.C. Mass. (Boston), Doc. 68–298–G, *Sylvania Electric Products, Inc.* v. *Henry B. Brainerd.*

3,146,598, M. F. Smith, APPARATUS FOR CONFINING FLOATING MATERIAL, **filed** Apr. 16, 1968, D.C., S.D. Tex. (Houston), Doc. 68–H–341, *Millare F. Smith* v. *Blue Water Marine Supply, Inc.*

3,161,051, J. A. Perry, LEVEL INDICATING DEVICE AND SYSTEM, **filed** Apr. 18, 1968, D.C., W.D.N.C. (Charlotte), Doc. 2140–C, *Cherry-Burrell Corporation* v. *Wizard Gauge Co., Inc.* Complaint dismissed with prejudice as to claims 1, 6 and 7 of patent and without prejudice as to claims 2 and 3. Defendant's counterclaim is dismissed with prejudice, Apr. 18, 1968.

3,194,710. (See 2,840,962.)

3,198,508, Melton and Wilkson, SPACER FOR INSERTION BETWEEN ADJACENT CONVOLUTIONS OF A COIL SPRING, **filed** Nov. 13, 1967, D.C. Kans. (Wichita), Doc. W–3916, *Jamco, Inc.* v. *Wheel Aligning Supply, Inc.* Consent judgment decreeing plaintiff, Jamco, Inc., is owner of entire right, title and interest to patent; defendants permanently enjoined, May 16, 1968.

3,201,944, P. N. Christensen, PIPE AND CABLE LAYING MACHINE, **filed** May 10, 1968, D.C., S.D. Iowa (Des Moines), Doc. 8–2190–C–2, *Peter N. Christensen and Gamma, Inc.* v. *Vermeer Manufacturing Company, Inc.*

3,218,589. (See 3,227,981.)

3,227,193. (See 3,227,981.)

3,227,981, M. L. Weigel, HIGH FREQUENCY TUNER; **3,227,193**, same, COIL WINDING MACHINE; **3,337,949**, same, METHOD OF MAKING A COIL ASSEMBLY FOR A TUNER; **2,909,934**, S. R. Meadows, TELEVISION TUNER; **2,949,580**, R. C. A. Eland, NEUTRALIZING CIRCUITS; **3,218,589**, W. G. Delp, FINE TUNING MECHANISM FOR TELEVISION TUNERS, **filed** Jan. 15, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c80, *Sarkes Tarzian, Inc.* v. *Standard Kollsman Industries, Inc.*

3,337,949. (See 3,227,981.)

Re. 23,422. (See 2,421,806.)

Reg. No. 511,195. (See 3,104,121.)

PLANT PATENTS

GRANTED OCTOBER 29, 1968

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,842

RED POINSETTIA PLANT

Masami Utsumi, 3701 Prescott Ave., Lincoln, Nebr. 68506

Filed Mar. 9, 1967, Ser. No. 622,003

1 Claim. (Cl. Plt.—86)

This invention concerns a new and distinct variety of poinsettia plant, characterized by the extraordinary deep red color of its bracts, which persist for up to two and one-half months under normal indoor conditions, by its sturdy, green, closely-spaced leaves which persist from the base of the plant upward, thereby avoiding bare stem bases for the showy bracts, and by the close-to-stem grouping of its bracts to provide a relatively large, substantially solid display of color at the end of each stalk.

2,843

RED POINSETTIA PLANT

Masami Utsumi, 3701 Prescott Ave., Lincoln, Nebr. 68506

Filed Mar. 20, 1967, Ser. No. 624,637

1 Claim. (Cl. Plt.—86)

This disclosure concerns a new and distinct variety of red poinsettia plant, characterized by the very large size and number of its deep red bracts which grow on relatively short petioles so that the involucre is nearly closed below the inflorescence to present a solid face 11 to 12 inches in diameter disposed in a substantially horizontal plane, distinguished by the fact that the bracts are individually twisted about a horizontal axis to overlap each other in a somewhat shingle fashion, and by the excellent tolerance of the bracts and foliage to adverse store and consumer home temperature changes.

PATENTS

GRANTED OCTOBER 29, 1968

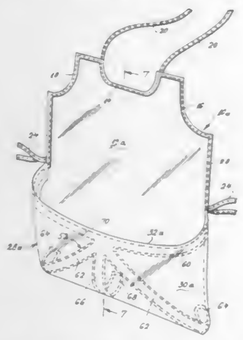
GENERAL AND MECHANICAL

3,407,406
CONFORMABLE PAD AND MATERIAL FOR USE THEREIN
Frank D. Werner, Minneapolis, and Marvin A. Luger, North St. Paul, Minn., assignors to Rosemount Engineering Company, Minneapolis, Minn., a corporation of Minnesota
Continuation-in-part of applications Ser. No. 318,370, Oct. 23, 1963, and Ser. No. 362,723, Apr. 27, 1964. This application June 14, 1965, Ser. No. 463,757
23 Claims. (Cl. 2—3)



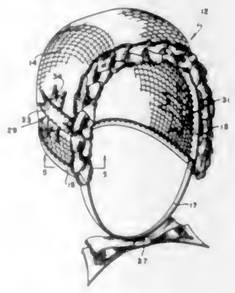
A pad capable of conforming to portions of the human body comprising an envelope made up of a flexible material and having a filling consisting essentially of microspheres or small spherical particles and a minimal amount of a special coating material which forms a film over the surfaces of each of the particles. The pad finds use in cushioning the head, feet, and other irregular portions of the human body and the material as disclosed will conform to these irregular portions and retain its shape indefinitely until it is disturbed by external forces.

3,407,407
BIB CONSTRUCTION
Dolores Smith Hollander, Interlaken, and Miriam Sinclair Bander, Asbury Park, N.J., assignors to Blum and Company, Inc., Deal, N.J., a corporation of New Jersey
Filed Sept. 22, 1966, Ser. No. 581,233
1 Claim. (Cl. 2—49)



An infant's bib having a body with tie means for tying the body around the neck and body of the infant. A pocket is disposed across the bottom of the body, on the outside thereof, to catch droppings. Means is provided for stiffening the pocket to keep it in extended operative position, the stiffening means including a hem along the top of the pocket and a strip inside said hem. Means is also provided for stiffening the body of the pocket, which latter means includes a frame embedded in the body of the pocket, the frame having opposed, radial and angular plastic strips.

3,407,408
SWIMMING CAP
Vilena P. Hansen, 4701 W. Kellogg, Wichita, Kans. 67209
Filed Aug. 8, 1966, Ser. No. 571,011
3 Claims. (Cl. 2—68)

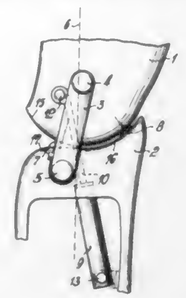


A swimming cap having improved strength is provided having a perforated body formed of a plurality of layers of mesh-type material which are positioned on top of each other in an off-set position so that the openings therein are substantially reduced. Resistant, normally flat opposed ear means are mounted on the exterior portion of the body and positioned so as to be adjacent the wearer's ears so that upon applying external pressure to the ear means they conform to the wearer's ears thus restricting rapid movement of fluid into the ears. Reinforcing means are secured to the outer periphery of the body to seal the outer periphery of the body and conform to the wearer's head, and strap means are secured to the body for placement under the wearer's chin to hold the cap in place. The resilient, normally flat ear means are constructed so that when no external pressure is applied thereto they assume a normally flat position and thus allow the wearer's hearing to be substantially unimpaired.

3,407,409
KNEE JOINT FOR AN ARTIFICIAL LEG
Jan Prahl, Frankfurt am Main, Germany, assignor to Wilhelm Julius Teufel, Stuttgart, Germany, a limited-liability company of Germany
Filed July 9, 1965, Ser. No. 470,788
Claims priority, application Germany, Oct. 5, 1964, T 27,140
7 Claims. (Cl. 3—27)

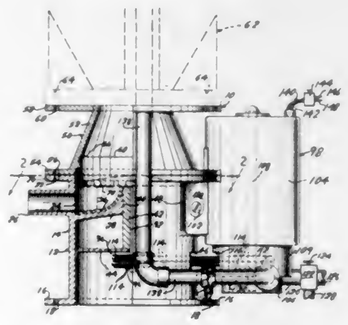
The thigh and shank of an artificial leg are connected by a linkage consisting of two rigid link members and pivots on the ends of the link members which attach the link members to the thigh and shank for angular movement about respective fixed axes. An end face of the thigh is of circular section about the corresponding pivot axis and may be conformingly engaged by a corresponding face portion of the shank. A friction facing is located on the face portion of the shank forward of the location

of the common axis of thigh and shank in the straightened leg position. An adjusting means is provided for



setting the position of the link members about the pivot axis of the shank.

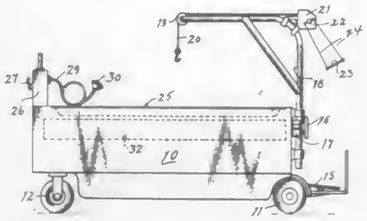
3,407,410
MARINE TOILET
Laurence E. Thom, 10023 12th NW., Seattle, Wash. 98177
Filed Mar. 4, 1966, Ser. No. 532,005
7 Claims. (Cl. 4—111)



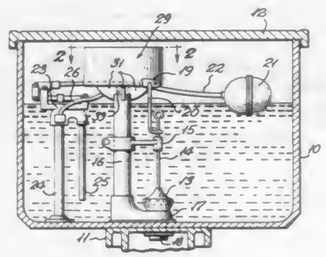
1. A marine toilet, said toilet comprising:
(a) a housing;
(b) said housing having a first opening in the upper part;
(c) said housing having a second opening;
(d) a bottom surface in said housing;
(e) said bottom surface being below said first opening;
(f) said bottom surface having an upper portion which curves downwardly to a lower portion and leads to the second opening;
(g) a comminuter in said housing;
(h) said comminuter being above the bottom surface;
(i) a first means to rotate said comminuter to break the solids to allow the effluent to flow to the second opening; and,
(j) a bowl positioned on said housing.

3,407,411
BEDSIDE BATHING APPARATUS
Eugene V. Stevens, 13359 Gibson St., Glen Ellen, Calif. 95442
Filed Mar. 29, 1966, Ser. No. 538,358
3 Claims. (Cl. 4—185)

1. In a bedside bathing apparatus for hospitals and the like, the combination of an elongated power driven chassis having speed and direction controlling means, a shallow water collecting slab extending over substantially the entire top of said chassis, an extendable shower water dispenser at one end of said shallow water collecting slab, characterized by the fact that mounted within said chassis there is a supply tank of bath water sufficient for a plurality of bathing operations with a used water collecting system including a sump tank and a filter through which said used water is returned to said supply tank and forming a portable self-contained unit, and a pressurized bath water conducting system from said supply tank to said shower water dispenser having two paths one of which includes a hot water heater.

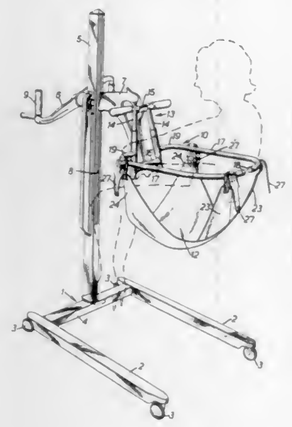


3,407,412
DEVICE FOR SUPPLYING CHEMICAL DISINFECTANT AND THE LIKE TO THE TRAP OF A TOILET BOWL
Clifton T. Spear, % The Diamond Spear Co., Texarkana, Tex. 75501
Filed June 9, 1966, Ser. No. 556,374
15 Claims. (Cl. 4—228)



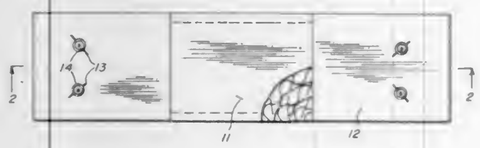
1. An apparatus for placing a chemical disinfectant or the like in the trap of a toilet bowl after completion of the flush cycle and closing of the float-operated water inlet valve in the flush tank, said apparatus comprising a container mountable within the flush tank, said container being compartmented and having a relatively small control chamber and a relatively large chemical chamber, an overflow pipe section on the container projecting into the control chamber and also projecting into the overflow pipe of the flush tank, said overflow pipe section having a small opening near the bottom of the control chamber so that liquid may drain gradually from the control chamber, liquid inlet means leading into the control chamber and connected with the inlet means of the flush tank, and a syphoning device interconnecting said control and chemical chambers and including a syphoning leg in each chamber, said syphoning device operable first to fill the chemical chamber after liquid rises within the control chamber and then to drain the chemical chamber by syphoning after the liquid in the control chamber drains into the overflow pipe section through said small opening.

3,407,413
APPARATUS FOR DISABLED PERSONS
David Richard James, Hasfield, England, assignor to Mecanaids Limited, Gloucester, England
Filed Jan. 4, 1967, Ser. No. 607,181
Claims priority, application Great Britain, Jan. 11, 1966, 1,202/66
12 Claims. (Cl. 5—81)



A support for carrying a disabled or infirm patient in a sitting position comprises a frame which can be opened and then closed laterally around the patient, and a support sling for the patient which includes rear crossover and side strap portions for attachment to four attachment points on the frame structure.

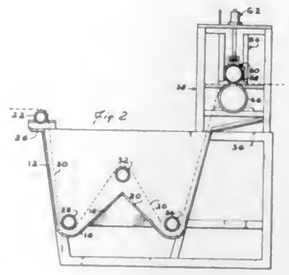
3,407,414
DISPOSABLE BEDPAD
Willis Edwin Burns, Helen Ursula Burns, and Judith Ann Burns, all of 5864 Ithaca Place, San Diego, Calif. 92122
Filed Oct. 3, 1966, Ser. No. 584,013
7 Claims. (Cl. 5—335)



This invention pertains to a flat, sheet-like disposable bedpad that is entirely constructed of disposable diaper material and that has a single layer, retainer member with a multiple layer pad centered thereon, and that has simple, inexpensive and positive means for quickly securing and releasing the structure to the bed.

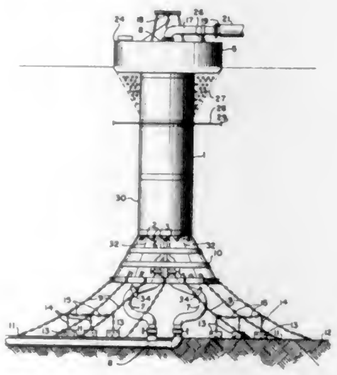
3,407,415
METHOD AND APPARATUS FOR CONTROLLING LIQUID EXTRACTION
George S. McGee, Jr., 2311 E. 28th St., Chattanooga, Tenn. 37407
Filed Nov. 17, 1966, Ser. No. 595,068
12 Claims. (Cl. 8—151)

A width of continuous length fabric goods, such as tufted carpet, is directed through and submerged in a dye material. It is then directed continuously between plural extracting rollers while a magnetic force is applied between the rollers to attract one roller to the other to effect



a pressure on the fabric in an even and consistent manner across the width of the fabric to remove the surplus and unwanted dye evenly therefrom.

3,407,416
BUOYANT MOORING TOWER
Abner A. Brickhouse, Sidon, Lebanon (% Trans-Arabian Pipe Line Company, 505 Park Ave., New York, N.Y. 10022)
Filed Oct. 13, 1966, Ser. No. 586,502
8 Claims. (Cl. 9—8)

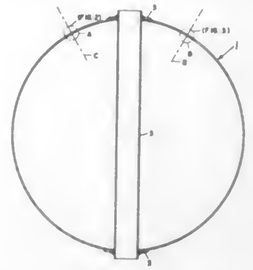


A single point mooring tower for loading and unloading ships, such as tankers, having a surface floatation compartment and a plurality of elongated variable buoyancy compartments depending therefrom and being anchored at its lower end with anchor lines under constant tension to provide a highly stable platform at its upper end for mooring and connection to a conduit leading downwardly through the tower.

3,407,417
BUOYANT DEVICE
Charles Garland, Aston Township, Chester County, Pa., assignor to Sun Shipbuilding & Dry Dock Company, Chester, Pa., a corporation of Pennsylvania
Filed July 6, 1966, Ser. No. 563,193
1 Claim. (Cl. 9—8)

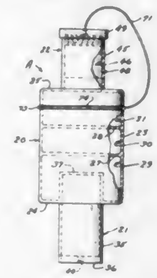
A buoyant hollow sphere, designed for deep submergence, is internally pressurized with inert gas to enable

reduction in its wall thickness and, hence, its weight. A diametrically-extending sleeve is welded through the wall



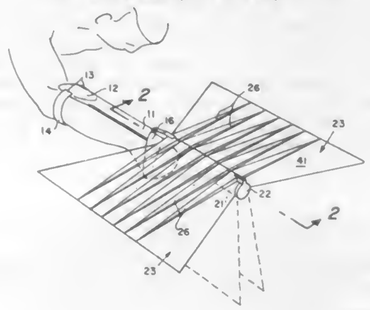
of the sphere, to enable the sphere to be slid over a pipe which is to be buoyed up.

3,407,418
RETRIEVER APPARATUS
James L. May Box 200 J, Bell Drive, and James A. Stephens, Jr., 3313 N. Monroe St., both of Tallahassee, Fla. 32301
Filed Aug. 29, 1966, Ser. No. 575,714
5 Claims. (Cl. 9—9)



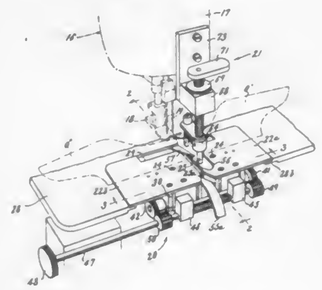
Retriever apparatus comprising a casing having a float and including a compartment having a chemical therewithin which generates a gas in expulsion of said float from the casing on fluid submersion of the apparatus.

3,407,419
FLEXIBLE FINS FOR SWIMMERS
Charles A. Drummond, 100 Harbor Blvd., #17, Belmont, Calif. 94002
Filed Jan. 16, 1967, Ser. No. 609,565
6 Claims. (Cl. 9—307)



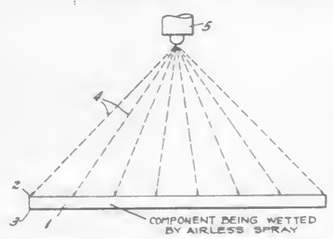
Hinged fins oscillate about a hinge tube which is secured to the forearm of the swimmer. On the down stroke, the fins are projected by the force of movement through the water to horizontal, co-planar position and create a maximum drag through the water. On the up stroke, the fins fold together and create minimum resistance to movement. The device is constructed to limit upward movement of the fins to horizontal position and to prevent rotation of the fins relative to the hinge tube. Reinforcements may be provided in the fins to prevent bending.

3,407,420
STAY OPENING MACHINE FOR FOOTWEAR
Henry C. Farrar, Wayne, N.J., assignor to Uniroyal, Inc., a corporation of New Jersey
Filed Dec. 27, 1965, Ser. No. 516,425
15 Claims. (Cl. 12—51)



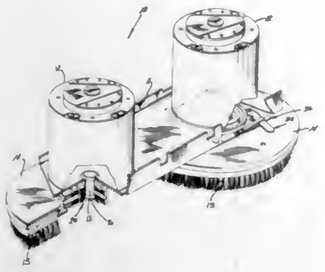
A stay opener for separating and folding outwardly the stay sections of a pair of seamed fabric footwear uppers preparatory to the stitching of the folded-over stay sections to the main bodies of the uppers. A stay separator is arranged in a slot passageway leading to the stay stitching machine, at the entrance end of which passageway are provided two opposed guide members adjustable toward and away from each other either jointly or individually to permit fine adjustments of the stay relative to the separator. A yielding pressure foot above the passageway and separator holds the curved-seam stay region of the uppers down without buckling.

3,407,421
METHOD OF SHAPING LEATHER MATERIALS
John Graham Butlin, 110 Dunkirk Ave., Desborough, Northamptonshire, England
Filed Apr. 26, 1966, Ser. No. 545,235
5 Claims. (Cl. 12—142)



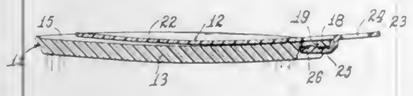
In the shaping of blanks of leather material, particularly shoe upper components, a predetermined amount of moisture is applied to one side of the blank and the blank then stretched around a heated last with the moistened surface in contact with the last. The added moisture is driven into the blank under the influence of the temperature gradient existing across the blank, while the blank is in stretched state, and escapes from the free surface of the blank.

3,407,422
BRUSH ATTACHMENT FOR FLOOR MACHINE
Louis L. Otto, North Muskegon, and Frederick E. Freiheit, Muskegon, Mich., assignors to Clarke Floor Machine Division, Studebaker Corporation, Muskegon, Mich., a corporation of Michigan
Filed July 27, 1966, Ser. No. 568,295
11 Claims. (Cl. 15—49)



A brush-motor coupling apparatus for utilization on floor treatment brushes and the like having two gimbals connected to a brush-mating housing in such a manner that, when the shaft of the motor is affixed to the inner gimbal, the housing is free to pivot about two coordinate axes with respect to the shaft in gimbal-like fashion. The housing is affixed to the brush by a series of upstanding members on the brush-backing plate which are received in suitable apertures in the housing, a latch lever being provided for securing the assembly together.

3,407,423
COMBINATION BRUSH AND SHOEHORN
Jon W. Hauser, St. Charles, Ill., assignor to National Brush Company, Aurora, Ill., a corporation of Illinois
Filed Apr. 14, 1967, Ser. No. 630,856
1 Claim. (Cl. 15—105)



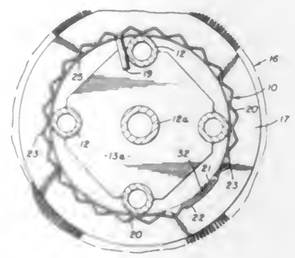
A shoebrush having means to slidably receive a shoehorn stored thereon. The shoehorn has resilient means to engage means on the brush body to retain it in place.

3,407,424
ADJUSTABLE, EXTENSIBLE, TELESCOPIC AND COLLAPSIBLE HANDLE FOR ATTACHMENT TO HOUSEHOLD CLEANING DEVICES
Otto R. Lanzarone, 40 A Newtown Ave., Selden, N.Y. 11784, and Richard L. Lanzarone, 2317 61st St., Brooklyn, N.Y. 11204
Filed Sept. 28, 1965, Ser. No. 490,902
2 Claims. (Cl. 15—145)

A handle for a mophead and a mophead to be used with the handle. The handle has an elongated tubular round sectional body, with end sections and an intermediate section. A spring finger is formed on one end section with a pin on the end thereof. The intermediate section has a series of holes at one end to receive the pin on the end of the finger. Another spring finger is formed on the other end of the intermediate section and carries a pin adapted to coact with holes in the other end section of the body of the handle. The mophead has an elongated hollow plastic hood with an upstanding tubular extension adapted to receive the end of the handle with means on the extension and handle for interlocking such parts together, and cleaning material secured in the hood and depending therefrom.



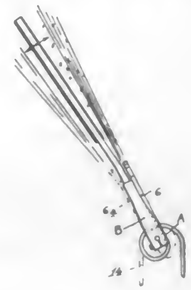
3,407,425
SPACER FOR USE IN ROTARY BRUSH ASSEMBLY
Arthur E. Drumm, Rte. 1, Marysville, Ohio 43040
Filed Jan. 15, 1968, Ser. No. 698,027
4 Claims. (Cl. 15—181)



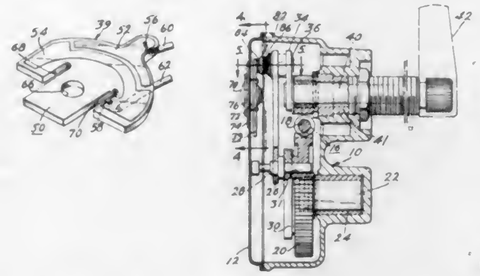
A spacer for use in a rotary brush assembly of the heavy duty type generally used for sweeping streets and pavements or similar heavy duty sweeping. The spacers are disposed between the annular hubs or rings of sweeper brush sections on an axial support, such as a core or shaft carrying said sections, and maintains said sections in axially spaced relationship thereon. Each of the spacers is in the form of a split ring of suitable material which is corrugated transversely to give it transverse or axial compressive strength and radial thickness or depth so that it can function properly as a spacer between axially adjacent brush units.

3,407,426
APPARATUS FOR AUTOMATICALLY CLEANING WINDSHIELDS
Jacques Muller, 123 Ave. du General de Gaulle, La Garenne-Colombes, France
Filed Jan. 5, 1966, Ser. No. 518,817
Claims priority, application France, Jan. 20, 1965, 2,531; Mar. 11, 1965, 8,737
4 Claims. (Cl. 15—250.04)

This invention relates to the art of windshield wipers and more particularly to windshield wipers having associated water ejection means, said injection means beings arranged to eject water onto the windshield onto alternate sides of the windshield wiper blade as the latter is oscillated.



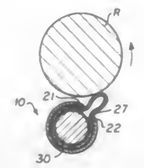
3,407,427
WINDSHIELD WIPER MECHANISM
Earl R. Kebbon, Columbus, Miss., assignor to American Bosch Arma Corporation, Garden City, N.Y., a corporation of New York
Filed Mar. 1, 1966, Ser. No. 530,824
17 Claims. (Cl. 15—250.17)



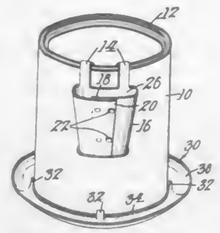
A windshield wiper mechanism is provided having an electric motor, and drive means coupled to the motor and adapted to drive a windshield wiper back and forth through an arc, the drive means including an actuator member movable in a predetermined path. A parking switch is provided which includes a printed circuit board having a printed circuit thereon. The printed circuit includes at least one conductive segment, and a conductive member is connected to the actuator member and adapted to move with the actuator member in contact with the conductive segment over a portion of the path of the actuator member to complete a circuit between the conductive segment and the conductive member. Manual switch means is employed for connecting the motor alternatively directly to a source of power or to the source of power through the circuit between the conductive segment and conductive member so that when the conductive member moves free of the conductive segment the motor will be deenergized.

3,407,428
SCRAPER ROLL CLEARER
Angelo Galassi, Milan, Italy, assignor to Pneumafil Corporation, Charlotte, N.C., a corporation of Delaware
Filed July 12, 1965, Ser. No. 471,190
5 Claims. (Cl. 15—256.51)

A roll clearer for removing foreign matter from the surface of the processing rolls of textile machinery, or the like, in which the clearer is constructed with a simply renewable wiper surface by forming the clearer of a flexible walled tubular wiper member arranged with a portion of the tubular wiper member within a slotted cylindrical sleeve which constrains the tubular wiper member into a figure 8 configuration with one lobe within the sleeve and another lobe extending externally thereof. A spreader rod within the wiper tube lobe in the sleeve secures the wiper tube in position. In use, renewal of the wiper surface is accomplished by sliding the wiper tube about the spreader rod.

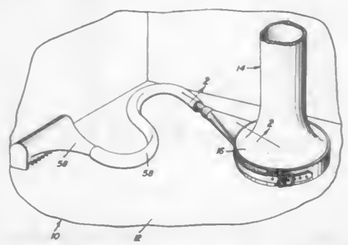


3,407,429
PAINT CAN APRON AND BRUSH HOLDER
Lidio A. Di Nardo, % Aladin Plastics Corp., 40 Spruce St., Leominster, Mass. 01453
Filed Oct. 12, 1966, Ser. No. 586,221
2 Claims. (Cl. 15—257)



A paint drip apron detachably secured by barb-like members to the bottom of a can of paint and a brush holder having means mounting it on the can of paint at the top so that the drip from a brush in the brush holder will drip onto the apron.

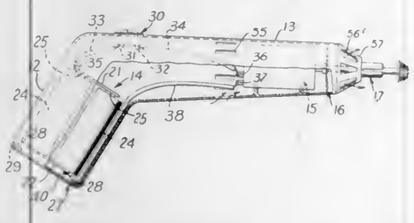
3,407,430
VACUUM CLEANER CONSTRUCTION FOR USE INSIDE TANKS
Carl E. Renner, 3824 Rachel Ave., Port Arthur, Tex. 77640
Filed Apr. 20, 1967, Ser. No. 632,252
9 Claims. (Cl. 15—314)



An annular adapter which may be secured to the lower end portion of a fill and discharge pipe projecting downwardly into a fluid tank and terminating at its lower end a slight distance above the bottom of the tank, the annular adapter being operable to form a fluid-tight seal between the lower end of the pipe and the bottom of the

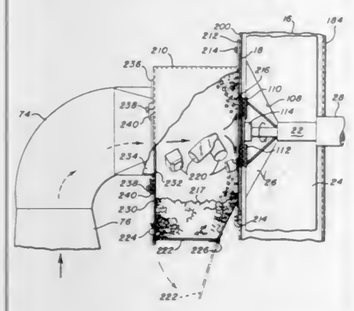
tank and including an outwardly projecting hollow neck portion communicated with the interior of the annular adapter at its inner end and including an outer end portion adapted to have the outlet end of a vacuum conduit secured thereto, whereby a suitable source of vacuum may be operatively connected to the fill and discharge pipe exteriorly of the associated tank and a vacuum hose may be connected to the neck of the adapter for vacuuming the interior of the tank.

3,407,431
POWERED TOOL FOR CLEANING TYPEWRITER TYPE
Steve J. Melnik, 7848 S. Lawler, Oaklawn, Ill. 60459
Filed Mar. 2, 1966, Ser. No. 531,275
2 Claims. (Cl. 15—344)



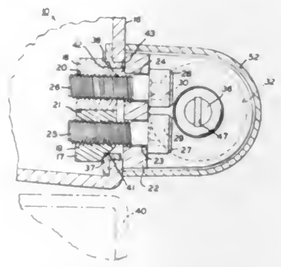
An electrically powered hand tool having an electric motor removably mounted within a pistol-shaped housing, the motor having an enlongated shaft corotatably mounting a tool holding chuck at the outer end thereof and a fan intermediate the motor and the muzzle end of the housing. The housing having air inlet openings rearwardly of the motor and air outlet openings at the muzzle end thereof for the passage of air about the motor and discharging the air toward and about a tool held in the chuck during rotational operation of the motor.

3,407,432
DEBRIS COLLECTOR
Charles O. Finn, Cincinnati, Ohio, assignor to The Finn Equipment Company, Cincinnati, Ohio, a corporation of Ohio
Filed Sept. 27, 1965, Ser. No. 490,388
3 Claims. (Cl. 15—352)



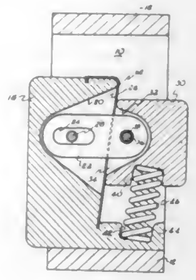
The debris collector is operated with suction force powerful to the extent that it may pick up stones, cans, bottles, cardboard cartons, pieces of wood, and other heavy objects in addition to tree leaves, paper, and other lighter-weight trash. A drop-box or collector of heavy articles is quick-detachably interposed between the pick-up nozzle and the suction fan, and on the suction fan drive shaft is mounted a flexible beater chain located ahead of the fan or impeller, to disintegrate stones, cans bottles and other heavy objects before they can reach the fan or impeller blades and enter the fan housing. The flexible beater chain is thrown outwardly by centrifugal force as the fan drive shaft rotates, and intercepts heavy objects at the fan intake port, to deflect such objects into the collector or drop box. Quick-detachable connections provide for use of the apparatus with the collector or drop-box removed, if desired.

3,407,433
PIVOTED DOOR MOUNTING
Paul R. Ferguson, P.O. Box 203, Milldale, Conn. 06467
Filed May 17, 1966, Ser. No. 550,831
10 Claims. (Cl. 16—130)



1. In or for a pivoted door construction, vertical pivot means for mounting said vertical pivot means outwardly of one face of a door, and co-operating threadedly-connected members extending axially in a direction generally at right angles to the plane of such a face, and movable in said direction upon the relative rotation of said members, and at least the axially movable one of said threaded members having a diagonally-extending thrust surface adapted to be located in diagonal sliding contact with a portion of a door to exert door-moving pressure for moving the door generally perpendicularly to said axial movement and widthwise of such a door when the axially movable threaded member is moved axially.

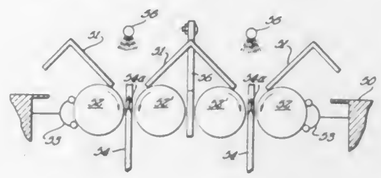
3,407,434
WINDOW BALANCE
John W. Scott, 1510 Johanna St., Houston, Tex. 77055
Filed Sept. 19, 1966, Ser. No. 580,429
7 Claims. (Cl. 16—193)



A braking device for holding a window sash at a predetermined point along a generally U-shaped side jamb

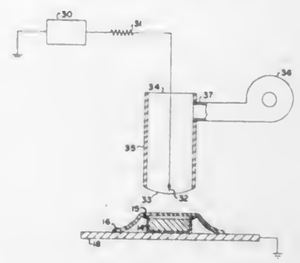
of a window frame which includes a housing which can be mounted along the top rail of a single- or double-hung window sash or the bottom rail of a single-hung sash. The housing contains a plurality of inter-linked braking elements operatively expansible and contractable in position to vary the frictional contact between the braking elements and the U-shaped side jambs of the window frames.

3,407,435
SHRIMP AND SARDINE PROCESSING MACHINE
Clyde J. Welcker and Roland L. Welcker, both of 1334–36 St. Bernard Ave., New Orleans, La. 70116
Filed Mar. 23, 1966, Ser. No. 536,690
24 Claims. (Cl. 17—2)



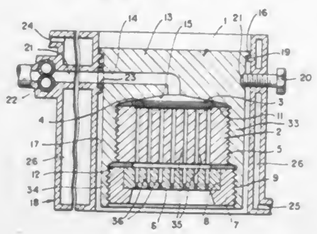
A shrimp and like marine life cleansing method and apparatus utilizing at least a pair of horizontal rollers having locally resilient frictional surfaces spaced apart a distance to accommodate a sharp-edged center plate, the sides of which define a processing channel with each of the individual rollers and having attached to one end thereof an upwardly extending appendage. The center plate and attached appendage is driven through a vertically undulating cycle so that raw shrimp and the like are peeled, de-headed, de-veined and otherwise cleansed by the working cooperation of the machine components to yield fully cleansed, substantially unmultilated meats.

3,407,436
METHOD AND APPARATUS FOR ELECTROSTATICALLY SECURING FILM TO AN OBJECT
Kelvin G. Anderson, Greer, and Ivan F. Churchill, Greenville, S.C., assignors to W. R. Grace & Co., Duncan, S.C., a corporation of Connecticut
Original application May 6, 1964, Ser. No. 365,272. Divided and this application June 2, 1966, Ser. No. 615,269
2 Claims. (Cl. 18—1)



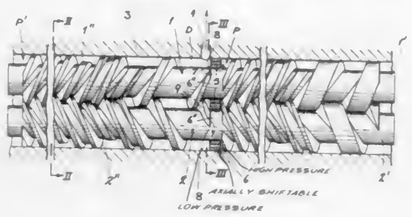
Apparatus for shrinking a heat shrinkable thermoplastic member about an object comprising first and second electrodes spaced apart from each other, means for applying a direct current potential across said electrodes, and means for heating a portion of the space between said electrodes.

3,407,437
SPINNING HEAD FOR HIGH PRESSURE MELT SPINNING
Erich Lenk, Remscheid-Lennep, Germany, assignor to Barmer Maschinenfabrik Aktiengesellschaft, Wuppertal-Oberbarmen, Germany
Filed July 11, 1966, Ser. No. 564,154
Claims priority, application Germany, July 15, 1965, B 82,847
5 Claims. (Cl. 18—8)



Spinning heads embodying housing having heavy end wall and hollow, cylindrical, interiorly threaded wall projecting therefrom, concavely conical inner face on end wall, melt feed passage through end wall, distributor element and nozzle member threaded in cylindrical wall, first and second sealing rings (preferably radially tapered) compressed respectively between opposing faces of inner wall and distributor element and distributor element and nozzle member, and filter element mounted in upstream recess in distributor element.

3,407,438
PLASTICIZING SYSTEM FOR PLASTIC MATERIALS
Hans-Werner Selbach, Bad Oeynhausen, Germany, assignor to Firma Rolf Kestermann Maschinenfabrik, a corporation of Germany
Filed June 27, 1966, Ser. No. 560,553
Claims priority, application Germany, June 26, 1965, K 56,482
7 Claims. (Cl. 18—12)

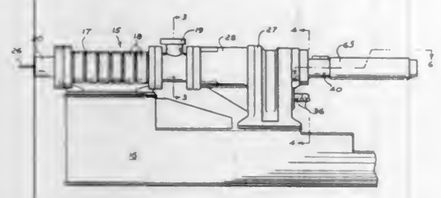


A plasticizing system for thermoplastic synthetic resins in extrusion or injection-molding presses wherein a perforated disk is disposed in an intermediate location along a plasticizing worm which forces the thermoplastic material through the perforated disk and axially shifts the latter against a blade on the downstream decompression side of the disk at which the blade comminutes the strands of material extruded through the disk, the decompression chamber being evacuated to degas the comminuted product in the decompression chamber.

3,407,439
THRUST BEARING FOR ROTATING SCREW
Robert B. Gregory, Flemington, N.J., assignor to Frank W. Egan & Co., Somerville, N.J., a corporation of New Jersey
Filed Sept. 29, 1966, Ser. No. 582,864
18 Claims. (Cl. 18—12)

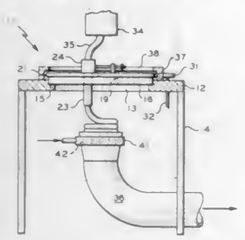
A hydrostatic thrust bearing especially applicable for use with a plastic screw extruder having a barrel, which

is provided with a longitudinal bore, intake means communicating with the rear portion of the bore and discharge means communicating with the forward portion of the bore, and a rotary extruder screw in the bore and adapted to move plastic material, that is introduced into the bore by way of the intake means, forwardly along the bore to the discharge means, the material in the course of such movement being subjected to a differential pressure which exerts a rearward axial thrust on the screw. The thrust bearing includes a thrust barrel, which is provided with a



longitudinal second bore and an inlet for introducing fluid into the rear portion of the second bore, and a rotary thrust screw in the second bore. The extruder screw and the thrust screw are coaxial and of opposite hand and project in opposite directions. The forward end of the thrust screw and the thrust barrel define a thrust gap which communicates with the second bore and with the inlet. Simultaneous rotation is imparted to the screws by a rotary drive which is preferably located between and connected to the rear ends of the screws.

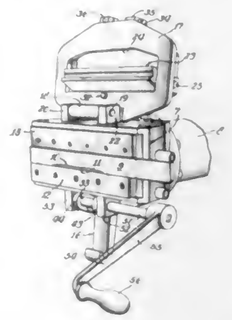
3,407,440
APPARATUS FOR PRODUCING CORRUGATED STRUCTURES
Luther O. Myers, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Sept. 30, 1966, Ser. No. 583,173
4 Claims. (Cl. 18—12)



Apparatus for producing corrugated structures of plastic conduit which operates cooperatively with means for downwardly extruding the extrudate in rod or tubular form which consists of superimposed plates, one of which is rotatable and carries a slidably positionable shoulder into which the extrudate is deposited, the shoulder tracing the periphery of an opening in the lower plate upon rotation of the upper plate to deposit extrudate in the configuration defined by the opening in the lower plate.

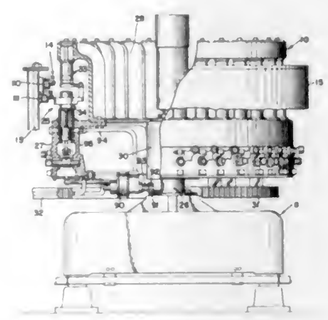
3,407,441
LOCKING MECHANISM FOR CLAMPING A DIE ON AN EXTRUDER
Victor C. Vigansky, Buchanan, and Edwin E. Mallory, Niles, Mich., assignors to National-Standard Company, Niles, Mich., a corporation of Delaware
Filed Oct. 14, 1966, Ser. No. 586,848
5 Claims. (Cl. 18—12)

Locking mechanism for use with an extruder having a pivoted gate for movement toward and away from the discharge end of the extruder for supporting a die clamping plate means to retain a die in position at the discharge opening of the extruder, and latch mechanism easily and quickly actuatable by a crank arm and includ-



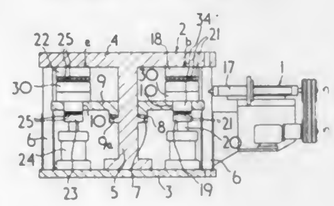
ing components adapted to be disposed in overcentered relation to provide high pressure engagement of the die clamping plate means with a die at the die opening in the latched position of the latch mechanism.

3,407,442
MACHINE FOR IN-PLACE MOLDING OF CAP GASKETS
Norbert L. Wright, Park Ridge, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Sept. 1, 1966, Ser. No. 576,644
15 Claims. (Cl. 18—20)



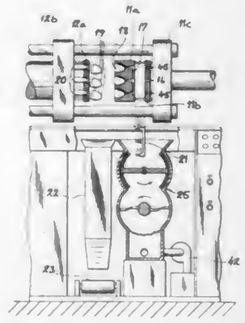
1. A machine for in-place molding of cap liners comprising a liner curing turret mounted for rotation on a vertically disposed axis, said turret having circumferentially spaced clamp assemblies for receiving caps which have a predetermined quantity of thermal curable fluid plastic deposited therein and means for feeding the caps to successive clamp assemblies as the turret rotates about its axis, each of said clamp assemblies comprising an upper and a lower clamping member, the upper clamping members being mounted in fixed position on the periphery of the turret, the turret having in its lower portion vertically disposed peripherally spaced bores each communicating at the lower end with a closed lower chamber and the lower clamping member of each of said clamp assemblies being carried on a support member mounted for vertical reciprocating movement in one of said bores with associated operating means so as to open and close the clamping members for receiving and discharging the caps, the upper clamping member of each of said clamp assemblies being in the form of a die dimensioned for snug reception in the cap skirt to shape the cap contained plastic into a liner disc formed on the cap bottom and skirt when the clamping members are closed, the lower clamping member being then co-operable with the die forming upper clamping member in clamping aligned caps to the turret for liner curing, burners disposed about the exterior of the turret for directing heat onto the clamping members so as to at least partially cure the liner, and means for circulating a lubricant through the bores in which the support members for the lower clamping members are mounted.

3,407,443
INJECTION MOLDING APPARATUS
Brian H. Beebee, Malvern, Johannesburg, Transvaal, Republic of South Africa, and Edward G. Bullivant, Sutton Coldfield, England, assignors to Dunlop Rubber Company Limited, London, England, a British company
Filed Aug. 4, 1965, Ser. No. 477,156
Claims priority, application Great Britain, Aug. 8, 1964, 32,380/64
8 Claims. (Cl. 18—30)



Apparatus for molding and curing rubber articles such as boots having a plurality of stations about a circular turntable provided with equally spaced apertures through which molds are accessible by platens and the like. The molds are moved to appropriate stations into position for effecting on each mold the sequential indexed operations of loading, injecting, curing (continued over several stations) and removing the finished articles therefrom. Each station is provided with non-rotatable platens applied to the molds through the apertures in appropriate stations, injection heads, etc., for performing their respective functions in the process.

3,407,444
INJECTION MOLDING MACHINE WITH SCRAP GRINDER
Herbert Rees, Willowdale, Ontario, Canada, assignor to Husky Manufacturing and Tool Works Ltd., Toronto, Ontario, Canada, a corporation of Canada
Filed May 19, 1966, Ser. No. 551,418
8 Claims. (Cl. 18—30)

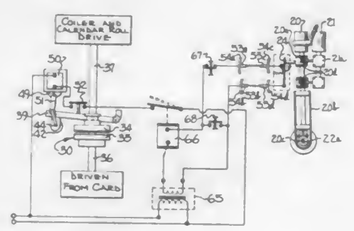


Injection-molding machine with a scrap grinder underneath its split mold, the grinder being overlain by a rotatable lid whose rotation is synchronized with the opening and closure of the mold so that a runner ejected from the opening mold lands on the horizontally positioned lid and is thereafter delivered to the grinding knives by a rotation of the lid through 180°.

3,407,445
HIGH PRESSURE REACTION VESSEL FOR THE PREPARATION OF DIAMOND
Herbert M. Strong, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Continuation of application Ser. No. 269,412, Apr. 1, 1963. This application Mar. 2, 1966, Ser. No. 531,284
6 Claims. (Cl. 18—34)

An improvement is described for the containment in a reaction vessel of a volume of high purity carbonaceous material-catalyst combination to be modified under the application of high pressure and heat to form diamond. The cylinder containing this carbonaceous material-catalyst is made of a metallic material selected from the group consisting of tantalum, tungsten, zirconium, titanium, nickel and nickel-base alloys and a pair of spaced discs made of metallic material selected from this same group are employed within the volume of the cylinder to define the vertical limits of a shaped charge of the carbonaceous material-catalyst. This isolation serves to protect the shaped charge from gaseous contaminants during the application of high pressure and heat with the result that better nucleation occurs within the restricted volume and diamond compacts of predetermined shapes may be produced.

3,407,446
STOP CONTROL FOR TEXTILE SLIVER COILER HEAD
Joe R. Whitehurst, Kings Mountain, N.C., assignor to Ideal Industries, Inc., Bessemer City, N.C., a corporation of North Carolina
Filed May 15, 1967, Ser. No. 638,262
10 Claims. (Cl. 19—.26)

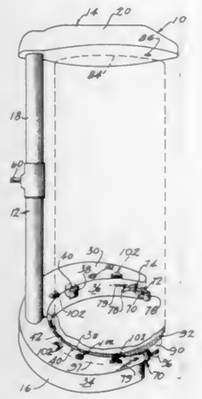


In a textile sliver coiler head of the type wherein a pair of cooperating sliver advancing calender rolls are mounted on and rotate with a coil forming member, means are provided for interrupting rotation of the calender rolls and the coil forming member upon certain predetermined conditions, in order to facilitate introduction of sliver to the calender rolls and to protect the coiler head against damage.

3,407,447
SLIVER CAN AND DRIVE MEANS THEREFOR
Carlton O. Kinsler, Rte. 5, Box 279, Upson County, near Thomaston, Ga. 30286
Filed Mar. 24, 1966, Ser. No. 543,448
2 Claims. (Cl. 19—159)

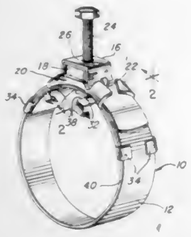
This disclosure includes a coiler head for textile slivers and a base beneath the coiler head, the base having arcuate portions forming a generally semi-circular shaped enclosure for enclosing a sliver can positioned beneath the coiler head. The sliver cans used in this invention

have gear rings around the lower exterior portion thereof and are mounted on casters so that they can be readily wheeled into and out of the enclosing base. A pinion type gear extends within the semicircular shaped enclosure and when a can is pushed into the enclosing base, the



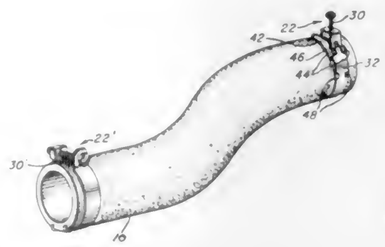
pinion gear and the gear ring of the can engage. The pinion gear is driven and transmits rotation to the can through the gear ring. Means are provided to resiliently urge the can (and its gear ring) into engagement with the pinion gear yet permit ready removal of the can from the enclosing base.

3,407,448
HOSE CLAMP WITH HOSE-ATTACHING MEANS
Clarence C. Tetzlaff, River Forest, and George Chamberlain, Cicero, Ill., assignors to Wittek Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 3, 1967, Ser. No. 620,472
13 Claims. (Cl. 24—19)



A hose clamp of the type which has a metal strap or band adapted to be constricted about a hose to secure the hose to a pipe by taking up a screw in a conventional manner, in which there is a pair of prongs or tines secured to the band and extending laterally thereof, each prong or tine including a reverse bent bight spaced from the edge of the band by a distance which is the desired axial distance that the clamp is to be located from the said hose end when installed. Each prong has a free-ended extension which is adapted to overlie the inner surface of the hose adjacent its end and is further provided with a piercing tip bent normal to the extension, adapted to be pressed into the interior wall of the hose radially to lock the hose clamp in position on the hose. The length of the free-ended extension is less than the distance from the band edge to the bight so that the hose wall is not pierced in the annular pressure part that is engaged by the band and is being constricted. A preferred construction has the pair of prongs or tines integral with a load-diffusing member as a part of a radial screw type of hose clamp.

3,407,449
HOSE CLAMP WITH HOSE-ATTACHING MEANS
Clarence C. Tetzlaff, River Forest, and George Chamberlain, Cicero, Ill., assignors to Wittek Manufacturing Co., Chicago, Ill., a corporation of Illinois
Filed Mar. 3, 1967, Ser. No. 620,473
20 Claims. (Cl. 24—19)



A hose clamp of the type which has a metal strap or band adapted to be constricted about a hose to secure the hose to a pipe by taking up a screw in a conventional manner, in which there is a wire clip or bracket secured to the hose clamp, the clip having at least one reverse-bent tine or prong that extends laterally of the band and forms a bight spaced laterally of the band edge; the clamp adapted to be pre-positioned on the hose and secured thereto by piercing the axial end wall of the hose and pushing the prong into the end wall until the hose end bottoms in the bight, thereby spacing the clamp properly from the hose end as well as securing it in place.

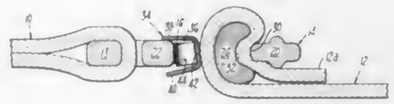
3,407,450
FASTENING DEVICE FOR SKI AND MOUNTAINEERING SHOES
Loris Baso, Via Pozzuolo 3, Padua, Italy
Filed Jan. 19, 1967, Ser. No. 610,442
Claims priority, application Italy, Feb. 18, 1966, 3,676/66; Apr. 6, 1966, 8,171/66
3 Claims. (Cl. 24—163)



This invention relates to a fastening device for shoes, particularly for ski and mountaineering shoes. Said fastening device comprises a clamping loop which is adjustably mounted in a strap loop of a punched instep strap and said clamping loop is also engageable with a tensioning lever. The clamping loop is pivotably mounted to one end of a shackle. A post is provided on the upper surface of the opposite end of said shackle, said post extending through one of the punched holes in the instep strap. A loop holds the strap loop together and has a total height

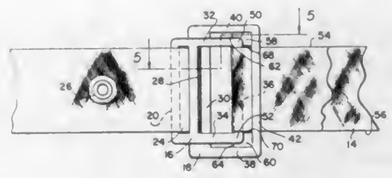
which is twice the thickness of the strap plus the thickness of the shackle. The post will thus not become disengaged from the punched hole unless the free end of the strap loop is first removed from the loop.

3,407,451
LOW PROFILE REVERSIBLE THREE-BAR ADJUSTABLE STRAP CONNECTOR
Dwight N. Dewey, West Hartford, and John Stacherl, New Britain, Conn., assignors to The Capewell Manufacturing Company, Hartford, Conn., a corporation of Connecticut
Filed June 20, 1966, Ser. No. 558,909
4 Claims. (Cl. 24—196)



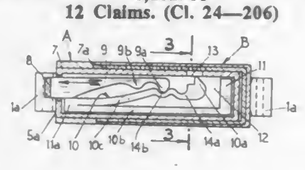
A low profile reversible three-bar quick fit adjustable strap connector is provided with a rockable gripping bar around which a strap is threaded to provide an offset force securing the free end of the strap in adjusted position. A channel-shaped tensioner having ends which straddle side rails of the connector and includes a bowed leaf spring biasing the tensioner into engagement with a gripping bar prevents the loosening of the strap when little or no tension is applied to the strap. The channel-shaped tensioner is provided with divergent walls to permit it to tilt slightly and apply an offset biasing force against the gripping bar to cause it to pinch the strap against an end bar of the connector. The divergent walls of the tensioner enable it to apply and offset biasing force on the gripping bar regardless of the reversal of the threading of the strap around the gripping bar and the bowed spring nested in the tensioner may have a low spring rate to permit the easy threading and adjustment of the strap around the gripping bar while preventing inadvertent loosening.

3,407,452
QUICK RELEASE BUCKLE AND STRAP MEANS
Jack C. Abert, 511 E. Mulberry, Phoenix, Ariz. 85012, and Steve R. Perin, Phoenix, Ariz.; said Perin assignor to said Abert
Filed Dec. 5, 1966, Ser. No. 599,231
6 Claims. (Cl. 24—197)



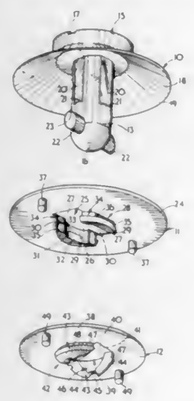
1. In a quick release buckle and strap means, the combination of: first and second elongated substantially flat flexible strap members each having opposite edges; first and second substantially loop-shaped buckle members connected to said first strap member; said first buckle member being movable relative to said second buckle member and said first strap in a direction longitudinally of the axis of said first strap; said first buckle member also being pivotally mounted relative to said second buckle member and said first strap about an axis disposed transversely relative to the longitudinal axis of said first strap and generally in a plane intersecting both said opposite edges thereof; said first buckle member having a first strap fastening bar portion spaced from its connection with said first strap, said second strap having an intermediate portion looped over said first strap fastening bar portion, said second strap having contiguous portions extending from said intermediate portion and said first strap fastening bar; said second buckle member having a second strap fastening bar disposed adjacent said contiguous portions in such position as to clamp them against said first fastening bar portion; said first fastening bar portion extending beyond opposite edges of said intermediate portion of said second strap, said second fastening bar portion of said second buckle member being longer than said first bar portion of said first buckle member to thereby permit said first fastening bar portion to pass through said looped-shaped second buckle member; and ramp portions secured to said second bar portion near opposite ends thereof, said ramp portions having terminal edges and converging from said second bar portion to said terminal edges of said ramp portions, said ramp portions being disposed to be engaged by opposite ends of said first bar portion, said ramp portions also converging away from the adjacent side of said first fastening bar portion to said terminal edges, whereby one of said contiguous strap portions which bears against said second bar portion of said second buckle portion may be pulled toward said buckle members to thereby slide said first bar portion of said first buckle member on said ramp portions to a position beyond said terminal edges of said ramp portions and to thereby permit said first buckle member to pass through said second buckle member and to release said second strap to slide around said first fastening bar portions.

3,407,453
FASTENER FOR AN ARMLET, BRACELET OR WATCHBAND
Attilio Invernizzi, % F.lli de Dominicus, Via Brera 6, Milan, Italy
Filed June 17, 1966, Ser. No. 558,336
Claims priority, application Italy, June 24, 1965, 6,162/65
12 Claims. (Cl. 24—206)



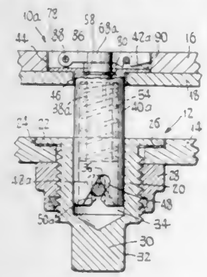
A fastener for an article of personal adornment, such as an armlet, bracelet or watchband, which is composed of two parts. Each part is attached to a different free end of the armlet, bracelet or watchband. One part is an elongated plug and the other an elongated socket which matingly receives the plug. The plug has an external operator mounted thereon for movement in a direction axially of the plug. The plug also has a catch that is separate from the operator and is located inside the plug. The catch is supported on a cantilever spring in the plug, the catch being movable from a position retracted within the plug to a position in which it extends through an aperture in a side of the plug. The catch is arranged to be actuated by the operator. The socket has several interior openings in a side corresponding to the side of the plug through which the catch can protrude so that the catch can be received in any one of the openings and by manipulation of the operator can be shifted to a retracted position in which the plug can be pulled out of the socket.

3,407,454
QUICK RELEASE FASTENERS
Keith E. Myatt, 6 Brookwillow Road, Hayley Green, Halesowen, Birmingham, England
Continuation-in-part of application Ser. No. 585,991, Oct. 11, 1966. This application Apr. 28, 1967, Ser. No. 641,092
Claims priority, application Great Britain, Apr. 23, 1966, 17,866/66; Feb. 17, 1967, 7,576/67
23 Claims. (Cl. 24—221)



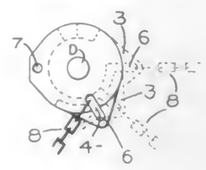
The specification discloses various forms of three-piece quick release fasteners adapted releasably to hold together relatively thin sheets of material in face-to-face relationship, at least two pieces of the fastener being made of resilient synthetic resinous material and each being arranged to snap into a hole in one of the sheets, the third piece passing through holes in the other two pieces and holding them together by cam action as the third piece is turned.

3,407,455
LOCKING TYPE QUICK-RELEASE FASTENER
Joseph R. Metz, Ridgefield, Conn., assignor to Norco, Inc., Ridgefield, Conn., a corporation of Connecticut
Filed July 12, 1967, Ser. No. 652,917
8 Claims. (Cl. 24—221)



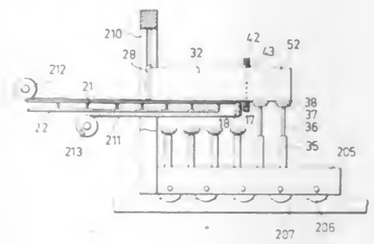
A plug-and-socket type quick-release fastener wherein the socket has a cross pin adapted to be received in registerable front-end slots of a two-piece plug constituted of relatively turnable inner and outer telescoped members. Slots in the front end of one member are parallel to the axis of the plug, and in the other member they follow a helical curve whereby relative turning movement of the members is required to enable the cross pin to be received in or shifted out of the slots. An accessible, easily operated locking piece at the other ends of the telescoped members enables these to be locked against relative turning to prevent unintended removal of the cross pin when the latter is seated in the slots.

3,407,456
CHAIN END INTERCONNECTING CLASP
William Frederick Addington, 2823 Terrace Drive, Chevy Chase, Md. 20015
Filed July 18, 1967, Ser. No. 654,282
2 Claims. (Cl. 24—232)



A clasp for interconnecting the ends of a chain including two parts sandwiched together and rotatable relative each other, one part having a hook and associated slots, the other part have aligned slots alignable with a radially extending slot defined by the hook.

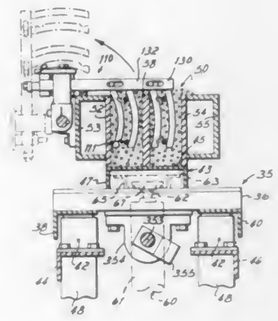
3,407,457
PLANT FOR THE MANUFACTURE OF AERATED CONCRETE
Sven Rune Roland Blom, Skovde, Sweden, assignor to Durox International S.A., Luxembourg, Luxembourg, a company of Sweden
Filed Mar. 14, 1966, Ser. No. 533,957
Claims priority, application Sweden, Mar. 19, 1965, 3,595/65, 3,596/65
13 Claims. (Cl. 25—2)



In making building blocks of aerated concrete, damage to the freshly formed and still unhardened blocks is minimized by providing a plurality of mutually parallel, vertically movable, block-carrying sections to receive blocks as subdivided and to support the same throughout the subsequent steps including the hardening procedure.

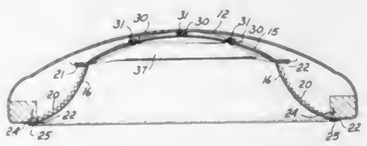
3,407,458
APPARATUS FOR PRODUCING PRE-CAST CONCRETE MEMBERS INCLUDING REINFORCING ROD HOLDERS PIVOTALLY MOUNTED ON MOLD BOX
Albert C. Reckman, Herman F. Barklage, and Theodore M. Ax, Cincinnati, Ohio, and George T. Shotwell, Covington, Ky., assignors to A. R. Industries, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed Oct. 23, 1965, Ser. No. 503,792
14 Claims. (Cl. 25—41)

A machine for forming reinforced pre-cast concrete products by sequentially placing reinforcing rods in a mold box located upon a pallet, filling the mold box with mortar while vibrating the box to compact the mortar around the reinforcing rods, removing the support for the reinforcing rods after the rods are surounded by mortar, sizing the molded product by moving a combination ramming head and stripper plate downwardly into the mold box while the vibration continues, and removing the molded product from the mold box by moving the box vertically upwardly while restraining the ramming head and stripper plate against movement. The machine includes a control circuit for automatically terminating vibrational movement when both ends of the stripper plate are at a predetermined elevation relative to the bottom of the mold. It also includes an improved hydraulic circuit for evenly moving the ends of the ram-



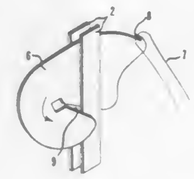
ming head and stripper plate downwardly to compact and size the molded product. To enable the pallet and pallet support to be vibrated relative to the machine frame while simultaneously damping vibration imparted to the frame, the pallet support is mounted upon a unique vibration damping element which consists of a thick lamina of substantially non-metallic, non-compressible, vibration damping material and a relatively thin lamina of compressible, resilient material.

3,407,459
BURIAL CASKET LID LINING CONSTRUCTION
Bruce E. Elder, 410 Crane Ave., Royal Oak, Mich. 48067
Filed June 23, 1966, Ser. No. 559,791
5 Claims. (Cl. 27—19)



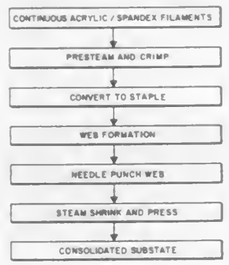
1. An integral lining unit for burial casket lid comprising in combination; a substantially rectangular molded plastic member, said member having a curved cross section and being adapted to fit within the lid with its concave side facing away from the interior surface of said lid, side framing members secured along at least three sides of the rectangular member, each side framing members being adapted to be secured along one marginal edge of said lid, a plurality of spaced apart elongated stiffening members secured to said molded member on the side facing said lid and extending lengthwise thereof, a decorative fabric material for covering the concave side of said molded member, spaced rows of guide marks on said molded member in alignment with, and on the opposite side of each of said stiffening members, and a fastener means for securing folded portions of said fabric to said stiffening members at points indicated by selected ones of said guide marks, whereby different pattern effects are achieved by securing folds of said material to said stiffening members at various of said guide marks.

3,407,460
WARP DRAWING-IN APPARATUS
John Maurice Triplett, Grifton, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 16, 1967, Ser. No. 638,958
2 Claims. (Cl. 28—44)



An apparatus for assisting in initial string-up of filaments through narrow elongated openings, the apparatus being in combination with a textile reed having a plurality of closely spaced dents, comprising an axially rotatable rod adjacent and extending substantially parallel to the length of said reed, a rod-supporting member, rod-rotating means, and a thin shaped member slidably mounted on said rod and rotatable therewith, said shaped member having thread-engaging means and separate dent-engaging means, the assembly being such that upon full rotations of the rod said shaped member slides down the rod, the dent-engaging means sequentially engaging successive dents, the thread-engaging means moving sequentially in and out of the spaces between juxtaposed dents.

3,407,461
METHOD FOR PREPARING NONWOVEN SUBSTRATES
Philip J. Stevenson, Durham, and Stuart P. Suskind, Raleigh, N.C., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Nov. 29, 1966, Ser. No. 597,653
10 Claims. (Cl. 28—72.2)



A method for making nonwoven fabrics prepared from heat retractable inelastic/elastic bicomponent fibers composed of a heat-retractable elastic component which shrinks under heated conditions to cause partial separation thereof from the inelastic component whereby improved elastic properties are imparted to the shrunken fabric. Another important aspect of the invention resides in the ability to advantageously card and needle punch the bicomponent fibers as hard fibers which obviates the necessity of physically blending elastic fibers and inelastic fibers when it is desirable to provide a non-woven fabric having an elastic fiber element.

3,407,462
PERMANENTLY CRIMPED TEXTILE MATERIALS OF INCREASED ELASTICITY

Charles H. Fisher, New Orleans, La., assignor to the United States of America as represented by the Secretary of Agriculture

No Drawing. Original application June 21, 1962, Ser. No. 204,299. Divided and this application May 27, 1966, Ser. No. 554,638

3 Claims. (Cl. 28—76)

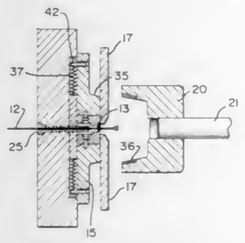
A process for producing fibrous cotton textile yarns and fabrics that exhibit stretch and recovery characteristics. The fibrous cotton starting material is chemically modified to a quite specific minimum degree, which specific degree depends upon the particular chemical modification chosen, for the purpose of obtaining a fibrous thermoplastic cotton. The chemically modified fibrous cotton material is then heated until it becomes thermoplastic, whereupon it is mechanically shortened so that linear portions of the thermoplastic material is either yarn or in sheet form are displaced into different planes. The shortened material, when cooled below the temperature of thermoplasticity, exhibits elastic properties.

3,407,463
APPARATUS FOR PRODUCING FLÉCHETTES

Ira J. Boots, John Metz, Jr., and Maurice H. Paris, Evansville, Ind., assignors to Whirlpool Corporation, a corporation of Delaware

Filed Mar. 9, 1967, Ser. No. 621,994

6 Claims. (Cl. 29—1.2)



The disclosed apparatus is an apparatus for producing missiles such as fléchettes formed from a wire by stepwise feeding of the wire to a forming position whereat fins are formed in the wire. Tools are further provided in the apparatus for cutting off a preselected length of the wire at a point spaced from the end in which the fins have previously been forced and forming a point in the cut-off and thereby to complete the formation of a fléchette.

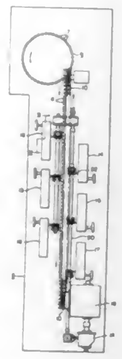
3,407,464
HIGH SPEED AUTOMATIC APPARATUS FOR MAKING MOUNTS FOR ELECTRIC LAMPS

Oleg J. Orebic, Upper Montclair, and Richard W. Handmann, Orange, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 16, 1965, Ser. No. 480,013

9 Claims. (Cl. 29—25.2)

A high speed lamp making apparatus including a stem making machine from which the stems are fed to an endless conveyor which indexes the stems through a plurality of work stations. At least one pair of coil winding machines with each machine of each pair positioned at a work station and synchronized with the indexing movement of the endless conveyor in such a manner that each coil winding machine of each pair forms and supplies a coil to every other stem on the conveyor. A third



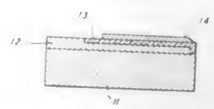
coil winding machine is positioned at a work station adjacent each pair of coil winding machines and is synchronously and immediately operable in place of either of the coil winding machines of the adjacent pair to wind filament coils and supply them to the stems normally acted upon by either of the machines of the pair thus assuring continued and uninterrupted fabrication of lamp stems at a high production rate.

3,407,465
TECHNIQUES FOR CHARTING AND REMOVING DEFECTS IN THIN FILM CAPACITORS

William C. G. Ortel, New York, N.Y., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Dec. 8, 1966, Ser. No. 600,086

8 Claims. (Cl. 29—25.42)



1. A method for eliminating internal short circuits in a thin film capacitor including successively a substrate member, a layer of a conductor, a layer of a dielectric material and a counterelectrode which comprises the steps of coating said counterelectrode with a thin film of a fluid in which a surface tension gradient can be induced by heating to increase the surface tension, impressing a difference of potential between the electrodes of said capacitor, at a temperature ranging from 30°–55° C., said difference of potential evidencing a current ranging from 10–50 milliamperes per fault, thereby generating voids in said liquid coating at the sites of highly conductive faults and removing said counterelectrode by etching at the sites of said faults.

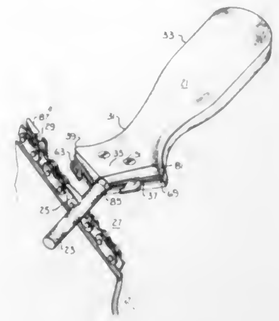
3,407,466
FILE GUIDE HANDLE

Elof Granberg, 2659 Mira Vista Drive, Richmond, Calif. 94805

Filed Aug. 29, 1966, Ser. No. 575,644

10 Claims. (Cl. 29—80)

1. A file guide for chain saw sharpening comprising a file handle for engaging the tang of a file, said file handle including means for determining the length, the angle of



undercut, and the angle of crosscut of the saw chain cutting tooth during the sharpening of a cutter link.

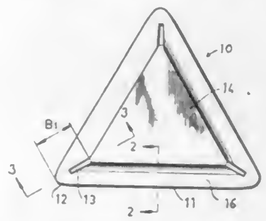
3,407,467
CUTTING INSERT FOR CHIP CUTTING MACHINING

Sven Axel Olof Wirfelt, Sandviken, Sweden, assignor to Sandvikens Jernverks AB, Sandviken, Sweden, a corporation of Sweden

Filed May 24, 1967, Ser. No. 640,967

Claims priority, application Sweden, June 1, 1966, 7,443/66; Apr. 3, 1967, 4,561/67

3 Claims. (Cl. 29—95)



A cutting insert having a primary chip breaker in the form of a groove along a cutting edge of the insert, and a secondary chip breaker situated in a cutting corner and formed by a raised portion within the extension of the primary chip breaker above the level of the latter and at some distance from the edge of said corner.

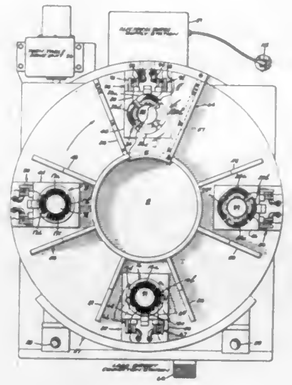
3,407,468
APPARATUS FOR ALTERING THE CONFIGURATION OF ELECTRICAL COILS OF INDUCTIVE DEVICES

William E. Baldwin, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York

Filed Dec. 10, 1965, Ser. No. 513,028

18 Claims. (Cl. 29—205)

Apparatus for altering the configuration of electrical coils having an electrical energy surge supply for generating a number of electrical energy surges or pulses of varying magnitudes sequentially in the electrical coils disposed in a load circuit connection station within an enclosure. The supply has a control circuit connected to storage capacitors, with several charge level control circuits included for sequentially coupling variable voltage sources to the storage capacitors for charging them to selected levels. A number of sensing circuits, responsive to these levels, sequentially initiate discharge of the capacitors to the electrical coils for effecting coil-altering or coil transforming operations. Thus, the operator may be effectively protected from possible electrical hazards



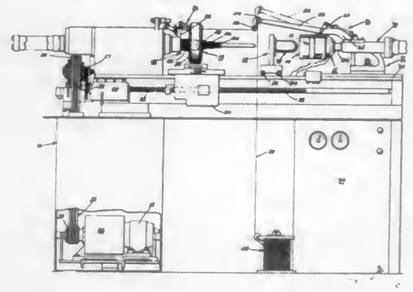
while the coil alterations are automatically and rapidly being carried out.

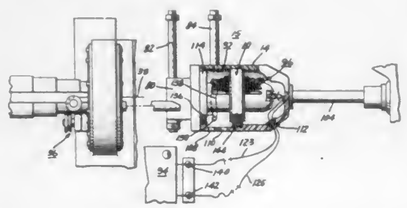
3,407,469
APPARATUS FOR DEVELOPING ELECTRICAL COILS IN INDUCTIVE DEVICES

John E. Larsen, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York

Filed July 28, 1966, Ser. No. 568,538

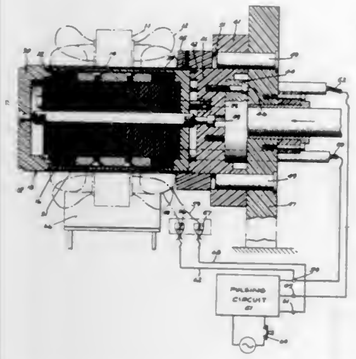
11 Claims. (Cl. 29—205)





1. A coil developing apparatus for developing wound coils in magnetic cores comprising: carrier means for supporting a magnetic core in coil-receiving position at a core-receiving station; means for forming a wound coil at a coil-forming station; means for moving the carrier means with the core supported therein to the coil-forming station; means for transferring the wound coil into a first position in the supported core; means for moving the carrier means with the core and wound coil supported therein to a press-back station; and means for establishing electromagnetic forces in the vicinity of the press-back station whereby at least portions of the wound coil will be pressed-back to a second position in the supported core.

3,407,470
APPARATUS FOR EFFECTING COIL-PLACING OPERATIONS IN INDUCTIVE DEVICES AND METHOD OF MANUFACTURING SAME
Richard D. Gibbs, Malta, Ill., assignor to General Electric Company, a corporation of New York
Filed July 28, 1966, Ser. No. 568,587
7 Claims. (Cl. 29—205)

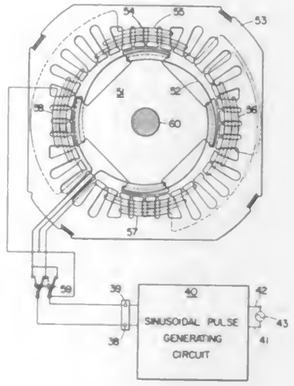


1. An electrical inductive apparatus for effecting coil-placing operations in inductive devices comprising an inductive fixture having winding means for connection in circuit with a source of electrical energy capable of producing a surge of preselected magnitude; and body means for retaining the winding means in a fixed position adjacent coils in an inductive device as the surge is being injected into said winding means to cause electromagnetic forces to be exerted on the coils for effecting placement thereof relative to the device; and means coupled to the body means for selectively imparting linear motion to the body means and winding means and for preventing movement thereof as the surge is being injected into said winding means.

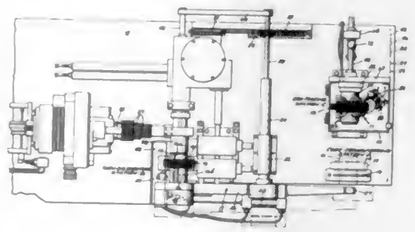
6. The method of manufacturing an inductive fixture of electrical inductive apparatus for effecting coil-placing operations in inductive devices comprising the steps of winding a plurality of turns from non-circular conductor material having major and minor configurations; mounting the wound turns on a rigid body having a first section projecting centrally of the turns and a second section disposed beneath the minor cross-section dimensions of the turns for support thereof, with the first section having a pair of curved wall portions facing the major cross-section dimension of the innermost turns; and encasing the turns and rigid body in hardened material for retaining the relative positions of the turns and body sections, with terminal ends of the turns projecting beyond the hardened material.

3,407,471
APPARATUS FOR CHANGING RELATIVE POSITIONS OF MOVABLE CONDUCTORS OF AN ELECTRICAL INDUCTIVE DEVICE
Meritt L. Miller, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed July 28, 1966, Ser. No. 568,589
6 Claims. (Cl. 29—205)

1. An apparatus for effecting a desired coil-transforming of an electrical coil or part thereof relative to a dynamoelectric machine core formed of ferromagnetic material, said dynamoelectric machine core having a bore and a number of spaced apart tooth sections defining a plurality of axially extending slots, each coil being comprised of individually movable turns of insulated wire conductor and having a pair of spaced apart side portions accommodated in preselected pairs of slots, said apparatus comprising: a work station for supporting said dynamoelectric machine core in a load circuit and for effecting the coil transforming operation on at least a portion of said coil, a sinusoidal pulse supply means for supplying at least a portion of a sinusoidal pulse from an alternating current source to said load circuit under an essentially short circuit condition for a preselected interval, and means for coupling said at least one coil of said dynamoelectric machine core with said sinusoidal pulse supply means for generating in said coil a current flow to effect said coil transforming operation on at least said portion of the coil.

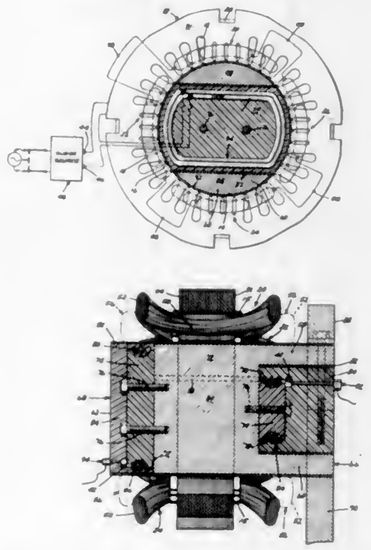


3,407,472
APPARATUS FOR DEVELOPING ELECTRICAL COILS IN INDUCTIVE DEVICES
Richard D. Gibbs, Malta, Ill., assignor to General Electric Company, a corporation of New York
Filed July 28, 1966, Ser. No. 568,593
12 Claims. (Cl. 29—205)



1. Apparatus for developing a plurality of wound electrical coils formed from a number of conductor turns in core receiving slots of a stator core having a bore extending axially through the core, the apparatus comprising: a core-transferring station, means mounted in spaced relation to the core-transferring station for distributing conductor turns in slots of the stator core; conveying means including a holder adapted to be received in the bore of the core for transporting the core between the core-transferring station and the turn-distributing means; and coil-placement means for effecting the desired placement of the coils relative to the core mounted in spaced relation to the core-transferring station; said coil-placement means including a carrier having a holder for entering the bore of a stator core having coils in the slots thereof to support the core, and an electrical coupler for linking the stator core and coils to an electrical energy surge source for generating one or more energy surges in the coils carried by the core to create electromagnetic forces which act on the coils and produce the desired coil placement thereof relative to the stator core.

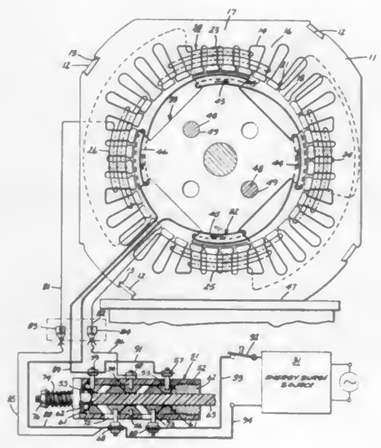
3,407,473
APPARATUS FOR EFFECTING COIL PRESS-BACK IN INDUCTIVE DEVICES
Raymond G. Rushing, Mentor, Ohio, assignor to General Electric Company, a corporation of New York
Filed July 28, 1966, Ser. No. 568,594
4 Claims. (Cl. 29—205)



Methods and apparatus for changing the configuration and position of an electrical winding with respect to a magnetic member. Either an electrical coil or a magnet carried in a fixture is supported adjacent to selected portions of the winding in the member for producing a magnetic field electromagnetically coupled with the selected portions, while a section of the fixture is supported between the coil or magnet and other portions of the winding for shielding the coil or magnet from the other winding portions. At least one electrical energy surge is generated in the winding to establish a transient magnetic field in the vicinity of the winding for changing the relative position of the winding with respect to the member. For furnishing the electrical energy surge, the apparatus includes a pulsing circuit having storage capacitors, a sub-circuit for charging the capacitors, a time delay switching arrangement for permitting the charged storage capacitors to discharge a high voltage energy pulse and isolation transformer for preventing the pulse from being fed back into the switching arrangement.

3,407,474
APPARATUS FOR OBTAINING DESIRED POSITIONS OF ELECTRICAL COILS RELATIVE TO MAGNETIC CORES
Richard D. Gibbs, Malta, Ill., assignor to General Electric Company, a corporation of New York
Filed July 28, 1966, Ser. No. 568,605
4 Claims. (Cl. 29—205)

1. Apparatus for attaining a desired position relative to a magnetic core of a first electrical winding formed by a plurality of conductor turns and carried by a magnetic core, the apparatus comprising a second electrical winding maintained in inductive coupled relation with the first winding; energy surge source means for supplying at least one energy surge to one of said windings; and means for selectively producing a closed electrical path through one of the first and second windings for induced current flow therethrough and concurrently for connecting the other of the first and second windings to the energy surge source means such that at least one energy surge supplied by the energy surge source means is injected into the other winding to induce current flow in the winding having the closed electrical path thereby creating electromagnetic forces to act upon the first electrical winding to move it relative to the magnetic core.



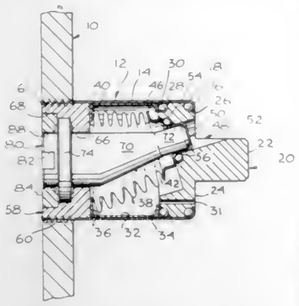
3,407,475
TECHNIQUE FOR FABRICATING EDM ELECTRODES
Otto G. Koppius, Florence, Ky.
(990 Linden St., Clermont, Fla. 32711)
Filed Feb. 8, 1967, Ser. No. 614,606
7 Claims. (Cl. 29—420.5)

Electrical Discharge Machining Electrodes (EDM) are fabricated from tungsten-copper, tungsten-silver, and other composites having excellent EDM wear properties but which are normally of poor ductility. These composite materials can, within certain density limits, be made ductile and hence extruded through dies at high pressure to the desired electrode configuration.

3,407,476
FABRICATION METHOD FOR A ROTARY SEAL ASSEMBLY
Victor E. Hamren, Los Angeles, Calif., assignor to Mechanized Science Seals, Incorporated, Los Angeles, Calif., a corporation of California
Filed Mar. 18, 1966, Ser. No. 535,377
4 Claims. (Cl. 29—423)

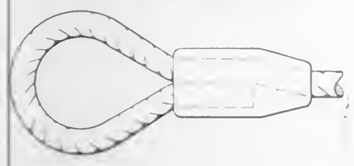
A method of fabricating an assembly which is used to hermetically seal an opening in a chamber wall while permitting the transfer of rotary motion therethrough. The assembly includes a substantially cylindrical bellows joined to the flange of a cap into which an eccentric end of an input shaft projects. The cap and bellows are formed by an electroless plating process so that the wall

thickness of each can be held below .005 inch. By forming the cap in this manner, the cap flange is able to resil-



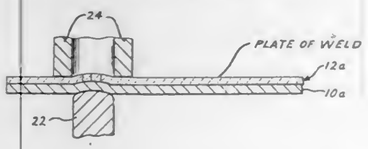
iently flex relative to the cap boss, thereby reducing the strain on the bellows convolutions.

3,407,477
METHOD OF JOINING A ROPE CLIP TO A ROPE
Otto Sahm, 8 Behringstr., 285 Bremerhaven 1, Germany
Filed Oct. 18, 1965, Ser. No. 497,029
Claims priority, application Germany, Dec. 9, 1964, S 94,551
1 Claim. (Cl. 29—517)



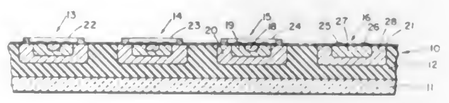
An oval tubular rope clip having two parallel straight wall portions and two semi-circular wall portions is used to connect two rope parts with each other. The rope clip is inserted between a pair of separated dies, each of which has a forming cavity comprising a semi-cylindrical portion of a length longer than said clip and an adjacent semi-conical portion. One rope part is caused to extend entirely through the clip and dies and the other rope part extends only through the clip up to the semi-conical portions of the dies. When the dies are closed, they deform the clip about the rope parts into a cylindrical shape with one end of the clip being longitudinally extruded into the conical portion of said dies.

3,407,478
METHOD OF MAKING ABRASION RESISTANT PLATE
Roman F. Arnoldy, P.O. Box 19527, Houston, Tex. 77055
Original application Dec. 9, 1966, Ser. No. 600,572. Divided and this application Aug. 2, 1967, Ser. No. 668,981
2 Claims. (Cl. 29—528)



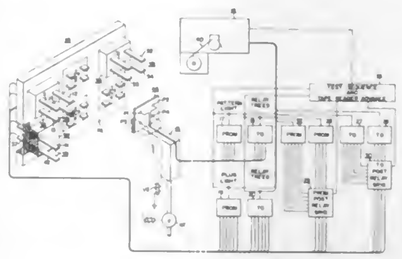
The abrasion resistant plate in a composite having a very high abrasion resistant layer on a malleable base, the high abrasion resistant layer having a desired pattern of random, generally nonlinear cracks extending to and generally normal to the base surface with a crack frequency of no more than about three inches and preferably of about ⅝ inch to about ¾ inch. The desired pattern is formed by subjecting the base and an abrasion resistant layer to a punch and die, which causes mainly radial cracking within the desired crack pattern.

3,407,479
ISOLATION OF SEMICONDUCTOR DEVICES
James N. Fordemwalt, Mesa, and Bernard Van Pul, Phoenix, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed June 28, 1965, Ser. No. 467,422
5 Claims. (Cl. 29—577)



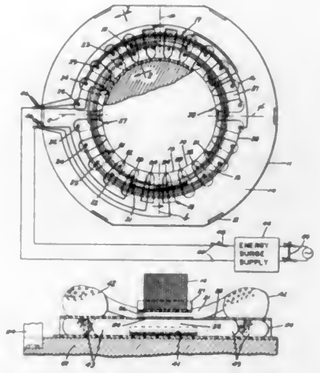
Disclosed is a process for manufacturing a semiconductor sandwich structure having discrete semiconductor islands therein. A wafer is selectively etched to provide individual cavities therein, and thereafter a glass-containing mixture is applied to the etched surface of the wafer and fusion-bonded at elevated temperature between a supporting substrate and the wafer to thereby form an intermediate sandwich structure. Thereafter, the unmasked surface of the wafer is removed to a depth sufficient to expose portions of the glass and thereby provide semiconductor islands which are each surrounded by an insulating layer of glass.

3,407,480
WIRING AND TESTING OF CONTROLLER HARNESS
Menno E. Hill, Rutherford, Joseph K. Kraft, Verona, and Ralph W. Friedrich, Jersey City, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 5, 1965, Ser. No. 445,538
16 Claims. (Cl. 29—593)



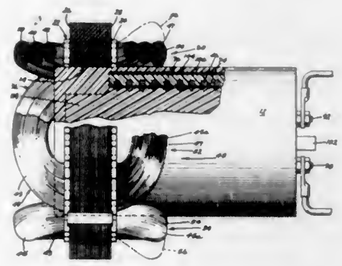
Removable connectors are laid out in a pattern conforming to mating connectors of an electrical system to be wired. Lamps are arranged in two groups to indicate the specific connector and the specific terminal in a connector to be wired. A supervisory device successively steps to indicate one at a time each terminal to be connected. Energizing means is arranged to energize a terminal connecting tool only if the tool is applied to the indicated terminal. The supervisory device tests continuity of each pair of terminals and its connecting wire before stepping to the next terminal.

3,407,481
METHOD OF PRESSING BACK ELECTRICAL COIL END TURN PORTIONS IN AN INDUCTIVE DEVICE
Willard C. Hopkins, Holland, and Alvin L. Rediger, Zealand, Mich., assignors to General Electric Company, a corporation of New York
Filed July 28, 1966, Ser. No. 568,590
6 Claims. (Cl. 29—596)



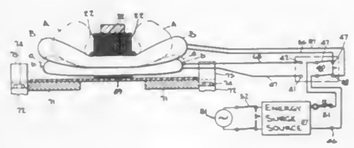
1. A method of pressing back electrical coil end turn portions of first and second coil group pluralities displaced in phase having coil side portions received in open ended slots of a magnetic core formed with a yoke section and a pair of end faces, with the end turn portions of each coil group projecting beyond the end faces and being in overlapping relation with an adjacent coil group of a different phase, the method comprising the steps of: arranging the individual end turn portions of the coil group pluralities respectively in one position relative to the core; and concurrently pressing back the end turn portions of the first and second overlapping phased coil group pluralities to other positions relative to the core by generating at least one surge of electrical energy at approximately the same time in the coil group pluralities thereby establishing interactions to effect press back of the pluralities to the desired other positions.

3,407,482
METHOD OF DISPLACING AND COMPACTING END TURN PORTIONS OF WINDINGS USEFUL IN INDUCTIVE DEVICES
Raymond G. Rushing, Mentor, Ohio, assignor to General Electric Company, a corporation of New York
Filed July 28, 1966, Ser. No. 568,592
10 Claims. (Cl. 29—596)



1. A method of displacing from an original position the end turn portions of electrical coils also having side portions and being carried by a core adapted for use in a dynamoelectric machine, which electrical coils include two sets of end turn portions connecting the side portions, the end turn portions having regions extending generally perpendicularly to the side portions, the method comprising the steps of: fixedly supporting induction coil means in close proximity to the end turn regions of at least one of said sets; electrically connecting at least one electrical coil to provide a closed path for the flow of induced current therethrough; applying at least one surge of electrical energy to said induction coil means, generating a dynamic margnetic field in magnetic coupling relationship only between the end turn regions of said at least one set of end turn portions and said induction coil means, and inducing current flow in the connected electrical coils thereby displacing said at least one set of end turn portions by the electromagnetic interaction between said induction coil means and the magnetically coupled end turn regions.

3,407,483
PROCESS FOR ACHIEVING DESIRED POSITIONS OF ELECTRICAL COILS RELATIVE TO A MAGNETIC CORE
Richard D. Gibbs, Malta, Ill., assignor to General Electric Company, a corporation of New York
Filed July 28, 1966, Ser. No. 568,670
9 Claims. (Cl. 29—596)

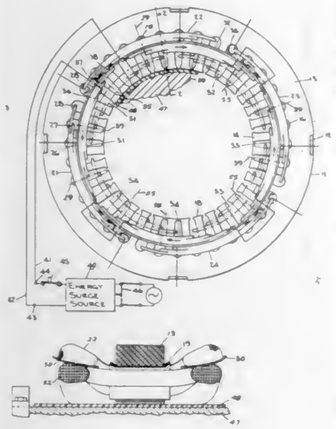


1. A process for achieving desired positions of first and second electrical windings carried in open ended slots of a magnetic stator core which terminate at a pair of core end faces radially outward from a bore, the process comprising the steps of: arranging the first electrical winding, including a plurality of coils wound of conductor turns, in inductive coupled relationship with winding means disposed in the bore, the plurality of coils having side portions accommodated in slots of the stator core and end portions respectively projecting beyond the end faces; applying at least one surge of electrical energy to the winding means as the coils of the first winding are short circuited to induce current flow in said coils and produce forces acting thereon for causing movement of the coil end turn portions away from the winding means; removing the winding means from the bore and disposing coil side portions of a second winding in slots of the core, with coil end turn portions of the second winding being located radially beneath the end turn portions of the first winding end turn portions; and applying at least one surge of electrical energy to the first winding to produce forces acting on the end turn portions thereof for moving the end turn portions in the direction of the bore and into the desired position relative to the core.

3,407,484
METHOD OF FORCING BACK ELECTRICAL COILS CARRIED BY SLOTTED STRUCTURE
James B. Duff and Louis W. Pieper, Fort Wayne, Ind., assignors to General Electric Company, a corporation of New York
Filed July 28, 1966, Ser. No. 568,671
7 Claims. (Cl. 29—596)

1. A method of forcing back a number of electrical coil means formed by a plurality of conductor turns,

with the coil means having side portions carried in slots of a magnetic core and end turn portions extending beyond the respective end faces of the core; the method comprising the steps of: disposing side portions of at least first and second coil means in slots of the core at adjacent locations of the core; generating at least one surge of electrical energy in said second coil means and



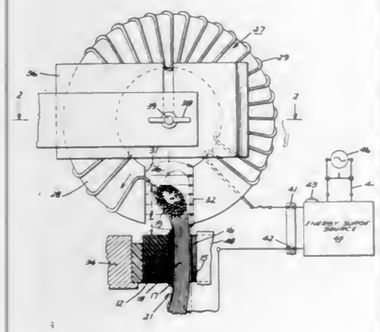
establishing forces acting upon that coil means to move it in the general direction of said first coil means; and forcing back said first coil means to another location relative to the core by the movement of the second coil means produced by the electrical surge generated therein and the impact of said second coil means with said first coil means.

3,407,485

METHOD FOR CONTROLLING THE DESIRED POSITION OF COIL END TURNS RELATIVE TO A TURN-ACCOMMODATING MEMBER

Doran D. Hershberger, Sycamore, Ill., and Richard D. Gibbs, Murfreesboro, Tenn., assignors to General Electric Company, a corporation of New York

Filed Aug. 17, 1967, Ser. No. 661,316
5 Claims. (Cl. 29—596)



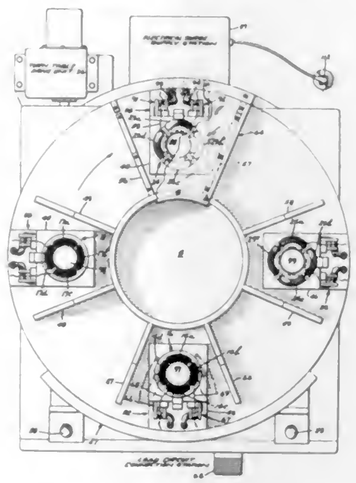
A process for accurately controlling the final position of coil end turn portions relative to the end face of a magnetic core where the portions are initially disposed in the vicinity of an air gap of an electromagnetic device. A surge of electrical energy is injected into the coil end turn portions and the device such that a transient surge of flux passes across the air gap and transient magneic fields surround the end turn portion. This, in turn, produces a high level of electromagnetic forces for a given energy surge to effect the desired accurate transfer and compaction of the end turn portions without use for end turn dies or the like.

3,407,486

METHOD FOR ALTERING THE CONFIGURATION OF ELECTRICAL COILS OF INDUCTIVE DEVICES

William E. Baldwin, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York

Original application Dec. 10, 1965, Ser. No. 513,028. Divided and this application Sept. 20, 1967, Ser. No. 669,156
6 Claims. (Cl. 29—596)



A method for effecting electrical coil transforming operations in which the coil and its magnetic core member are arranged in a load circuit having electrical terminals at a first or load circuit connection station, and then are transported into a second or an enclosed electrical surge supply station where an electrical connection is made with the load circuit through its electrical terminals to an electrical energy surge supply circuit for injecting an electrical energy surge into the coil to effect the desired coil transformation. At the first station another coil and its magnetic core member are arranged in another load circuit for subsequent transportation to the second station. This procedure is efficient and economical, capable of safe utilization in the mass production manufacture of inductive devices, for example motors.

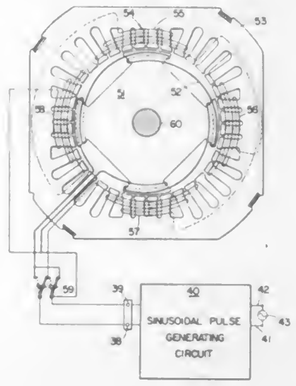
3,407,487

METHOD OF CHANGING RELATIVE POSITIONS OF MOVABLE CONDUCTORS OF AN ELECTRICAL INDUCTIVE DEVICE

Meritt L. Miller, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York

Original application July 28, 1966, Ser. No. 568,589. Divided and this application Oct. 5, 1967, Ser. No. 673,210
9 Claims. (Cl. 29—596)

In an electrical coil-transforming operation on a coil carried by a magnetic core member, the coil and magnetic member are placed in a load circuit for energization from an alternating current source. At least a portion of a sinusoidal pulse from the source is selectively supplied to the load circuit which in turn generates the pulse of preselected magnitude in the coil to produce a transient



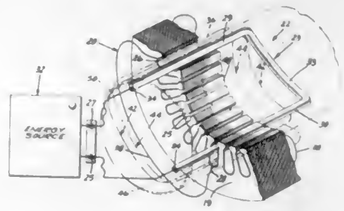
current flow and effect the desired coil-transforming operation. With this approach, no capacitor discharge circuitry is employed, simplifying and reducing the cost of the operation, and any potential high voltage hazard during the practice of the method is minimized.

3,407,488

METHODS FOR ALTERING THE CONFIGURATION OF ELECTRICALLY CONDUCTIVE TURNS OF INDUCTIVE DEVICES

John E. Larsen, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York

Original application July 28, 1966, Ser. No. 568,588. Divided and this application Oct. 12, 1967, Ser. No. 674,804
19 Claims. (Cl. 29—596)



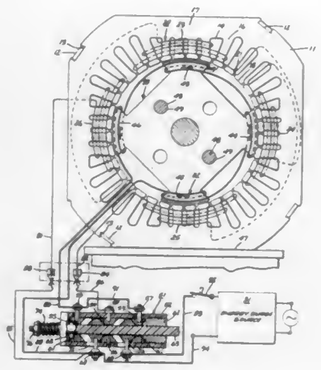
In altering the configurations of electrically conductive turns carried in the slots of a magnetic core, a rigid electrical conductor is supported in the slots next to the turns and connected across output terminals of an electrical surge source. A surge is injected from the source into the rigid conductor to generate an electrical energy surge in the turns, creating forces of sufficient magnitude to change the cross-section of a majority of the turns carried by the slot. The majority of the turns in the slot, altered into non-circular cross-section configurations, and their final relative turn positions in the slots are primarily determined by forces acting on the turns of approximately 10,000 pounds per square inch or more thereby producing compacted turns in the slot having a slot space factor in excess of 60%. Not only unusually high slot space factors are provided for the conductors, but in addition, the turns are wedged tightly within the slot so that they may be retained therein without need for auxiliary holding devices during subsequent stages of fabrication.

3,407,489

METHOD FOR OBTAINING DESIRED POSITIONS OF ELECTRICAL COILS RELATIVE TO MAGNETIC CORES

Richard D. Gibbs, Murfreesboro, Tenn., assignor to General Electric Company, a corporation of New York

Original application July 28, 1966, Ser. No. 568,605. Divided and this application Oct. 12, 1967, Ser. No. 674,805
10 Claims. (Cl. 29—596)



In obtaining a desired position of an electrical coil relative to a core, an inductive coupled relationship is established between the coil and a winding disposed near the coil by short-circuiting the coil and injecting a surge of electrical energy into the winding to induce an electrical energy surge in the coil. This transfers the coil to one position. Thereafter, the winding is short-circuited and a surge of electrical energy is injected directly into the coil to produce a transfer of the coil generally toward the winding into the desired position. By offsetting the centers of the winding and core axially during the practice of the method, the end turns on either side of the core may be furnished with different relative positions with respect to the associated core end face and axis.

In this way, during the first transfer minimal turn-to-turn voltage is experienced in the coil, and thereafter the tendency of the turns to oscillate beyond the desired position is reduced. In addition, an accurate position of the end turns is obtained without need for dies or the like.

3,407,490

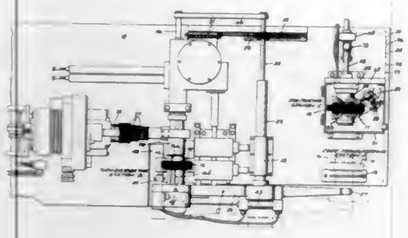
PROCESS FOR DEVELOPING ELECTRICAL COILS IN INDUCTIVE DEVICES

Richard D. Gibbs, Murfreesboro, Tenn., assignor to General Electric Company, a corporation of New York

Original application July 28, 1966, Ser. No. 568,593. Divided and this application Nov. 6, 1967, Ser. No. 680,774
7 Claims. (Cl. 29—596)

In developing electrical coils, a magnetic core, for instance a stator core, has electrical coils placed in slots

of the core at a turn-distributing station. The core having coils is then transported by a conveyor to a core-transferring station where it is removed from the conveyor and slid onto a holder disposed next to the conveyor. The holder, fitting into the bore of the core, carries the core to an adjacent coil-placement station where the coils are electrically coupled to an electrical energy surge source.

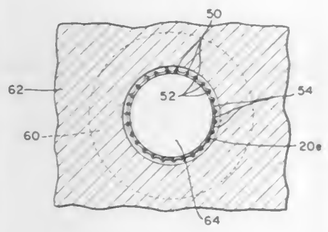


As angular movement is prevented between the core and holder, one or more energy surges are generated in the coils to effect the desired coil development. This development is accomplished economically and rapidly, and permits the use of existing winding equipment for placing the coils into the core slots without necessitating complete reconstruction of the equipment.

3,407,491
MOLDED COMMUTATOR

Carl L. Clevenger and Edward B. Hughel, Anderson, and Loren W. Miller, Daleville, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 23, 1965, Ser. No. 504,031
5 Claims. (Cl. 29—597)

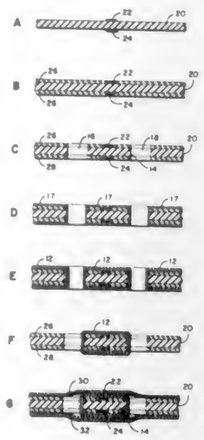


This invention relates to a method of manufacturing a commutator having a molded hub formed of insulating material. In performing the method an annular piece of copper material is provided which is extruded to form a commutator section and a riser section. During the extrusion the commutator section is provided with radially extending ribs defining slots which face the inside of the commutator section. After the extruded part is formed a plurality of slots are formed in the riser section by a sawing operation and these slots are aligned with the longitudinally extending slots. A quantity of insulating material is molded to the interior of the extruded part and is molded such that the insulating material fills the slots in the commutator section and the slots sawed in the riser section. After the insulating material has been molded to the extruded part the ribs are machined off to provide commutator and riser sections that are insulated from each other.

3,407,492
METHOD OF FABRICATING A TUBULAR THIN-FILM MEMORY DEVICE

William W. Davis, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Original application Jan. 30, 1963, Ser. No. 254,913, now Patent No. 3,276,000, dated Sept. 27, 1966. Divided and this application Feb. 23, 1966, Ser. No. 529,362
5 Claims. (Cl. 29—604)

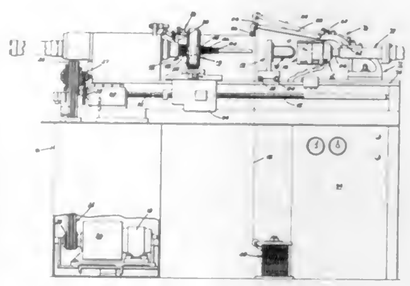


A method of forming a plurality of circumferential memory areas in a tubular magnetizable memory element deposited around the web formed between two spaced-apart apertures in a nonmagnetizable base member, each of said memory areas being defined by corresponding superposed portions of printed circuit conductors on opposing surfaces of said base member.

3,407,493
PROCESS OF DEVELOPING ELECTRICAL COILS IN INDUCTIVE DEVICES

John E. Larsen, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York

Original application July 28, 1966, Ser. No. 568,538. Divided and this application Nov. 6, 1967, Ser. No. 680,772
16 Claims. (Cl. 29—605)



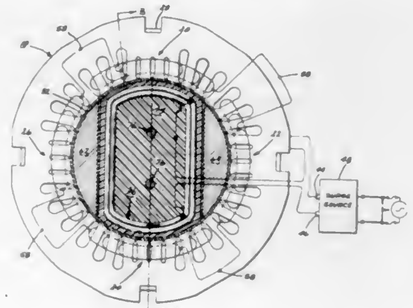
Developing electrical coils in a magnetic core of inductive devices by mounting the core in a core carrier at a

core-receiving station and transferring coils into slots of the core as it is supported by the carrier at a position adjacent a coil-winding station where the coils are formed from electrically conductive wire. While the core having the coils therein is still being supported by the same carrier, the coils are developed into the desired configurations by generating a surge of electrical energy in the coils. This procedure is efficient and economical to practice without the need for completely reconstructing existing winding equipment in order to achieved the benefits of the process.

3,407,494
METHODS FOR EFFECTING COIL ALTERATIONS IN INDUCTIVE DEVICES

Raymond G. Rushing, Mentor, Ohio, assignor to General Electric Company, a corporation of New York

Original application July 28, 1966, Ser. No. 568,594. Divided and this aplication Oct. 30, 1967, Ser. No. 678,795
14 Claims. (Cl. 29—606)



Methods for altering the configuration and position of an electrical winding with respect to a magnetic member. Either an electrical coil or a magnet carried in a fixture is supported adjacent to selected portions of the winding in the member for producing a magnetic field electromagnetically coupled with the selected portions, while a section of the fixture is supported between the coil or magnet and other portions of the winding for shielding the coil or magnet from the other winding portions. At least one electrical energy surge is generated in the winding to establish a transient magnetic field in the vicinity of the winding for changing the relative position of the winding with respect to the member.

3,407,495
PROCESS FOR MANUFACTURING CIRCUIT BREAKER ELEMENTS

Leon F. Montgomery, Fullerton, Calif., assignor to Qualtronics Corporation, Fullerton, Calif., a corporation of California

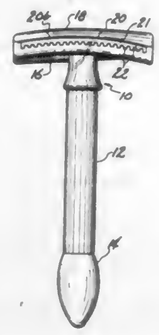
No Drawing. Continuation-in-part of application Ser. No. 371,754, June 1, 1964. This application May 27, 1966, Ser. No. 553,328
4 Claims. (Cl. 29—610)

3. A process for manufacturing a switching device that triggers from a low resistance to a high resistance in response to a predetermined level of current passing through the device comprising the steps of mixing oxidized metal particles together with a slow curing nonconductive binder cement, placing the mixture in a nonconductive mold with a pair of spaced conductors extending into the mixture, placing the mold in a strong electrostatic field during the initial setting of the binder cement and curing the mixture to form a solid two-terminal electrical device.

3,407,496
RAZOR HAVING A PLURALITY OF BLADE EDGES OF DIFFERENT CONTOURS

William R. Pomper, Highland Park, Ill. (140 S. Dearborn St., Chicago, Ill. 60603)

Filed June 22, 1966, Ser. No. 559,512
5 Claims. (Cl. 30—49)

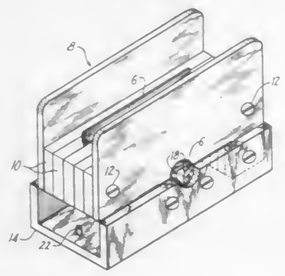


A razor having a plurality of unique cutting edges particularly adapted for use by women wherein one edge is disposed at a natural diagonal cutting angle while the other is arcuate.

3,407,497
COAXIAL CABLE STRIPPING DEVICE

Albert P. Ratay, 100 Rawlins Run Road, Pittsburgh, Pa. 15238

Filed Feb. 23, 1967, Ser. No. 617,927
2 Claims. (Cl. 30—91.2)



A simple hand device for stripping insulation from coaxial cable and preparing it for connection comprising a base piece having mounted therein three or more razor blades situated so as to cooperate with another piece having a pair of rollers mounted therein with their axes at right angles to the cutting edge of the razor blades, the said blades being adjusted at three different heights so that when wire is inserted therein the coaxial cable is cut properly for connection.

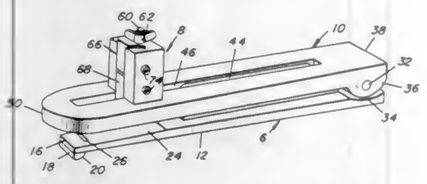
3,407,498
LINOLEUM SCRIBING AND CUTTING TOOL

William A. Young, 2221 17th St., Port Arthur, Tex. 77640

Filed Aug. 26, 1966, Ser. No. 575,417
3 Claims. (Cl. 30—293)

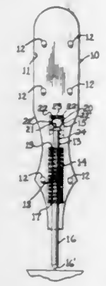
A tool for use when laying linoleum. It facilitates scribing and cutting seams. It comprises three component parts, namely, a base unit, a blade holder, and a complemental positioning, supporting and orientating arm for said blade holder. The arm is hinged in place and provided with a slot. The blade holder is removably seated atop the arm and equipped with a depending rib shiftably keyed in the

slot. The base unit embodies a bar provided with a longitudinal rib which lodges itself in the slot when the arm



is swung to assume a closed operating position, whereby to stabilize the blade holder carrying arm.

3,407,499
TAPPING TOOL
Gerald M. Rapaport, Chicago, Ill., assignor to American Toy and Furniture Co., Inc., Chicago, Ill., a corporation of Illinois
Filed June 6, 1966, Ser. No. 555,555
1 Claim. (Cl. 30—367)



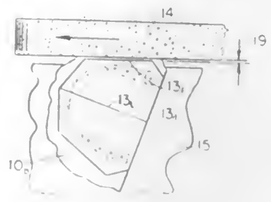
A tool punch having a punch-like member slidably associated within a hollow handle which provides therein spring and detent members normally resisting movement of the punch member in one direction within the handle until overcome by additional force of movement of the handle to cause a blow-like reaction onto the punch member, and with the spring member normally urging the punch-like member in an opposite direction outwardly of the handle.

3,407,500
TOOTH POSITIONER
Peter C. Kesling, Green Acres, La Porte, Ind. 46350
Filed May 6, 1966, Ser. No. 548,130
10 Claims. (Cl. 32—14)



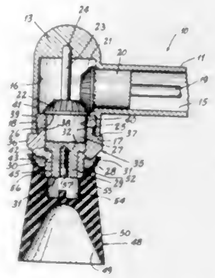
1. A tooth positioner comprising, a molded arch-shaped body of resilient material, said body being formed to fit within the mouth of a person between the upper and lower arches thereof and to apply straightening pressures to at least some of the teeth, said body including impressions of the teeth of at least one of the arches wherein at least some of the impressions are in reset position, said impressions having a bottom and opposite side walls, and a rigid coupling member supported by said body and adapted to mate with a rigid coupling member mounted on a tooth of the person when the positioner is positioned within the mouth of a person.

3,407,501
TEMPLATE FOR TRIMMING OF DENTAL CASTS
Lawrence G. Alexander, 1 Broad St., Lynn, Mass. 01902
Filed Nov. 17, 1965, Ser. No. 508,333
9 Claims. (Cl. 32—38)



In the trimming of art portions of a cast dental model used in orthodontics, a rigid movable template having a peripheral outline and geometry related to those desired for the model is employed as a guide for grinding, the rigid template being held fixedly in relation to the model by way of a thin resilient member engaged with the occlusal surfaces of the model.

3,407,502
TOOTH CLEANING APPARATUS
George E. Richmond, 828 Fernview, St. Louis, Mo. 63141
Filed Nov. 19, 1965, Ser. No. 508,785
7 Claims. (Cl. 32—59)

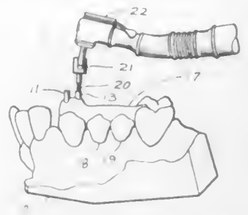


Tooth cleaning apparatus having interfitting relatively rotating parts for preventing pumice from entering the space containing moving parts in the angle member of a tooth polishing machine. A bearing cap nut is provided with an extension or sleeve which extends into a recess formed in the base of the polisher. The sleeve provides such added tortuous passageways as to eliminate entry of pumice into the working parts of the polishing machine.

3,407,503
APPARATUS FOR RESTORATIVE DENTISTRY
Frank H. Nealon, Lakewood, Ohio, assignor to The J. M. Ney Company, Bloomfield, Conn., a corporation of Connecticut
Original application Jan. 5, 1965, Ser. No. 423,484, now Patent No. 3,376,643, dated Apr. 9, 1968. Divided and this application Nov. 7, 1967, Ser. No. 681,235
2 Claims. (Cl. 32—67)

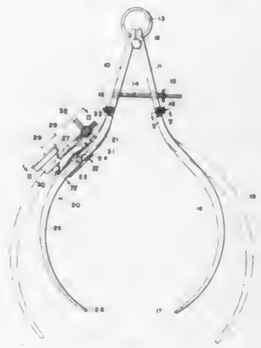
There is disclosed apparatus for drilling parallel holes in a patient's teeth for purposes of mounting a restorative device. The apparatus includes a negative impression for placement on the patient's teeth with tubular bushings

situated so as to be disposed over the desired location for the holes in the patient's teeth. A drill unit includes a shaft for attachment to a driving member, a cooperating member which is adapted to be driven by the shaft about an



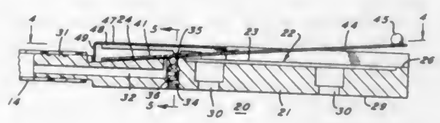
axis of rotation angularly disposed with respect to the rotational axis of the shaft and a drill which is receivably within the tubular bushings so as to be guided thereby in drilling holes therethrough into the patient's teeth.

3,407,504
YIELDING AND INDICATING CALIPER
Andrew E. Burch, 199 Ohio St. NW., Warren, Ohio 44485
Filed June 29, 1966, Ser. No. 561,591
1 Claim. (Cl. 33—148)



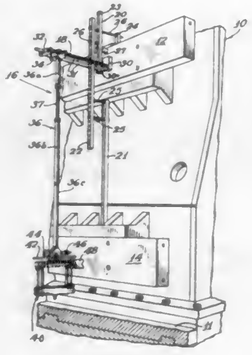
A caliper having a pair of tines biased outwardly and adjustable by means of a screw and nut in which one of the tines is hinged so that its lower end portion may be moved outwardly relative to the other tine. The movable portion of the hinged tine is spring biased and provided with a stop member. A dial type indicator is mounted on the fixed portion of the hinged tine in such manner that its indicating point may be moved along the hinged portion of the tine.

3,407,505
PNEUMATIC DIMENSION GAGES
Frank Parry, Feasterville, Pa., assignor to Moore Products Co., Spring House, Pa., a corporation of Pennsylvania
Filed June 25, 1965, Ser. No. 467,018
7 Claims. (Cl. 33—172)



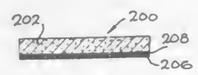
A pneumatic dimension gaging unit having a body with a leaf pivotally mounted with respect thereto, the leaf being positioned by the work to be gaged and having a flat portion extending from a fulcrum over and controlling a nozzle, the latter portion being spaced from the nozzle in a range such that fluid from the nozzle exerts a suction effect on the latter portion.

3,407,506
PRECISION PLUMB LEVEL DEVICE
Edward S. Karstens, 1228½ Sturtevant St., Davenport, Iowa 52804
Filed Sept. 30, 1966, Ser. No. 583,317
8 Claims. (Cl. 33—174)



A precision plumb level device comprising an upper support member, an elongated depending member secured to said upper support member by self-aligning bearing means, and a lower head assembly secured to said elongated depending member. The lower head assembly includes a support member, an elongated extension rod on the support member for abutting an upright surface, adjustable level means for indicating when the extension rod is level, indicator means for determining the position of the extension rod relative to the support member, and a graduated adjustment for moving the extension rod.

3,407,507
MEASURING INSTRUMENT
Reginald L. Brubaker, 1779 El Ray Road, San Pedro, Calif. 90732
Continuation-in-part of application Ser. No. 526,168, Feb. 9, 1966. This application Apr. 10, 1967, Ser. No. 641,406
1 Claim. (Cl. 33—179)

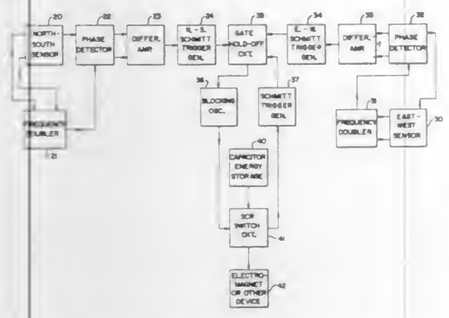


A measuring instrument having a coiled, resiliently flexible band to be placed in surrounding relation to a work member and bearing a scale for indicating circumferential distances about the work member.

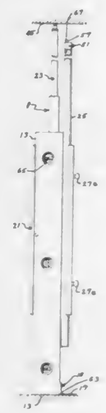
3,407,508
DOWNHOLE DETECTOR FOR DETERMINING MAGNETIC NORTH
Emanuel Baskir, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Aug. 13, 1965, Ser. No. 479,568
2 Claims. (Cl. 33—204)

A sensing device for detecting the direction of the magnetic field of the earth in a borehole. The device uses two sensors whose sensitive axes are disposed at right

angles and rotated as a unit about a vertical axis. The signal from one sensor is used to actuate a switching circuit to render the signal from the other sensor effective to actuate a control or indicating means when the sensitive axis of the other sensor is aligned with magnetic north.



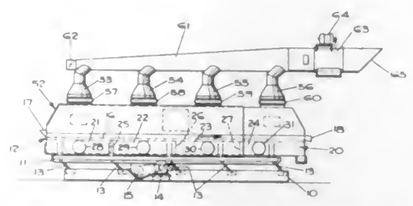
3,407,509
VERTICAL LOCATING TOOL
Jose S. Martinez, 2450 Hampton Ave., Redwood City, Calif. 94061
Filed Oct. 21, 1965, Ser. No. 499,795
2 Claims. (Cl. 33—207)



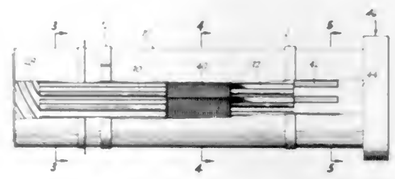
A tool to locate a point on a ceiling vertically above a fixed point on a floor employs a support which engages or has incorporated therein a level so that the support may be held vertical. Slidable in the support parallel thereto are a tension bar and a marker bar. The tension bar is spring-biased upward relative to the support and has a roller on the top so that the bar can be moved across the ceiling and holds the support in position once it is vertical. The marker bar has a marker aligned with a floor locator so that a mark is placed on the ceiling directly above the floor locator.

3,407,510
DRYING PARTICULATE MATERIAL
John M. Lewis and Carl J. Verhine, Upper Arlington, Ohio, assignors to Jeffrey Galion Manufacturing Company, a corporation of Ohio
Filed Apr. 10, 1967, Ser. No. 629,521
2 Claims. (Cl. 34—22)

Drying particulate material by a hot gaseous drying medium which heats the moisture and the material. The moisture is evaporated and carried off by the gaseous drying medium. The particulate material is then further dried by a gaseous drying medium that is cooler than the material, and the moisture is evaporated by the heat of the material and carried off by the gaseous drying medium.

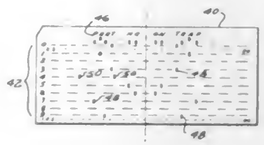


3,407,511
ROTARY DRYER FOR AGGREGATE
William T. Camm, Fort Thomas, Ky., assignor, by mesne assignments, to American Hoist & Derrick Company, St. Paul, Minn., a corporation of Delaware
Filed May 16, 1967, Ser. No. 638,889
10 Claims. (Cl. 34—109)



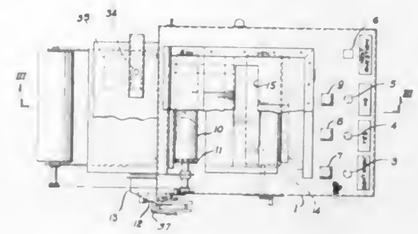
A cylindrical drum mounted for rotation about a slightly inclined horizontal axis, having on its interior surface a plurality of lifting flights extending nearly the full length of the drum, and having transverse cross braces extending between the flights and supporting a screen.

3,407,512
SELF-TEACHING DEVICE
Donald A. Roe, Northport, N.Y., assignor to Educational Development Laboratories, Inc., Huntington, N.Y., a corporation of New York
Filed Dec. 7, 1965, Ser. No. 512,150
3 Claims. (Cl. 35—8)



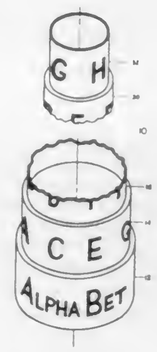
A method for instruction in the preparation of data processing cards in which the cards receive intelligence material that is predeterminedly arranged in such a manner that the original data which is transcribed, as both punches and symbols, in one half of the card is in the inverse order of that data transcribed in the other half of the card allowing for a rapid check of the transcription accuracy by registry or lack of registry of a code of punches when the card is folded about a central reference line.

3,407,513
DATA VIEWING MACHINE
Howard F. Conn, 239 McClellandtown Road, Uniontown, Pa. 15401
Filed Oct. 19, 1965, Ser. No. 497,998
1 Claim. (Cl. 35—9)



1. Apparatus for presenting programmed data for viewing on a permanent recorded medium, said programmed data medium being adapted to present a sequence of questions selected for the particular program presented, the sequence of questions on said programmed data medium including primary questions and secondary questions, response means actuated by a person viewing said questions for selectively entering responses thereto, recording means cooperative with said response means for making a record of the responses made to said questions, control means for actuating said programmed data medium to move the same to a visible viewing area to expose said questions, means cooperative with said response means for moving said data medium to selectively present additional data for viewing, said means being operative, upon the actuation of a predetermined one of said response means in response to one of said primary questions, to skip said secondary questions, and control means for said recording means for causing the same to record the response made to said primary question for each of said skipped secondary questions.

3,407,514
ALPHABET EDUCATIONAL TOY
Alpha Christian, Marlow, Okla., assignor of one-half to Earl L. Barr, Duncan, Okla.
Filed Apr. 4, 1966, Ser. No. 546,115
2 Claims. (Cl. 35—35)



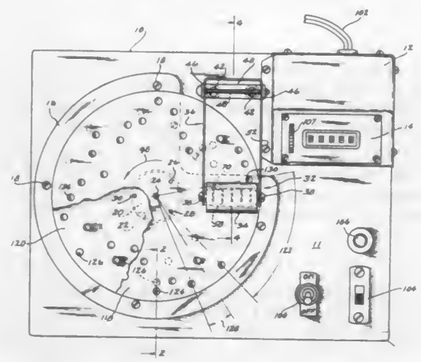
The invention embodies a set of cylindrical or conical blocks, which are adapted to be moved in a longitudinal and or rotary direction. Letters of the alphabet are placed on the surface of each block, so that by a combination of longitudinal and rotary movements simple words may be formed; thus imparting an educational aspect to a child's play and amusement. Means are provided to prevent separation of the blocks, which are so constructed so as to remain in the position desired.

3,407,515
METHOD OF AND MEANS FOR TEACHING PRONUNCIATION OF LANGUAGE
Isaac James Pitman, 9 Southampton Place, London, England
Filed Apr. 11, 1966, Ser. No. 541,507
Claims priority, application Great Britain, Apr. 14, 1965, 15,902/65
14 Claims. (Cl. 35—35)

there are four aspects of learning a foreign language. first of all, everyone wants to be able to listen to it with understanding and then be able to speak it and be understood. then, of course, they want to be able to read it and also to write it.

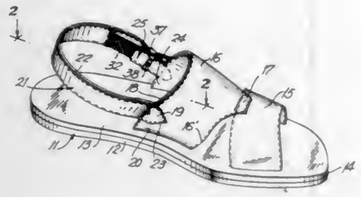
Pronunciation of written words and the proper stressing and inflection of the spoken word are taught by presenting the words in lines of writing having a mean axis, and using relatively more visually significant characters for stressed syllables or words and relatively less visually significant characters for unstressed words or syllables, and indicating proper inflection by variation in the position of individual characters relative to said mean axis.

3,407,516
TEST ANALYSER
Joseph T. Blaske, Jr., 1222 Jean St., Union Grove, Wis. 53182
Filed May 25, 1966, Ser. No. 552,890
7 Claims. (Cl. 35—48)



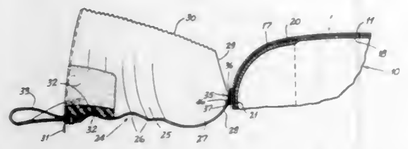
A device to record answers to questions by means of a fiber disk which has been perforated to represent what a person believes to be the correct answers. This disk is then superimposed upon a like "master" disk which has been provided with perforations known to be correctly positioned. The disks are mutually orientated on the device which has an electrical sensing means. As the disks are rotated, mutually-aligned perforations therein permit the sensing means to close the circuit that actuates a recording device which registers the number of correct answers.

3,407,517
SLING BACK SANDAL
Harold B. Gessner, 880 5th Ave., New York, N.Y. 10021
Filed July 27, 1967, Ser. No. 656,537
4 Claims. (Cl. 36—11.5)



This invention relates to the art of footwear and more particularly to a sling back sandal which incorporates a back strap that is self-adjustable to the foot of the wearer by reason of its resilient connection to the vamp of the shoe.

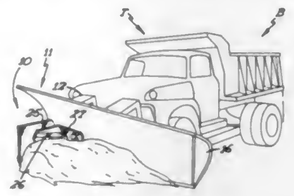
3,407,518
SHOE WITH TOE AND INSTEP GUARD ASSEMBLY
Craig MacQuaid and Otto A. Andre, St. Louis, Mo., assignors to Interco Incorporated, St. Louis, Mo., a corporation of Delaware
Filed Apr. 15, 1966, Ser. No. 542,890
2 Claims. (Cl. 36—72)



A protective shoe construction having a rigid toe guard, with a rigid instep guard of compound curvature overlying both the instep portion and the toe portion of the shoe with toothed lower side edges for digging into the shoe welt, and having a front wall adjacent the front wall of the toe guard. A permanent, strong connection for the instep guard to the toe guard while accommodating movement of the instep guard when the shoe is worn.

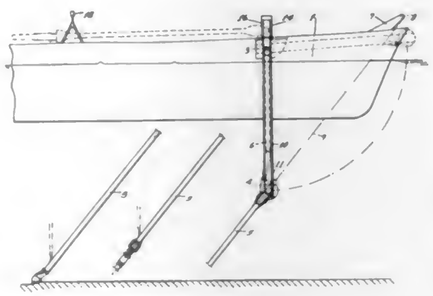
3,407,519
SNOW RETAINING GATE FOR FRONT END DIAGONAL PLOW
Adam D. Batko, Anoka, Minn., assignor to Village of Edina, Edina, Minn., a corporation of Minnesota
Filed Oct. 24, 1965, Ser. No. 504,826
6 Claims. (Cl. 37—42)

1. In combination with a diagonal material moving blade adapted to be mounted in transversely extending relation on a vehicle and extending diagonally of the direction of travel of the vehicle, the front face of said blade being of arcuate concave configuration and flaring from one end thereof to the discharge end thereof,
a gate,
means pivotally mounting said gate on said blade adjacent the discharge end thereof for movement about an axis extending substantially normal to the blade between a lowered operative position and an elevated inoperative position, said gate when in said operative position projecting forwardly from and substantially normal to said blade and being disposed in obstructing relation with respect to the discharge end of the blade,
said gate when in the inoperative position being disposed below the forwardly curved upper portion of said blade intermediate the ends thereof, said gate



having a lower edge disposed substantially coplanar with said blade when said gate is in the operative position,
and power means mounted on said blade and operative connected with said gate for power shifting the latter between said operative and inoperative positions.

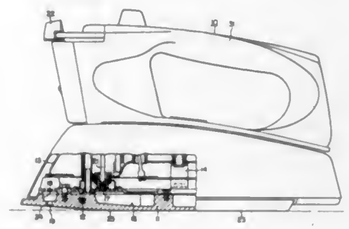
3,407,520
SUCTION DREDGER INSTALLATION, MORE PARTICULARLY A TOWED DREDGER
Jacobus Marinus Donkers, Amsterdam, Netherlands, assignor to Verschure & Co.'s, Scheepswerf en Machinefabriek N.V., Amsterdam, Netherlands, a Dutch Manufacturing company
Filed June 21, 1965, Ser. No. 465,280
Claims priority, application Netherlands, Sept. 3, 1964, 6410256
2 Claims. (Cl. 37—58)



A suction dredging assembly of U-shaped configuration pivotally connected to and straddling a vessel and carrying a sand pump to be swung into and out of the water between operative and inoperative positions. The pump has a suction opening and one arm of the U-shaped assembly provides a guide receiving one end of a suction line movable into registry and communication with the pump suction opening.

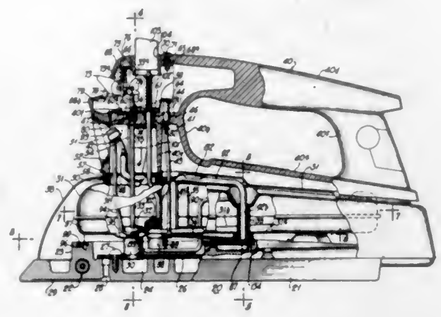
3,407,521
STEAM IRON
William A. English, Export, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 9, 1966, Ser. No. 556,383
5 Claims. (Cl. 38—77)

1. A steam iron comprising: a soleplate having a vaporization chamber and a heating element therein, a liquid reservoir, valve means for controlling emission of liquid from said reservoir into said chamber, means including a handle connected to said soleplate for manipulation thereof over a material to be pressed, said soleplate comprising at least a primary pressing surface and an auxiliary pressing surface, a plurality of steam emitting apertures provided in said surfaces and communicating with said chamber through a plurality of channels provided in said soleplate, some of the apertures in said



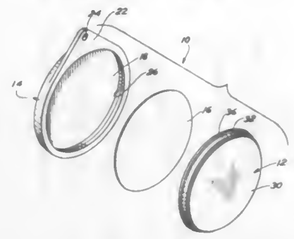
primary pressing surface being located adjacent said auxiliary surface.

3,407,522
PRESSING IRON
Ivar Jepson, South Duxbury, Mass., and Joseph L. Vieceli, La Grange, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Continuation of application Ser. No. 203,500, June 19, 1962. This application Jan. 17, 1966, Ser. No. 528,691
24 Claims. (Cl. 38—78)



1. In a steam iron, a sole plate, electric heating means for heating said sole plate, a first flash type steam generator in intimate heat exchange relationship with said sole plate for supplying steam to the ironing surface of said sole plate, a water reservoir overlying said first steam generator, means for selectively supplying water from said reservoir to said first steam generator for conversion into steam, a second flash type steam generator completely independent of said first steam generator disposed in said sole plate in intimate heat exchange relationship with said heating means, means for forcing water from said water reservoir into said second steam generator, a spray nozzle mounted adjacent the front of said iron, means for supplying steam from said second steam generator to said nozzle, and a water conduit connected between said reservoir and paid nozzle whereby steam supplied to said nozzle causes water to be aspirated from said reservoir and discharged as a spray from said nozzle.

3,407,523
IDENTIFICATION DEVICE
Emanuel A. Winston, 2925 W. Touhy Ave., Chicago, Ill. 60645
Filed Sept. 1, 1966, Ser. No. 576,672
3 Claims. (Cl. 40—1.5)



An identification tag consisting of a translucent plastic holder, a disc with ID information thereon visible through one side of the holder and a reflector which locks the disc to the holder in a waterproof manner.

3,407,524
COMPONENT MATCHING SYSTEM
Peter Schladermundt, Bronxville, and William H. Dennerlein, Bethpage, N.Y., assignors to Bliss & Laughlin Industries, Incorporated, Oak Brook, Ill., a corporation of Illinois
Filed Mar. 4, 1966, Ser. No. 531,946
1 Claim. (Cl. 40—2)

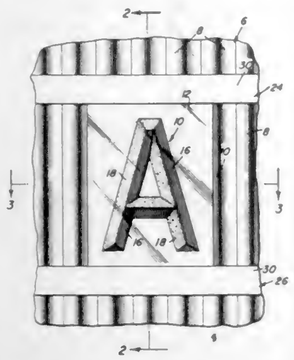


1. A display grouping of furniture hardware items or the like, said grouping including a plurality of display cards each having an item mounted on one face and having a distinctive contour variation in at least one of its marginal edges shaped to interfit with the edge contour variation of other display cards carrying compatible items, whereby compatible items of said grouping may be conveniently gathered by matching the interfitting marginal surfaces of the cards.

3,407,525
SIGN WITH CHANGEABLE CHARACTERS
James P. Connell, 10 N. 6th Ave., Yakima, Wash. 98902
Continuation of abandoned application Ser. No. 337,413, Jan. 13, 1964. This application Mar. 25, 1966, Ser. No. 552,654
1 Claim. (Cl. 40—140)

A sign including a corrugated backing panel and a plurality of rectangular, transparent, flat plates received within horizontally extending, groove-defining members, the rectangular, transparent plates having a character placed on the rear surface of each plate, the character comprising the two-tone prismatic formed by painting

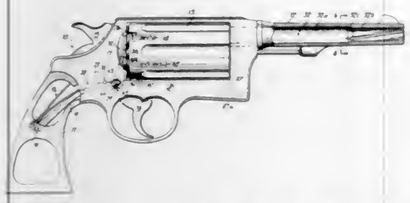
and displaying a plane character presenting a three-dimensional effect, the grooves of the upper mounting member being deeper than the grooves of the lower mounting member to facilitate insertion and removal of the plates.



3,407,526
REVOLVER-TYPE PISTOL FOR FIRING SHOTGUN CARTRIDGES

George H. Freed, Pine Brook, N.J., assignor of fifty percent to Frank C. Scerbo, Morristown, N.J.

Continuation-in-part of application Ser. No. 534,844, Mar. 16, 1966. This application Dec. 1, 1966, Ser. No. 607,341
13 Claims. (Cl. 42—59)



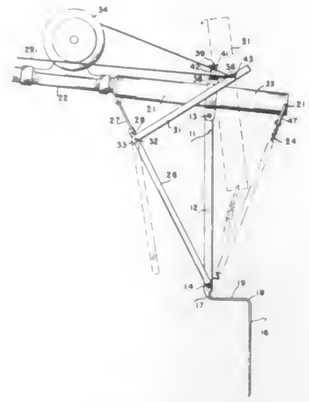
Single or double-action revolver-type pistol for firing shotgun cartridges containing all types of loads including multiple large ball loads (i.e., ball diameter approximates breech-bore diameter of barrel); pistol length barrel has plurality of immediately adjacent smooth-bored barrel bore portions of sequentially reduced diameter towards muzzle end, thereby defining one or preferably more abrupt chokes within the barrel; that short-length bore portion (i.e., length less than that of the load to be fired) which extends between the last such choke and the muzzle end of the barrel has rifling therein; smooth-bored barrel portion adjacent breech end extends major portion of barrel length; remaining smooth-bored barrel portions have respective lengths at least equal to breech end barrel bore diameter; button release of cylinder stop for manually rotating cylinder; and indicia on cylinder adjacent each cartridge receiving chamber distinguishing type of load therein from different type loads in other chambers.

3,407,527
FISH ROD HOLDER

Frank R. Hill, Arvada, Colo., assignor of one-third to Frank R. Hill, Sr., and one-third to Louis S. Ridgeway, San Diego, Calif.

Filed Mar. 22, 1966, Ser. No. 536,330
6 Claims. (Cl. 43—15)

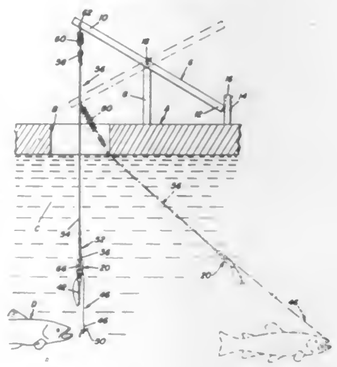
A fishing pole holder for pivotally supporting a fishing pole on an upright standard which incorporates an automatic trip release mechanism active to bring the pole into a raised position to hook a fish. The fish rod is maintained in a lowered position against a spring pressure by a trip mechanism inclusive of a locking leg and a main catch element. A trigger is engaged with the trip lever to hold the trip lever in elevated position until the fishing line is tensioned, as by a fish, to initiate movement of the trigger. The trip lever falls under gravitational influence and releases the main catch, and thereafter the spring moves the fishing pole to an elevated position. The support provides a bent portion to facilitate placement of the fish pole holder for use.



3,407,528
ICE FISHING REEL AND SUSPENSION MEANS THEREFOR

Henry A. Lenning, P.O. Box 247, Columbus, Mont. 59019

Filed Dec. 22, 1965, Ser. No. 515,591
2 Claims. (Cl. 43—17)

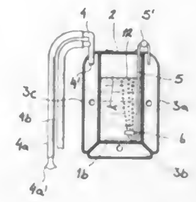


The upper end of a line is connected to a coil spring on the pull responsive tip-down end of the pivoted beam of a signalling tip-up. The lower end of the line is joined to a swivel on the upper end of a rod extending axially through a unique transparent body constituting (1) a lure and (2) a reel. A lower end of the body is reduced to define a smooth-surfaced neck terminating in a head. An upper end of a leader is coiled around the neck and is releasably held by a spring clip providing a retaining latch. When the leader is yanked by a caught fish the leader pays out and the above-named line descends, actuates the tip-up and alerts the fisherman.

3,407,529
APPARATUS FOR THE TRANSPORTATION OF LIVING FISH

Hans Kellner, Jainzendorfstrasse 2, Bad Ischl, Austria

Filed Dec. 6, 1965, Ser. No. 511,960
Claims priority, application Austria, Dec. 4, 1964, A 10,276/64
5 Claims. (Cl. 43—57)



A device for the transportation of living fish in which a rectangular tank has its bottom and lateral walls lined with inflatable air cushions at least one of which forms a pillow between the tank and the back of the individual carrying the device, the air cushions being connected with nozzles for passing air through the water in the tank while an inlet tube is connected with the air cushions and receives air from the mouth of the carrier and a bellows mounted about its torso.

3,407,530
SECTIONALLY FORMED TOY WITH IDENTIFYING INDICIA ON THE SECTIONS

Allan Grant, 808 Lockearn, Bel Air, Calif. 90049, and Leo Monahan, 14549 La Maida St., Sherman Oaks, Calif. 91403

Filed Feb. 18, 1966, Ser. No. 528,553
9 Claims. (Cl. 46—22)



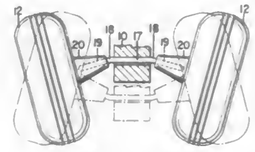
The invention is an educational toy comprising a group of parts which can be assembled and held together to form a complete identifiable figure. Each part has indicia on it so that when the parts are properly assembled into the figure the indicia will be arranged in proper sequence related to the figure and identifying word and thereby serving an educational purpose, the word being identifiable with the figure formed.

3,407,531
WOBBLE WHEELED TOY

Ralph W. Crawford, East Aurora, N.Y., assignor to Fisher-Price Toys, Inc., East Aurora, N.Y., a corporation of New York

Filed Mar. 1, 1965, Ser. No. 435,810
9 Claims. (Cl. 46—104)

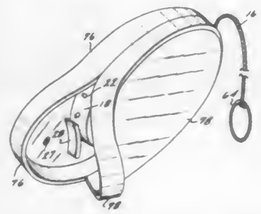
A pull toy provided with axles having bent extensions on which wheels are mounted to wobble relative to the toy body. The wobble wheels also turn the bent axles to raise and lower or rock the body of the toy. The wheels are relatively large and spaced from the body to provide an attractive action as the toy is rolled along and moving head, ears, and tail parts add to the entertainment.



3,407,532
CAP-FIRING DEVICE

John W. Ryan, Bel Air, Robert A. MacMeekin, Huntington Beach, and Berne E. Danielsen, Pacific Palisades, Calif., assignors to Mattel, Inc., a corporation of California

Filed Apr. 14, 1966, Ser. No. 542,515
15 Claims. (Cl. 46—196)

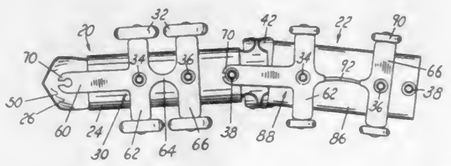


A resilient housing contains a cap firing mechanism having an actuator arranged to advance a strip of caps on an anvil and cock and release a hammer. A string is secured to the actuator and extends out of the housing. When the end of the string is held and the housing is thrown far enough to tension the string, the latter moves the actuator and causes firing of a cap on the anvil. A portion of the housing can be flexibly opened to permit replacing the supply of caps.

3,407,533
TOY TRAIN AND UNDERCARRIAGE ASSEMBLY THEREFOR

Larry Mahlon Hughes, Coloma, Mich., assignor to Colict Toy Manufacturing Company, Watervliet, Mich., a corporation of Michigan

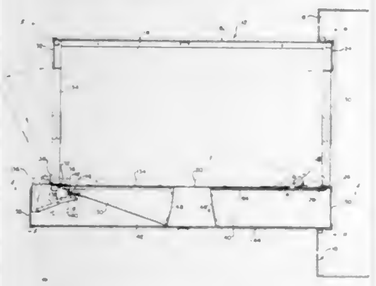
Filed Mar. 1, 1965, Ser. No. 436,056
7 Claims. (Cl. 46—217)



Leading and trailing vehicles made of tubular, flexible, synthetic plastic material of self sustaining strength, the tubular bodies of the vehicles being cut to simulate the shape of train vehicles, including holes and slits formed in the end of one tube forming a segment of the tube that can be bent up and twisted inside out to simulate the cab of a steam locomotive, a combined smoke stack and cowcatcher formed by a smaller tube projected through a hole in the body with the lower end of the smaller tube slit and unrolled and bent forwardly through

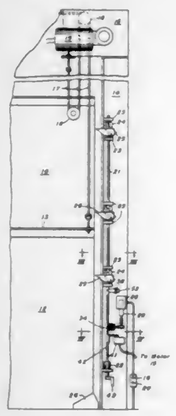
the front end of the body tube. Flat integral carriage members connected to the bottoms of each vehicle with integral spaced transverse axle portions connected by central link portions, and integral forwardly projecting coupling portions having holes releasably engageable with coupling pins secured to the rear ends of the tubular bodies; the link portions of the undercarriage of trailing vehicles being rendered flexible by longitudinally stretching the link portion of an undercarriage member of the same size as that on the leading vehicle.

3,407,534
PRESSURE BALANCED DOOR
Walter W. Bird, Williamsville, N.Y., assignor to Birdair Structures, Inc., Buffalo, N.Y.
Filed Mar. 1, 1967, Ser. No. 619,829
5 Claims. (Cl. 49—68)



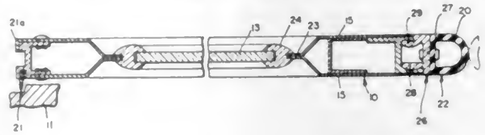
An outwardly swinging door in association with an internally pressurized building and coupled to a piston or vane subjected to the internal pressure normally to hold the door closed. The manner in which the door is coupled to the vane is such as to exert a non-uniform closing force which is greatest at and near the closed position of the door.

3,407,535
DOOR STOP MECHANISM
Everett Purkey, Crown Point, Ind., assignor to United States Steel Corporation, a corporation of Delaware
Filed Aug. 3, 1966, Ser. No. 569,924
5 Claims. (Cl. 49—280)



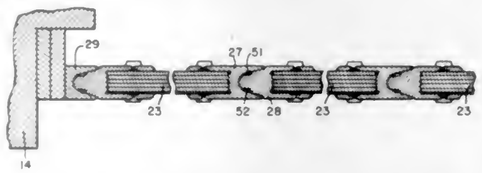
A stop mechanism for preventing a lift-type door from closing accidentally. Includes a series of dogs pivoted to a vertical shaft mounted on the door frame. Normally the shaft is positioned to place the dogs in the path of stop carried by the lower corner of the door, whereby the dogs permit the door to open but prevent it from closing. To permit the door to close, shaft turns 90° on a vertical axis and thus removes dogs from the path of the stop. Shaft is operated by same circuit as the motor which lowers door.

3,407,536
SLIDING DOOR
Wilford O. Nystrom, Palos Park, Ill., assignor to Morton Manufacturing Co., Chicago, Ill., a corporation of Illinois
Filed June 22, 1966, Ser. No. 559,630
2 Claims. (Cl. 49—482)



A subway car sliding door equipped with rigidifying and edge closing means wherein the leading side of a door has a longitudinally-extending recess equipped with an elongated arcuately flanged extrusion member carrying a resilient guard, the rear edge of the door having an L-shaped slot carrying a generally L-shaped resilient strip.

3,407,537
DOOR CLOSURE
Burton A. Urbanick, La Grange, Ill., assignor to Met-L-Wood Corporation, Chicago, Ill., a corporation of Illinois
Filed July 21, 1967, Ser. No. 655,068
9 Claims. (Cl. 49—483)



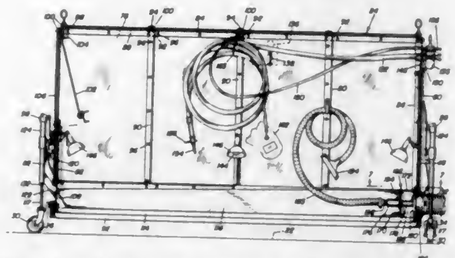
A closure seal is provided between a pair of sliding doors of a railroad car or the like by mating male and female members affixed to respective abutting ends of the doors. The female member has a tapered receiving aperture and the male member has a pair of shoulder abutments separated by a narrowed, stepped nose portion which serves to initially align the two members without binding of the doors, etc. Bottoming of the nose portion in the base of the female member provides individual hermetic seals between the two members at three spaced points, namely, at the nose and the two shoulder abutments.

3,407,538
SANDBLASTER FOR FLOORS
Anthony E. Codina, 2337 Cypress Ave., Lemon Grove, Calif. 92045, and George C. Punton, 10977 Horizon Hills, El Cajon, Calif. 92020
Filed Aug. 29, 1966, Ser. No. 575,616
5 Claims. (Cl. 51—8)

1. Sandblasting mechanism, comprising in combination:

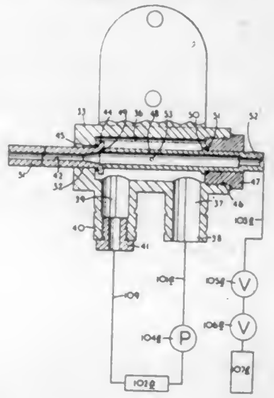
(A) walls, in combination with a surface to be cleaned, forming a closed housing, said housing having:

(1) a conduit of the type for conveying sand and air under pressure, extending through a wall of the housing, said conduit including a flexible portion in the housing and said flexible portion having an outlet end terminating in the housing;
(2) an opening forming an outlet for sand and air;
(3) a conduit for air for human breathing purposes extending through a wall of the housing;



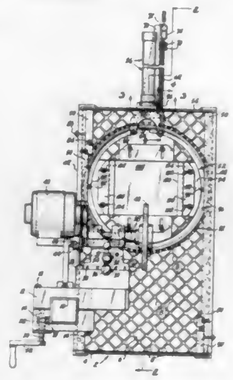
(B) a breathing mask connected with the last mentioned conduit;
(C) air sealing means between the walls and the surface to be cleaned;
(D) a nozzle connected with the outlet of the first mentioned conduit;
(E) means for forcing air and sand through the first mentioned conduit and the nozzle; and
(F) means for exhausting air and sand through said outlet of the housing.

3,407,539
ABRADING DEVICES
Stewart I. Ashworth, Crimond, Outhill, near Studley, England, assignor to Abrasive Developments Limited, Solihull, England, a British company
Continuation-in-part of application Ser. No. 340,984, Jan. 29, 1964. This application Mar. 16, 1966, Ser. No. 534,809
Claims priority, application Great Britain, Feb. 24, 1966, 8,084/66
3 Claims. (Cl. 51—11)



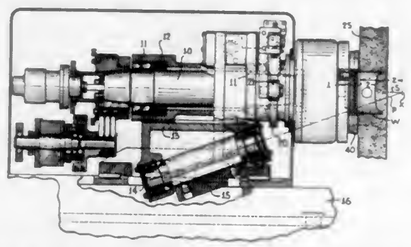
An abrading gun for delivering a blast of a mixture of abrasive, liquid and gas, which includes a feed chamber, a tube extending therethrough and defining a mixing chamber, at least one aperture in the tube opening into the feed chamber, a first conduit delivering a slurry of abrasive and liquid from a supply to the feed chamber, a second conduit returning the slurry from the feed chamber to the supply, a pump circulating the slurry through the conduits, and a further conduit delivering gas from a supply under pressure to one end of the tube.

3,407,540
SLIP GRINDING MACHINE
Jack E. Browder, 604 Superior Ave., Dayton, Ohio 45407
Filed Oct. 19, 1965, Ser. No. 497,683
15 Claims. (Cl. 51—92)



A slip grinder has a stationary bed having a flat upper surface and an adjustable but normally stationary grinder head thereover. A ring-shaped work moving member rests and slides on the flat surface and has a central opening in which a workpiece can be placed to rest freely and slidably directly on the flat bed surface. Dogs on the ring-shaped member engage the sides of the workpiece and driving and guiding means cause the ring-shaped member to reciprocate on the flat surface and slide the workpiece under the grinding head. The ring-shaped member and workpiece are rotated about a vertical axis, through a small angle at each end of a stroke.

3,407,541
PISTON GRINDING ATTACHMENT
Ralph E. Price and Harold E. Balsiger, Waynesboro, Pa., assignors to Landis Tool Company, Waynesboro, Pa.
Filed Sept. 14, 1965, Ser. No. 487,156
8 Claims. (Cl. 51—101)



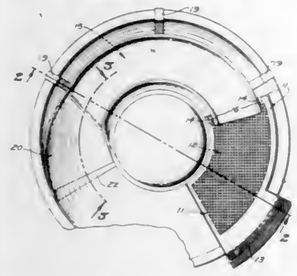
The disclosure of this application relates to the grinding of automotive pistons, particularly those having a tapered as well as an elliptical contour. Pistons having an elliptical contour are ground on a machine which is basically a cam grinder, in that, the work is supported on a cradle for oscillation toward and from the grinding wheel in accordance with the contour of a master cam. The axis of oscillation is parallel to the axis of rotation of the work drive spindle. The apparatus of this application differs from the conventional piston grinder, in that, the axis of oscillation intersects the axis of rotation of the

work drive spindle and workpiece and the oscillating movement of the workpiece occurs about the intersection of the two axes as well as about the axis of oscillation. It is this angular relation between the two axes which provides the tapered portion of the contour of the workpiece.

3,407,542
AUTOMATIC UNLOADER FOR FINISHING MILLS

Richard K. McKibben, La Canada, Calif., assignor to Southwestern Engineering Company, Los Angeles, Calif., a corporation of California

Filed June 29, 1964, Ser. No. 378,644
8 Claims. (Cl. 51—163)



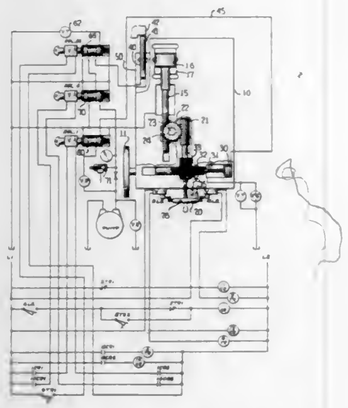
1. The combination with an annular finishing mill adapted to contain a charge of treating media and workpieces surrounded thereby, and means for vibrating said mill to cause the media and workpieces to progress in spiral path defining, essentially, a toroid, of an unloader, comprising:

(a) a separator screen covering a segment of said mill;
(b) a discharge chute leading from said screen;
(c) and a ramp extending arcuately from the bottom of said mill to said separator screen to carry said charge to said screen for discharge of said workpieces and return of said media to said mill.

3,407,543
PRECISION SIZE CONTROL BY A POSITIVE STOP

Kurt M. Gebel, Waynesboro, Pa., assignor to Landis Tool Company, Waynesboro, Pa.

Filed Sept. 29, 1965, Ser. No. 491,145
8 Claims. (Cl. 51—165)

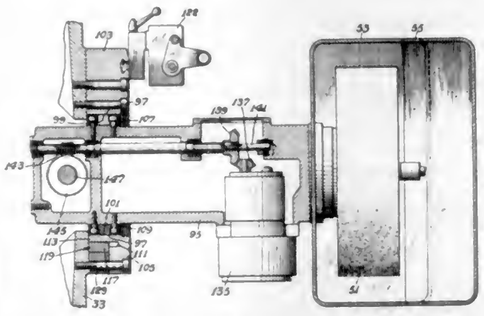


The disclosure of this application relates to a machine tool having a feed mechanism for advancing and retracting a tool support for a machining operation. A piston and cylinder are mounted for movement relative to one another by movement of said tool support at a predetermined point in the advance of said tool support. A valve is actuated for directing fluid under pressure to said cylinder to stop the movement of said tool support. While the tool support is held against movement, the operation of the feed mechanism continues and imposes a strain in the elements of said feed mechanism. A second valve connects said cylinder alternately with said first mentioned valve and an exhaust line having a restriction, so that while said cylinder is connected to said exhaust line, the strain in the feed mechanism will be released to further advance the tool support at a rate determined by said restriction to complete the grinding operation.

3,407,544
CLAMPING DEVICE

Karl Mägerle, 1 Im Vordern Erb, Kusnacht, Zurich, Switzerland

Filed Apr. 19, 1965, Ser. No. 449,142
Claims priority, application Switzerland, Apr. 25, 1964, 5,424/64
4 Claims. (Cl. 51—166)

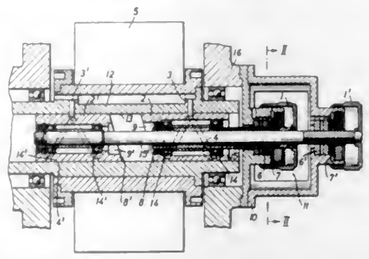


The clearance between the bearing faces of a fixed part and of a slidably engaged movable part of a machine tool is adjusted by supporting one of the bearing faces on the flange of a bar of L-shaped cross section, and by resiliently bending the flange toward the other bearing face by means of a wedge driven between the flange and a rigid backing element. The normally movable part may thereby be clamped fast to the fixed part.

3,407,545
ASSEMBLY FOR STATICALLY BALANCING ROTARY ARTICLES

Josef Imiolczyk, Merkstein-Rimburg, Germany, assignor to Schumag Schumacher Metallwerke GmbH, Aachen, Germany, a corporation of Germany

Filed Dec. 13, 1965, Ser. No. 513,199
Claims priority, application Germany, Dec. 11, 1964, Sch 36,237
16 Claims. (Cl. 51—169)

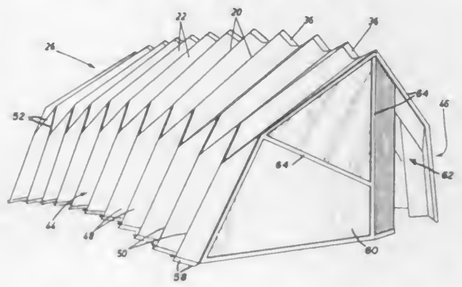


The invention is an assembly for balancing a rotary body supported by a hollow shaft in which two balancing bodies have exterior surfaces that match the interior surface of the shaft. The bodies have a non-uniform weight distribution relative to the axis of the shaft and are connected to the shaft to rotate when moved axially of the shaft. Means are mounted exteriorly of the shaft to move the weights axially to cause rotary motion of the balancing bodies.

3,407,546
FOLDABLE SHELTER STRUCTURE WITH ZIG-ZAG ROOF PROFILE

Herbert G. Yates, Scarborough, and Geoffrey Wilcox, Richmond Hill, Ontario, Canada, assignors to Format Industrial Corporation Ltd., Toronto, Ontario, Canada

Filed Feb. 23, 1965, Ser. No. 434,365
3 Claims. (Cl. 52—18)

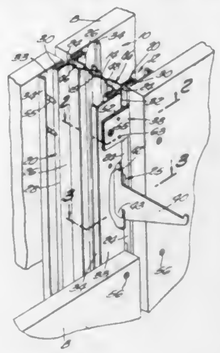


A foldable shelter structure with a roof made from sheets of semi-rigid material that have been pleated or accordionated into parallel panels along fold lines normal to the roof peak. The roof peak has a zig-zag profile by reason of the two slopes of the roof being joined such that the outwardly projecting fold lines of each slope meet, and the inwardly projecting fold lines of each slope meet. Pairs of adjacent panels are then given mutually opposed twists about a line roughly parallel to their line of intersection, thereby to strengthen the panels.

3,407,547
METALLIC WALL STUD STRUCTURE FOR SUPPORTING SHELF BRACKETS

Jack Doke, Los Angeles, and Jack P. Van Meter, Fullerton, Calif., assignors to Angeles Metal Trim Company, Los Angeles, Calif., a corporation of California

Filed July 20, 1966, Ser. No. 566,526
14 Claims. (Cl. 52—36)

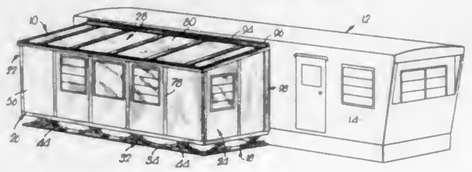


This invention involves a wall stud assembly using metal stud members of channeled construction in which two opposed metal stud members are provided at adjacent edge portions with vertical flanges having shallow vertical channels to receive elongated bars slotted to receive inner ends of shelf brackets, and adjustable clips of T-shape have tongues, or keys, to enter slots in said bars to position the bars longitudinally of the stud members, and the cross members or heads of the T's have flange portions to be fixed, as by screws or welding, to the vertical flanges of the stud members whereby to anchor said slotted bars in adjusted position on the studs and thus provide for adjusted mounting of the brackets carried thereby. The extremities of such tongues may extend rearwardly into elongated inner passages between the stud members, as may the inner ends of said brackets.

3,407,548
PORTABLE ROOM ATTACHMENT FOR MOBILE HOMES

Raymond Lloyd Russell, P.O. Box 866, Arlington, Tex. 76010

Continuation-in-part of application Ser. No. 300,448, Aug. 7, 1963. This application May 1, 1967, Ser. No. 635,177
10 Claims. (Cl. 52—58)

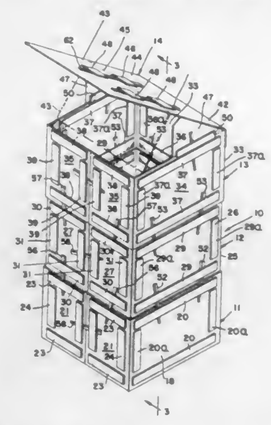


A collapsible room attachment for a mobile home including an enclosed structure mounted on an adjustable scissor base for leveling the attachment with respect to the mobile home. A beam network supports the floor of the attachment and has brackets extending outwardly for supporting the walls in circumscribing relationship to the floor. A box-like frame is provided on one of the walls for cooperation with a door opening in the mobile home to effect an essentially integral attachment.

3,407,549
COLLAPSIBLE ENCLOSURE FOR SUNNING AND THE LIKE

Samuel Friedberg, Chelsea Towers, Atlantic City, N.J.

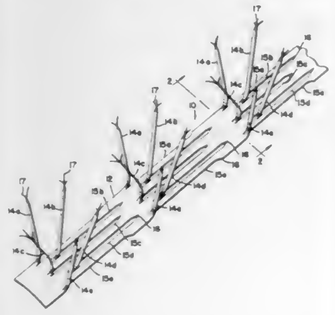
Filed Feb. 27, 1967, Ser. No. 618,778
7 Claims. (Cl. 52—90)



The disclosure herein is especially concerned with a collapsible enclosure for sunning and the like, wherein a lower section is adapted to rest on a ground surface

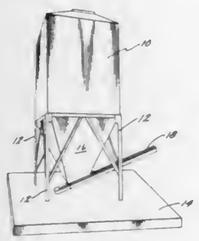
and includes a rear wall, and a pair of side walls hinged to and extending forwardly from opposite side edges of the rear wall, and a pair of front walls hingedly connected to the forward ends of the respective side walls; and wherein an upper section of similar construction is adapted to be removably secured on and extending upwardly from the lower section.

3,407,550
CONTINUOUS ONE-PIECE BIRD REPELLENT STRUCTURE
Robert Edward Shaw, 115 Merchant St., Johnstown, Pa. 15904; Mary Ellen Shaw, administratrix of said Robert Edward Shaw, deceased
Filed Jan. 23, 1967, Ser. No. 610,927
7 Claims. (Cl. 52—101)



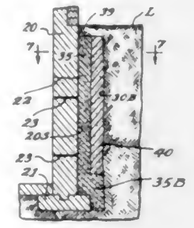
A bird repellent device manufactured from a single continuous sheet of metal having upstanding repellent members cut and bent from the sheet; the sheet being slightly arced whereby the elements cover an effective area substantially double the sheet width; the elements terminating at their upper ends in a multiplicity of sharp fingers and preferably including sharp side fingers.

3,407,551
REMOVABLE FEED STORAGE BIN CONSTRUCTION
John E. Hartman, Holland, Mich., assignor, by mesne assignments, to U.S. Industries, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 26, 1966, Ser. No. 581,966
6 Claims. (Cl. 52—143)



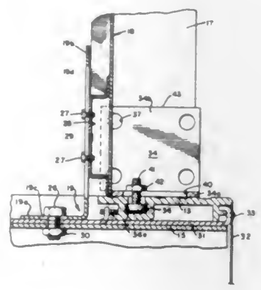
A feed storage bin mounted on vertically oriented legs having feet or anchor elements detachably secured to the bottom extremity thereof, with the anchor elements embedded in a slab of cement whose thickness is directly comparable to the height of the anchor elements themselves, such that the bin may be removable from the embedded anchors at a subsequent time.

3,407,552
BASEMENT WATERPROOFING METHOD AND ARRANGEMENT
Paul G. Cassidy, Glen Ellyn and Army Trail Roads, Addison, Ill. 60101
Continuation-in-part of application Ser. No. 372,336, June 3, 1964. This application Jan. 20, 1967, Ser. No. 632,119
9 Claims. (Cl. 52—169)



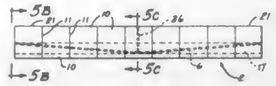
This invention relates to a basement waterproofing method and means especially adapted for use in connection with post backfill waterproofing basements of residences, commercial establishments, and the like which involves removing just enough earth from the wall surface in question to permit the application thereto of just that amount of dry granular water expansible material (such as bentonite) which will adequately cover the wall defect to provide permanent and immediate waterproofing, and which involves providing ways to immediately, or at some subsequent time, test or prove the waterproofing effectiveness of the job to the customer's satisfaction.

3,407,553
ELEVATOR DOOR FRAME CONSTRUCTION
Ernst Halpern, Plainview, N.Y., assignor to Williamsburg Steel Products Company, Brooklyn, N.Y., a corporation of New York
Filed May 4, 1966, Ser. No. 547,611
2 Claims. (Cl. 52—217)



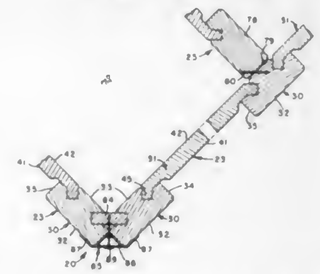
Means for locating and fixing the position of the vertical members of an elevator door frame of sheet metal construction comprises a bracket having a first arm associated with the vertical members of the door frame, and a second arm situated at a right angle to the first arm and fixed to the base upon which the door frame rests. Each of the arms has at least one opening for passing fastening members therethrough, the openings permitting adjustment in the position of the bracket.

3,407,554
PRESTRESSED, SEGMENTED CONCRETE BEAM
James M. Young, 3402 W. Wells St., Milwaukee, Wis. 53208
Filed June 3, 1965, Ser. No. 460,904
10 Claims. (Cl. 52—227)



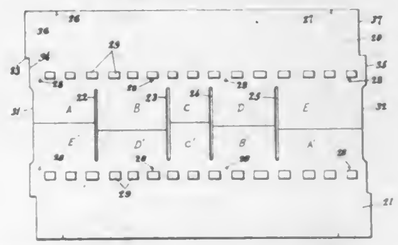
A prestressed concrete beam, constructed of a plurality of blocks or segments, has the tensile members so positioned as to utilize the prestressing forces effectively while preventing horizontal or vertical shearing or splitting at the ends of the beam.

3,407,555
INTERLOCKING COMPONENT SYSTEM OF CONSTRUCTION
Thomas F. Pugh, 928 Noe Ave., Eureka, Calif. 95501
Filed Jan. 17, 1966, Ser. No. 521,176
5 Claims. (Cl. 52—288)



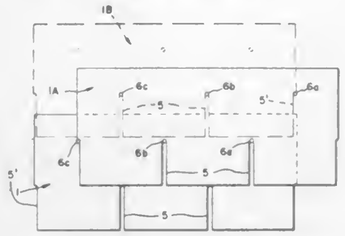
Apparatus for constructing a panel of alternating cap and board components joined together by angularly disposed tongue and groove construction having a space providing a capillary stop to prevent separation of the components and provide a watertight panel.

3,407,556
LEAK RESISTANT ROOF COVERING AND MULTITAB SHINGLE THEREFOR
Walton V. Leibrook, Wyoming, Cincinnati, Ohio, assignor, by mesne assignments, to Philip Carey Corporation, a corporation of Ohio
Filed July 26, 1966, Ser. No. 567,865
13 Claims. (Cl. 52—559)



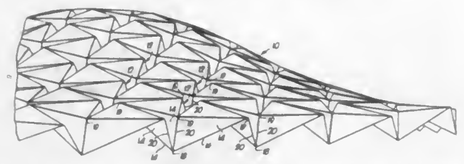
A granule faced asphalt saturated and coated composition multitab strip shingle wherein the several tabs are of different lengths and of different widths and providing a minimum sidelap of three inches which can be laid at random without exercise of particular skill to provide a roof covering having the tab dividing slots between adjacent courses out of alignment and also providing automatically for water tightness.

3,407,557
SELF-ALIGNING SHINGLE
Robert E. Shaw, 115 Merchant St., Johnston, Pa. 15904; Mary Ellen Shaw, administratrix of said Robert E. Shaw, deceased
Filed Sept. 14, 1966, Ser. No. 579,291
9 Claims. (Cl. 52—555)



A self-aligning shingle adapted to be laid with like shingles in overlapping courses, the shingle having a plurality of slots extending from one side edge thereof and defining a plurality of shingle simulating tabs, and at least a pair of projections, the projections of a shingle in an underlying course of shingles being adapted to at least temporarily support a shingle in an overlying course of like shingles by engagement with the closed ends of the tab defining slots.

3,407,558
SELF-SUPPORTING STRUCTURAL UNIT HAVING A SERIES OF REPETITIOUS GEOMETRICAL MODULES
Ronald D. Resch, Independence, Mo. (R.R. 3, Rising Road, Champaign, Ill. 61820)
Filed Jan. 24, 1966, Ser. No. 522,482
27 Claims. (Cl. 52—573)

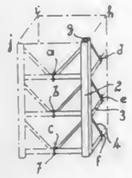


A structural system comprised of a number of interconnected points in space. The structural system includes a plurality of interconnected modules, each having two sets of legs, the legs of each set being joined at a common terminus. The physical relationships between the two sets of legs of each module being constant while the physical relationships between the legs of each set in a given module being variable to permit selective geometrical composition of the module to compose any of a number of different configurations in the structure.

3,407,559
CRANE TOWERS AND THE LIKE HOISTING APPARATUS
Pierre Durand, Faurax, Lyons, France, assignor to Richier (Societe Anonyme), Paris, France
Filed Oct. 24, 1965, Ser. No. 504,368
Claims priority, application France, Feb. 23, 1965, 45,658
3 Claims. (Cl. 52—637)

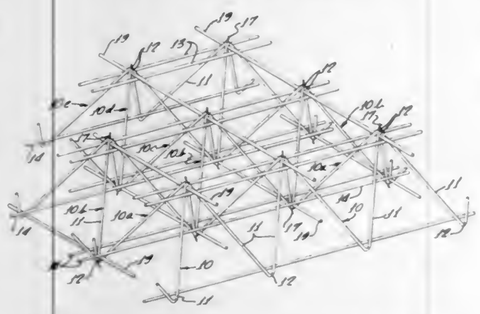
A tower crane has a polygonal mast made up of a plurality of detachably interconnected dihedral structures equal to the number of the sides of the mast and form-

ing the corners of the mast. Each dihedral extends along its associated sides no more than half the width of the



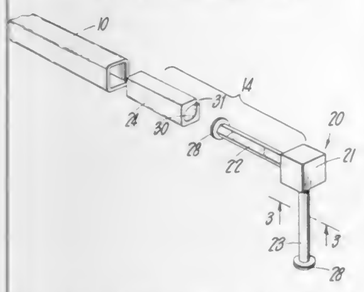
side, so that when the mast is disassembled and the parts stacked, they will have a minimum width and will thus be easily transportable and storable.

3,407,560
EXPANDED, TRUSSED STRUCTURAL ASSEMBLANCE AND METHOD OF ASSEMBLY
Hanns U. Baumann, 312 Emerald Bay, Laguna Beach, Calif. 92651
Filed Oct. 21, 1965, Ser. No. 499,315
32 Claims. (Cl. 52—645)



A large number of generally corresponding zigzag bars are associated in expanded-accordion relationship relative to each other, and binding and gripping means are provided at each pair of adjacent apexes of the zigzag bars. Such binding and gripping means form portions of, and/or are so related to, transverse bars and/or chords in such manner that locked joints are achieved at the apexes.

3,407,561
FRAMEWORKS
David Henry Peacock, London, England, assignor to Versatile Fittings (W.H.S.) Limited, London, England, a British company
Continuation-in-part of application Ser. No. 387,138, Aug. 3, 1964. This application Jan. 9, 1967, Ser. No. 608,040
12 Claims. (Cl. 52—656)



A device for locking together a hollow tube and an end fitting comprising on the end fitting a spigot which enters within the tube and a sleeve of resilient material within the tube and surrounding the spigot. The sleeve is a non-rotatable fit in the tube and the adjoining surfaces of the sleeve and spigot are so shaped that the spigot, the sleeve and the tube may be locked together by rotation of the spigot in the sleeve.

3,407,562
CAPACITOR ASSEMBLY METHOD
Nicola Gustino Di Nicola, Glens Falls, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 11, 1965, Ser. No. 454,851
3 Claims. (Cl. 53—24)



A capacitor roll pressing and wrapping apparatus incorporating clamping means to retain a plurality of stacked rolls in pressed condition while a wrapper is releasably secured about the stack. The wrapped stack is removed from the pressing apparatus, inserted in a casing, and the wrapper is released to permit expansion of the rolls in the casing.

3,407,563
PACKAGING METHOD AND APPARATUS
Julian A. Dieter and George E. Ott, Jr., Cincinnati, Ohio, and Robert J. Weichhand, Covington, Ky., assignors to R. A. Jones & Company, Inc., Covington, Ky., a corporation of Kentucky
Filed Aug. 17, 1964, Ser. No. 389,972
30 Claims. (Cl. 53—35)



19. The method of packing cans into a carrier made from a plastic material which is provided with a plurality of pockets adapted to receive and embracingly engage portions of the can side walls in the vicinity of the can chimes such that the cans may be transported in and suspended from the carrier, comprising,

continuously moving a carrier having a plurality of pockets into axial alignment with a plurality of continuously moving cans,

establishing a resilient supporting base beneath said continuously moving cans,

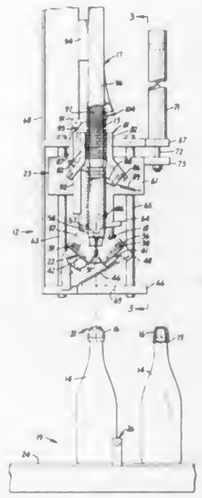
effecting pressure engagement between the continuously moving carrier and the resiliently supported, continuously moving cans, and

tilting the cans relative to the pockets so as to progressively introduce the continuously moving cans into the pockets while maintaining said pressure engagement so as to minimize the stretching of the pockets required to fully insert the ends of the cans into the pockets.

3,407,564
WIRE HOOD LOADING APPARATUS
Benjamin F. Randrup, 423 Roberta Ave., Pleasant Hill, Calif. 94523
Filed Feb. 21, 1966, Ser. No. 528,855
14 Claims. (Cl. 53—128)

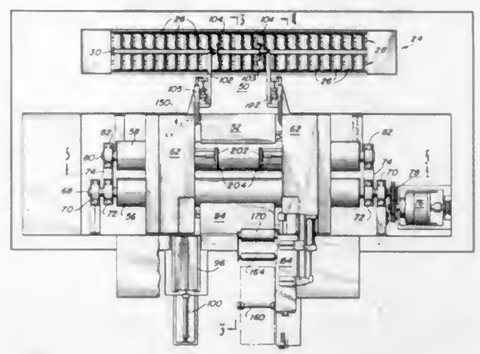
A wire hood loading apparatus comprising a chute formed to hold wire hoods in accurately oriented inverted position with the smaller more circular top portion of the hood protruding from the bottom chute, a pair of

jaw like grippers adapted to clamp on the top of the wire hood and positively withdrawn from the other wire hoods in the stack located in the chute, and carriage means formed for moving the gripper into position for obtaining a wire hood from the chute and placing it accurately in oriented position on a bottle closure placed for re-



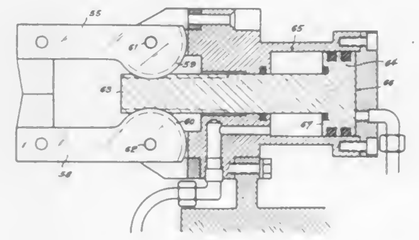
ceiving the wire hood. The apparatus is provided with various structures for assuring proper orientation of the hoods in the chute and maintaining uniform weight on the bottom hood as well as providing different types of grippers for handling different types of hoods and means for synchronizing the various movements to positively assure reliability.

3,407,565
ROLL WRAPPER
Ray S. Bender, David E. Lamon, Henry Paull, Jr., and Edward Fred Plach, Appleton, Wis., assignors to Appleton Machine Company
Filed Aug. 31, 1965, Ser. No. 484,021
6 Claims. (Cl. 53—214)



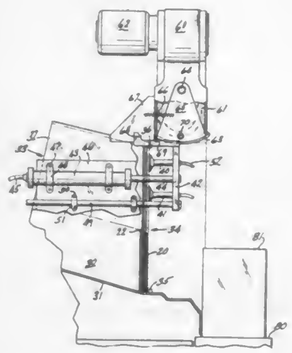
Apparatus for wrapping a cylindrical roll and for tucking and crimping the wrapper against the ends of the roll including an assembly disposed on either side of the roll operable to center the roll relative to said assembly, to properly position banders relative to the roll for applying reinforcing banding to the roll overlapping the ends thereof, and to tuck and crimp the wrapper and overlying banding against the end of the roll.

3,407,566
DEVICE FOR PACKING OBJECTS HAVING A CYLINDRICAL OR PRISMATIC SHAPE
Denise Simone Odette Blomet, née Soules, 2 Ave. de la Source a, Nogent-sur-Marne, and Gilbert Coindreau, La Germoniere a, Montamise, France
Filed Nov. 17, 1965, Ser. No. 508,299
Claims priority, application France, Nov. 19, 1964, 995,598
1 Claim. (Cl. 53—380)



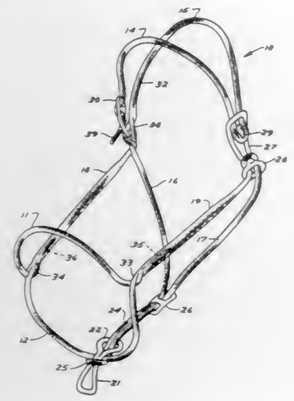
A device for closing the ends of a cylindrical wrapper, said device having fingers actuated by a piston and adapted to be positioned adjacent each end of the wrapper. The fingers form radial pleats in the wrapper, which pleats are overlapped to provide a seal.

3,407,567
BAG OPENING APPARATUS
Doyle R. Hudson, West Monroe, La., assignor, by mesne assignments, to Olinkraft, Inc., West Monroe, La., a corporation of Delaware
Filed Mar. 22, 1966, Ser. No. 536,469
5 Claims. (Cl. 53—385)



The disclosure relates to an improved machine for opening bags so that articles may be inserted therein, with the machine comprising a receptacle for holding bags in a closed, stacked relationship, suction means for successively ejecting and partially opening bags from said receptacle, and a blower for directing a stream of air into each partially opened, successively ejected bag, thereby completely opening said bag.

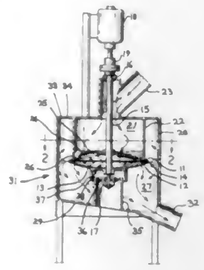
3,407,568
HOLLOW BRAIDED ANIMAL HALTER
Colonel Henry, Lawton, Iowa 51030
Filed Sept. 13, 1966, Ser. No. 579,112
4 Claims. (Cl. 54—24)



1. Halter means for livestock comprising a yoke, a nose loop portion, a head loop portion with upper and lower components and a pair of side pieces connecting said nose loop portion to said head loop portion, said halter means being formed from a pair of complementary lengths of hollow braided line including major and minor length segments, each segment having opposite respective terminal ends and each being adapted to receive and enclose another section of said line within itself, said nose loop portion being formed from a pair of sectors including an upper sector and a lower sector, one of said sectors being formed from said major segment, the other from said minor segment and with said minor segment being lockingly engaged with said major segment at points spaced apart substantially one-half of the composite peripheral length of said nose loop portion and having the free ends threreof inserted within the braid of said major segment and extending in oppositely disposed directions therein to form a pair of coaxial side pieces extending from said nose loop and terminating at first and second points along and within said major segment, said first point being spaced from a first terminal end of said major segment by a line length substantially equal to twice the length of the upper component of said head loop portion, said second point being spaced from the other terminal end of said major segment by a line length substantially equal to the composite length of the lower component of said head loop portion and twice the length of the yoke, one terminal end of said major segment extending freely from said head loop portion with the other terminal end area being lockingly engaged with said major segment at said first point and having its free end inserted within said major length segment line adjacent said first point, said yoke comprising an integral loop formed as extensions of the lower component of said head loop portion.

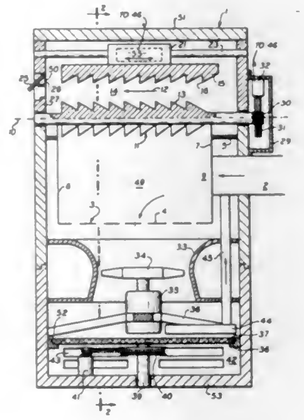
3,407,569
METHOD AND APPARATUS FOR SEPARATING COMPRESSIBLE AND INCOMPRESSIBLE FLUIDS IN A MIXTURE THEREOF
John E. Hendricks, Valdosta, Ga., assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Mar. 5, 1965, Ser. No. 437,470
20 Claims. (Cl. 55—52)

An improved apparatus for effecting separation of compressible and incompressible fluids in a supply fluid including a mixture thereof is provided. Means are provided to break foam by expelling the foam bearing liquid in a thin stream from a unitary rotating chamber through a restricted orifice formed adjacent a peripheral portion of the chamber remote from means for rotating the chamber. A scoop or impeller is provided for impelling fluid into the chamber. Restricted fluid outlet means is formed within an apex portion defined by a converging portion



of the wall means forming the chamber which comes together at an acute angle adjacent a peripheral portion of the chamber remote from the rotating means so that the fluid is pressurized in a relatively small area. The method and apparatus contemplated herein are especially useful in breaking the foam of black liquor filtrate from a pulp washer in a paper mill.

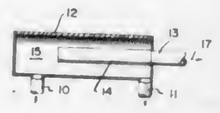
3,407,570
FILTERING FOREIGN MATTER FROM A COLLECTING AIRSTREAM
Werner Steinmetz, Kempten, Switzerland, assignor to Pneumafil Corporation, Charlotte, N.C., a corporation of Delaware
Filed Dec. 15, 1965, Ser. No. 513,946
Claims priority, application Switzerland, Dec. 29, 1964, 16,767/64
9 Claims. (Cl. 55—97)



Means for filtering and collecting foreign matter from a collecting air stream in which the material is filtered from the collecting air stream on a filter screen over which a saw tooth profiled stripper-collector member is moved with the edge of said member scraping the filtered material from the screen and depositing it on the saw tooth profiled surface of the member. The movement of the stripper-collector member feeds the collected material

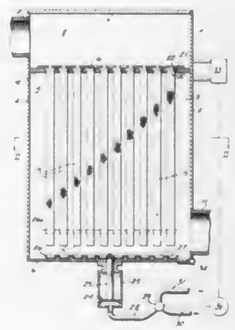
away from the scraper edge of the member over the saw tooth profiled surface of the member, and the material is then compressed between the member and another saw tooth profiled surface which is movably mounted to move with respect to the member so as to discharge the collected material.

3,407,571
HYDROGEN SEPARATION APPARATUS
Thomas K. Sherwood, Concord, Mass., assignor to Whirlpool Corporation, a corporation of Delaware
Filed June 15, 1966, Ser. No. 557,672
2 Claims. (Cl. 55—158)



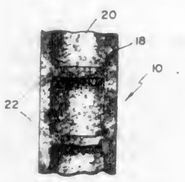
An apparatus for separating hydrogen from a mixture containing the same, the apparatus including a metal wall member of an absorption refrigeration system highly permeable to atomic hydrogen but substantially impermeable to molecular hydrogen and a metal layer on the surface of the wall member facing the hydrogen mixture and capable of dissociating molecular hydrogen into atomic hydrogen and of passing the dissociated hydrogen through the metal layer and thus the metal wall member.

3,407,572
BAG TYPE FILTER APPARATUS AND CLEANING MEANS THEREFOR
Derek Colin Tolley, Highley, England, assignor to National-Standard Company Limited, Kidderminster, Worcestershire, England, a British company
Filed Mar. 7, 1967, Ser. No. 630,779
Claims priority, application Great Britain, Mar. 7, 1966, 9,823/66
1 Claim. (Cl. 55—283)



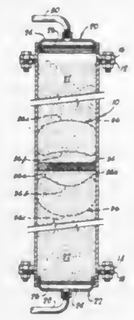
A gas filtering apparatus employing a filter unit of the kind comprising a tubular filtering wall composed of helically disposed flexible wires or other filaments providing between them filtering pores, at least some of the wires or filaments being bodily movable relative to each other to cause a variation in the diameter of the filtering wall with a corresponding variation in the length of the filtering wall, in which periodically a substantially axially directed force causes a variation in the diameter of the filtering wall.

3,407,573
CHROMATOGRAPHIC COLUMNS
Richard P. Crowley, Milton, Mass., assignor to Abcor, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed June 7, 1967, Ser. No. 644,176
9 Claims. (Cl. 55—386)



This invention describes an improved chromatographic column of the Golay type in which open cell polymeric foam material extends from the internal wall of a column inwardly towards the center to provide a chromatographic column with a central open flow passage for the gas flowing through and a roughened open cell internal wall. The cellular lining provides both greatly increased surface area for the separation of a sample stream and prevents laminar flow velocities of the sample and gas carrier streams to promote improved resolution.

3,407,574
CHROMATOGRAPHY APPARATUS
Gerald Perkins, Jr., Donald J. Haase, and John M. Crawford, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Apr. 8, 1966, Ser. No. 541,170
14 Claims. (Cl. 55—386)



A chromatographic column containing a gradient-correcting device comprising a porous member in the column transverse to the fluid flow, the pressure drop across the central region of the member being substantially less than that of outer regions thereof.

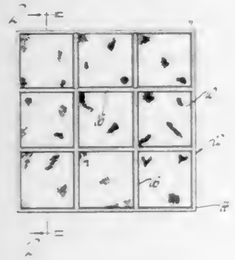
3,407,575
THROUGH-FLOW SPARK ARRESTER
John Krizman, 10549 Monogram Ave., Granada Hills, Calif. 91344
Continuation of application Ser. No. 516,627, Dec. 27, 1965. This application Dec. 8, 1967, Ser. No. 697,543
6 Claims. (Cl. 55—448)



A through-flow spark arrester having an outer shell with an enlarged center section which is axially between

inlet and outlet sections connected to it by conical portions. The inlet section has means to accelerate and whirl entering gases, and a tubular outlet extends through the center and outlet sections, providing a trap chamber between it and the outer shell.

3,407,576
SELF-SUPPORTING FILTER ELEMENT
Richard T. Staunton, Birmingham, Mich., assignor to G. S. Staunton & Company, Inc., Birmingham, Mich., a corporation of Michigan
Continuation of application Ser. No. 342,599, Feb. 5, 1964. This application June 14, 1966, Ser. No. 562,063
9 Claims. (Cl. 55—514)



1. A self-supporting filter element comprising:
a batt of flexible and nonself-supporting filter material;
a supporting border frame extending around the peripheral edge of the surface of said batt and formed of a thermoplastic material diffused into and filling the interstices in the peripheral portion of said batt in contact therewith, said portions of said batt extending substantially to the outer edges of said border frame and being compressed to prevent flow therethrough; and
an intermediate frame formed integrally with and extending between elements of said border frame and formed of the same material as said border frame, said intermediate frame diffusing into and filling the interstices in the portions of said batt in contact therewith, said last named portions of said batt being compressed to prevent flow therethrough;
the parts of said filter element defined by adjacent elements of said border frame and said intermediate frame and between adjacent elements of said intermediate frame and other elements of said intermediate frame being complete self-supporting filter elements such that parts of said self-supporting filter element outwardly of said adjacent elements of said border frame and said intermediate frame are removable to change the dimensions thereof.

3,407,577
UNDERWATER WEED CUTTER DRIVE MECHANISM
Chester G. Fiske, Minneapolis, Minn., assignor to Jarl Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Dec. 20, 1965, Ser. No. 514,856
4 Claims. (Cl. 56—8)

1. An improvement in underwater weed cutting apparatus which apparatus includes at least a generally vertical oscillating cutting blade member and at least a horizontal oscillating cutting blade member, said improvement including:
(a) a source of power provided to transmit an oscillating motion to the vertical blade member;
(b) a drive connector device for transmitting the oscillatory movement of the vertical blade to a horizontal blade including:
(1) a mounting plate arranged at the junction between a vertical and the horizontal blade member;
(2) a unitary motion transmitting member pivotally mounted for rotation on said mounting

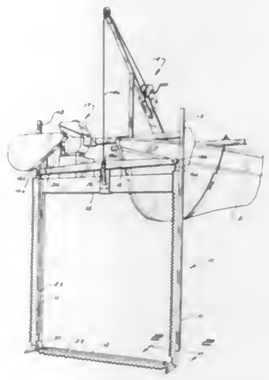
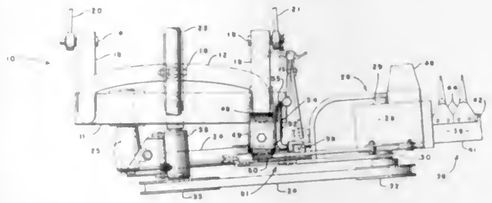


plate having one end thereof connected with said vertical member with the other end thereof connected to said horizontal member, both of said connections constituting a means for permitting only single planar movement of the blades whereby an oscillatory movement will be transmitted to said horizontal member while preventing bending of the connected blade members.

3,407,578
CUTTER BAR LATCH
Joseph C. Hurlburt, Leola, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Dec. 20, 1965, Ser. No. 514,869
1 Claim. (Cl. 56—25)

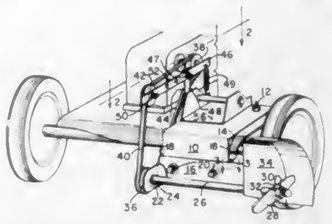


A latch for a cutter bar comprised of a generally C-shaped latch member, yieldably mounted on a mower base frame and operatively engageable with the cutter bar, adapted to confine the mower cutter bar against vertical swinging movement when the cutter bar is in a transport position.

3,407,579
LAWNMOWER EDGER ATTACHMENT
Earl L. Decker, 1001 Colorado Blvd., Denver, Colo. 80206
Filed July 23, 1965, Ser. No. 474,359
2 Claims. (Cl. 56—256)

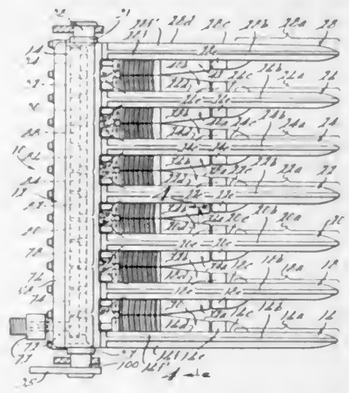
A lawn edger attachment for reel type power mowers with power take-off arrangement from the reel motor to the edger consisting of a belt and pulley drive and further

including a tension pulley mounted on a spring biased pivoted tension arm for tightening the belt drive. The



pivot point of the tension arm may be incrementally varied to provide an adjustment of the belt tension.

3,407,580
FRUIT PICKING APPARATUS
Ernest E. Murray, 6765 Meadowlake, Birmingham, Mich. 48010
Filed Mar. 23, 1966, Ser. No. 536,901
17 Claims. (Cl. 56—328)



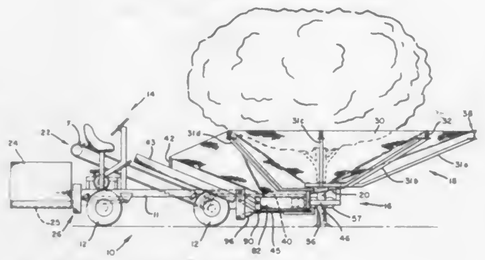
1. A fruit picker for picking fruit such as oranges or the like from a tree comprising: finger means defining a comb-like structure for combing through the branches of a tree, said finger means including gripping means for gripping the branch upon which the fruit is held and for engaging the fruit and for removing the fruit by a relative force between the branch and the fruit.

3,407,581
NUT HARVESTING MACHINES
Charles E. Wild, 700 N. East St., Arlington, Tex. 76010
Continuation of application Ser. No. 379,918, July 2, 1964. This application May 26, 1967, Ser. No. 641,711
8 Claims. (Cl. 56—328)



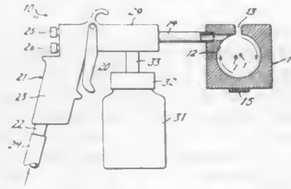
Following is disclosed a nut harvesting machine utilizing a multiplicity of impellers on a rotating drum. Stem portions of the impellers have one end secured to the drum and the other end supporting protuberant nut impact portions that have at least the exterior thereof formed of a pliable shock absorbing material. The stem portions are pivotally mounted to the drum for free and independent movement of the impellers.

3,407,582
FRUIT HARVESTER
Paul W. Poehlmann, 20 Oak Ave., San Anselmo, Calif. 94960
Filed Dec. 20, 1965, Ser. No. 514,932
14 Claims. (Cl. 56—329)



1. A fruit harvester comprising:
a frame member,
a pair of arms at the forward end of said frame pivotably mounted on said frame to pivot back and forth between an active position directed forwardly of said frame wherein they are conditioned to embrace the trunk of a tree, and a retracted position wherein they are directed away from said forward end of the frame,
flexible sheeting of inverted generally frusto-conical configuration secured at the lower edge to said arms,
leading support rods secured to the free ends of said pivotable arms to extend along an element of a cone,
a first trailing pivoted support rod mounted on each of said arms to extend along an element of said cone,
means on the end of said support rods securing the upper edge of said flexible sheeting thereto so that when said arms are in their active positions said sheeting is held under tension out of engagement with said support rods,
said leading support rods being substantially engageable with said pivoted support rods when said arms are moved to said retracted position,
and said sheeting being separable along said leading support rods when they are retracted.

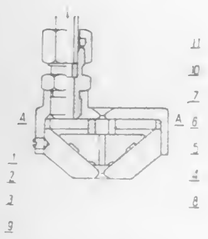
3,407,583
SPLICING OF TEXTILE STRANDS
Malcolm F. Irwin, Philadelphia, and Frederick J. E. Hampel, East Greenville, Pa., assignors to Technisservice Corporation, Lester, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 609,463, Jan. 16, 1967. This application June 12, 1967, Ser. No. 645,410
11 Claims. (Cl. 57—22)



Textile strands are spliced in an elongated chamber open at both ends and having a conduit for directing

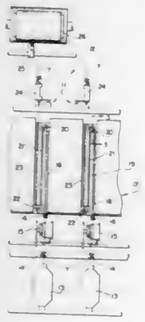
fluid, such as air, into the chamber to create a rotating air current and thereby swirl the component filaments into engagement with one another. The fluid is admitted to the conduit through an adjustable valve means.

3,407,584
APPARATUS FOR TWISTING SYNTHETIC YARN TO IMPART STRETCH AND SOFTNESS
Hubert Radecki, Traugutta 4, and Wladyslaw Gundlach, Kilinskiego 82/35, both of Lodz, Poland
Filed July 20, 1966, Ser. No. 566,535
Claims priority, application Poland, July 20, 1965, P 110,126
3 Claims. (Cl. 57—34)



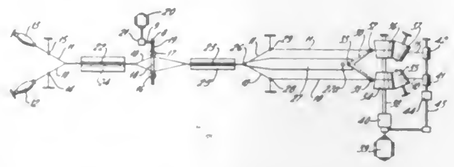
A method and apparatus for twisting synthetic yarn to impart stretch and softness, which includes subjecting yarn passing linearly through a chamber to the action of a whirling air stream. The apparatus consists of an enclosure having air passages of helical contour of downwardly diminishing radii. The passages open at the bottom to a chamber through which yarn is drawn axially of the passage convolutions.

3,407,585
YARN HANDLING APPARATUS
Richard G. Hilbert, Smithfield, R.I., assignor to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed June 7, 1967, Ser. No. 644,312
17 Claims. (Cl. 57—34)



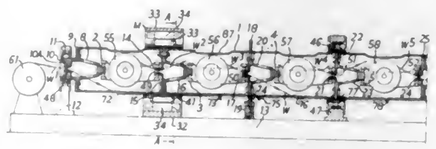
False twist apparatus in which twist migrates along an advancing strand of yarn passing around one or more guides. A thin layer of air between a groove surface of the guide and the strand of yarn reduces frictional contact sufficiently so that the twist may pass freely around the guide. In one embodiment a plurality of guides direct the strand in a circuitous path across a plate-type heater and in another embodiment the yarn follows a helical guide groove in a drum-type heater.

3,407,586
APPARATUS FOR CRIMPING YARN
Reginald Selby Gilchrist, Welwyn Garden City, and Dennis Albert Edward Mattingly, London, England, assignors to The Klinger Manufacturing Company Limited, London, England, a British company
Original application Dec. 15, 1964, Ser. No. 418,480, now Patent No. 3,355,872, dated Dec. 5, 1967. Divided and this application Oct. 2, 1967, Ser. No. 672,369
6 Claims. (Cl. 57—34)



A plurality of yarns are simultaneously crimped by intermittently moving them through separating means spaced apart in the direction of yarn travel, at least one of which is rotating, whereby the yarns are oppositely twisted at locations before and after the central area of the separating means. Heat may be applied to the yarns either differentially or non-differentially at the twisting locations.

3,407,587
DRIVING AND BRAKING OF TUBULAR STRANDERS
William D. Mitchell, Rochester, Kent, England, assignor to Winget Limited, Rochester, Kent, England
Filed May 17, 1966, Ser. No. 550,695
15 Claims. (Cl. 57—58.32)

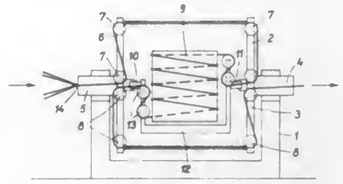


A strander with a rotatable tubular rotor has turnable pay-off reels and guides to lead the wires to a forming point outside the rotor at one end thereof. The reels are prevented from rotating relative to the ground. The rotor is driven by one or more electric motors which surround the rotor.

3,407,588
ROPING METHOD AND APPARATUS
Wolfgang Feese, Berlin, Germany, assignor to Siemens Aktiengesellschaft, Berlin, Germany, a corporation of Germany
Filed Jan. 23, 1967, Ser. No. 611,089
Claims priority, application Germany, Jan. 31, 1966, S 101,716
12 Claims. (Cl. 57—58.84)

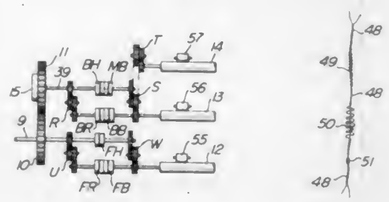
A roping method and apparatus wherein strands are pulled from supply reels which have stationary axes, respectively, and are delivered by a first twisting means to a storing means while the first twisting means imparts a double twist to the strands, a given section of the cable being temporarily stored at the storing means with this stored section having a uniform twist and twist length, and wherein a second twisting means withdraws the cable from the storing means subsequent to the storing of a

given section of cable therein, this second twisting means imparting a second double twist to the cable so that with



the method and apparatus of the invention a cable with a fourfold twist is provided.

3,407,589
APPARATUS FOR MANUFACTURING VARIOUS FANCY TWISTED YARNS
Osamu Hasegawa, Konan-shi, Japan, assignor to Kyoritsu Machinery Works Ltd., Nagoya, Japan, a corporation of Japan
Filed Dec. 16, 1966, Ser. No. 602,272
Claims priority, application Japan, Sept. 14, 1966, 41/60,926
4 Claims. (Cl. 57—91)

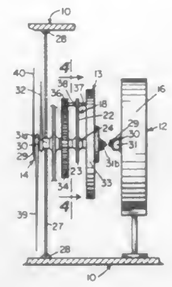


An apparatus for manufacturing various fancy twisted yarns by changing rotating speeds of a plurality of yarn feed rollers during operation. A control means for energizing or deenergizing electromagnetic clutches and electromagnetic brakes disposed in power transmission paths for driving said yarn feed rollers is provided. A fancy pattern carrier provided with differential drive is associated with said control means.

3,407,590
METHOD OF THERMALLY PROCESSING THERMOPLASTIC YARNS
Herbert J. Woods, Greensboro, N.C., assignor to Burlington Industries Incorporated, Greensboro, N.C., a corporation of Delaware
No Drawing. Filed Apr. 21, 1966, Ser. No. 545,523
9 Claims. (Cl. 57—157)

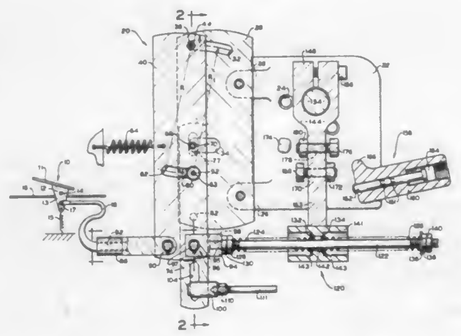
There is provided a method for processing a yarn to obtain a molecularly reoriented structure. The yarn is spun from suitable staple fibers of which fibers at least some are thermoplastic. The spun yarn is conglutinated by impregnating with an adhesive which is a solution of polyethylene oxide dissolved in perchloroethylene and subsequently drying the yarn. The conglutinated spun yarn temporarily holds the stapled fibers in a relative position in a geometric structure of the spun yarn so that stresses may be introduced into the yarn by twisting while the staple fibers are held in their relative position in their geometric structure. After the stresses have been applied, the adhesive is dissolved from the twisted yarn to create strains therein.

3,407,591
TIME CHANGE MECHANISM FOR CLOCKS
Clark E. McMahill, 209 Abbot St., Richland, Wash. 99352
Filed July 24, 1967, Ser. No. 655,414
5 Claims. (Cl. 58—85.5)



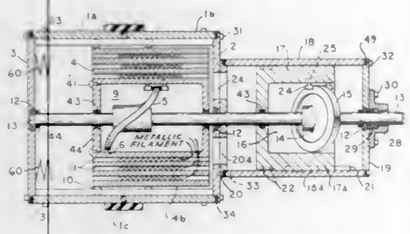
An automatic setting mechanism to indicate change between standard and daylight saving times in the normal clock by moving a lever between two possible predetermined limiting positions. The hour hand drive shaft is split with first gearing provided on the adjacent split edges and second satellite pinion type gearing communicating between the first gearing members to form a motion train. A lever communicating externally of the clock case pivotably communicates with the second gearing and is moveable between two terminal points to move the hour hand one hour or thirty degrees of angular distance.

3,407,592
SHIFT LINKAGE ASSEMBLY FOR A WHEELED VEHICLE
Gene H. Tabbert, Toledo, Ohio, assignor to Dana Corporation, Toledo, Ohio, a corporation of Virginia
Filed Oct. 14, 1966, Ser. No. 586,864
11 Claims. (Cl. 60—19)



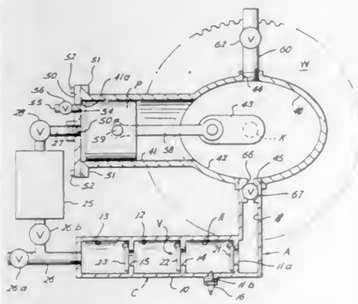
A shift linkage assembly including a pair of pivoting links, the first of which is operative to drivingly move a swash plate of a hydrostatic transmission to place it in forward or reverse drive and the second of which is operative to increase the throttle setting of the engine driving the hydrostatic transmission. The arrangement is such that the second link is actuated into a throttle advancing position by movement of the first link into either forward or reverse drive directions. A resilient overriding means is included to insure that anti-stall characteristics are imparted to the hydrostatic transmission.

3,407,593
RECIPROCATING STIRLING CYCLE ENGINE WITH DUAL WAVE CAM DRIVE
Donald A. Kelly, 58-06 69th Place, Maspeth, N.Y. 11378
Filed Apr. 10, 1967, Ser. No. 634,409
14 Claims. (Cl. 60—24)



A Stirling cycle engine having two wave cams on a common shaft and two coaxial pistons connected to said wave cams which reciprocate within two cylinders; said wave cam having a cam track slidably associated with said pistons; said pistons being one-half stroke out of phase.

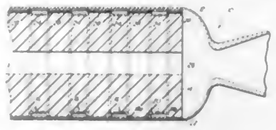
3,407,594
GAS COMPRESSOR APPARATUS
William P. McComb, Box 1291, Conroe, Tex. 77301; Austin B. McComb, administrator of said William P. McComb, deceased
Continuation-in-part of application Ser. No. 457,617, May 21, 1965. This application Dec. 5, 1966, Ser. No. 607,111
1 Claim. (Cl. 60—39.6)



An inert gas compressor comprising a plurality of interconnected stages or chambers having one-way valves therebetween for controlling the flow of fluid therethrough in one direction and a terminal valve in the final chamber for closing off flow in such direction so that when a combustible charge is ignited successively in each of such chambers with the terminal valve closed, the pressure of such charge will be progressively increased in each succeeding chamber. Thereafter, the terminal valve may be opened to release the pressure from the chambers before a fresh combustible charge is introduced therein.

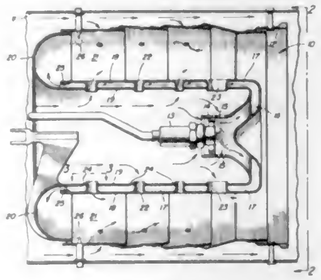
3,407,595
MEANS FOR STRESS RELIEVING CASE BONDED SOLID PROPELLANT GRAINS
John A. Peterson, Brigham City, Utah, assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Sept. 28, 1966, Ser. No. 582,580
3 Claims. (Cl. 60—39.47)

Means including a resilient member is disposed about a solid propellant grain which is bonded to the grain and to the motor casing. The resilient member has a portion disposed in spaced, parallel relation to the inner wall of



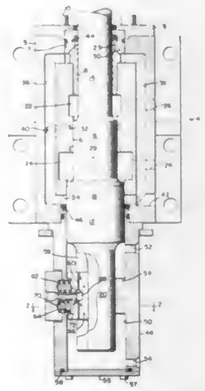
the casing whereby stresses in the grain due to expansion and contraction thereof are relieved.

3,407,596
PREVAPORIZING BURNER CAN
Curt J. Dasbach, West Palm Beach, and Arno G. Kalb, Lake Park, Fla., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Mar. 15, 1967, Ser. No. 624,121
4 Claims. (Cl. 60—39.71)



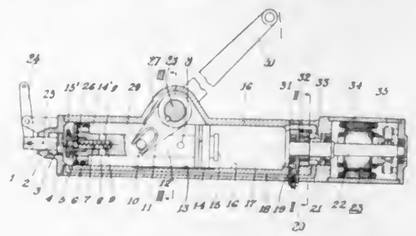
A prevaporizing burner can apparatus having an axially located annulus for distributing fuel in a vaporized state to the flame zone. For more efficient primary combustion, air from the main air-stream flow is premixed with the fuel through apertures in a fuel nozzle guide and is admitted to the flame zone through radial passages in the annulus. The passages also permit a further mixing of the fuel-air flow.

3,407,597
VIBRATOR ASSEMBLY
Allan E. Heinrich, Oconomowoc, Wis., assignor to Applied Power Industries, Inc., Menomonee Falls, Wis., a corporation of Wisconsin
Filed Sept. 6, 1966, Ser. No. 577,465
6 Claims. (Cl. 60—52)



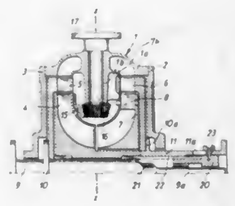
A device for reciprocating a member including first and second drive means connected to opposite sides of the member, the drive means being alternately actuated to apply an outwardly directed force to each end of the member, and fluid pressure means connected to each end of the member for applying a constant outwardly directed force to both ends thereof.

3,407,598
HYDRAULICALLY OPERATED OPENING AND CLOSING DEVICE FOR DOORS OR THE LIKE
Katutaro Yokota, Tokyo, Japan, assignor to Zentsu Denki Kabushiki Kaisha, Tokyo, Japan
Filed Nov. 9, 1966, Ser. No. 593,128
5 Claims. (Cl. 60—52)



An hydraulically operated door opening and closing device is shown in which two opposing pistons are rigidly connected by a piston rod to be reciprocable in a cylinder and to define between them an oil chamber. Each piston has two opposed one-way valves mounted in it. A rotary oil pump is juxtaposed to one end of the cylinder and is driven by a direct-connected motor. The pump is connected by two ducts with respectively opposite ends of the cylinder. A by-pass groove is provided in one wall of the cylinder to by-pass oil from one side of a piston to the other during travel of the pistons in the cylinder; and an adjustable throttle valve is provided to control the opening of an exhaust port which connects one end of the cylinder with the duct that leads from the pump to the opposite end of the cylinder.

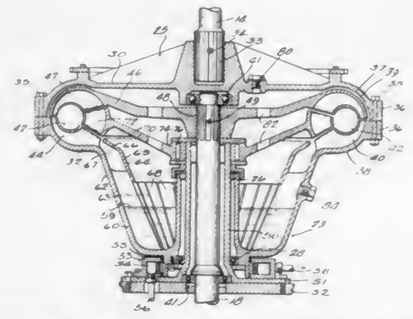
3,407,599
HYDRODYNAMIC POWER TRANSMISSION ASSEMBLY
Kurt Ulbricht, Dresden, Germany, assignor to Institut fuer Leichtbau und Oekonomische Verwendung von Werkstoffen, Dresden, Germany
Filed June 16, 1966, Ser. No. 558,095
15 Claims. (Cl. 60—54)



A hydrodynamic torque converter connecting a prime mover to a pair of output means and including a housing containing a supply of fluid, impeller means rotatable in the housing to circulate the fluid, and a pair of turbines mounted in the housing and rotatable in response to circulation of the fluid, the prime mover being connected to the impeller means and the turbines being respectively connected to the pair of output means.

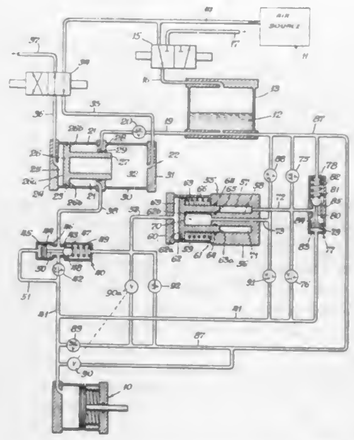
3,407,600
HYDRO-DYNAMIC DRIVE FOR MARINE PROPULSION UNIT
James A. Meyer, Waukegan, Ill., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware

Waukegan, Ill. 60085
Filed Feb. 17, 1967, Ser. No. 616,913
18 Claims. (Cl. 60—54)



Disclosed herein is a marine propulsion unit with a hydro-dynamic drive or coupling, connecting a generally vertical and co-axial engine output shaft with a drive shaft. The housing of the hydro-dynamic coupling is fixed to the engine output shaft and rotates therewith. The upper walls of the housing define a torus or working chamber which contains pump, turbine and, in one embodiment, stator elements. The lower housing wall defines a reservoir or sump which is vertically beneath the torus, rotates with the torus, and is in fluid communication with the torus. At low engine speed, gravity drains the oil from the torus and into the sump. With higher engine speed beyond a predetermined range, centrifugal force acting on the oil in the sump causes the oil to travel upward along an inclined wall into the torus, thereby effecting power transfer from the pump to the turbine. Vanes in the sump assist in rotation of the oil contained therein.

3,407,601
AIR-HYDRAULIC SYSTEM AND APPARATUS
Leonard R. Beck, Melrose Park, Ill., assignor to Martin Tool Works, Inc., Franklin Park, Ill., a corporation of Illinois
Filed July 26, 1965, Ser. No. 474,673
14 Claims. (Cl. 60—54.5)



A method and apparatus as provided for operating a

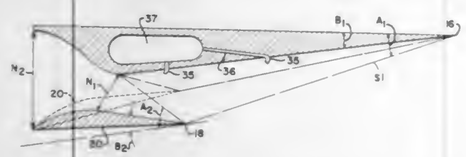
fluid actuated ram from a low pressure, high volume fluid source, the normal fluid in the ram being a hydraulic fluid while the normal fluid of the source is air. During the time that the ram meets little resistance the hydraulic fluid is forced directly to the ram by pressure from the air source. As the resistance met by the ram increases, fluid intensifiers are cut into operation to supply low volumes of fluid at comparatively high pressures. Particularly for use with such a system, a fluid intensifier is provided which, by interchanging the piston rod and seals thereabout, may be revised to change the intensification pressures and volumes.

3,407,602
TRANSMISSION APPARATUS
John G. Shaw, 1531 Dansey Ave., Coquitlam, New Westminster, British Columbia, Canada
Filed Feb. 13, 1967, Ser. No. 615,835
11 Claims. (Cl. 60—102)



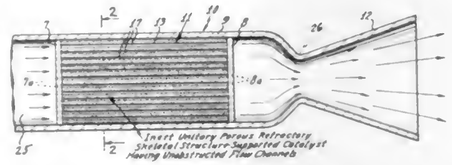
Transmission apparatus for an engine driven vehicle having left and right traction elements, said transmission apparatus having a pair of longitudinally spaced apart coaxial centrifugal flow propellers connected for mutual rotation and in direct driven engagement with the engine for delivering hydraulic fluid to a pair of independently rotatable turbines, the latter being connected to the traction elements. Shields are employed to selectively control the flow of fluid from the propellers to the turbines.

3,407,603
REACTION PROPULSION ENGINES
Archibald P. Kelley and Leslie W. Norman, Scottsdale, Ariz., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed July 27, 1961, Ser. No. 127,369
14 Claims. (Cl. 60—204)



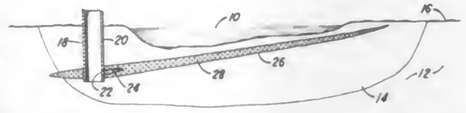
1. A method of operating an aerothermodynamic duct at free streams Mach numbers between 4 and 25 which comprises: inducing a flow of air into said duct; exciting an oblique shock wave in a combustion region downstream in said duct; mixing fuel with said induced air upstream of said combustion region, the shock wave serving to increase the temperature of the fuel-air mixture to cause detonation thereof; maintaining the location of said oblique shock wave in said duct at different free stream Mach numbers through the adjustment of the angle of obliquity of such shock wave in accordance with the changes in the free stream Mach number; and expanding the heated products of such detonation rearwardly of said duct for imparting forward thrust thereto.

3,407,604
CATALYTIC ROCKET PROPULSION METHOD OF CHEMICALLY COMBINING HYDROGEN AND OXYGEN AT LOW SUBZERO IGNITION TEMPERATURES
Carl D. Keith, Summit, N.J., and Francis J. Mattia, Brooklyn, N.Y., assignors to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
Filed June 10, 1965, Ser. No. 462,963
12 Claims. (Cl. 60—217)



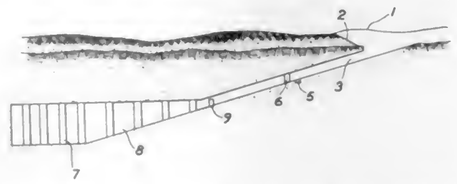
A method for chemically combining hydrogen and oxygen at temperatures below —50° C. by reaction over a supported rhodium catalyst.

3,407,605
METHOD FOR ISOLATING A CAVITY
Henry F. Coffer, D'Arcy A. Shock, Warren W. Woods, and John M. Crawford, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Dec. 23, 1963, Ser. No. 332,644
11 Claims. (Cl. 61—1)



A method of isolating from egress and ingress of fluids a cavity which extends into the earth and is in communication with a fluid permeable formation. The fluid permeable formation is fractured and the fracture filled with a material which sets to form a fluid impermeable barrier.

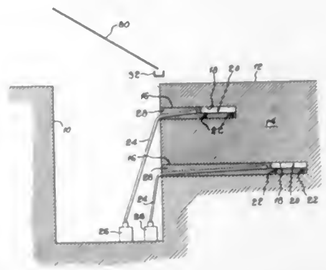
3,407,606
UNDERGROUND CAVERN STORAGE FOR LIQUEFIED GASES NEAR ATMOSPHERIC PRESSURE
Amanullah R. Khan, Chicago, Bertram E. Eakin, Naperville, and Phillip J. Anderson, Deerfield, Ill., assignors to Institute of Gas Technology, a not-for-profit corporation of Illinois
Filed Feb. 14, 1966, Ser. No. 527,158
10 Claims. (Cl. 61—.5)



An underground chamber for storing liquid gases at substantially atmospheric pressure and cryogenic temperatures. An inclined adit has its upper end at ground level and its lower end suspends into a rock-enclosed cavern. Means are provided at the adit for sealing the cavern from the passage of liquid or vapor into or out of the cavern. Sealing means are provided on the surface of the

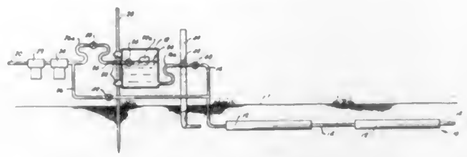
rock cavern for minimizing leakage of surrounding vapor or liquid water into the cavern. Thermal insulation covers and is contiguous with the interior surface of the cavern. Liquid and vapor impervious barrier means are secured to the innermost surface of the thermal insulation to prevent passage of liquid or vapor from the cavern through the insulation. Means are provided for transporting liquid gas into and out of the cavern for storing the liquid gas therein at substantially atmospheric pressure and at a temperature substantially at the normal boiling temperature of the stored liquid gases at atmospheric pressure.

3,407,607
LYSIMETER WITH MEANS FOR BREAKING SURFACE TENSION
Carl F. Jordan, 118 Leabrook Lane, Princeton, N.J. 08540
Filed June 27, 1966, Ser. No. 560,721
9 Claims. (Cl. 61—11)



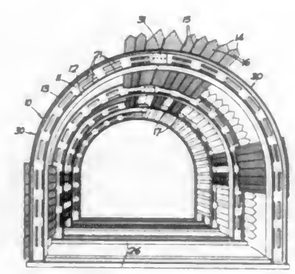
A lysimeter for measuring the percolation of water through soil, the lysimeter having a screen which supports the soil upon the upper surface of the screen above a trough chamber and a bar contacting the screen along a portion of the lower surface of the screen for breaking the surface tension ordinarily established along the lower surface of the screen and allowing water to flow from the soil along the bar into the chamber.

3,407,608
SUBSURFACE IRRIGATION SYSTEM
Brownloe Whitehead, 412 Hazlewood Drive, Fort Worth, Tex. 76107
Continuation-in-part of application Ser. No. 103,359, Apr. 17, 1961. This application Oct. 21, 1965, Ser. No. 505,597
5 Claims. (Cl. 61—13)



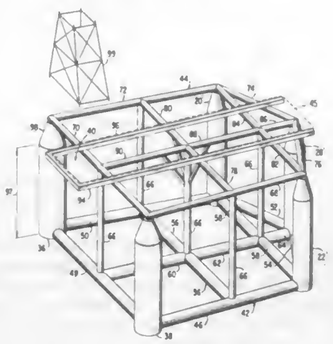
1. The subsurface irrigation system which comprises:
a conduit buried in the soil having water permeable walls with a high resistance to flow of water through the walls into the soil,
the resistance being such that for a given range of water pressures within the conduit the average rate of flow through the conduit walls as a result of the pressure differential across the conduit walls due to the internal pressure and the external soil pressure will be substantially equal to the average rate of moisture loss from the soil for a given range of moisture loss conditions, and
water supply means for automaticaly continually maintaining a supply of water in the conduit at a preselectable constant pressure under changing flow rates through the walls of the conduit over an extended period of time during which variations in soil moisture conditions will normally occur to cause said change in flow rates.

3,407,609
TUNNELLING METHOD AND APPARATUS
Patricia Lorna Kosogorin, Dunluce, Swanlow Lane, Winsford, Cheshire, England
Filed Apr. 24, 1967, Ser. No. 633,193
Claims priority, application Great Britain, Apr. 26, 1966, 18,276/66
8 Claims. (Cl. 61—42)



A method of driving a tunnel comprises repeatedly positioning successive frames against the face of the ground to be excavated, driving piles through slots in adjacent frames into the ground ahead of the frames and excavating a part of the volume of ground contained by the piles, a proportion at least of the piles having heads which are wider than their shanks.

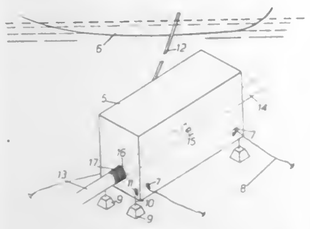
3,407,610
SUBMERSIBLE VESSEL HAVING AN IRREGULAR POLYGONAL STABILIZING PATTERN
Paul A. Wolff, Oklahoma City, Okla., assignor to Kerr-McGee Oil Industries, Inc., a corporation of Delaware
Filed May 26, 1967, Ser. No. 641,578
7 Claims. (Cl. 61—46.5)



Submersible vessel for submarine operations, such as off-shore oil well drilling operations, in which upstanding elongated stabilizing members are specially proportioned in cross-sectional area and are located at the apices of an irregular polygon defining a stabilizing pattern for the vessel. The irregular polygonal stabilizing pattern is

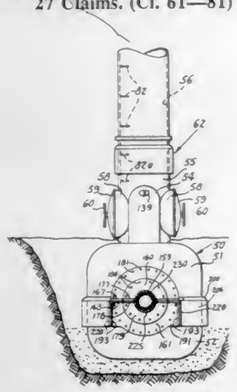
in the shape of an irregular pentagon and is formed by a combination of a square stabilizing pattern and a regular triangular stabilizing pattern.

3,407,611
METHOD OF CONSTRUCTING SUBMARINE PIPELINES
James G. Coultrup, 7298 Avenida Milagro, Maracaibo, Venezuela
Filed Mar. 27, 1967, Ser. No. 626,163
7 Claims. (Cl. 61—72.3)



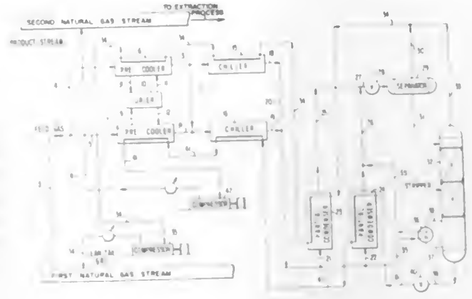
The invention is concerned with under sea pipelines which are made up from sections of pipe. The individual pipe sections are plugged at each end, towed out and laid on the sea bed and then welded together end to end in a submerged chamber containing inert gas. The plugs are then automatically released by application of fluid pressure to one end of the completed pipeline and are blown out of the other end of the pipeline.

3,407,612
SUBMARINE PIPELINE CAISSON
Wylie B. Pearce III, 413 W. McNeese St., Lake Charles, La. 70601
Filed Feb. 4, 1966, Ser. No. 525,017
27 Claims. (Cl. 61—81)



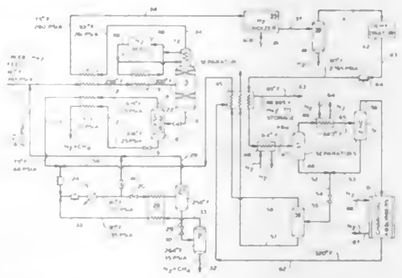
Submergible bell-type apparatus forming a work chamber or compartment for water-tight engagement about an underwater object, the compartment being of such size as to accommodate one or more mechanics and to provide them with sufficient space to perform work on the engaged object, the apparatus including means for supplying air under pressure for evacuating the chamber of water accumulated during its installment and for breathing purposes; and the apparatus further including a second chamber or compartment of such size as to accommodate said mechanics; the first and second compartments being connected in spaced relationship relative to one another via an open-ended tubular section providing the mechanics with ingress and egress means to the work compartment; there being pressure held water-tight door or closure means interposed between the second compartment and the adjacent end of the tubular section and similar closure means on said tubular section intermediate the ends thereof; and means for supplying air under pressure to said compartment.

3,407,613
ENRICHMENT OF NATURAL GAS IN C_2+ HYDROCARBONS
Werner C. Muller, Roslyn, and Robert N. Di Napoli, North Bellmore, N.Y., assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed Sept. 13, 1966, Ser. No. 579,061
8 Claims. (Cl. 62—11)



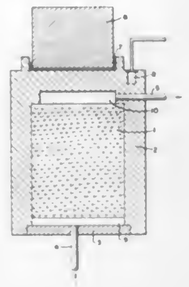
C_2+ hydrocarbons are recovered from a first natural gas stream and transferred to a second natural gas stream enriching it. A remaining C_1 rich vapor fraction residue passed in heat exchange with the incoming first natural gas stream is returned to the remaining portion of the first natural gas stream while the revaporized C_2+ fraction is added to the second natural gas stream flowing to an extraction process.

3,407,614
HELIUM PURIFICATION
Forrest L. Poska, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 19, 1966, Ser. No. 602,630
5 Claims. (Cl. 62—18)



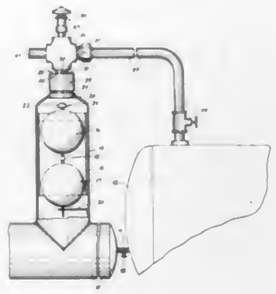
A gas feed comprised of helium, hydrogen, nitrogen and methane is cooled to a point of partial liquefaction and then separated into a liquid and gas. The liquid is flashed to provide gaseous and liquid components used as heat exchange medium in the partial liquefaction. The gas is cooled, recompressed, further cooled to partially liquefy and is itself separated, the liquid portion of which is expanded to provide multiphase fluids for heat exchange of the further cooled compressed gas and the gas helium portion is filtered in a charcoal bed.

3,407,615
LOW TEMPERATURE HEAT EXCHANGER
Gustav Klipping, Berlin-Zehlendorf, Germany, assignor to Max-Planck-Gesellschaft zur Forderung der Wissenschaften e.V., Gottingen, Germany
Filed Sept. 14, 1966, Ser. No. 579,244
Claims priority, application Germany, Sept. 14, 1965, M 66,623
4 Claims. (Cl. 62—45)



A heat exchanger for use in low temperature heat exchange devices using low boiling fluids and, particularly, helium, hydrogen and nitrogen. The heat exchanger has a housing whose walls are shrink-fitted onto a sintered metal insert, and is therefore characterized by an extremely high heat conductivity.

3,407,616
VAPORIZER FOR FUEL GASES
William P. Freeman, Jr., Dallas, Tex., assignor to John E. Mitchell Company, Dallas, Tex., a corporation of Missouri
Filed Oct. 17, 1966, Ser. No. 587,231
10 Claims. (Cl. 62—51)

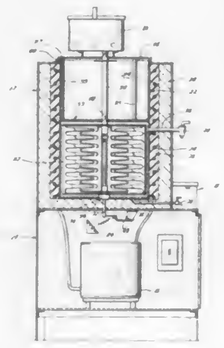


A vaporizer of the kind having a vaporizing chamber for generating vapor to supply the normal demands of consuming appliances and having an auxiliary vapor source for supplying excess demands. A valve arrangement for controlling the flow of vapor from the vaporizing chamber and from the auxiliary vapor source according to variations in demand and for preventing liquified petroleum from being delivered to the consuming appliances.

3,407,617
METHOD OF REMOVING DISSOLVED WAX FROM A REFRIGERANT
William F. Wischmeyer, Ladue, and John E. Hoffman, Webster Groves, Mo., assignors to Sporlan Valve Company, St. Louis, Mo., a corporation of Missouri
No Drawing. Continuation of application Ser. No. 397,626, Sept. 18, 1964. This application Dec. 5, 1966, Ser. No. 599,325
8 Claims. (Cl. 62—85)

This invention relates generally to an adsorbent for removing dissolved wax and acid from fluids, and more particularly to the use of an adsorbent in a filter for filtering and removing contaminants including dissolved wax and acid from refrigerants in refrigeration or air conditioning systems. The adsorbent consists of a porous core composed of activated charcoal for removing dissolved wax from the refrigerant and zeolite for removing water and acid from the refrigerant.

3,407,618
REFRIGERATION CONTROL MEANS FOR A SLUSH-MAKING MACHINE
James N. Mullins, Jr., Fort Worth, Tex., assignor to Polar Chips Manufacturing Company, Fort Worth, Tex.
Filed Feb. 6, 1967, Ser. No. 614,774
2 Claims. (Cl. 62—136)

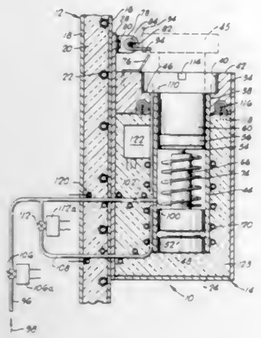


A slush-making machine having a vertical refrigerated tank in which a flavored water mixture is agitated by a motor-driven mixing dasher to produce a slushy or partially frozen drink. The mixing dasher has fingers extending inwardly from vertical side members. A control dasher mounted on a spring-biased shaft is also positioned in the tank. The control dasher has two sets of outwardly extending members at approximately right angles to each other which interlace with the fingers of the mixing dasher. Upon the mixture reaching desired consistency, the viscosity of the mixer will cause the control dasher to angularly move. The end of the shaft on which the control dasher is fixed is operatively connected to a microswitch controlling the refrigeration of the tank so that angular movement of the control dasher turns off the switch for the refrigeration system. Upon the mixture returning to the proper consistency, the spring-biased control dasher returns to its original position and such angular return movement turns on the switch for the refrigeration system.

3,407,619
ICEMAKER

Frank M. Walker, Oklahoma City, Okla., assignor to H & W Industries Inc., Oklahoma City, Okla., a corporation of Oklahoma

Continuation-in-part of application Ser. No. 544,608, Apr. 22, 1966. This application Nov. 21, 1966, Ser. No. 595,853
5 Claims. (Cl. 62—137)

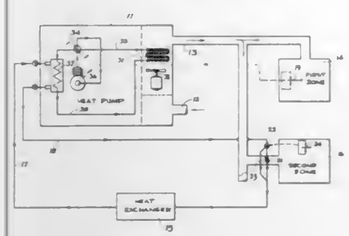


An automatic icemaker for producing ice cubes in household refrigerators or the like. The ice cubes are ejected from the molds by pistons actuated by the household water supply, and the water used for powering the pistons is then directed into the molds for formation of additional ice cubes. Each piston raises its ice cube above the mold against a spring-loaded finger and then lowers the ice cube against the finger until the finger breaks the ice cube away from the piston, whereby the ice cube is pushed from above the mold to fall freely into an ice container positioned alongside the mold.

3,407,620
WATER-SOURCE HEAT PUMP SYSTEM

Robert H. Lodge, 835 N. Hollywood Way, Burbank, Calif. 91505

Filed Sept. 26, 1966, Ser. No. 581,994
3 Claims. (Cl. 62—159)

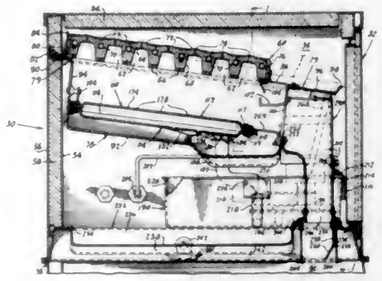


The system described herein is a heating-cooling air conditioning system which is useful for heating or cooling a multiplicity of different space zones having different heating or cooling requirements. The system circulates an air conditioning stream of air to a first and to at least one additional zone, and it uses water discharged from a reversible air conditioner in the system to reheat the air supplied to the additional zone during a cooling operation, and to recool the air supplied to the additional zone during a heating operation.

3,407,621
SPRAY TYPE ICEMAKER WITH OVERFLOW DRAIN

Alvin N. Dedricks and Richard H. Swanson, Manitowoc, Wis., assignors to The Manitowoc Company, Inc., Manitowoc, Wis., a corporation of Wisconsin

Original application Mar. 27, 1964, Ser. No. 355,302, now Patent No. 3,289,430, dated Dec. 6, 1966. Divided and this application Dec. 5, 1966, Ser. No. 599,314
5 Claims. (Cl. 62—188)

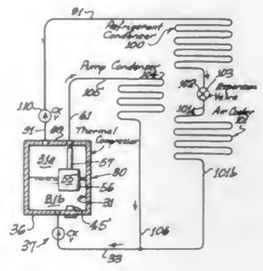


This disclosure describes a method, system and apparatus for making frozen products wherein a liquid starting material is applied to a freezing mold or the like with only part of the liquid material being frozen thereon. The excess unfrozen liquid material is collected in a receptacle. A relatively impure part of liquid material in the receptacle is removed from the lower portion of the receptacle. The quantity of liquid material removed is less than substantially all of the liquid in the receptacle. Several arrangements are disclosed to carry out this operation.

3,407,622
THERMAL REFRIGERATION APPARATUS

Richard C. Turnblade, Northridge, and Oded E. Sturman, Arleta, Calif., assignors to Conductron Corporation, Ann Arbor, Mich., a corporation of Delaware

Original application Feb. 24, 1965, Ser. No. 434,954. Divided and this application Mar. 2, 1967, Ser. No. 641,393
4 Claims. (Cl. 62—190)

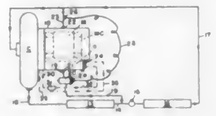


The invented refrigeration apparatus employs a two component fluid mixture wherein one fluid component serves as a pumping fluid while a second fluid component provides the refrigerant action. A pump condenser and a refrigerant condenser are both coupled to receive a fluid from a thermal compressor including a free piston.

3,407,623
OIL AND MOTOR COOLING IN A REFRIGERATION SYSTEM

Douglas K. Richardson, Staunton, and John G. Johnson, Waynesboro, Va., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 21, 1967, Ser. No. 624,746
2 Claims. (Cl. 62—197)

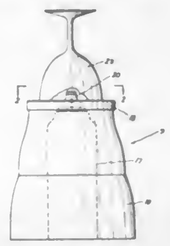


In a refrigeration system having a refrigerant compressor-motor unit, lubricating oil from the unit is circulated through tubes within an oil cooler compartment in the lower portion of the motor casing. Refrigerant from the condenser of the system is supplied through a thermostatic expansion valve into the oil cooler compartment around the tubes therein, then into the motor compartment around the motor therein, and then through a suction gas tube to the compressor. The diaphragm chamber of the expansion valve is connected to a thermal bulb in contact with the suction gas tube. The expansion valve has a bleed port sized to supply sufficient refrigerant to properly cool the oil regardless of the modulation of the expansion valve caused by varying motor loads.

3,407,624
APPARATUS FOR CHILLING VESSELS

Wilfred V. Taylor, 3 Warrowa Ave., Pymble, New South Wales, Australia

Filed Sept. 9, 1965, Ser. No. 486,098
Claims priority, application Australia, Sept. 10, 1964, 49,183/64
6 Claims. (Cl. 62—293)



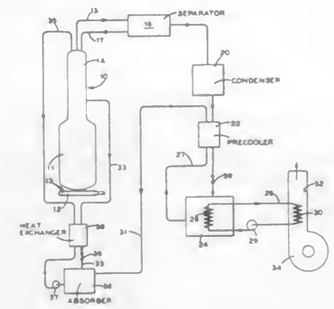
This invention is concerned with a portable device for chilling drinking vessels such as glasses and includes a portable pressurized liquid refrigerant container having a vertically displaceable spray nozzle and a platform mounted relative to the container and nozzle. The platform serves as a support for the vessel to be chilled and when depressed actuates a valve which provides refrigerant to the nozzle thereby chilling the glass.

3,407,625
VAPOR GENERATOR

Bertrand N. McDonald, Akron, Ohio, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Continuation-in-part of application Ser. No. 367,993, May 18, 1964. This application Sept. 1, 1966, Ser. No. 592,955
9 Claims. (Cl. 62—476)

A vapor generator unit for an absorption refrigerator in which refrigerant vapors are generated from liquid contained within an upright vessel heated externally along its lower length portion by hot gases flowing upwardly in an annular passage defined by a wall surrounding the

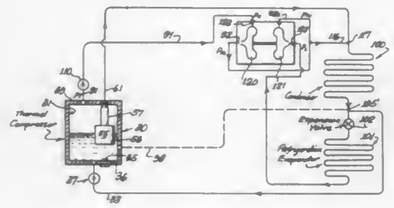


lower portion of the vessel, these hot gases being liberated within the annular passage by the ignition therein of fuel gases supplied through an annular gas burner located within the passage adjacent to the lower end of the vessel.

3,407,626
THERMAL REFRIGERATION APPARATUS

Richard C. Turnblade, Northridge, and Oded E. Sturman, Arleta, Calif., assignors to Conductron Corporation, Ann Arbor, Mich., a corporation of Delaware

Filed Feb. 24, 1965, Ser. No. 434,954
8 Claims. (Cl. 62—498)

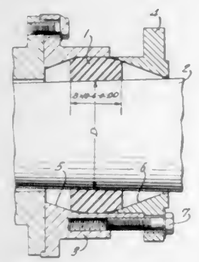


1. A refrigeration system comprising:
a housing defining a fluid chamber;
a fluid outlet from said chamber;
a fluid inlet to said chamber;
a depressurizing outlet from said chamber;
means for vaporizing liquid within said chamber;
liquid volume dependent means for closing said depressurizing outlet at a first liquid volume and for retaining said depressurizing outlet closed until sufficient of said liquid has been vaporized to reduce the volume of said liquid to a substantially lesser liquid volume;
means in combination with said fluid inlet for opening said inlet at said second liquid volume and closing said inlet at said first liquid volume;
means in combination with said fluid outlet for closing said outlet at said second liquid volume and opening said outlet at said first volume;
said fluid being a refrigerant fluid;
refrigerant compressor means adapted to be driven by said fluid under pressure;
a condenser;
means for conducting said fluid under pressure to said compressor, means for conducting the fluid exhausted from said compressor to said condenser inlet;
an evaporator;

an expansion value interposed between said condenser and evaporator; means for coupling said depressurizing outlet to a depressurizing pressure when opened; means for conducting a portion of said fluid from said condenser to said fluid inlet; and,

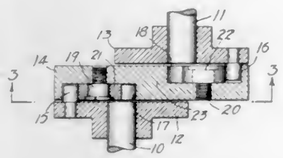
means for conducting a portion of said fluid through said expansion valve, evaporator and to said compressor.

3,407,627
ELASTIC COUPLING FOR HIGH DYNAMIC STRESSES
Horst Lätsch, Horst Meusel, and Eckhardt Nagel, Gotha, Germany, assignors to VEB Getriebewerk Gotha, Gotha, Germany
Filed Jan. 23, 1967, Ser. No. 610,989
6 Claims. (Cl. 64—11)



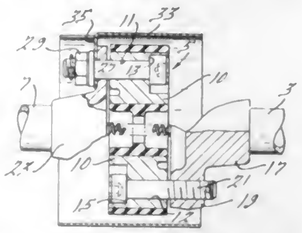
An elastic coupling device for transmitting a turning moment between a structure to be mounted on a shaft and the shaft, wherein an elastic ring, having opposing frustoconical exterior surfaces, surrounds the shaft. A coupling member and a compression member, slidably movable in said coupling member, have interior annular frustoconical surfaces with an angle of inclination which is greater than the angle of inclination of the frustoconical exterior surfaces of the ring. Said interior annular frustoconical surfaces engage said exterior surfaces and compress said ring when said compression member is slidably moved in the direction of said coupling member thereby forcing the interior surface of the ring to engage the shaft.

3,407,628
PARALLEL SHAFT COUPLING
Oreste B. Eccher, 1 Sherman St., Brooklyn, N.Y. 11215
Filed June 5, 1967, Ser. No. 643,587
10 Claims. (Cl. 64—31)



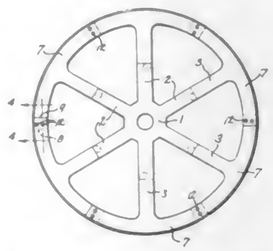
A parallel shaft coupling comprising discs fixed to each shaft with an intermediate disc disposed between the first named discs for transmitting drive from one shaft to the other shaft by employing three projecting pins on the first named discs operating in peripheral portions of three chambers on each side of the intermediate disc, with means in said chambers controlling the groove-like path of said pins.

3,407,629
HEAT SHIELD
George A. Marchand, Detroit, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Sept. 26, 1966, Ser. No. 581,904
3 Claims. (Cl. 64—32)



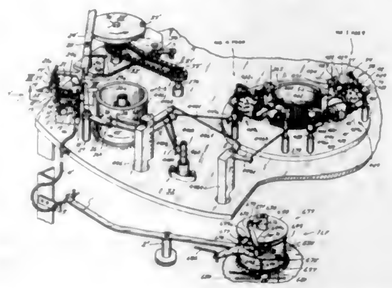
Heat shield for a resilient coupling in the steering column of a vehicle comprising a tubular metal member surrounding the coupling, and ears extending inwardly from the tubular member. The ears have holes therein through which fasteners extend for connecting the tubular heat shield to the resilient coupling.

3,407,630
SPRING NEEDLE KNITTING MACHINES
David Pelton Moore, Marlow, N.H. (9210 Flower Ave., Silver Spring, Md. 20901)
Filed Aug. 12, 1966, Ser. No. 572,039
6 Claims. (Cl. 66—114)



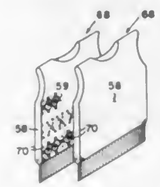
A spring needle knitting machine wherein the needle cylinder is composed of a plurality of identical interlocking segments.

3,407,631
YARN FINGER SELECTION MECHANISM
Rudolf Abrams, Boyertown, Pa., assignor to Great American Knitting Mills, Inc., Bechtelsville, Pa., a corporation of Delaware
Filed Apr. 1, 1966, Ser. No. 539,395
2 Claims. (Cl. 66—138)



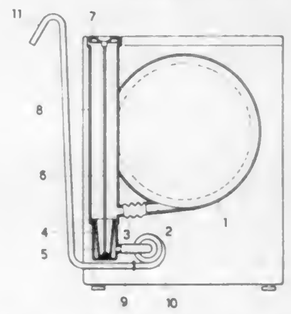
The knitting machine yarn fingers are operated by a yarn finger control drum which in turn is controlled by a main pattern drum and an auxiliary mechanism for imparting movement to the yarn finger control drum intermittently and independently of the movement imparted thereto by the main pattern drum.

3,407,632
KNITTED SWEATERS AND METHODS OF MAKING THE SAME
Whitman D. Ide, Laconia, N.H., assignor to Scott & Williams Incorporated, Laconia, N.H., a corporation of Delaware
Filed Nov. 15, 1966, Ser. No. 594,510
5 Claims. (Cl. 66—176)



A sweater is provided in which the body, as well as sleeves if used, has a two-ply construction with a plain knit inner ply covering floats resulting from patterning in the outer ply. The method of production involves tubular knitting of a fabric in which the inner and outer plies are integral with each other followed by folding, seaming and cutting operations.

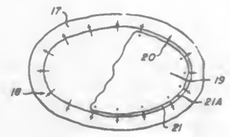
3,407,633
WASHING MACHINE FILTER
Natale Giambertoni, Via Caimi, 8 Milan, Italy
Filed Sept. 20, 1966, Ser. No. 580,681
Claims priority, application Italy, Jan. 12, 1966, 13,333
7 Claims. (Cl. 68—18)



A filter is positioned between the tub outlet and drain of a washing machine. The filter may be removed for cleansing through an opening formed in the upper portion of the washing machine body.

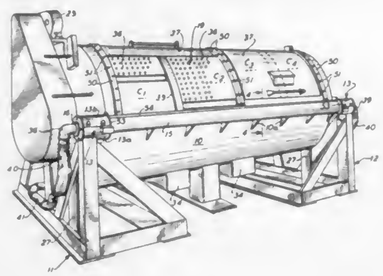
3,407,634
HIDE STRETCHING FRAME
Marvin R. Nelson, Vancouver, British Columbia, Canada (11806 21st Ave., Haney, British Columbia, Canada)
Filed Feb. 16, 1966, Ser. No. 527,807
5 Claims. (Cl. 69—19.1)

A hide stretching and drying frame with means to secure a hide to the frame, the securing means having pointed elements disposed within an opening of the frame, generally normal to a plane of an outer surface of the frame, and extendng upwards away from that plane so that the hide is supported clear of, within, and above, the frame for free circulation of air, and so that the hide may readily



be secured to and removed from the pointed securing elements.

3,407,635
COMMERCIAL WASHING MACHINE
William B. Beebe, Cincinnati, and John Joseph Miller, Norwood, Ohio, assignors to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Apr. 14, 1967, Ser. No. 630,909
9 Claims. (Cl. 68—207)

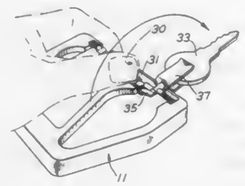


A washing machine tub has a pipe attached along its length to serve as a structural beam and as a tie bar for the end walls of the tub. Each end of the pipe is mounted in hollow bearings so that the tub may be pivoted for unloading of the clothes. The pipe is provided with side openings leading into the tub to serve as a manifold for enabling the tub to be filled with liquid.

ERRATUM

For Class 69—19.1 see:
Patent No. 3,407,634

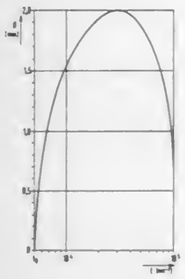
3,407,636
KEY HOLDER
Boris Nicole Kovacevic, 4419 N. Christiana, Chicago, Ill. 60625
Filed Sept. 26, 1966, Ser. No. 582,022
8 Claims. (Cl. 70—456)



1. A key carrying case comprising a housing having an elongated recess open to one side of said housing,

a clasp for retaining a key, said clasp and the key being receivable in said recess, means pivotally mounting said clasp with respect to said housing, a lever having first and second ends, means located between said ends pivotally mounting said lever with respect to said housing, said first end being positioned adjacent said one side of said housing, said second end being off-set from said first end and being positioned between said clasp and a bottom portion of said recess, whereby pressure applied to said first end pivots said second end away from said bottom portion into engagement with said clasp to thereby pivot said clasp and the key from their location within said recess to a position outwardly extending from said housing so that the key can be inserted into a key hole.

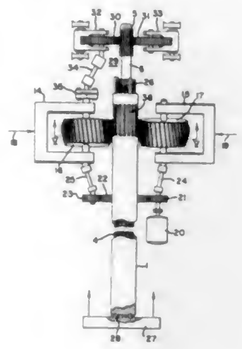
3,407,637
ELECTRODYNAMIC METHOD FOR FORMING METALLIC WORKPIECES
Helmut Dietz, Nuremberg, Hans-Joachim Lippmann, Roxdorf, and Horst Schenk, Erlangen, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Filed Oct. 24, 1965, Ser. No. 504,400
Claims priority, application Germany, Apr. 29, 1965, S 96,837
2 Claims. (Cl. 72—56)



Improvement in method of electrodynamically forming solid metallic workpieces by magnetic field pulses produced by shock discharge of capacitance means in a discharge circuit containing a work coil which induces eddy currents in the workpiece includes measuring, for a given workpiece and a given total forming energy, the amount of forming travel in dependence upon the frequency of the discharge current; and setting the discharge-circuit parameters in accordance with the resulting optimal frequency, whereby the electrodynamic forming of corresponding workpieces is effected with optimal forming efficiency and minimal energy consumption.

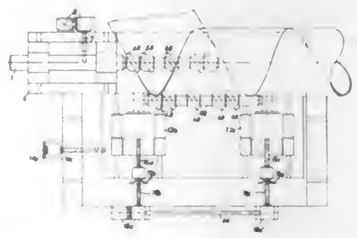
3,407,638
METHOD FOR FORMING SERRATED OR CORRUGATED HOLLOW TUBES
Howard A. Greis, Holden, Vincent T. Kubert, Oxford, and George H. Pettee, Sterling, Mass., assignors to Klnefac Corporation, a corporation of Massachusetts
Filed Mar. 24, 1966, Ser. No. 537,173
5 Claims. (Cl. 72—96)

1. The process of forming uniform corrugations in a hollow tube comprising:
placing a mandrel having teeth thereon within a tube,
providing a plurality of toothed dies, the die teeth having a spacing equivalent to those on the mandrel,
rotating said dies and mandrel together in phase relationship so that the die teeth register with the spaces between mandrel teeth, and
forcing said dies radially against the tube with sufficient force to cause the tube to deform between die teeth and mandrel teeth, and



rotating the dies alone while maintaining said radial force.

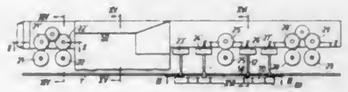
3,407,639
DEVICE AND METHOD FOR FORMING HELICAL TUBING
Lothar Kehne, Rheinhauser Str. 15, Rumeln-Kaldenhausen, Germany
Filed Oct. 29, 1965, Ser. No. 505,666
Claims priority, application Germany, Oct. 31, 1964, K 54,418
11 Claims. (Cl. 72—135)



A device for forming both conical and cylindrical tubes by bending and winding a continuous strip into the desired configuration includes a first roller stand having means for separately mounting each end of an upper first roller shaft and a lower second roller shaft. The first roller stand is also mounted on a base for movement in a direction perpendicularly to the axis of the roller shafts. A second roller stand is provided for mounting each end of a third roller shaft and this roller shaft may be moved vertically upwardly and downwardly and may also be moved with its stand toward and away from the first and second roller shafts. A feature of the construction is the adjustability of all of the roller shafts in substantially all directions in order to facilitate the forming of the desired radius cylindrical tube or to provide for a conical tube formation. The first shaft is advantageously supported on an overhanging portion of the shaft so that it may be tilted in order to vary the axial position of the individual roller elements on the shaft in respect to the lower second roller shaft and in order to form the conical tubes. Each roller shaft advantageously carries a ball bushing which may slide along the shaft with the requirements for the configuration of the tube to be formed. Each of the ball bushings provide a mounting for rings which may be tilted about an axis extending perpendicular to the shaft for orientation at the desired tilt angle at which the rings

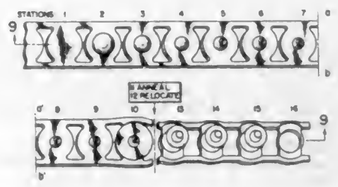
may be secured in position. A table for the infeed strip of metal material is mounted so that the angle of approach to the first and second rollers for the feeding of the material to be formed into a tube therebetween may be varied.

3,407,640
DEVICE FOR CONNECTING EDGES OF SHEET METAL
Xaver Lipp, Aalen, Germany, assignor to Reinhardt Maschinenbau GmbH., Sindelfingen, Wurttemberg, Germany
Filed Oct. 7, 1965, Ser. No. 493,737
Claims priority, application Germany, Jan. 30, 1965, L 49,857
11 Claims. (Cl. 72—181)



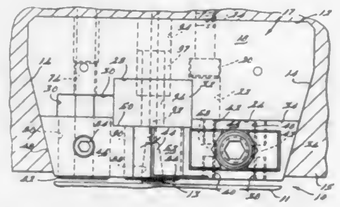
A device for foldably connecting edges of mutually perpendicular sheet metal portions to each other. A plurality or presser roller pairs are distributed along a predetermined straight path along which the mutual perpendicular portion sheet metal portions moved from one presser roller pair to the next, and the plurality of presser roller pairs form a means for initially acting on the sheet metal portions while they are spaced from each other to initiate the folding at one of the edges of one sheet metal portion and for then subsequently continuing the folding operations at the edges of the sheet metal portions while they engage each other. An elongated guide body extends along the path of movement of the sheet metal portions and serves as a mounting for at least some of the presser rollers, this guide body having a pair of opposed elongated free end portions, one of which carries presser rollers which act on the sheet metal portions while they are spaced from each other and the other of which carries presser rollers which act on the sheet metal portions while they engage each other. A retaining plate, fixedly carried by and extending from a housing of the device, carries the elongated guide body between the opposed elongated free end portions thereof.

3,407,641
METHOD OF FORMING STUDS
William M. Jones, Big Flats, N.Y., assignor to The Youngstown Steel Door Company, Cleveland, Ohio, a corporation of Ohio
Filed June 23, 1966, Ser. No. 560,002
10 Claims. (Cl. 72—349)



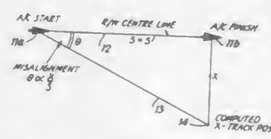
1. A method of making television picture tube studs having a crown, a shoulder and a skirt portion from a blank of steel comprising:
shearing areas of the steel at spaced intervals,
die forming crowns between said sheared portions,
coining said areas to form thickness differences among the metal of the crowns, the metal to become the shoulders and the metal to become the skirts,
annealing said steel to increase its ductility,
drawing the metal surrounding the crowns to form shoulders and skirts,
setting the desired dimensions of the studs by means of dies,
pinching off the bottom of said skirts from said areas, and
resetting said studs in dies to accurately form a definite final dimension of the studs.

3,407,642
DIE HOLDER AND SUPPORT BLOCK
James F. Hall, Warren, Mich., assignor to Federal-Mogul Corporation, Detroit, Mich., a corporation of Michigan
Filed Jan. 10, 1966, Ser. No. 519,517
9 Claims. (Cl. 72—462)



A die holder and support block having a backup plate supported in a cavity and a pair of die body holding parts supported against the backup plate for clampingly engaging a die body.

3,407,643
MEANS FOR SETTING INERTIAL NAVIGATION SYSTEMS
Peter Wilson, London, England, assignor to Elliott Brothers (London) Limited, London, England, a British company
Filed Oct. 12, 1965, Ser. No. 495,164
Claims priority, application Great Britain, Oct. 19, 1964, 42,614/64
7 Claims. (Cl. 73—1)

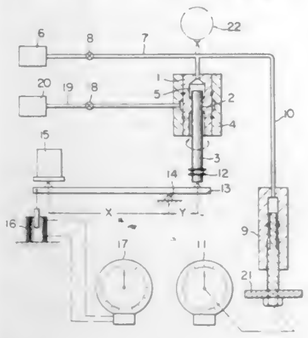


The inertial platform of an aircraft erected to approximate the heading of a runway is corrected incidental to aircraft takeoff. Inertially derived velocity signals indicative of velocity along the takeoff path on the runway and error velocity perpendicular to the takeoff path are integrated to respectively produce a signal indicative of a distance s travelled along the runway and a lateral error distance x due to error in the erected heading. The inertial platform heading is then corrected in accordance with x/s.

3,407,644
METHOD AND APPARATUS FOR GENERATING STANDARD PRESSURE
Kazuo Yasunami, Hyogo-ken, Japan, assignor to Kobe Steel Ltd., Kobe, Japan
Filed June 3, 1966, Ser. No. 555,190
Claims priority, application Japan, June 15, 1965, 40/35,181
3 Claims. (Cl. 73—4)

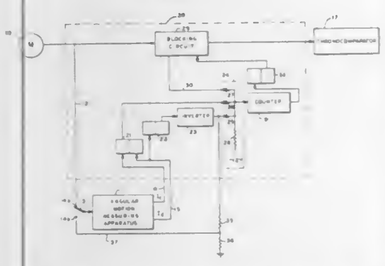
A cylinder containing a deformable sleeve which provides a chamber for fluid under pressure and has a piston slidable therein. A manually adjustable compensator

varies the volume of the pressure chamber and an indication of its adjustment is compared with displacement of the piston which is loaded by a weight. Controlled



external pressure is applied to deform the sleeve so that the piston is balanced under a condition of no friction and no leakage between the piston and the sleeve.

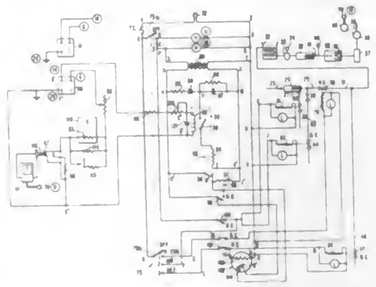
3,407,645
TIMEPIECE TESTING APPARATUS
Erich Jucker and Fredy Gagnebin, La Chaux-de-Fonds, Switzerland, assignors to Portescap, Le Porte-Echappement Universel S.A., La Chaux-de-Fonds, Switzerland
Filed Jan. 3, 1966, Ser. No. 518,470
Claims priority, application Switzerland, Jan. 13, 1965, 539/65
9 Claims. (Cl. 73—6)



The testing apparatus provides visual indications of both the rate and amplitude of oscillation of the balance wheel of a watch, both indications being represented on a single chart so that a single operator can observe both indications simultaneously. A chronocomparator, which produces a linear marking on a chart, is used to measure the oscillation rate. An angular motion measurement device is used to measure the angular swing of the balance wheel. If the angular swing falls below a certain predetermined level, an electrical signal is developed which blocks the flow of measurement signals to the chronocomparator for a certain length of time. This produces blank portions in the otherwise continuous chronocomparator line on the graph, and tells the operator that the oscillation amplitude of the balance wheel is unsatisfactory.

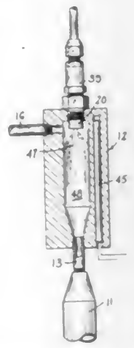
3,407,646
CIRCUIT FOR CONTROLLING ANALYSIS OF AUTOMOBILE EXHAUST GAS
Alfred E. Traver, Great Neck, N.Y., assignor to Mobil Oil Corporation, a corporation of New York
Filed Oct. 4, 1965, Ser. No. 492,462
8 Claims. (Cl. 73—23)

A circuit for automatically closing off the flow of a test gas to an analyzer system when the hydrocarbon content in the test gas exceeds a predetermined limit. There is also provided means for purging the system



and for automatically initiating a timed flow of a reference gas to calibrate the system.

3,407,647
CHROMATOGRAPHY
Theodore R. Lynn, 98 Meadow St., Wallingford, Conn. 06492
Filed May 24, 1965, Ser. No. 457,936
3 Claims. (Cl. 73—23.1)

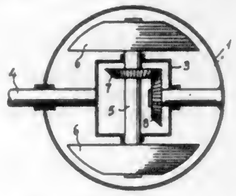


A system for providing a vaporized sample to a gas chromatography column. The system includes a vaporizing chamber into which there is forced under high pressure an atomized sample which is then vaporized and carried into the chromatography column by a carrier gas under low pressure.

3,407,648
GYROSCOPIC DEVICE ADAPTED TO PROVIDE OSCILLATING STRESSES HAVING ADJUSTABLE AMPLITUDE AND FREQUENCY PARTICULARLY FOR USE AS FATIGUE TESTING MACHINE OF MATERIALS
Carmelo Caputo, Genoa, Italy, assignor to Carl Schenck Maschinenfabrik G.m.b.H., Darmstadt, Germany
Filed June 21, 1965, Ser. No. 465,666
Claims priority, application Italy, June 23, 1964, 14,144/64; May 26, 1965, 12,223/65
5 Claims. (Cl. 73—67.3)

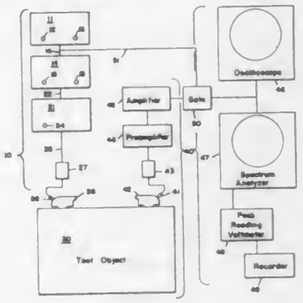
This disclosure relates to a device for creating oscillating stresses with an adjustable amplitude and frequency, comprising three rotatable shafts perpendicular to each other, one of such shafts having rotating flywheel masses which rotate about the axis of said one shaft on which they are supported and rotate also together therewith about another of such perpendicular shafts so that

due to the precession couple which is created an oscillation takes place about the third of such perpendicular



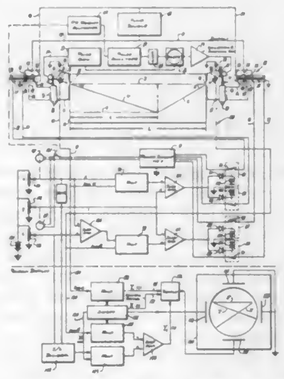
shafts, which is connected to a specimen to which the oscillations are transmitted.

3,407,649
METHOD AND APPARATUS FOR GENERATING A HIGH POWER ULTRASONIC BURST PULSE SIGNAL
Ben Wade Oakes Dickinson III, 3290 Jackson St., San Francisco, Calif. 94118
Filed Aug. 6, 1965, Ser. No. 477,906
16 Claims. (Cl. 73—67.5)



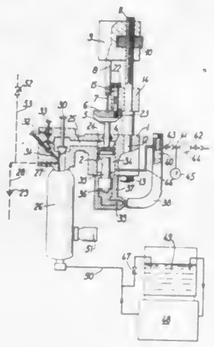
Pulses are applied to an object under ultrasonic tests in repeated bursts having multiple pulses per burst. The pulse width, repetition rate, and burst length are tuned to the characteristics of the object to obtain maximum signal passage through the object.

3,407,650
ULTRASONIC APPARATUS FOR DETECTING FLAWS
Ben Wade Oakes Dickinson III, 3290 Jackson St., San Francisco, Calif. 94118
Filed Apr. 5, 1965, Ser. No. 445,529
8 Claims. (Cl. 73—67.7)



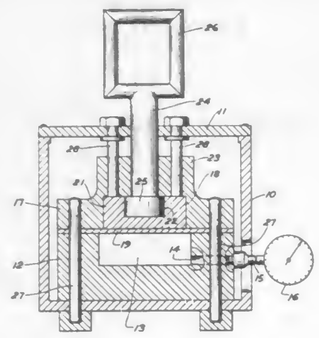
Ultrasonic testing apparatus using spaced apart wave directors capable of controlled scanning of transmit and receive wave trains in variable directions about an object under test. Control circuits synchronize the scanning to a particular inspection region in the object using a servo-loop which operates independently of the information contained on the ultrasonic wave trains.

3,407,651
TENSILE TESTING MACHINE
Yvon Sophy, Saint-Maurice, France, assignor to Commissariat à l'Energie Atomique, Paris, France
Filed Aug. 30, 1966, Ser. No. 576,142
Claims priority, application France, Sept. 2, 1965, 30,214
2 Claims. (Cl. 73—97)



High speed tensile testing of a test piece is obtained by subjecting the test piece to a high tensile force exerted thereon by a piston with motion of the piston under pressure initially prevented by a frangible member which is subjected to fast fracture by the detonation of an explosive charge within the frangible member.

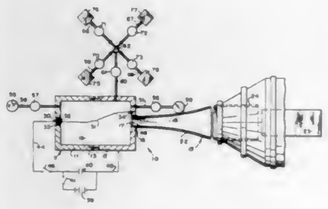
3,407,652
DOUBLE ACTING FLUID LOAD CELL
Louis M. Schomburg, Arlington Heights, and George A. Dvorak, Westchester, Ill., assignors to Sun Electric Corporation, a corporation of Delaware
Filed June 24, 1966, Ser. No. 560,289
4 Claims. (Cl. 73—141)



A double acting fluid load cell which is operable under either tension or compression forces. The force is transmitted through a transmitting rod to the interior of a hollow body containing a fluid and a pressure gauge

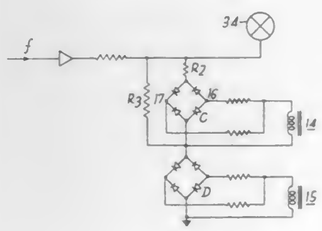
communicates with the fluid to indicate the degree of force exerted. When a compression force is exerted on the transmitting rod, the body is held fixed and a piston attached to the rod is moved in the direction of the force, pressurizing the fluid. When a tension force is exerted on the rod, the piston is held fixed by stationary pins extending into the body and the body is movably drawn by the transmitting rod in the direction of the force to pressurize the fluid.

3,407,653
SUPERSONIC WIND TUNNEL AND METHOD OF OPERATION
James L. Harp, Jr., Canoga Park, Calif., assignor to The Marquardt Corporation, Van Nuys, Calif., a corporation of California
Filed Jan. 5, 1966, Ser. No. 518,812
15 Claims. (Cl. 73—147)



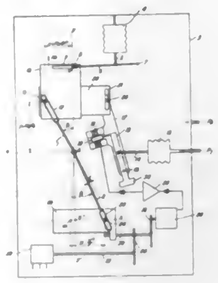
A supersonic wind tunnel and operating method therefor wherein gaseous acetylene is burned at constant volume in the presence of a gaseous oxide of nitrogen within a combustion chamber having an outlet containing a seal, such as a diaphragm, which confines the combustion gas within the chamber until the chamber pressure rises to a pre-determined level and then abruptly releases the high temperature gas for supersonic flow through a nozzle and over a test specimen situated within the nozzle passage.

3,407,654
TAKE-OFF DIRECTOR
Frank Dove, St. Albans, England, assignor, by mesne assignments, to Sperry Rand Limited, London, England, a company of England
Filed Nov. 1, 1966, Ser. No. 591,155
Claims priority, application Great Britain, Nov. 3, 1965, 46,515/65
5 Claims. (Cl. 73—178)



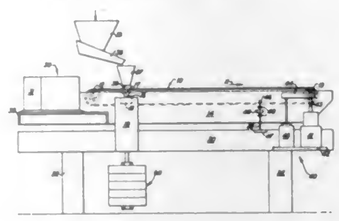
An aircraft flight instrument for directing an aircraft during the take-off maneuver to initially climb rapidly to a predetermined height, then accelerate rapidly while maintaining that height, and then climb rapidly again with provision for abnormal situations.

3,407,655
COMPENSATED ANEMOMETER, ESPECIALLY FOR THE MEASUREMENT OF LOW VELOCITIES
Jean Jullien-Davin, Valence, France, assignor to Crouzet, Valence, France, a French company
Filed Feb. 23, 1965, Ser. No. 434,183
Claims priority, application France, Feb. 24, 1964, 964,871
6 Claims. (Cl. 73—182)



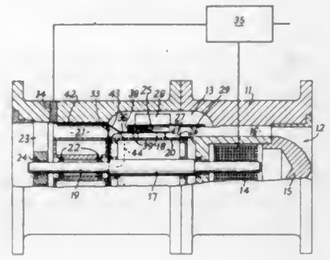
An anemometer for measuring of the actual speed of an aircraft with respect to the velocity of the wind. Capsules responsive to air pressures and potentiometers operated by the deflections of the capsules, a differential transformer with a magnetic core movable in a coil, a temperature sensing probe for correcting the setting of one of the potentiometers, a servomechanism receiving voltages from the potentiometers and mechanical and electronical devices computing the velocity from the input provided by the capsules and the potentiometers according to the St. Venant equation for wind velocity.

3,407,656
APPARATUS FOR CONTINUOUS WEIGHING OF POWDERED OR GRANULAR MATERIALS WITH WEIGHT REGULATION OF THE FLOW
Pierre Chadenson and Andre Lepeuve, La Tronche, France, assignors to Societe Generale de Constructions Electriques et Mecaniques (Alsthom), Paris, France, a corporation of France
Filed Jan. 6, 1967, Ser. No. 608,248
Claims priority, application France, Mar. 17, 1966, 4,899; Mar. 18, 1966, 4,900
6 Claims. (Cl. 73—194)



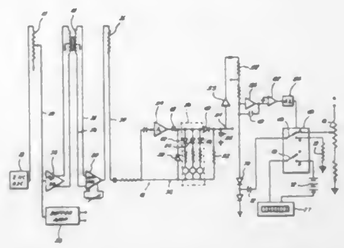
This invention relates to systems for measuring the weight rate of flow of pulverulent or granular materials from a storage bin by feeding the material onto a continuous conveyor pivoted at one end and having its other end resting on a weighing device; the invention accomplishing a more precise measurement of the weight rate of flow of the material by feeding the latter onto the conveyor at a place vertically above its pivotal axis and providing improved means for measuring the weight of the material on the conveyor, for measuring the speed of advance of the conveyor, and for controlling these measuring means to control the rate of feed of the material.

3,407,657
METERS FOR MEASURING THE MASS FLOW OF FLUID
Robert Maurer, 69 Torbay Road, Rayners Lane, Harrow, Middlesex, England
Filed Mar. 7, 1966, Ser. No. 532,449
Claims priority, application Great Britain, Mar. 6, 1965, 9,607/65
13 Claims. (Cl. 73—203)



A mass flowmeter through which a fluid stream flows has angled vanes to impart swirl to the fluid and the reaction on the vanes is transmitted to a torque meter. The swirling fluid drives a speed wheel that measures the swirl velocity. A shroud around the speed wheel is connected to the torque meter, through the angled vanes and serves to transmit a force to the torque meter to compensate for viscous drag on the speed wheel.

3,407,658
FLOW METER
Odis Doyce Kerbow and Leroy C. Delatorre, Houston, Tex., assignors to Camco, Incorporated, Houston, Tex., a corporation of Texas
Filed Sept. 13, 1966, Ser. No. 579,116
10 Claims. (Cl. 73—205)



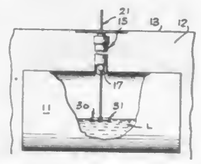
A flow meter for computing fluid flow from measurements of the flow parameters which operates on A.C. signals without conversion to D.C. signals in the earlier stages providing increased temperature stable performance with low level signals. A flow computer having an A.C. square root extracting circuit in which current is forced through a square root network on the positive cycle and through a first rectifier on the negative cycle whereby the undesirable effects of the forward voltage characteristics of the first rectifier are eliminated and in which a second rectifier is further provided which compensates for the undesirable forward voltage characteristics of diodes in the square root function network. An integrating circuit for converting an input signal to a count rate proportional to the integral of the input signal which includes an integrator, a timing and reset means connected to the integrator and actuated by a predetermined output from the integrator and switching means connected to the timing means for actuation and reset in which a condenser is connected between the integrator input and the switching means for discharging from the integrator upon actuation of the timing and switching means and in which a voltage source is connected to the switching means for charging the condenser with a predetermined charge between reset cycles whereby the integrator will continuously integrate even during its reset cycle and in which a counter is provided connected to switching means counting each time the switching means is reset to provide accumulated count measurement.

3,407,659
LIQUID-WEIGHT DATA TRANSMITTER
Charles Robert Bonnell, Wichita, Kans., assignor to Electronic Communications, Inc., a corporation of New Jersey
Filed Apr. 5, 1966, Ser. No. 540,368
9 Claims. (Cl. 73—309)



A buoyant probe member having a ferro-magnetic element at one end is suitably supported and guided within a differential transformer coil means for relative small displacement in response to liquid levels. The buoyant probe is of known volume and density to measure the product of specific gravity and depth (i.e., weight), and is so proportioned so as to report liquid contents in terms of weight rather than volume. The transmitter unit is adapted for easy installation in airplane fuel tanks and includes local oscillator excitation means and mounting flange means.

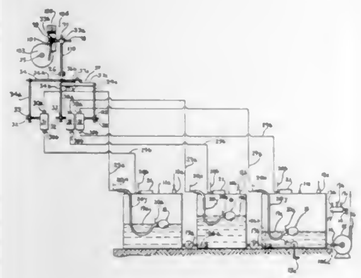
3,407,660
LIQUID LEVEL DETERMINING DEVICE
Henry Nusbaum, Los Angeles, Calif., assignor to Roylyn Incorporated, Glendale, Calif., a corporation of California
Filed Jan. 17, 1967, Ser. No. 609,887
3 Claims. (Cl. 73—311)



A liquid level measuring stick with a stem and a pair of normally extended inwardly collapsible float members

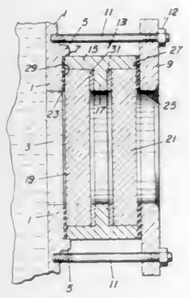
for use in a tank having a smaller access hole than the width of the extended float members.

3,407,661
APPARATUS FOR TOTALIZING LIQUID VOLUMES IN A PLURALITY OF CONTAINERS
Walter T. Knauth, 1334 W. Gray, Houston, Tex. 77019
Continuation-in-part of application Ser. No. 451,457, Apr. 28, 1965. This application Aug. 4, 1967, Ser. No. 658,534
8 Claims. (Cl. 73—311)



The invention comprises a system which constantly totalizes liquid volumes in a plurality of vessels. A flexible sack of fluid is floated in each vessel for determining the level of liquid therein, and a fluid sensing system transmits the level indication from each float through flexible conduit means to a remote transducer. A lever system totalizes the levels of the various tanks in a single indication.

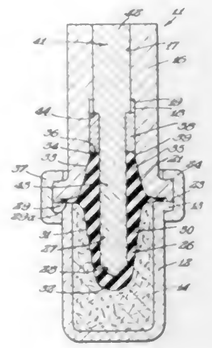
3,407,662
SIGHT GLASS MOUNTING AND ADJUSTING MEANS
George S. Tarbox, Yonkers, N.Y., assignor to Jacoby-Tarbox Corporation, Yonkers, N.Y., a corporation of New York
Filed May 16, 1966, Ser. No. 550,386
5 Claims. (Cl. 73—325)



Mounting means for sight glasses comprising a holder therefor and adjusting means coactive with the sight glasses and the holder for adjusting the position of the sight glasses relative to the holder for accommodating sight glasses of different thicknesses.

3,407,663
DOUBLE ACTION THERMOSTAT
Sergius Vernet, Yellow Springs, Ohio, assignor to Antioch College, Yellow Springs, Ohio, a corporation of Ohio
Filed June 14, 1963, Ser. No. 287,837
9 Claims. (Cl. 73—368.3)

1. A double-action thermostat having a housing containing a thermal expansible material operatively connected to a power member wherein expansion of said expansible material exerts a pressure to move the casing and power member relative to each other, comprising:
a first piston,
a power member piston affixed to said power member,
a resilient deformable rubber diaphragm mounted to said housing sealingly separating the power member piston and first piston from the expansible material,
one face of said diaphragm contacting the expansible material,
a deformable rubber plug having one side thereof contacting the outer face of said diaphragm and the other side contacting said first piston and said power member piston,

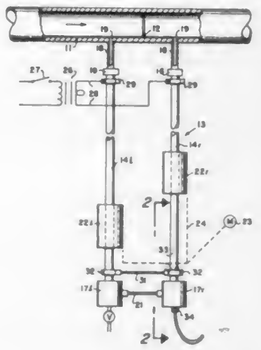


said first piston being slidably mounted in said housing for limited movement therein,
said power member being slidably mounted in said housing to provide relative movement between said housing and the power member,
whereby initial expansion of said expansible material exerts pressure on the first and power member pistons to relatively move the casing and power member a predetermined distance until the first power member moves its limited distance in the housing and then the expansible material pressure is used on only the power member piston to move the power member and the housing relative to each other.

3,407,664
APPARATUS FOR MANOMETER TEMPERATURE CONTROL AND TEMPERATURE COMPENSATION CIRCUIT AND METHOD
Eugene A. Glassey, Los Altos, Calif. (% Exactel Instrument Co., 89 Alice Ave., Mountain View, Calif. 94041)
Filed Dec. 27, 1966, Ser. No. 604,780
8 Claims. (Cl. 73—401)

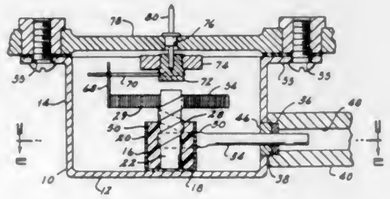
Resistance heating of manometers having metal tubes to prevent freezing of water and other liquids is accomplished by passing an electric current through the conductive tubes of the manometer itself. Temperature compensation of the manometer reading obtained in accordance with applicant's prior patents is accomplished by adding an alternating electric voltage which is derived from a temperature sensor to the subtractive electrical series output of a pair of differential transformers which are excited by change

in the mercury level within the manometer tubes at approximately 90° phase shift. The resultant output is used to drive a servo-motor which centers the DT's at the new



tube levels and provides a data readout. The instrument has an order of accuracy corresponding to primary and/or secondary standards to meet general existent needs in the "practical" channels of industry and technology.

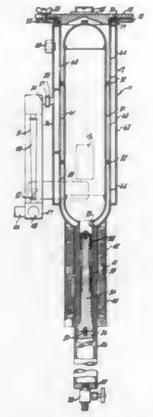
3,407,665
BOURDON TUBE PRESSURE SENSOR HAVING IMPROVED MOUNTING
Thomas Edmund Noakes, Detroit, Harry J. Van Kuyk, Franklin, and John Sokoly, Detroit, Mich., assignors to American Standard Inc., a corporation of Delaware
Filed July 8, 1966, Ser. No. 563,781
7 Claims. (Cl. 73—418)



This invention proposes a Bourdon coil pressure responsive instrument wherein the coil is rigidly anchored so that it can wind and unwind without disturbing the anchorage, destroying the seal between the coil and its fluid supply fitting, or otherwise producing strains in the coil as would cause premature fatigue failure. The preferred anchorage comprises a mass of solidfied plastic compound and a central coil stabilization post confining a helical section of the coil to produce a strong rigid support for the operating portion of the coil. The coil comprises a tubular lead-in portion which is nonstressed, so that it can be solder sealed to a pressure supply fitting without fear of seal failure.

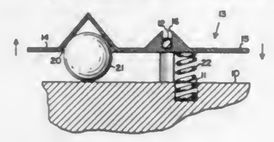
3,407,666
SUBMERGED DENSITY SENSING INSTRUMENT
Eugene A. Glassey, Los Altos, Calif., assignor to Exactel Instrument Company, Mountain View, Calif.
Continuation-in-part of application Ser. No. 471,136, July 12, 1965. This application May 31, 1966, Ser. No. 559,651
10 Claims. (Cl. 73—452)

A densitometer continuously samples and discharges liquid flowing through a conduit to record and, if desired, control density. A closed casing contains a continuously submerged bulb to which an armature of a differential transformer is attached. The transformer controls flow of current through a coil which attracts another armature



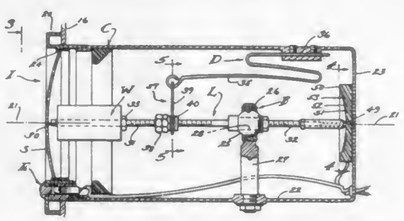
attached to the bulb. The current through the coil required to maintain the first armature centered in the transformer indicates density.

3,407,667
OMNIDIRECTIONAL INERTIAL TRIGGER APPARATUS
Karl H. Doeringsfeld, Edina, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Nov. 17, 1965, Ser. No. 508,329
6 Claims. (Cl. 73—492)



Inertial trigger mechanism providing a unidirectional mechanical output in response to an inertial force from any direction.

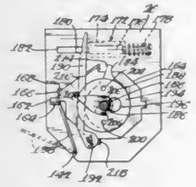
3,407,668
TURBULENCE INDICATOR FOR AIRCRAFT
Robert G. Babson, 16636 Pequeno Place, Pacific Palisades, Calif. 90272, and Virgil C. James, 22239 Ave. San Luis, Woodland Hills, Calif. 91364
Filed Apr. 28, 1965, Ser. No. 451,522
4 Claims. (Cl. 73—517)



An instrument is provided that establishes a continuous display to advise and warn a pilot, of aircraft and the like, of the intensity of lateral inertial displacements encountered. The instrument indication is continuously and pres-

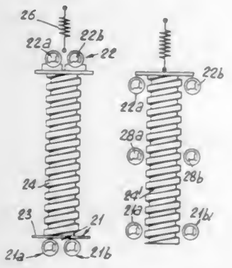
ently visible at all times and such that the magnitude and direction is instantly discernable. The visible readout is, for example, disclosed as a three light and/or three zone warning system, whereby lateral displacements as caused by turbulence and like forces can be observed as "light," "moderate" and "severe."

3,407,669
FINE TUNING MECHANISM
Alarico A. Valdettaro and Joe G. Badger, Bloomington, Ind., and Stanley R. Meadows, deceased, late of Bloomington Ind., by Rosetta Meadows, administratrix, Bloomington, Ind., assignors to Sarkes Trazian, Inc., Bloomington, Ind., a corporation of Indiana
Application Feb. 14, 1966, Ser. No. 529,172, now Patent No. 3,316,363, dated Apr. 25, 1967, which is a division of application Ser. No. 63,889, Oct. 20, 1960, now Patent No. 3,234,801. Divided and this application Apr. 18, 1967, Ser. No. 631,844
9 Claims. (Cl. 74—10.6)



A television tuner in which a fine tuning impedance includes a tuning element movable in a direction parallel to the front wall of the tuner and cam means are provided concentric with a control shaft and driven therefrom. A pivotally mounted member movable in a plane parallel to the front wall of the tuner chassis is provided. The pivotally mounted member is urged into engagement with the cam means and the tuning element for movement in said plane in response to rotation of the control shaft.

3,407,670
VIBRATING ECCENTRIC MASS DEVICE COMPRISING ONE OR MORE PAIRS OF VIBRATORS INDEPENDENTLY ROTATING IN OPPOSITE DIRECTION TO ONE ANOTHER
Michele Venanzetti, Piazza Repubblica 25, Milan, Italy
Filed Mar. 21, 1966, Ser. No. 541,904
Claims priority, application Italy, Mar. 22, 1965, 2,611/65; Mar. 7, 1966, 15,260/66
4 Claims. (Cl. 74—61)

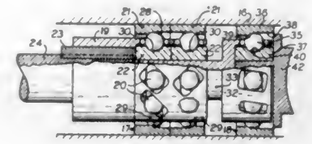


1. A vibrating device comprising,
a base member,
first and second parallel, axially extending shafts having the axes thereof lying in a first plane,
mounting means connected with said base member and said shafts supporting said shafts for axial rotation,
means connected with said base member and said shafts for concurrently rotating said shafts in opposite directions,
support means connected with said base member supporting said base member for limited motion in directions parallel to and perpendicular to said first plane,
a first pair of generally equal masses disposed in a second plane perpendicular to said first plane and intersecting said shafts at right angles,
first securing means for fixedly securing one of said masses in said first pair to said first shaft and for securing the other of said masses in said first pair to said second shaft,
each of said masses of said first pair having a center of gravity eccentrically displaced from the axis of rotation of the associated one of said shafts to cause each of said masses during rotation thereof to exert a dynamic force upon the associated one of said shafts with the dynamic force having instantaneous force components parallel to and perpendicular to said first plane, said first securing means securing said masses in said first pair to the respective said shafts in such angular relation to each other as to cause the respective force components parallel to said first plane exerted by said masses of said first pair to be equal and opposite and to cause the respective force components perpendicular to said first plane exerted by said masses of said first pair to be equal and additive;
a second pair of generally equal masses disposed in a third plane, said third plane being parallel to and spaced from said second plane,
second securing means for fixedly securing one of said masses in said second pair to said first shaft and for securing the other of said masses in said second pair to said second shaft,
each of said masses of said second pair having a center of gravity eccentrically displaced from the axis of rotation of the associated one of said shafts to cause each of said masses during rotation thereof to exert a dynamic force upon the associated one of said shafts with the dynamic force having instantaneous force components parallel to and perpendicular to said first plane, said second securing means securing said masses in said second pair to the respective said shafts in such angular relation to each other as to cause the respective force components parallel to said first plane exerted by said masses of said second pair to be equal and opposite and to cause the respective force components perpendicular to said first plane to be equal and additive;
said masses in said first pair being oppositely angularly related to said masses in said second pair to cause said additive force components exerted by said first pair of masses to be directed in an opposite direction to said additive force components exerted by said second pair of masses;
whereby an alternating couple acting about an axis intermediate and parallel to said second and third planes and lying in said first plane is applied to said base member to impart thereto a vibratory rectilinear shaking motion perpendicular to said first plane.

3,407,671
SPEED STEP-UP BALL BEARING EPICYCLIC DRIVE
Emil M. Prosen, Bala-Cynwyd, Pa., assignor to Nobilium Products, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 19, 1966, Ser. No. 602,714
10 Claims. (Cl. 74—64)

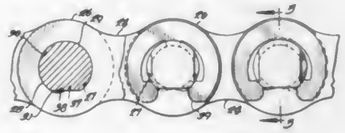
A machine for stepping up the output speed of a motor shaft by connecting to said shaft the driving cage of an epicyclic ball bearing transmission, the cage of which has

oblique slots wherein the balls move outwardly under centrifugal force to engage an arcuate shoulder of diminishing diameter on a fixed outer race of the ball bearing



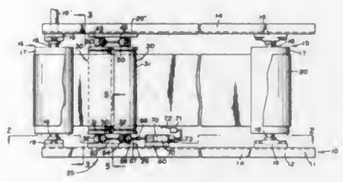
transmission to insure a definite preload or traction between the outer and inner races and overcome slippage between the balls and races due to wear.

3,407,672
POWER TRANSMITTING CHAIN
Henry G. Keller, Glenside, Pa., assignor to FMC Corporation, a corporation of Delaware
Filed Apr. 25, 1967, Ser. No. 633,481
8 Claims. (Cl. 74—236)



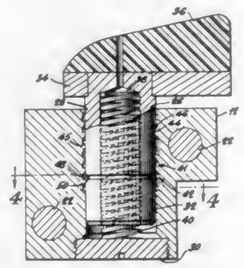
A chain for transmitting power between two expansible, variable pitch diameter sheaves of a variable speed transmission. The chain includes pins having end surfaces which engage opposed, conical driving flanges of the sheaves, these surfaces preferably being formed in a parti-cylindrical shape. The chain also includes means cooperating between the pins and links for properly positioning the pins prior to their engaging the sheaves.

3,407,673
BELT TRACKING APPARATUS
Raymond J. Slezak, 558 Princeton Ave., Barberton, Ohio 44203
Filed May 19, 1966, Ser. No. 551,294
14 Claims. (Cl. 74—241)



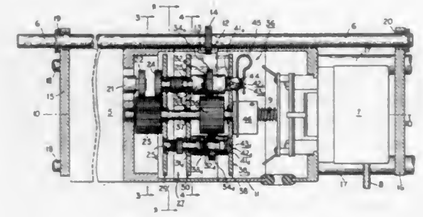
A belt tracking apparatus composed of a tracking roller assembly having a frame, a shaft with a roller freely rotatably mounted thereon to engage a moving belt, a pair of suspension pins attached to the frame, and a pivot arm rotatably mounted on each suspension pin and supporting the shaft, with at least one pivot arm nonrotatably attached to the shaft, whereby any mistracking of a moving belt to one side of the roller causes an angular displacement of the pivot arm and roller to correct the lateral travel of the belt.

3,407,674
DRIVE CHAIN TENSIONING APPARATUS
Bert L. Pearce and Clarence E. Kelch, Indianapolis, Ind., assignors to FMC Corporation, a corporation of Delaware
Filed July 8, 1966, Ser. No. 563,896
2 Claims. (Cl. 74—242.11)



A drive chain tensioning device comprising; a housing having a bore therein, a piston slidably received within said bore with one end thereof extending outwardly of said bore, a resilient pad affixed to the said one end of the piston for tensioning engagement with an endless chain, means for urging the piston outwardly of said bore to press the pad into engagement with the endless chain, and unidirectional locking means for preventing the piston from sliding back into the bore.

3,407,675
SPEED-SHIFT TRANSMISSION
Philip K. Bodge, Andover, Mass., assignor to Insco Corporation, Groton, Mass., a corporation of Massachusetts
Filed Oct. 28, 1966, Ser. No. 590,255
14 Claims. (Cl. 74—329)

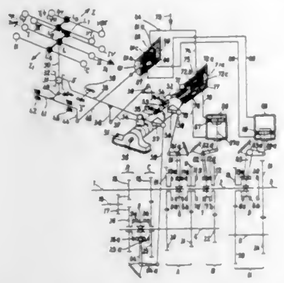


In a selectable-speed mechanical transmission, the clutch elements of a circular array of driving clutch elements each rotated at a distinctive speed are separately and selectively engageable with cooperating driven clutch elements which are all geared in driving relation to an output shaft, the driving and driven clutch elements normally being yieldably biased out of engagement and the speed selections being effected by selectably and independently overcoming the biasing associated with different ones of the clutch elements.

3,407,676
MULTIPLE SPEED GEARSHIFT CONTROL FOR MOTOR VEHICLES
Alfred Magg, Friedrichshafen, Germany, assignor to Zahnradfabrik Friedrichshafen A.G., Friedrichshafen, Germany
Filed Sept. 20, 1966, Ser. No. 581,671
9 Claims. (Cl. 74—335)

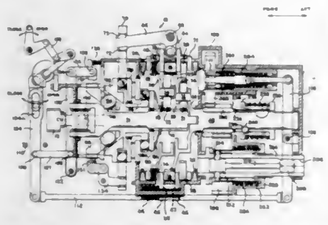
This invention relates to gear transmission and more particularly to transmissions having a large number of speeds, for example, eight speeds, a crawl speed and a reverse speed, for heavy commercial vehicles, such as

trucks and the like. A combination of components is provided involving a plurality of gear ratios any one of which can be connected to an auxiliary step-down gear



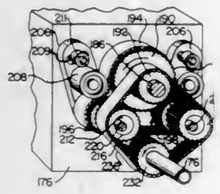
device so that a large plurality of speeds are selective by means of a gearshift lever having movement in a pair of selective planes.

3,407,677
POWER AMPLIFIER
Henry Troeger, Cooperstown, N.Y., assignor to The Bendix Corporation, a corporation of Delaware
Filed June 14, 1966, Ser. No. 557,434
16 Claims. (Cl. 74—388)



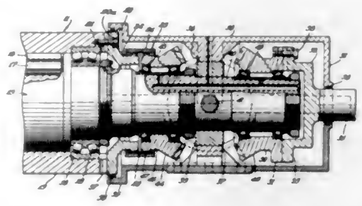
A mechanical power amplifier position control unit to couple a power input to a power output and vary amplification in response to a signal input and a signal feedback. The unit has an idle state at which the output is zero and at which the amplifier has substantially no sliding friction. A reversible planetary gear reduction system is combined with a ball drive system forward and reverse control being achieved by braking various segments of the planetary gear system.

3,407,678
MECHANISM FOR PRODUCING ROTARY OUTPUT MOTION WITH HARMONIC DISPLACEMENT CHARACTERISTICS
James M. Steinke, West Carrollton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Dec. 19, 1966, Ser. No. 602,846
13 Claims. (Cl. 74—394)



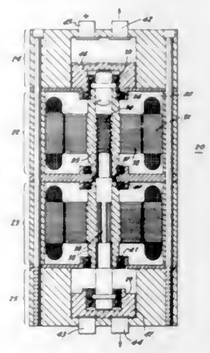
A drive mechanism which converts an input of constant rotary motion to an output of intermittent rotary motion is shown in three different embodiments, all using crank members. The crank members are rotated by belt, epicyclic, and hypocyclic connections to alter the constant rotary input to produce a dwell in the output shaft of the mechanism.

3,407,679
DEFLECTION ROLL DRIVE
Karlis Berzins, Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Continuation of application Ser. No. 479,899, Aug. 16, 1965. This application Nov. 13, 1967, Ser. No. 682,674
9 Claims. (Cl. 74—423)



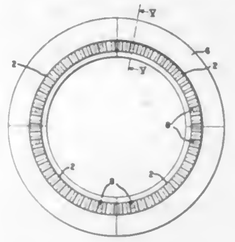
Support and drive for controlled deflection roll of the calender type in which the roll is supported on a stationary center shaft on self-aligning bearings. The center shaft extends beyond the ends of the roll and is fixedly supported adjacent its ends. The support for one end of the center shaft comprises a stationary housing extending axially of the roll shell beyond the end of the center shaft and having a support for the shaft mounted therein supporting the shaft inwardly of the outer end of the shaft. Drive gearing journalled on the shaft on opposite sides of the support and a third drive gear journalled on the support and meshing with the drive gearing forms a drive for the roll, driving the roll around the support. A flexible coupling connects the drive gearing to the roll.

3,407,680
RECIPROCATING POWER ARRANGEMENTS
Julius C. Westmoreland, 6607 Avenida de las Pescas, La Jolla, Calif.
Filed Nov. 9, 1965, Ser. No. 506,932
12 Claims. (Cl. 74—424.8)



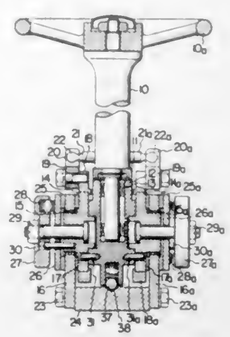
A mechanical device for providing a reciprocating power output which utilizes two small high speed motors positioned to drive a single rotating shaft, one through a spline arrangement and the other through a screw arrangement, such that variations in motor speed provide a controlled, longitudinal reciprocating movement of the rotating shaft.

3,407,681
FACE GEAR AND METHOD OF ITS MANUFACTURE
James G. Kiernan, Albany, and Martin O. Trabler, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed Jan. 12, 1967, Ser. No. 608,766
3 Claims. (Cl. 74—448)



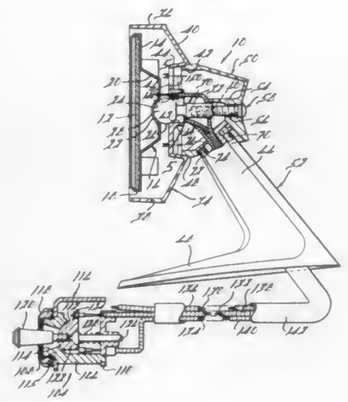
A face gear made up of several members formed into arcs from straight rack members.

3,407,682
CONTROL DEVICE FOR POWER-DRIVEN VEHICLES HAVING HYDRAULICALLY DRIVEN SPEED-CHANGING MECHANISMS
Heiji Yoshizawa, Yokohama-shi, Yasuo Suzuki, Komatsu-shi, and Katsuhiro Watanabe, Tokyo-to, Japan, assignors to Kabushiki Kaisha Komatsu Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan
Filed Nov. 23, 1966, Ser. No. 596,535
Claims priority, application Japan, Dec. 27, 1965, 40/80,103
6 Claims. (Cl. 74—471)



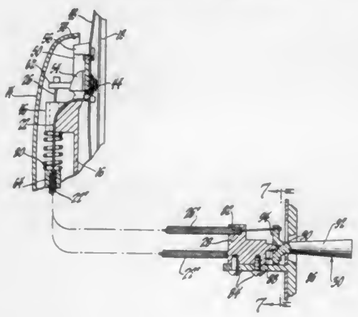
A device for use in a powered vehicle of the crawler-type for use in controlling both the forward and rearward speed and the turning of the vehicle. A control member is mounted at its base in a housing and is arranged to be rotated about its own axis and also about an axis through the housing perpendicular to its axis. The control member is rotatable about its own axis for regulating the turning action of the vehicle and it is rotated or pivoted about the axis through the housing to regulate the speed of the vehicle. Communicating between the control member and a pair of hydraulically driven speed-changing mechanisms is an assembly including a pair of rotatable rings which are engageable with the control member and with rod link means for transmitting the motion of the control member to the speed-changing mechanisms. When the control member is rotated or pivoted about the axis perpendicular to its own axis, the rod linking means are both moved in the same direction for controlling the forward and rearward movement of the vehicle, however, when the control member is rotated about its own axis. the rod link means are moved in opposite directions for turning the vehicle to the left or to the right.

3,407,683
UNIVERSAL MIRROR
Douglas D. Liedel, Belleville, Mich., assignor to C. M. Hall Lamp Company, Detroit, Mich., a corporation of Michigan
Filed June 10, 1966, Ser. No. 557,346
37 Claims. (Cl. 74—501)



An outside rear view mirror for a vehicle with high mirror position flexibility and adjustable for remote control. A hood element is supported for rotation upon relatively stationary elements by two sets of mating and cooperating surfaces. Thus the hood element has a socket portion which cooperates with a portion of a ball end portion of a mounting stud member, and in addition the outer surface of the stationary element is engaged by a concave seat or recess in the hood element. During hood adjustment, the mirror element maintains its position relative to the hood, because cable casings are hood-supported and the mirror element is remotely adjustable relative to the hood.

3,407,684
REMOTE CONTROL MIRROR
Andrew J. Van Noord, Grand Rapids, Mich., assignor to Kent Engineering, Grand Rapids, Mich., a partnership of Michigan
Continuation of application Ser. No. 433,050, Feb. 16, 1965. This application Feb. 27, 1967, Ser. No. 627,910
6 Claims. (Cl. 74—501)



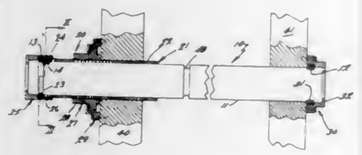
A tiltable mirror actuated by remote control means. Movement of the control means is transmitted by flexible

cables in sheaths. Spring means between the ends of the sheaths and the support for the mirror allow sheath elongation during installation.

3,407,685
GROOVED TIE BAR ASSEMBLY FOR DIECASTING MACHINES AND THE LIKE

Edgar D. Prince, Holland, Mich., assignor to Prince Manufacturing Company, Inc., Holland, Mich., a corporation of Michigan

Filed Apr. 12, 1966, Ser. No. 542,055
8 Claims. (Cl. 74—579)

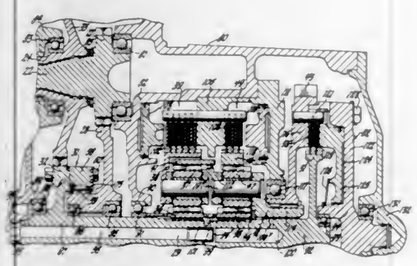


A tie rod apparatus particularly adapted for utilization in conjunction with a press, pressure molding device or the like having an elongated tension member adapted to pass through the spaced front and rear plates of the apparatus. The member is not threaded at its extremities, but rather a sleeve is telescopically positioned thereover and the bearing nut adjustably affixed to the sleeve. The sleeve is retained on the member by means of a collar mating with a suitable groove in the extremity of the tension member. It is understood that this abstract is not to be utilized to limit the scope of this invention.

3,407,686
TRANSMISSION

Robert M. Tuck and Ulysses A. Breting, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Original application Oct. 22, 1962, Ser. No. 231,917, now Patent No. 3,256,751, dated June 21, 1966. Divided and this application Feb. 28, 1966, Ser. No. 530,617
10 Claims. (Cl. 74—701)

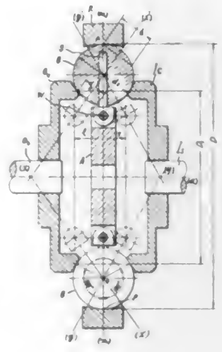


A transmission having a dual turbine torque converter, driving through combining spur gearing having a speed responsive one way clutch, a two speed forward and one reverse drive gear unit. The gear unit has a front input shaft portion splined by a dual sun gear member to a rear shaft portion, forward and reverse reduction gearing driven by the sun gear to drive an output clutch unit with an output gear thereon and a clutch connecting the rear shaft portion to the output clutch unit. Lubricant is supplied through the front shaft portion to the space between shaft portions and centrifuged through holes in the sun gear. The output clutch unit is formed by the output gear and a cylinder disc with a piston actuating the clutch plates.

3,407,687
VARIABLE RATIO POWER TRANSMISSION DEVICE

Tadashi Hayashi, 40–1 Hikisonishimachi, Sakai, Osaka-fu, Japan

Filed Mar. 27, 1967, Ser. No. 626,070
6 Claims. (Cl. 74—796)

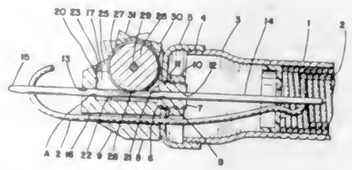


A transmission device comprising, a fixed annular ring, satellite balls in rolling contact with the internal surface of said annular ring, and two friction wheels in contact with said satellite balls, and each wheel being mounted on one of a pair of drive and driven shafts aligned on a main axis. The axis of rotation of the satellite balls is held in a radial direction relative to said main axis and is pivotable about an axis perpendicular to and spaced from said main axis, whereby the speed of rotation of said satellite balls can be changed by changing the inclinations of the axis of rotation of said satellite balls. The driven shaft can thus be driven at various speeds relative to the drive shaft.

3,407,688
WHEEL LOCK FOR INJECTOR TOOLS

Willard J. Castle, 11099 Sprague Road, North Royalton, Ohio 44133, and Robert J. Manning, 6401 Springwood Road, Parma Heights, Ohio 44129

Filed Dec. 30, 1966, Ser. No. 606,209
9 Claims. (Cl. 81—15.7)



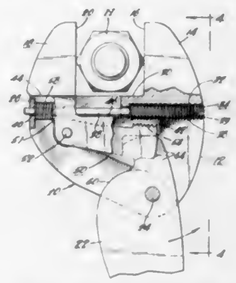
A tire repairing injector tool is provided in which a needle is utilized to inject the repair material into a tire, and means are provided for bowing a portion of the needle between axially-spaced needle-supporting fulcrum points, whereby to lock the needle against axial movement during the injection of the repair material.

3,407,689
SLIDING JAW WRENCH HAVING AN ADJUSTABLE RACK AND PIVOTED RACK CATCH

Wayland F. Slayton, R.F.D. 1, Box 164, Glen Mills, Pa. 19342

Filed July 13, 1966, Ser. No. 564,967
8 Claims. (Cl. 81—134)

A ratchet wrench comprising a body portion including a fixed jaw member having a nut engaging face and a movable jaw member having a nut engaging face confronting the face of the fixed jaw member. The ratchet wrench further includes a pivotally mounted handle member connected to the body portion and a locking member mounted for adjusting movement in the body portion including a



section having a plurality of serrations which are engageable by serrations of the movable jaw member upon rotation of the handle in one direction. The adjustable locking member permits precise spacing of the faces of the jaw in the locking position for various sizes of standard nuts and bolts.

3,407,690
METHOD OF TRIMMING AND CUTTING IN REGISTER

Edward W. Stanley, Lancaster, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

Filed Dec. 12, 1966, Ser. No. 600,990
4 Claims. (Cl. 83—47)



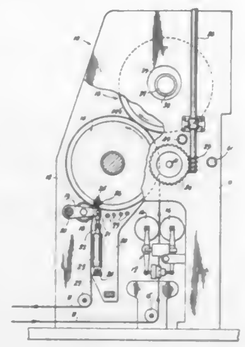
A method of trimming and cutting into short sections a continuous length of sheet goods with impressions thereon. The short sections are trimmed and cut in register with the impressions. The continuous sheet goods is first trimmed on both longitudinal edges by a photocell controlled trimmer, then the short sections are cut off by a photocell controlled cutter. Register marks on the sheet goods operate the photocells which control the trimmer and cutter.

3,407,691
ROTARY PERFORATING DEVICE

William A. Schlesinger, Ridgewood, N.J., assignor to William F. Huck, doing business as Huck Company, Montvale, N.J.

Filed June 1, 1966, Ser. No. 554,376
9 Claims. (Cl. 83—344)

A rotary perforator capable of selectively forming different patterns in sheet material, as for forming stamps of either standard or commemorative size, is obtained by providing the male cylinder with sets of longer and shorter pins to enter matching die holes which advantageously are punched by these pins in a sheath of the female cylinder, and making one of the cylinders displaceable radially relative to the other, as by eccentric bearing housing turnable by motor devices, so that the

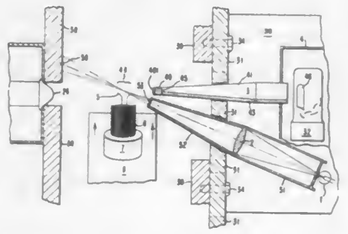


longer pins only or all the pins will perforate the material, depending upon the relative position of the cylinders.

3,407,692
LONG ENDS DETECTOR

James Henry Martin, Jr., Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 24, 1964, Ser. No. 362,426
2 Claims. (Cl. 83—522)

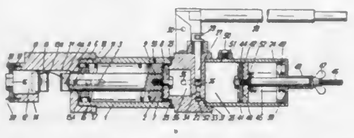


The presence of uncut or "long" ends of staple fiber in cutters for converting continuous filaments to staple or detected by photoelectric recognition of long ends protruding above bundles of fiber in a staple fiber cutter. The detection apparatus includes a light source focusing means, photocells, dust impermeable encasing to prevent fouling of operable parts of the apparatus, and accompanying electrical apparatus to visually register photocell output.

3,407,693
HYDRAULIC CUTTERS

Daniel Greer McNair, 583 Govan Road, Glasgow, SW. 1, Scotland

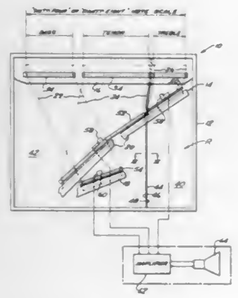
Filed July 5, 1966, Ser. No. 562,793
4 Claims. (Cl. 83—635)



An hydraulic cutter has an hydraulically operable piston-and-cylinder device including a manually operable hydraulic pump, and a cylindrical fluid reservoir for the supply of fluid to the pump at the opposite side thereof

from the cylinder of the device and coaxial with the cylinder. A spring-urged plunger is housed in the reservoir to maintain a proper fluid supply to the pump irrespective of the orientation of the cutter. A U-support for the workpiece is provided on the cylinder and a cutting blade mounted on the piston of the device is movable on operation of the pump to penetrate the workpiece.

3,407,694
RESONATOR MEANS FOR PIANOS
Ernest Vagias, 265 Prospect St., Baden, Pa. 15005
Filed Dec. 1, 1966, Ser. No. 598,413
9 Claims. (Cl. 84—194)



1. In a piano having a plurality of tuned vibrators including treble, tenor and bass vibrators, and resonator means coupled to said tuned vibrators for radiating sounds in accordance with the vibrations of said tuned vibrators, the improvement of:

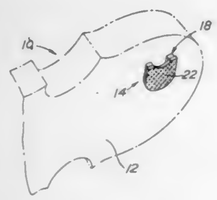
said resonator means comprising:

a first sounding board coupled to said treble vibrators; and

a second sounding board coupled to said bass and tenor vibrators;

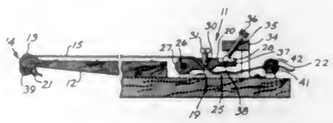
said first sounding board being isolated from said second sounding board whereby vibrations produced in either said sounding board are substantially entirely prevented from being reproduced by the other said sounding board.

3,407,695
SHOULDER PAD FOR VIOLIN
George Perlman, 236 Linden Ave., Wilmette, Ill. 60091
Filed Nov. 23, 1966, Ser. No. 596,522
10 Claims. (Cl. 84—280)



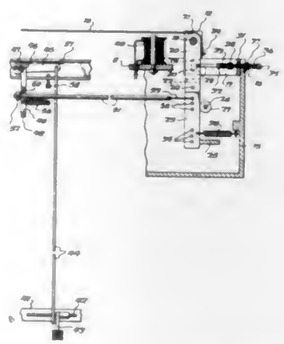
The shoulder pad for violins includes at least one sheet-like, flexible, but shape retaining structural member with a U-shaped foamed rubber spacer means between the support member and the violin. Pressure sensitive adhesive on the spacer permits positioning the pad at any position and attitude. Alternate layers of laterally-apertured rubber spacers, an additional sheet-like structural members with cut out portions therein provide pads of selected thickness. An outermost layer of foamed rubber is provided for comfort and nonslip usage.

3,407,696
STRINGED MUSICAL INSTRUMENT STABLE, HARMONIC-FREE TUNING
Jimmy G. Smith, 7709 Lankershim Blvd., Apt. 125, and Orville J. Rhodes, 11826 Blythe St., both of North Hollywood, Calif. 91605
Filed Sept. 14, 1967, Ser. No. 667,842
7 Claims. (Cl. 84—297)



The tension of each of the strings in a stringed musical instrument is established for tuning by a lever arm pivoted at one end and pressed against a tuning adjustment screw at the other end. One end of the string is attached to the pivoted end of the lever arm replacing the conventional bridge. The other end of the string is anchored to the far end of the fret bar or neck. The string thus has no extensions beyond the termination points to produce unwanted harmonics.

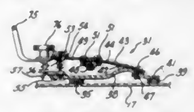
3,407,697
TUNER FOR ELECTRIC STEEL GUITAR
David H. Jackson, 102 Westchester Court, Madison, Tenn. 37115
Filed Aug. 22, 1966, Ser. No. 573,948
6 Claims. (Cl. 84—312)



1. In a stringed instrument having an elongated body provided with a plurality of parallel vibratable strings under tension secured at their head ends to a plurality of tuning pegs and at their tail ends to tension varying means, said tension varying means including a pivot shaft extending transversely with respect to said strings and located below the plane thereof, a downwardly extending finger pivotally mounted on said pivot shaft and having a semi-cylindrical upper end concentric to said pivot shaft for supporting the tail end portion of a string, means for securing the tail end of said string to said finger, a depending pivot bar pivotally attached at its upper end to the lower end of said finger about an axis parallel to said pivot shaft, a pair of vertically spaced fulcrum abutments contacting

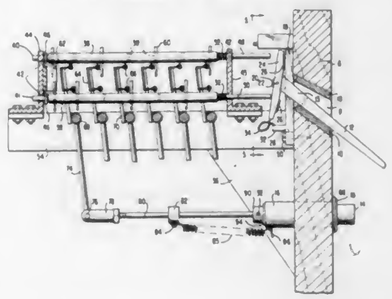
the tail edge of said pivot bar, resilient means for normally maintaining said pivot bar in contact with said vertically spaced abutments, the tension on said string additionally normally assisting in maintaining said pivot bar in contact therewith by tending to rotate said finger about said pivot shaft in a direction to cause the lower end of said finger to move toward the plane of said vertically spaced abutments, and selectively connectable means for pulling the top of said pivot bar away from the upper of said vertically spaced abutments while retaining the bottom of said pivot bar in contact with the lower thereof whereby to oscillate said finger in a direction to increase the tension on and pitch of said string or for pulling the bottom of said pivot bar away from the lower of said vertically spaced abutments while retaining upper portion of said pivot bar in contact with the upper thereof whereby to oscillate said finger in a direction to decrease the tension on and pitch of said string.

3,407,698
VIBRATOR TUNING DEVICE
Elwin L. Drake, 346 Robertson Ave., Battle Creek, Mich.
Filed Apr. 11, 1966, Ser. No. 541,800
10 Claims. (Cl. 84—315)



The present invention relates broadly to a vibrator tuning device for use with a stringed musical instrument, and in its specific phases to a resilient vibrator unit for use on a guitar wherein said resilient vibrator unit comprises a bridge roller mounted on spring members which serve to activate said bridge roller in substantially an up and down direction.

3,407,699
MECHANICALLY PRESET SETTER BOARD
Paul A. Klann, P.O. Box 2398, Waynesboro, Va. 22980
Filed Oct. 6, 1965, Ser. No. 493,394
10 Claims. (Cl. 84—344)



A preset setter board provided with a plurality of stop tabs pivoted on a panel member between an "on" and "off" position is also provided with a plurality of push buttons each of which is capable of shifting a predetermined number of stop tabs to provide a preset pattern. Each of the push buttons is connected to an elongated rocker arm which contacts a plurality of movable pin members arranged in push rods which are arranged to operate the individual stop tabs. Each stop tab is mounted on a separate individual module for easy replacement and for movement independent of the preset push button arrangement.

3,407,700
HUMIDIFIER FOR MUSICAL INSTRUMENTS
Ralph Hollander, 425 W. 57th St., New York, N.Y. 10019
Filed Nov. 29, 1966, Ser. No. 597,711
7 Claims. (Cl. 84—453)



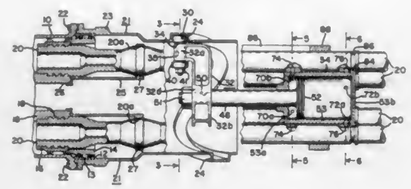
1. A humidifying snake insertable into a natural opening in the soundboard of a musical instrument, said snake comprising:

(a) an elongated flexible core of water-absorbent material,

(b) a sheath of flexible material surrounding said core and having evaporator openings therein which are circumferentially and longitudinally distributed, and

(c) an enlarged headpiece secured to the end of the sheath to permit removal of the snake, said snake having a diameter permitting its insertion through said natural opening, the dimension of the headpiece being greater than said opening.

3,407,701
GAS DRIVE FOR A ROTATING BARREL GUN
Robert Ernest Chiabrandy, Burlington, Vt., assignor to General Electric Company, a corporation of New York
Filed July 17, 1967, Ser. No. 653,917
8 Claims. (Cl. 89—126)

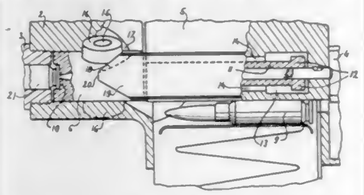


An improved gas drive for a modern version of the Gatling-gun, as exemplified in the U.S. patent to Otto—2,849,921. The drive includes a cylinder, located between the barrel grouping, having sets of passages at either end thereof in flow communication with ports in the barrels, whereby cartridge discharge gases reciprocally drive a piston in the cylinder which is operably connected to a cam follower engaged with a cam track rigidly affixed to the gun housing to effect one complete cycle of piston motion for every other barrel fired. The resulting multiple stroke drive of the single piston arrangement described provides increased starting torque and sustained drive power.

3,407,702
AUTOMATIC FIREARM WITH RETARDED BLOW-BACK BREECH MECHANISM
Jiri Cermak and Bohuslav Novotny, Brno, Czechoslovakia, assignors to Vyzkumny a vyvojovy ustav Zavod vseobecneho strojirenstvi, Brno, Czechoslovakia
Filed June 8, 1967, Ser. No. 644,617
7 Claims. (Cl. 89—194)

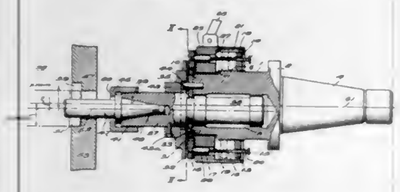
An automatic firearm with retarded blow-back breech mechanism comprising a cylindrical breech bolt carrying a pair of rollers adapted for cooperation with helical surfaces in the receiver and in the breech bolt carrier, to accelerate the latter during the first part of the recoil movement, whereupon the rollers engage supporting faces on said carrier. Before termination of the forward movement

at least one roller strikes a cam surface, initiating thereby rotation of the breech bolt into firing position. When used



with a belt feed, a feed piece with a cutting edge is provided, adapted to expand or cut the belt link.

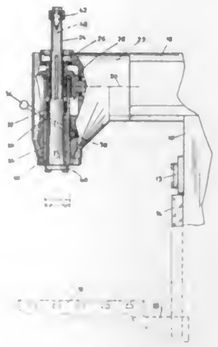
3,407,703
MACHINE TOOL FOR BACK WORKING OF BORE HOLES
Vinzenz Guidi, Baden, and Max Meier, Wettingen, Switzerland, assignors to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Nov. 7, 1966, Ser. No. 592,590
Claims priority, application Switzerland, Dec. 15, 1965, 15,752/65
7 Claims. (Cl. 90—11)



1. In a machine tool for the back-working of bore holes, the combination comprising a work spindle having chucking means at one end thereof to effect rotation of the spindle and a cylindrical housing part, said housing part including a bore at one end thereof eccentric to the axis of rotation of said spindle, a tool holder having a shaft portion at one end received in said eccentric bore, a boring tool secured to the other end of said tool holder, circumferentially spaced stop means cooperative with said housing and tool holder for effecting a limited rotational displacement of said tool holder in said bore in one direction or the other to two limit positions relative to said housing dependent upon the sense of rotation of said work spindle, said stop means also providing a rotary driving connection between said housing and tool holder, and a back working tool mounted on said tool holder, the axis of said tool holder and hence also of said back working tool having a minimum eccentricity relative to the axis of rotation of said work spindle when said tool holder is rotationally displaced in one direction to one of said limit positions and having a maximum eccentricity when said tool holder is rotationally displaced in the opposite direction to the other of said limit positions.

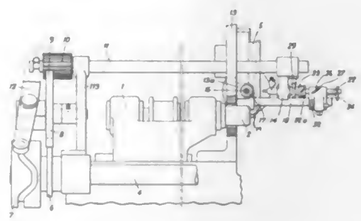
3,407,704
MILLING MACHINE
Rudolf Reeber, Neukeferloh, and Johann Müller, Munich, Germany, assignors to Friedrich Deckel Prazisions Mechanik und Maschinenbau, Munich, Germany, a firm of Germany
Filed Dec. 14, 1965, Ser. No. 513,733
Claims priority, application Germany, Dec. 18, 1964, D 46,092
3 Claims. (Cl. 90—17)

A milling machine has a spindle head which may be swiveled about a horizontal axis, and which carries a double-ended tool spindle rotatable on an axis perpendicular to the swivel axis. The spindle head is asymmetrical with respect to the swivel axis, the spindle-supporting portion of the head adjacent one end of the tool spindle being substantially farther from the swivel axis than the portion adjacent the opposite end of the tool spindle. This



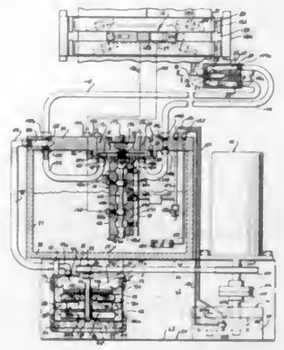
facilitates the use of a relatively short tool at the first mentioned end of the tool spindle and a relatively long tool at the opposite end of the tool spindle, with minimum readjustment of the work table when the spindle head is swiveled to bring first one tool and then the other into cooperative relation to the work.

3,407,705
ATTACHMENT ON AUTOMATIC LATHE
André Bechler, 4 Rue Centrale, Moutier, Bern, Switzerland
Filed July 18, 1966, Ser. No. 565,916
Claims priority, application Switzerland, Aug. 10, 1965, 11,186/65
7 Claims. (Cl. 90—56)



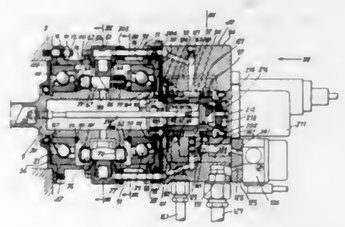
1. An attachment for an automatic lathe or the like comprising a frame, a transfer arm mounted on said frame actuating means providing pivotal movement and longitudinal movement of said arm, whereby an auxiliary chuck on said transfer arm can grip a workpiece formed by said lathe and relocate and support said workpiece for subsequent machining operations, said chuck being mounted on said transfer arm for movement relative thereto between a plurality of indexed positions, and indexing means operable to progressively move said chuck to said indexed positions in response to predetermined movement of said transfer arm, said indexing means including latch means operable to hold said chuck in said indexed positions while said subsequent machining operations are performed on said workpiece.

3,407,706
WEB EDGE SENSING AND CONTROL APPARATUS
Robert W. Ott, Jr., Rockford, Ill., assignor to Rockford Servo Corporation, Rockford, Ill., a corporation of Illinois
Feb. 23, 1967, Ser. No. 618,102
8 Claims. (Cl. 91—3)



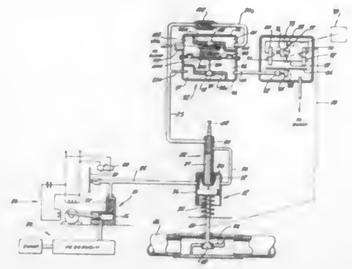
Pressurized air is supplied to two orifices in a sensing head which blow opposing streams of air toward each other and across the path of travel of the web edge. The edge of the travelling web partially interrupts the reaction of these two jets of air and produces a small pressure variation which is applied to a pressure responsive actuator that operates a servovalve to control a remote servomotor.

3,407,707
HYDRAULIC MOTOR OF SMALL OVERALL DIMENSIONS FOR DRIVING ROTATABLY THE LEAD SCREW CONTROLLING THE FEED MOTION OF A MACHINE CARRIAGE
Pierre Alfred Belliere, Viroflay, France, assignor, by mesne assignments, to Ratier Forest, Paris, France
Filed Feb. 16, 1966, Ser. No. 527,853
Claims priority, application France, July 17, 1965, 25,034
4 Claims. (Cl. 91—29)



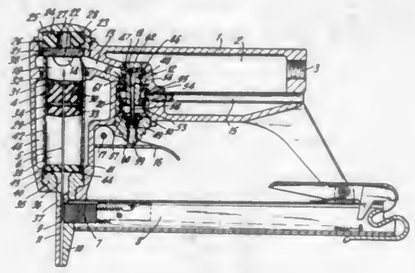
A hydraulic motor of small overall dimensions for driving rotatably the lead screw controlling the feed motion of a machine carriage in which a plurality of cylinders is secured to the stator with their axes arranged radially in a common plane and a cross member is secured to each piston reciprocable in the cylinder in a direction parallel with the axis of the rotor. A rotatable means is mounted on each end of the cross members, two cams are affixed to the rotor on either side of the common plane and spaced axially by a distance equal to the distance between the rotatable means and the cams are in engagement with the corresponding rotatable means.

3,407,708
FLUID CONTROL SYSTEM
William A. Ray, North Hollywood, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Jan. 12, 1966, Ser. No. 520,154
7 Claims. (Cl. 91—48)



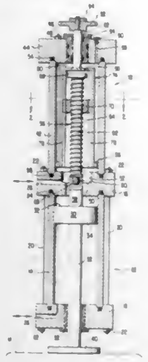
The system generally includes a source of pressurized fluid connected to operate a displaceable actuator, and valve arrangements for bleeding pressure from the system to control movement of the actuator. An additional valve or blocking arrangement determines the amount of displacement of the actuator before bleeding is initiated. Valve means are also provided for initiating and terminating operation of the actuator rapidly by controlling the rate of bleeding.

3,407,709
COMPRESSED AIR-OPERATED APPARATUS TO DRIVE IN STAPLES, NAILS OR OTHER FASTENERS IN WORKPIECES
Heinz Emil Bade, Hamburg-Garstedt, Germany, assignor to Joh. Friedrich Behrens, Ahrensburg, Holstein, Germany, a partnership
Filed Apr. 19, 1967, Ser. No. 632,047
Claims priority, application Germany, Feb. 1, 1967, B 90,985
14 Claims. (Cl. 91—461)



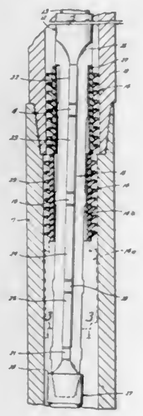
A compressed air driver for staples, nails or other fasteners, in which a permanent magnet holds back the piston in a cylinder until compressed air flowing to the cylinder builds up sufficient force to overcome the magnet, said magnet being transversely polarized with the poles lying within the face of the magnet facing the piston, with the magnet elastically supported by an upper buffer in a direction axially of the cylinder, with a magnet in the piston facing the permanent magnet, with a cap backing up the upper buffer, and the cylinder comprising a cylindrical bushing clamped between the upper buffer and a resilient lower buffer.

3,407,710
STROKE ADJUSTMENT MEANS FOR CYLINDER AND PISTON ASSEMBLY
Adolf F. Weiss, Easton, Pa., assignor to Alpha Press Company, doing business as Alpha Industrial Center, Alpha, N.J., a corporation of New Jersey
Filed Dec. 14, 1966, Ser. No. 601,791
10 Claims. (Cl. 92—13)



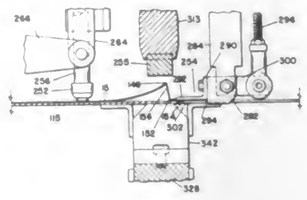
A stroke adjusting means for a hydraulic cylinder and piston assembly which includes a casing coupled to the cylinder and communicating with the interior thereof to receive the pressurized hydraulic fluid. A threaded shaft is disposed within the casing and is connected to the piston for movement therewith. A nut is carried by the threaded shaft and a sleeve means is engaged with the nut to normally prevent rotation thereof but to permit the nut to move axially in the casing as the threaded shaft moves. The nut contacts against a stop means to limit the stroke of the cylinder and piston assembly. By rotating the sleeve means, the axial position of the nut along the threaded shaft can be varied to thereby vary the stroke of the assembly.

3,407,711
SWAB ASSEMBLY
Jack C. Webber, Corpus Christi, Tex., assignor to Mission Manufacturing Company, Houston, Tex., a corporation of Delaware
Filed Apr. 25, 1966, Ser. No. 544,902
8 Claims. (Cl. 92—180)



This patent shows a mandrel and swabs for swabbing a well in which alternate lands and grooves are provided on a fluted mandrel. The alternate lands and grooves permit the swab rubbers to misalign as the swab is run into the well and align the swabs as it is removed from the well.

3,407,712
CARTON FORMING MACHINE
John W. Scully, Raynham, Mass., assignor to Pneumatic Scale Corporation, Quincy, Mass., a corporation of Massachusetts
Filed Jan. 20, 1967, Ser. No. 610,660
12 Claims. (Cl. 93—49)



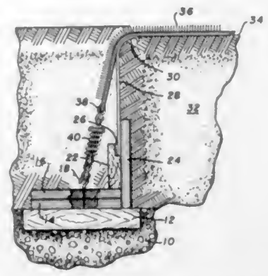
12. In a carton forming machine of the character described, in combination, means for supporting and clamping a prescored carton blank having a body portion, bottom closing flaps, and top closing extensions scored to provide a two-ply band in the blank, and means for folding said extensions along scored lines defining a transverse section, said folding means comprising a tucker blade movable to engage the leading edges and the upper surfaces of the leading portion of said extensions to confine the same flat against the support leaving said transverse section unconfined, continued movement of the tucker blade effecting bending of the section along said scored lines in a manner such as to lift an adjacent portion of the body and to fold the section under the body and over an adjacent transverse section, and a press bar engageable with the fold to retain the same during retraction of the press bar and movable to complete and set the fold.

3,407,713
SKI MAT
Robert S. Heckman, 5345 Tinker St., Otis Air Force Base, Cataumet, Mass. 02534
Filed Mar. 8, 1966, Ser. No. 532,626
8 Claims. (Cl. 94—3)



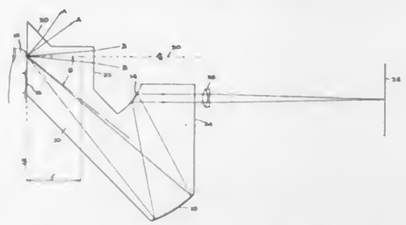
An elongated flexible mat of imperforate material is formed over its upper surface with an array of pockets containing a liquid lubricant to provide a low-cost, portable, artificial ski track. The mat is laid out over an inclined surface such as a hill and water is applied. The pockets retain the water and, as the skier passes over the pocketed surface, the mat yields sufficiently to release the lubricant which together with the lands provide skiing action closely akin to that obtained from natural snow.

3,407,714
APPARATUS FOR ANCHORING THE MARGIN OF SYNTHETIC TURF
Zack L. Henderson, Greenwood, S.C., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Apr. 13, 1966, Ser. No. 542,383
4 Claims. (Cl. 94—7)



Apparatus for holding and tensioning an artificial turf wherein springs connected to the turf stretch the turf across the curved upper end of a support member, the upper end of the support member being positioned at or slightly below ground level.

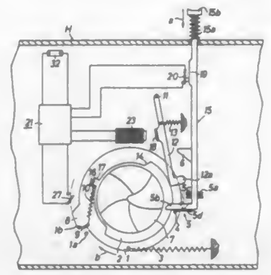
3,407,715
PHOTOGRAPHIC FINGERPRINTING DEVICE AND METHOD
Charles W. McCutchen, 5213 Acacia Ave., Bethesda, Md. 20014
Filed Sept. 30, 1965, Ser. No. 491,848
11 Claims. (Cl. 95—1.1)



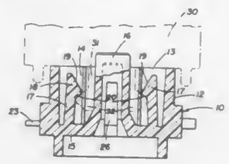
A system is provided for obtaining fingerprints photographically using total internal reflection and the associated critical angle phenomena to differentiate contact from non-contact of the object against a transparent plate. A well-focused, undistorted image of the object pressed against the plate is obtained by providing an optical system which has axial symmetry wherein the axis is perpendicular to the object plane.

3,407,716
EXPOSURE CONTROL DEVICE FOR PHOTOGRAPHIC CAMERAS
Richard Wick and Friedrich Bestenreiner, Gruenwald, near Munich, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed Mar. 10, 1966, Ser. No. 533,283
Claims priority, application Germany, Mar. 25, 1965, A 48,738
10 Claims. (Cl. 95—10)

1. In a photographic camera, a shutter movable between open and closed positions; blocking means movable into engagement with said shutter to hold the latter in open position; and an exposure control for disengaging said blocking means, comprising a light-sensitive resistor exposed to incident light, a source of electrical energy connected in series with said resistor, a capacitor connected in series with said resistor and said source so as to be charged and discharged by current flowing through said resistor, an electromagnet operative to permit disengagement of said blocking means in one condition of energization and to prevent such disengagement in the other condition of energization thereof, a trigger circuit connected with said electromagnet, and a transformer having a primary winding connected in series with said resistor and a secondary winding connected with said circuit.



3,407,717
ONE-PIECE MOLDABLE CAMERA SOCKET FOR DETACHABLY HOLDING A MULTILAMP PHOTOFLASH PACKAGE
Paul J. Ernisse, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed July 12, 1965, Ser. No. 471,182
9 Claims. (Cl. 95—11)

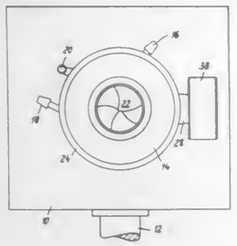


A multilamp photoflash socket having a base, a control ring with indexing notches for cooperating with the camera indexing mechanism, a plurality of upwardly extending flexible retaining fingers for engaging the retaining lugs extending downwardly from the connecting base of the multilamp package, and a cylindrical outer wall having a plurality of radially inwardly extending ribs the top surfaces of which define an access opening into the socket to aid insertion of the multilamp package.

3,407,718
PHOTOGRAPHIC APPARATUS
Franz Singer, Munich, Germany, assignor to Compur-Werk Gesellschaft mit beschrankter Haftung & Co., Munich, Germany, a firm of Germany
Filed Oct. 13, 1965, Ser. No. 495,573
Claims priority, application Germany, Apr. 9, 1965, C 12,936
5 Claims. (Cl. 95—11)

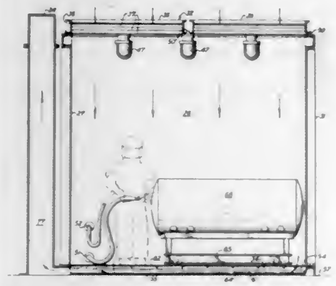
A photographic shutter having electronic equipment within the shutter housing and an external battery to furnish the necessary current. The battery is held in a hollow cylindrical container arranged to be detachably impaled on two metallic pins which project laterally from an adapter mounted between the battery container and the shutter housing. The metallic pins electrically connect the battery to the electrical equipment in the shutter

housing. The battery container has a recess accommodating a projection on the adapter to insure correct orientation of the battery container relative to the adapter. The



metallic pins on the adapter project into the interior of the shutter housing and are engaged by resilient metallic conducting forks within the shutter housing.

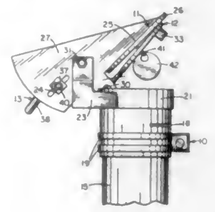
3,407,719
BLAST ROOM WITH UNIFORM DOWN-DRAFT VENTILATION
Donald L. Temple and Nathan Oberg, Washington, Mo., assignors to Zero Manufacturing Company, Washington, Mo., a corporation of Missouri
Filed Apr. 28, 1967, Ser. No. 634,586
7 Claims. (Cl. 98—32)



A blast room which has air drawn through a pervious top downwardly through a perforated floor and means for separating and exhausting the air and collecting the blasting material. The top is louvered by three tiers of angle beams resting on supports and alternately disposed so that an upwardly directed air blast sufficient to lift a beam moves same to block the space between two adjacent beams in the tier above. The floor includes a perforated grating lying on detached and readily removable beams of M cross-section having apertures in the central lower apex, there being two inclined longitudinally extending plates within the beam on either side of said apex. In one embodiment the plates extend normally from the vertical legs of the beam. In another they are vertical. In a further embodiment an inclined angle beam is inverted above the apex of the M-beam with slots disposed along the edges of the angle beam.

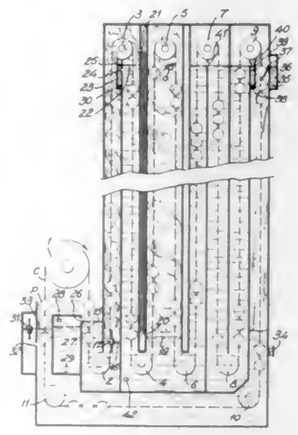
3,407,720
EXHAUST COVER
Albert M. Westerman, E. 10122 Broadway, Spokane, Wash. 99206
Filed Jan. 3, 1967, Ser. No. 606,855
5 Claims. (Cl. 98—59)

A cover movably associated with a mounting structure adapted to mount the cover over the top of a substantially vertical exhaust pipe to prevent entry of debris into the exhaust channel. The cover opens in response to exhaust gas pressure and has associated catch mechanism to pre-



vent opening in response to physical forces external to the exhaust channel, such as wind.

3,407,721
HYDROSTATIC PRESSURE TYPE CONTINUOUS STERILIZING AND COOLING APPARATUS
Pierre Carvallo, Amposta, Tarragone, Spain
Filed Aug. 3, 1966, Ser. No. 570,021
Claims priority, application France, Aug. 20, 1965, 28,911
9 Claims. (Cl. 99—249)

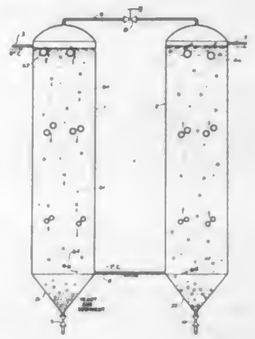


A continuous sterilizing and cooling apparatus in which a conveyor with a loading station for products to be treated and a discharge station, passes after said loading station in an ascending column closed at the bottom by a water seal enabling desired pressure and temperature conditions to be maintained in said ascending column, said ascending column being disposed in relation to the path of the conveyor, upstream of at least one hydrostatic pressure column which closes a sterilizing chamber.

3,407,722
APPARATUS FOR THE CONTINUOUS FERMENTATION AND CURING OF BEER
Fritz H. L. Huppmann, 88 Eckerkamp, 2 Hamburg 64, Germany
Filed Aug. 12, 1966, Ser. No. 572,019
15 Claims. (Cl. 99—277.1)

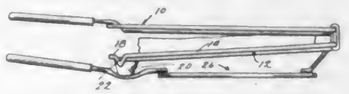
This apparatus is for the continuous secondary fermentation and curing of beer and it comprises two tall upright columns having a height of the order of say seven meters. There is a pipe connection to supply green beer to the top of the first column; a connection from a point near the bottom of the first column to a corresponding point near the bottom of the second column

for flow from the first to the second column; and a connection near the top of the second column for discharge of the cured beer. The columns are so tall that there is a substantial increase of pressure in descending direction in the first column to help accelerate the precipitation of yeast and sediment and to increase the absorption of carbon dioxide gas. There is a corresponding reduction of pressure in ascending direction in the second column which accelerates the release of carbon dioxide gas to help wash the beer in the second column. A pressure regulator may be connected to the tops of the columns to maintain a pressure of the order of say three meters of water column, in which case the pressure at the bottom



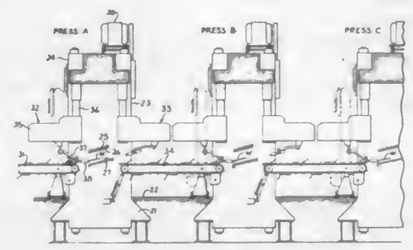
of the columns is of the order of say ten meters of water column. The pressure regulator also serves for discharge of carbon dioxide released in the columns. The lower end of each column is preferably an inverted cone in which precipitated yeast and sediment may collect for removal by means of a valve. The connection from the first to the second column is just above the conical bottom. An additional horizontal vat preferably is disposed in and forms a part of the connection between the first and second column, and a motor-driven conveyor disposed along the bottom of the horizontal vat leads to a drain pipe and valve for removal of sediment collected in the horizontal vat.

3,407,723
BACON COOKER
Joseph C. Varkala, 131 Llewellyn Road, Montclair, N.J. 07042
Filed Jan. 16, 1967, Ser. No. 609,423
3 Claims. (Cl. 99—349)



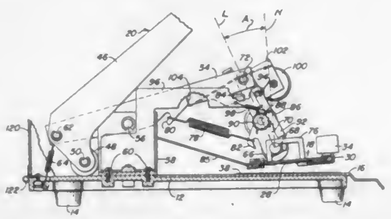
A bacon, or other meat, cooking device includes two corrugated plates which are positioned one over the other and connected together to accommodate varying thicknesses of meats between the two plates. Each of the separate plates includes a handle so that the plates can be separated from one another when it is desired to insert or remove meats. A lower plate of the pair includes a drainage trough into which grease may collect from the cooking of the meat, and the drainage trough includes pouring portions for permitting a removal of collected grease from the trough. The upper plate of the pair is constructed to provide a visual indication of the amount of grease collecting in the lower plate drainage trough so that a user may at all times be aware of the amount of grease collecting. Also, the device includes a base support which is constructed to provide a slight tilt to the entire device when it is in a closed position for cooking meats, and the tilt of the device is in the direction of the drainage trough so that all grease which is being cooked out of the meat will flow in a natural way down into the trough.

3,407,724
POWER PRESS ACCELERATION CONTROL SYSTEM
Francis E. Heiberger, Elmhurst, Ill., assignor to Danly Machine Corporation, Chicago, Ill., a corporation of Illinois
Filed Feb. 28, 1967, Ser. No. 619,216
14 Claims. (Cl. 100—43)



An acceleration control system for a single power press or a synchronized line of power presses for electrically controlling the transmission of torque from the press drive motor or motors to the press flywheel or flywheels to automatically limit the starting speed of the press or presses to a relatively low level at which the resulting starting shock is not sufficiently severe to create any significant probability of damage to the press components and to subsequently automatically and controllably accelerate the press or presses to a higher operating speed.

3,407,725
MANUALLY OPERATED PRINTING MACHINE
Merle R. Johnston, East Taunton, Mass., assignor to Elliott Business Machines Inc., Randolph Township, Mass., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,849
9 Claims. (Cl. 101—123)



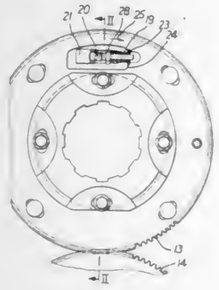
A manually operated printing machine of the type in which a print roll is made to traverse a stencil in order to transfer ink from the roll through the stencil to a workpiece, the machine including a base having a support for the workpiece, an operator lever mounted for movement relative to the base, a track for holding a stencil against the workpiece supported on the base, and a bracket mounted upon the base for movement toward and away from the base in response to movement of the operator lever. Links are pivotally mounted upon the bracket for movement relative thereto between a first

position and a second position in response to the movement of the bracket and carry a print roll capable of being urged against the stencil to press the stencil against the workpiece and movable across the stencil in response to movement of the links from the first position to the second position. Springs provided for biasing the links toward the first position with a force precluding pivotal movement of the links and traverse of the print roll across the stencil until the print roll is urged against the stencil and the stencil is pressed against the workpiece with a predetermined force, the links making an angle with the stencil when at the first position such that the force exerted by the bracket upon the links is transmitted by the links to the print roll and resolved into a first component for urging the print roll against the stencil and pressing the stencil against the workpiece and a second component for effecting traverse of the print roll across the stencil, the magnitude of the angle being such that the magnitude of the first component will reach the required predetermined force when the magnitude of the second component reaches the force necessary to overcome the biasing force and effect the traverse whereby the force exerted by the bracket is maintained at a minimum.

3,407,726
METAL STENCIL PRINTING
Harry N. Rosengren, Dallas, Tex., assignor to Electrolytic Machining, Inc., Dallas, Tex., a corporation of Texas
Original application Aug. 15, 1966, Ser. No. 572,296. Divided and this application Nov. 3, 1967, Ser. No. 690,365
4 Claims. (Cl. 101—128.3)

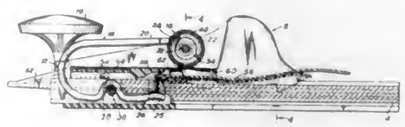
A method is described for making thin metal foil stencil having a large number of small apertures therethrough forming perforations corresponding to the configuration of the pattern to be printed. An etching method is employed to form the apertures that employs the use of an etch resistant fluid to control the etching.

3,407,727
SUPPLEMENTARY DRIVING GEAR ARRANGEMENT FOR MULTI-COLOR SHEET-FED ROTARY PRINTING PRESSES
Hermann Fischer, Augsburg, Germany, assignor to Maschinenfabrik Augsburg-Nurnberg AG, Augsburg, Germany, a corporation of Germany
Filed Mar. 7, 1967, Ser. No. 621,293
Claims priority, application Germany, Mar. 23, 1966, M 68,871
7 Claims. (Cl. 101—177)



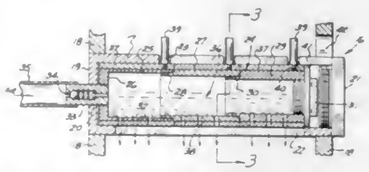
A supplementary driving gear is disposed adjacent the intermeshing direct drive gears of the plate, impression and blanket cylinders of multi-color sheet-fed rotary printing presses with the supplementary gears being provided with a resilient pre-tensioned movement in a direction opposite to the direction of rotation of the cylinders for accommodating the backlash movement in the intermeshing teeth of the direct drive gears therefor, caused by a bead formed on the resilient blanket surface of the blanket cylinders at the point directly in front of the pressure line between the hard surface of the impression and/or plate cylinders and the "soft" surface of the blanket cylinders.

3,407,728
MANUALLY OPERABLE PRINTER, PARTICULARLY FOR IMPRINTING NAMES AND ADDRESSES UPON TAGS, INVOICES AND THE LIKE
Walter D. Teague, Jr., Glen Goin Road, Alpine, N.J. 07620, and Anthony P. Montalbano, 2409 87th St., Jackson Heights, N.Y. 11372
Filed Apr. 14, 1965, Ser. No. 447,990
8 Claims. (Cl. 101—282)



A manually operable printer is disclosed having a base and a movable slide which may be moved back and forth with respect to the base. An indicia plate or the like is placed upon the slide with a sheet or tag upon which the indicia is to be printed, and they are moved beneath the roller to perform the printing.

3,407,729
INKFLOW CONTROL FOR A PRINTING PRESS
Benedict Stach, 15273 Fordham, Detroit, Mich. 48205
Filed Aug. 17, 1966, Ser. No. 577,567
5 Claims. (Cl. 101—347)



1. An inkflow control for a printing press having a frame and an inking plate onto which measured amounts of ink are delivered;

an elongated, cylindrical casing mounted on said frame above said inking plate having in its bottom wall an elongated, vertical ink delivery slot therethrough;

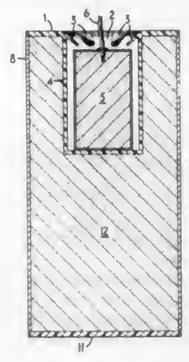
an elongated, cylindrical cartridge containing ink removably nested in said casing including along its bottom wall a series of longtudinally spaced outlets in vertical registry with said slot;

an inlet fitting with a ball check mounted on one end of said cartridge and projected through the end wall of said casing, adapted for connection with a source of air pressure;

a control sleeve rotatably journalled upon and along said cartridge and within said casing, there being a corresponding series of longitudinally spaced control outlets in the wall of said sleeve adapted for registry with said cartridge outlets and progressively out of registry therewith to variably control and cut off the flow of ink from said cartridge through said slot;

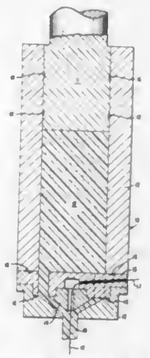
and an arcuately movably control handle projecting from said sleeve and loosely through a slot in said casing.

3,407,730
RETAINER FOR HOLDING A DETONATOR IN A DETONATOR RECEPTACLE AND EXPLOSIVE CARTRIDGE CONTAINER CONTAINING THE SAME
George L. Griffith, Coopersburg, Pa., assignor to Trojan Powder Company, Allentown, Pa., a corporation of New York
Filed Sept. 21, 1966, Ser. No. 581,033
11 Claims. (Cl. 102—24)



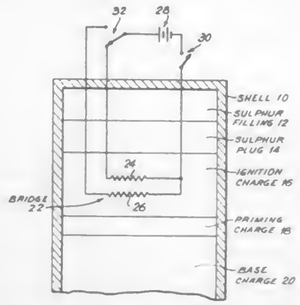
This invention provides a retainer for holding a detonator in a detonator receptacle of an explosive cartridge. The retainer comprises a plurality of digital members extending across the open end of the detonator receptacle. These digital members can be a part of the end cap of the explosive cartridge or a separate component which fits into the detonator receptacle. A feature is the forming of the digital members of a hard material which can even be non-resilient, sufficient resiliency normally being imparted by the slender digital shape thereof.

3,407,731
FLEXIBLE DETONATING FUSE
William L. Evans, Blackwood, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del. a corporation of Delaware
Original application Aug. 19, 1965, Ser. No. 481,150, now Patent No. 3,338,764, dated Aug. 29, 1967. Divided and this application May 2, 1967, Ser. No. 651,061
16 Claims. (Cl. 102—27)



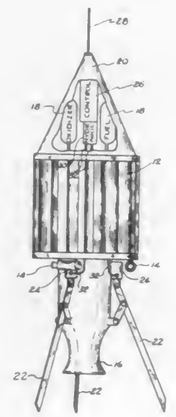
A detonating fuse comprising a cap-sensitive particulate high explosive, a polymeric metallocarboxylate elastomer and a plasticizer, preferably containing a polyurethane elastomer and, more preferably, a reinforcing element.

3,407,732
ELECTRICAL DETONATOR
Róża Przybylik, Tarnowskie Gory ul. Piastowska 16, Poland, and Wiktor Zalachowski, Krupski Mlyn ul. Mickiewicza 3, Poland
Filed Mar. 8, 1967, Ser. No. 621,536
Claims priority, application Poland, Mar. 8, 1966, 113,388
5 Claims. (Cl. 102—28)



Wire bridge detonator including a plurailty of wires of different diameter to give different delay times.

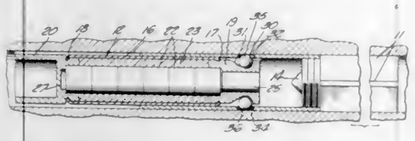
3,407,733
WEATHER DIFFUSING APPARATUS
Lee A. Copas, 2510 Angelle Drive, Port Arthur, Tex. 77640
Filed Oct. 21, 1965, Ser. No. 499,353
10 Claims. (Cl. 102—34.2)



Apparatus and method for dispersing a localized weather condition which includes, a main body member, a centrifugal fan rotatably mounted about the body member with its air directing blades exposed to the outside atmosphere, and adapted to distribute air radially outwardly and form an annular body of moving air about the fan means, and a mechanism for driving the centrifugal fan means, preferably a plurality of solid propellant rockets mounted about the periphery of the fan means. In one form, a plurality of the units are mounted at predetermined points along a highway or other local area subject to fog conditions, in a second form the units are mounted on a mobile land vehicle and driven through the area having a localized fog or other weather condition, and finally in a third mode of use, the unit is provided with a nose cone, a

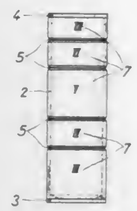
tripod stand and an axially propelling rocket to carry the rocket to an above surface location of a localized weather condition and radio controlled means are utilized to fold the support and actuate the rocket elements which rotate the fan.

3,407,734
EXPLOSIVE PROJECTILE FOR USE WITH WEAPONS SUCH AS RIFLES AND PISTOLS
Patrick MacDonald Tabor, Sierra Madre, Calif., assignor to Mercox, Inc., Pasadena, Calif., a corporation of California
Filed May 2, 1966, Ser. No. 546,988
3 Claims. (Cl. 102—66)



A dart type explosive projectile for use with weapons such as rifles and pistols including a charge containing member with an explosive charge therein, a carrying member having guide fins mounted on the charge containing member, and locking means normally coupled between the two members for preventing detonation of the projectile until the same is propelled from the weapon.

3,407,735
SEPARATELY-LOADED AMMUNITION
Walter Gäble, Unterluss-Hohenrieth, Germany, assignor to Firma Rheinmetall G.m.b.H., Dusseldorf, Germany
Filed May 6, 1966, Ser. No. 548,278
Claims priority, application Germany, May 8, 1965, R 40,578
1 Claim. (Cl. 102—97)



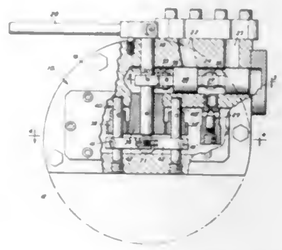
A separable load ammunition composed of a plurality of charges stacked one on the other and provided in a casing which is in the form of a cylinder and is composed of a synthetic material of low-flammability and also having break-off lines in the casing in spaced relationship with a cover in the form of a closure member at each end of the casing.

3,407,736
INTERNAL BURNER SOLID FUEL PROPELLANT CHARGE FOR ROCKET ENGINES
Helmut Beuschel, Steyerberg, Germany, assignor to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany
Filed June 15, 1966, Ser. No. 557,698
Claims priority, application Germany, June 16, 1965, D 47,515, D 47,516
13 Claims. (Cl. 102—99)

An internal burner propellant charge having a star-shaped profile cross-section, hereinafter referred to as a star-internal burner, having an internal cross-sectional area increasing toward the nozzle end and a constant diameter circumscribing circle; the angle and base width of the star points is maintained constant throughout the length of the charge and the height of the star points progressively decreases along plane surfaces inclined to the axis of the propellant charge and tagent to the circle inscribing the inside profile cross-section. The height may decrease until a polygonal cross-section or a circular cross-section is formed at the nozzle end. A conically tapered charge may be axially adjoined to a constant internal diameter charge.



3,407,737
PUMP WITH VARIABLE VOLUME AND DIRECTIONAL CONTROL
Gary Stein, Brookfield, Wis., assignor to Applied Power Industries, Inc., Menomonee Falls, Wis., a corporation of Wisconsin
Filed Dec. 5, 1966, Ser. No. 599,137
4 Claims. (Cl. 103—2)

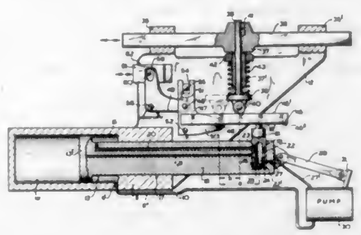


Disclosed herein is a hydraulic pump of the axial piston type wherein there is provided a single control lever for varying fluid flow (displacement) and direction of flow to the motor system by a single motion of the aforementioned lever.

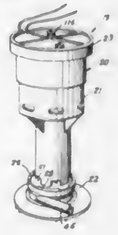
3,407,738
CONTROL ARRANGEMENT FOR PUMPS
Paul Bosch, Ludwigsburg, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed Aug. 22, 1966, Ser. No. 573,924
Claims priority, application Germany, Aug. 23, 1965, B 83,391
16 Claims. (Cl. 103—17)

A control arrangement for an adjustable pump, and especially for an axial piston pump for a hydrostatic drive to produce a predetermined relation between the pressure of the fluid pumped by the pump and the stroke of the pump, especially to produce a constant product from the aforementioned values. Basically the control arrangement comprises tiltable balancing means by means of which the moments exerted by a force proportional to the pressure of the fluid delivered by the pump and that

of an opposite substantially constant force are compared and by means of a regulating device brought into equilibrium, while the regulating device simultaneously controls and regulates the stroke of the pump.

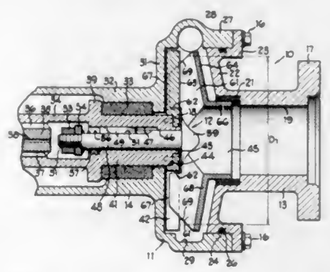


3,407,739
PUMPS AND PUMP HOUSING AND MOTOR UNIT
Charles F. Myers, Denison, Tex., assignor to Champion Cooler Corporation, Denison, Tex., a corporation of Texas
Filed Feb. 15, 1966, Ser. No. 527,430
12 Claims. (Cl. 103—87)



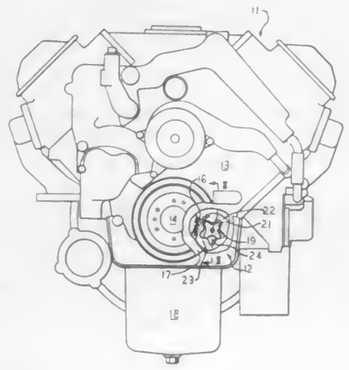
A pump having a housing assembly formed of a bottom impeller housing which is submersible in water, a tubular motor housing releasably connectable at its lower end to the impeller housing and a cover connected to the top end of the motor housing, the pump having an impeller in a chamber formed by the two housings driven by a motor secured in the motor housing.

3,407,740
VARIABLE GEOMETRY CENTRIFUGAL PUMP
Bertram P. Samerdyke, Lyndhurst, Ohio, assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Apr. 14, 1967, Ser. No. 630,862
6 Claims. (Cl. 103—97)



A variable capacity centrifugal pump which includes a two-section impeller and which is axially adjustable to vary the pump flow rate. The diameter across the impeller vanes converges toward the axis of rotation, and the vanes are masked to present various effective impeller diameters at various adjusted positions. Axial movement of one member results in adjustment of both the effective cross-sectional flow area and the effective impeller diameter.

3,407,741
COMPACT OIL PUMP FOR INTERNAL COMBUSTION ENGINES
Robert L. Weber, Lacon, and Noel D. Wiggins, Chillicothe, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Sept. 15, 1966, Ser. No. 579,601
8 Claims. (Cl. 103—118)

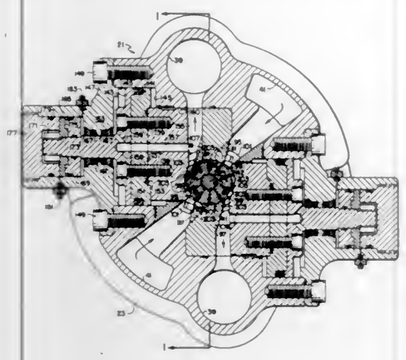


An oil pump for a vehicle engine has an outer gear and an eccentrically mounted inner gear which engages internal teeth on the outer gear to pump lubricant from an inlet to an outlet. The outer gear also has external teeth and the pump is driven by direct engagement of the outer gear with the engine timing gear whereby the outer gear in turn drives the inner gear. The pump may be situated within the engine timing gear housing to provide a very compact and simplified arrangement.

3,407,742
VARIABLE-DISPLACEMENT TURBINE-SPEED HYDROSTATIC PUMP
Robert K. Mitchell, James C. Swain, David L. Thomas, and John P. Wilcox, Columbus, Ohio, assignors to The Battelle Development Corp., Columbus, Ohio, a corporation of Delaware
Filed May 12, 1966, Ser. No. 549,679
8 Claims. (Cl. 103—120)

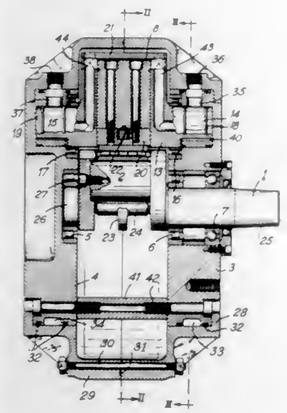
A sliding-vane rotary pump operating at high rotational speeds and constructed for variable displacement. The pump housing includes two lobes that are enlargeable or reducible to provide variable displacement while maintaining all portions of the cam surface (that surface along which the vane tips track very closely) in tangency. Moveable lap spaces are connected by a plurality of bridges across the pump ports to nonmoveable lap spaces. The ports are positioned along the cam surface rather than in the end plates and the ratio of rotor length to rotor diameter is considerably greater than in conventional sliding-vane rotary pumps. The van tips are pivotal and supported by a hydrodynamic film of oil between the vane tip and vane-tip track which is made possible by the high rotational speeds at normal operating conditions. The tip, vane, and vane socket in the rotor are con-

structed to react to and control various forces acting on the rotating vanes such as centrifugal force, pressures in



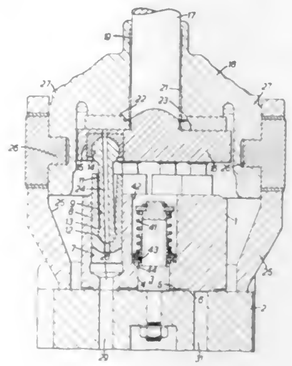
front of and behind the vane, socket pressures, bending moments, tipping forces, hydrostatic pressures, etc.

3,407,743
ROTARY PRESSURE-FLUID MACHINES
Jean Florent Francois Marcel Robert Landreau, Quai du Hallage, Fontenay-le Comte, Vendee, France
Filed Oct. 4, 1966, Ser. No. 584,150
Claims priority, application France, July 25, 1966, 70,638
4 Claims. (Cl. 103—159)



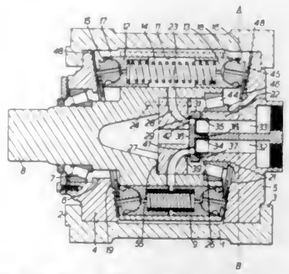
A rotary pressure-fluid machine in which a plurality of piston-cylinder units are arranged star-fashion about a crankshaft rotating in machine flanges, each cylinder being oscillatable mounted in said flanges by means of an inlet crankpin and an exhaust crankpin, said crankpins having axes parallel to the crankshaft axis. Each cylinder crankpin is provided with an orifice acting as a fluid-passageway and extending to the peripheral surface of the crankpin, seals being positioned on either side of each orifice while an assembling and positioning ring is placed between one of said seals and the end of each cylinder crankpin. A decompression opening is formed in the end of each such cylinder crankpin and is so dimensioned and positioned as to prevent pressure build-up between the cylinder crankpins and the machine flanges.

3,407,744
HYDRAULIC APPARATUS
Victor R. Slimm, 1 Kenulf Road, Winchcombe, Cheltenham, Gloucester, England
Continuation of application Ser. No. 479,231, Aug. 12, 1965. This application July 19, 1967, Ser. No. 654,659
Claims priority, application Great Britain, Aug. 19, 1964. 33,865/64
2 Claims. (Cl. 103—162)



A hydraulic pump or motor is disclosed wherein the ported end portion of a rotary cylinder block having an assembly of cam operated pistons therein, is mounted to float in relation to a non-rotary valve member, and the lines of action of the parting and holding forces on the block are caused to remain substantially aligned with one another as the block rotates, so as to make it possible to use a holding force which is only slightly greater than the parting force, whereby the areas of the opposing surfaces of the valve member and the ported end portion of the block can be substantially reduced to minimize the energy loss which results from the shearing of liquid between the surfaces.

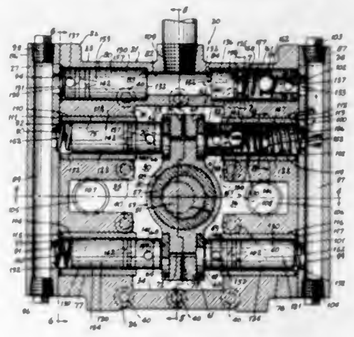
3,407,745
HYDRAULIC APPARATUS
John D. North, Eversley, Bridgnorth, and Dennis J. Millard, Finchfield, Wolverhampton, England, assignors to Boulton Paul Aircraft Limited, Wolverhampton, England
Filed July 18, 1966, Ser. No. 570,385
Claims priority, application Great Britain, July 27, 1965, 32,049/65; Sept. 14, 1965, 39,169/65
7 Claims. (Cl. 103—162)



A hydraulic machine is disclosed which includes a rotatable cylinder block having cylinders therein and a fixed swash plate adjacent each end of the block. At each end of the block pistons project from cylinders opening thereinto, and the pistons engage the adjacent swash plates in such a way that rotation of the block induces their reciprocation in the cylinders. In addition, there is a casing which rigidly

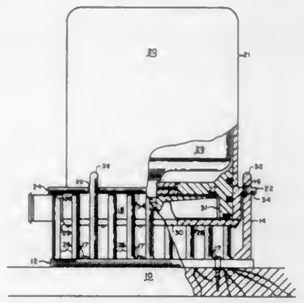
secures the swash plates together in a fixed spaced relationship and encloses the cylinder block. The cylinder block is rigidly supported on bearings by virtue of there being (1) a fixed bearing support extending into a recess in one end of the block from the adjacent swash plate and a bearing engaged between the recess and the support, and (2) a shaft extending from the other end of the block through a hole in the adjacent swash plate and a bearing engaged between the shaft and the hole. Valve means are movably supported on the bearing support for connecting the cylinders in the block alternately to supply and return passages for liquid extending through the bearing support. The cylinders are alternately connected in synchronism with rotation of the block and reciprocation of the pistons in the cylinders.

3,407,746
HIGH PRESSURE PISTON PUMP
Russell L. Johnson, Dallas, Tex., assignor to The John E. Mitchell Company, Dallas, Tex., a corporation of Missouri
Filed Aug. 19, 1966, Ser. No. 573,678
7 Claims. (Cl. 103—185)



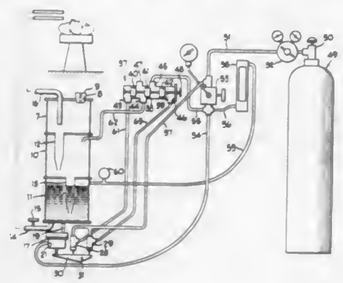
A high speed multiple piston pump having an eccentric and follower for reciprocating a plurality of pistons and having bearings and movable parts that are self-lubricating. The constructing eliminates the requirement of seals to block off the bearing chambers from contact with the liquid flowing through the pump.

3,407,747
MOUNT MEANS FOR PUMP APPARATUS
Clinton Rule, Beverly, Mass., assignor to Rule Marine, Inc., Beverly Farms, Mass., a corporation of Massachusetts
Filed Apr. 7, 1967, Ser. No. 629,135
11 Claims. (Cl. 103—218)



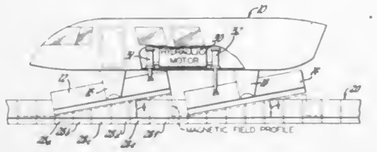
The present invention comprises a novel mount means for pump apparatus which means provides secure attachment of pump apparatus thereto. Said mount means comprises resilient horizontally notched post members extending upwardly from a base means, the notches of said post members engaging mating recesses provided on the pump means and, due to the resilient nature of said post members providing a secure attachment of the pump to the mount.

3,407,748
BLOOD CIRCULATING APPARATUS
Anthony C. Mamo, La Mirada, Calif., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Feb. 17, 1967, Ser. No. 616,816
8 Claims. (Cl. 103—239)



An apparatus comprising an upper compartment, an intermediate compartment and a lower compartment vertically disposed with respect to each other for conveying blood to a patient and a pressurized gas cylinder communicable with the lower compartment and selectively communicable with the intermediate compartment by gas conduit means.

3,407,749
MOTOR FOR PROPULSION AND LOAD SUPPORT
Gerald E. Frig, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 31, 1966, Ser. No. 576,325
6 Claims. (Cl. 104—148)

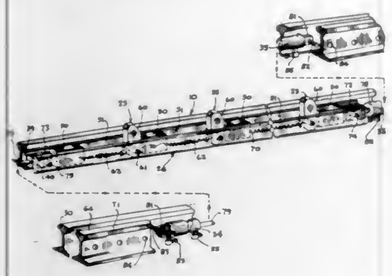


A magnetic support and propulsion system for vehicles including roadway apparatus to produce magnetic fields having forward sloping intensity profiles and a reaction member on the vehicle which may be variably angled with respect to the fields to vary the support and propulsion force components. The fields may be caused to displace with the vehicle by means of switching circuits.

3,407,750
RAILROAD CAR HANDLING APPARATUS
Robert W. Rantz, Evergreen Park, Ill., assignor to Abex Corporation, a corporation of Delaware
Filed Dec. 6, 1965, Ser. No. 511,781
3 Claims. (Cl. 104—162)

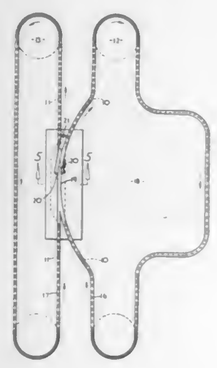
Impelling apparatus is afforded for engaging the wheel of a railroad car to impel the car along a traffic rail. The

impelling apparatus comprises a slide reciprocal parallel to the traffic rail and supporting a plurality of pivotally mounted one-way dogs normally biased by a spring or



the like to an effective upright wheel engaging position, and each dog is adapted to be moved to an ineffective or depressed position by a car wheel traveling thereover.

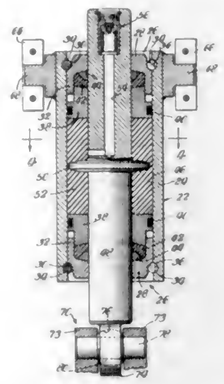
3,407,751
FLOOR CONVEYORS
Olaf John Barclay Orwin, Quinton, Birmingham, England, assignor to Fisher & Ludlow Limited, Birmingham, England, a British company
Filed Apr. 25, 1966, Ser. No. 545,034
Claims priority, application Great Britain, Apr. 27, 1965, 17,584/65
8 Claims. (Cl. 104—172)



A floor conveyor comprising a pair of powered trolley driving chains disposed beneath the floor, each provided with trolley driving dogs movable relative to their associated chain and which overlap with one another for the purpose of transferring trolleys from the control of one chain to the other.

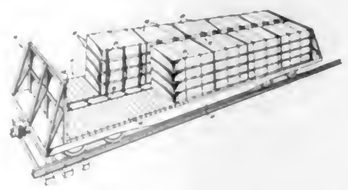
3,407,752
RAILWAY TRUCK BOLSTER SNUBBER
William D. Wallace and Robert L. Carlson, Chicago, Ill., assignors to W. H. Miner, Inc., Chicago, Ill., a corporation of Delaware
Filed Mar. 22, 1966, Ser. No. 536,414
3 Claims. (Cl. 105—197)

A snubber assembly mountable between the primary frame and the bolster frame of a railway car, wherein the mounting means accommodates universal movement of the damper relative to the frames, and wherein the snubber comprises a vertically disposed casing filled with a compressible solid and an orificed piston movable



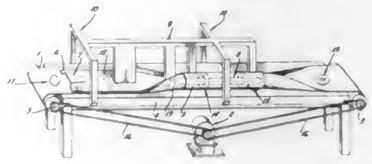
therethrough to dampen the oscillations of the bolster frame relative to the primary frame.

3,407,753
RAILWAY CAR CONSTRUCTION
Edwin G. Stafford, Jr., 600 Hickory St., Roscoe, Tex. 79545
Filed Mar. 21, 1966, Ser. No. 535,858
8 Claims. (Cl. 105—367)



A railway car construction which has special reference to flat bed type of railway cars having bulkheads at each end, and commonly known as flat cars, and concerns an arrangement of demountable A-frame elements spaced along the medial portion of the car for supporting and cradling cargo on each side thereof, and providing tie-down means for such cargo. The invention also provides for compact storage of the A-frames and parts of the tie-down means when the car is unloaded and in transit.

3,407,754
DOUGH KNEADING MACHINE FOR THE FORMING OF A BAGEL AND THE LIKE
Louis Wichinsky, Hurleyville, N.Y. 12747
Filed Mar. 8, 1966, Ser. No. 532,798
3 Claims. (Cl. 107—8)



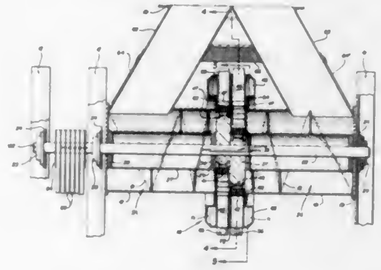
A dough forming machine for the formation of toroidal dough shapes for the making of bagels, or the like, from an irregular mass of dough.

3,407,755
FROZEN STICK-CONFECTION MACHINE
Marlin B. Rasmusson, 3220 Marconi Ave., Sacramento, Calif. 95821
Filed Oct. 16, 1967, Ser. No. 675,384
6 Claims. (Cl. 107—8)



A frozen stick-confection machine has a primary conveyor intermittently advancing a confection mold through a brine tank for freezing an upright stick into the mold contents and subsequently subjecting the mold to a defrosting temperature at a defrosting station. A secondary conveyor synchronized with the primary conveyor engages a gripper with the stick, and a unidirectionally operating lifting member lifts the gripper, the stick and the attached confection from the primary conveyor to the secondary conveyor from which the stick and the confection are discharged, and the conveyors repeat their cycle.

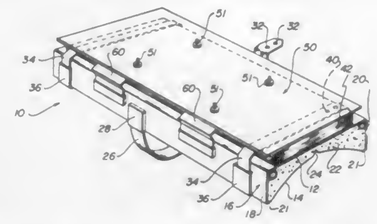
3,407,756
HAY WAFERING APPARATUS
George W. Morse, P.O. Drawer Z, Elk Grove, Calif. 95624
Filed Oct. 15, 1962, Ser. No. 230,496
12 Claims. (Cl. 107—14)



1. In a hay wafering apparatus, a plurality of radially extending dies having inlet openings arranged in a pair of annuli, a pair of rollers mounted side by side associated with the pair of annuli and each having a diameter substantially greater than the radius of one of the annuli, the rollers being eccentrically mounted so that peripheral portions thereof are axially offset and radially overlapped in the area of the axis of said pair of annuli, means for driving the rollers 180° out of phase with each other so that the rollers progressively roll over the openings in the dies, and means for supplying hay fragments in front of each of the rollers as the rollers are rotated so that the hay fragments are forced into the dies.

3,407,757
KNEE-BOARD
Louis A. Warner, 5223 N. Natoma, Chicago, Ill. 60656
Filed Aug. 30, 1967, Ser. No. 664,549
8 Claims. (Cl. 108—43)

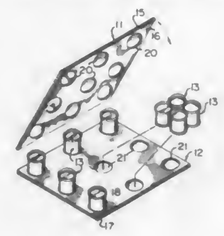
A knee-board having a number of resilient preferably rubber straps having a plurality of fastening apertures therein affixed to it in spaced relation along one of its sides. One of the straps is adapted to be secured about the thigh and to the opposite side of the knee-board, by extending a fastening pin through one of the fastening apertures formed in the strap. In this fashion, the knee-board can be secured to the leg, about the thigh, as tightly as desired, simply by extending the fastening pin through an appropriate one of the fastening apertures. The other ones of the straps are adapted to stretch across the top of the knee-board, to fasten papers, charts, computers and the like beneath them, against the top surface



thereof. These straps are drawn tight and affixed to the other side of the knee-board, by extending fastening pins through one of said fastening apertures formed therein.

A computer mounting board also can be affixed to the knee-board, as a hinged cover, if desired, for retaining a computer thereon, for one-handed operation.

3,407,758
EXPENDABLE PALLETS
Daniel Simkins, Chicago, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed May 20, 1966, Ser. No. 551,570
11 Claims. (Cl. 108—51)

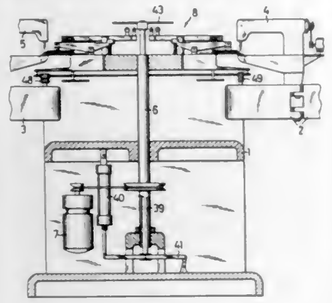


This invention is directed to an expendable pallet which is formed of upper and lower pairs of corrugated board members between which are secured a plurality of tubular metallic elements, such as cans or can bodies. The most adjacent ones of the corrugated boards are provided with axially aligned recesses which receive and grippingly engage circumferentially reinforced end portions of the metallic elements. Due to the nature of the corrugated board and the metallic elements the corrugated board is deformed to clampingly engage and retain the components of the pallets in assembled condition in the absence of adhesive or similar conventional securing means.

3,407,759
ROTARY TABLE FOR AUTOMATIC SEWING MACHINE INSTALLATIONS
Hans Scholl and Hubert Junemann, Bielefeld, Germany, assignors to Kochs Adlernahmaschinen Werke AG, Bielefeld, Germany
Filed Dec. 12, 1966, Ser. No. 600,826
Claims priority, application Germany, Dec. 16, 1965, K 57,932
8 Claims. (Cl. 112—2)

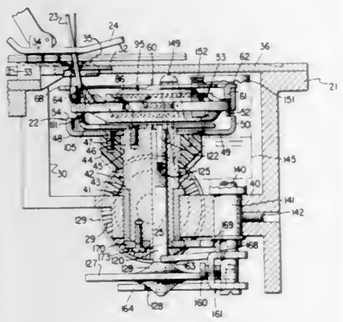
A rotary table in an automatic sewing machine installation having segments displaceable in a radial plane for receiving workpieces to be sewn. Each of the segments is provided with two patterns and two workpiece clamp

holders for a left half and a right half of a workpiece carried by two adjacent segments. For the purpose of adapting the installation for workpieces of the same shape, but



other sizes, there is provided a central adjusting device for the simultaneous displacement of all the segments in a radial plane and a scale installation gaged according to the sizes of the workpieces.

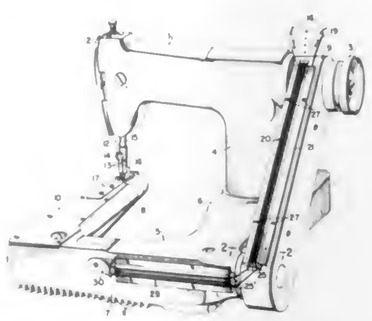
3,407,760
BOBBIN THREAD REPLENISHING MECHANISM FOR SEWING MACHINES
Stanley J. Ketterer, Morris Plains, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 29, 1966, Ser. No. 575,594
14 Claims. (Cl. 112—184)



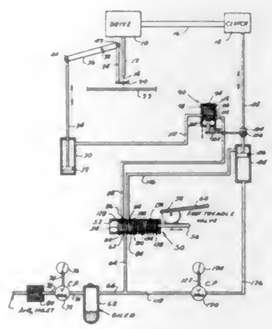
A loop taker for a lockstitch sewing machine is disclosed together with a mechanism for replenishing thread on the bobbin in place in the loop taker from the needle thread supply. Means are provided whereby the loop taker manipulates replenishment thread in a novel manner onto the bobbin and the bobbin is rotated in a direction opposite that of loop taker movement so that the replenishment thread will be introduced quickly and effectively to the influence of a bobbin thread tensioning spring on the bobbin case and thence to the bobbin.

3,407,761
THREAD GUIDE FOR SEWING MACHINES
Fred W. Mauquoi, Roselle Park, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 15, 1966, Ser. No. 579,548
4 Claims. (Cl. 112—218)

A thread guide for a sewing machine comprising an elongated plastic member having thread receiving grooves disposed longitudinally thereof. The grooves are constructed and arranged so that the thread is resiliently retained within its corresponding groove.



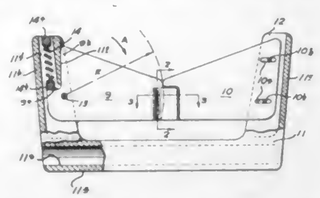
3,407,762
AUTOMATIC AIR LIFT FOR SEWING MACHINES
Meyer Winer, 108 De Leon, El Paso, Tex. 79912
Filed Dec. 16, 1966, Ser. No. 602,403
6 Claims. (Cl. 112—219)



A pneumatic control system for a sewing machine pressure foot and drive mechanism having a four-way three-position open exhaust center valve connected to an air inlet and to two piston actuators for selectively lifting the pressure foot in a first position, lowering the pressure foot in a center second position of the valve, and actuating the drive mechanism in the third position of the valve and a valve to prevent the pressure foot from being lifted while the drive mechanism is energized is described.

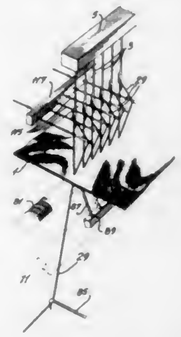
3,407,763
DEVICE FOR SEPARATING THREAD CONNECTED WORKPIECES
Mats Ingvar Davidsson, Ganghester, Sweden
Filed Apr. 18, 1966, Ser. No. 543,111
8 Claims. (Cl. 112—252)

The present device is for separating consecutive workpieces in a series of thread connected workpieces and includes a pair of divergent resilient plates having slideable contacting free ends for detachably clamping a thread



therebetween, a cutting element retained adjacent said plate free ends and an adjustable support for said plates.

3,407,764
SEWING METHOD AND LINEAR PUNCHING MULTI-NEEDLE MACHINE THEREFOR
Michael K. Rohrlick, Westmount, Quebec, Armond Latulippe, Lachine, Quebec, Paul L. J. Seguin, Pierrefonds, Quebec, and Victor Roth, Dollard des Ormeaux, Quebec, Canada, assignors to Slax Inc., Lachine, Quebec, Canada
Filed May 23, 1966, Ser. No. 559,653
21 Claims. (Cl. 112—262)



A method of making a stitch line in which portions of a first thread are drawn through a fabric at spaced aligned points to form loops above the fabric, a second thread is inserted through the loops and the first thread is pulled to tighten the threads against the fabric.

A machine for making such a stitch line comprising a row of vertical needles movable together through the fabric and having a hook for holding a first thread; a wheel beneath the fabric displaceable along the row of needles and having a protrusion which, at each turn, successively brings the first thread on the hooks of the needles; a series of horizontal forks above the fabric to open up the loops when the needles move above the fabric with the first thread hooked onto the needles; a shuttle to draw a second thread through the opened loops and drawing wheel rotatable in reverse directions and to which the ends of the first thread are connected to pull on the said first thread to tighten it against the fabric after having removed the loops.

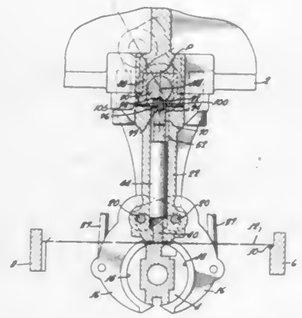
3,407,765
CLAMP FOR CAN BODY FORMING MACHINE
Wayne F. Wolfe, Orange, Calif., assignor to United Can Company, Fullerton, Calif., a corporation of Delaware
Filed Nov. 3, 1966, Ser. No. 591,762
7 Claims. (Cl. 113—8)

1. In a can forming machine having an elongate mandrel about which a can body is formed and a shoe for alternately clamping and releasing a can blank against the mandrel, means for actuating the clamping shoe comprising:

a clamping shoe assembly;

means mounting the clamping shoe assembly for reciprocation toward and away from a can forming mandrel to clamp and release a can blank on the mandrel;

an elongate shaft rotatably mounted alongside the clamping shoe assembly;

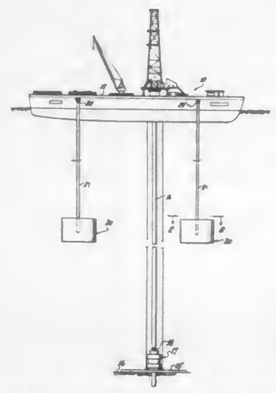


opposed concave arcuate bearing surfaces on the shaft and clamping shoe assembly;

a toggle link connecting the clamping shoe assembly and shaft to reciprocate the clamping shoe assembly responsive to oscillation of the shaft, said toggle link including two spaced-apart bearing surfaces of convex arcuate cross-sectional configuration each received in and conforming to a respective one of the concave bearing surfaces; and

means for oscillating the elongate shaft to actuate the clamping shoe.

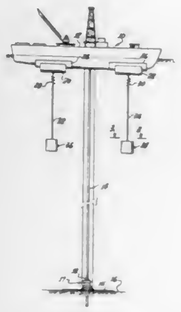
3,407,766
STABILIZED FLOATING STRUCTURE
Gunnar B. Bergman, Pasadena, and Ross A. McClintock, Huntington Harbour, Calif., assignors to Pike Corporation of America, Los Angeles, Calif., a corporation of California
Filed Sept. 22, 1966, Ser. No. 581,291
21 Claims. (Cl. 114—.5)



A sub sea drilling vessel stabilized against rolling and pitching movements induced by wave action by a stabilizer body positioned a substantial distance beneath the drilling

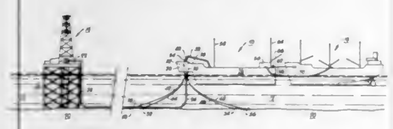
vessel below the severe wave and surface action of the water. The stabilizer body is so constructed and arranged as to be freely movable in a vertical direction and to resist movement in the horizontal position transverse to the vertical direction. The stabilizing body is shown in various embodiments as an open ended cylinder or as parallel plates which act to entrap a mass of water to resist forces tending to move the body horizontally. The stabilizing body is connected to the drilling vessel such that a force moment is transmitted to the drilling vessel in a direction oppositely to that imparted by wave action to offset the rolling or pitching movement of the vesel.

3,407,767
STABILIZED FLOATING APPARATUS
Ross A. McClintock, Huntington Harbour, and Gunnar B. Bergman, Pasadena, Calif., assignors to Pike Corporation of America, Los Angeles, Calif., a corporation of California
Filed Sept. 22, 1966, Ser. No. 581,289
11 Claims. (Cl. 114—.5)



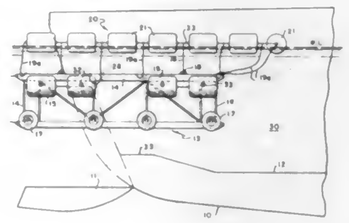
A floating structure stabilized against rolling movements induced by wave action comprising a stabilizing body coupled to a vessel or other buoyant body, the stabilizing body being positioned a substantial distance beneath the vessel below the severe wave and surface action of the water. The stabilizing body is freely movable in the vertical direction and is adapted to resist movement in a direction transverse to the vertical direction. The stabilizing bodies in two of the preferred embodiments of the invention are an open ended cylinder and parallel baffle plates. The stabilizing body is coupled to the hull of a vessel by buoyancy forces and is selectively separable from the hull of the vessel by balasting the coupling means and thereby lowering it in the water.

3,407,768
OFFSHORE STORAGE, MOORING AND LOADING FACILITY
John F. Graham, Mitchell, S. Dak., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Jan. 11, 1967, Ser. No. 608,630
2 Claims. (Cl. 114—.5)



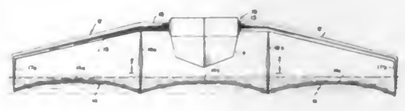
A water-borne storage and mooring structure which may be constructed from any floating vessel by fitting it with a rotary securing apparatus disposed through an eccentric point of the vessel, the secure anchoring of the rotary structure thereby enabling the vessel to swing about the anchored rotary structure as influenced by the natural forces of wind and current which prevail at the selected anchorage.

3,407,769
DOCKING CRADLE
William H. Hunley, Alexandria, and Joseph R. Annibale, Arlington, Va., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 28, 1967, Ser. No. 635,954
7 Claims. (Cl. 114—49)



An apparatus and method for dry-docking a floating vessel providing a dry docking cradle having inflatable bags attached to the cradle to control its negative buoyancy and the cradle and buoyancy bag assembly suspended under the water surface from additional inflatable bags on the surface. The cradle assembly is floated out of the dry dock and placed under the vessel and attached thereto in open water before the vessel is moved into the dry dock chamber. The dry-docking is then completed in a conventional manner.

3,407,770
HYDROFOIL
David Z. Bailey, Warwick, R.I.
(P.O. Box 69, East Greenwich, R.I. 02818)
Filed Dec. 2, 1966, Ser. No. 598,643
6 Claims. (Cl. 114—66.5)

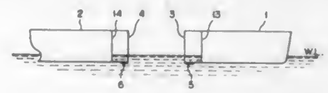


A submerged-hydrofoil watercraft having an upwardly bowed foil shaped such that substantially only tensile forces are applied in the spanwise direction of the foil, thereby enabling a high aspect ratio to be achieved reducing the drag to lift ratio.

3,407,771
METHOD OF JOINING PARTS OF A STRUCTURE FLOATING ON THE WATER
Isoe Takezawa, Tokyo, Ichizo Takizawa, Yokohama-shi, and Dan Ohno, Tokyo, Japan, assignors to Mitsubishi Jukogyo Kabushiki Kaisha, Tokyo, Japan
Filed Dec. 19, 1966, Ser. No. 602,880
Claims priority, application Japan, Aug. 15, 1966, 41/53,608
6 Claims. (Cl. 114—77)

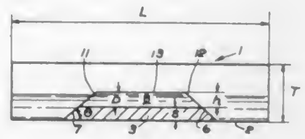
A method and an apparatus for joining parts of a ship hull structure together while they are floating in the water

includes the use of a first flat holding plate which is secured to the exterior of a shell plate of a first hull part so that it projects outwardly from the shell plate. The projecting shell plate of a second hull part which is to be joined to the first part is provided with an exterior holding plate which does not extend out to the outer end thereof. The two hull parts are moved together so



that the first holding plate underlies the shell plate of the second hull part and abuts against the holding plate secured to the second hull part shell plate. The two shell plates are arranged in water tight engagement preferably with the interposition of a packing therebetween and the shell plates of the two joined hull parts are welded together.

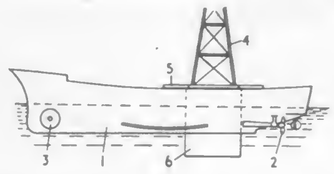
3,407,772
ROLL STABILISER FOR FLOATING BODIES
Geoffrey John Goodrich, Teddington, England, assignor to National Research Development Corporation, London, England, a corporation of Great Britain
Filed Apr. 5, 1967, Ser. No. 628,723
Claims priority, application Great Britain, Apr. 6, 1966, 15,283/66
5 Claims. (Cl. 114—125)



A passive roll stabiliser for ships or other floating bodies comprises a tank symmetrically athwart and above the roll axis, in which water or other fluid moves out of phase and lagging behind the shift roll, the natural period of the fluid flow being increased as compared with that of a simple rectangular tank for a given depth of fluid by the provision of an imperforate platform symmetrically disposed on the bottom of the central part of the tank extending fully fore and aft and surmounted by a divider or dividers extending lengthwise and forming in conjunction with the fore and aft walls of the tank, channels the total width of which is substantially less than that of the tank and the divider or dividers being so high that normally all fluid flows within the channels. There may be one divider forming two channels of equal width. The ends of the platform and dividers may be bevelled and coplanar to improve the streamlining of the obstruction they present. The system is especially suitable for ships of long roll period e.g. 15 seconds.

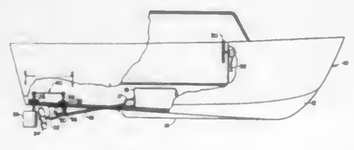
3,407,773
SYSTEMS FOR CONTROLLING THE POSITION OF A FLOATING VESSEL
Roderick Carey Baxter, April Cottage, 135 Pilgrims Way, Kemsing, Sevenoaks, Kent, England
Filed Nov. 4, 1966, Ser. No. 592,097
Claims priority, application Great Britain, Nov. 5, 1965, 47,120/65
4 Claims. (Cl. 114—144)

A system for controlling a vessel's propulsion to maintain it in a desired position while compensating for the action of wind and currents. The vessel is provided with trap doors to define a "turning point" for the vessel while



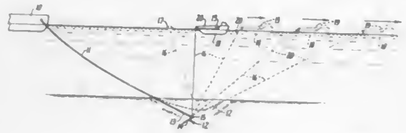
the system combines the various forces acting on the vessel to provide a single algebraic force and direction.

3,407,774
STEERING DEVICE FOR BOATS
Arthur J. Burke, 28 Andrews Ave., Oakland, N.J. 07436
Continuation of application Ser. No. 518,929, Jan. 5, 1966. This application Aug. 22, 1967, Ser. No. 662,542
6 Claims. (Cl. 114—163)



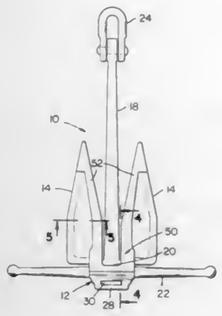
The sternway steerage control device disclosed herein for improving the maneuverability of a power driven boat comprises an additional rudder member rotatably disposed forwardly of the propeller and in the propeller wash when the propeller rotation is reversed to propel the boat astern.

3,407,775
METHOD AND APPARATUS FOR PULLING ANCHORS
Thomas T. Lunde, 6 Locksley Ave., San Francisco, Calif. 94122
Filed Feb. 13, 1967, Ser. No. 615,503
5 Claims. (Cl. 114—206)



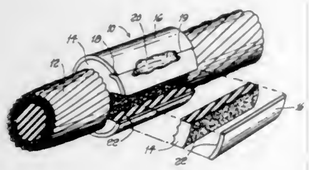
A method and apparatus for breaking out a ship's anchor using the momentum of a small vessel to apply an adequate but controlled force to an anchor at the pivotal juncture between the anchor shank and flukes. One end of a breakout line is connected to the pivotal juncture of an anchor's shank and flukes; the other end of the line is connected to a braking device mounted upon a small vessel, which is then moved in a direction opposite that used in setting the anchor. The breakout line is payed out until the vessel develops sufficient momentum to break the anchor loose, and then a controlled braking force is applied to the line.

3,407,776
ANCHOR
Don L. Newton, Oakland, Calif., assignor to West Coast Wire Rope & Rigging, Inc., Oakland, Calif., a corporation of California
Filed June 5, 1967, Ser. No. 643,545
5 Claims. (Cl. 114—208)



An anchor of the type having a pair of attached flukes rotatably mounted on the after end of a shank wherein an improved crown coupled to the flukes and pivoted on the shank has surfaces which cooperate to impede the forward travel of the anchor and allow the crown to rotate through a relatively long distance relative to the shank.

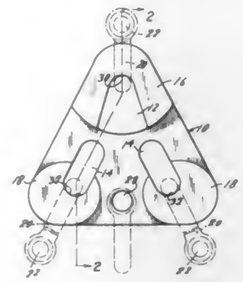
3,407,777
FAIRING SUPPORT RING
Andrew A. Anastasio and Christopher D. Francy, Brooklyn, N.Y., assignors to the United States of America as represented by the Secretary of the Navy
Filed Apr. 25, 1967, Ser. No. 634,802
6 Claims. (Cl. 114—235)



A support ring bonded around the circumference of a cable for supporting cable fairings and the like. The ring comprises a layer of rubber bonded to the cable and a layer of stainless steel bonded to the rubber. The steel layer is formed with an overlapping joint at which point the joint is tack-welded.

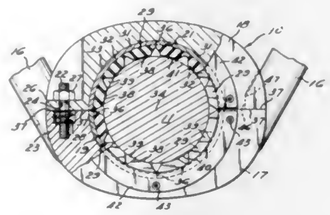
3,407,778
MARINE TOWING PLATE
Irving Epstein, Seattle, and Douglas A. Obert, Issaquah, Wash., assignors to Washington Chain & Supply Co., Inc., Seattle, Wash., a corporation of Washington
Filed Nov. 20, 1967, Ser. No. 684,118
6 Claims. (Cl. 114—235)

This invention relates to a marine towing plate characterized by having three elongated slotted openings therein and which openings are disposed in the pattern of a triangle, and preferably an isosceles triangle. The plate is disposed between portions comprising the towing line, forms a connection between said two portions thereof, and is located intermediate the towing and the towed vessels. The leading apex opening, in said triangular pattern, is reinforced at its forward end and adjacent side portions by a substantially U-shaped reinforcing web and each of the base openings, in said pattern, is reinforced at its trailing end adjacent the side portions by a substantially U-shaped reinforcing web. The size of each of the slotted openings is sufficient so that the



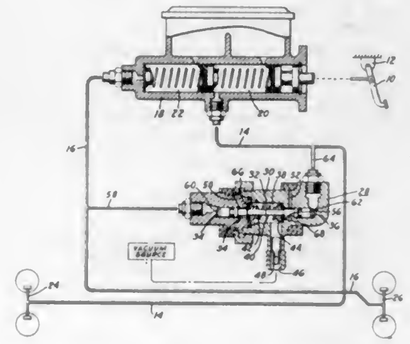
shackle frame of a marine towing shackle may be threadedly received in such opening to detachably secure the shackle, so threaded, with the towing plate. Preferably, the external configuration of the towing plate mates with the triangular pattern of the openings in the plate, the towing plate is of uniform thickness between reinforcing webs, and the leading edge portion of the apex opening and the trailing edge portion of each base opening are arcuate and rounded for relative free movement of the frames of towing shackles and said openings and to reduce wear on said towing plate and on said shackles.

3,407,779
MARINE BEARING
James Glenn Satterthwaite, 1 Dogwood Trail, Chesapeake, Va. 23320, and James B. Macy, Jr., 107 Holly Lane, Morehead City, N.C. 28557
Continuation-in-part of application Ser. No. 246,964, Dec. 26, 1962. This application Dec. 21, 1965, Ser. No. 515,395
13 Claims. (Cl. 115—34)



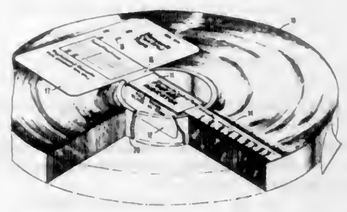
A marine bearing including a plurality of elongated stave elements which cooperate to provide a bearing around a shaft. The bearing is provided by elastomeric rubber-like material and in one embodiment, the entire stave is formed entirely of such material. In other embodiments each stave is provided with a rigid backing member which may be formed of metal. The outer surface of the staves are portions of a cylinder and when the staves are assembled, cooperate to define a cylindrical surface. The staves are releasably clamped in a housing by radial pressure and are locked into position only by the frictional forces resulting from the radial pressure. The housing is arranged so that locking pressure can be released and the staves can be moved circumferentially and axially with respect to the housing and shaft. This permits the stave to be assembled or disassembled in place around the shaft and greatly simplifies installation and repair.

3,407,780
SPLIT BRAKE SYSTEM FLUID LOSS AUDIBLE WARNING DEVICE
Robert M. Van House and Edward J. De Hoff, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 1, 1965, Ser. No. 492,135
3 Claims. (Cl. 116—65)



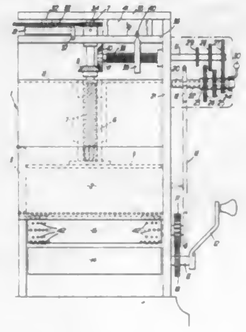
A dual circuit fluid pressure braking system has a pressure loss sensor in which the pressures act on opposite ends of a pair of abutting pistons so that the forces generated by the brake fluid pressures become unbalanced when one brake circuit suffers a pressure loss, thereby opening a valve to allow fluid flow between two differing pressure sources. A fluid, flow sensitive indicator is activated when the fluid flow occurs and indicates the pressure loss.

3,407,781
COMBINED INDICATOR AND ORDER CARD FORM
Francis J. Ardire, Binghamton, N.Y., and Anthony De Pasquale, Neuilly-sur-Seine, France, assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Feb. 4, 1966, Ser. No. 525,172
4 Claims. (Cl. 116—114)



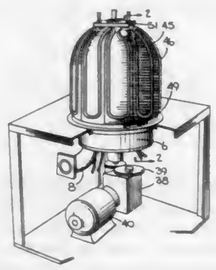
This combined indicator and order card form comprises a central portion having a pair of depressible tabs insertable into the hollow core of a roll of tape to frictionally and removably affix the form to said roll. Extending outwardly in opposite directions from the central portion are an elongated indicator portion and an order card portion, both of which lie flat against the convolutions of tape and serve to stabilize the form when affixed to the core. The indicator portion has graduated markings to indicate the amount of tape between each mark and the hollow core, and the detachable order card portion has data thereon to identify the particular type of tape for reorder purposes.

3,407,782
APPARATUS FOR SPREADING BUTTER AND LIKE SUBSTANCES ON BREAD SLICES AND LIKE-SHAPED ARTICLES
Joseph Medley, 6 Llantarnam Close, Cwmbran, Monmouthshire, Wales
Filed Aug. 31, 1966, Ser. No. 576,452
7 Claims. (Cl. 118—13)



The disclosure relates to apparatus for spreading butter or the like upon a slice of bread or like-shaped articles. The apparatus includes a magazine for holding a quantity of butter or like substance, a plunger in the magazine for extruding the butter through discharge openings, a roller which faces the openings in the magazine and is arranged to receive the extruded butter together with a means for moving a slice of bread or the like relative to the roller so as to cause the butter or like substance to be spread upon the bread.

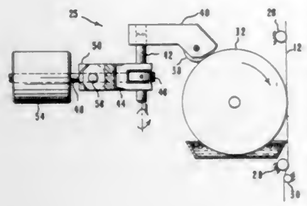
3,407,783
VAPOR DEPOSITION APPARATUS
Emil R. Capita, Hudson, N.J.
(7020 Hudson Blvd., North Bergen, N.J. 07047)
Filed Aug. 31, 1964, Ser. No. 393,253
5 Claims. (Cl. 118—49.5)



1. Apparatus for vapor plating articles comprising the combination of a sealed chamber; an induction heating

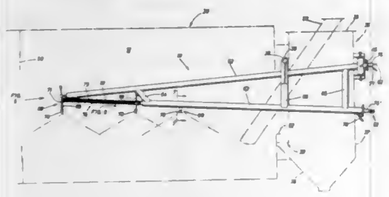
coil in said chamber; an electrically conductive article supporting susceptor mounted on a rotatable hollow shaft adjacent said coil, said shaft adapted for connection to a source of said vapor located externally of said chamber and having a vapor outlet disposed substantially equidistant from and above said susceptor; a vapor guide member disposed uniformly about said hollow shaft and, from a location intermediate the vapor outlet and the article supporting surface of the susceptor, having a uniform wall portion extending from said shaft, downwardly and outwardly to said susceptor surface; a vertical thrust bearing for said shaft within said sealed chamber for supporting the shaft, and a non-conducting heat resistant shield member intermediate said coil and said support.

3,407,784
APPARATUS FOR APPLYING FINISHING TO YARNS
Otha Allen Hitt, Richmond, Va., and George Arvid Fernstrom, Seaford, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Oct. 3, 1967, Ser. No. 672,577
7 Claims. (Cl. 118—234)



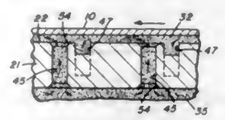
An apparatus for applying liquid finish to moving filamentary yarns including a driven grooved finish roll partially immersed in a finish solution and an idler roll positioned in rolling peripheral contact with the finish roll. The idler roll is mounted for spacial three-dimensional movement with respect to the axis of the finish roll.

3,407,785
APPARATUS FOR SPRAYING SOLID PARTICLES
John T. Higgins, Trail, British Columbia, Canada, assignor to Cominco Ltd., a corporation of Canada
Filed May 9, 1966, Ser. No. 548,662
2 Claims. (Cl. 118—302)



A spraying apparatus cantilevered into cylindrical rotating granulating drum having adjustable support means external to the drum for vertical adjustment of spray heads carried by the assembly, conduit means communicating the spray heads with a source of a nitrogenous compound in melt form, and temperature control means for maintaining the melt temperature within close limits.

3,407,786
APPLICATOR DEVICE
George L. Beyer and William C. York, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Oct. 13, 1967, Ser. No. 675,112
16 Claims. (Cl. 118—637)



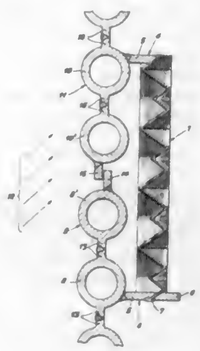
A multiple slit applicator head for applying a liquid composition to the surface of a moving web of material. The head is arranged in closely spaced relationship to the surface of the material and is provided with a plurality of spaced, parallel entry and exit slits arranged transverse to the direction of movement of the material. The entry slits permit the liquid composition to flow toward the surface and any excess is returned to a reservoir via the exit slits which are arranged between adjacent entry slits and in closer proximity to the one in a downstream direction. Such an arrangement of slits permits a continual replenishment of the liquid composition with uniform application thereof to the surface of the material.

3,407,787
LPG VAPORIZER
Carl E. Golden, Burlingame, Calif., assignor to Ransome Torch & Burner Co., a corporation
Filed Jan. 3, 1967, Ser. No. 607,010
10 Claims. (Cl. 122—4)

An LPG vaporizer mechanism includes a controller having first and second chambers, the first chamber having an outlet valve. LPG supplied to the first chamber flows under control of the outlet valve into a heated container through a float controlled level valve in the container. LPG also flows from the first chamber through an orifice into the second chamber and from there to a port in the bottom of the heated container. LPG gas is released from the top of the heated container.

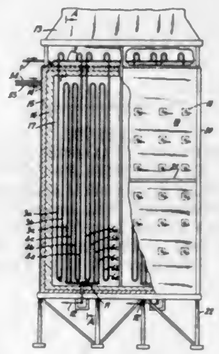
3,407,788
EXPANSIBLE LINKAGE FOR A STEAM GENERATOR
Fritz Hagmann, Winterthur, Switzerland, assignor to Sulzer Brothers, Limited, Winterthur, Switzerland, a corporation of Switzerland
Filed Jan. 11, 1967, Ser. No. 608,555
Claims priority, application Switzerland, Oct. 5, 1966, 14,377/66
8 Claims. (Cl. 122—6)

The expansible linkage between the walls of a steam generator absorbs the variable heat expansion of the walls during operation of the generator. The congruent rhomboids of the linkage allow the linkage to elongate in two perpendicular directions upon heating to absorb



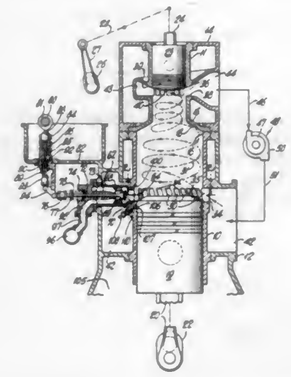
the differential heat expansion transferred by the walls. The thickness of the sheet from which the linkage is made is substantially that of the tube walls in the generator walls.

3,407,789
HEATING APPARATUS AND PROCESS
Lawrence P. Hallee, Wimbledon Common, England, and Ellis J. Green, Winchester, and Herman N. Woebcke, Lexington, Mass., assignors to Stone & Webster Engineering Corporation, Boston, Mass., a corporation of Massachusetts
Filed June 13, 1966, Ser. No. 557,007
21 Claims. (Cl. 122—356)



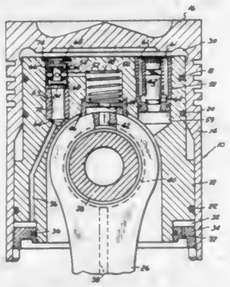
1. An apparatus for the continuous heating of fluid materials comprising walls of refractory material defining a chamber having an outlet passage at the top thereof, said chamber containing disposed therein heating means for said fluid including a plurality of conduits about 60 to 210 feet in length and having an inside diameter of about 2 to 3 inches, said conduits being disposed in said chamber about equal distance between walls of said chamber, and the walls of said chamber containing a plurality of radiant heat burners, said radiant burners being sufficient to provide an average heat absorption rate of 20,000 to 35,000 B.t.u./hr./sq. ft. of conduit surface and a fluid outlet temperature of 1500 to 1650° F.

3,407,790
UNIFLOW SCAVENGED ENGINE HAVING IMPROVED GASEOUS FUEL ADMISSION
Anker K. Antonsen, 2137 E. Ridge Road, and Matthew L. Foreman, 845 Harrison Ave., both of Beloit, Wis. 53511
Filed Apr. 12, 1967, Ser. No. 630,233
4 Claims. (Cl. 123—65)



A uniflow scavenged internal combustion engine including piston controlled cylinder air admission ports in a circumferential series and directed to establish helical air flow in the cylinder, operable on gaseous fuel and having fuel admission port means in the cylinder between an adjacent pair of the air ports for fuel delivery into the cylinder in the zone of the air ports, whereby to attain improved air-fuel mixture. The provision in such engine of means for preventing gaseous fuel leakage past the piston to the engine crankcase.

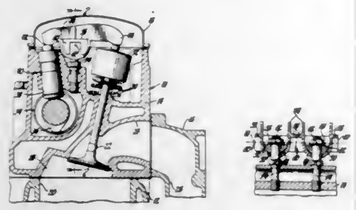
3,407,791
SUPPLY VALVE ASSEMBLY FOR VARIABLE COMPRESSION RATIO PISTON ASSEMBLY
Edward Saarinen, Detroit, and Thomas J. Pearsall, Grosse Pointe Farms, Mich., assignors to Continental Aviation and Engineering Corporation, Detroit, Mich., a corporation of Virginia
Filed Dec. 8, 1967, Ser. No. 689,202
10 Claims. (Cl. 123—78)



A two-part variable compression ratio piston assembly having an outer member movable relative to an inner member to vary the compression ratio of an internal combustion engine and a hydraulic system for automatically controlling relative movement of the members to maintain a predetermined maximum combustion chamber pressure. The hydraulic circuit includes an upper and a lower chamber which expand and contract conversely

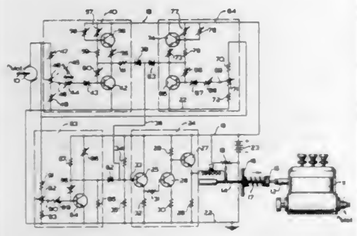
upon relative movement of the piston member and a system for supplying and discharging an incompressible fluid from these chambers in a manner which gradually increases the compression ratio of the engine until a predetermined maximum combustion chamber pressure has been achieved and which tends to maintain the maximum combustion chamber pressure after it has been achieved. The fluid preferably comprises oil from the lubrication system of the engine supplied to the piston through the connecting rod and the hydraulic system includes a new supply valve assembly which supplies oil to both the chambers.

3,407,792
VALVE GEAR WITH ROCKER ARM GUIDE MEANS
Robert M. Buchwald, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 15, 1968, Ser. No. 705,821
5 Claims. (Cl. 123—90)



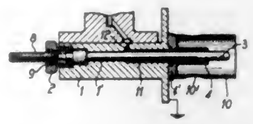
The primary embodiment discloses an overhead valve engine having pairs of adjacent rocker arms mounted on ball stud supports for pivotal motion in parallel planes around a common axis. The rocker arms are positively guided by abutment means extending from the rocker arms into engagement with one another around the axis of rocking motion so as to prevent any rotating or tipping of the rocker arms out of their planes of intended movement.

3,407,793
ELECTRONIC CONTROLLER FOR DIESEL ENGINES
Herbert Lang, Asperg, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany, a limited-liability company of Germany
Filed Apr. 17, 1967, Ser. No. 631,331
Claims priority, application Germany, May 20, 1966, B 87,206
15 Claims. (Cl. 123—102)



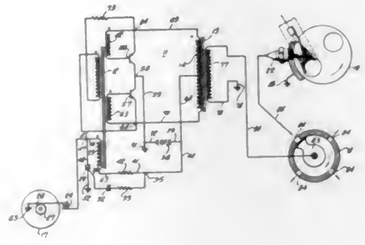
The position of the fuel controller associated with the injection pump of a diesel engine is electrically controlled by a fixed source of electrical potential having high internal resistance in parallel with a group of nonlinear transistor circuits; one of the nonlinear circuits sets operating and maximum speed, another minimum speed at low injection quantities, and a third provides for load-power matching; the transfer characteristics of the transistor circuits differ and they are connected by diodes in parallel with the fixed source of potential; the input to the nonlinear circuits is controlled by a speed-proportional signal obtained from a tachometer generator connected to the engine; the operating speed setting nonlinear circuit is additionally responsive to setting of an operator-controllable pedal. The potential of the lower internal resistance nonlinear circuits will override that of the fixed source.

3,407,794
GLOW PLUG ARRANGEMENT FOR INTERNAL COMBUSTION ENGINES, ESPECIALLY FOR STARTING OF DIESEL ENGINES
Minoru Nagai, Kariya-shi, and Makoto Yato, Toyoda-shi, Japan, assignors to Nippon Denso Company Ltd., Kariya-shi, Japan
Filed Oct. 12, 1966, Ser. No. 586,184
Claims priority, application Japan, Oct. 21, 1965, 40/64,658
7 Claims. (Cl. 123—145)



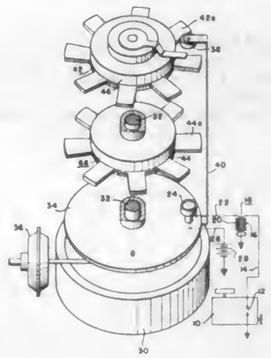
A glow plug arrangement for internal combustion engines in which a stream of fuel is guided through an annular gap about the rear portion of a heated glow plug having an outer metal shell and a wire helix embedded in insulating material in the shell so that when the glow plug is energized the fuel will be heated and completely evaporated in the annular gap without coming in contact with the wire helix and the fuel air mixture forming in the region of the front end of the glow plug be ignited by the latter.

3,407,795
IGNITION SYSTEM FOR INTERNAL COMBUSTION ENGINES
Robert W. Aiken, Robert E. Canup, and Charles E. Galaspie, Richmond, Va., assignors, by mesne assignments, to Texaco Inc., New York, N.Y.
Filed June 2, 1966, Ser. No. 554,784
5 Claims. (Cl. 123—148)



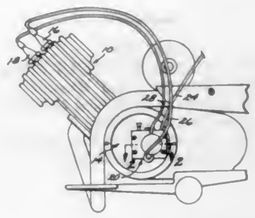
An electrical ignition system for internal combustion engines. The circuit includes a Jensen oscillator. Starting and stopping of the oscillator is controlled by engine breaker points plus an electric timing circuit.

3,407,796
RADIATION TRIGGERED INTERNAL COMBUSTION ENGINE IGNITION SYSTEM
Lewis R. Hetzler, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 22, 1966, Ser. No. 581,286
2 Claims. (Cl. 123—148)



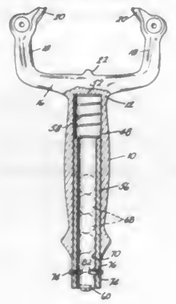
This invention relates to a control device for an ignition system of an internal combustion engine and includes a source of radioactive energy and a switching device which is responsive to radioactive energy. The control device includes an engine driven shaft which drives two disks having radially extending arms that swing between the source of radioactive energy and the switching device to control the coupling of the source of energy and the switching device. The disks can be adjusted relative to each other in response to shaft speed to control the effective opening coupling the source of radioactive energy and the switching device and at least one of the disks is adjustable relative to the shaft to provide a centrifugal advance for the ignition system.

3,407,797
MULTIPLE SPARK PLUG PER CYLINDER IGNITION SYSTEM
Kay Ishibashi, 2277 237th St., Torrance, Calif. 90501
Filed Aug. 23, 1966, Ser. No. 574,466
4 Claims. (Cl. 123—148)



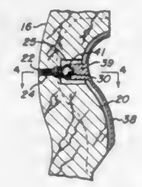
An ignition system for an internal combustion engine and including a pair of spark plugs disposed in igniting relationship with a cylinder. Electrical circuitry connects the ignition system coil with the individual spark plugs on successive revolutions of the engine to provide a cooling period for each of the plugs as the other plug is being fired.

3,407,798
SLINGSHOT WITH MAGAZINE
Floyd G. Rock, 309 East St., Jonesville, Mich. 49250
Filed Mar. 21, 1966, Ser. No. 536,004
6 Claims. (Cl. 124—20)



A slingshot having a pellet dispensing magazine incorporated in the handgrip thereof wherein pellets are dispensed from the lower end of the handgrip upon movement of a pellet retainer in a direction against the biasing force of a spring. Dispensing of the pellet being such that the pellet retainer may be actuated by the slingshot pouch when held in the hand of the operator wherein the pellet may be dispensed directly into the pouch. Two elements in the side of the pellet retainer are engaged by the pouch, and are forced inwardly upon actuation of the retainer by the pouch to prevent more than one pellet leaving the retainer.

3,407,799
ARCHERY BOW AND HANDGRIP ALIGNMENT APPARATUS THEREFOR
Robert J. Reynolds, Montgomery County, Ohio; Kathleen I. Bennett, executrix of the estate of said Robert J. Reynolds, deceased, assignor to Reynolds Precision Products Co., Inc., West Carrollton, Ohio, a corporation of Ohio
Filed Aug. 26, 1965, Ser. No. 482,875
2 Claims. (Cl. 124—24)

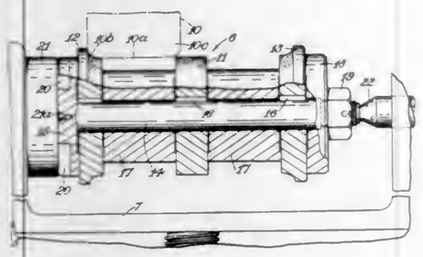


An archery bow which includes a handgrip member which is attached to the bow so that the handgrip member and the bow are relatively movable about a plurality of axes. The bow is thus always properly aligned with respect to an arrow to be shot thereby.

3,407,800
DRESSING APPARATUS FOR GRINDING WHEELS
Stanley William Hoare, Peterborough, England, assignor to Newall Engineering Company Limited, Peterborough, England, a British company
Filed Nov. 18, 1964, Ser. No. 412,210
4 Claims. (Cl. 125—11)

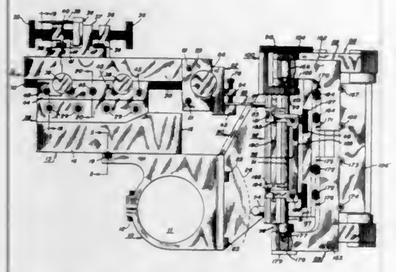
1. A dressing apparatus for use with a grinding wheel of cylindrical form having a cylindrical curved surface, flat end surfaces and a rounded end portion between said curved surface and each of said flat end surfaces, com-

prising a first cylindrical dressing roller for dressing the cylindrical surface of the wheel, a second cylindrical dressing roller having a surface complementary to one of said rounded end portions of said grinding wheel, said second roller being mounted coaxially with respect to said first roller, means for rotating said rollers about an axis parallel to that of said grinding wheel, means for moving



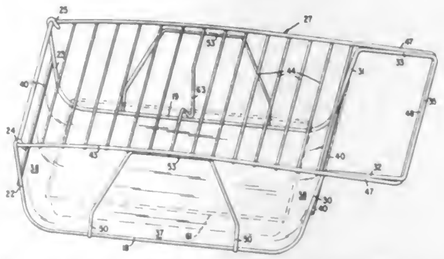
said rollers in an axial direction, a sufficient distance to cause said first roller to traverse the full width of the cylindrical surface of said grinding wheel, said first and second grinding rollers being spaced along said common axis such that said second grinding roller contacts the rounded end portion of said grinding wheel only after said first roller has reached the opposite end thereof.

3,407,801
APPARATUS FOR DRESSING A GRINDING WHEEL
Walter Vollman, 207 Southern Blvd., Chatham, N.J. 07928
Filed June 6, 1966, Ser. No. 555,532
15 Claims. (Cl. 125—11)



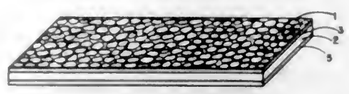
1. Apparatus for imparting a predetermined configuration to the wheel of a grinding machine, comprising,
(a) a mounting block for attachment of the apparatus to the machine,
(b) a support member secured to the mounting block,
(c) a first slide block secured to the support member and carrying a first slide member which is movable in a horizontal plane spaced above the grinding wheel,
(d) a second slide member carried by the first slide member and movable in a direction normal to that of the said first slide member,
(e) means operable to secure a template to the second slide member in a horizontal plane, which template has an edge of the predetermined configuration,
(f) a support plate secured to the said mounting block,
(g) a first arm member having one end pivotally-coupled to the support plate for rotation about a first vertical axis,
(h) a second arm member pivotally-coupled to the first arm member for rotation about a second vertical axis,
(i) a rod carried by the second arm member and rotatable about a third vertical axis,
(j) a tool bar carrying a tracing stylus and a diamond point, and
(k) means for securing the said tool bar to the said rod with the stylus disposed in the plane of the template and the diamond point disposed for engagement with the grinding wheel.

3,407,802
PORTABLE BARBECUE COOKING DEVICE
Donald F. Warner, Stamford, N.Y., assignor to Timberland Products Co., Inc., Stamford, N.Y., a corporation of New York
Filed May 6, 1966, Ser. No. 548,298
2 Claims. (Cl. 126—25)



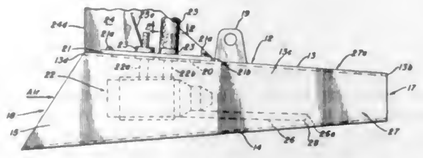
A small barbecue cooking device adapted to be carried in one hand. The device includes a frame and grill formed of light weight rod material including integral handle portions in overlying relation and interlocked snap-fashion when the grill is in closed cooking position. There is a sheet metal support for supporting the fire.

3,407,803
CAMPER STOVE WITH DISPOSABLE BRAZIER
Michael J. Cervenak, 7727 Dunbarton Ave., Los Angeles, Calif. 90045
Filed Feb. 16, 1967, Ser. No. 616,604
7 Claims. (Cl. 126—25)



A camper stove having a relatively lightweight, removable and disposable brazier comprised of a thermal material having improved heat reflecting and radiating characteristics.

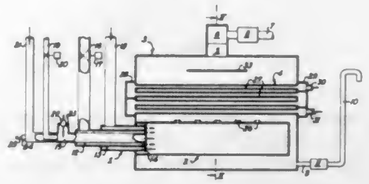
3,407,804
OIL BURNER FOR FLAME CULTIVATION
Donald C. Walker, Munster, and Russell A. Hunt, Jr., Griffith, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed May 29, 1967, Ser. No. 642,065
7 Claims. (Cl. 126—271.2)



An improved oil burner for a flame cultivator having a shoe with a unitary valve and electrode disposed therein

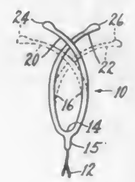
communicating with a source of supply of air and fuel through a pair of conduits. The improvement particularly relates to the integral construction of the valve and electrode so that the housing of the valve provides a conductor for the electrical charge passing through the valve and the integrally formed electrode to produce a spark for igniting a fuel.

3,407,805
APPARATUS FOR SUBMERGED COMBUSTION HEATING
Jacques Bougard, Monceau-sur-Sambre, Belgium, assignor to Ateliers J. Hanrez Societe Anonyme, Monceau-sur-Sambre, Belgium, a Belgian company
Filed Nov. 29, 1966, Ser. No. 597,816
Claims priority, application Belgium, Dec. 2, 1965, 21,107
9 Claims. (Cl. 126—360)



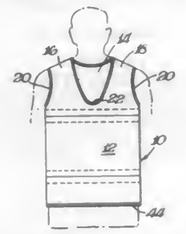
Submerged combustion apparatus in which a horizontal burner produces combustion gases in a chamber submerged in a heat transfer or primary liquid such that the combustion gases issue from the chamber into the primary liquid to form a turbulent mixture which passes through a heat exchanger, the combustion gases and liquid being separated after passage through the heat exchanger, the liquid being further separated from water which may have formed during combustion.

3,407,806
CONTRACEPTIVE INTRA-UTERINE DEVICES
Jaroslav F. Hulka, Pittsburgh, Pa., and Richard A. Butler, Jr., Brookline, and Alan W. Burke, Newton, Mass.; said Butler and said Burke assignors to Butler Automatic Machine, Inc., Canton, Mass., a corporation of Massachusetts
Filed Aug. 24, 1966, Ser. No. 574,608
8 Claims. (Cl. 128—130)



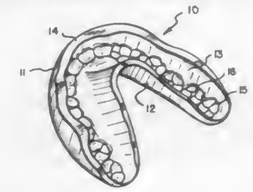
1. An intra-uterine device comprising arcuate flanks of resilient material rising from a base to an overlying area and defining a closed ovoid loop, each of the flanks having a projection extending in divergent relationship with the other beyond the overlying area whereby a force exerted by the uterus tending to bring the projections closer together causes the flank to be spread apart and a force tending to bring the flanks closer together causes the projections to be spread apart.

3,407,807
CONFINING GARMENT
Iva C. Giberson, P.O. Box 110, Presque Isle, Maine 04769
Filed May 3, 1966, Ser. No. 547,242
9 Claims. (Cl. 128—134)



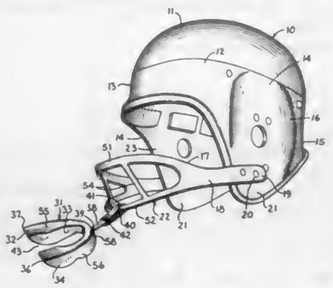
A confining garment in the form of a jacket includes fastening means for fastening the jacket on a user. A reinforcing strip is secured longitudinally across the center of the back portion of the jacket with a flexible loop attached to the strip. A pair of straps are attached to the loop for securement near the head of the bed and the foot of the bed respectively.

3,407,808
DENTAL MOUTHGUARD
Leoniel C. Baldwin, Toledo, Ohio, assignor to Howmet Corporation, a corporation of Delaware
Filed Sept. 2, 1964, Ser. No. 393,938
11 Claims. (Cl. 128—136)



1. A dental mouthguard made of a tough elastomeric material resistant to mechanical wear and having a relatively low rate of mouth fluids absorption comprising a blend of a vinyl resin and thermoplastic polyesterurethane which is substantially free of cross-linkages.

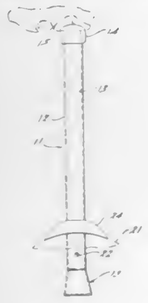
3,407,809
MOUTHPIECE
Harold M. Ross, 3140 W. Walton St., Chicago, Ill. 60622
Filed Sept. 26, 1966, Ser. No. 582,029
4 Claims. (Cl. 128—136)



1. In a protective mouthpiece comprising a deformable trough adapted for engagement therein of a natural

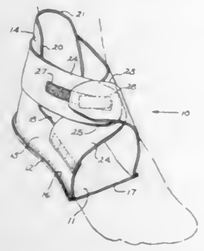
denture and defined by a base and a pair of inner and outer walls extending away from said base, an elongated bendable strap having an inner end portion connected to said outer wall and an outer end portion releasably securable in adjusted position longitudinally of said strap, and fastener means slideably adjustable longitudinally of said strap to which said outer end portion is connected.

3,407,810
BIBLICAL TUBE
Lester L. Waldrep, 19410 Burt Road, Detroit, Mich. 48219
Filed Nov. 12, 1965, Ser. No. 507,456
6 Claims. (Cl. 128—145.5)



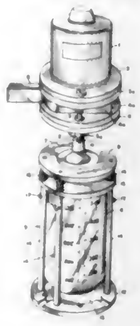
A biblical tube for use in mouth-to-mouth resuscitation having a saliva trap at the victim's end and offset mouthpiece.

3,407,811
ANKLE SUPPORT
Frank F. Stubbs, 6718 Alcove Ave., North Hollywood, Calif. 91606
Filed Apr. 22, 1966, Ser. No. 544,567
9 Claims. (Cl. 128—166)



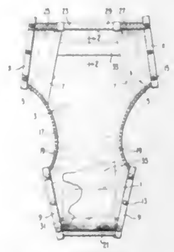
1. An ankle support comprising:
a half sole adapted to lie under the instep and heel of the foot;
a heel and instep embracing body portion carried about the peripheral edge marginal region of said sole;
a heel portion integrally formed with said body portion at the rear thereof and adapted to fit about the tendon of Achilles of the wearer;
a pair of opposing lateral bands carried by said body portion on opposite sides thereof;
one band of said pair being of substantially longer length than the other of said bands and being adapted to cross over the bridge of the foot and to encircle the ankle thereof and terminating at its free end at the bridge of the foot; and
the shorter band of said pair adapted to cross over the terminating end of said other band and to detachably secure therewith.

3,407,812
METHOD FOR PERFORMING PLASMAPHERESIS IN SITU
Victor Grifols Lucas, Barcelona, Spain, assignor to Dade Reagents, Inc., Miami, Fla., a corporation of Florida
Filed Nov. 9, 1965, Ser. No. 502,190
7 Claims. (Cl. 128—214)



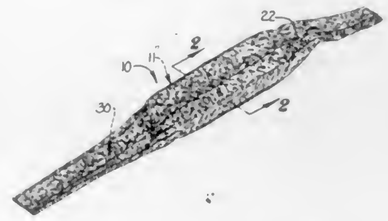
A method and apparatus for practicing plasmapheresis in situ, in which a donor's vein is first punctured with the needle of a conventional blood collection set and a predetermined quantity of the donor's blood is collected in the chamber of a container, such as a standard blood bottle, which has a tapered neck zone. The set is then detached from the bottle without withdrawing the needle from the donor's vein and the collected blood is immediately centrifuged in the same chamber, with the neck zone thereof facing downwardly, until the red cells migrate peripherally and displace the plasma towards the center of the chamber. The centrifugation is then gradually discontinued and the bottle is maintained in inverted stationary position until the peripherally-migrated red cells have settled into the neck zone of the chamber. Finally, with the stationary bottle still in inverted position, the original blood collection set, the needle of which still communicates with the donor's vein, is connected to the bottle at the neck zone to draw off the red cells collected in the lower portion of the chamber and to return them to the donor through the same needle, thereby retaining the separated plasma in the chamber of the bottle.

3,407,813
DIAPER HOLDER
George Daniel Grippo, New Brunswick, and Werner Otto Tundermann, Colonia, N.J., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed Oct. 19, 1965, Ser. No. 497,687
3 Claims. (Cl. 128—287)



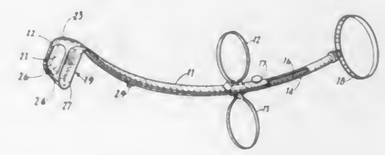
A diaper holder is provided having extensible and inextensible waist band portions with pocket means co-extensive with the inextensible section of the waist band to secure a diaper within said holder. The pocket is further provided with closure means to more effectively secure a diaper within said holder.

3,407,814
FLUSHABLE SANITARY NAPKIN HAVING A REINFORCING AND SECURING STRIP THEREIN
Donald K. George and Kenneth C. Hokanson, Greenwood, S.C., assignors to Riegel Textile Corporation, Ware Shoals, S.C., a corporation of Delaware
Filed Oct. 18, 1966, Ser. No. 587,550
4 Claims. (Cl. 128—290)



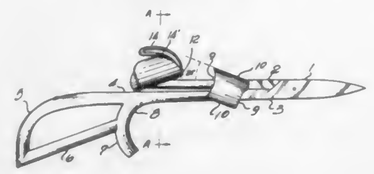
1. A flushable sanitary napkin comprising:
(a) an interior pad of dispersible fibrous absorbent material adapted to absorb body fluids;
(b) a flushable fluid permeable wrapper of creped cellulosic fibrous sheet material disposed around and enclosing said interior pad and defining longitudinally extending overlapping edges, said wrapper comprising bonded, hydrophilic, flat, ribbon-like, aerated, regenerated cellulose fibers of the generally collapsed multi-cellular form to provide high dry strength, wet hang and dispersibility for said wrapper when agitated in a large excess of water; and
(c) a reinforcing and securing strip disposed between said overlapping edges of said wrapper and comprising a generally inextensible, thin, flat, ribbon-like strip coated with an adhesive for securing said overlapping edges of said wrapper together, said strip being adapted to restrict elongation of said creped wrapper, provide additional strength to said wrapper, and form and hold the body contacting face of said sanitary napkin in a relatively smooth longitudinally curved configuration conforming generally to the natural body contour of the wearer when placed in position thereon to provide a greater surface area in contact therewith for optimum absorbence and comfort.

3,407,815
ADENOTOME HAVING A FLAT CUTTING SURFACE
Louis Abelson, 585 McLean Ave., Yonkers, N.Y. 10705
Filed Aug. 13, 1965, Ser. No. 479,702
5 Claims. (Cl. 128—309)



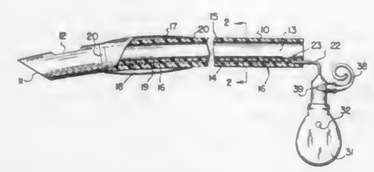
A surgical adenotome having an elongated frame, a head member mounted thereon, a flexible cutting blade in the head member and a sliding member in the frame attached to the blade for actuating the same. The head member is composed of side walls, a bottom wall and a top wall having a tissue receiving opening. The top wall is substantially flat so that a substantially flat cutting surface is provided, whereby upon reception of body tissue therein, the cutting blade can be transversely moved across the opening to cut off the tissue cleanly thereby avoiding gouging or excess cutting of the tissue.

3,407,816
SURGICAL INSTRUMENT HANDLE
Pedro Domingo Curutchet, Avenida 53, No. 320, La Plata, Buenos Aires, Argentina
Filed Feb. 16, 1966, Ser. No. 527,847
14 Claims. (Cl. 128—318)



1. An aximanual handle for a surgical instrument having an active element, which comprises first, second and third rod member sections circumscribing together an irregular window, said first section extending rearwardly from said active element and having a rear anatomical convexity adapted to fit in the palmar concavity, said second section providing a straight edge adapted to be engaged by the ring and little fingers, and said third section having one end joined to said first section, an intermediate portion joined to said second section and a free end portion projecting from the contour of the handle, said third section having a concavity adapted to be engaged by the middle finger; said first section carrying a forwardly concave finger-piece fixed thereto at a position beyond said handle window, the anteroposterior axis of said finger-piece being oblique relative to said first section, forming therewith a rearwardly opening angle of about 60° to 70°.

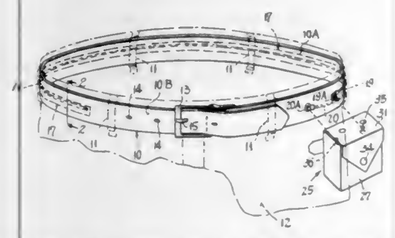
3,407,817
CATHETER WITH CUFF INFLATER AND INDICATOR
Ellis A. Galleher, Jr., Sarasota, Fla., assignor, by mesne assignments, to Air Reduction Incorporated, a corporation of New York
Filed July 26, 1965, Ser. No. 474,807
4 Claims. (Cl. 128—351)



A catheter with a manually inflatable cuff, said catheter comprising a tube having a main bore opening through the ends of the tube and a longitudinally extending passage in the wall of the tube, said passage being plugged adjacent one end of said tube and communicating with the cuff through said wall to inflate said cuff, cuff inflating means inserted in said passage at the other end of said tube, said means including a check valve, a hand pressure bulb, and a pressure indicating member, said member indicating the extent to which the cuff is inflated by means of said hand pressure bulb and having means as-

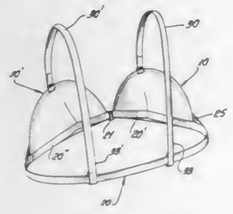
sociated therewith for simultaneously deflating the cuff and indicating member.

3,407,818
ELECTRICAL HEATING BELT
Raphael J. Costanzo, 119 Park St., Bridgeport, Conn. 06608
Filed Oct. 10, 1966, Ser. No. 585,352
18 Claims. (Cl. 128—384)



An electrically heated belt including an elongated belt member adapted to be threaded through the conventional loops of a pair of trousers. A heater element in the belt member and low voltage battery for energizing said heater element and being detachably connected to said belt member.

3,407,819
SELF-ADJUSTING BRASSIERE
Mabs R. Barnes, 4636 Los Feliz Blvd., Los Angeles, Calif. 90027
Filed July 25, 1966, Ser. No. 567,526
5 Claims. (Cl. 128—479)

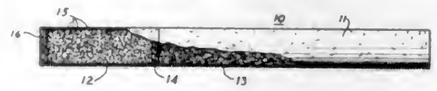


1. In a light-weight, form-fitting, non-slippable brassiere construction adapted for use with backless dresses, comprising in cooperative relation with a pair of preformed, finely porous, resiliently compressible breast-receiving cups, each provided with a light fabric covering and having an arcuate lower margin, a concave inner surface and an upper margin of generally arcuate shape; an elastic and resilient body band having portions overlying the concave inner surface adjacent the lower margin of each cup, said portions being shorter than the overlaid cup surface, said body band being firmly connected to the preformed cup and covering at not less than two zones spaced along said lower margin.

3,407,820
TOBACCO SMOKE FILTERS
David T. Westcott, Easton-in-Gordano, near Bristol, and Martin L. Reynolds, Bristol, England, assignors to The Imperial Tobacco Company (of Great Britain and Ireland), Limited, Bristol, England, a company of England
No Drawing. Filed Feb. 3, 1966, Ser. No. 524,853
Claims priority, application Great Britain, Feb. 3, 1965, 4,797/65
2 Claims. (Cl. 131—10.9)

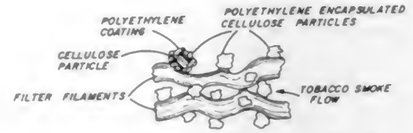
A tobacco smoke filter containing manganese (IV) oxide dihydroxide for the purpose of removing nitrogen oxides from the smoke.

3,407,821
TOBACCO SMOKE FILTER
Boris Sokoloff, 825 Vistabula St., Lakeland, Fla. 33801
Filed Mar. 30, 1967, Ser. No. 627,112
3 Claims. (Cl. 131—265)



Citrus wastes from the juice industry, which include internal fruit pulp and the skins of oranges, lemons, limes, tangerines, grapefruits, and any hybrid combinations of these, are processed by means of acid treatment and enzymatic decomposition to form a finely divided fibrous pulp. This pulp is then separated from the aqueous medium to form a dry pulp in which the chemical properties of porosity are developed to a degree such that the material, either in the form of granules, or a fine powder, incorporated in filter paper is suitable for use as a medium through which tobacco smoke can be filtered.

3,407,822
TOBACCO SMOKE FILTERS CONTAINING POLYETHYLENE ENCAPSULATED CELLULOSE PARTICLES
George P. Touey and Robert C. Mumpower, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Feb. 7, 1966, Ser. No. 525,477
10 Claims. (Cl. 131—266)



This invention discloses a tobacco smoke filter and a method of manufacture therefor. Said tobacco smoke filter is utilized for the removal of solid and vapor constituents from an effluent stream of tobacco smoke and comprises a filamentary carrier material arranged to provide interstices for the passage of smoke in a tortuous manner therethrough and has bonded thereon a finely divided additive of particles of cellulose encased in a polyolefin.

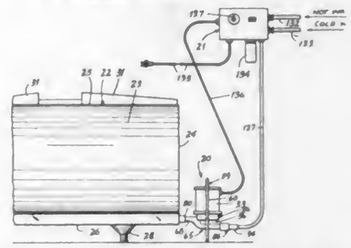
3,407,823
HAIR TRIMMING GUIDE
Joseph Selvaggio, 32 Hennessey Place, Irvington, N.J. 07111
Filed Sept. 22, 1965, Ser. No. 489,245
1 Claim. (Cl. 132—45)



A hair trimming guide adapted to be placed on the rear of the head comprising a unitary device having a central

band portion and two arcuate wings. At the juncture of each respective arcuate portion with the central band portion there is disposed integrally a ridge, adding stability to the device and also a means for gripping the device. On the arcuate portion there are grooves which aid in the alignment of the device with the hair.

3,407,824
TANK WASHER
Leroy Ray, Springfield, Mo., assignor to Paul Mueller Company, Springfield, Mo., a corporation of Missouri
Filed Oct. 28, 1966, Ser. No. 590,436
9 Claims. (Cl. 134—56)



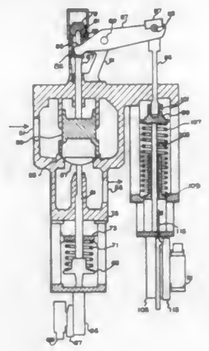
1. A tank washer comprising an impeller housing, an impeller rotatable within the impeller housing, an inlet to the impeller housing, an outlet from the impeller housing for receiving water drawn by the impeller through the inlet and discharged through the outlet, a jet spray tube connected to the impeller outlet and adapted to be extended through the drain outlet of a tank, the jet spray tube having a plurality of openings through it, a suction pipe having a passage through it, one end of the passage communicating with the drain fitting and the other end communicating with the inlet to the impeller housing, liquid conveyor means adapted to be connected to an external source of liquid, and means responsive to the flow of liquid through the liquid conveyor means for alternately connecting and disconnecting the liquid conveyor means to the suction pipe, the suction pipe having a drain opening for permitting liquid to drain from the tank when the liquid conveyor means is disconnected from the suction pipe.

3,407,825
UMBRELLA HOLDER AND ASSEMBLY USING SAME
Robert L. Doyle, Palo Alto, Calif., assignor to Western Progress, Inc., Mountain View, Calif., a corporation of Nevada
Filed Apr. 10, 1967, Ser. No. 629,807
17 Claims. (Cl. 135—5)



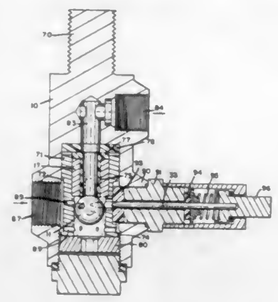
Assembly formed of a manhole guard rail or a platform carried by a strand and an umbrella holder and an umbrella mounted in the holder with the umbrella holder supported by the guard rail or the strand and with elongate elements tying certain of the stays of the umbrella to the guard rail or to the platform.

3,407,826
ELECTROHYDRAULIC OVERSPEED CONTROL SYSTEM FOR A REHEAT STEAM TURBINE
James B. Wagner, Lynnfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Oct. 7, 1965, Ser. No. 493,827
4 Claims. (Cl. 137—31)



An electrohydraulic control system for the intercept valve of a reheat steam turbine, with provision to commence proportionate closing of the steam intercept valve with a servo valve depending on the degree of overspeed, but to close it shut immediately with a dump valve if the servo valve fails to keep up with the proportionate overspeed closing signal.

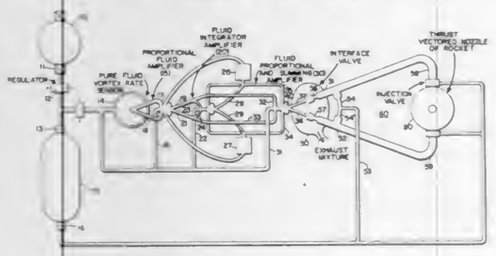
3,407,827
AUTOMATIC SHUT-OFF VALVE
John L. Follett, Fair Haven, N.Y. 13064
Filed Sept. 20, 1963, Ser. No. 310,235
4 Claims. (Cl. 137—39)



1. An automatic shut-off valve comprising a body, a valve seat element mounted in the body, a valve element receiving chamber extending downwardly from said valve seat element, an inlet port communicating with said chamber below said seat element, said body also having an outlet port above said seat element communicating through said seat element with said chamber, a valve element in said chamber and being free to move therein into engagement with said seat element upon said chamber being moved toward horizontal position to disconnect said outlet port with said chamber, one of said elements including a permanent magnet and the other of said ele-

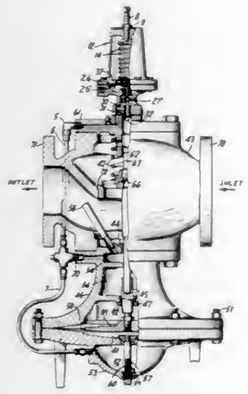
ments including magnetic material, valve element support means fixed in said chamber and spaced downwardly from said seat element for positioning said valve element a distance below said seat element, whereby the effective influence of said permanent magnet is insufficient to move said valve element upwardly from said support means toward said seat element, said permanent magnet being operable when said chamber is moved toward horizontal position to effect movement of said valve element into engagement with said seat element and to maintain said engagement, reset means carried by said body in fluid tight relation thereto and operable externally thereof for moving said valve element downwardly from said seat out of the effective influence of said permanent magnet.

3,407,828
CONTROL APPARATUS
Keith C. Jones, Roseville, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed Apr. 14, 1964, Ser. No. 359,576
11 Claims. (Cl. 137—81.5)



1. In an automatic condition control apparatus for a dirigible craft, a differential air flow means responsive to turning of the craft, operable valve means for controlling turning of the craft, a liquid transmission means transmitting a liquid for operating the valve means, and further means providing an interface between air and liquid controlling the liquid transmission means from the differential air flow means.

3,407,829
DIAPHRAGM ACTUATED CONTROL VALVE
Eduardo L. Cusi, Bethlehem, Pa., assignor to Sarco Company, Inc., Allentown, Pa., a corporation of New York
Filed Mar. 15, 1966, Ser. No. 534,480
5 Claims. (Cl. 137—154)



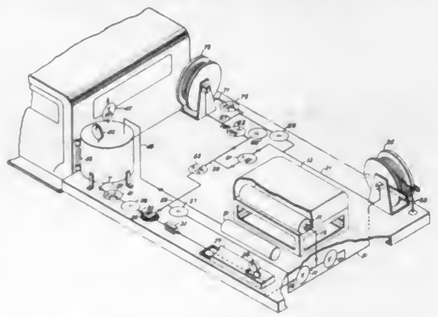
A diaphragm actuated valve which operates in response to a pressure signal is constructed to provide for an actuating liquid in communication with the diaphragm to reduce actuation response time and to reduce instability.

3,407,830
GAS LIFT VALVE
James E. Reagan, Dallas, Tex., assignor to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware
Filed Aug. 12, 1966, Ser. No. 572,873
17 Claims. (Cl. 137—155)



1. A gas lift valve adapted to be included in a tubing string positioned in spaced relationship within a well bore defining a central longitudinal flow passage through said well bore and an annular flow passage within said well bore around said tubing string, said valve functioning to control admission of lift gas from said annular space into said tubing string for displacing well fluids to the surface through said tubing string and comprising: mandrel means having a central longitudinal flow passage extending therethrough in communication with said tubing string when said valve is included in said tubing string; sleeve means supported in concentric spaced relation on said mandrel means defining an annular chamber having closed opposite ends and providing an annular flow passage around said mandrel means within said sleeve means; said mandrel means having ports therein communicating said annular chamber with said longitudinal central flow passage; said sleeve means having ports longitudinally spaced from said mandrel means ports communicating the exterior of said sleeve with said annular chamber; an external annular flange providing an annular valve seat around said mandrel means within said annular chamber between said mandrel means ports and said sleeve means ports; an annular valve member longitudinally slidable within said annular chamber between said mandrel means ports and said valve seat on said mandrel means, said annular valve member having an internal annular valve seat surface adapted to engage said valve seat surface of said mandrel means; annular piston means slidably positioned within said annular chamber on the opposite side of said external valve seat on said mandred means from said annular valve member; connecting means between said annular piston and said annular valve member wherein said valve member is movable longitudinally between opposite end positions by said piston; resilient means confined between said piston and said mandrel means biasing said piston away from said mandrel means valve seat surface whereby said annular valve member is biased toward closed position; said mandrel means having fluid flow passage means communicating the exterior of said gas lift valve with said annular chamber between said annular piston and a first end of said chamber whereby fluid pressure is communicated from said annular flow passage in said well bore into said annular chamber for displacing said piston toward said valve seat on said mandrel means for moving said annular valve member toward open position; a pilot valve supported in said flow passage means communicating the exterior of said mandrel means with said annular chamber for controlling the flow of fluid from said annular flow passage into said annular chamber for moving said annular valve member to open position; and means connected with said pilot valve for biasing said valve toward closed position.

3,407,831
APPARATUS FOR PREVENTING CORROSION
Donald R. Anthony, Rado G. Loncaric, and Robert E. Fields, Dallas, Tex., assignors to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania
Original application Feb. 20, 1961, Ser. No. 90,527, now Patent No. 3,298,438, dated Jan. 17, 1967. Divided and this application Nov. 2, 1966, Ser. No. 591,631
11 Claims. (Cl. 137—209)

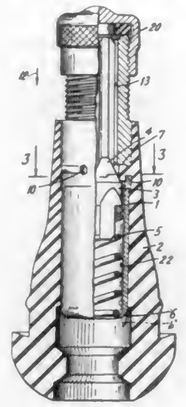


A truck-mounted injection system for liquefied normally gaseous inhibitors has an inhibitor supply section; a pressurized water-miscible liquid storage section and a metering pump section connected to a back-pressure valve and an injection line. A three-way valve on the side of the truck opposite the injection line allows alternate switching of the inlet of the pump between inhibitor supply and water-miscible liquid storage. The system may include means for heating or cooling the inhibitor prior to entry into the pump, a gas pressurizing system for the water-miscible liquid, a sight flow indicator, and a vent line with relief valve.

3,407,832
INFLATION VALVE HAVING INTEGRALLY CONNECTED RESILIENT COVER AND SEAT
Sepp Lutz, Giengen (Brenz), Germany, assignor to Alligator Ventilfabrik G.m.b.H., Giengen (Brenz), Germany
Filed June 24, 1965, Ser. No. 466,548
Claims priority, application Germany, June 27, 1964, A 46,440
12 Claims. (Cl. 137—223)

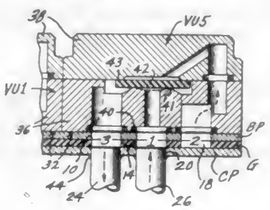
A method of constructing a pneumatic valve for use, for example, with automobile tires includes the forming of a metallic housing from a metal sleeve which has an outer bore portion of less diameter than an inner bore portion so that a ledge is formed between the two bore portions. In the portion having the wider interior diameter, apertures are defined through the wall thereof directly adjacent the ledge formed between the two bore portions. An outer covering of a resilient material such as rubber is applied around the metal sleeve, and an annular sealing seat of a resilient material such as rubber is formed on the interior of the larger diameter bore portion directly behind the ledge out of the air stream which is joined to the outer cover through the openings formed in the sleeve.

This valve construction is characterized by the fact that an annular valve seal seat is formed by the resilient ma-



terial directly adjacent the ledge formation at the interior of the sleeve against which a valve plunger or tappet is biased by a spring which is retained at its outer end by an inwardly directed crimping formation of the sleeve.

3,407,833
FLUID LOGIC CIRCUIT MECHANISM
Karl A. Brandenberg, Hayward, Calif., assignor, by mesne assignments, to The Aro Corporation, a corporation of Delaware
Filed Aug. 16, 1965, Ser. No. 479,758
5 Claims. (Cl. 137—271)

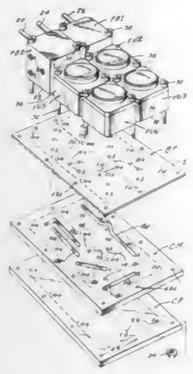


Mechanism for connecting fluid logic circuits comprising a base plate, a gasket and a cover plate stacked together and adapted for the mounting thereon of fluid logic valve units and the like. The base plate has a full pattern of perforations and so does the gasket, the gasket being capable of having slots cut therein from one of its perforations to another to provide lateral fluid conducting slots defined by the sides of the slots, and those surfaces of the base plate and the cover plate next to the gasket, thus providing a simple and inexpensive means for effecting fluid connections between ports of the various valve units.

3,407,834
FLUID LOGIC CIRCUIT MECHANISM
Karl A. Brandenberg, 25564 Spur Drive, Hayward, Calif. 94541
Continuation-in-part of application Ser. No. 479,758 Aug. 16, 1965. This application Aug. 5, 1966, Ser. No. 570,663
8 Claims. (Cl. 137—271)

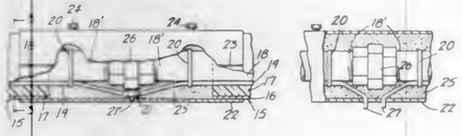
Mechanism for connecting fluid logic circuits comprising a base plate, a circuit control module and a cover

plate which are stacked together and adapted for the mounting thereon of fluid logic valve units, porting blocks and the like. The base plate has a full pattern of perforations and so does the circuit control module, the latter being capable of having slots cut therein from one of its



perforations to another to provide lateral fluid conducting slots defined by the sides of the slots and those surfaces of the base plate and the cover plate next to the circuit control module, thus providing a simple and inexpensive means for effecting fluid connections between ports of the various valve units and porting blocks.

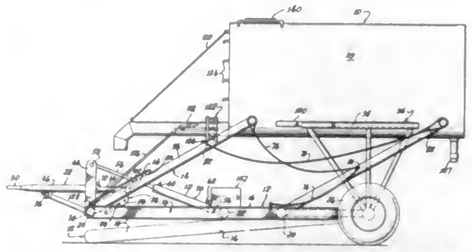
3,407,835
INSULATED HEATING OR COOLING SYSTEM FOR ELONGATED PIPES
Hans Rolfes, Bronx, N.Y., assignor to Trans Continental Electronics Corp., New York, N.Y., a corporation of New Jersey
Filed June 21, 1965, Ser. No. 465,620
15 Claims. (Cl. 137—340)



A system employing prefabricated pipe units, each unit comprising a pipe having a casing terminating short of the pipe ends and housing material insulating the pipe, with means extending longitudinally of the pipe and into coupling stations at ends of the pipe for circulating temperature controlling material, the coupling station including means for insulating couplings of pipes of adjacent coupled units and coupling of the means for circulating the temperature controlling material, and some of said stations including means for introducing the temperature controlling material to the units of the system.

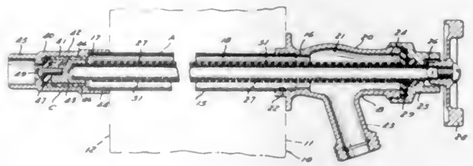
3,407,836
WHEELED COLLAPSIBLE TOWER FOR A TANK OR THE LIKE
Keril M. Keiser, 409 N. Washington Ave., Glendora, Calif. 91740
Filed Oct. 4, 1965, Ser. No. 492,780
11 Claims. (Cl. 137—344)

A wheeled collapsible tower for a tank or the like having an actuator for vertically moving the tower relative to the tower chassis between a retracted position of travel and an elevated position of use and vertically moving the chassis between an elevated position of travel wherein



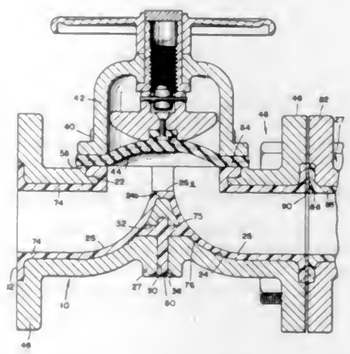
the chassis is supported on wheels and a lower position of use wherein the chassis rests on the ground.

3,407,837
SILLCOCK WITH ICE EXPANSION CONTROL
Howard A. Fulton, Perrysville, and Vaughn D. Flinner, Big Prairie, Ohio, assignors to Mansfield Sanitary, Inc.
Filed Oct. 20, 1965, Ser. No. 498,839
12 Claims. (Cl. 137—375)



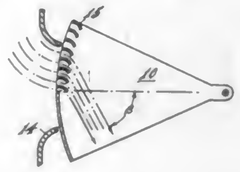
A sillcock assembly including a water flow passage adapted to extend through a building wall and a non-absorbent, cushion-type sleeve, rod or liner in the passage that will compress and absorb the expansion caused by the formation of ice.

3,407,838
PLASTIC LINED VALVE
Henry W. Boteler, East Greenwich, R.I., assignor to Grinnell Corporation, Providence, R.I., a corporation of Delaware
Filed Jan. 12, 1966, Ser. No. 520,220
1 Claim. (Cl. 137—375)



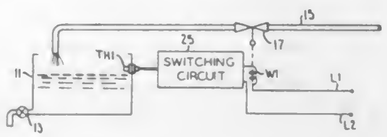
A body for a diaphragm valve of the weir type in which the outer body casing is formed of one material, in which the interior walls of this casing are covered with a liner of a different material, in which an elongated integral extention of said liner is anchored in a special duct through a boss, and in which the boss is located in the centrally located depression created in the outer casing surface by the presence of the weir.

3,407,839
SELF-REGULATING FLUID FLOW VALVES
Pierre Philippe Hardy, 22 Rue Armengaud, Saint-Cloud, France
Filed July 7, 1966, Ser. No. 563,415
14 Claims. (Cl. 137—389)



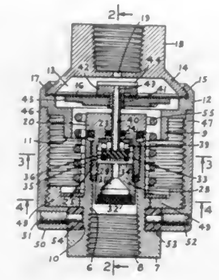
1. In a self-regulating fluid flow control device, an outlet orifice for a fluid under pressure, valve means disposed in the path of the fluid flowing from the outlet and adapted to cooperate therewith, said valve means comprising a valve body pivotable about an axis, a plurality of curved flow deflectors mounted on said body to deflect the direction of flow of the fluid as it emerges from the orifice, a closure vane mounted on said valve body and adapted to obstruct the orifice in varying amounts as the valve body pivots; said valve means pivoting about its axis in response to the force exerted by the fluid against the deflectors, the closure vane moving into an obstructing position in an amount proportional to a degree of force created by the fluid against the deflectors.

3,407,840
APPARATUS FOR CONTROLLING THE LEVEL OF A LIQUID
Francis Finnegan, Brockton, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Nov. 29, 1965, Ser. No. 510,313
10 Claims. (Cl. 137—392)



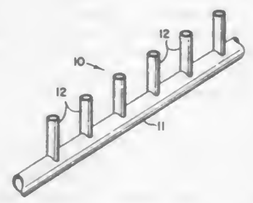
The liquid level control disclosed herein may be constructed as a simple two-terminal device which can be connected in series with a valve across an A.C. power source to maintain a liquid at a preselected level. A silicon controlled rectifier is provided for controlling the flow of current to the valve. A voltage divider comprising an NTC thermistor and a serially connected load impedance is connected across the anode-cathode circuit of the SCR. The junction between the thermistor and its load impedance is connected to the gate of the SCR through a voltage breakdown device. When the valve is not energized, the voltage appearing across the anode-cathode circuit causes the thermistor to self-heat thereby reducing the voltage at the junction and preventing triggering of the SCR. However, when the thermistor is cooled by contact with the liquid, its lowered resistance causes the voltage at the junction between the therm stor and the load impedance to exceed the threshold of the breakdown device. The SCR is thus triggered to cause the valve to be operated. Accordingly, the valve is controlled to maintain the liquid substantially at the level of the thermistor.

3,407,841
FLUID PRESSURE REGULATORS
Albert L. Semon, 11 Eliot Place, Short Hills, N.J. 07078
Filed Jan. 17, 1967, Ser. No. 609,813
10 Claims. (Cl. 137—505.15)



This invention relates to a pressure regulator utilizing a compensating disc to maintain outlet pressure substantially constant upon a decrease in inlet pressure.

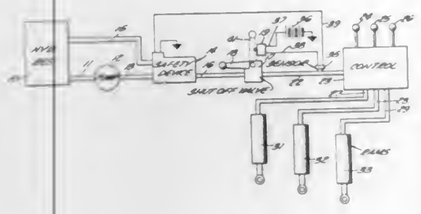
3,407,842
MANIFOLD FITTING
Emery J. Zahuranec, Solon, Ohio, assignor to Crawford Fitting Company, Solon, Ohio, a corporation of Ohio
Filed Oct. 21, 1965, Ser. No. 500,433
4 Claims. (Cl. 137—561)



Disclosed is a manifold fitting adapted to be connected to a fluid source by means of a source tube fitting in order to supply fluid to a plurality of devices. The manifold fitting comprises an elongated tubular conduit having a predetermined outer diameter and a first end and a second end. A plurality of laterally extending tubular branch conduits are secured to the tubular conduit in fluid communication with the interior of the tubular conduit thereby providing a multiplicity of fluid outlets. Each of the branch conduits has a predetermined outer diameter and is adapted to have a branch tube fitting attached thereto. The elongated tubular conduit is adapted to have a source tube fitting attached to at least one of the ends thereof. The distance A between each end of the tubular conduit and a respective adjacent branch conduit is equal to or greater than the depth of insertion of the end of the elongated tubular conduit into the source fitting plus the amount of elongational adjustment of the fitting required to secure the fitting to the elongated tubular conduit. In one embodiment of the invention, the

distance between adjacent branch conduits of the tubular conduit is equal to the distance A. In another embodiment of the invention, the distance between adjacent branch conduits is equal to a distance 2A.

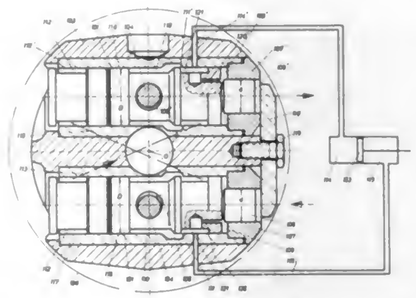
3,407,843
HYDRAULIC SAFETY SYSTEM AND DEVICE
Gerald Walter Dandridge, West Los Angeles, Calif., assignor, by mesne assignments, to Beatrice Foods Co., Chicago, Ill., a corporation of Delaware
Filed June 27, 1966, Ser. No. 560,427
7 Claims. (Cl. 137—563)



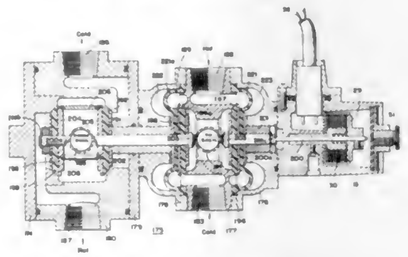
1. A fluid handling system comprising
a fluid reservoir,
a fluid pump connected with said reservoir to supply fluid under pressure,
a valve body having an inlet and a first outlet and a first passageway therethrough communicating between said inlet and said outlet, said inlet being coupled with said fluid pump and said outlet being coupled with an outlet line for supplying fluid to fluid receiving equipment, and a second passageway communicating between said first passageway and a chamber within said body,
valve means mounted in said valve body and including plug means for restricting fluid flow through said first passageway when said valve means is closed, said valve means including piston means mounted within said chamber and coupled with said plug means for movement together, said valve means being normally maintained in an open position with said piston means preventing fluid communication between said second passageway and said chamber and said plug means allowing fluid flow through said first passageway, and said piston means allowing communication between said second passageway and said chamber as said first valve means closes thereby enabling fluid flow through said first and second passageways to act on said piston means to aid in closing said first valve means,
sensor means coupled in said outlet line to sense a predetermined pressure decrease therein,
electrical actuator means coupled with and responsive to said sensor means to cause said valve means to close in response to said pressure decrease in said outlet line, and
relief means coupled between said pump and said reservoir to return fluid to said reservoir upon a predetermined increase in fluid pressure in said outlet line.

3,407,844
VALVE FOR POWER STEERING SYSTEMS
Joerg Linser, Durlangen, Germany, assignor to Zahnradfabrik Friedrichshafen, Aktiengesellschaft, Friedrichshafen am Bodensee, Germany
Filed Apr. 4, 1966, Ser. No. 539,802
Claims priority, application Germany, Apr. 3, 1965, Z 11,451
2 Claims. (Cl. 137—596)

The arrangement provides for the use of movable members subjected to booster oil pressure which act against booster pressure control valves in order to simulate vehicle wheel turning resistance in the course of steering.



3,407,845
ELECTROMAGNETICALLY OPERATED VALVES
Ralph D. Cooksley, Saugatuck Shore, Conn., assignor to R. D. Cooksley Manufacturing Company, Hartford, Conn., a corporation of Connecticut
Continuation-in-part of application Ser. No. 314,236, Oct. 7, 1963. This application Nov. 17, 1964, Ser. No. 411,899
9 Claims. (Cl. 137—607)

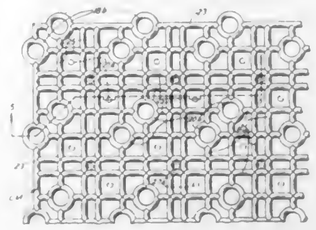


A magnetically-operated valve is provided with a valve member and valve opening which is quite large in flow area compared with the flow areas of the inlet and outlet ports. By providing stop means for the valve member, its movement is restricted so that with a very short valve stroke, the opening through the valve will be equal to the area of one of the inlet and outlet ports. Accordingly, the armature of the magnetic actuator can be restricted for movement within an overlapping area of a cup-shaped stationary member to provide relatively high forces for actuating the valve with a minimum of power. The foregoing features are included in a variation comprising a six-way valve for control of fluid flow between two inlet ports and two outlet ports. Two additional ports are respectively flow-connected to a heat-exchanger by way of the inlet and outlet ports. The valves also include structure for preventing water-hammer.

3,407,846
CIRCUIT BOARD AND CONTROL MODULE FOR FLUID LOGIC CIRCUIT MECHANISM
Karl A. Brandenberg, Hayward, Calif., assignor to The Aro Corporation, Bryan, Ohio, a corporation of Delaware
Filed July 14, 1966, Ser. No. 565,246
11 Claims. (Cl. 137—608)

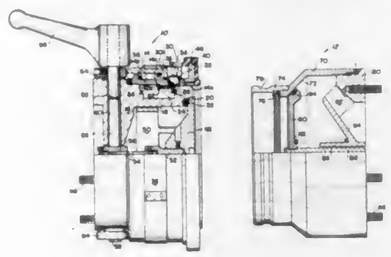
1. In a circuit board and control module for fluid logic circuit mechanisms, an assembly comprising a base plate,

a cover plate, and a control module between said base plate and said cover plate, said base plate being adapted for the mounting of valve units thereon, and means for holding said base plate, control module and cover plate in assembled, stacked, fluid tight relationship, said base plate having fluid passageways for communication with the ports of valve units mounted on said assembly, said



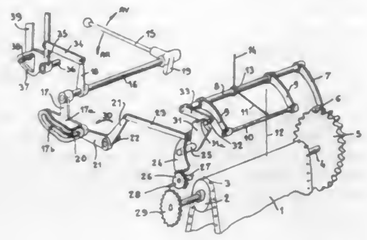
control module having a plurality of openings therethrough defined by partitions between said openings, said partitions being readily removable to provide predetermined circuit areas for connecting together specific ports of different valve units mounted on said assembly, and said control module including sealing unit portions for cooperation with said means for holding to seal said means for holding from said circuit areas.

3,407,847
VALVED COUPLING
Clifford H. Snyder, Imperial, Pa., assignor to SRM Company, a corporation of Pennsylvania
Filed July 19, 1965, Ser. No. 473,073
3 Claims. (Cl. 137—614.06)



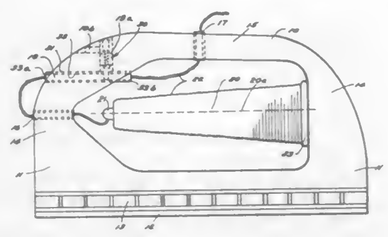
A swivel valved coupling is provided which consists of a nipple and a housing to rotatably receive the nipple. Both the housing and the nipple have flow control valves therein. The flow control valve in the housing is controlled by a handle having a cam interlock means. The cam interlock means on the valve handle prevents the valve from being opened when the coupling is disengaged and also prevents the coupling from being disengaged when the valve is open. The nipple is axially retained within the housing by a plurality of locking balls which move radially relative to the housing to alternately lock and release the nipple within the housing. The arrangement of the locking balls, the housing, and the nipple permits the nipple to rotate 360° relative to the housing thereby providing a full swiveling coupling. The coupling can swivel whether the valves in the housing and the nipple are opened or closed and whether or not there is fluid pressure within the coupling.

3,407,848
DEVICE FOR ROTATING THE PATTERN CYLINDER OF DOUBLE-LIFT DOBBIES INDEPENDENTLY OF ITS NORMAL DRIVE
Joseph Fumat, Lyon, France, assignor to Societe des Mecaniques Verdol, Lyon (Rhone), France, a French limited-liability company
Filed Jan. 23, 1967, Ser. No. 610,978
Claims priority, application France, Feb. 24, 1966, 46,983
5 Claims. (Cl. 139—1)



A device for driving a dobby pattern cylinder independently of its drive means having control means operative to disengage the normal cylinder drive means and the pattern reading means and through motor means drive the cylinder a predetermined distance in either direction to properly position the pattern after a loom stoppage.

3,407,849
NARROW WARE LOOM SHUTTLE
Ralph C. Capps and Louis Scoppe, Greenwood, S.C., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan
Filed May 2, 1966, Ser. No. 546,703
3 Claims. (Cl. 139—201)

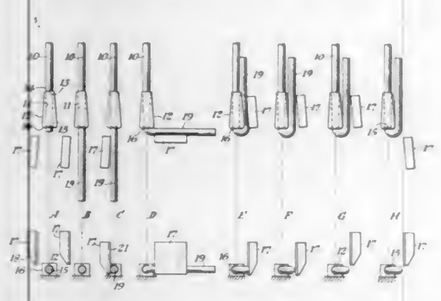


A rack shuttle for looms is provided having an end take-off stationary bobbin, a take-off eye and delivery eye, and a threadway located in one arm of the shuttle between the take-off and delivery eyes. The threadway and bobbin are generally parallel but are spaced apart for maximum freedom of thread movement. An adjustable spring loaded restriction is provided in the threadway to afford controlled passage of thread to the delivery eye so that constant thread tension is maintained. The shuttle has a large thread capacity and is relatively free of breakage.

3,407,850
WIRE BENDING APPARATUS
Everett F. Kelm, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Nov. 25, 1966, Ser. No. 596,948
8 Claims. (Cl. 140—71)

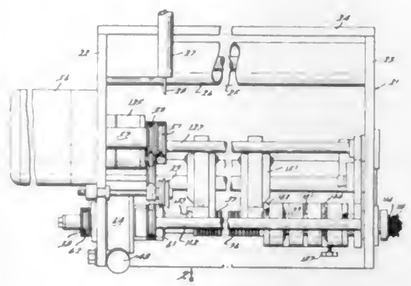
1. Apparatus for bending wire into a preselected sinuous pattern, such apparatus comprising,

(A) a stationary wire guide embodying a wire passage including wire entrance and exit orifices for wire entrance and exit ends of such guide,
(B) first motor means for periodically feeding straight sections of said wire through said passage and beyond the exit end of such guide, the length of each such section being controlled in accordance with said preselected pattern,
(C) a wire bending tool initially disposed in a first position adjacent a first side of the exit orifice of said passage,
(D) second motor means for actuating said tool into and out of contact with opposite sides of alternate sections of said wire fed through said passage, and for actuating said tool in first or second linear paths of travel extening parallel with the length of said passage,
(E) third motor means for actuating said tool in third and fourth partially overlapping paths of travel extending in circular arcs in first and second opposite directions from the exit orifice of said passage toward first and second opposite sides of said guide, respectively,
(F) a programmer, and
(G) means controlled by said programmer for energizing said motor means in a repetitive predetermined sequence to, sequentially,
(a) feed one of said sections of wire through and beyond the exit end of said guide,



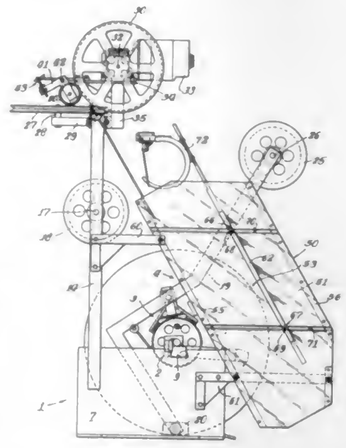
(b) actuate said tool into contact with one side of said one section of wire,
(c) actuate said tool in said third path of travel to bend said one section of wire about the exit end of said guide,
(d) actuate said tool out of contact with said one section of wire,
(e) actuate said tool in said second path of travel to a second position adjacent the side of the exit orifice of said passage opposite said first side of such orifice,
(f) feed a succeeding section of said wire through and beyond the exit end of said guide,
(g) actuate said tool into contact with the side of said succeeding section of wire opposite said one side of the immediately preceding section of wire,
(h) actuate said tool in said fourth path of travel to bend said succeeding section of wire about the exit end of said guide,
(i) actuate said tool out of contact with said succeeding section of wire,
(j) actuate said tool in said first path of travel to return such tool to its said first position and, thereafter,
(k) continuously repeat the energization of said motor means in said predetermined sequence to bend said wire into said preselected sinuous pattern.

3,407,851
SPIRAL BINDER APPLYING MACHINE
Claus Ostermeier, Post Geisenfeld, Upper Bavaria, Germany, assignor to Hans Sickinger Co., West Bloomfield Township, Mich., a corporation of Michigan
Filed Oct. 23, 1965, Ser. No. 503,704
18 Claims. (Cl. 140—92.93)



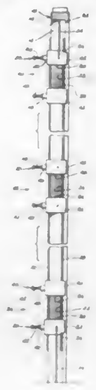
A machine for the coiling and application of spiral binders to packs of sheets. Such machine featuring guide rollers adjustably mounted adjacent the binding station, a binder coiling tool adjustable along a path at right angles to the axes of the guide rollers, and a pair of knife assemblies to sever the spiral binder at each end of the pack of sheets.

3,407,852
WIRE SUPPLY APPARATUS AND METHOD OF SUPPLYING WIRE
Ernest U. Lang, Niles, Mich., assignor to National-Standard Company, Niles, Mich., a corporation of Delaware
Filed Feb. 18, 1966, Ser. No. 528,512
3 Claims. (Cl. 140—147)



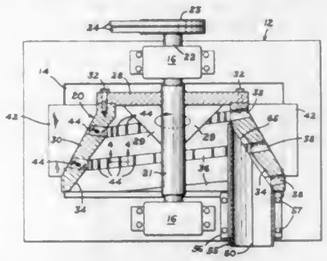
A method and apparatus for feeding wire from a supply source to a forming device in which wire is drawn from the source and freed of torsional stresses. The torsional stress-free wire is then accumulated in a slack loop with any cast of the wire being in the same plane as the loop. The wire is drawn from the loop into the forming device.

3,407,853
ROUTER GUIDE
Robert Bailey, 15340 Mayall St., Mission Hills, Calif. 91340
Filed Apr. 27, 1966, Ser. No. 545,655
8 Claims. (Cl. 144—144.5)



A router guide comprised of a pair of spaced parallel rods, a plurality of sets of blocks slidably mounted on the rods and independently adjustable along the rods, each set of blocks forming a space therebetween defining a pattern for routing a surface and means for adjustably supporting the router guide against a work surface.

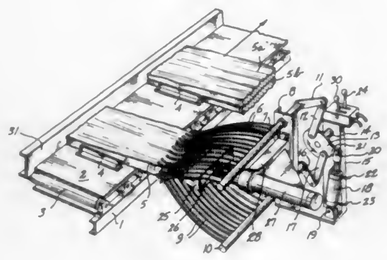
3,407,854
WOOD CHIPPING APPARATUS
Verne L. Lindberg and Adrian Artiano, Everett, Wash., assignors to The Black Clawson Company, Hamilton, Ohio, a corporation of Ohio
Filed Mar. 23, 1966, Ser. No. 536,765
7 Claims. (Cl. 144—162)



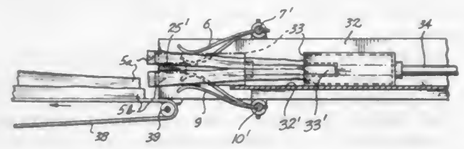
A wood chipper has a rotor with a shaft member supporting a surrounding frusto-conical annular wall having peripherally spaced openings each receiving an inwardly projecting knife. Bearings rotatably support the shaft member on each end of the annular wall, and a guide spout extends axially into the annular space defined between the shaft member and the frusto-conical wall for directing the entire end surface of a log into engagement with the knives.

3,407,855
BLANK-SPLITTING DEVICE
Lloyd I. Ritchie, Roosevelt Apartments, 4D, Chehalis St., Aberdeen, Wash. 98520
Continuation-in-part of application Ser. No. 513,968, Dec. 15, 1965. This application Mar. 15, 1966, Ser. No. 534,354
11 Claims. (Cl. 144—193)

A generally flat blank from which shake boards are to be split is moved transversely of the length of its grain on a conveyor into a position in which a froe driven by a fluid-operated piston and cylinder can be moved to engage an end of the blank to split it at a desired location. Two opposed resilient locating gripper means can engage opposite sides of the blank to locate the position where it is to be split relative to the froe. Each of the opposed gripper means is resiliently deformable to engage irregularities in the surface of one side of the blank and may be composed of a row of resilient fingers supported in cantilever fashion, or include a resilient compressible pad of sponge plastic material. The gripper means can be mounted on pivoted supports to swing between positions engageable with a blank to be split and a retracted position out of engagement with such a blank. Crank mechanism or cam mechanism can be coordinated with movement of the splitting froe to move the gripping means into engagement with the blank until after the froe has engaged the end of the blank and penetrated it somewhat, and then the supports for the gripper means can be swung to withdraw the gripper means from engagement with the blank.

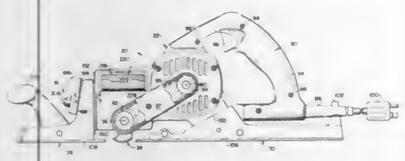


3,407,856
BLANK-SPLITTING DEVICE
Lloyd I. Ritchie, Roosevelt Apartments, 4D, Chehalis St., Aberdeen, Wash. 98532
Filed Dec. 15, 1965, Ser. No. 513,968
4 Claims. (Cl. 144—193)



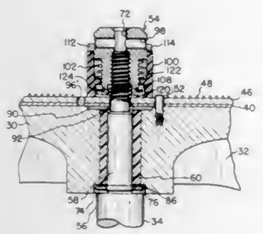
Two opposed resilient centering gripping means engage opposite sides of a generally flat wood blank to be split by relative movement of such blank and a froe lengthwise of the grain of the blank. Each gripper means is resiliently deformable to engage irregularities in a principal surface of the blank. Such a gripper means may be composed of a row of resilient fingers supported in cantilever fashion or may be a pad of sponge plastic material. Such gripper means can be mounted for swinging movement about parallel axes between positions pressed against sides of a blank and positions spread apart to release the blank. Relative movement of a spliting froe and the blank can be effected by driving the froe by a fluid-actuated piston and cylinder, or the blank can be forced past a stationary froe by a plunger driven by a fluid-pressure piston and cylinder or by a link connected to an endless chain.

3,407,857
PLANE
John Gordon Bentley, Liverpool, N.Y., assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 30, 1966, Ser. No. 606,108
23 Claims. (Cl. 145—4)



A hand-manipulated, power-operated plane having an adjustable rear shoe, a front shoe with two adjustment mechanisms which are operable independently of each other and the rear shoe adjusting mechanism, and a reversible chip discharge chute.

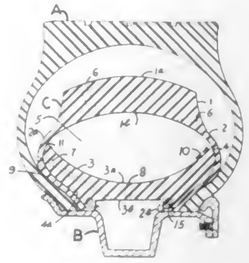
3,407,858
CUTTER DRIVE AND MOUNTING
Charles R. Smith, Groveland, and Lloyd D. Slagell, Peoria, Ill., assignors to Creve Coeur Mfg. Co., Peoria, Ill., a corporation of Illinois
Filed Sept. 12, 1966, Ser. No. 578,612
10 Claims. (Cl. 146—76)



1. In a centrifugal device having a driving means and a driven means rotatably carrying a working means at a high speed adapted to do work upon a work piece the combination of
(a) means to provide limited radial and circumferential movement between said driven means and said working member,
(b) resilient mounting means between said driving means and said driven means, and
(c) means to resiliently hold said working means axially against said driven means whereby said working member is adapted to move relative to said driving means and said driven means under an imbalance of said working member.

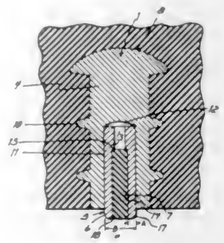
3,407,859
INNER SAFETY TIRE BUFFER WITH AIR SIMULATING MEANS
Tilden William Johnson, 5630 Sawtelle Blvd., Culver City, Calif. 90230
Continuation-in-part of application Ser. No. 424,747, Jan. 11, 1965. This application May 9, 1966, Ser. No. 557,329
14 Claims. (Cl. 152—158)

A wheel supporting buffer constituting a flexible rim extension resembling a tire constructed by manufacturing a cap sufficiently strong and shape retaining anchored that one specie can support normal vehicle load by a pull from the top and sides of the buffer sidewalls that attach to the wheel rim, but space between the buffer cap and wheel rim permits the buffer cap to yield quickly like a pneumatic tire to road obstacles that produce shock loads, one specie utilizing differential air pressures between enclosing tire air and buffer supporting tube air to nullify the buffer tube support when the enclosing tire is inflated, but in case of loss of enclosing tire air, the buffer tube expands to increase buffer load bearing capacity, some



species having bead expanding and tensioning means that facilitate buffer installation on regular drop center rims with or without newly invented enclosing tire expandable beads as well as removable flange rims, said buffer having sizable secondary solid tire protection against tire failure by the buffer bead and sidewall brace having one solid buffer on at least one rim tire bead seat half as high as floating cap of the buffer, construction utilizing tendency to shear towards rim drop center increases solid tire flexibility.

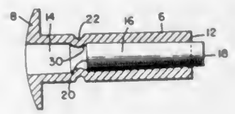
3,407,860
SAFETY SPIKE FOR VEHICLE TIRES
Coral W. Mossberg, R.F.D. 4, Cumberland, Wis. 54829
Filed Feb. 23, 1966, Ser. No. 532,049
2 Claims. (Cl. 152—210)



The invention essentially comprises a safety spike assembly for the tread of a rubber vehicle tire to provide a tractive and anti-skid action when driving upon ice-covered roadway surfaces. In general, the spike assembly comprises a holder formed of metal having a internal bore, and a stud formed of tubular metal interfitted in the bore of the holder and projecting beyond the outer end of the holder, the bore of the tubular stud providing an internal cutting edge adapted to provide purchase with the icy road surface. In order to prevent excessive wear, the tubular steel stud may be formed of carbide, or other hard material which has long wearing qualities. The outer end of the tubular stud is blocked off by a plug formed of rubber, or other resilient material, thereby to prevent the bore from becoming plugged with sand, pebbles and

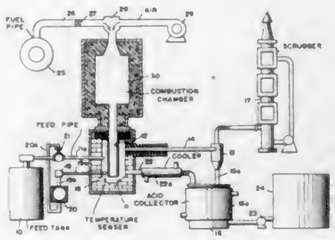
other materials which may otherwise pack into the bore and impair the tractive effect. During operation, the outer end portion of the resilient plug is compressed to a concave shape in response to pressure exerted upon the tire against the roadway surface, thus exposing the sharp internal cutting edge to the icy road surface to provide the tractive action.

3,407,861
TRACTION STUD FOR VEHICLE TIRES AND METHOD OF MAKING
Vernon H. Hildebrant, Morrow, Ohio, assignor, by mesne assignments, to Studebaker Corporation, a corporation of Michigan
Filed Apr. 4, 1966, Ser. No. 540,074
2 Claims. (Cl. 152—210)



A tire stud having an elongated tubular body with a bore therethrough and a head portion at one end thereof. The bore tapers from the head end toward the opposite end of the body. An insert is positioned in the bore such that an end thereof extends outwardly from said opposite end of the body. An obstruction in the bore precludes axial movement of the insert toward the head end of the body.

3,407,862
SUBMERGED COMBUSTION APPARATUS FOR THE CONCENTRATION OF PHOSPHORIC ACIDS
William R. Mustian, Jr., Lakeland, Fla., assignor, by mesne assignments, to Armour Agricultural Chemical Company, a corporation of Delaware
Continuation of application Ser. No. 354,737, Mar. 25, 1964, now Patent No. 3,279,526, Oct. 18, 1966. This application July 7, 1966, Ser. No. 594,638
1 Claim. (Cl. 159—16)



In the concentration of wet process phosphoric acid containing metal salts and other impurities, apparatus is provided for discharging combustion gases through a vertical and cylindrical dip pipe which extends downwardly into a frusto-conical chamber and is centered therein to bring about uniform flow of the combustion gases over the phosphoric acid and upwardly in the chamber. The chamber has a flat bottom aligned with the bottom of the dip pipe and has walls extending upwardly and outwardly at a continuous constant angle from the flat bottom and above the lower end of the dip pipe, the interior passage of the dip pipe having at the lower end thereof a cross-sectional area less than that of the chamber bottom and terminating in a lower edge which is parallel and spaced from the bottom and on all sides thereof is equi-distant from the inclined walls.

3,407,863
DRUM-TYPE VENETIAN BLINDS
Friedrich Griesser, Aadorf, Thurgau, Switzerland, assignor to Griesser A.G., Aadorf, Thurgau, Switzerland
Filed Dec. 2, 1966, Ser. No. 598,655
Claims priority, application Switzerland, Dec. 3, 1965, 16,696/65; Jan. 14, 1966, 479/66
11 Claims. (Cl. 160—133)



Venetian blinds of the type in which the slats are pivotally connected to guide tapes and draw tapes which are wound up on a drum for raising and lowering the blinds. The blind slats are also adapted to be opened and closed by turning the drum. Pivot tape mechanism is included with the drum structure which permits the slats to be quietly brought together even though the drum is rotated at maximum speed.

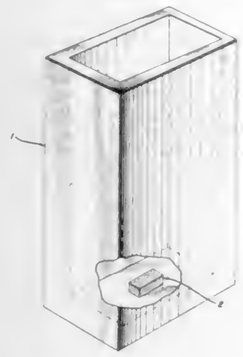
3,407,864
FORMING HOLLOW CAST ARTICLES
Kurt Anderko, Heilbronn (Neckar), Rudolf Henle, Neckarsulm, Wurttemberg, and Manfred Stark, Odheim, Germany, assignors to Karl Schmidt G.m.b.H., Neckarsulm, Wurttemberg, Germany, a corporation of Germany
No Drawing. Filed June 1, 1966, Ser. No. 554,331
Claims priority, application Germany, June 12, 1965, Sch 37,230
4 Claims. (Cl. 164—41)

1. In the method of forming a solid casting having at least one predetermined void space therein which comprises casting molten metal around at least one soluble salt core and then dissolving the core material; the improvement which comprises providing as said core material sintered salt comprising at least one soluble metal halide salt and up to about 10 weight percent at least one material selected from the group consisting of borax, magnesium oxide, and talc.

3,407.865
METHOD OF COATING METAL MOULD WALLS
Roderic Hugh Hammerton, Birmingham, England, assignor to Foseco International Limited, Nechells, Birmingham, England, a British company
Original application July 21, 1965, Ser. No. 473,816, now Patent No. 3,322,518, dated May 30, 1967. Divided and this application Oct. 26, 1966, Ser. No. 608,239
Claims priority, application Great Britain, Nov. 2, 1964, 44,596/64
7 Claims. (Cl. 164—67)

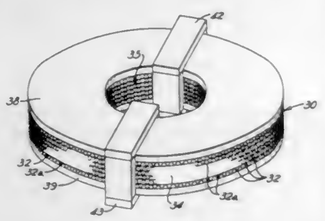
A method is provided for applying a coating to metal mould walls and for simultaneously generating a non-

oxidizing non-corrosive atmosphere within the mould. A small quantity of an ignitable gel composition is placed near the bottom of the mould and is ignited to deposit



carbon on the walls of the mould and to generate the desired atmosphere. The gel comprises (1) certain carbocyclic compounds, (2) an inflammable liquid solvent, and (3) a gelling agent for the solvent.

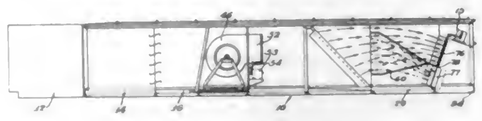
3,407,866
CERAMIC SEALS AND BEARING MEMBERS
Peter Sawchuk, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Continuation of application Ser. No. 157,998, Dec. 8, 1961. This application Sept. 1, 1966, Ser. No. 578,899
2 Claims. (Cl. 165—9)



Nonlubricated bearing or heat exchanger assembly for use over a broad temperature range and having two ceramic members with mated surfaces that slidably engage one another. One member, as a bearing member or rubbing seal for heat exchanger, has at least its mated surface made predominantly of one or more of the carbides of chromium, silicon, titanium and tungsten. The other member, as second bearing member or rotatable heat exchanger body, is a ceramically bonded structure made from petalite, glass-ceramics, borosilicate glass, mixtures of petalite and glass-ceramics, or mixtures of beta-spodumene and petalite.

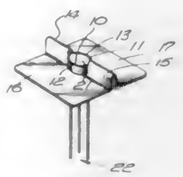
3,407,867
FRAME CONSTRUCTION FOR AIR TREATING ASSEMBLY
John W. Norris, Marshalltown, and Wayne Sieverding, Union Grove Lake, Iowa, assignors to Lennox Industries Inc., a corporation of Iowa
Original application Dec. 28, 1964, Ser. No. 421,427, now Patent No. 3,324,782, dated June 13, 1967. Divided and this application Apr. 10, 1967, Ser. No. 649,380
1 Claim. (Cl. 165—67)

A unitary base frame assembly for mounting an air treating assembly on a roof. The frame assembly includes peripheral frame members and spaced brace members. A pair of air openings are defined between the frame and brace members. A first seal is provided to seal between



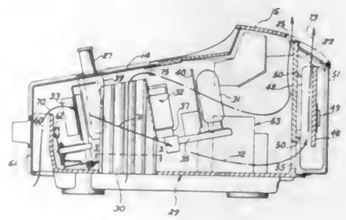
the frame assembly and air treating assembly and a second seal is provided to seal between the frame assembly and the roof.

3,407,868
SEMICONDUCTOR DEVICE COOLING
Thomas D. Coe, Winchester, Mass., assignor to Wakefield Engineering, Inc., Wakefield, Mass., a corporation of Massachusetts
Filed July 18, 1966, Ser. No. 566,099
8 Claims. (Cl. 165—80)



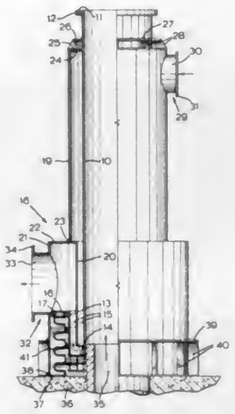
A semiconductor cooler is formed of sheet metal by a sample ram and die technique. The cooler has resilient, semicorcular walls which hold the semiconductor in heat conductive relationship to the planar heat transfer surface of the cooler.

3,407,869
INSTRUMENT COOLING SYSTEM
John J. J. Staunton, Oak Park, Ill., assignor to The Perkin-Elmer Corporation, a corporation of New York
Filed Jan. 16, 1967, Ser. No. 609,495
10 Claims. (Cl. 165—80)



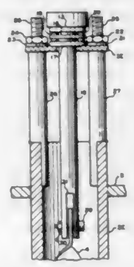
A self-cooling cabinet for a laboratory spectrophotometer, the interior of the cabinet is cooled by placing the instrument's heat dissipiating components on a finned heat sink which is in turn mounted within a vertically extending duct. This duct opens into the cabinet at its bottom and is open to the atmosphere at its top. The upward convection current through the duct draws cool air through inlet openings located on the front and sides of the cabinet. A further vent slot adjacent the partition separating the duct from the interior of the cabinet is employed to prevent recirculaion of heated air within the cabinet.

3,407,870
RECUPERATIVE TYPE HEAT EXCHANGER
Rudolf Ernst Braune, 22 Meadowcliff Drive, Scarborough, Ontario, Canada, and Karl Sanderson, 178 Patton St., King City, Ontario, Canada
Filed Nov. 7, 1966, Ser. No. 592,513
4 Claims. (Cl. 165—83)



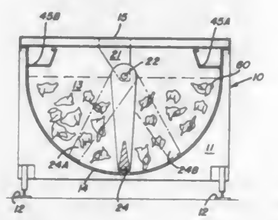
A respective heat exchanger in which an internal tube is suspended within, and in spaced relationship to, an external jacket by spacing means securing the upper end of the jacket to the tube, the lower end portion of the tube is constituted by an upwardly open channel surrounding the remainder of the tube and by a flange extending radially outwardly from the channel. The jacket at its lower end is bifurcated, having an inner portion, which is disposed in non-fluid sealing engagement within the channel, and an outer portion to the lower end of which is mounted a support base for supporting the jacket on a supporting surface surrounding, for example, a chimney stack. Inlet and outlet ports are provided in the jacket, and a flexible bellows seal is secured in a fluid-tight manner to the support base and to the flange of the internal tube.

3,407,871
HEAT EXCHANGER
William Roy Penney, Stillwater, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed July 25, 1966, Ser. No. 567,471
3 Claims. (Cl. 165—85)



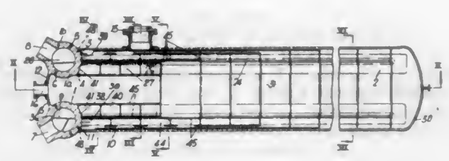
Heat exchange apparatus comprising a shell and a plurality of tube elements mounted therin wherein the tube elements contain a twisted strip approximately equal in width to the internal diameter of the tubes, and wherein the strip is freely rotable within the tube and is under tension during passage of fluid through the tube, and wherein the twisted strip is connected to a readily mountable bearing assembly.

3,407,872
HEAT EXCHANGE TANK
Edward J. Crane, Ottumwa, Iowa, assignor to International Agri-Systems, Inc., a corporation of Iowa
Filed Mar. 30, 1967, Ser. No. 627,123
7 Claims. (Cl. 165—109)



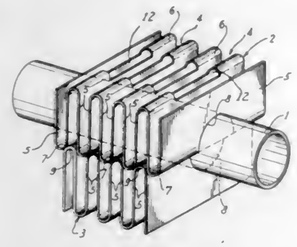
The device which is the subject of this disclosure has an elongated chilling or de-chilling tank, means for circulating heat exchange fluid through the tank from one extremity thereof to the other and an elongated paddle positioned within the tank, preferably near the bottom hereof. An elongated shaft rotatably carries the paddle on a series of paddle supporting arms and means are provided for oscillating the shaft and, thus, the paddle to accelerate the chilling or de-chilling process. It is understood that this abstract is not to be utilized to limit the scope of the claimed invention.

3,407,873
HEAT EXCHANGER CONSTRUCTION
Michael Leslie Ryall, Cathcart, Glasgow, Scotland, assignor to G. & J. Weir Limited, Cathcart, Glasgow, Scotland, a British company
Filed Aug. 1, 1966, Ser. No. 569,246
Claims priority, application Great Britain, Oct. 7, 1965, 42,697/65
11 Claims. (Cl. 165—111)



A heat exchanger has a shell which is closed at both ends, at one end by a toroidal header comprised of two annular sections. The header has an annular bore therein and inlet and outlet ports are provided on the header for fluid to be heated connecting with said bore. The annular sections are joined at two pairs of annular adjoining surfaces which are arranged such that they lie together with the centre line of the bore on an imaginary frustoconical surface, the annular sections being joined by welding at the sections to form a unitary assembly. U-tubes for the through flow for the fluid to be heated extends into the shell and have inlets and outlets in communication with the bore. Baffle plates are provided in the bore to separate the inlets of the tubes from the outlets from the tubes and an inlet and an outlet are provided for heating fluid to the shell.

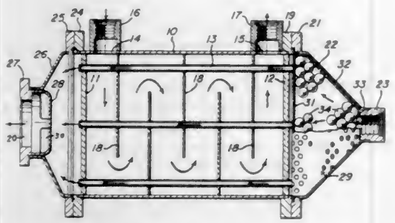
3,407,874
FIN TUBE ASSEMBLAGE FOR HEAT EXCHANGERS
John R. Gier, Jr., Hines Hill Road, Hudson, Ohio 44236
Filed May 19, 1966, Ser. No. 551,436
4 Claims. (Cl. 165—151)



The fin tube comprises a tube with fins formed of two strips of sheet metal each corrugated to provide inner and outer crests with connecting side walls. Each strip has a notch extending in a direction transversely of its corrugations through its inner crest and a portion of each side wall adjacent the inner crest. This notch is made by punching a hole in the metal before corrugating so that the notch is bounded by a peripherally exposed edge surface of the metal adjacent the notch, and which edge extends the full thickness of the metal. Each notch is of such shape and depth that it fits at least one-half the peripheral outer wall of the tube. Two strips thus formed are placed on diametrically opposite sides of the tube so that the exposed edge surfaces of the notches are juxtaposed against the peripheral wall of the tube and are directly bonded to the tube wall by capillary films of soldering or brazing material.

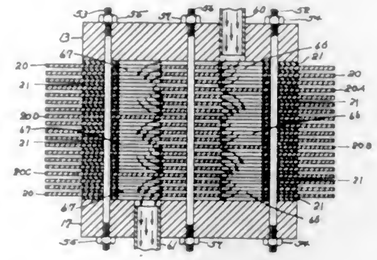
The strips may be installed with the inner crests of one strip acting as spacers between the inner crests of the opposite strip, thus assuring that the notch edges are seated in intimate contact with the tube wall and that the corrugations are spaced properly endwise of the tube. For some uses, the inner crests of one strip are aligned with the inner crests of the other strip. Adjacent crests in contact with each other are bonded together by the capillary films of solder or braze material.

3,407,875
FLOW DISTRIBUTING MEANS IN HEAT EXCHANGERS
Robert L. Campbell, West Carrollton, Ohio, assignor to United Aircraft Products, Inc., Dayton, Ohio, a corporation of Ohio
Filed Mar. 2, 1966, Ser. No. 531,176
9 Claims. (Cl. 165—174)



Flow distributing means for heat exchangers wherein an inlet manifold is packed for dispersed flow to the heat exchanger face and wherein deflector means at an inlet manifold inhibits by-passing flow through the center passages of the heat exchanger.

3,407,876
HEAT EXCHANGERS HAVING PLATE-TYPE FINS
Douglas K. Richardson, Staunton, Va., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 17, 1966, Ser. No. 587,059
10 Claims. (Cl. 165—179)



A heat exchanger has a plurality of spaced-apart fins having a first set of aligned openings, and having a second set of aligned openings spaced from the first set. Interspersed with the fins are other fins, there being a plurality of the first mentioned fins between adjacent ones of the other fins. Alternate ones of the other fins have openings aligned with the openings of the second set, and extend between adjacent openings of the first set. The other ones of the other fins have openings aligned with the openings of the first set, and extend between adjacent openings of the second set. Hollow gaskets have aligned inner edges around the openings, and form spacers between the fins, and seals around the openings.

3,407,877
AQUEOUS FLUID DRIVE PROCESS
Robert R. Harvey and Michael M. Vaclaw, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Apr. 28, 1967, Ser. No. 634,504
5 Claims. (Cl. 166—9)

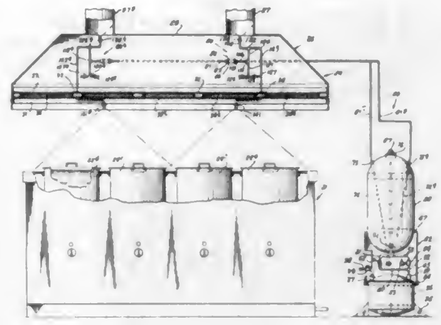
An oil recovery process wherein an aqueous slug containing minute solids, an oil-displacing surfactant, a dispersing surfactant, and a high molecular weight polymer is driven through an oil stratum by an aqueous driving fluid to displace oil; the oil is produced from a well penetrating the stratum.

3,407,878
LOST CIRCULATION CONTROL
Charles J. Engle, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Sept. 2, 1966, Ser. No. 576,845
9 Claims. (Cl. 166—30)

A method of sealing an underground formation penetrated by a well wherein drilling fluid is lost by introducing into the formation a hydratable clay and a polyalkylene glycol polymer under conditions which are suitable to permit the polymer to flocculate and congeal the clay within the formation, thereby sealing the formation and preventing further drilling fluid loss.

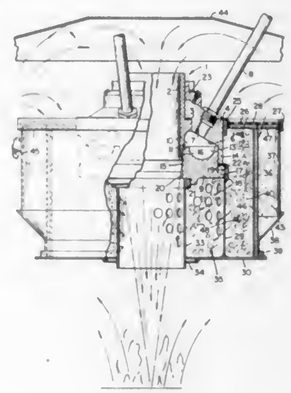
3,407,879
FIRE EXTINGUISHING SYSTEM
Harrel W. O'Rear, 1505 Brockham Circle, Dallas, Tex. 75217
Filed June 17, 1966, Ser. No. 558,405
9 Claims. (Cl. 169—9)

A fire extinguishing apparatus having a chemical storage tank provided with a plurality of ejection tubes which extend convergently upwardly from adjacent the bottom end of the container through which the chemical may be forced



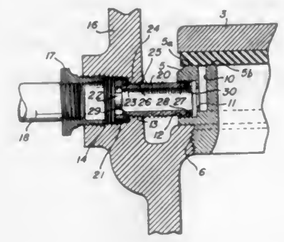
for movement through the tubes to locations of use by means of inert gas introduced into the top end of the tank.

3,407,880
FIRE EXTINGUISHER UTILIZING PRODUCTS OF COMBUSTION
Charles B. Davis, 4 Dresdener Strasse, 46 Dortmund, near Junghardt, Germany
Filed Nov. 25, 1966, Ser. No. 597,018
10 Claims. (Cl. 169—12)



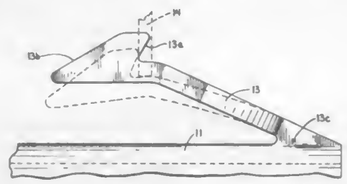
1. A method of extinguishing fire within a substantially enclosed area that comprises the steps of:
(a) circulating the heated air and products of combustion within said room through an open ended passageway within said area by
(b) ejecting a fluid fire extinguishing fluid into said passageway from a point between its ends in a direction toward and out of one end thereof to induce said circulation and, at the same time
(c) entraining a fire neutralizing agent with said fluid within said passageway between said point and said one end, which agent is adapted to neutralize partially combustible matter and combustion promoting fluids and solids that may be circulated with said heated air and products of combustion.

3,407,881
ALARM VALVE
Leroy M. Lewis, 227 Darby Road, Paoli, Chester County, Pa. 19301
Filed Oct. 26, 1966, Ser. No. 589,734
1 Claim. (Cl. 169—20)



A substantially cylindrical fitting, embracing under a radially directed head a gasket forming a seal with the valve housing into which it is threaded, has a cylindrical unthreaded projecting end extending into a bore in the valve seat bushing, a groove adjacent said end receiving a resilient O-ring gasket maintained under compression in said bore to form a "floating" fluid seal, the fitting adjacent its head having a polygonal opening coaxial with its bore for reception of a complementary tool whereby the fitting is seated in the valve housing.

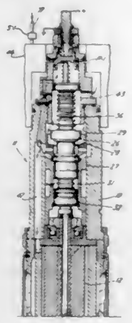
3,407,882
RESILIENT FAN HUB
John A. Wooden and Ronald D. Quinlan, Indianapolis, Ind., assignors to Brookside Corporation, Cordville, Ind., a corporation of Indiana
Filed Nov. 19, 1965, Ser. No. 508,806
6 Claims. (Cl. 170—160.54)



1. A resilient hub and fan spider assembly comprising a fan spider, the fan spider having a central generally star-shaped aperture therein, said assembly further including a hub comprising a sleeve adapted to accommodate a drive shaft and to be rotationally locked to the drive shaft, a plurality of symmetrically spaced arms extending radially from said sleeve and adapted to extend into the apices of the spider aperture, said arms varying in cross-section along their length so as to be uniformly stressed when deflected in a plane transverse to the axis of rotation of the sleeve and having abutments at their outer ends adapted to engage one side face of the fan spider, and a plurality of legs extending from said sleeve at an acute angle thereto and having a diminishing cross-sectional area from their junction with said sleeve toward their free ends thereby being uniformly stressed along a substantial portion of their length when subjected to a radially inward force, an abutment adjacent the free end of each of said legs opposing said arm abutments, said leg abutments being adapted to engage the other face of

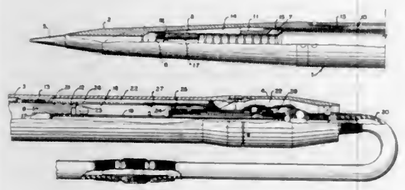
said spider between the apices of said spider aperture and to clamp said fan spider against said arm abutments.

3,407,883
PNEUMATIC NUT-RUNNER WITH A DIFFERENTIAL PRESSURE SWITCH CONTROL
Lester A. Amtsberg, Utica, and William K. Wallace, Barneveld, N.Y., assignors to Chicago Pneumatic Tool Company, New York, N.Y., a corporation of New Jersey
Filed Dec. 16, 1966, Ser. No. 602,346
8 Claims. (Cl. 173—12)



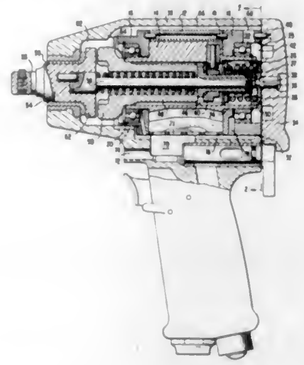
A pneumatic torque controlled nut running tool having a torque responsive clutch, with a pneumatic differential pressure switch control in an electrical circuit determining flow of operating air from a supply line to the tool. The switch has a piston movable relative to a stationary contact. The piston moves to open and closed condition accordingly as a pneumatic differential pressure is developed at one or the other ends thereof. A slide valve, movable from open to closed condition in response to overloading of the clutch, controls the development of differential pressures at the ends of the piston in relation to the time the valve remains open.

3,407,884
TWO-WAY GROUND BURROWING DEVICE
Kazimierz Zygmunt and Tadeusz Gerlach, both of 78 Chrzanowskiego St., Gdansk, Wrzeszcz, Poland
Continuation-in-part of application Ser. No. 414,054, Nov. 25, 1963. This application Apr. 11, 1967, Ser. No. 629,985
14 Claims. (Cl. 173—91)



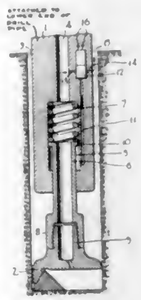
A pneumatically driven ground burrowing device having a driving ram contained therein and oppositely facing anvil walls at the opposite ends of the ram, and a pneumatically operated control mechanism for driving the ram in a working stroke toward either of the anvil walls to selectively drive the device in a forward burrowing direction through the ground or a rearward retracting direction through the burrowed hole.

3,407,885
AIR BALANCE FOR IMPACT WRENCHES
Martin D. Hoza and Robert A. Pennison, Houston, Tex., assignors to Reed International, Inc., Houston, Tex., a corporation of Texas
Filed Mar. 10, 1967, Ser. No. 622,209
5 Claims. (Cl. 173—93.6)



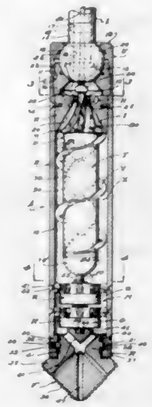
A rotary impact tool is disclosed by the hereinafter specification. The tool housing is provided with forward and rear cavities which are connected by channel for equalizing fluid pressure therebetween. In addition, the said tool is provided with atmospheric vents operatively connected to said cavities.

3,407,886
APPARATUS FOR WELLBORE TELEMETERING
John D. Bennett, Richardson, Tex., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Sept. 23, 1965, Ser. No. 489,707
19 Claims. (Cl. 175—27)



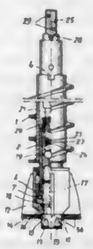
In rotary drilling apparatus being used for the drilling of boreholes in the earth, downhole measurements are telemetered to the surface by automatically altering or varying the drilling mud flow path to an extent corresponding to and representative of the measurement being made. These alterations effect a change in the weight of the suspended drill string, and this weight change is measured and recorded at the surface.

3,407,887
TURBINE DRIVEN DRILLING TOOL
Lee E. Vivion, 318 Coronado, Long Beach, Calif. 90814
Filed Mar. 6, 1967, Ser. No. 620,896
10 Claims. (Cl. 175—106)



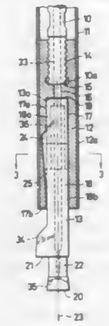
A turbine driven well drilling tool including an elongate tubular body, a semi-universal fluid handling coupling at the upper end of the body and engaged with the lower end of a string of drill pipe, a rock bit rotatably carried at and by the lower end of the body, reduction gear means within the lower end of the body in driving engagement with the bit, an elongate rotor within the body with its lower end in driving engagement with the reduction gear means and having a conical vane impeller at its upper end and a helical vane extending downwardly and about the rotor below the impeller and a head in the body about the impeller with nozzle means to direct fluid flowing downwardly through the construction onto the vanes of the impeller; said bit having fluid circulating means communicating with the interior of the body and chemical dispensing means incorporated in the construction.

3,407,888
DEVICE AND METHOD FOR THE RAPID EXECUTION OF BOREHOLES IN ALL TYPES OF GROUND
Raymond Graipin, 77 Rue des Renouillers, Colombes, Hauts-de-Seine, France
Filed Apr. 4, 1966, Ser. No. 539,681
9 Claims. (Cl. 175—173)



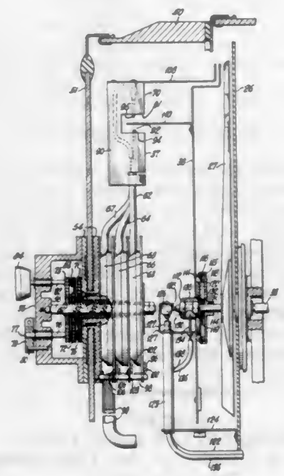
A drilling apparatus including a drill stem disposed in an auger, and drive means for driving the drill stem and auger at different speeds. A working tool is operatively connected to the drill stem, and cam means are provided on the auger and the working tool and are adapted to impart a reciprocal movement to the tool upon a relative rotation between the drill stem and auger.

3,407,889
DRILL BIT WITH AN ECCENTRIC CUTTING EDGE PORTION
John Anders Hjalsten and Harry Artur Ingvar Wiredal, Sandviken, Sweden, assignors to Sandvikens Jernverks AB, Sandviken, Sweden, a corporation of Sweden
Filed Mar. 15, 1967, Ser. No. 623,403
Claims priority, application Sweden, Mar. 21, 1966, 3,719/66
3 Claims. (Cl. 175—263)



A drill comprising a drill rod, a drill bit having an eccentric cutter bit and a connecting sleeve having a socket in which the cutter bit shank is supported in either of two positions between limiting contact surfaces, in one of said positions the cutter bit being in alignment with the casing for drilling and in the other of said positions the cutter bit being tilted at an angle to the casing for withdrawal therethrough.

3,407,890
CONTROL PROVISION FOR BULK MATERIAL WEIGHING SYSTEMS
James W. Fellows, St. Johnsbury, Vt., assignor to Fairbanks Morse Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 1, 1966, Ser. No. 539,336
16 Claims. (Cl. 177—60)

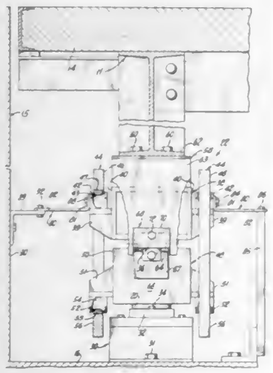


1. In weighing apparatus for container filling to a selected weight of given material, having weight indicator means including a fixed weight indicia dial and a weight

responsive main pointer movable over the dial, and having material feed means including a normally closed gate valve having motor means for opening the valve, the combination therewith of

(a) pneumatic control means in control of said motor means and including
(b) air switch means settable in registry with a weight indicia on said dial corresponding to the selected container filling weight,
(c) an auxiliary dial pointer,
(d) clutch means for connecting the auxiliary pointer to said main pointer for movement therewith,
(e) said pneumatic control means including means in control of said clutch means,
(f) and means on the auxiliary dial pointer for controlling said switch means when said pointer attains the dial indicia region in which the switch means is set,
(g) said pneumatic control means being operable to effect sequentially, operation of the clutch means to connect the auxiliary pointer to said main pointer, operation of said motor means to open said gate valve, and in response to switch means control by said means on the auxiliary pointer, conditioning of said motor means to cause gate valve closure.

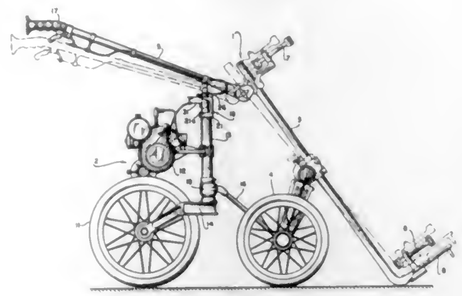
3,407,891
LOAD CELL MOUNTING OF LOAD RECEIVER MEANS AS A SCALE WEIGHBRIDGE
James J. Wiegand, Glen Rock, N.J., assignor to Fairbanks Morse Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 25, 1966, Ser. No. 597,076
2 Claims. (Cl. 177—255)



Force measuring apparatus having support structure for suspension mounting of a load receiver or weighbridge on the load reaction column of a load cell wherein the longitudinal axis of the load cell column is the load axis of the cell, the support structure providing a force transmitting member seating on the load reaction column of the load cell, and check means effective on the force transmitting member for constraining the latter to force transmission from the load receiver or weighbridge to the load cell column solely in the direction of the cell load axis.

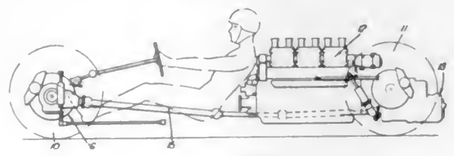
3,407,892
POWER DRIVEN GOLF CART
Aurelius B. Vosseller, 66 Ave. Henri Martin, Paris XVI, France
Filed Jan. 9, 1967, Ser. No. 608,210
3 Claims. (Cl. 180—19)

A golf cart or the like having a detachable power-driven wheel assembly. A speed control mechanism is located on the assembly adjacent the cart handle. A linkage to which the throttle control is connected is operated



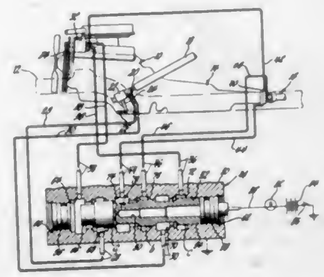
by lowering the handle, to move the throttle from idle to a pre-set run position.

3,407,893
MOTOR VEHICLES HAVING FOUR-WHEEL DRIVE
Claude Hill, Kenilworth, Warwickshire, and Oswald Webb, Coventry, Warwickshire, England, assignors to Harry Ferguson Research Limited
Filed Jan. 19, 1966, Ser. No. 521,733
Claims priority, application Great Britain, Dec. 29, 1965, 55,023/65
13 Claims. (Cl. 180—44)



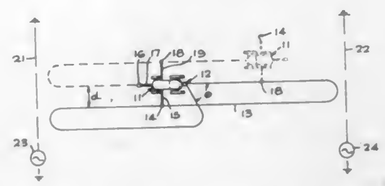
In a four-wheel drive motor vehicle, drive is transmitted to front and rear inter-wheel differential gears from a rear mounted engine by way of a compact transmission unit which includes change-speed gears, a centre differential gear, a drive transfer and the rear interwheel differential gear. The centre differential gear is a three-element planetary spur-type gear whereof the planet carrier is driven by the change-speed gear, the annulus drives the rear differential gear, and the sun gear drives the front differential gear through the drive transfer and a shaft offset from the axis of the centre differential gear. The axle ratios and the drive transfer ratio are selected to induce a predetermined "working" of the centre differential gear during normal forward drive and a first one-way overruning control clutch coaxial with the centre differential locks the sun gear to the annulus when the front wheels tend to lock and/or the rear wheels tend to spin, that is when the "working" of the center differential gear changes in one sense, and a second one-way overrunning control clutch coaxial with the offset shaft locks the sun gear to the annulus when the front wheels tend to spin and/or the rear wheels tend to lock, that is when the "working" of the center differential gear changse in the opposite sense, opposite members of the control clutches being interconnected through the said drive transfer, and an additional drive transfer.

3,407,894
AUXILIARY MEANS ENERGIZING FLUID STEERING SYSTEM UPON DEACTIVATION OF MAIN PUMP
William B. Thompson, Frankenmuth, and Ronald Treloar and Claude A. Thorsby, Saginaw, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 22, 1965, Ser. No. 441,615
3 Claims. (Cl. 180—53)



A power steering system for a vehicle providing a power steering assist when the vehicle's engine is running and also when the engine is not running having an engine driven primary pump, an auxiliary pump driven by the vehicle's driving wheels and a valve normally connecting only the primary pump to the system and automatically connecting the auxiliary pump to the system when there is loss of pressure from the primary pump.

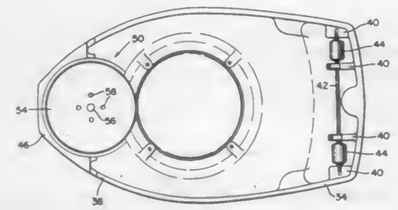
3,407,895
SELF-CONTROLLED TRACTOR GUIDANCE SYSTEM
Ralph D. Hasenbalg, Santa Susanna, Calif. (8023 McLaren, Canoga Park, Calif. 91304)
Filed Jan. 21, 1964, Ser. No. 339,213
7 Claims. (Cl. 180—79)



1. A self-controlled guidance system for an automotive vehicle comprising:

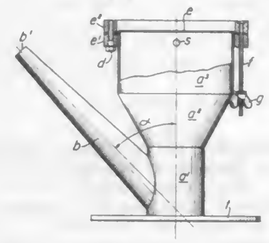
(a) a conductor;
(b) means for storing a portion of said conductor;
(c) means for independently dispensing said conductor from said storage means;
(d) means for independently retrieving said conductor and metering it onto said storage means;
(e) sensing means travelling with the vehicle and adapted to be positioned in proximity to the dispensed portion of said conductor on the ground,
said sensing means having an axis and being so oriented with respect to said conductor that no output signal is produced when said axis intersects the vertical plane containing said conductor and oppositely phased output signals are produced when said axis is displaced to either side of said conductor;
(f) steering means connected to said sensing means for guiding said vehicle;
(g) means for introducing an alternating current in said conductor whereby a magnetic field is generated around said conductor;
(h) sensing means positioned adjacent said dispensing means for actuation thereof in response to a signal generated by proximity of said conductor;
(i) sensing means positioned adjacent said retrieving means for actuation thereof in response to a signal generated by proximity of said conductor.

3,407,896
AIR CUSHIONED WHEELED BASE
Arthur Gilbert Billin, Rochester, and Walter Lee Remley, Penfield, N.Y., assignors to Ritter Pfaudler Corporation, Rochester, N.Y., a corporation of New York
Filed Nov. 21, 1966, Ser. No. 595,769
6 Claims. (Cl. 180—119)



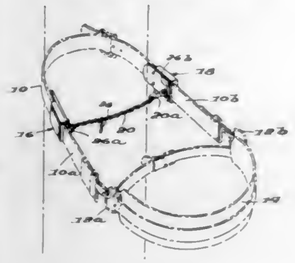
A dental chair having a pair of forward located rollers, a rearward located lip and a single rearward located ground effect device, the rollers and the ground effect device together forming a stable, three point support when air is supplied to the ground effect device for moving the chair along a floor surface, the rearward located lip engaging the floor surface and together with the forward located rollers forming a stable, three point support when air is not supplied to the ground effect device for immobilizing the chair.

3,407,897
DEVICE FOR RENDERING VISIBLE ACOUSTIC VIBRATIONS
Hans Jenny, Ruttiweg 8, Dornach, Switzerland
Continuation-in-part of application Ser. No. 389,045, Aug. 12, 1964. This application Jan. 24, 1967, Ser. No. 611,356
Claims priority, application Switzerland, Aug. 14, 1963, 10,047/63
6 Claims. (Cl. 181—.5)



Acoustic phenomena are rendered visible by vibrating a membrane so as to produce configurations of a material on the membrane corresponding to acoustic sounds produced by the voice or a musical instrument.

3,407,898
POLE-CLIMBING EQUIPMENT
Wesley V. Johnson, 2635 Arden Ave., Panama City, Fla. 32401
Filed Mar. 1, 1967, Ser. No. 619,778
10 Claims. (Cl. 182—9)



This invention relates to a safety belt for a linesman which offers protection from falling and also to assist pole climbing. The safety belt including an attachment consisting of a pair of slides mounted on said belt adapted to project between the belt and the pole when in operative position.

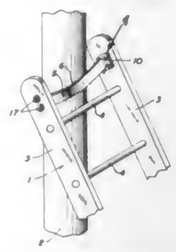
3,407,899
COMBINATION STEP-STOOL, STEP-LADDER AND CONTAINER MEANS
Kenneth M. Delafrange, 96 Washington Ave., Westwood, N.J. 07675
Filed June 9, 1967, Ser. No. 644,995
4 Claims. (Cl. 182—20)



A polyfunctional structural combination of receptacle for waste or other material and combination step-stool and step-ladder of outer and inner telescoped housing members each preformed and strengthened on opposite sides providing vertical slide-guide nesting formations, the outer member being provided with manually operable squeeze-lock means for elevating and lowering the member and interlocking it with the inner member in a number of vertically spaced functional positions and having a step hinged to swing and hold in horizontal position of support atop the upper end of the inner telescopic member.

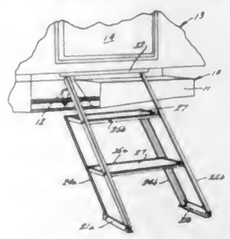
3,407,900
POLE ENGAGING DEVICE FOR LADDERS
Henry Hopfeld, 51 Winship Ave., Ross, Calif. 94957
Filed Mar. 2, 1967, Ser. No. 620,069
1 Claim. (Cl. 182—107)

In order to positively prevent the slipping of a ladder when it is in a position leaning against a pole, this invention provides beyond the top rung of the ladder a strap of material with a roughened friction surface bearing against the pole. The strap is longer than the rung so as to assume a curved shape. The ends of this flexible strap are held on the opposite rails of the ladder by brackets. Each bracket has a base flange with bolt holes through it and a wing flange, longitudinal with respect to the adjacent rail. The wing flange has a longitudinal slot immediately adjacent to the base flange. Each end of the strap is extended along the inside of the adjacent wing flange through a longitudinal slot and then under



the base flange so that it is pressed between the base flange and the adjacent rail. Each end of the strap between the base flange and the rail has bolt holes aligned with the bolt holes in the base flange and through the adjacent rail, and suitable bolts are extended through the bolt holes to securely hold the brackets and the strap in place.

3,407,901
STEP FOR CAMPERS, MOBILE HOMES AND THE LIKE
Robert C. Brammer, Traverse City, Mich., assignor to Stromberg-Carlson Products, Inc., a corporation of Michigan
Filed Apr. 26, 1967, Ser. No. 633,785
7 Claims. (Cl. 182—156)

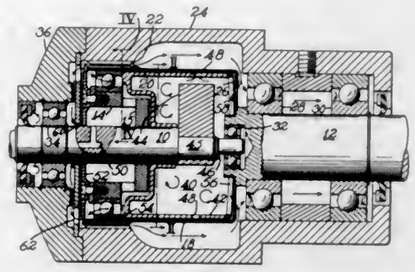


A self-leveling step structure adapted for utilization in conjunction with a mobile enclosure, the height above the terrain of which may vary depending upon the terrain, carrying vehicle characteristics, etc. Two pivotable parallelogram-shaped support structures have the steps pivotably suspended therebetween in parallel fashion. The support structures are removably affixed to the structure at their front members only such that the structure may pivot to level the steps regardless of the vertical distance through which they extend. It is understood that this description will not be utilized to limit the scope of this invention.

3,407,902
LUBRICATION SYSTEMS
C Walton Musser, Palos Verdes Estates, Calif., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Mar. 15, 1966, Ser. No. 534,514
8 Claims. (Cl. 184—6)

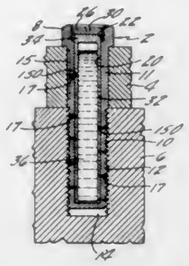
An all-attitude lubricating device comprising a grease container having circumferentially spaced feed holes in its side wall and at least one axial return hole for recirculated lubricant, and a rotary paddle or ejector means

eccentrically mounted in the container and having an end disposed for circumferential sweeping and radial pumping movements relative to the feed holes, whereby a surface of the container may guide the flow of ejected grease



to adjacent mechanism. When the device is used in a harmonic drive actuator, for example, the container may fit within a flexspline, and the ejector may be operatively connected to a plain eccentric bearing formed on a coaxial input shaft.

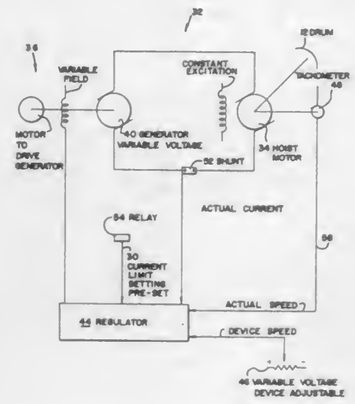
3,407,903
SELF-LUBRICATED CONNECTOR
James P. Sansabrino, 2 Arthur Drive, Bloomfield, Conn. 06002
Filed Sept. 28, 1965, Ser. No. 490,876
11 Claims. (Cl. 184—14)



A holding device having a head and longitudinal extension for holding two members together, said holding device having a bore extending into the longitudinal extension with lubricant means in said bore adapted to release a lubricant. Said lubricant means comprising a container with a lubricant therein. Said longitudinal extension having passages between the bore and the exterior thereof for permitting a flow of lubricant therethrough. The container being adapted to be punctured in position to release its lubricant and means in said device for applying a pressure to said lubricant. When said holding device has threads, the peak of the threads can be flattened for a portion to permit a passageway between the flat portion and the member receiving the holding device.

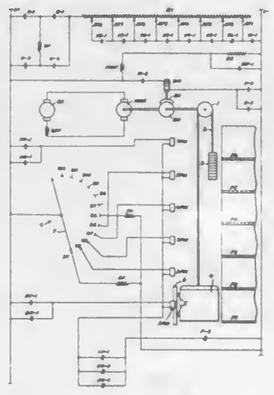
3,407,904
HOIST APPARATUS INCLUDING CURRENT SENSITIVE MOTOR CONTROL MEANS TO HOLD A VARIABLY LOADED CAGE CHAIRED
William G. A. Trollope, Montreal, Quebec, Canada, assignor to Canadian Ingersoll-Rand Co., Ltd., Montreal, Quebec, Canada, a corporation of Canada
Filed Nov. 24, 1964, Ser. No. 413,588
6 Claims. (Cl. 187—29)

A hoist apparatus including a load vertically movable by rotation of an electrically driven drum into alignment with a loading level at which it is supported by a chairing system. An electrical means is provided for controlling the means rotatably driving the drum whereby the



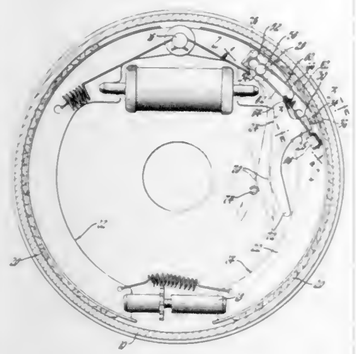
load, after being moved into alignment with the loading level, is maintained in alignment therewith despite variations in the weight of the load.

3,407,905
CONTROL SYSTEM FOR ELEVATORS INCLUDING REED SWITCH DETECTORS FOR POSITION AND SPEED CONTROL
John Alvin Gingrich, Toronto, Ontario, Canada, assignor, by mesne assignments, to Dover Corporation, New York, N.Y.
Filed Feb. 5, 1965, Ser. No. 430,529
8 Claims. (Cl. 187—29)



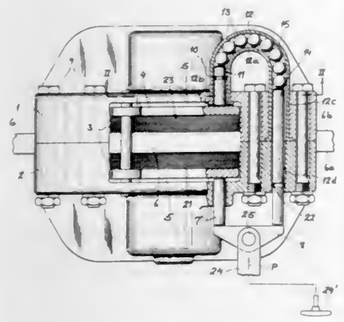
An elevator control system comprises a plurality of electromagnetic coils arranged in a line at respective floors, a stepping switch for selectively actuating the coils in accordance with the floors at which the elevator car is to stop, and a plurality of spaced reed contacts movable with the car past the coils so that the reed contacts can be operated successively by an actuated coil at a particular floor to provide indications of the distance of the car from that particular floor. Means for slowing down and stopping the elevator car are controlled by the successively operated reed contacts.

3,407,906
BRAKE LINING WEAR SIGNALLING DEVICE
Harald Horst Lorenz, Bloomfield Hills, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 12, 1967, Ser. No. 630,248
8 Claims. (Cl. 188—1)



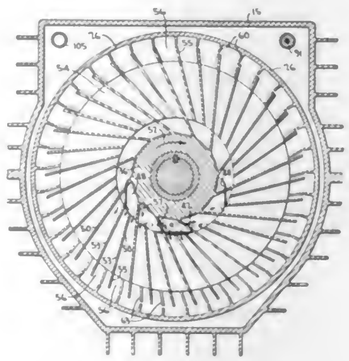
This disclosure concerns a brake lining wear signalling device incorporating a lever pivotally mounted on a brake shoe which is retained in an inoperative position by an erodible pin responsive to brake lining wear. The lever is spring biased toward an operative position where it is engaged by a striker fixed to the wheel drum when the erodible pin releases the lever to such position. A clapper member is associated with the lever and is caused to strike the brake shoe when the lever is intermittently engaged by the striker to thereby provide an audible signal when a sufficient amount of brake lining wear has occurred.

3,407,907
AUXILIARY BRAKE MECHANISM AND ACTUATOR FOR DISK BRAKES
Leopold Franz Schmid, Stuttgart, Germany, assignor to Alfred Teves G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany
Filed July 25, 1966, Ser. No. 567,740
Claims priority, application Germany, Aug. 6, 1965, Sch 37,509
4 Claims. (Cl. 188—73)



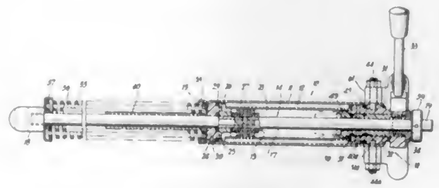
Disk brake in which an auxiliary actuating mechanism bears upon the main brake shoes or auxiliary brake shoes on opposite sides of the disk through a rocker member which distributes the actuating force upon these brake shoes through a rod acting upon one brake shoe and through a train of rods and balls acting upon the other brake shoe and traversing a J-shaped channel open toward the second brake shoe and the rocker member.

3,407,908
HYDRODYNAMIC RETARDER
Ray F. Smith, Berwick, Pa., assignor to Berwick Forge & Fabricating Corp., Berwick, Pa., a corporation of Pennsylvania
Filed Feb. 1, 1967, Ser. No. 613,355
23 Claims. (Cl. 188—90)



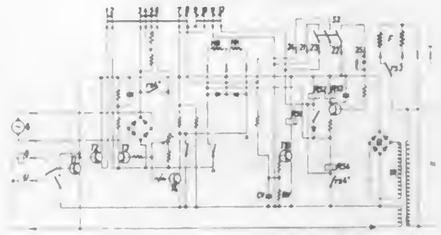
A device for retarding the forward motion of an automotive vehicle by generation of liquid turbulence by an impeller type turbine working within a stator housing with passageways being formed between the liquid pockets to prevent channeling and passages in the base of the impeller blades for priming during the loading operation. A forced air cooling system and automatic control arrangement to improve the loading and unloading operations are included.

3,407,909
INFINITELY VARIABLE HYDRAULIC CLAMPING MECHANISM
Clifford A. Seckerson, Iver Heath, and Charles E. Downer, Ruislip, England, assignors to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed July 13, 1966, Ser. No. 564,790
Claims priority, application Great Britain, July 20, 1965, 30,841/65
4 Claims. (Cl. 188—97)



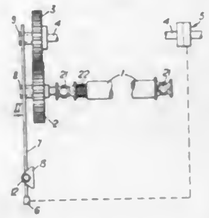
The invention is a locking device for selectively positioning a piston member in a cylinder containing a fluid. Chamber means are formed on opposite sides of the piston with valve-controlled conduit means connecting said chamber means. The valve is comprised of relatively rotatable sleeves which allow fluid to pass from one chamber to another in a first position of the sleeves and prevent fluid communication between said chambers in a second position of the sleeves to lock said piston in a predetermined location.

3,407,910
METHOD AND MEANS FOR THE AUTOMATIC STOPPING OF AN ELECTRIC DRIVING ARRANGEMENT IN A PREDETERMINED POSITION, PARTICULARLY FOR SEWING MACHINES
Alfred Heidt, Schwetzingen, Germany, assignor to Frankl & Kirchner Fabrik für Electromotren und Elektrische Apparate, Baden, Germany, a firm
Filed May 21, 1966, Ser. No. 553,801
Claims priority, application Germany, May 28, 1965, F 46,179; Mar. 16, 1966, F 48,667
14 Claims. (Cl. 192—18)



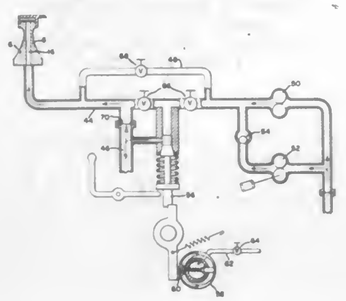
Apparatus for the automatic stopping of a driven machine part such as a sewing machine in a predetermined position, where the coupling and the brake operate simultaneously under control of transistorized circuitry including a brake transistor and a coupling transistor and a generator which supplies potential thereto, where alternate heavy braking and reacceleration are avoided in that as the speed increases, the generator supplies higher potential so that the brake transistor remains effective and increases the braking effect.

3,407,911
POWER TRANSMISSION SYSTEMS
Thomas Albert Rosbottom, Hayes, England, assignor to The Metal Box Company Limited, London, England, a British company
Filed July 22, 1966, Ser. No. 567,237
Claims priority, application Great Britain, Aug. 3, 1965, 33,213/65
13 Claims. (Cl. 192—56)



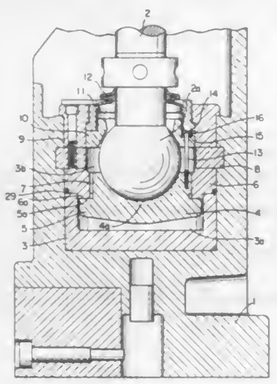
A power transmission system providing overload protection is disclosed herein. A driving gear is provided in meshing engagement with a driven gear and the driven gear is mounted upon a mounting member which is pivotable about the axis of the driving gear. The driven gear is coupled with a load and upon overloading of the system, the driven gear and mounting member are displaced as a result of the rotation of the driving gear. A control device is provided in cooperation with the mounting member to control power transmission in response to pivoting of the mounting member. Flexible coupling provisions couple the driven gear with the load to maintain the interconnection thereof upon displacement of the driven gear.

3,407,912
OVER-SPEED RELEASED FLUID OPERATED CLUTCH
Marshall G. Moore, Danvers, Mass., assignor to General Electric Company, a corporation of New York
Filed Sept. 15, 1966, Ser. No. 579,558
3 Claims. (Cl. 192—88)



A speed sensitive hydraulic disconnect coupling having alternate hydraulic pressure sources and parallel hydraulic relief devices, one pressure responsive and one speed responsive, to effect disconnection.

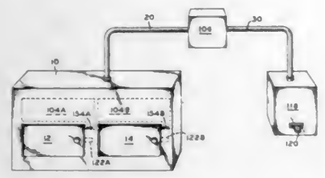
3,407,913
SAFETY DEVICE IN PRESS MACHINE AND CONTROL DEVICE THEREFOR
Yoshitomo Tezuka, Sagamihara-shi, Japan, assignor to Aida Iron Works & Co., Ltd., Sagamihara-shi, Japan
Filed July 22, 1966, Ser. No. 567,141
Claims priority, application Japan, Aug. 26, 1965, 40/51,667
3 Claims. (Cl. 192—129)



A safety device for a press which has a slidable member adapted to be driven by a coupling rod to apply pressure to a workpiece. An oil chamber is provided in the slidable member and has a removable pressure receiving member disposed therein which receives the pressure from the coupling rod. The pressure receiving member engages a seal member disposed in the periphery of the oil chamber. The space in the chamber beneath the pressure receiving member is supplied with oil under pressure, and the force acting on the coupling rod is transmitted to the slidable member through the oil in the chamber until the pressure exceeds a predetermined amount. Thereupon the oil is compressed sufficiently to separate the pressure receiving member from the sealing member, thereby allow-

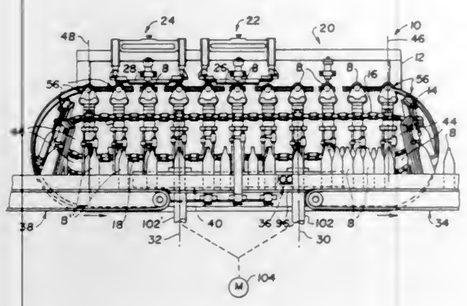
ing escape of pressure, which is sensed by a sensing means to actuate a stopping means for stopping application of pressure to the coupling rod.

3,407,914
CHECK CONTROLLED LOCK
Luther G. Simjian, Laurel Lane, Greenwich, Conn. 06830
Filed May 9, 1967, Ser. No. 637,268
7 Claims. (Cl. 194—4)



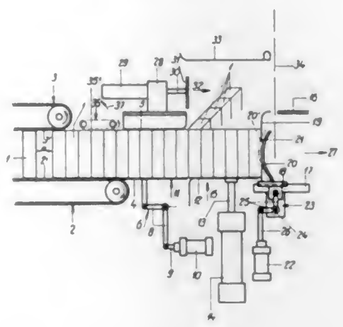
A lock operable by a code bearing check wherein the code necessary to operate the lock is changed after each operation, thereby obsoleting the check which caused the preceding operation of the lock. In order to cause this condition, the lock is associated with adjustable control means whose setting, denoting a code condition, is changed after each operation of the lock. Means are provided to issue checks whose code correlates with the code condition of the lock.

3,407,915
CONVEYOR FOR WORKPIECE DECORATING APPARATUS AND METHOD FOR ITS USE
Carl J. Strutz, Jr., Mars, Rome R. Rudolph, Gibsonia, and Frank C. Strutz, Mars, Pa., assignors to Carl Strutz & Co., Inc., Valencia, Pa., a corporation of Pennsylvania
Filed Feb. 8, 1967, Ser. No. 614,589
5 Claims. (Cl. 198—19)



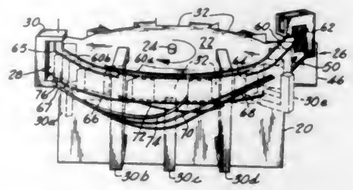
Workpiece decorating apparatus is described wherein a main conveyor engages spaced sprockets supported for rotation about spaced parallel axes which are inclined from the horizontal. A plurality of workpiece carriers are secured to the main conveyor by brackets arranged to position the carriers at a predetermined angle relative to the inclined axes of the sprockets. The overall arrangement is such that the workpieces moving along the upper reach are positioned generally horizontal and may be registered and decorated while those workpieces moving along the lower reach are positioned generally vertical. This arrangement permits undecorated workpieces to be deposited on successive ones of the carriers while in a vertical position and permits the decorated workpieces to be discharged from the main conveyor in a vertical position.

3,407,916
MACHINE FOR ARRANGING ARTICLES IN BATCHES
Paul Engeler, Neuhausen am Rheinfall, Switzerland, assignor to Schweizerische Industrie-Gesellschaft, Neuhausen am Rheinfall, Switzerland
Filed Dec. 19, 1966, Ser. No. 602,873
Claims priority, application Switzerland, Dec. 24, 1965, 17,843/65
7 Claims. (Cl. 198—24)



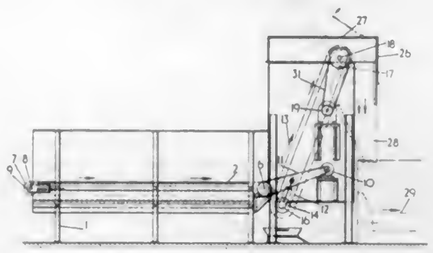
A machine for arranging substantially rectangular cartons, in batches of, for example, 4×6=24 articles has a lower conveyor belt and an upper conveyor belt shorter than the lower belt. A brake plate follows the discharge end of the lower belt and a lifting plate follows the brake plate. When a batch of articles delivered between the belts is assembled on the lifting plate, the brake plate is actuated to withhold the delivery of further articles and the lifting plate is raised to the level of a table plate onto which the batch of articles is discharged. An auxiliary conveyor belt may be arranged above the discharge end of the lower belt and between the upper belt and a counter plate opposed to the brake plate.

3,407,917
ORIENTING DEVICE
Richard D. Lockwood, 271 Hillside Ave., Livingston, N.J. 07039
Filed Apr. 20, 1967, Ser. No. 632,307
10 Claims. (Cl. 198—33)



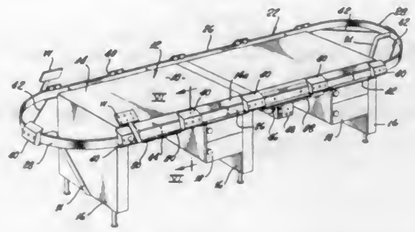
A driven rotary table is provided with peripheral pockets which receive bottles and move them, from a receiving station to a discharging station, sliding along suitably shaped rails which turn inverted bottles to upright position while leaving upright bottles in upright position.

3,407,918
APPARATUS FOR BREAKING UP AND CONVEYING FIBROUS TEXTILE MATERIALS
Hubert Samuel Clarke, Bamford, Rochdale, England, assignor to The Patent Automatic Feeding Machine Company Limited, Rochdale, Lancashire, England, a British company
Filed Dec. 22, 1966, Ser. No. 604,011
Claims priority, application Great Britain, Jan. 27, 1966, 3,654/66
6 Claims. (Cl. 198—102)



This invention relates to apparatus for breaking up large compact masses of fibrous textile materials, i.e. dye cakes of synthetic fibres, into conveyable quantities of fibres in a loose state, and conveying same. The apparatus is composed of a feed conveyor, a hopper or delivery chute, and intermediate the feed conveyor and hopper or chute is an inclined lattice. Some of the laths of the lattice have claws attached to them, and each claw has teeth on its free edge. The claws are arranged in a staggered relationship with respect to the immediately adjacent claws so that the claws are disposed on oblique lines running longitudinal the lattice. These staggered claws successively attack and break up a large compact mass of fibrous textile material into conveyable quantities and convey these quantities to the hopper or chute.

3,407,919
MULTIPLE-STATION WORK SUPPORTING AND ADVANCING APPARATUS
Douglas M. Sandefur, Los Angeles, Calif., assignor to Sandefur Engineering Co., Inc., Lawndale, Calif., a corporation of California
Filed Mar. 14, 1967, Ser. No. 622,971
11 Claims. (Cl. 198—129)



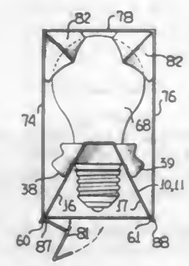
Apparatus for supporting and advancing workpieces relative to multiple work stations. The apparatus includes a work table providing work stations arranged at spaced intervals around the table. A continuous looped track which is secured around the edge of the table extends past the stations and supports workholding carriages that are selective movable along the track from station to station. The carriages are connected together in a continuous looped train for common movement. The train may be advanced at selected time intervals to position each carriage at successive work stations.

3,407,920
FLEXIBLE MATERIAL-CONVEYING CHAIN
Thomas G. Rauch, Lancaster, Ohio, assignor to McAuley Manufacturing, Inc., Bremen, Ohio, a corporation of Ohio
Filed Apr. 11, 1967, Ser. No. 630,049
1 Claim. (Cl. 198—168)



The present invention relates to a chain which in its general nature is similar to the chain disclosed in the patent to Graetz et al. No. 2,672,059, issued Mar. 16, 1954, being composed of interlocking links, but which is improved in its material-carrying capacity as well as in its structural form so that it can be made in very narrow widths and still have the necessary structural strength. The main improvement in material-carrying capacity is due to the provision of material-engaging and pushing dozer blade provided at one end of each chain link and projecting outwardly from the plane of the body thereof, but not laterally beyond the side edges of the body, and the manner in which the hook-shaped pintle-receiving barrel portion is formed on the body so as to provide longitudinally extending side portions of substantial width on the body which have considerable material-carrying capacity and structural strength while still keeping the overall width of the body to a minimum. These advantages are obtained while still providing maximum flexibility in the chain and providing a link design which results in minimum scrap or waste material in producing it.

3,407,921
ELECTRIC LIGHT BULB CARTON
Francis A. Cilluffo, Elmhurst, N.Y., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 264,095, Mar. 11, 1963. This application July 12, 1967, Ser. No. 652,772
13 Claims. (Cl. 206—46)

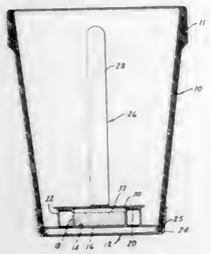


A two-piece electric light bulb carton including a cradle for supporting a plurality of bulbs within a wrap-a-round carton member.

3,407,922
DISPENSING CUP ASSEMBLY WITH A MATERIAL-RECEIVING CAVITY
Charles E. Palmer, Turnpike Road, Somers, Conn. 06071
Filed May 22, 1967, Ser. No. 640,162
9 Claims. (Cl. 206—47)

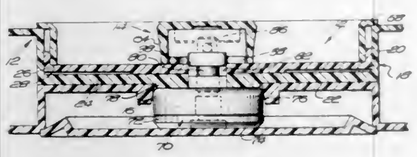
There is disclosed a container assembly which comprises a separately-formed and subsequently joined sidewall member and a bottom wall member closing the lower end of the sidewall member and having a peripheral

flange portion engaged with the lower end of the sidewall member. The bottom wall member has an upwardly-opening material-receiving cavity in its upper surface inwardly of the sidewall member, and this cavity is sealed with a closure member which is releasable therefrom to



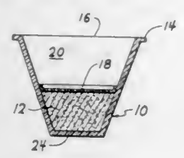
expose the contents of the cavity to the main portion of the container. Various embodiments are shown for the cooperative construction of the elements, and the cavity is preferably positioned wholly within the confines of the sidewall member to protect it and insulate it from supporting surfaces.

3,407,923
REEL CASE WITH PREASSEMBLED HANDLE
Gregory Mathus, West Hartford, Conn., assignor to Data Packaging Corp., Cambridge, Mass., a corporation of Massachusetts
Filed July 6, 1966, Ser. No. 563,211
7 Claims. (Cl. 206—52)



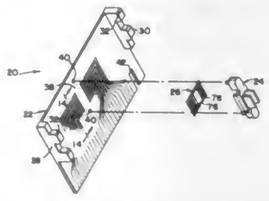
Reel cases are provided with an improved lock and handle assembly having a cam member with a transverse opening through which a keeper can be positioned and locked in place. Turning of the handle actuates radial expansion of a grommet due to sliding of the keeper on the cam surface.

3,407,924
METHOD AND PACKAGE FOR PRODUCING DENTAL MOLDS OR MOLDING MATERIAL
Eugene W. Lewis, Fuller Warden, Jack H. Mills, and Bernard F. McNickle, all of 3323 E. 31st St., Tulsa, Okla. 74105
Continuation-in-part of application Ser. No. 530,196, Feb. 25, 1966. This application July 18, 1966, Ser. No. 565,994
13 Claims. (Cl. 206—63.5)



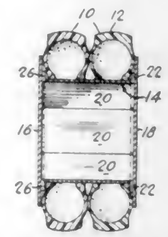
A package unit of a container having a gypsum powder material compressed and sealed therein and the method of producing a liquid-gypsum mixture used in dental application.

3,407,925
MICROELECTRONIC CARRIER
Herbert E. Ruehlemann, Huntingdon Valley, Pa., assignor to Elco Corporation, Willow Grove, Pa., a corporation of Pennsylvania
Filed Mar. 19, 1965, Ser. No. 441,177
28 Claims. (Cl. 206—65)



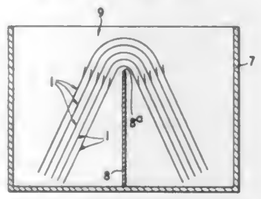
A carrier for securing a microelectronic circuit to a carrier plate has a holder which grasps the circuit and permits the latter to be attached to a carrier plate by securing the holder to the plate.

3,407,926
TIRE PACKAGING
Le Roy Thomas Rosser, Barrie, Ontario, Canada, assignor to Lee Rosser & Associates Ltd., Ontario, Canada, a company of Canada
Filed Feb. 18, 1966, Ser. No. 528,524
3 Claims. (Cl. 206—65)



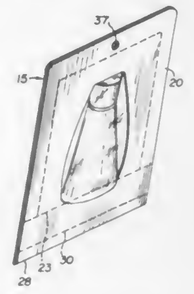
The present invention relates to a new tire package comprising a pair of tires mounted in side by side relationship on a tube having end flanges positioned to protect and hold the tires on the tube.

3,407,927
DISPOSABLE TONGS
Stephen Arthur Jones, "Peaceavon," Wyre, near Pershore, Worcestershire, England
Filed May 2, 1966, Ser. No. 546,784
Claims priority, application Great Britain, May 7, 1965, 19,263/65
2 Claims. (Cl. 206—65)



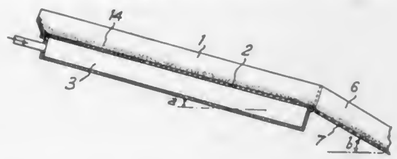
A container with a stack of sanitary paper tongs contained therein. The tongs are arranged in stacked relation in the container and are draped over the top edge of a central, vertical partition in the container. Each tong is provided with a pocket at each of its ends and the draping of the tongs in the stack disposes the tongs in a position so that their pockets have open mouths directed upwardly. This permits the hand of a user to enter the container and insert his fingers and thumb into the respective pockets in the uppermost tongs in the stack and lift the tongs from off the stack and remove it from the container. The tongs are thus picked up and handled without the fingers of the user touching that part of the tongs which contacts with an article to be handled so that such article will then be handled in a hygienic manner and safeguarded from contamination.

3,407,928
DISPLAY PACKAGE
Ridley Watts, Jr., Cleveland, Ohio, assignor to The American Packaging Corporation
Continuation-in-part of application Ser. No. 213,804, July 31, 1962, which is a division and continuation-in-part of application Ser. No. 97,907, Mar. 23, 1961. This application Sept. 8, 1966, Ser. No. 577,854
15 Claims. (Cl. 206—78)



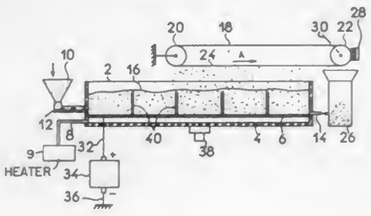
A stand-up display package having face panels, integral base forming panels and a product receiving aperture and pocket in a face panel above the lower edge thereof. The base panels are located beneath the aperture and selectively extend either in the planes of the face panels or transversely thereof to form a base. When extending transversely, the base panels are behind the front face panel and support the face panels at an inclined angle to a support plane.

3,407,929
METHOD FOR DRY SORTING THE CONSTITUENTS OF A HOMOGENEOUS MIXTURE
Christine Elisabeth Hoing, Rue de Beaupreau 29, Sainte-Genevieve, France
Filed Feb. 20, 1967, Ser. No. 617,301
Claims priority, application France, Mar. 1, 1966, 51,428; Aug. 5, 1966, 72,181
4 Claims. (Cl. 209—3)



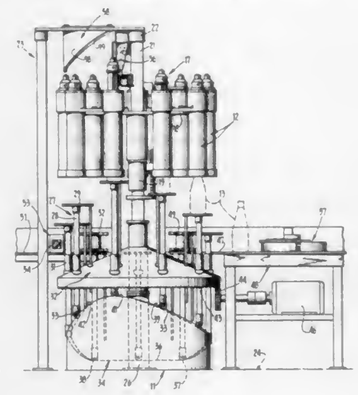
The constituents of a homogeneous granular mixture are dry sorted by passing the mixture down a first inclined perforated chute, blowing a gas through the perforations in the chute to fluidize the granular particles and passing the fluidized mixture down a second inclined perforated chute along which the granular particles are sorted and deposited through the perforations according to their specific weights.

3,407,930
METHOD AND APPARATUS FOR THE ELECTROSTATIC SORTING OF GRANULAR MATERIALS
Roger Claudius Marius Morel and Pierre Tauveron, Grenoble, Isere, France, assignors to Sames, Societe Anonyme de Machines Electrostatiques, Paris, France, a company of France
Continuation-in-part of application Ser. No. 377,917, June 25, 1964. This application May 19, 1965, Ser. No. 456,945
Claims priority, application France, June 27, 1963, 939,522; May 21, 1964, 4,690
15 Claims. (Cl. 209—11)



A multi-constituent mixture of particles is fluidized within an open-top container to form a fluidized bed of particles. The particles are heated and become charged predominantly by contact-electrification such that a particular constituent has a charge of given polarity. The particles of the given polarity are withdrawn from the bed by an electrostatic extracting field which extends from within the container to a conveyor which is spaced above the upper surface of the bed. In some cases the bed is subjected to vibrations to further facilitate the selective charging of the particles.

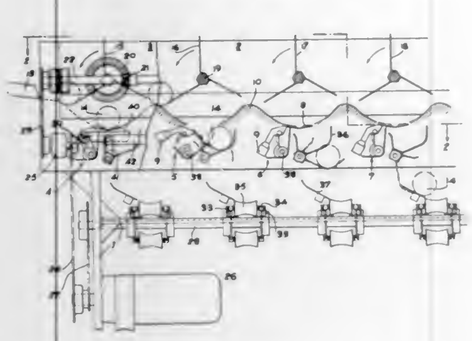
3,407,931
BOTTLE GAUGING APPARATUS
Richard T. Vincent, 29300 Pacific, Hayward, Calif. 94544
Filed Feb. 15, 1966, Ser. No. 527,468
7 Claims. (Cl. 209—75)



An automatic gauging apparatus is described for gauging the dimensions of bottles to classify them as having

either acceptable or unacceptable dimensions. The apparatus includes a turret having adjacent its periphery, a plurality of circumferentially spaced gauging elements. Beneath each gauging element is a lifting platform for lifting a bottle into the element to determine whether it has acceptable dimensions. Each gauging element includes a bottom head through which a bottle must pass and which determines whether the body is out-of-round or greater than a prescribed dimension. An elongated finger within each classifier element checks the interior dimension of the neck of the bottle, and the peripheral wall of a recess which is coaxial with the finger checks the exterior diameter of the neck. The base wall of the recess determines the correctness of the height of the bottle. All of the gauging surfaces of the classifier element are provided as a unit and if any one of them indicates a defective dimension, the classifier unit is displaced vertically with respect to a supporting frame member. Any such displacement is sensed by a defect sensing means which through a memory system activates an ejector means for separating the defective bottles from the acceptable bottles.

3,407,932
DEVICE FOR THE SORTING OF ARTICLES ACCORDING TO WEIGHT
Karl-Heinz Northoff, Herford im Westphalia, Germany, assignor to Maschinenfabrik Benhil, Ellinghaus & Hilgers, Westphalia, Germany
Filed Apr. 21, 1967, Ser. No. 632,574
Claims priority, application Germany, Apr. 23, 1966, M 69,257
3 Claims. (Cl. 209—121)



Device for sorting articles by weight in which the articles are moved along an undulating guideway by carefully synchronised rotating paddle wheels. In each trough of the guideway is a balance mechanism set to a specific weight which allows an article reaching that trough to pass out of the apparatus on an individual conveyor if the article corresponds to the set weight of that mechanism. Each balance mechanism includes a locking device synchronised with the rotating paddle wheels.

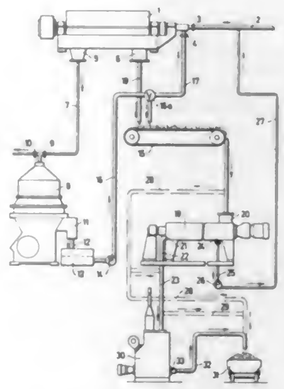
3,407,933
METHOD AND DEVICE FOR GRAVITY SEPARATION OF PARTICLES
William H. Klein, Rte. 3, Box 3176, Bainbridge Island, Wash. 98110
Filed Sept. 26, 1966, Ser. No. 581,972
6 Claims. (Cl. 209—447)

A method for separating gold or other relatively heavy particles from a mixture thereof with lighter particles, such as sand or gravel, comprising the use of a container having opposite wall portions which can be repeatedly moved relatively so as to subject the material therein to intermittent compression. Also a gravity separation device for use in accordance with the method comprising a container having downwardly convergent walls made of supple material so that a mixture held in the container may be kneaded, as by rolling the container back and forth under pressure between the user's hands, thereby agitating and working the material contained therein until



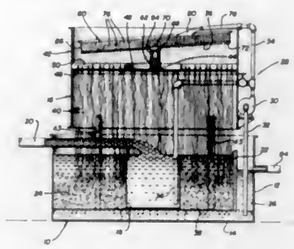
the dense, heavy-metal particles work their way to the bottom or apex of the cone while the lighter materials are worked upwardly therein. The walls of the container are flexible enough, preferably, to be foldable for storage of the device, yet resilient to return to the cone shape, and strong enough to maintain their shape to hold a mixture therein.

3,407,934
METHOD AND APPARATUS FOR SEPARATING PARTICLES FROM SUSPENSIONS SUCH AS SLUDGE AND THE LIKE
Karl-Goran Henrik Ejefors, Blecktornsgrand 7, Stockholm, Sweden
Filed Apr. 19, 1966, Ser. No. 543,736
Claims priority, application Sweden, Apr. 22, 1965, 5,265/65
1 Claim. (Cl. 210—73)



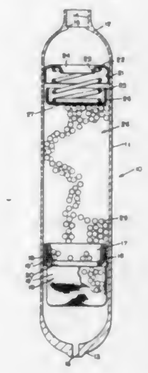
A method of separating particles from suspensions, such as sludge from industrial and municipal sewage purification plants, wherein the suspension is initially subjected to a mechanical centrifugal separation causing the larger and heavier particles to be separated from the remaining fluid. Upon leaving the first separation stage, the fluid contains only microorganisms or particles of comparable weight therein. The fluid is then subjected to a second mechanical centrifugal separation wherein the fluid is subjected to larger separating forces such that the small microorganisms are separated from the liquid, which microorganisms can then be recovered and subjected to further treatment for permitting recovery of vitamins therefrom.

3,407,935
LIQUID DISTRIBUTION MEANS IN APPARATUS FOR TREATING LIQUID WASTES
Robert Edward Burton, 475 E. San Francisco Ave., P.O. Box 577, Willits, Calif. 95490
Filed May 18, 1966, Ser. No. 551,165
4 Claims. (Cl. 210—151)



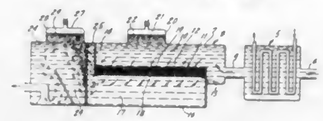
Apparatus for treating liquid wastes for uniformly and continuously distributing liquids over an area of appreciable dimension, such apparatus making use of a perforated rotary distribution device mounted on a tilt axis so as to have a high and a low side. The perforated surface of the distribution device carries a mass of bark fibers or like means to disrupt liquid flow so that liquid circulated to a point above the high side of the rotary distribution means is slowly spread over the rotating surface for discharge as a uniform rain of liquid below the device as it rotates.

3,407,936
SPRING LOADED DRYER
Stephen Balogh, Lyons, N.Y., assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed June 7, 1965, Ser. No. 462,139
5 Claims. (Cl. 210—282)



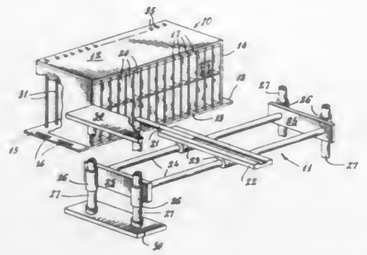
A refrigerant dryer is provided, having a tubular body and a cup-shaped desiccant retainer adhered to an inner wall of the body, with a spring retainer adhered to an opposite end of the body, having a spring engaged therewith and also engaged with the perforated disk, for compressing desiccant particles between the retainers and urging the same toward and into the cup-shaped retainer. The particles may be initially compressed by inserting a disk into the body, which is magnetically adhered to a magnetic rod, during the compacting of the particles, with the rod being then withdrawn and a spring inserted for engagement against the disk, that end of the body then being closed.

3,407,937
IMMISCIBLE LIQUID SEPARATOR
Lubertus Bakker, Cleveland Heights, and Beverly S. Hazel, Chagrin Falls, Ohio, assignors to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 29, 1965, Ser. No. 505,720
4 Claims. (Cl. 210—301)



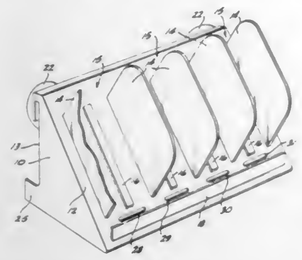
An immiscible liquid separator designed primarily for separation of suspensions comprising oily materials in water. The construction of the separator involves, in general, coalescing units disposed in series downstream relationship with screens correlated therewith in function (throughput, for instance) to effect removal of the oily matter from an essentially aqueous liquid.

3,407,938
APPARATUS FOR STORING A PLURALITY OF ELONGATED PANELS
Gerard O. Walter, Westbury, Freeland R. Goldammer, Williamsville, and Attilio A. De Meo, Brooklyn, N.Y., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 21, 1965, Ser. No. 499,539
5 Claims. (Cl. 211—41)



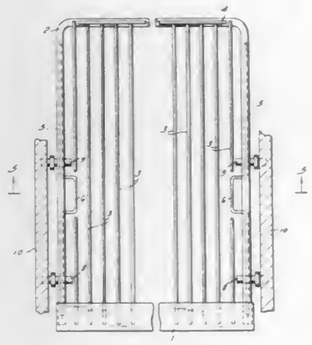
1. Storage apparatus comprising in combination:
(a) a plurality of elongated panels having at one end thereof means for releasably receiving a holding element; and
(b) a container, having a frame including a top plate member, a base plate member, and two opposing side plate members extending between the edge portions of the top and base plate members;
(c) said container also having at least one vertical partition extending between said top plate and base plate members to provide side by side bays having side walls defined by said side plate members and said partitions, and opposing horizontal tracks associated with said side walls and adapted to support said elongated panels;
(d) said container further having holding means adjacent one end of said bays including at least one holding element adapted to be releasably received by one or more of said elongated panels when said panels are supported by said tracks;
(e) said means for releasably receiving a holding element comprising a beveled slot defined by integral resilient edge portions;
(f) said holding element comprising a rod attached to said frame for registration with said slots, when said panels are urged against said rod, for releasable engagement therewith.

3,407,939
MULTIPLE SOAP CAKE CONTAINER
Ricardo V. Villar-Kelly, Glendale, Calif.
(534 W. 65th St., Hialeah, Miami, Fla. 33012)
Filed Jan. 24, 1967, Ser. No. 611,380
10 Claims. (Cl. 211—90)



A container for holding a plurality of soap cakes in individual receptacles provided by perpendicular divider members protruding from an inclined surface and including means for securing the container to a vertical wall.

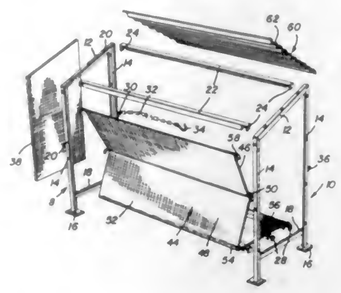
3,407,940
SHELF ASSEMBLY
George H. Packard, East Brunswick, N.J., assignor to Fedders Corporation, Edison, N.J., a corporation of New York
Filed Oct. 5, 1966, Ser. No. 584,536
4 Claims. (Cl. 211—153)



A removable, slidable shelf assembly, for a cabinet, having members forming guide channels beneath the side edges of the shelf assembly and loops in the guide channel members allowing for insertion and removal of support members, the support members acting also to limit at least the forward motion of the shelf assembly.

3,407,941
GARBAGE CAN RACK
Norbert T. Schmidt, 1219 Bryant St.,
Alexandria, Minn. 56308
Filed July 27, 1966, Ser. No. 568,340
4 Claims. (Cl. 211—177)

An outdoor shed-like rack designed to enclose bodily insertable and removable garbage and trash cans. It comprises a self-standing frame structure provided with bottom, back, end and top walls. It is wholly open at its front. The top wall is imperforate and preferably but not necessarily corrugated. The bottom wall is elevated above the level of the ground to preserve said bottom wall and the cans and particularly the bottom portions of the cans. The bottom wall, back and end walls are made from screen material capable of screening out debris and functioning to minimize access to the cans by dogs, cats and other pests. The screen walls provide for adequate ventilation for the enclosed can space. Chain means is stretched across the open front to assist in holding the cans within the confines of the rack.

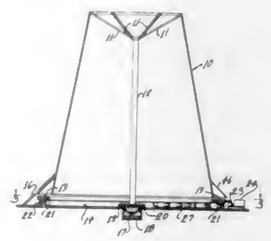


3,407,942
LOG YARDING SYSTEM
Maurice J. McIntyre, Coquitlam, British Columbia, and David G. Rennie, Burnaby, British Columbia, Canada, assignors to Skagit Corporation, Sedro Woolley, Wash., a corporation of Washington
Filed Feb. 23, 1967, Ser. No. 618,022
17 Claims. (Cl. 212—84)



A system of yarding logs wherein a log grapple is rigged to inhaul and outhaul lines extending between a yarding tower and the outlying outhaul tail block. The grapple can be suspended from a carriage and the carriage carried by the outhaul line or by a separate skyline. The grapple can be a two line, tag line-operated grapple or a single line grapple. In addition, a log yarding system may be provided with a carriage riding on a suspending line and rigged with a two-part inhaul line with a tag line connected to one part of the two-part inhaul line and extended through the carriage to a log engaging means.

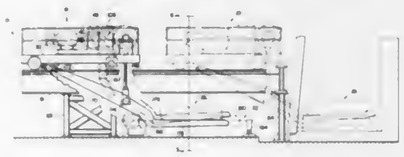
3,407,943
APPARATUS FOR STORING AND FEEDING BULKY MATERIALS
Edward T. Douglass, Jr., % Industrial Furnace Constructing Co., 2709 5th Ave., Birmingham, Ala. 35233
Filed Oct. 18, 1966, Ser. No. 587,442
10 Claims. (Cl. 214—17)



Apparatus for storing and feeding bulky materials having an open bottom storage bin with a conveyor extending

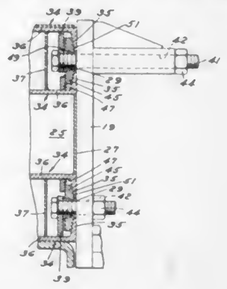
therebeneath and spaced therefrom. A rotary unit rotates around the bin subjacent the periphery thereof and carries a substantially rigid arm which moves inwardly beneath the bin. At least one plow-like digging element is carried by the arm and is urged inwardly in position to dig into the materials.

3,407,944
SLAB CHARGER
William E. Gustashaw, West Mifflin, and David Rosner, McKeesport, Pa., assignors to Amsler Morton Company, a Division of Textron Inc., Pittsburgh, Pa., a corporation of Rhode Island
Filed Nov. 17, 1966, Ser. No. 595,090
6 Claims. (Cl. 214—26)



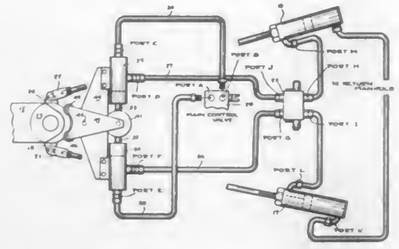
A charging mechanism for transporting slabs to and from a roll table to a reheat furnace. The charging mechanism includes a rail mounted carriage that is positioned adjacent a roll table. A drive means is provided to propel the carriage on the rails toward and away from the reheat furnace positioned on the side of the roll table. Lift arms are pivotally secured to the carriage and depend downwardly therefrom. An arm lift mechanism is mounted on the carriage for pivotally moving the lift arms and includes a motor drivingly connected to a shaft supported on the carriage. The shaft has an eccentric sleeve mounted thereon. A housing with an eccentric bore is journaled on the eccentric sleeve and has a depending end portion connected to the lift arm so that rotation of the shaft pivots the lift arm to raise or lower the lift arm.

3,407,945
LOCKING MEANS FOR OFFSET BACKHOE
Albert Harold Leese, Basildon, England, assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 7, 1966, Ser. No. 599,770
4 Claims. (Cl. 214—138)



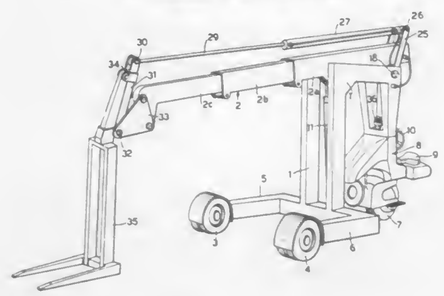
A locking means for the carriage of an adjustable offset backhoe of the type including a transverse frame having a pair of C-shaped slots and expansible blocks within the slots for supporting the carriage and holding it against movement along the slots is actuated by tightening the bolts holding the carriage against the frame. Preferably, a cam surface on each of the blocks laterally expands the blocks upon tightening the bolts so that the blocks tightly engage opposing side walls of the C-shaped slots.

3,407,946
CONTROL MECHANISM FOR BACKHOE
John S. Pilch, Ware, Mass., assignor to Ware Machine Works, Inc., Ware, Mass., a corporation of Massachusetts
Filed Mar. 4, 1966, Ser. No. 531,822
10 Claims. (Cl. 214—138)



A mechanism for non-terminatingly controlling the swing or rotation of a movable member, such as the boom-carrying turret of a backhoe. The mechanism is illustratively a valve that has a throttling effect in a hydraulic system by which the movable member is powered. As such, the throtting valve is in a line that carries either actuating fluid to an operating jack, or return fluid from a non-operating jack. As the movable member swings to a preassigned position, it activates the throttling valve in the direction of fluid flow and constricts the flow to provide a cushioning effect. In an illustrative embodiment, the valve includes an interior plunger that is slidable in the direction of fluid flow and has two ports. One port is always open, so that fluid flow cannot be completely terminated, but the other is closable by sliding the valve, so that the flow can be curtailed, thus cushioning the rotation of the movable member. To achieve rapid response, an exposed end of the slidable valve is actuated by a pivoted lever that is in turn controlled by a cam on the movable member.

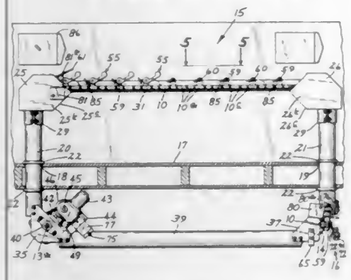
3,407,947
MATERIAL-MOVING DEVICE FOR MOVING OBJECTS
Gian Edoardo Valla, Milan, Italy, assignor to Antonio Valla & C. s.n.c., Milan, Italy, a corporation of Italy
Filed Dec. 19, 1966, Ser. No. 602,922
Claims priority, application Italy, Dec. 22, 1965, 12,618/65
5 Claims. (Cl. 214—141)



A material-moving device having a tool on an extendable and tiltable boom, wherein orientation of the tool can be maintained irrespective of length and angle of tilt of the boom or can be varied at will. The device comprises two double-acting ram-piston hydraulic assemblies, one assembly acting between the ends of the boom, the other assembly having its ends pivoted on the framing of the device and respectively on one end

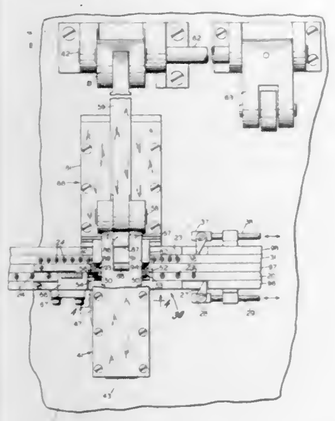
of a tool-carrying rod whose other end is pivoted on the free end of the boom. Means are provided for connecting said assemblies to a source of pressurized fluid, to an outlet and in series to each other so that the two pistons are displaced in the same or selectively in opposite directions.

3,407,948
FILM CARTRIDGE CONVEYOR AND REMOVER
Ralph T. Gutzmer, North St. Paul, Minn., assignor to Vincent D. Hansen, Sr., St. Paul, Minn.
Filed June 21, 1967, Ser. No. 647,655
20 Claims. (Cl. 214—305)



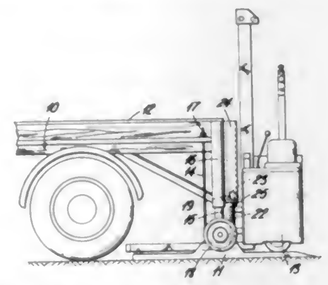
An endless conveying system for carrying film cartridges, each having first and second axially parallel film carrying portions connected by a film guide portion, from a loading station to an unloading station located in a darkroom, where each cartridge is fractured and a rotatably mounted film spool carrying exposed film is removed from the second portion. As the conveyor carries the cartridge through the unloading station, a spring member pivots the cartridge about the rotatable spool to guide the first portion into engagement with a stationary abutment member to break the second portion of the cartridge away from the spool.

3,407,949
APPARATUS FOR CYCLICALLY LOADING AND UNLOADING A PAIR OF ARTICLE CARRIERS
Charles R. Fegley, Laureldale, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 8, 1967, Ser. No. 621,698
12 Claims. (Cl. 214—309)



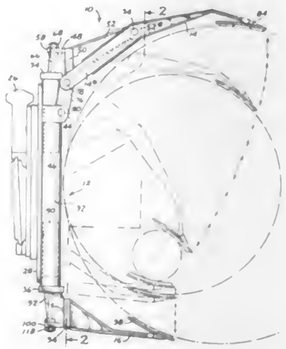
A transfer head cylically reciprocates between a pair of racks, each containing an aligned group of articles. Upon each movement of the head, an article is lifted from a first rack, transferred and deposited in the other rack, after which the rack is moved transversely of the head to remove the deposited article from the head while advancing another article into the head for subsequent lifting, transferring and depositing in the first rack.

3,407,950
MEANS FOR ATTACHING A LIFT TRUCK TO A LORRY
Joseph Leslie Ward and John David Dixon, Basingstoke, England, assignors to Lansing Bagnall Limited, Basingstoke, England, a British company
Filed Mar. 7, 1966, Ser. No. 532,171
Claims priority, application Great Britain, Mar. 9, 1965, 10,006/65
4 Claims. (Cl. 214—512)



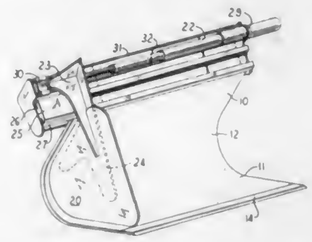
Means for self-loading an industrial lift truck on a lorry for transportation of the truck by the lorry, comprise a platform suspended from the lorry for carrying the truck during its transportation, which platform is movable between ground level and an elevated position, and means on the platform for co-operating with the load-lifting carriage of the truck so that when the truck is loaded onto the platform at ground level, operation of the lift means to raise the carriage will also raise the platform, and hence the remainder of the truck, into the elevated position.

3,407,951
LOAD CLAMP WITH ARM TRAVEL RETARDING MEANS
Donald M. Faust, Estacada, and Henry F. Chochrek, Portland, Oreg., assignors to Cascade Corporation, Portland, Oreg., a corporation of Oregon
Filed June 19, 1967, Ser. No. 647,121
4 Claims. (Cl. 214—653)



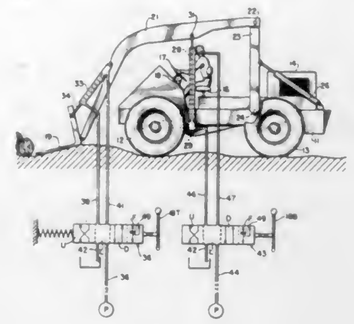
Load handling apparatus having a pair of opposed load-clamping arms and a pair of fluid-operated rams connected to the arms, operable to move the arms toward each other. One of the arms has an inner limit position beyond which it cannot move toward the other arm. The ram connected to this one arm includes a passage which allows fluid to exhaust therefrom as the arms are moved toward each other, and a device which partially closes off the passage to retard such exhaust and thereby to retard movement of the one arm prior to its reaching the inner limit position. A check valve is connected within a line through which fluid under pressure is supplied to the other ram, and acts to hydraulically lock this other arm against being backed away from the one arm.

3,407,952
LOADER BUCKET WITH POSITIVE SIDE EJECTOR
Charles W. Gardner, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Dec. 16, 1966, Ser. No. 602,376
2 Claims. (Cl. 214—767)



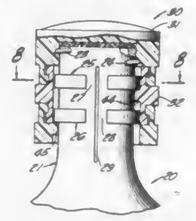
A tractor mounted loader bucket having a bottom wall and a back wall but no end walls, and an ejector plate disposed perpendicularly to said walls and moveable from a position near either end of the walls toward the other end to eject the contents of the bucket.

3,407,953
MATERIAL HANDLING APPARATUS WITH "FLOAT" ACCOMMODATIONS TO GROUND
Wilburn Kelly Brown, Morton Grove, Ill., assignor to Pettibone Mulliken Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 15, 1967, Ser. No. 623,362
1 Claim. (Cl. 214—770)



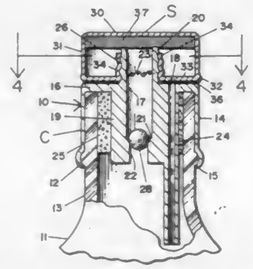
When a load-handling element such as a fork-lift device is carried by a vehicle in a manner to be raised and lowered hydraulically and also to be titled hydraulically, it can be made to accommodate itself to the contour of the ground along which it is to advance, by providing a float position in the lift and tilt valves.

3,407,954
CONTAINER AND CLOSURE THEREFOR
Alexander Millis, 519 S. Coronado St., Los Angeles, Calif. 90057
Filed Aug. 18, 1966, Ser. No. 573,274
7 Claims. (Cl. 215—9)



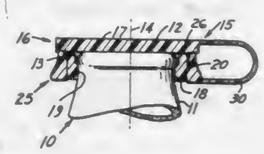
The closure cap includes rotatable annular members having internal ridges and grooves. The ridges and grooves of the cap coact with complementary structures on the bottle or container locking the cap thereon for all orientation of the annular members except one which permits the cap to be removed.

3,407,955
NON-REFILLABLE BOTTLE CAP
Lawrence R. Masi, 80 NE. 174th Drive, North Miami Beach, Fla. 33162
Filed June 5, 1967, Ser. No. 643,538
3 Claims. (Cl. 215—22)



A non-refillable bottle cap for bottles having a peripheral rib on the neck portion consisting of a cap portion adapted to be permanently mounted on the neck portion and swedged at the rib with a ball valve controlled liquid discharge passageway and an air inlet passage, a screen mounted in the liquid discharge passageway for containing the ball valve and a stopper threadedly mounted on said cap and sealing the liquid discharge passageway and air inlet passage.

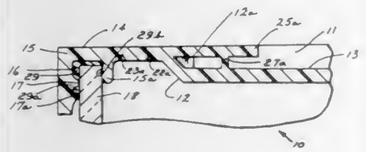
3,407,956
BOTTLE CAP
Robert P. Linkletter, 865 Comstock Ave., Los Angeles, Calif. 90024, and James D. Pauls, 8787 Shoreham Drive, West Hollywood, Calif. 90069
Filed Nov. 14, 1966, Ser. No. 594,173
10 Claims. (Cl. 215—41)



This invention relates to a removable and replaceable bottle cap for closing a bottle having a mouth with a

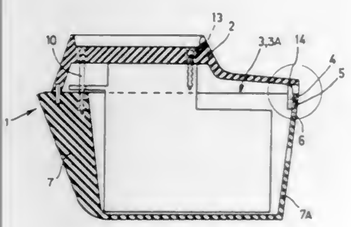
surrounding lip on a neck. The bottle cap includes a closure member that has a cap section to overlay the mouth, a depending flange with a lip adapted to engage the lip of the bottle, and an annular locking member which includes an inner surface adapted to embrace the flange of the closure member so as to hold it in a closed position. According to an optional feature, flexible means interconnects the two members. To open the cap, the locking ring is forced downwardly off the closure member where it rests around the neck of the bottle. The closure member may then be snapped off the top of the mouth. To close the bottle, the process is reversed.

3,407,957
FRANGIBLE CLOSURE
William H. Robinson, New Vienna, Ohio 45159
Continuation-in-part of application Ser. No. 404,720, Oct. 19, 1964. This application June 15, 1966, Ser. No. 557,837
19 Claims. (Cl. 215—42)



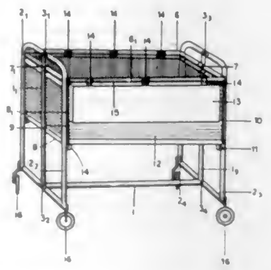
A cup-like container closure of flexible thermoplastic material having a removable portion defined by an annular groove on the inner side. A gripping member is connected to the removable portion and is outwardly spaced from the closure. Tamper-resistant means is severably connected between the gripping member and the outer side of the closure.

3,407,958
JOINTS BETWEEN A CAP AND A HOUSING OF A BIPARTITE ENVELOPE
Johan Konijnenberg and Bernard Martinus Sprado, Drachten, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed June 29, 1966, Ser. No. 561,597
Claims priority, application Netherlands, July 14, 1965, 6509065
10 Claims. (Cl. 220—4)



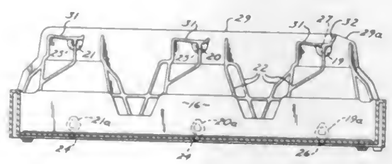
A casing for enclosing an apparatus such as an electric shaver, the casing comprising housing and cap members which are releasably secured together along their engaging edges by a resilient lug extending from an edge of the cap member to a corresponding aperture in the housing member and a rigid pin extending from an opposite edge of the cap to a corresponding aperture in the housing, these members being engaged and disengaged by relative transverse movement between them which deflects the resilient lug and aligns the pin in its aperture.

3,407,959
TROLLEY FOR CONVEYING AND HANDLING VARIOUS PRODUCTS
Remy Etienne Roger Mondineu, 1 Rue des Grands Augustins, Paris, France
Filed Jan. 6, 1967, Ser. No. 607,769
Claims priority, application France, Jan. 17, 1966, 46,165
4 Claims. (Cl. 220—6)



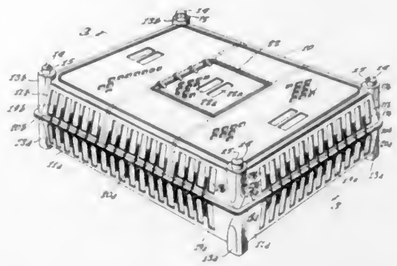
A portable trolley for carrying articles comprising a rigid, U-shaped frame with two pairs of articulated frame members pivotally secured to the arms of the frame. An upper, movable frame having a pair of opposed arms are parallely supported above a pair of trays between the frame arms and are adapted to pivot with the trays upwardly to a folded position with the frame members pivoting inwardly toward one another for complete closure. A container of solid or mesh material is also secured between the arms.

3,407,960
GUIDE MEANS FOR STACKABLE RECEPTACLE
Joseph A. Rogus, Willowick, Ohio, assignor to Mid-West Metallic Products, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Apr. 26, 1967, Ser. No. 633,795
5 Claims. (Cl. 220—97)



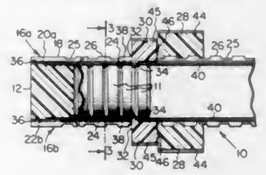
A receptacle adapted for tiering and nesting with a like receptacle is provided with a planar shelf extending along the top of two parallel side walls and an upstanding rib along each shelf. Two shoes extend downwardly from the bottom, one each under each side wall at one end in position to ride on the shelf of a lower receptacle and closely adjacent the outside of each upstanding rib. The shelves are inclined downwardly in such a way at one end that as an operator slides the shoes of an upper receptacle along the shelves of a lower receptacle, tiering supports on the bottom of the upper receptacle are held out of engagement with coacting tiering supports near the upper edge of the lower receptacle until the shoes reach the inclined shelf portions, when the tiering supports drop smoothly into engagement.

3,407,961
PLASTIC POULTRY CRATE AND THE LIKE
Theodor Box, 57—02 251st St., Little Neck, N.Y. 11362
Filed Apr. 13, 1966, Ser. No. 542,344
9 Claims. (Cl. 220—97)



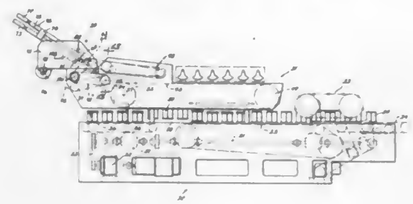
An integrally molded flat rectangular plastic case has supporting posts projecting from the corners of its top and bottom walls, to enable stacking of a number of cases with the posts of one case resting upon the posts of the case below in the stack. In order to facilitate alignment and locking of the cases in aligned position, the posts on one side of the cases are formed with cylindrical extensions having sector-shaped cut-outs with the surfaces of said cut-out slanting inwardly, while the posts on the opposite side of the cases are formed with mating recesses corresponding to and engaging said extensions in the stacked and locked position. A hinged rectangular door mounted in a corresponding aperture in the top wall of the case has a depending flange adjoining its hinged edge and a depending locking nose at its opposite edge, said flange and nose engaging the adjoining edges of the aperture, to afford locking and unlocking of the door with a snap action by flexing the same in the inward and outward directions, respectively.

3,407,962
TIME-INDICATING TABLET-DISPENSING CONTAINER
James B. Ragan, San Rafael, Calif., assignor to Ways & Means, Inc., San Rafael, Calif., a corporation of California
Filed May 29, 1967, Ser. No. 642,006
6 Claims. (Cl. 221—4)



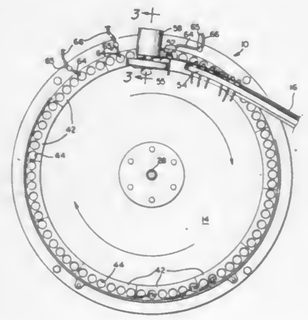
A tablet container comprising a tubular enclosure and means displaceable axially of the enclosure for retaining an individual tablet in the enclosure and thus all tablets behind the retained tablet. Means is provided to advance the tablet-retaining means axially of the container and thus transfer its retaining function to succeeding tablets while releasing the foremost tablet for dispensation. The displaceable tablet-retaining means is associated with a re-settable time-indicating slide in such a manner that a part of it acts as a self-adjusting indicator which tells the user when to take the next tablet. Everytime the tablet-retaining mechanism is manipulated to release a tablet, it marks another due time for consumption of the next tablet.

3,407,963
METHOD AND APPARATUS FOR FEEDING NESTED ARTICLES FROM A MAGAZINE
William C. Daily, Covington, Ky., assignor to R. A. Jones and Company, Inc., Covington, Ky., a corporation of Kentucky
Filed July 13, 1966, Ser. No. 564,906
7 Claims. (Cl. 221—36)



A method and apparatus for sequentially feeding generally planar multiple can carriers out of a magazine onto a conveyor. Each of the carriers is made from a plastic material and is provided with a plurality of pockets or recesses adapted to receive and embracingly engage portions of the can side walls in the vicinity of the can chimes such that the cans may be transported in the carriers while suspended therefrom. The carriers are stored in the magazine with the pockets of each carrier nested within the pockets of the next adjacent carrier. The apparatus for removing the nested carriers from the magazine comprises a plurality of movable suction cups engageable with pockets of the endmost carrier in the magazine and operable to pull some of the pockets of this carrier out of engagement with the pockets of the next adjacent carrier while leaving other pockets nested within the pocket of this adjacent carrier. A separator plate is then inserted between the partially separated carriers so as to completely separate them after which movable ejection fingers are engageable with finger holes of the carriers to complete the extraction of the endmost carrier from the magazine.

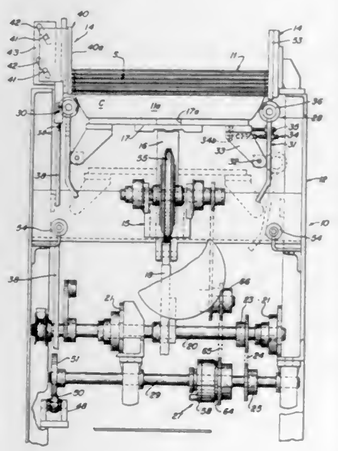
3,407,964
SORTER FOR NON-MAGNETIC AEROSOL VALVES AND OTHER CLOSURES HAVING ATTACHED TUBES, ETC.
Kazmier Wysocki, 293 Hudson St., Hackensack, N.J. 07601, and Thomas J. Benichasa, Hackensack, N.J.; said Benichasa assignor to said Wysocki
Filed July 26, 1967, Ser. No. 651,915
9 Claims. (Cl. 221—167)



A sort and orienting device for non-magnetic, elongated aerosol valves and other special closures which have

dip tubes, extensions, etc. and are haphazardly arranged in a bin, having an inclined, rotatable disc bottom having circumferentially spaced, recessed pockets to pick up one or more valves and orient them by gravity while elevating them to pick-off rails and a hold-down wheel cooperating therewith to effect efficient discharge of the valves from the sorter device.

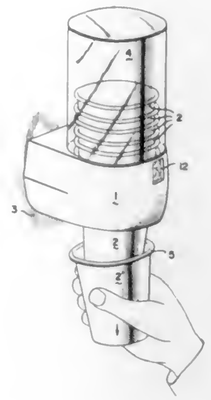
3,407,965
DENESTING APPARATUS WITH ARTICLE GRIPPING DISCHARGE ASSISTANT
Roy M. Kuhlman, Crown Point, Ind., assignor to Packaging Corporation of America, Evanston, Ill., a corporation of Delaware
Filed Feb. 20, 1967, Ser. No. 617,315
3 Claims. (Cl. 221—210)



This invention relates to a method of an apparatus for facilitating denesting of individual articles (e.g., molded pulp egg cartons) from a stack or bundle thereof wherein said stack is formed by a plurality of like articles arranged in nested relation and while so disposed having a predetermined compressive force exerted thereon. Generally, the articles in question embody a plurality of abrupt projections and/or depressions and the surface texture of each article is coarse with the result that the combination of these factors causes a high coefficient of friction to be established between adjacent nested articles which frequently renders the denesting of the articles an awkward, frustrating, and difficult operation.

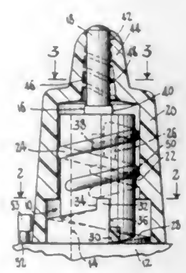
3,407,966
MAGAZINE FOR DRINKING CUPS WHICH CAN BE STACKED IN ONE ANOTHER, WHICH HAS NO MANUAL ACTUATING MEMBER
Claes Gustaf Eric Gauffin, Malmo, Sweden, assignor to Aktiebolaget Platmanufaktur, Malmo, Sweden
Filed Aug. 10, 1965, Ser. No. 478,771
10 Claims. (Cl. 221—303)

1. A magazine for drinking cups, wherein each of said cups has an outwardly directed edge at its opening and said cups can be internested in one another, said magazine comprising a tubular member, means for mounting said tubular member in an upright position, and blocking means mounted within the inner periphery of said tubular member and actuatable only by a downward axial movement of said edges of said cups to permit removal of only one of said cups from said tubular member said blocking means comprising internally mounted resilient biasing means including radially inwardly extending projection means normally positioned out of engagement with said cups, pivotally mounted means having first extension means normally in contact with the lowermost of said



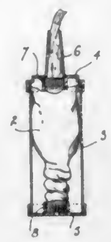
cups for supporting all of said cups within said magazine and second extension means in contact with said biasing means for driving said projection means radially inwardly upon application of a force thereto via said lowermost cup and said first extension means, and said biasing means normally maintaining said rotatably mounted means against rotational movement thereof.

3,407,967
DISPENSING CLOSURE CAP
Morton B. Stull, Boonton, N.J. (% Stull Engraving Company, 221–223 Banta Ave., Garfield, N.J. 07026)
Filed Jan. 24, 1967, Ser. No. 611,325
11 Claims. (Cl. 222—48)



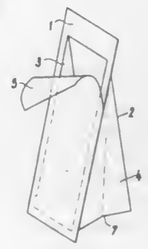
A dispensing closure cap structure having a tubular molded plastic body through which the product passes, and having a screw cap on the body, provided with a raised, central orifice which is closed by a closure pin on the body when the cap is screwed down. Screw means is especially arranged to prevent backlash, and a duct is provided on the cap between the orifice and the cap interior, said duct having means which coacts with the closure pin to accurately progressively restrict the passage for the product as the cap is unscrewed.

3,407,968
DISTRIBUTOR DEVICE FOR PASTY OR LIQUID PRODUCTS
Claude Fiquet, 9 Rue Meynadier, Paris 19eme, France, and Robert Leplat, 1 bis Rue Sartoris, La Garenne Colombes, Hauts-de-Seine, France
Filed Oct. 28, 1966, Ser. No. 590,363
Claims priority, application France, Nov. 9, 1965, 37,731; Sept. 28, 1966, 77,954
1 Claim. (Cl. 222—104)



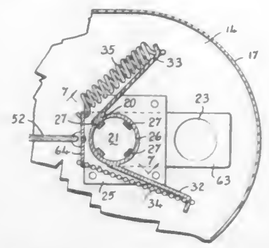
A collapsible wall dispenser of the twisting type comprises a rigid casing and two end pieces closing opposite ends of the casing. One of the end pieces is rotatable on and relative to the casing. An elongated bag of extensible elastomer material in the casing contains the product and has an outlet orifice at one end and a torsion initiation zone at the other end and is detachably connected at opposite ends to the end pieces. The bag in its untwisted condition is in longitudinal tension between the end pieces so that upon rotation of the rotatable end piece relative to the casing, the bag begins to twist at the end opposite the outlet orifice and thus progressively ejects its contents.

3,407,969
CARDBOARD FLUID CONTAINER
Karl Klein, Randstadt, Upper Hesse, and Kurt Walter, Stockheim, Upper Hesse, Germany, assignors to Hassia Verpackungsmaschinen G.m.b.H., a corporation of Germany
Filed Mar. 6, 1967, Ser. No. 620,849
Claims priority, application Germany, Mar. 8, 1966, H 58,748
9 Claims. (Cl. 222—107)



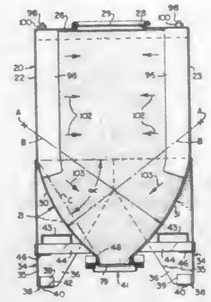
A container for liquids comprising a support of substantially stiff material with an opening therein formed by the cutting out and bending of at least one flap. The support and flap form spaced apart edges on which the container is capable of standing upright. Thermoplastic foil forms the sides and bottom of the container and is sealed to the support adjacent the edges of the opening and is also sealed through the flap, a cover foil is sealed over the opening to complete the liquid-tight container.

3,407,970
DISPENSER WITH A METERING DEVICE HAVING A CHAMBER SCRAPER
Vito A. La Magna, 207 Pearson Ave., Toronto 3, Ontario, Canada
Filed Feb. 23, 1967, Ser. No. 617,963
7 Claims. (Cl. 222—148)



A metering device for use with a dispensing container of granulated material having a metering chamber formed within a tubular body portion which is axially rotated when the material is discharged from the metering device. A number of rigid means are disposed within the metering chamber and engage the inner walls of the metering chamber. When the material is discharged from the metering device the rigid means scrape the walls as the body portion is rotated to remove any encrusted material thereon.

3,407,971
BULK CONTAINER
Gerard J. Oehler, Williamsville, N.Y., assignor to Oehler's Welding and Fabrication Corp., Buffalo, N.Y., a corporation of New York
Filed Aug. 15, 1966, Ser. No. 572,455
6 Claims. (Cl. 222—185)

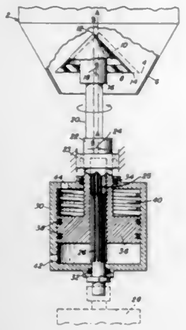


A bulk container for powdered or liquid material, but especially adapted for shipping titanium dioxide so that it will not agglomerate in transit, and having the features of bottom discharge and vertical stacking of similar containers one upon another.

3,407,972
APPARATUS FOR DISCHARGING PARTICULATE SOLIDS FROM A VESSEL
Lubomyr M. O. Cymbalisty, Edmonton, Alberta, Canada, assignor of thirty percent each to Cities Service Athabasca, Inc., a corporation of Delaware, Imperial Oil Limited, a corporation of Canada, Atlantic Richfield Corporation, a corporation of Pennsylvania, and ten percent to Royalite Oil Company, Limited, a Canadian corporation
Filed Feb. 1, 1967, Ser. No. 613,359
15 Claims. (Cl. 222—193)

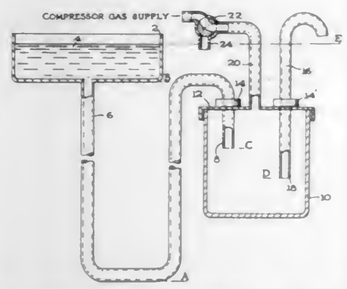
An apparatus for facilitating the discharge of relatively dry solids from the lower end of a vessel which, in its

upper portion, may contain a liquid. The relatively dry material passes through an outlet partially obstructed by



a member which vibrates at a certain frequency axially of the outlet and which moves at a lower frequency transversely of the outlet.

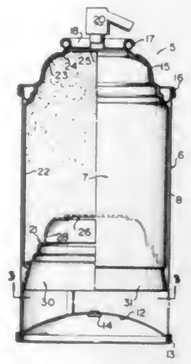
3,407,973
AUTOMATIC LIQUID MEASURING AND DISPENSING DEVICE
Robert A. Scott, R.F.D. 5, Westminster, Md. 21157
Filed July 19, 1966, Ser. No. 566,277
4 Claims. (Cl. 222—373)



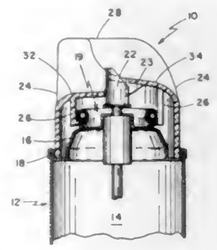
A liquid measuring and dispensing device having a measuring chamber which is filled with liquid through a supply conduit extending a given distance below the liquid supply source. A discharge conduit connected to the measuring chamber extends above the level of the liquid supply and is of a length smaller than the distance to which the supply conduit extends below the liquid supply level. A gas pressure source connected to the measuring chamber forces the liquid in the chamber through the discharge conduit and when the pressure is released, the chamber is automatically refilled through the supply conduit.

3,407,974
DISPENSING CONTAINER HAVING PISTON-BAG STRUCTURE
Louis J. Chmielowiec, South Holland, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Feb. 8, 1966, Ser. No. 525,998
13 Claims. (Cl. 222—386.5)

1. A dispensing container comprising a container body of a generally tubular configuration, said container body being closed at a bottom end thereof, a piston-bag structure in said container body, said piston-bag structure being of an integral one-piece polymeric plastic material construction, said piston-bag structure having top and bottom end portions, said top end portion having a generally tubular wall defining a product-receiving chamber, said bottom end portion being closed by a bottom panel, and resilient means integrally joined to said bottom end portion and directed radially outwardly and downwardly toward said bottom end for maintaining said bottom panel in axial alignment with said body during the movement of said bottom end portion from a position normally adjacent said bottom end toward a position remote therefrom.



3,407,975
AEROSOL CONTAINER AND CAP THEREFOR
George A. Schroeder, Addison, Ill., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware
Filed May 20, 1966, Ser. No. 551,602
8 Claims. (Cl. 222—402.13)

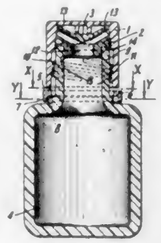


A protective cap for an aerosol-type container comprising a generally circular top portion, a cylindrical skirt having one end secured to the top portion and extending downwardly therefrom, and a continuous, radially inwardly projecting annular rib secured to the skirt adjacent the free end thereof, the skirt including a plurality of slots extending radially through the skirt wall and longitudinally from the top portion of the cap to the rib.

3,407,976
CONTAINER WITH PLURAL POUR SPOUTS AND FRANGIBLE CLOSURE
Zensho Homma, Shinba-cho 1188, Kohoku-ku, Yokohama-Kanagawa Prefecture, Japan
Filed May 24, 1966, Ser. No. 552,466
Claims priority, application Japan, May 25, 1965, 40/30,546; May 27, 1965, 40/30,961, 40/30,962
2 Claims. (Cl. 222—485)

A sealed container is disclosed including a threaded closure engaged on a threaded neck, the threaded closure including an annular rim spaced axially inwardly from the inner end of the closure and connected to the inner

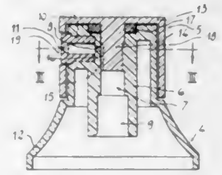
end of the closure by frangible means. This annular rim is formed with at least one ratchet tooth on its inner periphery cooperable with at least one ratchet tooth formed on the exterior of the threaded neck of the container and inwardly of the threads on the neck. The ratchet teeth are so interrelated that the closure may be threaded onto the neck of the container with the teeth slipping over each other but, upon reverse rotation of the closure to open the container, the teeth will interengage to prevent rotation of the annular rim. This will break the frangible



connections of the rim to the inner end of the closure, thus indicating that the container has been opened after sealing.

A novel double pour spout is also disclosed, including a portion fitting into the neck of the container and having oppositely directed spouts with outlet or discharge ends which, when the closure is screwed onto the neck of the container, have sealing engagement with the inner surface of the closure.

3,407,977
ACTUATING AND DELIVERING CAP FOR DISPENSERS
Gianantonio Ruggeri, Via Risorgimento 101, Sesto San Giovanni, Milan, Italy
Filed Apr. 4, 1967, Ser. No. 628,456
Claims priority, application Italy, Apr. 15, 1966, 8,627/66; Feb. 2, 1967, 7,767/67
2 Claims. (Cl. 222—554)



A cap applicable to an aerosol dispenser for regulating the aerosol flow delivered therefrom. The cap includes a body provided with means for fastening thereof on an aerosol dispenser and has a longitudinal cylindrical cavity and a transverse hole, and additionally comprises a stake rotatably accommodated within said cavity and having a chamfer extending from an end thereof to said hole.

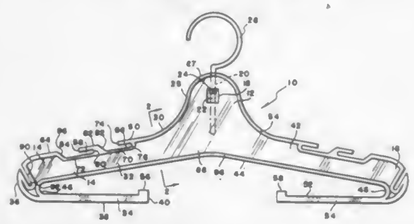
3,407,978
GARMENT FORM
Frank S. Sander, 121 Woodchuck Road, Stamford, Conn. 06903
Filed Jan. 18, 1967, Ser. No. 610,157
9 Claims. (Cl. 223—72)

An adjustable garment form consisting of a wire mesh which defines the lower part of the human torso and the legs in outline, such mesh consisting of substantially nonresilient material which is capable of retaining the shape of the wearer upon being deformed into such shape. The leg portions are connected with the torso except in the region of the crotch to define in this region an opening which is located between the leg portions and which is bounded by the mesh material defining the surrounding



mesh interstices, thus making it possible to adjust the height and configuration of the crotch area by suitably bending the mesh material of these interstices.

3,407,979
GARMENT HANGER
Albert C. Patch, Town House, 635 Harrison, Topeka, Kans. 66603
Filed May 16, 1966, Ser. No. 550,515
1 Claim. (Cl. 223—88)

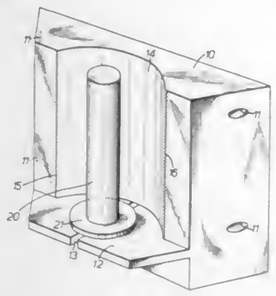


A garment hanger having downwardly and outwardly inclined arms, each of the arms having a primary supporting edge and at least a pair of spaced collinear secondary supporting edges spaced below and in approximate parallelism with the primary supporting edge; the spaced collinear secondary garment supporting edges being defined by aligned and spaced elongated slots in the arm, with each of the slots having its extremities closed and having an entrance slot of less width than the slot situated at the outermost extremity of the slot, whereby shoulder portions of a garment can be supported on a pair of symmetrically located secondary supporting edges of selectable horizontal spacing with the closed uppermost or adjacent ends of the associated slots positively limiting movement of such shoulder portions toward the center of the hanger while indirectly limiting movement of such portions from the center of the hanger. The arms are smoothly and arcuately inturned downwardly and inwardly to terminate in opposed horizontal garment supporting extensions having spaced free ends, and the arcuate extremities of the arms are provided with upwardly opening slots therein that are inclined downwardly and inwardly for accommodating widely spaced shoulder straps or the like.

3,407,980
HOLDERS FOR ROLLS OF SHEET MATERIAL
James Addison, Courthouse, Maidencombe, Torquay, Devon, England
Filed Oct. 31, 1966, Ser. No. 590,682
7 Claims. (Cl. 225—76)

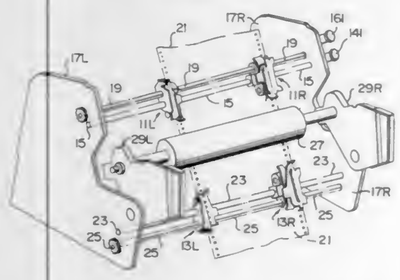
1. A roll holder for supporting a hollow roll, comprising a base, a post mounted on the base and having one

free end to enter the hollow interior of the roll, a part which cooperates with the post to exert a frictional grip



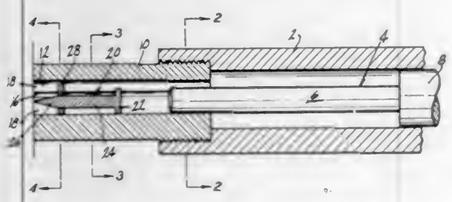
on the roll, and spring means acting between the post and the said part.

3,407,981
CONTROL APPARATUS FOR WEB FEEDING DEVICES
Kenneth Staugaard, Rochester, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 31, 1967, Ser. No. 627,548
7 Claims. (Cl. 226—171)



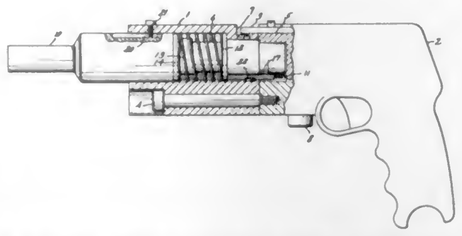
The lateral position and separation of web feeding tractors such as those used in high speed printers is controlled by flexible cables attached to the tractors which cooperate with one side of the web and wrapped around rotatable cylinders. The rotation of the cylinder translates the attached tractors in the same direction and at the same rate.

3,407,982
MUZZLE BUSHING AND FASTENER FOR POWER-ACTUATED TOOLS
Robert W. Henning, North Haven, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Apr. 4, 1966, Ser. No. 540,081
8 Claims. (Cl. 227—9)



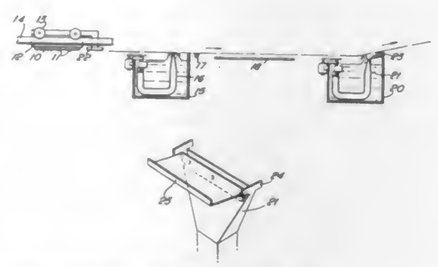
A power-actuated tool provided with a muzzle bushing having a series of circumferentially spaced guide ribs separated from each other by longitudinally extending grooves. The shank portion of the piston is supported for reciprocal movement by the guide ribs. A fastener having flange means on its shank is supported in the muzzle bushing by virtue of its head portion being in contact with the guide ribs and the flange means extending into the grooves.

3,407,983
EXTRACTOR FOR POWDER ACTUATED TOOLS
John A. Kotas, Chicago Heights, Ill., assignor to Remington Arms Company, Inc., Bridgeport, Conn., a corporation of Delaware
Filed July 28, 1966, Ser. No. 568,558
3 Claims. (Cl. 227—9)



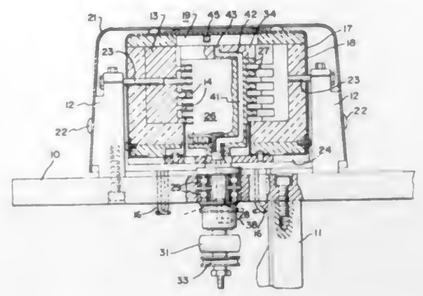
A cartridge powered stud driver including an extractor slidably mounted on the barrel and positioned in a slot in said barrel so that the extractor forms a portion of the chamber. The extractor is actuated by the rearward movement of the guide tube which surrounds the barrel. The guide tube moves an action bar which carries a stud to engage and move the extractor.

3,407,984
SOLDER FLOW REVERSING APPARATUS
Brian Thomas Walker, Luton, England, assignor to British Aircraft Corporation (Operating) Limited, a British company
Filed Apr. 25, 1966, Ser. No. 544,760
Claims priority, application Great Britain, Apr. 28, 1965, 17,888/65
3 Claims. (Cl. 228—37)



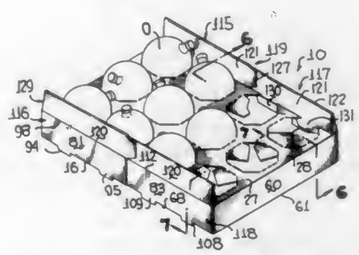
1. Solder delivery apparatus comprising:
a container for solder;
a nozzle terminating in an elongated exit;
a pump for forcing solder from said container through the nozzle and exit;
an upwardly inclined guiding member mounted at one long side of said elongated exit;
and an upstanding lip extending from said guiding member;
whereby solder which flows on to said guiding member on emerging from said exit is subsequently reversed in direction by said lip to form a solder wave moving over and in a direction opposite to the solder travelling up said guiding member from said exit.

3,407,985
HEAT APPLICATOR WORK HOLDER
Charles Fredrick Miller, Anaheim, Calif., assignor to Basic Products Corporation, a corporation of Wisconsin
Filed Oct. 17, 1966, Ser. No. 588,273
10 Claims. (Cl. 228—51)



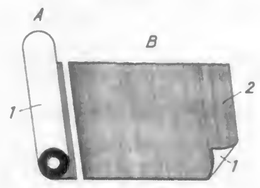
A semiconductor work piece holder mounted on a stationary platform. The work piece holder includes a vacuum tube to hold the work piece in position on the holder. The holder is rotatably mounted in a carbon block which is heated by electric resistance heaters mounted in openings in the carbon block. Inert gas may be directed over the work piece station to prevent oxidation or corrosion of the work piece during operation thereon. A work piece is rotatably mounted adjacent to the block and the work piece station and is drivingly connected to the work piece station for simultaneous rotation therewith.

3,407,986
ORNAMENT CARTONS
Guelfo A. Manizza, Blauvelt, N.Y., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Jan. 28, 1966, Ser. No. 523,673
11 Claims. (Cl. 229—28)



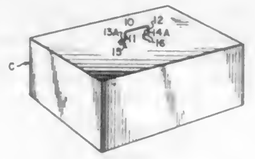
This invention is directed to a carton having the customary bottom, top, side and end walls with article-housing means formed in the top wall. A pair of generally parallel ribs project beyond the top wall and function to protect portions of the articles projecting above the top wall. The ribs include locking tabs which are received in and interlockingly engage with the article-housing means.

3,407,987
PACKAGING MATERIAL
Werner Heinz Wilke, Bernadottestrasse 69, 2 Hamburg 52, Germany
Filed Dec. 27, 1966, Ser. No. 604,927
Claims priority, application Germany, Jan. 7, 1966, W 40,670
1 Claim. (Cl. 229—40)



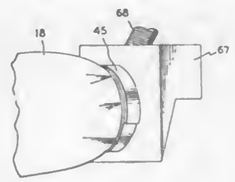
A packaging material for use with automatically operated bundle packaging machines comprises a unilateral corrugated paper wound into a roll having a single exterior face and an interior corrugation with a height below 2½ mm.

3,407,988
WIRE HANDLE FOR SEALED CARTONS
Joseph S. Wapner, 69 Scarlet N. Oak Road, Levittown, Pa. 19056
Filed Mar. 8, 1967, Ser. No. 621,481
5 Claims. (Cl. 229—52)



A wire handle directly attachable to a carton and having a pair of forks disposed at right angles to arms depending from the ends of a handle section, the forks each having a free tine whose pointed end is spaced from the junction of the other tine and the associated arm by a distance slightly greater than the thickness of the carton wall, whereby when the carton wall is pierced and engaged by the forks, no damage is done to the carton contents.

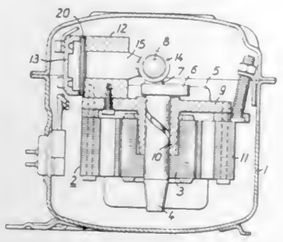
3,407,989
BAG CLOSURE
Peter Paul Spolsino, Revere, Mass., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
Original application Dec. 23, 1964, Ser. No. 420,720, now Patent No. 3,323,272, dated June 6, 1967. Divided and this application Feb. 15, 1967, Ser. No. 630,165
3 Claims. (Cl. 229—62)



A double closure of thermoplastic bags wherein a tape sleeve encircles the outer extremity of the bag's gathered neck, the outer edge of the tape and the outer edge of the

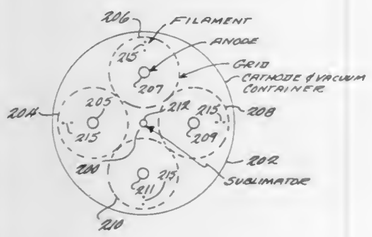
thermoplastic bag being substantially flush and the outer edge of the bag that is substantially flush with the outer edge of the tape being fused.

3,407,990
HERMETICALLY SEALED REFRIGERATION COMPRESSOR
Heinz Schaefer, Kassel, Germany, assignor to Licentia Patent - Verwaltungs - G.m.b.H., Frankfurt am Main, Germany
Filed Apr. 11, 1967, Ser. No. 629,943
Claims priority, application Germany, Apr. 16, 1966, L 53,359
6 Claims. (Cl. 230—58)



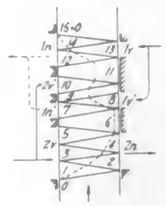
A hermetically sealed refrigeration compressor including an electrical motor which has two stator windings located on opposite sides of the stator, and arranged in such way, that the winding ends projecting beyond one axial end of the stator extend only partially over the circumference of the stator, forming gaps between themselves. A substantially flat bearing bracket, a compressor unit, and drive means for the compressor unit are all attached to the motor in the space between the axially extending ends of the stator windings.

3,407,991
APPARATUS FOR ION PUMPING AND PRESSURE MEASUREMENT
Daniel G. Bills and Keith A. Warren, Boulder, Colo., assignors to Granville-Phillips Company, Boulder, Colo., a corporation of Washington
Filed July 5, 1966, Ser. No. 562,823
21 Claims. (Cl. 230—69)



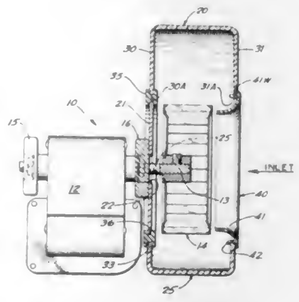
An electrostatic getter-ion pump comprises an outer cylindrical electrode enclosing a plurality of cells. Each cell has an open structured cylindrical electrode enclosing an elongate conductor. An injector within each cell emits electrons which ionize the gas. Each injector is disposed at an optimum location within its cell. Means are provided for symmetrically distributing gettering material on the inner wall of the outer cylindrical electrode, the ionized gas being electrostatically attracted to the wall and buried in the gettering material. Two electron injector embodiments are also disclosed which minimize the effect of the electrode presence on the pump performance.

3,407,992
AERODYNAMIC PRESSURE WAVE MACHINE
Ernst Jenny, Baden, Switzerland, assignor to Brown, Boveri & Company, Limited, Baden, Switzerland, a corporation of Switzerland
Filed Jan. 18, 1967, Ser. No. 610,117
Claims priority, application Switzerland, Jan. 28, 1966, 1,221/66
7 Claims. (Cl. 230—69)



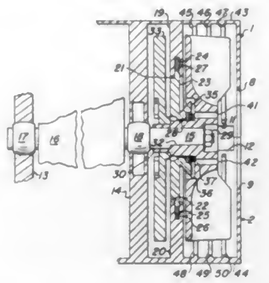
An aerodynamic pressure wave machine in which the pressure of cold gases at an outlet port (after compression) is equal to or greater than the pressure of the hot gas at an inlet port (before expansion) even though the pressure of the cold gas at an inlet port (prior to compression) is considerably lower than the pressure of low pressure of hot gas discharged from the machine (after expansion). The results are partially achieved by having one of the high pressure gas streams (either hot or cold) subdivided so that a portion of the high pressure gas is utilized to aid scavenging in the low pressure zone or portion of the cycle. Thus, there is an additional inlet port for a portion of either hot or cold high pressure gas of the machine.

3,407,993
BLOWER
Harry H. Bostrom, Chicago, Ill., assignor to Molon Motor & Coil Corp., Rolling Meadows, Ill., a corporation of Illinois
Filed Oct. 14, 1966, Ser. No. 586,779
3 Claims. (Cl. 230—117)



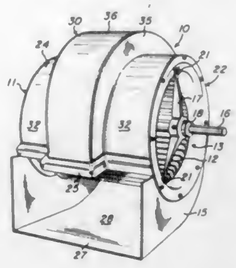
A blower comprising a motor driven impeller has an impeller housing of such form and construction as to present two substantially identical inlet openings of which either can be the effective inlet opening while the other is used to frictionally mount the impeller housing on a gasket supported by the motor housing. This enables the impeller housing to be turned to any position to vary the outlet and also enables the impeller housing to be reversed so that different hands of rotation of the impeller housing may be used.

3,407,994
SHAFT SEAL
Jack D. McKinney, North Canton, Ohio, assignor to The Hoover Company, North Canton, Ohio, a corporation of Delaware
Filed Nov. 15, 1966, Ser. No. 594,442
4 Claims. (Cl. 230—117)



A seal around a shaft projecting through a wall of a fan chamber is defined by a recess formed in the back of a fan mounted on the shaft and a diverging protrusion on the fan chamber wall received in the recess. A porous gasket is positioned in the recess between the protrusion and the bottom of the recess. The eye of the fan may have a plurality of small holes through it to create a negative pressure at the rear of the fan.

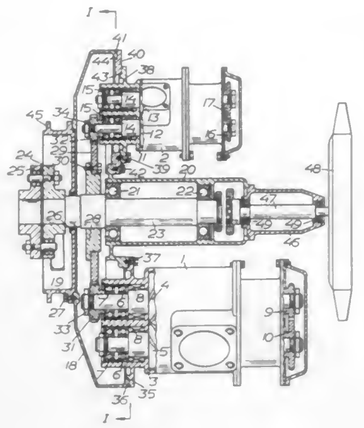
3,407,995
BLOWER ASSEMBLY
Donald D. Kinsworthy, Dayton, Ohio, assignor to The Lau Blower Company, Dayton, Ohio, a corporation of Ohio
Filed Oct. 12, 1966, Ser. No. 586,288
8 Claims. (Cl. 230—128)



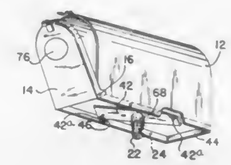
A housing for a centrifugal blower wheel having a raised portion in the back wall of the housing for producing a constant total pressure at each point in the housing. An oval venturi inlet ring is used to provide constant velocity of inlet air at each point in the oval inlet, and an angular adjustment of the inlet ring is provided for accommodating changes in loading of the blower.

3,407,996
SCREW COMPRESSOR UNITS
Hans Kristofer Olofsson, Segeltorp, and Hans Gustav Pettersson and Sven Ivar Trulsson, Nacka, Sweden, assignors to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden
Filed June 22, 1966, Ser. No. 564,467
14 Claims. (Cl. 230—139)

A rotary screw compressor in which a gaseous fluid is compressed in working spaces or chambers formed between intermeshing helically grooved rotors and the enclosing casing. The compressor comprises at least two compressor units each of which are connected as complete components to a transmission mechanism independently of each other.



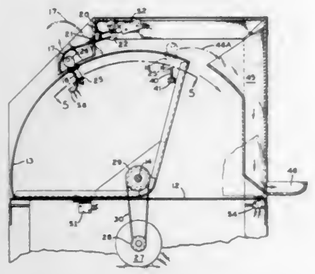
3,407,997
ROTATABLE MAIL BOX
Clyde M. Wood and Doris R. Wood, both of 1100 SOM Center Road, Mayfield Heights, Ohio 44124
Filed Nov. 22, 1966, Ser. No. 596,332
7 Claims. (Cl. 232—39)



A balanced, readily rotatable, mailbox mounting comprising a rotatable member adapted for attachment to the mailbox and a stationary member adapted for mounting on a support, with the stationary member having spaced spring loaded detents projecting upwardly therefrom on diametrically opposite sides of the vertical axis thereof and with the detents coacting with complementarily positioned openings in the underside of the rotatable member, for releasably holding the rotatable member in predetermined positions with respect to the stationary member, thus facing the mailbox either toward the roadway or facing the mailbox 180 degrees in the opposite direction. Concentric recesses are formed in the rotatable member about the aforesaid openings, for causing automatic indexing of the rotatable member with respect to the stationary member through a range of approximately 90 degrees at each end of the box, so that a force does not have to be continuously applied to the mailbox in order to accomplish the full 180-degree rotary movement of the box. A headed pivot pin extends axially between the rotatable and stationary members with the pin having a tapered surface at its lower end, with a transversely extending stud on the stationary member coacting with the tapered surface to hold the rotatable and stationary members together against the resistance to compression of the spring loaded detents. The rotatable member has an elongated generally horizontal bracket secured thereto with

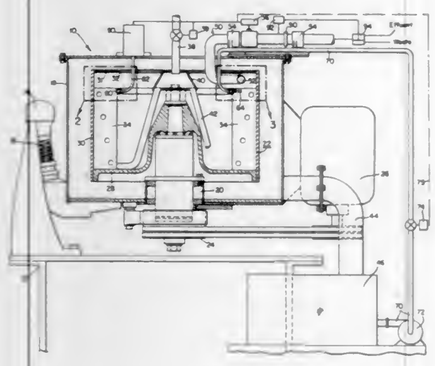
the bracket having downturned corner portions for convenient fastening of the mailbox to the bracket. A brightly-colored decal may be secured to the closure door of the box for indicating to the resident that the box has been rotated from a roadway facing position 180 degrees to a rearwardly facing position. In one embodiment the mailbox has a door at both ends thereof for providing access to the box from either end.

3,407,998
SERVICE COMPARTMENT
Luther G. Simjian, Laurel Lane, Greenwich, Conn. 06830
Filed Jan. 16, 1967, Ser. No. 609,418
19 Claims. (Cl. 232—43.4)



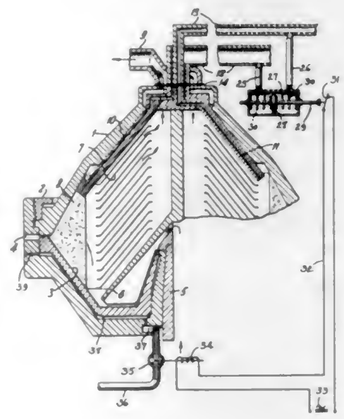
A service compartment accessible by door means alternatively from one of two sides for respectively receiving an article or rendering the received article available for removal from the compartment. The compartment is provided with lock means, operable by key means. The key means becomes inaccessible for unauthorized use responsive to the operation of the lock means for gaining access to the article disposed in the compartment and the subsequent motion of the door means.

3,407,999
SLUDGE DISCHARGE MEANS FOR A CENTRIFUGE
William J. Kirkpatrick, Springfield, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Nov. 10, 1966, Ser. No. 593,338
8 Claims. (Cl. 233—19)



Solids separated from clarified liquid and accumulated on the peripheral wall of a solid bowl centrifuge are removed by a skimmer actuated in response to sensing action of a solids level detector. The latter includes structure defining an inwardly facing annular pocket rotatably mounted with the bowl and provided with a passageway leading outwardly from the pocket to a position outward of an effluent overflow lip, and further provided with means for supplying control liquid to the pocket and means for sensing an accumulation of control liquid in the pocket when solids build up to a level which obstructs the opening at the outer end of the passageway.

3,408,000
DETERMINATION OF SLUDGE LEVEL IN SLUDGE CENTRIFUGE
Carl-Göran Nilson, Tullinge, Sweden, assignor to Alfa-Laval AB, Tumba, Sweden, a corporation of Sweden
Filed Aug. 16, 1966, Ser. No. 572,763
Claims priority, application Sweden, Aug. 23, 1965, 10,971/65
12 Claims. (Cl. 233—19)

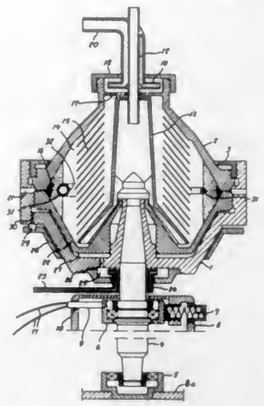


Liquid is caused to flow through two separate channels the first of which opens into the sludge space of the centrifugal rotor at a first level, the second channel opening into the separating space of the rotor at a second level which is nearest the rotor axis than is said first level. These two liquid flows remain the same relative to each other until the flow through the first channel becomes clogged by accumulation of sludge to said first level, and such accumulation is detected by comparing the two flows to determine when the flow in the first channel changes relative to that in the second channel.

3,408,001
SLUDGE CENTRIFUGE
Vilgot Raymond Nilsson, Hagersten, Sweden, assignor to Alfa-Laval AB, Tumba, Sweden, a corporation of Sweden
Filed Oct. 10, 1966, Ser. No. 585,486
Claims priority, application Sweden, Oct. 18, 1965, 13,464/65
6 Claims. (Cl. 233—20)

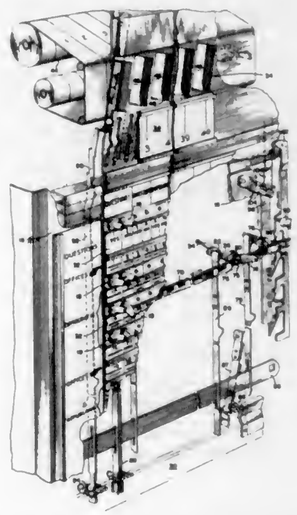
Within the sludge-collecting space at the peripheral part of the centrifugal rotor is a sludge-displacing body so arranged that the center of gravity of its sludge-displacing volume is offset from the rotation axis of the rotor. Thus, as this body becomes immersed in separated sludge accumulating in the space, the center of gravity

of the rotor and its content is displaced relative to the rotation axis and thereby indicates a change in the balance



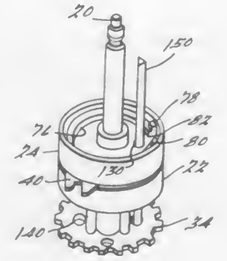
condition of the rotor, this change in turn indicating the extent of sludge accumulation in said space.

3,408,002
VOTING MACHINE
Afton Virgil Martin, Jamestown, N.Y., assignor to AVM Corporation, Jamestown, N.Y.
Filed Mar. 6, 1967, Ser. No. 621,059
7 Claims. (Cl. 235—54)



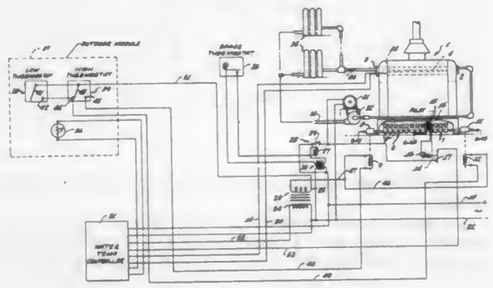
A voting machine including improved means reacting automatically to the voter's first candidate selection to henceforth limit his voting operation to that candidate's party only; thereby simplifying the voting process while insuring that proper voting procedures are maintained in accordance with the applicable election codes. The mechanism includes means whereby the voter may revise his party and/or candidate selection, in case of an erroneous first selection or change of mind. Also, the mechanism includes provisions whereby the above operational features are attainable when the ballot presentation displays a group of party candidates in a plurality of adjacent rows, and/or when the ballot presentation displays party candidates on alternately disposed rows.

3,408,003
ODOMETER
Rex R. Holbrook, Ann Arbor, Mich., assignor, by mesne assignments, to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Continuation of application Ser. No. 358,494, Apr. 9, 1964. This application Apr. 26, 1967, Ser. No. 638,181
26 Claims. (Cl. 235—96)



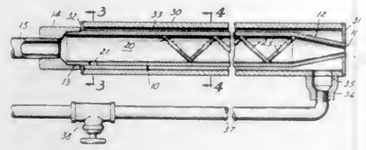
There is herein disclosed an odometer in which alignment holes are provided in the drive pinions and rotatable indicating elements to enable the odometer to be assembled in an initial zero indicating condition and to insure proper alignment of the drive pinions relative to the indicating elements.

3,408,004
AUTOMATICALLY CONTROLLED HEATING SYSTEM
Avy L. Miller, North Hollywood, Calif., assignor to Teledyne, Inc., Los Angeles, Calif., a corporation of Delaware
Filed Feb. 20, 1967, Ser. No. 617,363
5 Claims. (Cl. 236—9)



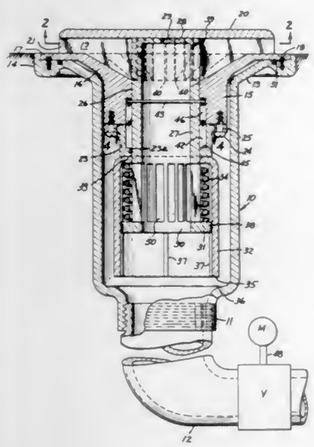
A space-heating system using forced circulation of hot water in which the supply water is brought up to temperature by burners operated in sections, the number of burners operating at a given time being controlled by the level of the outdoor temperature. The temperature level at which the hot water is supplied may also be varied inversely with the level of the outdoor temperature.

3,408,005
SNOW MAKING NOZZLE
Willard R. Struble, Box 15, Jacobson, Minn. 55752, and James A. Paulley, Rte. 1, Box 133, Cohasset, Minn. 55721
Filed May 9, 1966, Ser. No. 548,622
4 Claims. (Cl. 239—14)



An inner chamber having a nozzle at one end and an inlet for air at the other end with an inlet for water oriented approximately perpendicular to the air inlet and a jacket surrounding the nozzle and part of the mixing chamber to prevent freezing thereof having a water inlet adjacent the nozzle and in communication with the water inlet of the inner chamber.

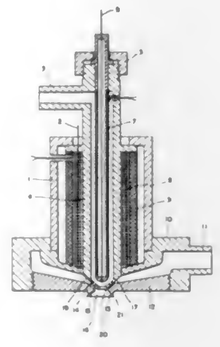
3,408,006
LIQUID JET PRODUCING DEVICE
David A. Stanwood, El Monte, Calif., assignor to Swimquip, Inc., El Monte, Calif., a corporation of California
Filed Oct. 22, 1965, Ser. No. 500,583
11 Claims. (Cl. 239—66)



This invention relates to mechanisms for producing jets of liquid.

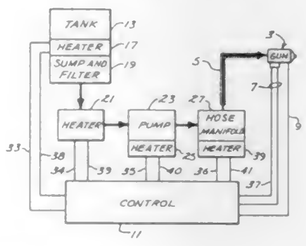
A liquid jet-producing device according to the present invention comprises a housing having a reciprocable plunger therein. The housing and the plunger have related camming means disposed and arranged so that intermittent pressurization of liquid supplied to the housing causes the plunger to reciprocate intermittently therein, and causes the plunger to rotate in the housing. A plurality of outlet ports are provided through the housing and an outlet orifice is provided through the plunger. As the plunger intermittently reciprocates in correspondence with the intermittent pressurization of liquid, the plunger rotates to register its outlet orifice with successive outlet ports to produce successive jets of liquid in different successive directions from the housing.

3,408,007
APPARATUS FOR ATOMIZING HIGHLY VISCOUS MATERIALS
Ludwig Raichle, Limburgerhof Pfalz, Karl Mahler, Hans-Juergen Mueller, Klaus Koch, and Wolfgang Immel, Ludwigshafen (Rhine), Friedrich Urban, Limburgerhof, Pfalz, and Johann Hotz, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
Filed Dec. 27, 1965, Ser. No. 516,401
Claims priority, application Germany, Dec. 29, 1964, B 79,925
4 Claims. (Cl. 239—132)



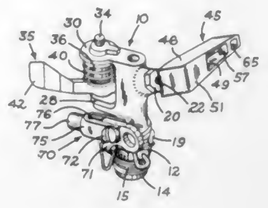
Spray nozzle for atomizing highly viscous substances with tubular, substance-conveying nozzle having thermocouple-controlled, internal and external heating elements and conical discharge end with apertures, annular, atomizing-gas passage about discharge end of substance nozzle with narrow, frusto-conical gap across frusto-conical tip formed by apertured, bottom wall of gas passage having thread mounting for varying width of gap.

3,408,008
APPARATUS FOR APPLYING HOT MELT ADHESIVES
Eric H. Cocks, Little Falls, N.J.
(21 Crane Ave., West Caldwell, N.J. 07006)
Filed Dec. 2, 1966, Ser. No. 598,707
2 Claims. (Cl. 239—135)



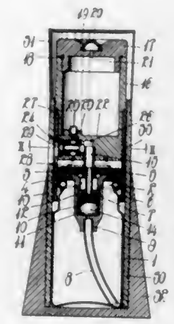
An apparatus for applying hot-melt adhesives comprises a heated tank and filter which supplies fluid adhesive to a pump for distribution through heated lines to a heated dispensing gun. The gun is an airless solenoid-operated device having an auxiliary pressure baffle in the adhesive flow path ahead of the conventional nozzle. Temperature sensors and heater controls provide the proper system temperatures.

3,408,009
ROTARY SPRINKLER
Anton R. J. Friedmann and Ralph H. Eby, Troy, Ohio, assignors to Ashley F. Ward, Inc., doing business as The Skinner Irrigation Company, Troy, Ohio, a corporation of Ohio
Filed Apr. 25, 1966, Ser. No. 544,793
3 Claims. (Cl. 239—230)



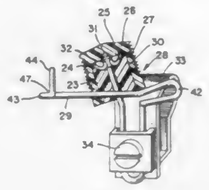
A rotary impulse sprinkler has an impact arm with a stream intercepting deflector including upper and lower flat walls connected by an end wall having a curved surface for directing the nozzle stream laterally. The upper and lower walls of the deflector are also connected by a second end wall having an inner surface extending normally across the path of the diverted stream and which cooperates with the upper and lower walls and a flat rear wall to break up the stream and convert it into a fan-shaped spray which is directed outwardly to provide uniform water coverage over the inner portion of the area being sprinkled.

3,408,010
LIQUID ATOMIZER WITH SUPPLY HOLDER FOR CARRIER FLUID
Yukiya Fukui, Ichikawa-shi, Japan, assignor to Kabushiki Kaisha Mitani Valve (Mitani Valve Co., Ltd.)
Filed Sept. 2, 1966, Ser. No. 577,049
Claims priority, application Japan, Sept. 3, 1965, 40/54,004
4 Claims. (Cl. 239—308)



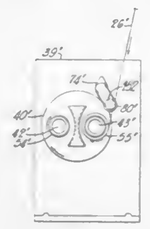
A liquid atomizer containing an upper, liquid chamber, a lower, pressurized-gas chamber, and coaxial nozzles in communication with both chambers. Manual pressure on a semi-spherical, elastic cap in the top of the liquid chamber increases the pressure above the liquid in the liquid chamber. This forces liquid to collect in its nozzle. Further pressure meters pressurize gas from the gas chamber. Release of the manual pressure places the metered gas in communication with the gas nozzle and this metered gas flows outwards and jets the liquid fed previously to its nozzle.

3,408,011
THREAD RESERVE FORMING DEVICES FOR THREAD WINDING MECHANISMS
Wilhelm Lenk and Karl-Heinz Rehn, Remscheid-Lennep, Germany, assignors to Barmer Maschinenfabrik Aktiengesellschaft, Wuppertal-Oberbarmen, Germany
Filed Jan. 24, 1966, Ser. No. 522,573
Claims priority, application Germany, Jan. 29, 1965, B 80,316
7 Claims. (Cl. 242—18)



Devices for forming thread reserve windings on winding tubes embodying screw threaded roller with axis of rotation extending obliquely toward winding tube; roller may have axially spaced thread sections of different diameters with threads of different screw pitch.

3,408,012
METHOD AND APPARATUS FOR FORMING AND COLLECTING FILAMENTS
Roy E. Smith, Toledo, and Jerome P. Klink, Newark, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Dec. 22, 1966, Ser. No. 603,857
6 Claims. (Cl. 242—18)

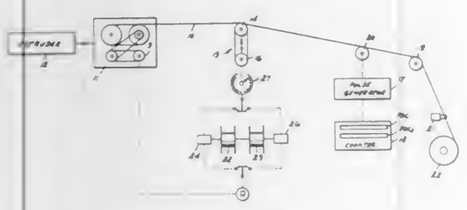


1. The method of continuously collecting a linear body of filamentary material in a wound package including rotating a collector mounted on a rotating collet, winding a linear body of the filamentary material on the collector to form a package, engaging the linear body with a rotatable oscillator, rotating and reciprocating the oscillator to effect traverse of the linear body lengthwise of the collector with the individual convolutions of the linear body in crossing relation on the package, interrupting reciprocation of the oscillator at a body transferring position, removing the completed package from the winding position and moving an empty collector into winding position, rotating the empty collector, transferring the linear body onto the rotating empty collector while maintaining the linear body in engagement with the oscillator to control the path of transfer of the linear body onto the empty collector during the transfer of the linear body and without interrupting linear travel of the linear body, and resuming reciprocation of the oscillator after transfer to form a package of the linear body on the empty collector.

5. Apparatus of the character disclosed, in combination, a frame, an indexible head journaled on the frame, a plurality of winding collets mounted by said head, driving means individual to each collet for rotating the same, each of said collets being arranged to receive and support

a collector upon which a strand of filaments is wound to form a package, said head being indexible to successively move a collet and collector to a winding station, motive means for indexing the head, means for distributing the strand on the collector at the winding station including a carrier reciprocable lengthwise of the collector at the winding station, means for reciprocating said carrier lengthwise of the collector during winding a strand thereon to form a package, strand control means including a strand oscillator mounted by the carrier, motive means for rotating the oscillator whereby individual wraps of strand are arranged in crossing relation as the strand is wound in a package, means for reciprocating said carrier to a position at the completion of a package whereby the oscillator directs the strand onto the end of the package in strand transferring position to control the path of the strand during transfer of the strand from a completed package onto an empty collector upon indexing movement of the indexible head.

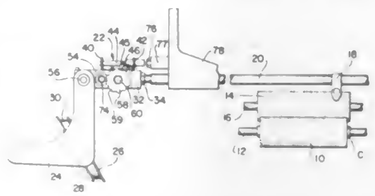
3,408,013
WIRE TAKE-UP APPARATUS
Leon P. Hauck, Tonawanda, and Horst L. Woellner, Colden, N.Y., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 29, 1967, Ser. No. 626,896
15 Claims. (Cl. 242—25)



In an apparatus for continuously taking up wire, a wire is automatically transferred from a full take-up reel to an adjacent empty take-up reel during as snagging operation. Normally, a wire distributor is moved back and forth a full stroke in a path between spaced planes extending normal to the reel axis adjacent the reel flanges to uniformly distribute the wire in layers on the reel on which the wire is being wound. The distributor stroke is shortened just before the reel is full whereby the wire is confined by the distributor to a single fixed shorter path near the inside reel flange to facilitate the transfer of the wire to the adjacent empty reel.

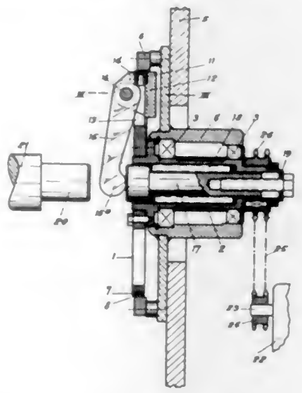
3,408,014
YARN TRAVERSING MECHANISM FOR TEXTILE MACHINE
Daniel J. Fisher, Jr., North Kingstown, R.I., assignor to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed Mar. 28, 1966, Ser. No. 537,927
2 Claims. (Cl. 242—43)

This application discloses a scattering device for use in a yarn package winding machine. A ratchet-driven eccentric is interposed in the traversing mechanism for the yarn guide of the winding machine. A pawl is slideably mounted adjacent to the ratchet to traverse with it in a reciprocating fashion. Stationary means are mounted in such relationship to the pawl as to intercept the pawl and thereby prevent it from moving through a portion of each cycle of the reciprocation which the traversing mechanism is undergoing. This interception causes the pawl to index the ratchet and thereby rotate the eccentric to change the position of the yarn guide relative to the driving mechanism imparting the reciprocating motion. This in turn scatters the location of the ends of each



layer of yarn deposited upon the package. A spring returns the pawl to its original location on its slideable mounting after each interception.

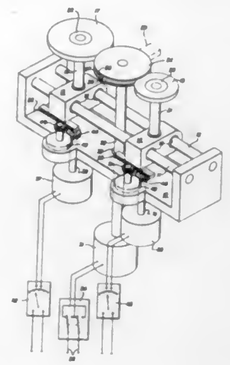
3,408,015
WIRE-FEEDING DEVICE, IN PARTICULAR FOR A BINDING MACHINE
René Eugène Grenon, Courtry, France, assignor to Botalam, Paris, France, a corporation of France
Filed June 23, 1966, Ser. No. 559,915
Claims priority, application France, June 30, 1965, 22,919
5 Claims. (Cl. 242—47.01)



A wire-feeding wheel positioned within and rotable relative to a stationary ring, the wheel having an annular groove in its periphery for accommodating a wire. Inlet and outlet passages formed in the stationary ring permit a wire to be fed into and away from the annular groove Drive means rotate the wheel, which has clamp means thereon for gripping the wire for moving same from one passage toward the other passage, the clamp means being operated independently of the drive means.

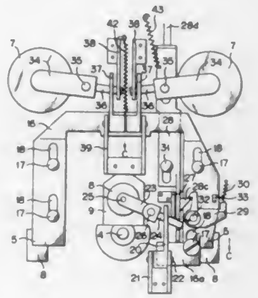
3,408,016
TAPE TRANSPORT APPARATUS
Kingston E. Ganske, Columbus, Ind., and Johann E. Frank, Yellow Springs, Ohio, assignors to Newell Associates, Inc., Sunnyvale, Calif., a corporation of California
Filed Feb. 21, 1967, Ser. No. 617,639
6 Claims. (Cl. 242—55.12)

A tape transport apparatus including a resilient rotary drive capstan interposed between the supply and take-up rolls of tape to transport the tape therebetween, and torque motor means urging the rolls of tape into edge driving relationship with the capstan to apply a first compressive force between the supply roll and the capstan and a second greater compressive force between the take-



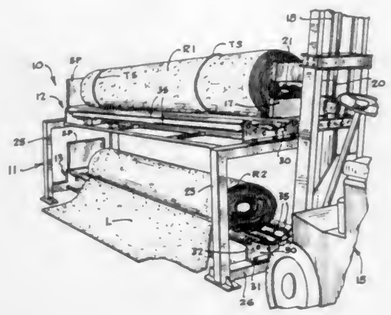
up roll and capstan whereby the tape is transported under appropriate tension.

3,408,017
SOUND RECORDING-REPRODUCING DEVICE OF TAPE-MAGAZINE TYPE
Isamu Hashimoto, Kawagoe-shi, Japan, assignor to Pioneer Kabushiki Kaisha, Tokyo-to, Japan
Filed July 5, 1966, Ser. No. 562,564
Claims priority, application Japan, July 7, 1965, 40/40,297
7 Claims. (Cl. 242—55.13)



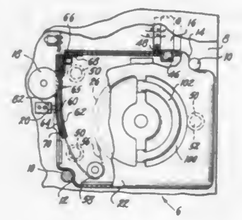
A magazine type magnetic sound recording and reproducing device. An upper base plate has a capstan roller and a pinch roller opposed to each other above said base, and roller raising and lowering means are provided on which one of said rollers is mounted. The upper base plate has an aperture therein through which said one of said rollers is moved by said raising and lowering means. The base plate has at least one further aperture therein and a contact lug projects through said further aperture. A shiftable member is positioned beneath said base plate to which said lug is attached. Still further apertures are provided in said base plate, and reel driving and braking shafts are movable up and down through said still further apertures on reel shaft raising and lowering means. Said shiftable member is coupled to said roller raising and lowering means and said reel shaft raising and lowering means for raising said roller and said reel shafts when said lug is moved in one direction and lowering said roller and reel shafts when said lug is returned to its initial position. A tape magazine having reels therein on which tape is wound and having an opening across which the tape is caused to run can be moved slidably across the said base plate of the device and the lug is engaged to raise the roller into the opening and to urge the tape against the other roller and the reel shafts are raised into engagement with the reels to drive the tape, and when the magazine is slidably removed, the roller is lowered away from the tape and the reels shafts are lowered.

3,408,018
RACKS
Leon H. Best, Galva, Ill., assignor to John H. Best and Sons, Inc., Galva, Ill., a corporation of Illinois
Filed Mar. 7, 1967, Ser. No. 621,326
6 Claims. (Cl. 242—66)



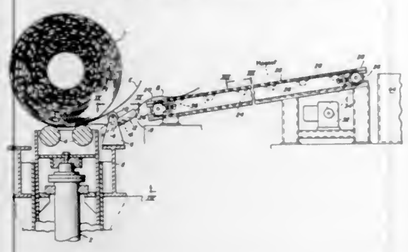
To facilitate the unwinding and rewinding of large rolls of carpeting or the like, a cradle of rollers of corresponding length is provided in a crescent-shaped array to support the roll. Effective rotation of the roll is achieved by driving the intermediate rollers, while idling at least one of the end rollers. Two tiers of rollers may be used so that one roll of carpeting may be worked upon, while another roll is reposing in ready position or in a rewound position to be removed.

3,408,019
FILM CARTRIDGE
Leon W. Wells, Closter, N.J., assignor to Panopix Research Inc., New York, N.Y., a corporation of New York
Filed Mar. 24, 1966, Ser. No. 537,229
3 Claims. (Cl. 242—71.1)



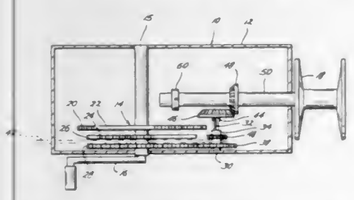
A film cartridge for a projector where the film is stored on a single reel in the cartridge and has the end portion of the film threaded from the reel over an internally mounted guide roller and then into and through a pivotally mounted gate forming a film guiding channel with openings in the gate through which a drive roller on the projector will engage and advance the film.

3,408,020
APPARATUS FOR DISPOSAL OF COIL-SECURING BANDS
Jay R. Scott, Crown Point, Ind., assignor to United States Steel Corporation, a corporation of Delaware
Filed May 4, 1967, Ser. No. 636,121
2 Claims. (Cl. 242—78.7)



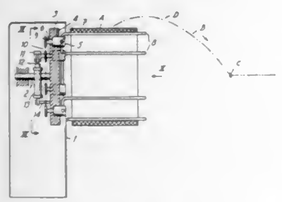
A pair of spaced, parallel upright supports having rollers mounted at the top thereof and a guide mounted below and between the rollers. Guide functions to conduct a severed securing band from a coil in an uncoiler to an endless conveyor while the rollers support the outer wrap of the coil. The upper flight of the conveyor is magnetized to hold the band to the conveyor to carry it to a receptacle adjacent the discharge end of the conveyor.

3,408,021
FISHING REEL
Earl W. Nichols, 7804 Mullen Drive, Austin, Tex. 78757
Filed Oct. 21, 1965, Ser. No. 499,943
12 Claims. (Cl. 242—84.54)



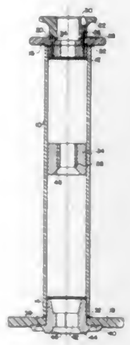
A fishing reel having a gear box driving a line collecting spool and driven by a winding handle. The gear box is provided with a plurality of gears for alternating take-up of the line fast and slow by continuous rotation of the handle.

3,408,022
SKEIN-HOLDER FOR UNWINDING SKEINS OF THREAD
Paul Gilbos, Herdersem, Belgium, assignor to Constructiewerkhuizen Gilbos P.V.B.A., Aalst, Belgium
Filed Apr. 6, 1966, Ser. No. 545,201
Claims priority, application Belgium, Apr. 7, 1965, 662,160
6 Claims. (Cl. 242—110.1)



An expandable skein-holder having a plurality of arms eccentrically attached to rotatable bearing cylinders and movable inwardly and outwardly by the cylinders with a chain being connected to each cylinder to provide concurrent movement of each of the cylinders and arms in equal amounts upon actuation of a pneumatic cylinder connected to one of said bearing cylinders for rotating same.

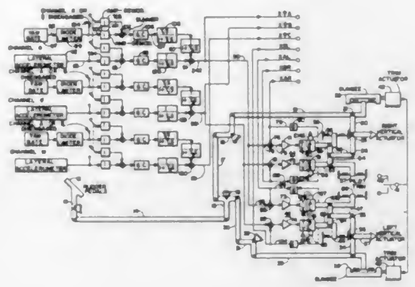
3,408,023
COMPACT, LIGHT AND DURABLE BOBBIN
James H. Alexander and Beryl A. Boggs, Chester, Va., assignors to Allied Chemical Corporation, New York N.Y., a corporation of New York
Filed Apr. 4, 1966, Ser. No. 539,713
11 Claims. (Cl. 242—118.31)



1. A compact, light and durable bobbin comprising a thin walled cylindrical barrel, a circular head having a central aperture with a diameter at least equal to the inside diameter of the barrel and being held against at least one end of said barrel, an annularly flanged element held against the outside of said head and having a rigid sleeve portion extending through the central aperture of the corresponding head with said sleeve portion firmly and directly fixed, by interfitting means, to the inside of said end of the barrel, said annular flange having an outer diameter substantially greater than said barrel to reinforce said head against rupture by high stresses of the ends of a full square package of stretched yarn against said head, said outer diameter of said annular flange having an outwardly extending rim forming an overlap over the top of a waste collar at the base of a spindle when the bobbin is mounted thereon.

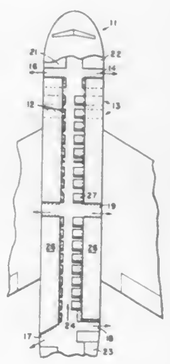
3,408,024
CONTROL APPARATUS
Marlowe W. Iverson, Minneapolis, Minn., assignor to Honeywell, Inc., a corporation of Delaware
Original application Feb. 2, 1962, Ser. No. 170,695, now Patent No. 3,351,315, dated Nov. 7, 1967. Divided and this application June 6, 1966, Ser. No. 557,597
10 Claims. (Cl. 244—77)

A stabilization system for an aircraft utilizes two completely separate active channels; each channel includes two servomotors. One servomotor of each channel is connected in a series (often termed differential) arrangement with a servomotor of the other channel, the output of the series arrangement operates a control surface of an aircraft. Thus, for example, two servomotors are connected, for each of the two rudders or other control surfaces of the craft, in a differential or whiffle-tree arrangement. A third or monitoring channel duplicates the sensors and the electronics employed in the first two channels, and the electronics in the three channels provide a majority voting system for rendering ineffective a malfunctioning channel. Thus, in the event of a failure in one active channel or the other active channel, a comparator or decision device of the monitoring arrangement disengages the faulty channel and concurrently raises the gain of the remaining active channel to compensate for the narrowed or reduced mechanical gain through the differential or whiffle-tree arrangement. The identity of a failed active



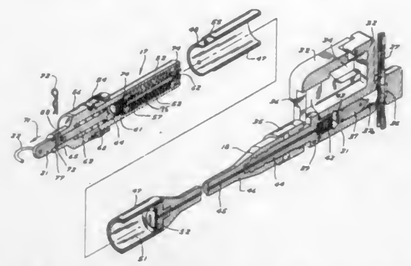
channel is obtained in the decision device. Therein the electronics of one active channel may be compared with that of the other active channel, and also separately compared with the electronics of the monitor channel. Thereafter, the resultant effects of the two separate comparisons are applied to a logic device for disengaging the one active channel upon malfunction thereof. When the malfunctioning channel is disengaged, the remaining active channel has the gain therein increased.

3,408,025
EMERGENCY EVACUATION SYSTEM
Burt L. Davis, 701 Channing Ave., Palo Alto, Calif. 94301
Filed Jan. 3, 1967, Ser. No. 606,859
8 Claims. (Cl. 244—118)



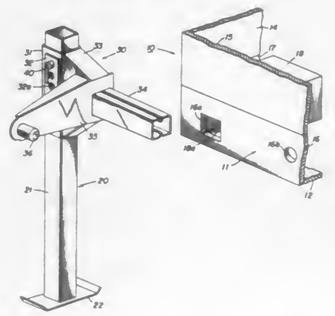
An emergency evacuation path marking system employing a strip of material having a tactile characteristic whereby the strip forms a tactile path presenting greater resistance to sliding movement of the fingertips in one direction than in the other. The strip, if followed in the low resistance direction, leads to an evacuation exit or station.

3,408,026
VARIABLE TIME DELAY REEFING LINE CUTTER
Marshall S. Kriesel, St. Paul, Minn., assignor to Aerospace Systems Company, Minneapolis, Minn., a corporation of California
Filed Oct. 24, 1967, Ser. No. 677,591
9 Claims. (Cl. 244—152)



A reefing line cutter for use with cargo carrying parachutes having actuation means which will delay the time of actuation of the reefing line cutter, and consequently delays the time when the reefing line is cut after actuation so that the reefing line will not be cut until the load is proximate the ground after being dropped by aircraft. The cutter has actuating means including a replaceable time delay element. The time delay element can be changed. The element used is fired automatically upon ejection of the cargo carrying parachute and will actuate the reefing line cutter after a preselected length of time. The replaceable element is mounted onto the end of a long, flexible leader made of a pyrotechnic line covered with elastomeric material which is of length to protrude outside the folded cargo parachute so that the time delay element can be changed in flight if conditions change.

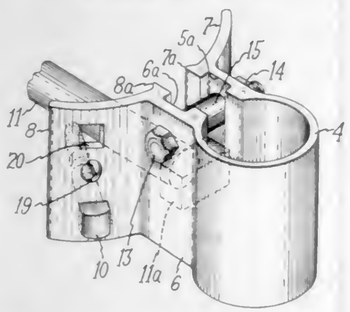
3,408,027
SHIPPING CONTAINER COMBINATION
Albert E. Price, Brookfield, Ohio, assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York
Filed Jan. 26, 1967, Ser. No. 611,953
6 Claims. (Cl. 248—151)



The combination comprising a shipping container including a substantially rectangular base of rigid structure, four identical rigid legs adapted to support the respective corners of the base, and four identical rigid adapter devices adapted detachably to connect the respective legs to the respective corners of the base; where in each adapter device comprises a rigid body having an upstanding leg opening formed therethrough that is adapted removably to receive in either end thereof the upper end of any one of the legs so that the adapter device may be mounted in either of two reversely related positions upon the upper end of the received leg and may then

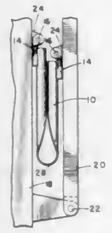
be adjusted vertically in its mounted position thereupon, a part carried by the body and cooperating with the received leg for restraining the adapter device in its vertically adjusted mounted position upon the upper end of the received leg, a rigid primary projection rigidly carried by the body and extending laterially outwardly therefrom, a rigid arm rigidly carried by the body and extending longitudinally outwardly therefrom, and a rigid secondary projection rigidly carried by the arm and extending laterally outwardly therefrom, wherein the primary projection and the secondary projection are disposed in substantially parallel longitudinally spaced-apart relation and separated by a fixed distance corresponding to the fixed distance between primary and secondary holes in a hole set, wherein four of such hole sets are formed in the two sides of the base respectively adjacent to the four corners thereof.

3,408,028
SUPPORT BRACKET
Mark H. Raymond, Hendersonville, N.C., assignor to General Electric Company, a corporation of New York
Filed July 19, 1967, Ser. No. 654,486
10 Claims. (Cl. 248—221)



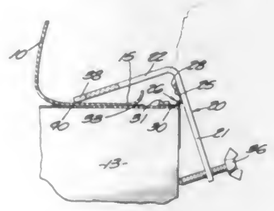
Bracket for attaching luminaire support arm to a pole comprises a C-shaped portion in which the arm is inserted, spaced arcuate plate portions integrally joined with the C-portion for attachment to the pole, bolt means spanning the spaced intermediate portions between the plate portions and the C-portion for tightening the C-portion about the arm, and bolt means anchored between the arcuate plate portions for securing the bracket to the pole.

3,408,029
SELF-LOCKING, SELF-ACTUATING, LIGHT-WEIGHT FOLDING STRUT
Wesley W. Vyvyan and Laurence H. Warden, San Diego, Calif., assignors to The Ryan Aeronautical Co., San Diego, Calif.
Filed Oct. 10, 1966, Ser. No. 585,597
6 Claims. (Cl. 248—351)



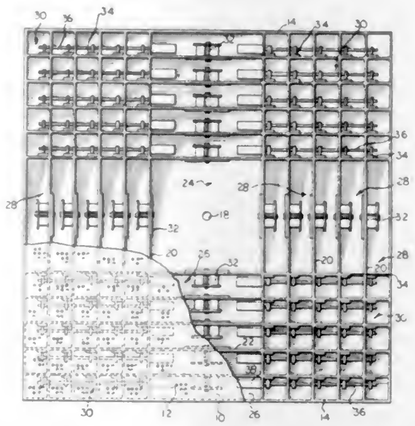
The strut is made from resilient sheet material preformed with a curved cross section of arcuate or tubular configuration, and has hinge means at the ends for attachment to structural members to be opened or separated from a closed position. To fold the strut the sheet material is merely flattened at the point of bend, the tubular form being unrolled and opened flat, allowing the strut to bend easily. When released the strut will straighten itself and snap back to the curved, rigidly locked configuration.

3,408,030
SUPPORT BRACKET
David Krechman, 329 S. McCarty Drive, Beverly Hills, Calif. 90212
Filed Jan. 3, 1966, Ser. No. 518,362
4 Claims. (Cl. 248—360)



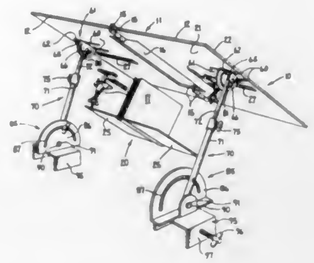
The invention is a support bracket or hook adapted for holding an object from a shelf or ledge. The intermediate part of the bracket or hook is pivotally attached, preferably by way of a hinge to the object to be supported. It has one part or leg that hooks over the shelf and the other part or leg adjustably engages the object so that by adjustment the object can be held securely to the shelf.

3,408,031
VACUUM HOLDING DEVICE
Douglas F. Muir, Jr., 1511 Crest Road, Silver Spring, Md. 20902
Filed Oct. 23, 1965, Ser. No. 503,354
7 Claims. (Cl. 248—363)



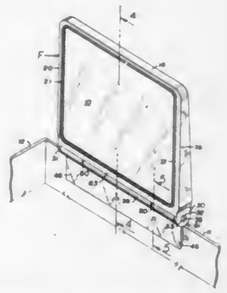
A vacuum holding device having a pervious holding surface and a chamber communicating therewith. The chamber is divided into a network of subchambers by intersecting walls of a source of vacuum connected to one of the subchambers. Valves disposed in the walls provide selective intercommunication between the respective subchambers.

3,408,032
BOOK SUPPORT DEVICE
Donald W. Francis, R.R. 7, Box 9A, Bloomington, Ind. 47401
Filed Feb. 13, 1967, Ser. No. 615,748
5 Claims. (Cl. 248—450)



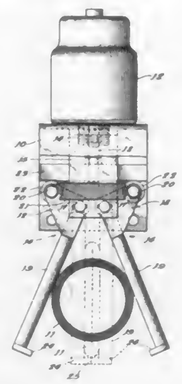
A device for supporting a book in a position to be read by a person in a chair or in bed. The device incorporates adjustable structure for adapting the device to any size bed or chair or the like or any sized book and for setting the book at a desired position and angle. The book is firmly held in place by its pages extending through a central opening in a support element and by the cover of the book being clamped on one side of the element and the pages clamped on the other side of the element.

3,408,033
MIRROR MOUNTING
Matthew A. Kochevar, Golden, and Forrest J. Fynewever, Denver, Colo., assignors to Samsonite Corporation, Denver, Colo., a corporation of Colorado
Filed Oct. 10, 1966, Ser. No. 585,697
9 Claims. (Cl. 248—474)



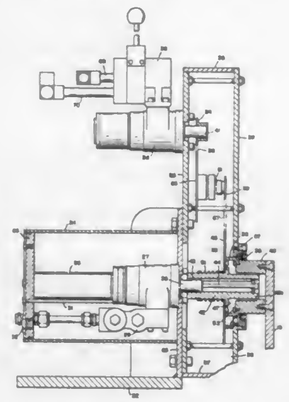
A mirror mounting for use in luggage cases and the like, with the mirror mounted in a frame pivoted on a hollow base formed by opposed, longitudinal parts having segments hollow on the inside, with the segments being of different diameter, to provide frictional resistance to movement of the frame in certain desired positions. A spring inside the hollow base has ends which extend through slots to the frame and the two halves of the base are provided with depending flanges which provide a bifurcation, so that the base may be placed on a rib of a tray in the top of the luggage case, so that, when the lid is closed, the mirror will be pushed down, and when the lid is opened, the mirror will pop up.

3,408,034
PINCH VALVE
Erwin M. Lau, Dolton, Ill., assignor to Black Products Co., Chicago, Ill., a corporation of Illinois
Filed July 16, 1963, Ser. No. 295,478
6 Claims. (Cl. 251—9)



1. Pinching mechanism for a pinch valve comprising a pair of oppositely disposed bell cranks each having an upper arm and a lower arm, floating pivot means for mounting said bell cranks for limited movement toward and away from each other, a roller carried by the upper arm of each bell crank, cross head means engaging said rollers to urge said lower arms toward each other, and foot members carried at the lower ends of said lower arms for engagement with each other to limit the extent of movement of said lower arms toward each other, said cross head means including inwardly and downwardly facing inclined oppositely disposed cam surfaces for engaging said rollers, said inwardly facing inclination being with respect to each other.

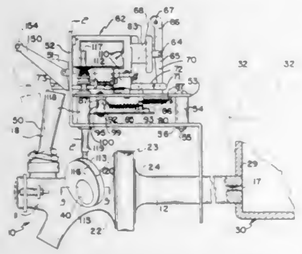
3,408,035
FLOW CONTROL SYSTEMS AND OPERATOR THEREFOR
Francis M. Lathrop II and Paul M. Decker, Houston, Tex., assignors, by mesne assignments, to M & J Valve Company, Houston, Tex., a corporation of Delaware
Continuation-in-part of application Ser. No. 479,262, Aug. 12, 1965. This application Nov. 10, 1965, Ser. No. 507,161
3 Claims. (Cl. 251—14)



A hydraulic system using a reversible hydraulic pump for actuating the hydraulic operator of a valve, where-

by the valve is opened or closed by driving the pump in one direction or the other. Selective means is provided for connecting the shaft of the pump to either manual (e.g., a hand crank), or power operating means.

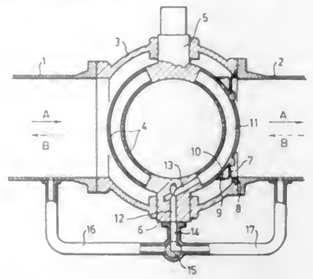
3,408,036
DRAFT BEER METERING APPARATUS
Leonard H. Smith, Vancouver, British Columbia, and William A. McMillan, Delta, British Columbia, Canada, assignors to Electromatic Beer Controls Ltd., Westminster, British Columbia, Canada
Filed June 6, 1966, Ser. No. 555,427
9 Claims. (Cl. 251—138)



1. Beer metering apparatus for controlling the dispensing of pressurized beer from a faucet, the latter having a beer passage, a dispensing valve in the passage reciprocately travelable between open and closed positions, and a handle connected to the valve for supporting the latter, said valve being urged by the action of the beer in the passage to travel to a fully closed position when located adjacent the valve closed end of its travel and to travel to a fully open position when positioned adjacent the valve open end of its travel, comprising electrically actuated operating means connected to the handle for movement therewith and being adapted when energized to move the valve from a closed to an open position, resilient centering means connected to the operating means normally urging the valve to a centered position adjacent the closed end of travel of the latter, said means being arranged so as to move the valve from its closed position against the action of the beer tending to maintain the valve in its fully open position to said centered position and being arranged so as to yieldably resist the valve closing action of the beer when the valve reaches said centered position, a circuit for connecting the operating means to a source of power, said circuit being in a normally open condition, a switch in said circuit for closing the latter, thereby energizing the operating means so as to move the valve to its open position, and control means in said circuit initiated by closure of the switch for maintaining the circuit in a closed condition for a predetermined period of time.

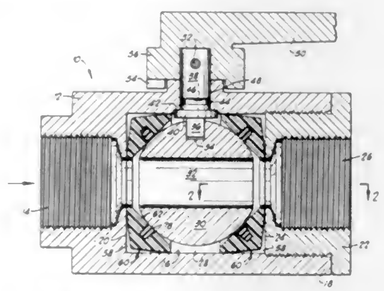
3,408,037
ROTARY VALVE WITH FLUID PRESSURE SEALING CLOSURE MEMBER
Friedrich Kaiser, Mannedorf, Helmut Pirchl, Wallisellen, and Albert Surber, Zurich, Switzerland, assignors to Escher Wyss Aktiengesellschaft, Zurich, Switzerland, a Swiss corporation
Filed Oct. 27, 1965, Ser. No. 505,384
Claims priority, application Switzerland, Nov. 13, 1964, 14,703; June 11, 1965, 8,164
9 Claims. (Cl. 251—175)

A rotary valve including a housing having aligned inlet and outlet openings having a rotary valve element therein provided with a through passage movable between first and second positions in which, respectively, the passage registers with said openings or is disconnected therefrom, and an elastically deformable annular closure plate mounted on the valve element and arranged with its outer periphery encircling one of said openings in the second position of the valve element. An annular chamber is provided between a portion of the valve element and



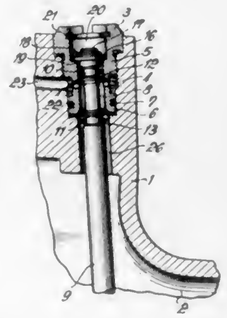
the side of the closure plate remote from the encircled opening, said chamber being selectively pressurized or relieved of pressure whereby the outer periphery of the plate seals against or is spaced from a seat formed around the opening encircled by the plate.

3,408,038
FLEXIBLE VALVE SEAT
Domer Scaramucci, Oklahoma City, Okla., assignor to Balon Corporation, Oklahoma City, Okla., a corporation of Oklahoma
Filed Aug. 25, 1966, Ser. No. 575,077
23 Claims. (Cl. 251—175)



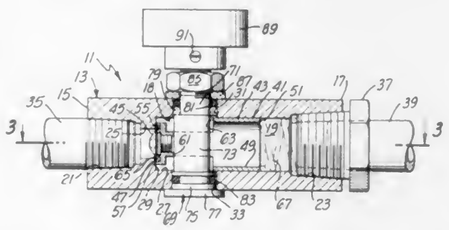
1. A valve, comprising:
a body having a valve chamber therein, an inlet communicating with the valve chamber and an outlet communicating with the valve chamber;
a valve member supported in the valve chamber for movement, when in a closed position, toward the outlet of the valve in response to a pressure differential across the valve member; and
an annular-shaped seat in the valve chamber surrounding the valve outlet, comprising:
an elastic material bearing ring having a tapered surface facing the valve member and positioned with only a portion thereof contacting the valve member when the valve member is centered in the valve chamber, said bearing ring also having a circumferential groove in said surface facing the valve member; and
an elastic material seal ring secured in and substantially filling said groove and having a lower modulus of elasticity than said bearing ring;
said bearing ring and cooperating walls of the valve chamber being shaped for distortion of the bearing ring and extrusion of a portion of said seal ring from said groove into sealing engagement with the valve member when the valve member is moved toward the outlet by fluid pressure.

3,408,039
MANUALLY ACTUATED VALVE ASSEMBLY
Dieter Volkmann, Neustadt am Rubenberge, Germany, assignor to Dieter Haubold, doing business as Dieter Haubold Industrielle Nagelgerate, Hannover-Westerfeld, Germany
Filed Feb. 4, 1966, Ser. No. 525,088
Claims priority, application Germany, Feb. 4, 1965, H 55,063
5 Claims. (Cl. 251—237)



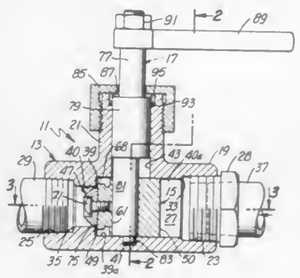
An air-operated fastener driving tool or the like is provided with an improved manually operable control valve assembly including a valve chamber mounted in the casing of the tool, a valve stem movably mounted in the valve chamber, and a trigger mounted on the casing and engageable with the lower end of the valve stem. The valve stem is normally urged by air pressure to its inoperative position and is shiftable by the trigger to its operative position. Movement of the valve stem to its inoperative position is limited solely by a support disc affixed to the upper end of the valve stem and engageable with a shoulder on the valve chamber. Thus, the normal inoperative position of the valve stem is fixed independently of manufacturing tolerances associated with the trigger or the casing or the mounting of the valve chamber in the casing.

3,408,040
VARIABLE CONTROL METERING AND CHECK VALVE
Wilbur P. Kraft, 431 Lomita St., El Segundo, Calif. 90245
Filed Dec. 13, 1965, Ser. No. 513,331
4 Claims. (Cl. 251—257)



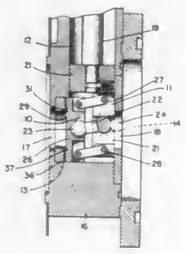
A valve comprising a hollow cylindrical valve element movable axially of a bore in a housing and having a closed end engageable with a valve seat at one end of the bore. When the valve element is unseated, fluid flows through the hollow valve element and portions of the bore between axially spaced ports in the housing in axial alignment with the bore and the valve seat. A transverse cam is journalled in the housing and extends through the housing and the valve element, the latter being provided with axially spaced edges selectively engageable by the cam to move the valve element toward or away from its seat. The cam moves over center slightly in both extreme positions of the valve element to mechanically lock the valve element in its extreme positions. Additionally, the edges of the valve element which are selectively engageable by the cam are spaced apart a distance greater than the diameter of the cam to provide a lost motion connection therebetween. A nut on the cam shaft locks the cam positively in any desired position.

3,408,041
SLIDING BLOCK VALVE
Wilbur P. Kraft, 431 Lomita St., El Segundo, Calif. 90245
Filed Dec. 13, 1965, Ser. No. 513,410
10 Claims. (Cl. 251—260)



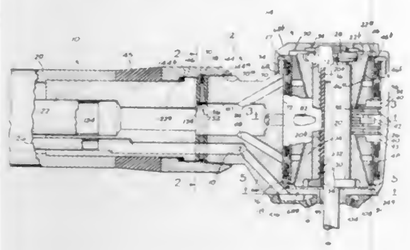
A valve comprising a cam-actuated valve element which is tilted relative to its seat as it is unseated to provide a fluid bypass which facilitates movement of the valve element away from its seat. The tilting of the valve element is achieved by recessing its periphery on one side thereof to provide a recessed peripheral surface spaced from the wall of a bore in which it is slidable.

3,408,042
VACUUM VALVE
William J. Vorkoeper, 13140 Pierce Road, Saratoga, Calif. 95070
Filed Sept. 14, 1965, Ser. No. 487,240
8 Claims. (Cl. 251—334)



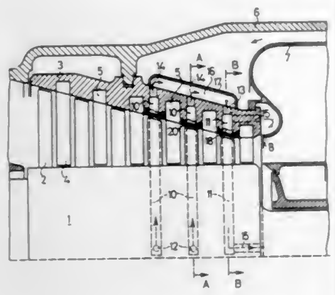
A high vacuum seal for connecting opposed bodies consisting of an annular channel, a metal gasket disposed in the channel and a fin constructed to enter the channel and to deform the gasket in such a manner that portions of the gasket are extruded on both sides of the fin and between the channel to thereby cold work the same. The bottom of the fin is provided with a flat surface which upon additional movement of the fin relative to the channel causes surface heating and annealing of the opposed gasket surface to thereby effect a seal with the fin.

3,408,043
PNEUMATIC MOTOR
Norman C. Williams, Portland, and Harry F. Everett, Lake Oswego, Oreg., assignors to Power Brake Equipment Company, Portland, Oreg., a corporation of Oregon
Filed Apr. 3, 1967, Ser. No. 627,894
10 Claims. (Cl. 253—2)



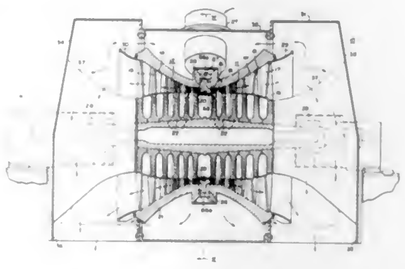
A dental handpiece including an air-powered turbine wheel for rotating a burr-carrying spindle, with opposed self-adjusting air bearing assemblies supporting the spindle in a casing for the handpiece, the air bearing assemblies including elastomeric rings slidably supporting stator bearings in the air bearing assemblies in a smooth-walled tunnel in the casing, with the spindle, turbine wheel, and air bearing assemblies being removably from such tunnel as a unit assembly.

3,408,044
COMBUSTION GAS TURBINE WITH COOLED GUIDE VANE SUPPORT STRUCTURE
Willy Burger, deceased, late of Wettingen, Switzerland, by Jeanne Fanny Burger and Uli Raymond Burger-Straumann, sole heirs, Wettingen, Switzerland, assignors to Aktiengesellschaft Brown, Boveri & Cie., Baden, Switzerland, a joint-stock company
Filed July 19, 1966, Ser. No. 566,395
Claims priority, application Switzerland, July 23, 1965, 10,329
6 Claims. (Cl. 253—39.1)



A cooling arrangement for the support structure for the rows of stationary guide vanes of a multi-stage combustion gas turbine comprises arcuate and circumferentially extending cooling channels located respectively at the radially inner side of the guide vane support structure between adjacent rows of guide vanes. Pressurized cooling air is caused to flow through the channels and all of the cooling air after passing through the channels is conducted to the combustion gas inlet of the turbine in advance of the first row of rotor vanes whereby substantially the entire pressure gradient of the cooling air is transformed into work in the turbine.

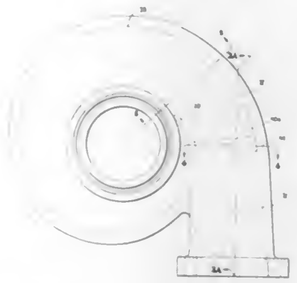
3,408,045
TURBINE NOZZLE SEAL STRUCTURE
John J. Hart, Broomall, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 28, 1966, Ser. No. 561,207
7 Claims. (Cl. 253—45)



This invention provides an improved sealing arrangement for the rows of nozzle vanes of the two opposed first expansion stages of a double opposed axial flow turbine. The above nozzle vanes are mounted in the turbine casing structure and are provided with annual shroud members at their radially inner ends. The two nozzle vane rows are axially spaced and jointly with the casing structure partially define an annular motive fluid inlet space. An annular wall member spans the inlet space and is provided with peripheral marginal portions disposed in lapping relation with the associated shroud members, but spaced radially inwardly therefrom. The two annular spaces thus formed are individually sealed by an annular array of preferably arcuately segmented seal members interposed therein and disposed in slidable sealing relation with the shroud and marginal wall portion.

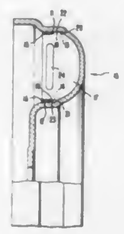
This arrangement permits relative thermal expansion of the components to occur in both axial and radial directions with minimal stressing of the components.

3,408,046
TURBINE HOUSING FOR TURBOCHARGERS
William E. Woollenweber, Jr., Columbus, Ind., assignor to Wallace Murray Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 8, 1966, Ser. No. 541,185
6 Claims. (Cl. 253—55)



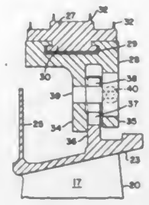
A turbine assembly comprising a turbine wheel and a housing enclosing the wheel which includes a single volute passage surrounding the wheel, two inlet apertures, and two passages connecting the inlet apertures with the single volute passage.

3,408,047
ROTOR OF A HYDRODYNAMIC UNIT
Hans-Joachim M. Förster, Stuttgart-Riedenberg, and Josef A. Helmer, Aich, Kreis Nurtingen, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed May 26, 1966, Ser. No. 553,162
Claims priority, application Germany, June 2, 1965, D 47,417
13 Claims. (Cl. 253—77)



A pump or turbine wheel of hydrodynamic units, especially hydrodynamic couplings for vehicles, particularly motor vehicles, wherein the blades are provided with a plurality of radially outwardly and inwardly extending tabs at their outer and inner periphery, respectively, for engaging correspondingly shaped axially inwardly extending and opening slots provided in outer and inner sheet metal rings, respectively, that are secured within an outer and an inner recess having an abutting axially outwardly facing collar in the opposed inner walls of an annular shell-shaped wheel body.

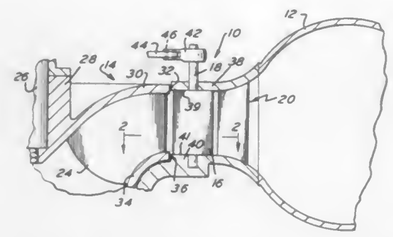
3,408,048
DIAPHRAGM SEALING STRUCTURE
Augustine J. Scalzo, Philadelphia, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, a corporation of Pennsylvania
Filed May 26, 1967, Ser. No. 641,565
7 Claims. (Cl. 253—78)



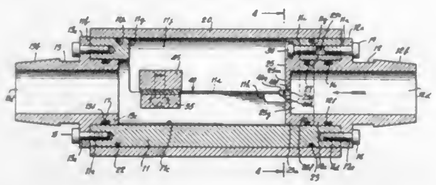
A sealing arrangement for a diaphragm of an axial flow, elastic fluid machine, such as a gas turbine or an air compressor in which an annular array of seal segments are carried in a seal housing structure and the seal housing is slidably carried by the inner shroud of the diaphragm and keyed thereto for relative radial movement to permit free thermal expansion to occur without stress in the associated components and without adversely affecting concentricity of the seal segments.

3,408,049
EMERGENCY WICKET GATE STOP
Richard B. Willi, Norristown, Pa., assignor to Baldwin-Lima-Hamilton Corporation, Philadelphia, Pa., a corporation of Delaware
Filed June 21, 1967, Ser. No. 647,821
3 Claims. (Cl. 253—122)

An emergency wicket gate stop to prevent a wicket gate from entering the runner of a hydraulic machine and striking the runner blades should such wicket gate become loose from its operating mechanism. The hydraulic machine is constructed so that the wicket gate which becomes loose from its operating mechanism will contact the outer circumferential edge of the runner shroud interconnecting the bottom edges of the runner blades and the outer circumferential edge of the disc interconnecting the top edges of the runner blades rather than the runner blades.



3,408,050
APPARATUS FOR MIXING FLUIDS
John Jacobs III, Darien, Conn., assignor to Sonic Engineering Corporation, Norwalk, Conn., a corporation of Connecticut
Filed Jan. 13, 1966, Ser. No. 527,637
1 Claim. (Cl. 259—4)

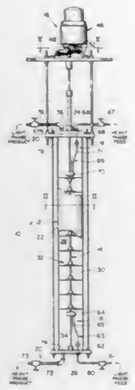


An in-line fluid mixing device comprises an orifice and a blade-like vibratory element fixed at one end and disposed in line with said orifice so that the free end of said vibratory element is disposed opposite and closely spaced from said orifice. The free end of the vibratory element is dimensioned so as to be substantially the same as the orifice dimension on the downstream face side thereof so that as fluid moves through said orifice the vibratory element is caused to vibrate and as the free end of the vibratory element comes opposite and in line with the orifice flow therethrough tends to be interrupted.

3,408,051
COLUMN MIXING APPARATUS
John R. McWhirter, Pittsford, N.Y., assignor to Mixing Equipment Co. Inc., Rochester, N.Y., a corporation of New York
Filed Feb. 23, 1966, Ser. No. 529,491
10 Claims. (Cl. 259—4)

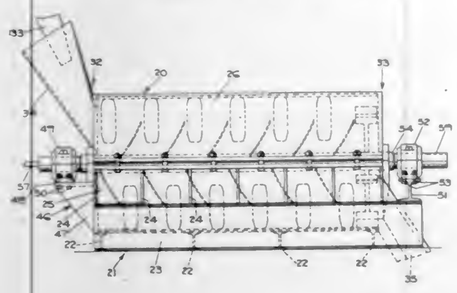
A vertical, cylindrical column with fluid inlets and outlets has an axial shaft with a plurality of axially spaced,

plane shearing units, and the shaft is driven reciprocally through an arc for sweeping the plane shearing units reciprocally for staging and contacting in the column. Each plane shearing unit comprises several rods arranged in



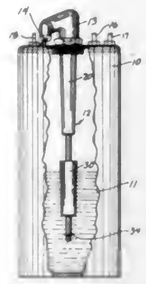
radial symmetry around the drive shaft to leave at least 30 percent of the cross section of the column open for the passage of fluid. Also, central or peripheral baffles are arranged on plane shearing units as necessary to eliminate any fixed baffles on the interior of the column.

3,408,052
METHOD OF MULLING
Cecil E. Simmons, Durham County, Ontario, Canada, assignor, by mesne assignments, to Jeffrey Galion Manufacturing Company, a corporation of Ohio
Original application Dec. 27, 1963, Ser. No. 333,937, now Patent No. 3,321,187, dated May 23, 1967. Divided and this application May 11, 1966, Ser. No. 549,331
2 Claims. (Cl. 259—147)



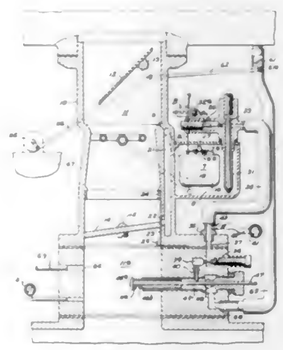
1. A method of mulling sand to prepare such sand for the making of molds using the mulled sand comprising, adding bonding and conditioning materials to said sand, subjecting said sand and said bonding and conditioning materials to a progressive pressing, kneading and mixing action to form a homogeneous mixture of the sand and the materials in which the grains of the sand are substantially coated with the materials, simultaneously mixing and agitating the sand mixture to a degree sufficient to eliminate the shear strength of the sand and thereby to cause it to flow substantially as a liquid, continously feeding sufficient additional sand and materials to supply a pressure head to push the sand mixture along, and continuously removing the mulled sand mixture at substantially the same rate as the feed rate of the sand and the materials.

3,408,053
LIQUID LEVEL FLOAT CONTROL
Robert W. Vantroba, Glen Ellyn, Ill., assignor to The Bastian-Blessing Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 19, 1965, Ser. No. 497,738
5 Claims. (Cl. 261—27)



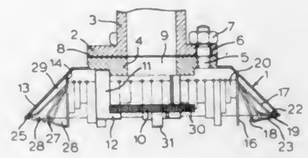
Liquid level float controls particularly suited for use in tanks containing chemically active fluids. The controls are inserted in a carbonating tank used in soft-drink vending machines, and comprises a hollow sleeve incorporating an electronic motor control circuit, an elongated magnetically responsive element and a magnetically actuatable switch. A circular magnet mounted on a float surrounds the sleeve and is buoyed up and down along the sleeve as the liquid level changes. Because of the presence of the elongated magnetically responsive element, a latching effect is achieved which causes the switch to close when the magnet is near the bottom of the sleeve adjacent the switch but not to open until the tank is substantially filled and the magnet is near the top of the sleeve.

3,408,054
CARBURETOR
Brooks Walker, 1280 Columbus Ave., San Francisco, Calif. 94133
Continuation of application Ser. No. 479,881, Aug. 16, 1965. This application July 26, 1967, Ser. No. 656,292
9 Claims. (Cl. 261—39)



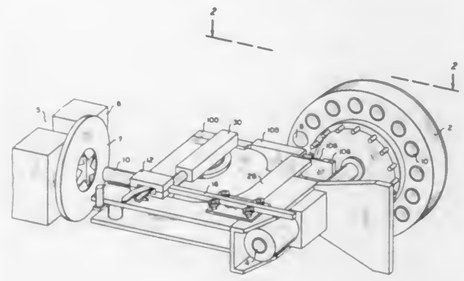
A carburetor having two fuel circuits from the float bowl. One circuit leads to the transfer port and the other circuit leads to the mixing chamber below the butterfly throttle valve. A flexible reed overlaps the transfer port and is engaged by the valve to regulate the opening of the transfer port. When the valve is in closed position the transfer port is closed and idle fuel mixture is admitted by the other circuit.

3,408,055
FLUID DISTRIBUTOR
André J. G. M. G. Machiels, Geleen, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands
Filed Apr. 18, 1966, Ser. No. 543,149
Claims priority, application Netherlands, Apr. 20, 1965, 6504939
8 Claims. (Cl. 261—98)



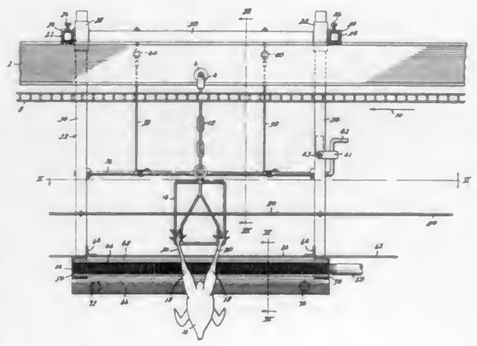
A fluid distributor for a liquid-vapor contact column adapted to receive a fluid stream, divide the fluid stream and deliver drops of the fluid uniformly over an area comprising: means defining a fluid inlet having an outflow opening; a baffle mounted below said outflow opening in the path of liquid issuing from said outflow opening; and a plurality of deflector strips circumferentially surrounding said baffle and radially spaced therefrom, individuals of said deflector strips depending at differing angles with respect to the horizontal whereby adjacent individuals of said strips have lower ends at different radial distances from the longitudinal centerline of said baffle, said deflector strips having portions extending above the level of the baffle and being arranged to capture fluid splashed from said baffle and drip at least a portion of the capture fluid from the deflector strip lower ends.

3,408,056
ARTICLE TRANSFER MECHANISMS
Calvin D. Dockery, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 23, 1966, Ser. No. 596,600
9 Claims. (Cl. 263—6)



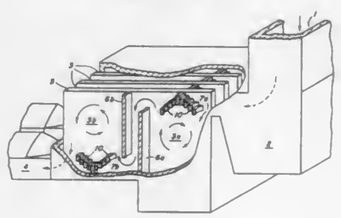
Tubular articles are transferred from a first station, for instance, a heating wheel, to a second station, for instance a molding station. A gripping means having at least two jaws is inserted inside an end of one of these tubular articles and the jaws expanded to grip the tubular article from the inside. These jaws are attached to a rod which is slidably carried by a rotating collar. A cam means on this assembly engages a curved cam track; the mechanism is actuated and the cam following the cam track causes the rod to which is attached the gripping means to slide axially; thereafter, the rotatable collar turns thus rotating the rod, the gripping means, and the tubular article about an axis from the first station to the second station.

3,408,057
POULTRY HOCK HEATER
Ralph S. Zebarth, Kansas City, Mo., and Drexel T. Carlson, Leawood, Kans., assignors to Ralph Zebarth, Inc., Kansas City, Mo., a corporation of Missouri
Filed Feb. 23, 1966, Ser. No. 529,278
8 Claims. (Cl. 263—8)



A poultry hock heater for heating the hocks of poultry as they are moved along a conveyor line, whereby to facilitate removal of feathers therefrom, comprising a pair of elongated radiant heaters extending along the path of travel of said conveyor, respectively at opposite sides of said path and at an elevation to direct heat against the hocks of birds carried thereby, guard members operable to confine the heat of said heaters to the desired portions of said birds, and to prevent contact of said birds with said heaters, and means for cooling such of said guard members as may engage the skin of the birds, whereby to prevent burn marks on said skin.

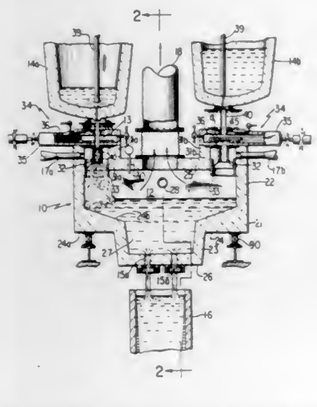
3,408,058
ANTI-CLOGGING FURNACE REGENERATOR
David K. Griffiths and John H. Richards, Penn Hills Township, Allegheny County, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed Oct. 11, 1965, Ser. No. 494,539
2 Claims. (Cl. 263—19)



A regenerator for two-way fired industrial furnaces, which replaces conventional regenerators having closely-spaced checker work construction with units having relatively open chambers adapted to provide cyclonic flow in alternating directions.

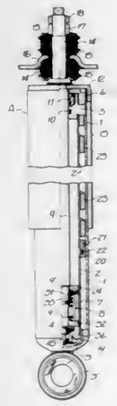
3,408,059
APPARATUS FOR STREAM DEGASSING MOLTEN METAL
John N. Hornak, Munhall Borough, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed June 2, 1965, Ser. No. 460,784
6 Claims. (Cl. 266—34)

A vessel for stream degassing molten metal comprising a refractory-lined chamber having a bottom discharge outlet and a roof. An inlet passage upstanding above the roof has a gate-valve housing thereon. The housing mounts a seal for a ladle bottom and a sleeve smaller than the passage extends downwardly thereinto from the housing.



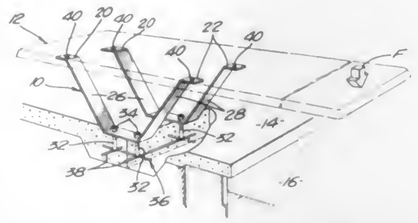
Gas-exhausts outlets open from the passage adjacent the sleeve and upwardly from the roof. Vacuum pumps maintain progressively lower pressures going from the passage to the chamber.

3,408,060
HYDRAULIC SHOCK ABSORBERS
Yoshio Tsuruhori, Kawasaki-shi, and Masaru Sekine, Tokyo, Japan, assignors to Nippon Shock Absorber Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Mar. 16, 1966, Ser. No. 534,713
Claims priority, application Japan, Mar. 18, 1965, 40/20,856
5 Claims. (Cl. 267—1)



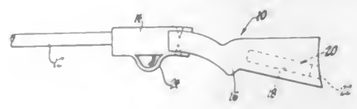
In a hydraulic shock absorber, two chambers are separated by a communications member. A by-pass is also provided. There are appropriate flow orifices and two biased valve means. As the piston moves in one direction, the fluid flows across the by-pass forcing one valve means against its bias so as to pass into one chamber. When the piston moves in the other direction the fluid forces the other valve against its bias so as to move into the second chamber.

3,408,061
SPRING BASE FOR DIVING BOARD
Carl R. Meyer, 2512 E. Vine St., West Covina, Calif. 91790
Filed Mar. 31, 1966, Ser. No. 539,174
6 Claims. (Cl. 267—1)



This invention provides a spring base for diving boards and the like wherein a portion of the energy heretofore stored in the board itself is now stored in the base upon which the diving board is supportedly mounted. The spring base has a flat Z-like configuration. Either one or two Z-like sections may be used, the latter being further disposed back-to-back arrangement. In use, the deflection of the diving board results in moving the fulcrum of the diving board forwardly as well as to constrain the base toward a collinear configuration.

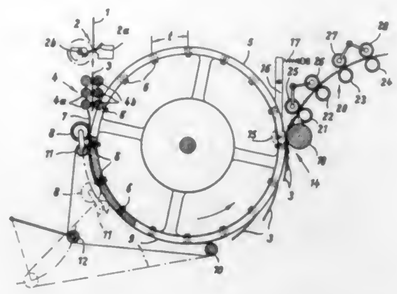
3,408,062
RECOIL SNUBBING DEVICE
Stephen C. Baker, Detroit, Mich., assignor to Su-Ev, Inc., Birmingham, Mich., a corporation of Michigan
Filed Apr. 18, 1966, Ser. No. 543,307
9 Claims. (Cl. 267—1)



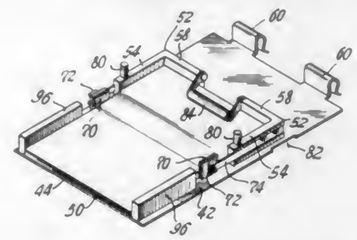
A shock-absorbing device and system for use in a gun barrel stock, including a cylindrical tube closed at opposite ends, having a cylindrical mass lightly biased in centered relation therewithin, an axial bleed hole through the mass, a restricted orifice in the bleed hole, and intended to be inclined at an angle as disposed within the stock of a gun.

3,408,063
APPARATUS FOR STACKING SHEETS OF MATERIAL
Paul Fabrig, Neuffen, Wurttemberg, Germany, assignor to Messrs. Hans Biel, Neuffen, Wurttemberg, Germany
Filed May 25, 1966, Ser. No. 552,745
Claims priority, application Germany, Nov. 13, 1965, B 84,488
4 Claims. (Cl. 271—3)

An apparatus for collecting and stacking sheets which are cut off in consecutive order from a continuous web. A slow-down transport system for the cut sheet and a device for taking partial stacks of equal size from the stacking apparatus without interrupting the continuous flow of the sheets to the stack.



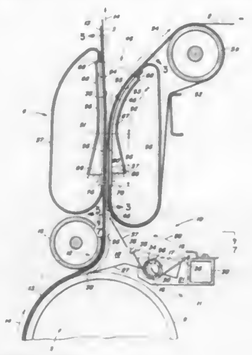
3,408,064
AUXILIARY PAPER TRAY FOR COPYING MACHINES
Arthur A. Johnson, Sailors Lane, Bridgeport, Conn. 06605, and George Pistey, 22 Crescent Drive, Easton, Conn. 06425
Filed May 3, 1966, Ser. No. 547,372
7 Claims. (Cl. 271—61)



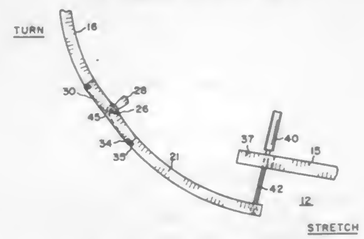
A portable paper tray for transporting a stack of copy paper sheets to and from the paper table of a copying machine has a bottom plate of such size and shape as to fit between and be located by the lateral and end guides of the machine when the tray carrying a stack of copy sheets is dropped onto the paper table. The tray has lateral and end guides fixedly attached to the bottom plate to accommodate a stack of sheets of a particular width and length and may be lifted from the paper table of the machine with the sheets remaining on it after the desired number of copies has been made to be stored until again required.

3,408,065
SHEET HANDLING APPARATUS FOR USE IN A REPRODUCTION MACHINE
Robert C. Goodman, Binghamton, and Emilio G. Mastrolanni, Endicott, N.Y., assignors to GAF Corporation, a corporation of Delaware
Filed Nov. 14, 1966, Ser. No. 594,202
9 Claims. (Cl. 271—64)

The present invention relates to sheet handling apparatus for use in reproduction machine of the type adapted to reproduce indicia carried by an original sheet on a copy sheet, while the sheets are passed through the machine in a superimposed relationship. Specifically, the handling apparatus includes improved vacuum operated means to effect separation of the superimposed sheets after such sheets have been passed through an exposure station of the machine and means adapted to insure proper transfer of the superimposed sheets from the exposure station to the sheet separating means.

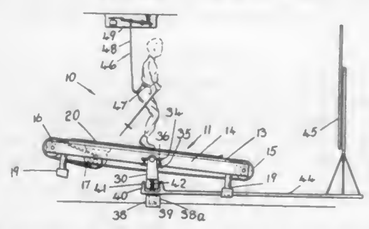


3,408,066
RACE TRACK
Albert A. Weinstein, 2486 Devoe Terrace, Bronx, N.Y. 10468
Filed Oct. 18, 1965, Ser. No. 496,754
5 Claims. (Cl. 272—5)



An improved race track provided with a movable rail section at the final turn before the homestretch thereby narrowing the turn portion providing additional inside passing lanes along the homestretch. The movable rail section is directly pivoted on the fixed rail section. A movable overlapping chord section is employed to smooth the transition between the two rail pieces. The movable rail section may be split horizontally allowing the different pieces to occupy different positions.

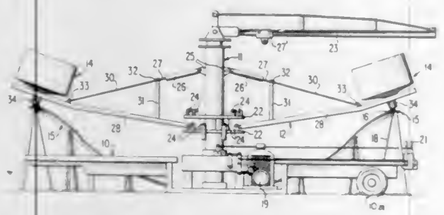
3,408,067
SKIING SIMULATOR DEVICE
Raymond E. Armstrong, Toronto, Ontario, Canada (62 Crosland Drive, Scarborough, Ontario, Canada)
Filed May 19, 1966, Ser. No. 551,450
10 Claims. (Cl. 272—16)



An apparatus which will simulate snow-skiing to a stationary user thereof. The apparatus has a platform on

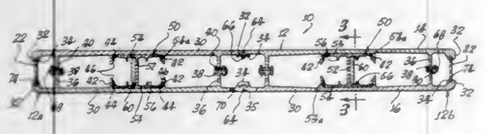
which a pair of endless belts are mounted and a post positioned between the two belts to which the skis may be fastened so that each ski is positioned over a separate belt. The illusion of forward movement is achieved when the belts rotatably move from the tips of the skis to the opposite end. The platform is secured to a gimbal frame thereby permitting the platform to be tilted from side to side by the user. A safety belt secured to the user prevents the user from falling and stops the rotational movement of the belts when the user loses his balance.

3,408,068
ROUNDABOUT AMUSEMENT DEVICE
Lavoy Winton, 241 S. Clayton St., Mount Dora, Fla. 32757
Filed Sept. 29, 1965, Ser. No. 491,123
9 Claims. (Cl. 272—44)



An easily erected roundabout mounted upon a trailer support and including an undulating track upon which roller equipped radial support arms travel while carrying freely rotatable passenger cars. The roundabout is characterized by constantly acting positive pressure means to maintain the roller equipped arms in firm contact with the undulating track.

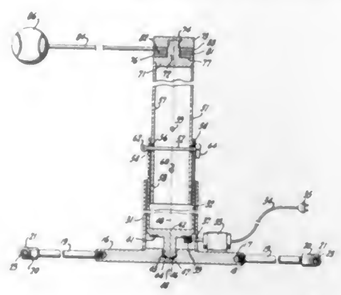
3,408,069
SPRINGBOARD
Jack R. Lewis, El Monte, Calif. (P.O. Box 344, Broken Arrow, Okla. 74012)
Filed Oct. 5, 1964, Ser. No. 401,374
15 Claims. (Cl. 272—66)



A method of making a springboard by forming an extrusion having ribs projecting from one side of the extrusion, removing the ribs from the transverse midsection of the extrusion, folding the extrusion about its ribless midsection to locate the extrusion ends in confronting relation about and secure the ends to intervening reinforcing beams of control flexibility and to bring these ends into contact, and joining the contacting ribs to form a completed springboard. A springboard produced by the method.

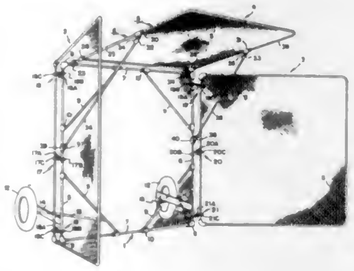
3,408,070
REVOLVING BASEBALL TOY COMPRISING MAGNETIC CLUTCH MEANS
Anthony Gonzales, 268 Cherry Ave., and Homer Carl Packer, Rte. 1, Box 408, both of Vacaville, Calif. 95688
Filed Nov. 26, 1965, Ser. No. 509,791
2 Claims. (Cl. 273—26)

A vertically adjustable, upright member is rotated by gears driven by an electrical motor. A radial arm carrying a baseball is clutchably mounted on the upper end of the member, engagement being provided by a magnetic clutch, thereby permitting sudden, temporary directional



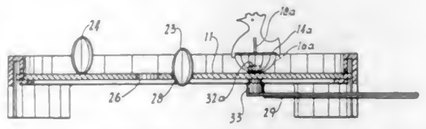
reversals of the arm and the baseball as the latter is struck by a practicing batter.

3,408,071
COLLAPSIBLE BACKSTOP
Lawrence I. Lundy, Box 184, Lowell, Oreg. 97452
Filed Nov. 29, 1965, Ser. No. 510,261
4 Claims. (Cl. 273—26)



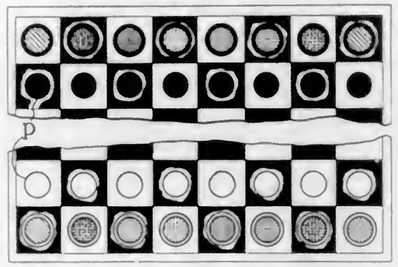
A portable backstop structure for use in athletic events and having hingedly interconnected main and positionable frame members with the main frame member being wheel mounted for rolling support of the backstop during its positioning. Offset hinge means permit collapsing of the main and positionable frame members into juxtaposed relationship against the main frame to allow tipping of the collapsed backstop to a horizontal position for its subsequent movement by an individual.

3,408,072
TOY WITH MAGNETICALLY OPERATED STRIKING MEMBERS
Charles R. Luchsinger, Glen Cove, N.Y., assignor to The Luchland Company, Newfoundland, N.J., a partnership
Filed May 19, 1965, Ser. No. 457,040
1 Claim. (Cl. 273—108)



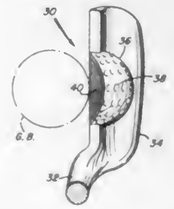
Oval shaped pellets weighted at one end and propelled into apertured targets in a game board by a striking member. The striking member has a rounded magnetized base and outstretched wings. These wings impact against the pellets. The striking member is moved by a magnetic control stick which interacts with the magnets of the striking member.

3,408,073
CHESS PIECES DISTINGUISHED BY COLOR
Paul Suvada, 11012 Hulda Ave., Cleveland, Ohio 44104
Filed June 29, 1964, Ser. No. 378,875
3 Claims. (Cl. 273—137)



A chess game apparatus including a plurality of chess playing pieces adapted to be moved on a chess playing board, said pieces being of generally the same size and shape with respect to one another, the top of each piece including a color indicium thereon, said indicia being of generally the same shape in silhouette with respect to one another, and the color indicia including five different colors for providing a visual differentiation between the individual pieces.

3,408,074
PUTTER WITH ALIGNMENT FACILITATING AND WEIGHTING MEANS
Anthony J. Antonious, Baltimore, Md., assignor, by direct and mesne assignments, to The Ajac Corporation, Baltimore, Md.
Filed June 9, 1965, Ser. No. 462,573
2 Claims. (Cl. 273—164)



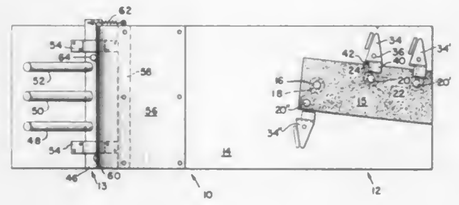
A putter is provided with a weighted spherical section of the same shape and size as a golf ball. The spherical section is rigid with the top of the putter head and positioned on a line where the putter contacts the ball. The spherical section is cut at a rearward angle to a vertical plane so that when viewed from above the cut sector presents an alignment indicia.

3,408,075
GOLF CLUB INCLUDING POWER-HAND GRIP FORCES SENSING MEANS
Roland J. Colton, 41 Vista Way, Port Washington, N.Y. 11050
Filed Mar. 2, 1966, Ser. No. 534,961
5 Claims. (Cl. 273—183)

The upper and lower end portions of a pivotable oscillator element on a golf club handle are engaged by the respective upper and lower gripping hands of the golfer. The lower portion of the oscillator element is longer than the upper end portion so that gripping forces by the golfer's lower power hand will be magnified and sensed by the golfer's upper gripping hand.



3,408,076
GOLF SWING INDICATOR
Ralph J. Carboni, 327 Sharon Drive, New Orleans, La. 70124
Continuation-in-part of application Ser. No. 398,263, Sept. 22, 1964. This application Mar. 18, 1965, Ser. No. 440,904
5 Claims. (Cl. 273—186)

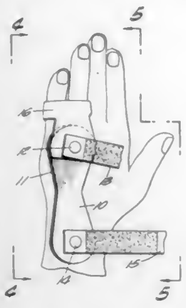


A golf ball driving device which will indicate whether or not the golf club is swung correctly when attempting to drive the golf ball straight and within the confines of a fairway. One feature of the device is a down-swing indicator means which utilizes a U-shaped pin, one leg of which is embedded in an impact-resistant guide pin and the other end of which is adapted to strike a pivotally mounted pointer when the guide pin is struck by the golf club head thereby indicating an incorrect down-swing. The device also includes a follow-through mechanism wherein upright tubings, engageable by the club head, are connected to a dowel mounted for movement about a horizontal axis. The dowel is spring biased to a predetermined position so that the tubings may be retained in an upright position.

3,408,077
GOLFER'S WRIST BEND RESTRAINING DEVICE
Joseph W. Norwood, 5356 9th Ave., Los Angeles, Calif. 90043
Filed Sept. 7, 1966, Ser. No. 577,633
1 Claim. (Cl. 273—189)

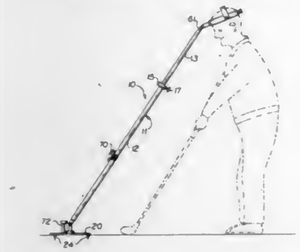
A rigid planar member has a width corresponding to that required to span only the fourth and fifth metacarpophalangeal joints of a golfer's hand to resist bending of the golfer's wrist. The length of the planar member is such that it extends from a position forwardly of said joints to a position above the golfer's wrist joint. Two

straps secure the planar member in position. One encircles the hand and the other the wrist. A loop member at the



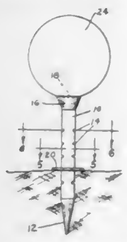
forward end of the planar member grippingly encircles the ring finger of the golfer's hand.

3,408,078
GOLFER'S HEAD MOVEMENT RESTRAINING DEVICE
Dorothy Falerni and Jack Falerni, both of 2150 Wallace Ave., Bronx, N.Y. 10462
Filed Sept. 23, 1965, Ser. No. 489,661
8 Claims. (Cl. 273—190)



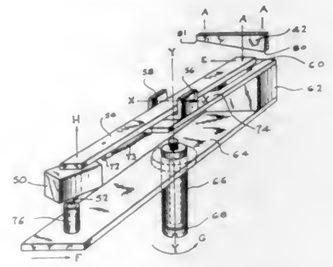
A golf practice aid for restraining movement of the head of a golfer, said aid having a selectively extensible strut member secured to a base member by a universal joint, and a head engaging assembly secured to the upper end of the strut member by a universal joint.

3,408,079
GOLF TEE HAVING A VERTICALLY ADJUSTABLE GROUND ENGAGING STOP MEMBER
Nicholas Kirikos, Norwood, Mass., assignor of one-half to Arthur D. Jordan, Plainville, Mass.
Filed Oct. 11, 1965, Ser. No. 494,764
2 Claims. (Cl. 273—202)



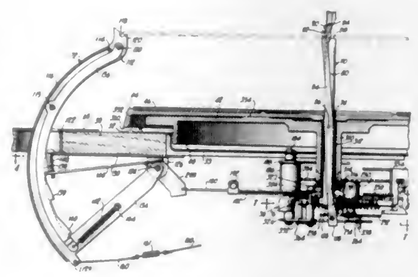
A golf tee has a peg and a stop member slidable on the peg. A portion of the peg is square in cross section with slits made therein at the corners. The stop member has a square hole therethrough of a size that permits rotation, but of less than 360 degrees, of it in said slit, hence the stop member can be friction-locked on the peg.

3,408,080
PORTABLE PHONOGRAPH
Panayotis C. Dimitracopoulos, 3435 Drummond St., Suite 26, Montreal, Quebec, Canada
Filed Oct. 22, 1965, Ser. No. 501,488
9 Claims. (Cl. 274—9)



A portable phonograph which can play in any position and while it is moved about, having no turntable and thus being free of its gyroscopic effect, the phonographic record being rotated about a spindle by a pair of opposed rollers engaging it on opposite faces, and the phonographic arm having a U-like shape, straddling the record and gripping both its sides in pincers-like fashion.

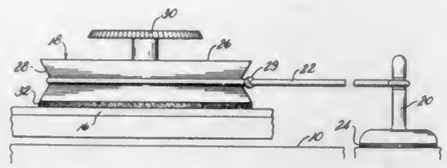
3,408,081
AUTOMATIC RECORD CHANGER WITH SINGLE RECORD PLAY FACILITIES
James T. Dennis, 812 American National Bldg., Oklahoma City, Okla. 73102
Filed May 21, 1963, Ser. No. 281,915
24 Claims. (Cl. 274—10)



1. In an automatic record changer, a rotatable turntable, a record supporting spindle positioned at the center of said turntable for supporting records having a relatively small centering aperture, said spindle having means defining a single record supporting shelf on which a stack of small centering aperture records may be placed, a record ejector member pivotally mounted on said spindle and having an upper end portion adapted to engage the edge of the centering aperture of the bottommost record of the stack and push the buttommost record off said shelf so that it is deposited on said turntable during a record changing cycle, and means for mounting said spindle so that said spindle may be depressed to a retracted position in which said shelf thereof is below the upper surface of said turntable, the upper end of said

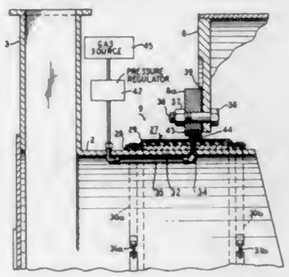
spindle projecting above the upper surface of said turntable when in said retracted position to act as a centering means for manual play of a single small centering aperture record.

3,408,082
RECORD CLEANER
Albert A. Crookston, 2257 Springfield-Center Road, Akron, Ohio 44312
Filed Feb. 2, 1966, Ser. No. 524,596
5 Claims. (Cl. 274—47)



A record cleaner for attachment to a turntable frame is provided and it includes a post for mounting on the frame adjacent the turntable, and a body having a deep pile fabric material on a flat lower surface thereof is secured to the post by a string whereby the body can be placed on a record for tracking in the grooves thereof for record cleaning action.

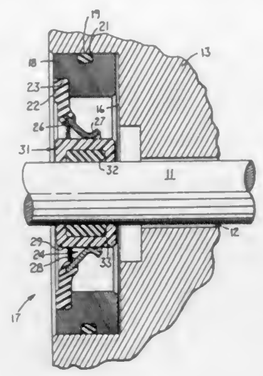
3,408,083
INFLATABLE SEAL
Thaddeus A. Szymanski, Gilbertsville, Ky., assignor, by mesne assignments, to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 2, 1966, Ser. No. 576,935
8 Claims. (Cl. 277—34)



A seal between relatively rotatable members is formed from an annular sealing ring which is carried by one of the rotatable members and a composite band disposed opposite the sealing ring and carried by the second rotatable member, the composite band comprising an outer web formed from a material having a low co-efficient of friction and an inner inflatable web formed from an elastomeric material defining a fluid type chamber with the surface of the second rotatable member, means being provided for maintaining a positive fluid pressure in the chamber to cause inflation of the composite band.

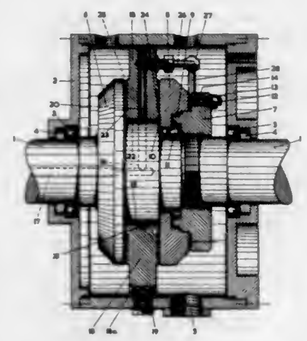
3,408,084
PRECISION SEAL FOR A ROTATING SHAFT
Paul T. Huling, Plainfield, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Oct. 28, 1966, Ser. No. 590,279
8 Claims. (Cl. 277—37)

1. A seal for disposition between a shaft and circumjacent structure wherein said shaft rotates relative to said structure, comprising, in combination, a first ring disposed coaxially on said shaft for rotation therewith, said first ring having an outer surface characterized by a low coefficient of friction and which is compressible in a radial direction and having resilient means exerting a counterforce against such compression, a second ring formed of rigid material encircling said first ring and having an annu-



lar lip portion contacting said first ring in an annular zone extending around the outer surface thereof and maintaining said first ring under radial compression, and a flexible resilient elastomeric annular fluid-tight element attaching said second ring to said circumjacent structure.

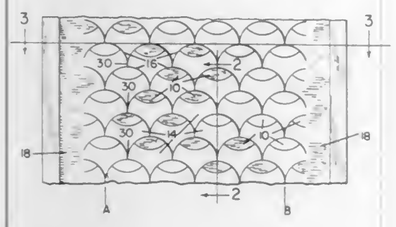
3,408,085
DEVICE FOR SEALINGLY TRANSMITTING A LIQUID UNDER PRESSURE FROM A STATIONARY STRUCTURAL PART INTO A ROTATING SHAFT OR THE REVERSE
Hubertus Petrus Van Spijk and Johannes Martinus Van Weert, Drunen, Netherlands, assignors to Lips N.V., Drunen, Netherlands, a corporation of Dutch law
Filed Mar. 14, 1966, Ser. No. 533,943
Claims priority, application Netherlands, Mar. 17, 1965, 6503395
1 Claim. (Cl. 277—72)



A seal for transmitting liquid between a stationary conduit and a conduit in a rotating shaft comprises a stationary ring encompassing the shaft and enclosed axially between two annular bodies rotatable with the shaft, with the conduit extending through the ring to an annular recess disposed between the ring and the shaft and that communicates with an axial conduit through the shaft. The ring and the two annular bodies have axial play relative to each other, and hydrodynamic seals are provided at the interfaces between the ring and the two annular

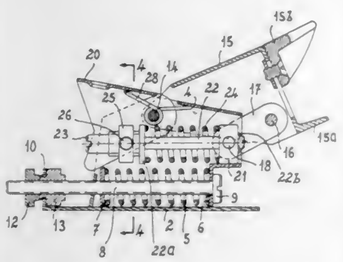
bodies. The seal is surrounded by a casing that serves as a container for the transmitted liquid; and there is very low friction between the ring and the two annular bodies.

3,408,086
THREE-DIMENSIONAL SURFACE FOR SKIS AND THE LIKE
William N. Bennett, Miami, Fla., assignor, by mesne assignments, to Skisearch, Inc., Boston, Mass., a corporation of Massachusetts
Continuation-in-part of abandoned application Ser. No. 558,738, June 20, 1966. This application Oct. 25, 1966, Ser. No. 589,398
13 Claims. (Cl. 280—11.13)



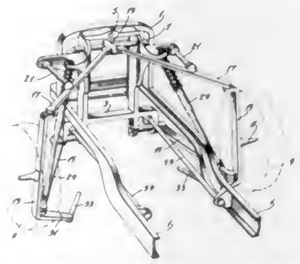
A bottom surface for an elongated element for gliding over a surface, e.g., skis, said surface having a three-dimensional pattern including a series of protuberances which are arranged in a generally continuous pattern along the bottom of the elongated element and each of which presents an exposed face inclined relative to the general plane of the bottom, each inclined exposed face terminating in a rearward direction in a convexly curved dropoff edge, said exposed faces being arranged generally in at least two parts, a forward part and a rearward part, the rearward part being at an angle of lesser inclination relative to the general plane of the bottom than is the forward part of the face, and in fact said rearward face part of lesser inclination being in some cases generally parallel to the general plane of the bottom of the elongated element.

3,408,087
REAR STOP FOR SKI BINDING
René Ramillon, 3 Rue Emile Zola, Grenoble, Isere, France
Filed Feb. 13, 1967, Ser. No. 615,614
Claims priority, application France, Mar. 8, 1966, 47,021
7 Claims. (Cl. 280—11.35)



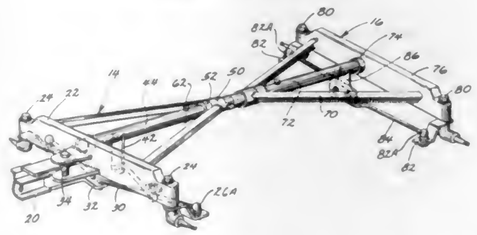
A rear stop for a ski binding comprises a stop body, and a heel-engaging jaw mounted for vertical swinging movement on the stop body by a first pin. A link is pivotally mounted at one end on the stop body by a second pin and at its other end is pivotally connected to the jaw by a third pin. The second pin is urged forwardly by a spring, so that the third pin passes over center through the plane of the first two pins with a snap action, between open and closed positions. The angle of the link in these open and closed positions can be adjusted by shifting the second pin forwardly or rearwardly; and the abutment shoulders between which the spring is compressed travel as a unit with the second pin during this adjustment, thereby to keep the spring strength constant.

3,408,088
AUTOMOBILE SUSPENSION
Paul Corbin, 7737 St. Denis St., Montreal 10, Quebec, Canada
Filed Aug. 29, 1966, Ser. No. 575,614
6 Claims. (Cl. 280—96.2)



An automobile suspension having a body frame pivotally mounted on the suspension frame above the center of gravity of the body for rocking of the body about a central longitudinal axis of the vehicle. A balancing rod is mounted for reciprocation on the suspension frame transversely thereof and the lower end of each knuckle bar is pivotally connected to the suspension frame through lower trailing arms. A pair of upper trailing arms are similarly articulated at one end to the upper end of the knuckle bars while the other ends are articulated to the center of the reciprocating rod. A pair of distance arms are articulated at one end to the suspension frame outwardly thereof in relation to the central articulation of the upper trailing arms while the other ends of the said distance arms are articulated to the upper trailing arms. A lever is pivotally mounted centrally thereof on the suspension frame below the pivot connection between the two frames, the upper and lower ends of the said levers being pivotally connected through links to the reciprocating bar and to the body frame, respectively.

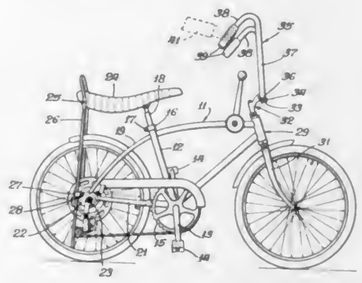
3,408,089
VEHICLE STEERING AND STABILIZING MECHANISM
William B. Edwards, Coin, Iowa 51636
Filed July 29, 1966, Ser. No. 568,788
8 Claims. (Cl. 280—99)



A device having forward and rear frame sections freely rotatable relative to each other on a common rigid shaft extending therebetween and connected at its

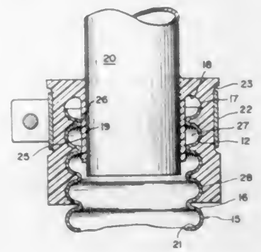
forward end by a single tie rod to one of a pair of tie rods extending to the front wheels and connected to a pair of overlapping tie rods extending to the rear wheels thereby eliminating twisting action on the wagonbox and providing improved tracking of the wheels upon a wheel falling into a depression.

3,408,090
BICYCLE HAVING ADJUSTABLE HANDLEBAR AND SEAT
Albert J. Fritz, Wilmette, and Frank P. Brilando, Niles, Ill., assignors to Schwinn Bicycle Company, a corporation of Illinois
Filed Apr. 4, 1966, Ser. No. 539,779
1 Claim. (Cl. 280—278)



Bicycle having elongated saddle vertically and angularly adjustable by virtue of saddle post clamping means and clamping means pivotally mounted on rear axle frame connector plates for adjustably frictionally securing rear saddle stay means, with additional clamping means for adjustably securing high-set handlebar comprising transverse central portion with upwardly extending arms defining a main plane and the upper ends of the arms curving rearwardly and terminating in straight downwardly extending grip portions defining a plane forming forty-five degree angle with the main plane.

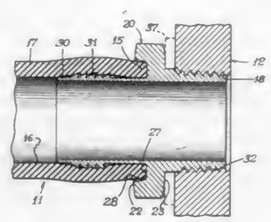
3,408,091
COUPLING
John J. Zylstra, Benton Harbor, Mich., assignor to Whirlpool Corporation, a corporation of Delaware
Filed May 23, 1966, Ser. No. 552,043
3 Claims. (Cl. 285—7)



A coupling for joining the end of a tube having a smooth outer surface such as vacuum cleaner wand tube and the end of a hose having corrugated outer and inner surfaces such as the flexible hose of a tank type vacuum cleaner in which the corrugated hose is received in a flexible body portion of the coupling having interior corrugated surface areas engaging the outer corrugated surface of the hose and a thin walled elastic and springy portion attached to and extending within the flexible body portion for stretchingly receiving the smooth outer surface of the tube with this thin wall portion being located between the tube and hose corrugated inner surface.

The invention here, as indicated above, as for joining the end of a smooth surface tube and the end of a corrugated hose such as used in a tank type vacuum cleaner. The coupling has a flexible body portion with an interior corrugated surface for receiving and retaining the outer corrugated surface of the hose and a thin walled elastic and springy portion receiving the tube so that when the corrugated hose and tube are joined by the coupling this thin wall portion is between the tube and the inner surface of the end of the corrugated hose and in the preferred structure the hose stretches the thin wall portion into sealing engagement with the inner surfaces of the corrugations of the end of the hose so that the entire assembly forms a tight seal between the outer surface of the tube, the inner surface of the end of the corrugated hose and the outer surface of this end of the corrugated surface. In a still more preferred construction the seal is made even more secure by a clamp band around the outer surface of the coupling and urging it inwardly to tighten the seal with this band having a width greater than the width between adjacent corrugations.

3,408,092
SINGLE PIECE CONNECTOR FOR FLEXIBLE HOSING
Arthur I. Appleton, Northbrook, Ill. (% Appleton Electric Co., 1701 W. Wellington, Chicago, Ill. 60657)
Filed Apr. 13, 1967, Ser. No. 630,676
2 Claims. (Cl. 285—39)

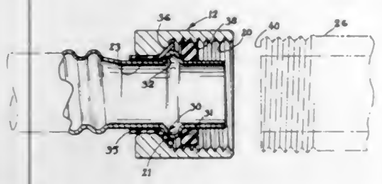


A single piece tubular connector for connecting one end of a length of flexible hose to other apparatus and featuring a centrally flanged tubular body separating a preferably externally threaded hose end from another end which is also threaded but preferably with oppositely-handed threads.

3,408,093
TUBULAR CONNECTOR UNION
Saul Epstein, Los Angeles, Calif., assignor to American Metal Products Corp., Los Angeles, Calif., a corporation of California
Filed Dec. 14, 1966, Ser. No. 601,758
1 Claim. (Cl. 285—52)

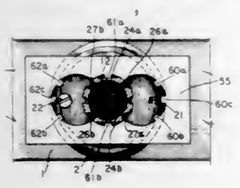
An improved and simplified water connector union adapted for connecting thin walled copper connector tubes to rigid pipe without the necessity of special fittings. A single union or internally threaded nut is used on the end of the rigid pipe. It has an internal annular bevel. The end of the thin walled tubing has an annular crimp or rib which cooperates with the internal annular bevel in the union. A rubber washer or gasket fits around the end of the thin walled tubing and is trapped between the crimp

in the tubing, the end of the rigid tube, and the inside of the nut or union. The end of the threaded pipe fits directly



against the rubber washer and an effective seal is provided. No additional fitting, sleeve, or supporting ring is required.

3,408,094
FLOOR FITTINGS
Charles T. Flachbarth, Parkersburg, W. Va., and Robert Hadfield, Belpre, Ohio, assignors to Textron, Inc., Providence, R.I., a corporation of Rhode Island
Filed Aug. 12, 1965, Ser. No. 479,127
9 Claims. (Cl. 285—90)



1. In an under floor distribution system, mechanism for attaching a floor fitting to conductor-distributor entrance means;

an adapter disposed in said entrance means and having an extension projecting above the surface of the floor, the outer periphery of the extension having a pair of diametrically opposed axially extending flats and a plurality of pairs of axially extending slots, corresponding slots of each pair being diametrically opposite one another and respectively located in the areas intermediate the flats and the slots, the sides of said slots and said flats being oriented to provide for draft and the extension having threads formed on peripheral areas not occupied by said flats and said slots;

mechanism on said entrance means and on said adapter fixing the adapter against movement in the entrance means;

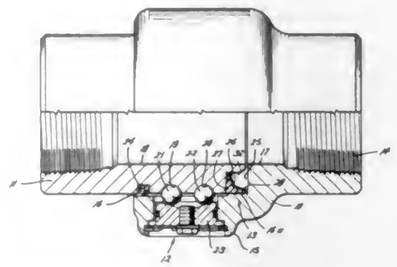
a base member disposed over said extension and engaging the floor surface, the base being formed with a plurality of side-by-side apertures alternatively usable to accommodate the extension and one of the apertures having the extension protruding therethrough;

a locking plug in the aperture adjacent said one aperture, the locking plug having lugs respectively engaging slots in said extension and the plug also engaging the wall of its aperture, said locking plug and base member provided with cooperating means thereon to prevent said plug from passing through said aperture from one side thereof, and cooperating means between said plug, member and extension to prevent rotation of said plug relative to said plate and adapter extension whereby, the locking plug prevents the base from turning about the extension;

nut means on said extension threads and holding said base against said surface and for holding said plug in said aperture; and

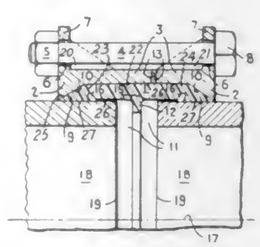
means on said base for holding a fitting housing.

3,408,095
SWIVEL JOINTS
Joe P. Moore, Richardson, Tex., assignor to The Youngstown Sheet and Tube Company, Youngstown, Ohio, a corporation of Ohio
Filed Mar. 21, 1966, Ser. No. 535,897
7 Claims. (Cl. 285—110)



A swivel joint having ball bearings providing for rotation of the nipple and body and a nonresilient seal member held in sealing engagement by an expander ring.

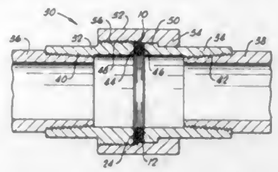
3,408,096
PIPE COUPLING
George William Stephenson, Larbert, Scotland, assignor to Inglis & MacInnes Limited, Larbert, Scotland, a corporation of Great Britain and Northern Ireland
Filed June 20, 1966, Ser. No. 558,808
4 Claims. (Cl. 285—110)



This disclosure is directed to a pipe coupling having a deformable sealing ring mounted over juxtapositioned ends of two pipes, the sealing ring being compressible against the exterior pipe surfaces by a pair of coupling rings. Annular recess means defined by an inner surface of the sealing ring are acted upon by internal hydraulic pressure to form two seals between sealing surfaces of the sealing ring and surfaces of each pipe and coupling ring.

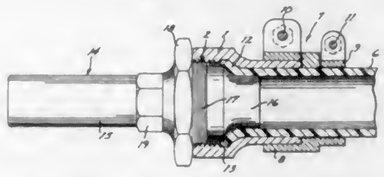
3,408,097
GASKET RING AND CONDUIT COUPLING
Clarence O. Glasgow, 2620 S. Yorktown, Tulsa, Okla. 74114
Original application Feb. 25, 1963, Ser. No. 260,369, now Patent No. 3,302,953, dated Feb. 7, 1967. Divided and this application Feb. 3, 1967, Ser. No. 613,824
4 Claims. (Cl. 285—112)

A sealing device for use with butt-connected joinder of conduits which consists of an outer, metallic sealing ring having annular, flexible portions extending radially inward and providing high pressure sealing with annular faces of abutting conduit members; and including an inner sealing ring formed of resilient material to be disposed radially inward of the metallic ring and in the groove formed by the tapered inner radial extensions to



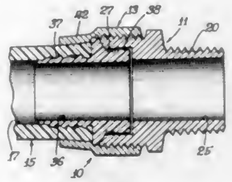
provide an additional low pressure sealing effect about the conduit joint.

3,408,098
PLASTIC PIPE FITTINGS
Harold E. Wilson, 3825 Cedar Ave., Long Beach, Calif. 90807
Continuation-in-part of application Ser. No. 537,134, Mar. 24, 1966. This application Apr. 24, 1967, Ser. No. 633,077
3 Claims. (Cl. 285—247)



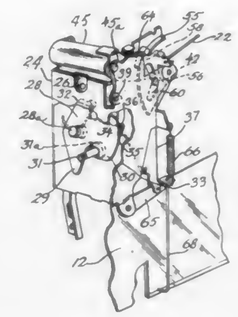
A coupling for connecting plastic pipe or tubing to brass goods normally used in waterworks, water and gas distribution, and industrial plants that provides a tube nut into which the plastic pipe is flared, locking them together longitudinally, yet permitting relative rotation of the pipe and nut. The flare and tube nut are such as to provide an enlargement on the end of the pipe, captivated in the nut and so arranged that the squeeze on the pipe from a companion coupling part is beyond the enlargement. Thermoplastic pipe having internal diameter iron pipe dimensions and other pipe having outer diameter copper tube dimensions, both of polyethylene or polyvinyl chloride in ⅜" to 2" sizes are popularly used in such couplings.

3,408,099
CONNECTOR FOR FLEXIBLE HOSING
Arthur I. Appleton, Northbrook, Ill. (% Appleton Electric Company, 1701 W. Wellington, Chicago, Ill. 60657)
Continuation-in-part of application Ser. No. 631,038, Apr. 14, 1967. This application Feb. 5, 1968, Ser. No. 703,089
2 Claims. (Cl. 285—247)



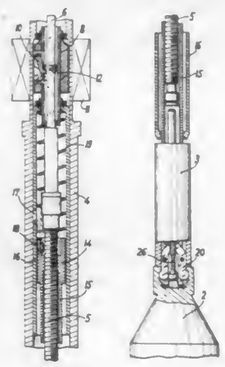
A reusable connector assembly for sealingly securing one end of a length of flexible hose to another fitting and including an easily installable internal element of preferably plastic-like material which includes structure facilitating a sealing engagement with the flexible hose and/or structure inhibiting twisting of the hosing during tightening of the connector assembly.

3,408,100
TAIL GATE LATCH MECHANISM
Thomas J. McKey, Grosse Pointe, Mich., assignor to American Motors Corporation, Kenosha, Wis., a corporation of Maryland
Filed Apr. 17, 1967, Ser. No. 631,493
10 Claims. (Cl. 292—216)



A mechanism for selectively operating a vehicle tail gate about either a pair of horizontal hinges or generally vertical hinges. The mechanism including a forked rotor for engaging a vehicle mounted striker, a pawl engaging the rotor and a pair of handle actuated levers constructed to selectively release the pawl. Actuation of one handle blocking movement of the other handle and vice versa primarily due to the slotted connection between the levers and the pawl. Actuation of one handle opening the latch mechanism and also the upper left latchable hinge for opening the tail gate about the horizontal hinges. Actuation of the other handle opening the latch mechanism and also the lower right latchable hinge for opening the tail gate about the vertical hinges.

3,408,101
CONTROL ROD DRIVE MECHANISM
Fernand Jules Etienne Savary, St. Leu-la-Foret, France, assignor to Societe des Forges et Ateliers du Creusot (S.F.A.C.), Paris, France
Filed July 5, 1966, Ser. No. 562,746
Claims priority, application France, July 12, 1965, 24,401
8 Claims. (Cl. 294—86.25)



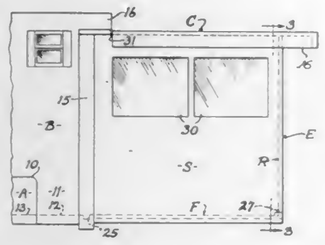
Drive mechanism for a control rod of a nuclear reactor has a threaded rotary driven rod with a follower thereon coupled to a sleeve which sleeve is splined in an outer sleeve. A grab is mounted at the end of the sleeve and

is actuated by an operating pin engaged by the threaded rod. Latches hold the threaded rod in upper position for movement of the control rod which when released drop the threaded rod and associated structure for engagement for the rotary rod with the operating pin.

3,408,102
CAMPER WITH FOLDABLE COMPARTMENT

Merle D. McNamee, 2501 Rosemead Blvd., El Monte, Calif. 91733

Filed Jan. 3, 1967, Ser. No. 606,619
8 Claims. (Cl. 296—23)

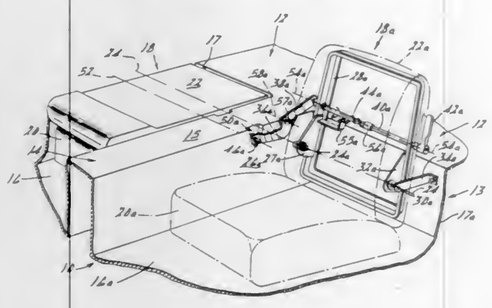


Disclosed herein is a camper body having at its rear end a foldable compartment comprising respective floor, back, side and roof panels which, in opened-out positions, define a cantilevered, communicating, cubical rearward extension of a fixed camper body, and which are foldable to positions occupying adjacent transverse vertical planes, closing the open rear end of the fixed body. Cantilever support is provided by side panels which are hinged to the sides of the fixed body on vertical axes for transverse swinging. The floor has its side margins supported on longitudinal shoulders along the inner lower margins of the side panels, and swings upwardly to its folded position. The rear panel is hinged to the rear margin of the floor panel, and folds downwardly upon the floor, with which it is then folded upwardly. The side panels fold inwardly behind the floor and rear panels, and the roof panel swings downwardly behind the side panels and functions as a casing in which the other panels are enclosed.

3,408,103
FOLDING SEAT ASSEMBLY

Keith A. Hewitt, Highland, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed July 2, 1965, Ser. No. 469,275
25 Claims. (Cl. 296—66)



This invention relates to a folding seat assembly for use with a multi-purpose vehicle body. The seat assembly includes a seat back mounted for movement between a generally upright seating position and a horizontal position and a locking mechanism responsive to movement of the seat back to each of its positions to lock the seat back in that position. The locking mechanism includes a handle mounted on the seat back for unlocking the seat back.

3,408,104
WRITING ARM TYPE CONFERENCE CHAIR

Burt F. Raynes, Chula Vista, Calif., assignor to Rohr Corporation, a corporation of California

Filed Apr. 10, 1967, Ser. No. 629,482
9 Claims. (Cl. 297—162)

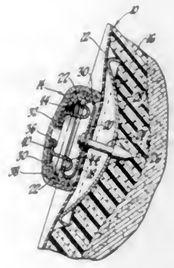


A caster supported, fully upholstered executive chair having fixed side arms, a tiltable back, and a swivel or rotating type seat adjustable for height, has a writing arm cantilevered and supported on one of the side arms for swinging and axial movements between storage and writing positions. Concealed magnets secure the writing arm in storage position at the side of the chair and permit easy release of the arm for movement over and in front of the chair occupant.

3,408,105
SEAT BUTTON FASTENER

Walter L. Portell, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 29, 1965, Ser. No. 510,200
2 Claims. (Cl. 297—219)

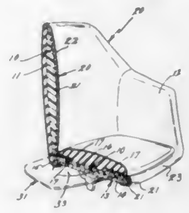


A decorative button for trimming a seat fabric comprises a mounting device extending through and permanently fixed to the fabric and a visible portion of the button concealing the mounting device, with a detachable connection between the visible portion and mounting device.

3,408,106
MOLDED CHAIR CONSTRUCTION

Vernon B. Bolling and Edward C. Levit, Grand Rapids, Mich., assignors to Steelcase, Inc., Grand Rapids, Mich., a corporation of Michigan

Filed Oct. 13, 1966, Ser. No. 586,528
8 Claims. (Cl. 297—452)

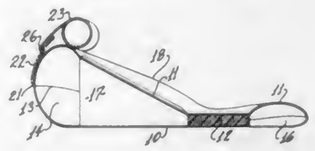


A chair construction embodying one integrally molded shell member which is fabricated by molding a rigid foamed urethane core with layers of weftless material on opposite surfaces thereof whereby the core is sandwiched between the layers. This shell has a seat section on the bottom of which is integrally molded a planar reinforcing member and on the upper surface of which a well or recess is provided. Mounted on this seat section is a seat board which has a central aperture with a padding member overlying the seat board. The padding member has a central portion which extends downwardly beyond the seat board into the well or recess of the shell's seat section. This construction provides a rigid, lightweight and relatively thin appearing seat section.

3,408,107
INFLATABLE CHAIR

Brian D. Savage, Birmingham, Ala., assignor, by direct and mesne assignments, of fifty percent to George G. Plosser and fifty percent to Julia W. Barber

Filed Feb. 9, 1967, Ser. No. 615,013
5 Claims. (Cl. 297—456)



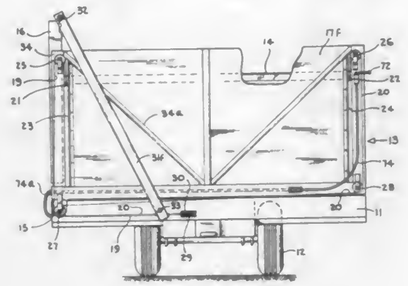
An inflatable chain having a cushion-like seat secured between upper and lower sheets of flexible material with the seat being intermediate the ends of the sheets. The sheets are connected to each other to define air tight chambers at opposite sides of the seat. Generally triangular shaped gussets are mounted between the sheets in one chamber with the upper edges of the gussets extending downwardly toward the seat to define a downwardly sloping body support portion. A cushion is adjustably connected to the body support portion.

3,408,108
WAGON WITH DESCENDING FLOOR

John L. Duda, Jr., Rte. 1, Box 91A, Oviedo, Fla. 32765

Filed Dec. 20, 1966, Ser. No. 603,225
7 Claims. (Cl. 298—18)

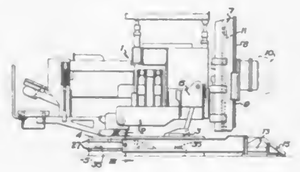
This invention relates to a wagon that is eminently suited for use in the field in connection with the loading and unloading of produce, in that it advantageously utilizes a movable floor that gradually may be lowered from a raised position as the loading of the wagon with produce progresses. In this manner the height the produce must fall inside the wagon is minimized, thus avoiding in most instances any damage to the produce that might have otherwise occurred during the loading procedure. The suspension arrangement for the floor is of such construction that it does not interfere with a tilting of the upper portion of the wagon during the subsequent unloading procedure, and also it does not cause any marked change in the perpendicular relation the floor bears to the sides of the upper portion of the wagon.



3,408,109
MINING MACHINE WITH ROCKER ARM CONTROLLED FRONT PUSHER PLATE

Peter Lockwood, near Darlington, Durham, England, assignor, by mesne assignments, to Mining Progress Inc., Highland Mills, N.Y., a corporation of New York

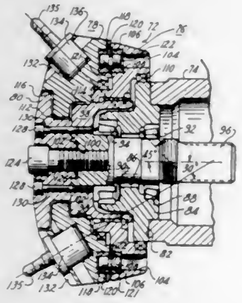
Filed June 10, 1966, Ser. No. 556,615
Claims priority, application Great Britain, July 9, 1965, 29,122/65
3 Claims. (Cl. 299—56)



Self-advancing mining machine having forwardly mounted rotary cutting means on the machine frame, a conveyor transversely mounted on a conveyor frame at the foot of the front of the machine frame and advanceable and retractable with respect to the machine frame, the top of the front of the conveyor being spaced from the mine floor in any position of the conveyor, a pusher plate pivotally mounted at its rear edge along the top of the front of the conveyor about a pivot axis correspondingly spaced from the mine floor, and means in the conveyor frame below the conveyor for rocking the pusher plate between a first position downwardly and forwardly inclined to a second position in which the front edge of the pusher plate is raised substantially above such pivot axis and in turn above the top of the front of the conveyor to permit mineral loading of the conveyor thereby, such rocking means for example including in the conveyor frame a hydraulic cylinder and ram assembly

and a rocking support lever secured to such conveyor frame, an underside pivot on the pusher plate underside, and a link extending forwardly to the underside pivot and pivotally connected at a common pivot at its rear end to both said ram and support lever and at its forward end to said underside pivot to provide an operative connection below the conveyor between the ram and pusher plate.

3,408,110
CUTTER HEAD HAVING A TORQUE RESPONSIVE SHEARABLE CONNECTION
Jerry Karlovsky, Jr., Nashville, and Richard A. Butler, Carlyle, Ill., assignors to National Mine Service Company, Pittsburgh, Pa., a corporation of West Virginia
Original application Dec. 2, 1966, Ser. No. 598,858. Divided and this application July 3, 1967, Ser. No. 650,919
6 Claims. (Cl. 299—86)



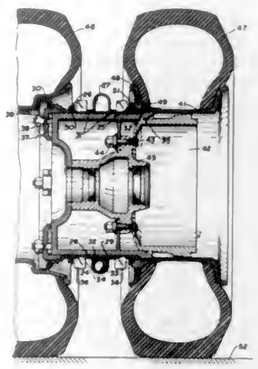
A cutter head rotatably mounted on a support member. The cutter head has an annular body portion secured to a drive shaft extending axially through the support member. The drive shaft is supported in a bearing support and rotates the body portion relative to the support member. An annular front head portion is positioned in abutting relation with the front face of the cutter head body portion. A cap member, secured to the drive shaft, retains the front head portion in position on the body portion. The head portion has an irregular convex front cutting face with cutter bits extending generally forwardly from the face and at angles of about 45° and 30° to the axis of the drive shaft. The bits are secured to the face at an angle of about 15° to the bit transverse axis. The rear face of the annular front head has a plurality of recessed portions therein and the body portion has a plurality of passageways aligned with the recessed portions. Shear pins extend through the passageways into the recessed portions to connect the head portion to the body portion for rotation therewith. When the resistance exceeds the shear strength of the shear pins, the cutter head portion is disengaged from the body portion and prevents damage to the drive gearing for the cutter head body portion.

3,408,111
VENTILATING WHEEL BALANCER
George Ward Foote, Atlanta, Ga., assignor to AWB Manufacturing, Inc., Stafford, Kans., a corporation of Kansas
Filed Sept. 6, 1966, Ser. No. 577,333
11 Claims. (Cl. 301—5)

11. A spacer band and wheel balancer for attachment between dual rims having axially facing abutment shoulders comprising:

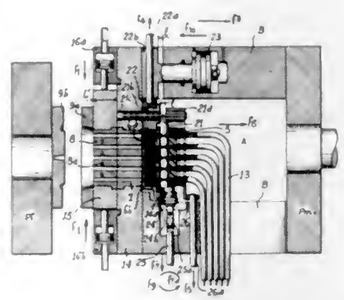
(a) a circular spacer rim between the abutment shoulders of the dual rims,

(b) a hollow balancing tube having movable weights within, and



(c) means for mounting said balancing tube on the periphery of said spacer rim.

3,408,112
PROCESS FOR MANUFACTURING BRUSHES FROM A BUNDLE OF LOCKS OF THREADS AND A DEVICE FOR PERFORMING THIS PROCESS
Rafal Piotrowski, 44 Rue Pixerecourt, Paris, France
Filed Mar. 2, 1966, Ser. No. 531,108
Claims priority, application France, Mar. 5, 1965, 8,190
17 Claims. (Cl. 300—21)



The process includes the steps of a plurality of elongated locks of thread peripherally at a position spaced from one of the ends thereof, moving said locks through said peripheral gripping action in a direction toward said one end thereof while continuously guidingly supporting the portion of the locks between said one end and the position of peripheral gripping action at positions spaced apart changing distances which at most are less than the critical buckling point of the locks, and relieving the peripheral gripping action, repeating the gripping, moving and relieving steps to advance successive end portions of said locks into a brush forming position, fusing the extremities of the threads of successive end portions of the locks while in said brush forming position, moulding a brush body of thermoplastic material about the heads of successive end portions of the locks while said end portions are held in said brush forming position against longitudinal movement in a direction opposed to the direction of movement of said locks, and severing successive end portions of the locks in said brush forming position at positions spaced from their heads to form tufts.

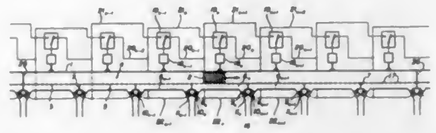
The apparatus comprises a first moulding member having a plurality of openings therein for receiving the end

portions of a plurality of elongated locks of thread, a second moulding member cooperable together with said first member to define therewith a mould cavity within which the extremities of the locks disposed in said openings extend for receiving a thermoplastic material to be moulded about the extremities of the locks, means for severing the locks disposed in the openings of said first moulding member at positions spaced from said mould cavity to form the ends of the tufts of a brush, said moulding members being movable relatively apart to permit removal of a brush from said cavity and said openings and means for advancing said plurality of elongated locks longitudinally to disposed successive end portions thereof within said openings and said cavity.

ERRATUM

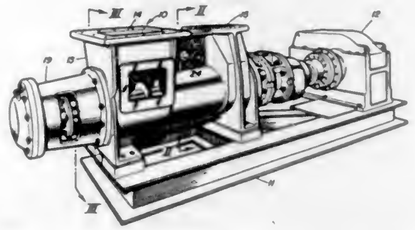
For Class 301—5 see:
Patent No. 3,408,111

3,408,113
PNEUMATIC TRANSPORT MEANS
Gabriel Bouladon, "Chanteoiseau," Rte. de Saint-Loup, Versoix, Geneva, Switzerland
Filed Aug. 23, 1967, Ser. No. 662,654
Claims priority, application Switzerland, Aug. 24, 1966, 12,368/66
8 Claims. (Cl. 302—2)



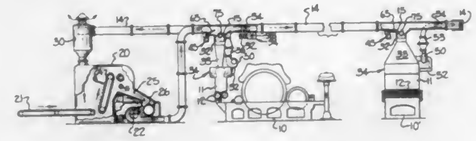
Pneumatic transport means comprising a tube divided by a longitudinally extending floor into an upper segment along which may slide a transport unit and into a lower segment divided up into a succession of chambers provided with reversably acting fans operating either to supply air under pressure into the upper segment behind the transport unit or to extract air from the upper segment in front of the transport unit through pressure responsive valves in said floor, thereby to propel the transport unit along said upper segment under the action of the pressure difference created on opposite ends of the transport unit.

3,408,114
PUMP
Elliott H. Blackwell, Warren, Mass., assignor to Warren Pumps, Inc., Warren, Mass., a corporation of Massachusetts
Filed Oct. 19, 1966, Ser. No. 587,755
3 Claims. (Cl. 302—14)



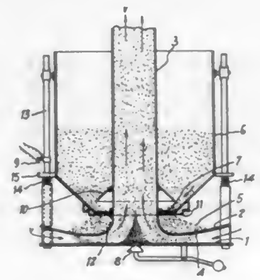
This invention relates to a pump and, more particularly, to apparatus arranged to bring about the flow of materials in a conduit system by means of relatively moving conjugate surfaces wherein means is provided for tapping gas from the system at a point where gas is formed.

3,408,115
APPARATUS AND METHOD FOR DISTRIBUTING TEXTILE FIBERS
Ferdinand Reiterer, Rueil-Malmaison, France, assignor, by direct and mesne assignments, to Etablissements Neu, Lille, France, a company of France
Filed Mar. 30, 1966, Ser. No. 538,691
Claims priority, application France, Apr. 3, 1965, 11,843
6 Claims. (Cl. 302—28)



A method and apparatus for distributing textile fibers in which fibers are conveyed pneumatically from a source through a conduit above and in continuous communication with a series of hoppers associated with respective textile machines, and fibers are normally engaged above and pushed toward the hoppers by respective continuously moving intercepting elements. Whenever a predetermined amount of fibers is present in any one or more of the hoppers, a corresponding diverting means is actuated to divert the air stream and fibers borne thereby in a by-pass path past the respective area of communication between the conduit and the respective hopper.

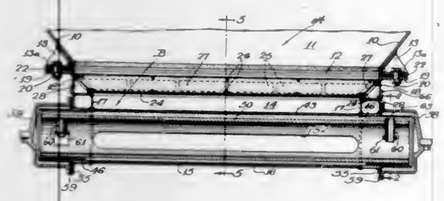
3,408,116
MEANS FOR CONVEYING A GRANULAR PRODUCT SUSPENDED IN A GASEOUS CURRENT AND SEPARATING THE PRODUCT AT THE END OF THE CONVEYING OPERATION
Christine Elisabeth Höing, Rue de Beaupreau 29, Sainte-Genevieve, Oise, France
Filed Feb. 28, 1967, Ser. No. 619,269
Claims priority, application France, Mar. 10, 1966, 52,813
5 Claims. (Cl. 302—52)



Apparatus consists of a pair of horizontal coaxial super-posed circular plates, the top plate of which converges towards the bottom plate in a direction towards the centre of the plates and opens into a tube extending vertically axially of the plates. The tube has upwardly divergent walls and is capped by a tore shaped downwardly directed member having a central bore in register

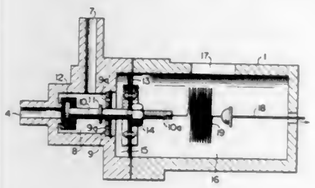
with the upper part of the tube. Air is directed through the apparatus, the granular produce being injected into the air stream. When the granular product reaches the top of the tube it is separated from the air stream by the centrifuging action of the tore shaped member.

3,408,117
RAILROAD CAR HOPPER DISCHARGE APPARATUS
Clarence J. Koranda, Western Springs, Ill., assignor to North American Car Corporation, a corporation of Delaware
Filed Oct. 17, 1967, Ser. No. 675,868
16 Claims. (Cl. 302—52)



Discharge apparatus for railroad car hoppers adapted to contain pulverulent, pellet or granular types of dry bulk materials.

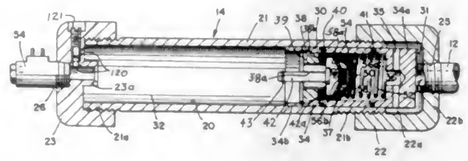
3,408,118
BRAKE APPARATUS FOR A VEHICLE
Tadao Asano, Kariya, and Tatsumi Torii, Anjo, Japan, assignors to Aisin Seiki Kabushiki Kaisha, Kariya, Aichi Prefecture, Japan
Filed Dec. 14, 1966, Ser. No. 601,682
3 Claims. (Cl. 303—22)



This invention relates to a brake apparatus for a vehicle, particularly to a brake apparatus equipped with a brake booster which is arranged between the master cylinder and the wheel cylinders, the negative pressure generated in an internal combustion engine or a vacuum pump being utilized for operating said brake booster. In the brake apparatus of the present invention, there is provided a device for controlling the negative pressure for the booster according to variation of weight of the load on the vehicle.

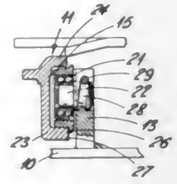
3,408,119
SAFETY VALVE SYSTEM FOR BRAKE LINES
Wilhelm A. Berglund, 6834 W. Ardmore Ave., Chicago, Ill. 60631
Filed Aug. 29, 1966, Ser. No. 575,881
6 Claims. (Cl. 303—84)

There is provided a safety valve assembly for a brake line having a piston mounted therein for free sliding movement and dividing the valve cylinder into inlet and outlet chambers. Should a fluid leak occur downstream of the safety valve assembly, the pressure in the discharge chamber in the cylinder is rapidly reduced to zero and the piston



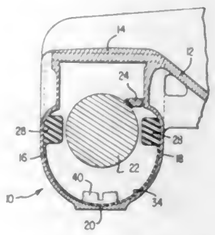
moves downstream to close off and lock at the discharge end so that no fluid will be lost from the master cylinder.

3,408,120
MOUNTING OF RODS OR SPINDLES
Ronald Goodacre, Basingstoke, England, assignor to Lansing Bagnall Limited, Basingstoke, England, a British company
Original application June 1, 1966, Ser. No. 554,434, now Patent No. 3,358,791, dated Dec. 19, 1967. Divided and this application June 19, 1967, Ser. No. 647,035
5 Claims. (Cl. 308—15)



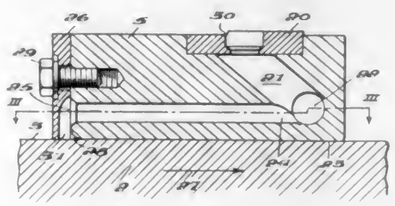
A rod or spindle is mounted within a split housing having a clamping pin or bolt for closing the housing onto the rod or spindle, the rod or spindle having a circumferential groove which is tangentially engaged by the clamping pin or bolt whereby rotation of the rod or spindle in the housing, when unclamped, results in longitudinal adjusting movement of the rod or spindle.

3,408,121
JOURNAL STOP ASSEMBLY
Richard A. Pinney, 200 S. Michigan Ave., Chicago, Ill. 60604
Continuation of application Ser. No. 372,813, June 5, 1964. This application May 11, 1967, Ser. No. 643,005
7 Claims. (Cl. 308—40)



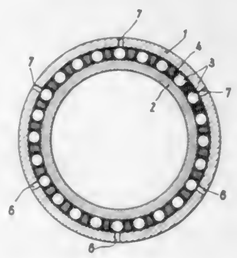
A convertible journal stop assembly is disclosed for use with ribbed or non-ribbed journal boxes, the assembly including a pair of block-shaped stop portions and a blanket portion integrally connected to the same and arranged to rest within the bottom of a journal box to underlie a conventional journal lubricator. Each block-shaped portion has a laterally open groove adjacent the journal box wall for endwise reception of a filler core which is to be used when the assembly is disposed in a non-ribbed journal box.

3,408,122
AXIAL PLAIN BEARING
Willy Burger, deceased, late of Wettingen, Switzerland, by Jeanne Fanny Burger and Uli Raymond Burger-Straumann, sole heirs, Wettingen, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company of Switzerland
Filed July 19, 1966, Ser. No. 566,394
Claims priority, application Switzerland, July 28, 1965, 10,541/65
4 Claims. (Cl. 308—160)



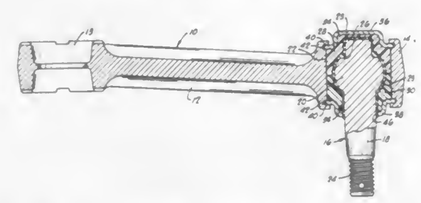
A plain bearing structure for absorbing axial thrust of a rotatable shaft comprises a plurality of bearer segments arranged around the shaft and which establish a sliding contact with a collar on the shaft. Each bearer segment includes an array of internal cooling ducts arranged parallel with and close to that face of the segment which confronts the face of the shaft collar and a liquid lubricating medium under pressure passes first through the cooling ducts to extract heat from the segment and is thence delivered to a substantially radially extending distribution channel open along its entire length from which it discharges in the direction of the face of the thrust collar to lubricate the contacting faces of the bearer segments and shaft collar. The lubricating medium is then immediately drained from an annular chamber surrounding a part of the shaft collar and bearer segments so that this chamber does not fill with the medium and entail additional losses.

3,408,123
RADIAL ROLLER BEARING
Alfred Jakob Zwicky, Villa Belsito, Rapperswil, St. Gall, Switzerland
Filed Nov. 9, 1966, Ser. No. 593,071
Claims priority, application Germany, Nov. 11, 1965, Z 11,870; May 6, 1966, Z 12,201
6 Claims. (Cl. 308—187)



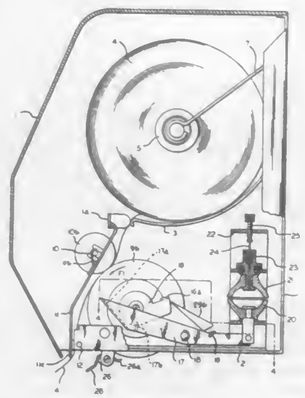
1. Radial roller bearing comprising a pair of races, a cage defining a pluraliy of pockets disposed between said races and a plurality of rollers disposed in said pockets, said cage being received between said races with a minimum amount of tolerance between the cage and the races, individual said race pockets defining self sealing spaces and one said race which does not rotate relative to the radial load to be absorbed being provided along one part of its circumference with at least one passage for supplying oil under pressure to said pockets and along another part of its circumference with at least one passage for discharging the oil.

3,408,124
IDLER ARM CONSTRUCTION
James O. Melton, 1208 Cruce St., Norman, Okla. 73069, and Thomas B. Wilkinson, 208 Ranchwood Drive 73137, and James H. Jackson, 1830 Oakhill Drive 73127, both of Oklahoma City, Okla.
Filed Apr. 18, 1966, Ser. No. 543,326
10 Claims. (Cl. 308—238)



An idler arm assembly including an idler arm having a hub at one end thereof with a bore extending through the hub, and a ball-carrying stud connected to the idler arm with the ball portion of the stud positioned in the bore of the hub. The ball portion is clad with a plastic liner which is in bearing engagement with a pair of complementary sleeve segments positioned in the bore around the ball portion and liner. Confining end caps are positioned in the hub at each end of the bore and seal the bearing.

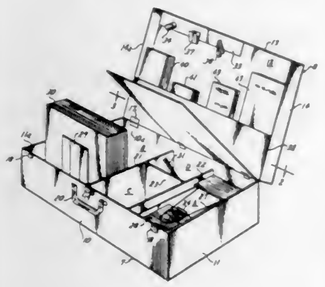
3,408,125
PAPER DISPENSER
Holger Rasmussen, Lausanne, Switzerland, assignor to Steiner Company Lausanne S.A., Lausanne, Switzerland, a corporation of Switzerland
Filed Oct. 10, 1966, Ser. No. 585,416
5 Claims. (Cl. 312—39)



There is disclosed a paper towel dispenser of the character wherein the user grips and pulls an exposed leading end of the paper to extract paper from the dispenser, a

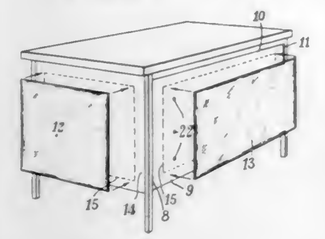
stop mechanism automatically stopping outward movement of the paper after a predetermined length thereof has been withdrawn, timing mechanism actuated by the stop mechanism positively to prevent dispensing of the paper for a predetermined time interval, an internal feed mechanism for advancing the paper at the end of the predetermined time interval so as to project the leading end of the paper out of the dispenser, and a manually operable mechanism for dispensing paper from the dispenser if there is no free end extending outwardly therefrom.

3,408,126
PORTABLE OFFICE
Joyce D. Mortensen, 3331 W. Roanoke, Phoenix, Ariz. 85009
Filed Jan. 25, 1967, Ser. No. 611,756
4 Claims. (Cl. 312—183)



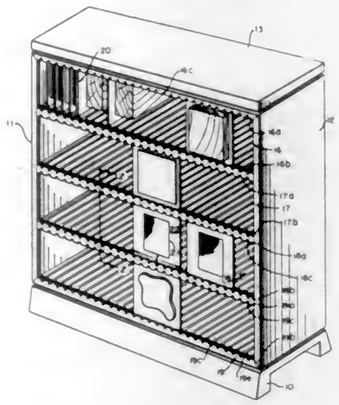
A valise having a box-like body and a hinged cover adapted for use as a portable office. The body has partitions defining compartments used for file storage. The cover has pockets and holding devices for orderly storage of a comprehensive assortment of office and secretarial supplies.

3,408,127
OFFICE FURNITURE HAVING REMOVABLE DECORATIVE PANELS
Rene Vincens, Neuville-les-Dieppe, France, assignor to Societe Civile de Recherches et d'Etudes Industrielles, Neuville-les-Dieppe, France
Filed Aug. 8, 1966, Ser. No. 570,820
Claims priority, application France, Aug. 26, 1965, 29,514; Apr. 8, 1966, 57,129
6 Claims. (Cl. 312—194)



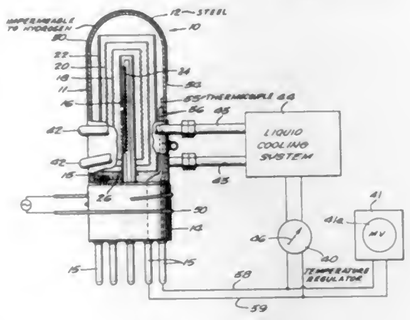
An article of office furniture, for example, a metal desk has one or more finished panels permanently a part of the furniture and one or more removable panels mounted on the permanent panels by concealed attachment means. Each removable panel comprises a frame, a sheet of flexible sheet material stretched over the frame and padding underlying the sheet material. The attachment means may be resilient clips on the frame of the removable panel fitting into holes in the corresponding permanent panel or U-shaped clamps securing the sheet material to the frame and the frame to the furniture. The removable panel may cover only a central portion of the corresponding permanent panel, leaving a border portion of the permanent panel exposed.

3,408,128
DISPLAY AND STORAGE DEVICE
Ernest J. Kump, 325 Lytton Ave., Palo Alto, Calif. 94301
Filed Feb. 9, 1967, Ser. No. 614,842
4 Claims. (Cl. 312—234)



A cabinet for displaying and storing samples of different materials. Each material is mounted on an identical base. The bases are normally stored in parallel grooves in compartments in the cabinet and pulled out and placed in grooves in the leading edge of the compartment dividers for display.

3,408,129
HYDROGEN DETECTOR WITH TEMPERATURE SENSING AND CONTROL MEANS
Samuel C. Lawrence, Jr., 1814 S. 142nd Place, Seattle, Wash. 98168
Continuation of application Ser. No. 83,704, Jan. 19, 1961. This application May 24, 1966, Ser. No. 559,655
10 Claims. (Cl. 316—1)



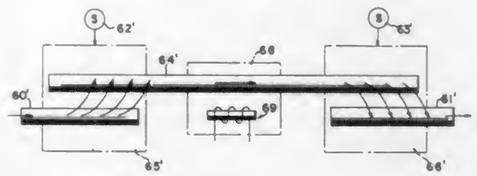
This is concerned with systems employing electron discharge tubes for measuring the hydrogen effusion properties of fluids. Hydrogen effuses from the fluid into the tube through its wall. Some of the hydrogen is captured by the wall. The tube is heated to an elevated temperature in order to expel the captured hydrogen from the wall before the next use and the temperature is controlled during use. An electron current flowing in the tube is used to measure the amount of hydrogen that has entered the tube during successive exposures to hydrogen effusing fluids.

3,408,130
NONEVAPORATIVE GETTER
Jan Josephus Bernardus Fransen and Christianus Petrus Gerardus Gilsing, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Co., Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 5, 1967, Ser. No. 607,467
Claims priority, application Netherlands, Jan. 8, 1966, 6600237
5 Claims. (Cl. 316—25)



A nonevaporative getter for an electric discharge tube which consists of a mixture of superficially oxidized zirconium and tungsten.

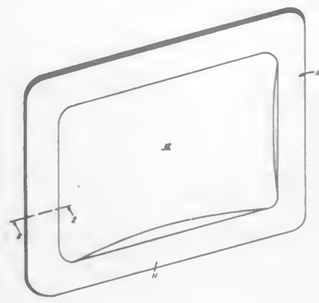
3,408,131
APPARATUS FOR COUPLING AND AMPLIFYING LIGHT BETWEEN OPTICAL FIBERS
Narinder S. Kapany, Woodside, Calif., assignor to Optics Technology, Inc., Belmont, Calif.
Filed Nov. 13, 1963, Ser. No. 323,446
7 Claims. (Cl. 350—96)



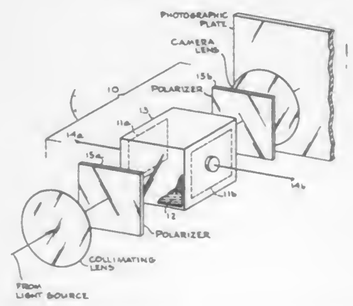
An apparatus for coupling and amplifying light between optical fibers to produce a switching function for providing various forms of logic circuits. A light-transmitting medium, enveloping adjacent pairs of optical fibers, and having an index of refraction that can be varied as desired to produce coupling of light between the adjacent fibers.

3,408,132
PROJECTION SCREEN
Jasper S. Chandler, James J. De Palma, and Stanley B. Saunders, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Nov. 21, 1966, Ser. No. 595,926
16 Claims. (Cl. 350—125)

1. A projection screen comprising:
a member having a reflecting surface provided with generally elongated irregularities formed by the interaction of the facing surfaces of at least two such members when compression rolled and separated, said irregularities extending in a generally vertical direction for providing preferred directional reflectance of any light incident on said reflecting surface.

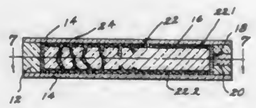


3,408,133
KERR-CELL CAMERA SHUTTER
Stuart M. Lee, Glendora, Calif., assignor to Electro-Optical Systems, Inc., Pasadena, Calif.
Filed Jan. 23, 1964, Ser. No. 339,820
5 Claims. (Cl. 350—150)



A Kerr-cell camera shutter having as its birefringent material an organic compound containing a nitrile group such as 4-biphenyl carbonitrile and cyanoguanidine or a nitro group with another nitro group or a methyl group such as 2,4-dinitrotoluene, meta-dinitrobenzene, and meta-nitrotoluene.

3,408,134
VARIABLE DENSITY LIGHT-FILTERING MEANS UTILIZING STANNOUS CHLORIDE AND THIAZINE DYE
Richard J. Hovey, Worcester, Mass., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed Apr. 22, 1963, Ser. No. 274,415
8 Claims. (Cl. 350—160)



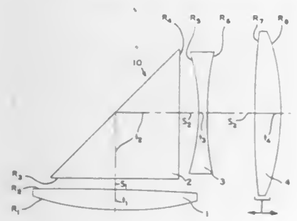
1. A variable density light-filtering means comprising a solution of the reversible reducing agent stannous

chloride, said solution having a pH adjusted to prevent precipitation of stannous and stannic ions, and a thiazine dye adapted to be colorless in said solution in the absence of ultraviolet radiation and to be colored in said solution under ultraviolet irradiation.

3,408,135
PROJECTIVE OBJECTIVE HAVING THREE ELEMENTS PLUS AN INTEGRAL RIGHT ANGLE PRISM

Roger H. Appeldorn, White Bear Lake, Minn., and David C. Gilkeson, Irondequoit, N.Y., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Continuation of application Ser. No. 151,611, Nov. 13, 1961. This application Apr. 12, 1966, Ser. No. 547,706
2 Claims. (Cl. 350—202)



1. A lens system consisting essentially of four air-spaced lens elements, one of said elements being a triangular prism integrated in said system for changing the direction of the optic axis of the lens system, the other three of said elements being optically aligned along said optic axis, the first of said three elements being a biconvex lens positioned adjacent one side of the prism, the second being a biconcave lens positioned adjacent the other side of the prism, and the third being a biconvex lens positioned adjacent said biconcave lens and movable along the optic axis to provide a variable spacing from said biconcave lens, and wherein the characteristics of the lens elements and their spatial relationship are substantially as in the following table:

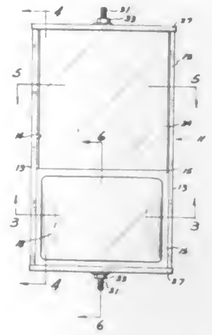
Lens	N_D	V	Radii, mm.	Thicknesses and airspaces, mm.
1	1.6203	60.3	$R_1=+165.25$	$t_1=9.5$
			$R_2=-1166.0$	$S_1=5.6$
2	1.5170	64.5	$R_3=\infty$	$t_2=63.5$
			$R_4=\infty$	$S_2=10.0$
3	1.621	36.2	$R_5=-104.0$	$t_3=4.3$
			$R_6=+216.6$	S_3 varies 15.7 to 30.7
4	1.6230	56.9	$R_7=+1,425.0$	$t_4=13.0$
			$R_8=-107.0$	

wherein the lens elements are numbered in sequence from front to rear; N_D indicates the respective refractive indices for the spectral D line; V indicates the dispersive indices; the radii of curvature R of the lens surfaces, the axial thicknesses t of the lens elements and the airspaces S between lens elements being identified by subscripts numbered in sequence in the same order as the lens numbers, plus and minus values of R indicate surfaces which are respectively convex and concave to radiation entering the lens system at lens 1; and the quantities R, t and S are expressed in millimeters for a lens system having an equivalent focal length of substantially 358 millimeters and vary proportionately for lens systems having other equivalent focal lengths.

3,408,136
REARVIEW VEHICLE MIRROR WITH FLAT AND CONVEX ELEMENTS

Victor Travis, Detroit, Mich., assignor to Signal-Stat Corporation, a corporation of New York

Filed May 25, 1965, Ser. No. 458,722
3 Claims. (Cl. 350—293)

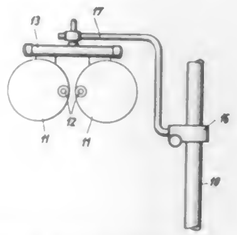


A rear view mirror which includes an elongated shell in which are mounted a rectangular convex mirror and a flat mirror, the rectangular convex mirror being surrounded by a non-metallic frame which includes an external groove for receiving therein one edge of the flat mirror with the longitudinal edges of the flat mirror being spaced from the elongated shell by longitudinal non-metallic strips.

3,408,137
EYE TESTING DEVICE WITH TEST LENSES AND PIVOTED SUPPORT

Josef Reiner, Cologne, Germany, assignor to J. D. Moller Optische Werke GmbH, Wedel, Holstein, Germany

Filed May 17, 1963, Ser. No. 281,197
Claims priority, application Germany, Feb. 20, 1963, M 55,842
1 Claim. (Cl. 351—28)



An eye testing device having a pair of housings containing selectable optical elements mounted on an offset arm which can be clamped in any desired orientation about a horizontal pivot axis and the horizontal pivot axis can be raised or lowered to pass adjacent to the patient's cervical vertebra.

3,408,138
COOLING APPARATUS FOR MOTION PICTURE PROJECTOR

Fred C. Harz, Bronx, and Frank S. Timko, Maspeth, N.Y., assignors to Inflight Motion Pictures, Inc., New York, N.Y., a corporation of Delaware

Filed Aug. 4, 1966, Ser. No. 570,279
7 Claims. (Cl. 352—202)

A motion picture projector using a two-terminal arc-type projection lamp having an integral reflector has an air baffle plate which fits over the front of the reflector

and defines an air passageway from a blower up through the film gate. A rotary shutter located between the baffle

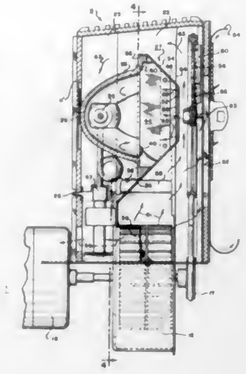
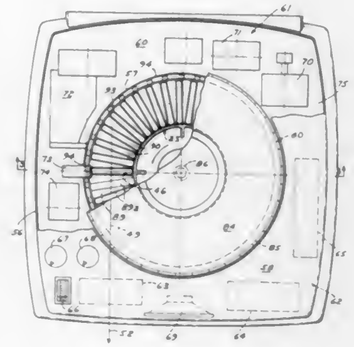


plate and the film gate agitates the air such that the lamp and its terminals are cooled along with the film gate.

3,408,139
AUTOMATIC SOUND SLIDE PROJECTOR

Morris Schwartz, Werner K. Bender, and William Castedello, Plainville, Conn., and Edward K. Kaprelian, Joppa, Md., assignors to The Kalart Company Inc., Plainville, Conn., a corporation of New York

Filed Oct. 26, 1966, Ser. No. 589,643
18 Claims. (Cl. 353—15)

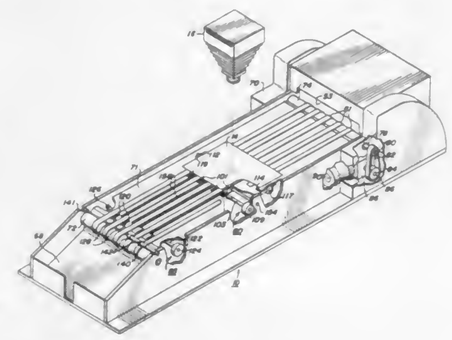


A sound slide projector for projecting still pictures and playing back sound recorded on magnetic tape, or recording sound on such tape. The projector has a casing for a plurality of cartridges, each including a picture to be projected and a magnetic tape from which sound is to be played back or on which sound is to be recorded. The casing has a stationary base plate including a discharge slot and a plurality of compartments movable with reference to the base plate and each accommodating one of the cartridges. Stepwise movement of the compartments brings successive cartridges into registry with the discharge slot to permit dropping of the cartridges into the presentation position. Each cartridge is returned from the presentation position into the respective compartment upon completion of a presentation. The sound projector has an optical projecting system for projecting the picture in a cartridge in the presentation position and a sound system for reproducing sound from the tape of the respective cartridge, or recording sound on such tape. A first drive mechanism steps the casing into successive positions for releasing cartridges and a second drive mechanism winds the tape from a starting position in the cartridge toward the end position. The tape is rewound into its starting position by a cartridge spring which is loaded during winding of the tape by the second drive mechanism and is released when the winding of the tape into a predetermined position is completed. A sound head is pivoted into and out of a position coacting with the tape by a sound head moving mechanism. A cycling mechanism operates the sound head moving mechanism in a predetermined sequence and time relationship.

3,408,140
DOCUMENT HANDLING APPARATUS

Kent W. Hemphill, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Feb. 21, 1966, Ser. No. 528,845
11 Claims. (Cl. 355—23)



4. Apparatus for recording information on both sides of a document in rapid sequence comprising:
conveyor means for transporting a document to be recorded;
means for continuously driving said conveyor means;
first gate means in the transport path to arrest the document at an exposure position relative to a recording medium;
means for recording the document onto the recording medium when in the exposure position;
second gate means in the transport path past said first gate means to arrest a document thereat having had a first surface recorded; and
lift means intermediate said first and second gate means operative to lift the document from the transport path and return it inverted to the transport path at least behind said first gate means.

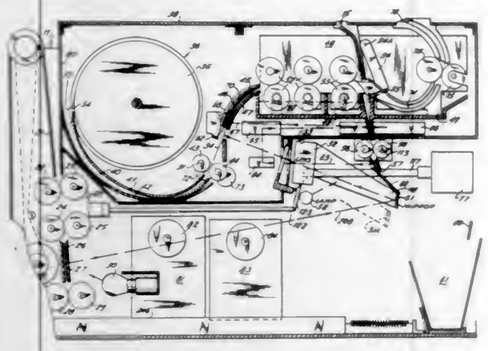
3,408,141
DOCUMENT COPYING DEVICE

G. Peter Grant, Jr., Little Hill, R.F.D. 1, Warner, N.H. 03278

Filed Sept. 2, 1965, Ser. No. 484,679
13 Claims. (Cl. 355—28)

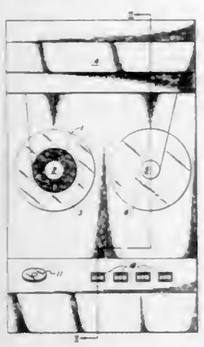
A photographic document copying device in which a single main lens in combination with a mirror system is employed to convert a positive document first into a non-reversed negative copy and thereafter into a non-

reversed positive copy of the original. Feed means are provided to convey the exposed sensitized negative and



positive material through developing solutions carried within the device.

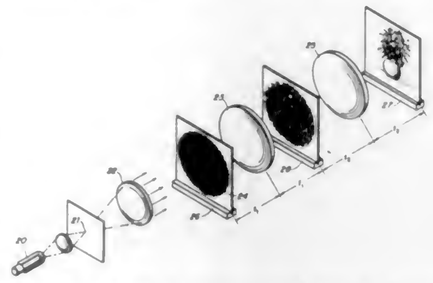
3,408,142
COLOR FILM PRINTING
Robert William G. Hunt, Wealdstone, Harrow, Patrick Matthew Forsyth, Hemel Hempstead, and Christopher Joseph V. Roberts, Wealdstone, Harrow, England, assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed May 28, 1965, Ser. No. 459,823
Claims priority, application Great Britain, June 5, 1964, 23,395/64
10 Claims. (Cl. 355—38)



An apparatus is provided for measuring the average reflectance and color balance of color prints appearing in sequence on a film strip. The strip is illuminated with white light, and output currents corresponding to color reflectances of selected component colors are produced by an array of photoelectric means such as photocells. Filters individual to the photocells produce signals which are integrated over a selected time period. Registers provide a visual digital indication of the color reflectance in each of the selected color components.

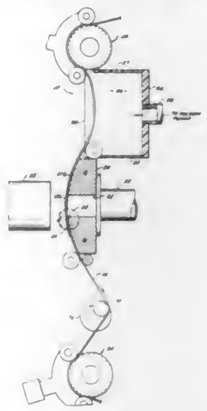
3,408,143
STORAGE AND READOUT OF MULTIPLE INTERLACED IMAGES
Peter F. Mueller, Concord, Mass., assignor to Technical Operations, Incorporated, Burlington, Mass., a corporation of Delaware
Filed Dec. 1, 1965, Ser. No. 510,838
7 Claims. (Cl. 355—40)

Photostorage retrieval methods and apparatus wherein a plurality of images are recorded on the same area of a photosensitive material and then selectively retrieved by the use of a coherent optical detection system and spatial filtering techniques. The recording of multiple images on a common area of a photostorage medium is accomplished by interlacing the various images and respectively multiplying each of the interlaced images with a



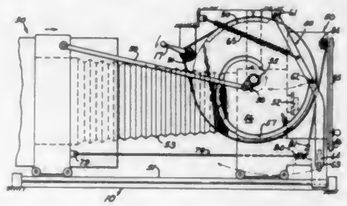
spatial carrier having a predetermined angular orientation and frequency. Fourier transformation of the record thus formed will effect a spatial separation of the object spectra associated with the interlaced images. By appropriate spatial filtering in the Fourier transform space, a selected one or more of the interlaced images may be retrieved.

3,408,144
FILM ADVANCING MEANS
Charles F. Cowan, Jr., Rochester, N.Y., assignor, by mesne assignments, to Producers Service Co., a division of Greyhound Leasing and Financial Corporation, Hollywood, Calif., a corporation of California
Filed May 31, 1966, Ser. No. 553,754
15 Claims. (Cl. 355—48)



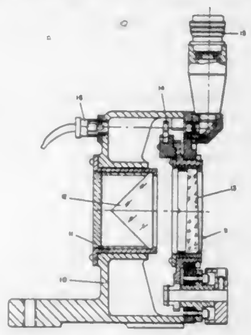
1. Film advancing means for intermittently driving a perforated film, which includes:
first means for advancing said film from a source of supply;
second means for advancing said film to a receiving means; and
an intermittent advancing means between said first and second means and comprising
means for resiliently urging the formation of a loop of said film after it leaves said first means;
gate means having a surface across which said film is adapted to be moved, said gate means having an aperture therein;
a register pin adjacent said aperture, positioned to engage a perforation of said film and limit movement of said film toward said first advancing means, said pin being located as to index a frame on said film with respect to said aperture; and
movable roller means adapted to engage said film and cyclically pull said film past said gate means toward said second means.

3,408,145
AUTO-FOCUS CAMERA AND DIAPHRAGM MEANS THEREFOR
Bernarr M. S. Walzberg, 104 E St., Redwood City, Calif. 94063
Filed Sept. 29, 1965, Ser. No. 491,110
6 Claims. (Cl. 355—59)



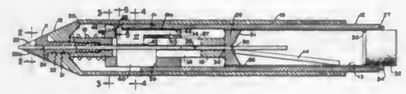
A camera for use in the graphic arts for making negatives from prepared copy. The device includes a frame with a track along which a lens carriage and a negative carriage are shiftable. The lens carriage carries a lens so as to shift it along its optical axis, and the negative carriage is equipped with a negative holder which it can shift along the optical axis. An adjustable-aperture diaphragm is carried by the lens carriage adjacent to the lens and a primary linkage interconnects the frame, the diaphragm and both carriages, so as to adjust the spacing between the lens and a copy holder, and between the lens and the negative holder so as to vary the magnification while maintaining focus and simultaneously adjusting the aperture. Optionally, two copy holders are included, one of which involves a mirror for the purpose of preparing direct or reverse negatives. As an additional feature, a secondary linkage is included in the primary linkage for adjusting the light intensity independently of that of the adjustment provided by the primary linkage.

3,408,146
MICRO-ANGLE GENERATOR
Allister L. Baker, Denville, N.J., assignor to Keuffel & Esser Company, Hoboken, N.J., a corporation of New Jersey
Filed Oct. 24, 1963, Ser. No. 318,591
3 Claims. (Cl. 356—140)



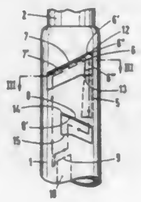
A device for generating minutely accurate angles is provided by aligning the optical axis of a refracting element with a principal plane of a one-plane retro-reflector. Rotation of the refracting element about its optical axis to a position where the plane of refraction lies at an angle with the principal plane of the retro-reflector generates in a plane perpendicular to the principal plane a minutely accurate angle between a collimated light beam incident upon the refracting element and passing to the retro-reflector, thence to be reflected to the refracting element, and the light beam thereafter emerging from the refracting element.

3,408,147
PENCIL
Keith T. Bleuer, 1042 Kalfahs St., Neenah, Wis. 54956
Continuation-in-part of application Ser. No. 622,858, Jan. 31, 1967, which is a continuation-in-part of application Ser. No. 497,206, Oct. 18, 1965. This application July 11, 1967, Ser. No. 659,267
26 Claims. (Cl. 401—65)



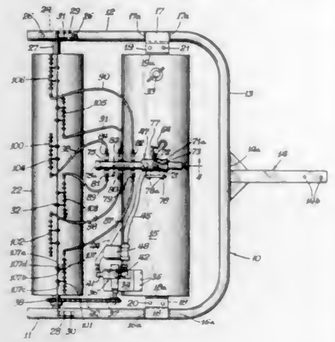
A pencil in which lead sticks are propelled successively through the pencil by means of a lead gripper which moves back and forth longitudinally within the pencil and is actuated by means of a rotary member having a spiral surface for contacting and propelling the lead gripper. A spring returns the gripper to an initial lead gripping position when the end of the spiral surface is reached, and the spring also provides a force for engaging the gripper with lead sticks.

3,408,148
WRITING INSTRUMENT
Helmut Karl Bross, Weichselgarlenstrasse 40, Altenberg, near Nuremberg, Germany
Filed Aug. 1, 1966, Ser. No. 569,427
Claims priority, application Germany, Aug. 2, 1965, B 83,106
11 Claims. (Cl. 401—113)



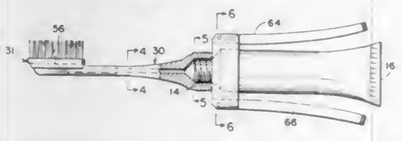
A retractable writing instrument including a writing element movable in a casing and a control mechanism for controlling the position and movement of the element in accordance with the relationship between a cam and a plurality of guide edges at least some of which are defined by slots formed in the casing and separated from one another and which are positioned to control forward and retracted stop positions for the cam and to determine the path of cam movement in both directions between such stop positions.

3,408,149
LIQUID APPLICATOR
Sigmund Allen Lakes, Dundee, Ill., assignor to Lakes Supply Co., Inc., a corporation of Illinois
Filed June 1, 1965, Ser. No. 460,091
2 Claims. (Cl. 401—147)



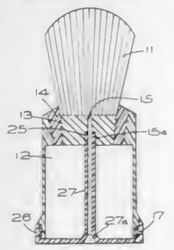
The uniform wetting of the surface of a ground engaging roller for the application of the surface liquids to the ground.

3,408,150
TOOTHBRUSH AND TOOTHPASTE INTEGRAL UNIT
Rubin Figa, 4 Bryant Crescent, White Plains, N.Y. 10605
Filed Feb. 25, 1966, Ser. No. 530,068
2 Claims. (Cl. 401—153)



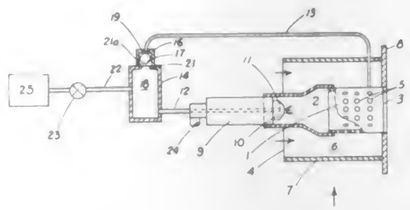
A toothbrush having a bristle head mounted at one end of a hollow longitudinal element which opens into the bristles. A countersunk hollow support is on the other end of the hollow element to receive one end of a tube of toothpaste therein so the toothpaste can pass through the hollow element. A pair of pivotable arms are mounted each respectively in a notch in the support, the closed position of the arms against a positive stop provided by the notch being substantially parallel to the tube, and the open position as the arms swing out allowing access to the tube.

3,408,151
SELF-LATHERING SHAVING BRUSH
John Cleghorn, 18947 Milmore Ave., Gardena, Calif. 90247
Filed Oct. 6, 1965, Ser. No. 493,492
2 Claims. (Cl. 401—291)



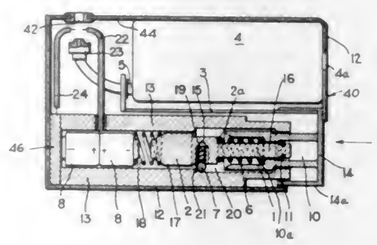
This invention relates to a shaving brush apparatus which provides for a means of conducting soap from pressurized containers directly into the bristles of the shaving brush.

3,408,152
LIQUID FUEL SUPPLY ASSEMBLY
Saxon Cole, Shrewsbury, Mo., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Apr. 3, 1967, Ser. No. 628,036
7 Claims. (Cl. 431—89)



A liquid fuel burning combustor assembly having vapor eliminator means in the fuel supply conduit to eliminate vapors from the fuel stream before the fuel is sprayed into the combustor, and means whereby the separated vapors are conducted to the combustor to be mixed with flames and products of combustion in the combustor.

3,408,153
GAS LIGHTER WITH A MANUALLY OPERABLE PIEZOELECTRIC IGNITION DEVICE
Mitsuei Ishiguro, 31 2-chome, Kaname-cho, Toshima-ku, Tokyo, Japan
Filed Jan. 31, 1967, Ser. No. 612,979
Claims priority, application Japan, Apr. 25, 1966, 41/26,011
6 Claims. (Cl. 431—143)

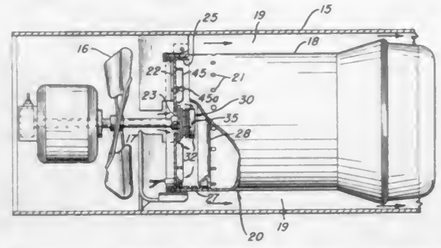


A gas cigarette lighter includes a housing having an upper portion in which is located a tank for the gas fuel which is connected through a discharge pipe to a burner or grate which is oriented below an opening in the top of the housing so that the ignited flame will project out through the opening. In the lower portion of the housing there is arranged an ignition device which includes a piezoelectric element which is connected to a terminal which extends upwardly and over the burner. A complementary ground terminal is oriented to extend at a spaced location from the positive terminal of the piezoelectric element and is grounded to the cigarette housing at its lower end.

A feature of the invention is the provision of a mechanism for causing the hard striking of the piezoelectric element to effect the generation of electricity and a spark between the terminals located over the burner. The mechanism includes a spring disposed between a hammer and the piezoelectric element which urges the hammer away from the element. An actuating member which is formed as a continuation of the upper portion of the housing may be slidably moved in respect to the housing to compress a spring disposed between the actuating member and the hammer. The actuating member is moved to compress the spring to an amount which permits a detent or locking member to ride up over a groove and then permit the rapid movement of the hammer to engage the piezoelectric element to cause a compression thereof and the generation of electricity. The detent member for the lighter comprises a bore member which is biased downwardly by a spring which is contained in a lateral recess defined in the hammer. In the non-actuated position the ball lies behind a groove of the sliding chamber in which the hammer moves and the ball is moved upwardly against this force of its associated spring after the actuating member has been compressed sufficiently to cause it to do so. Thereupon the hammer member is free to move with great force against the piezoelectric element to produce the flow of electricity and the discharge of a spark across the terminals located above the burner.

A further feature of the inventive construction is that the actuator is provided with a control for opening and closing the discharge line of the gas from the storage tank within the lighter so that the gas valve is opened to discharge gas through the burner when the actuator is moved toward an actuated position.

3,408,154
SPINNER FOR A LIQUID FUEL BURNER
John Bachi, Jr., Hammond, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Continuation of application Ser. No. 536,506, Feb. 17, 1966, which is a continuation-in-part of application Ser. No. 366,397, May 11, 1964. This application Feb. 17, 1967, Ser. No. 628,202
1 Claim. (Cl. 431—353)



A spinner apparatus having a plurality of plates, the first plate having a first side and a second side, the first side having extended vanes, an intermediate plate spaced from the second side of the first plate by a spacer means having openings for the dispersal of fuel between the first plate and the intermediate plate. The extended vanes on the first side of the first plate may be substantially radial and straight, or curved in the direction of rotation, or twisted, or curved in the direction of rotation and twisted.

CHEMICAL

3,408,155
SUPERSATURATED BORAX SOLUTION STABILIZED WITH SODIUM DICHROMATE AND METHOD OF MAKING SAME
Joseph G. Bower, Santa Ana, Calif., assignor to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada
No Drawing. Filed Sept. 29, 1965, Ser. No. 491,411
6 Claims. (Cl. 23—59)

A method for producing a clear stable supersaturated solution of borax containing as a stabilizer therefor an alkali metal dichromate or a mixture of alkali metal dichromate and alkali metal hydrogen arsenate and product produced thereby.

3,408,156
PROCESS FOR PRODUCING STABLE SUPERSATURATED BORAX SOLUTIONS
Joseph G. Bower, Santa Ana, Calif., assignor to United States Borax & Chemical Corporation, Los Angeles, Calif, a corporation of Nevada
No Drawing. Filed Sept. 29, 1965, Ser. No. 491,443
1 Claim. (Cl. 23—59)

A process for producing a supersaturated solution of sodium borate. Sodium borate hexahydrate with a quantity of sodium metasilicate is heated to liquify the combination. Thereafter, the liquid is rapidly cooled.

3,408,157
PROCESS FOR RECOVERY OF AMMONIUM SALTS FROM PROCESS WASTE STREAMS AND DISPOSAL THEREOF
Arthur F. Miller, Lyndhurst, and Milena L. Salehar, Cleveland Heights, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed June 1, 1966, Ser. No. 554,334
9 Claims. (Cl. 23—100)

The instant application relates to the recovery of ammonium salts from a waste water stream in a facility for the manufacture of acrylonitrile and/or methacrylonitrile by the vapor phase catalytic oxidation of propylene and/or isobutylene in the presence of ammonia. The ammonium salts recovered are formed when excess ammonia present in the reactor effluent is neutralized by a mineral acid, most preferably dilute sulfuric acid, which forms ammonium sulfate and ammonium bisulfate.

3,408,158
PROCESS FOR SEPARATING SELECTED POLYPHOSPHORIC ACIDS FROM CONDENSED PHOSPHORIC ACID AND NOVEL COMPLEXES RESULTING THEREFROM
David R. Dyroff, Pasadena, Calif., and Chung Yu Shen, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Apr. 20, 1964, Ser. No. 361,161
19 Claims. (Cl. 23—105)

A method is described for separating a polyphosphoric acid from condensed phosphoric acid by contacting the condensed phosphoric acid with a water-insoluble amine compound containing a terminal polar nitrogen containing group and at least one hydrophobic group, the amine compound being used in amounts to form an amine-polyphosphoric acid complex with a polyphosphoric acid and separating the amine-polyphosphoric acid complex and the condensed phosphoric acid.

3,408,159
PREPARATION OF AMORPHOUS ALUMINA
Stanislas Jean Teichner, Lyon, France; Charles Lamar Thomas, Swarthmore, Pa., and Van Can Hoang, Dijon, France, assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed Jan. 4, 1965, Ser. No. 423,391
3 Claims. (Cl. 23—143)

Preparation of amorphous metallic oxides by the addition of dilute solution of a metal salt to a saturated solu-

tion of ammonium carbonate or ammonium bicarbonate at a temperature in the range of −10° C. to 50° C. and subsequently recovering the amorphous product.

3,408,160
VISCOSITY REDUCTION OF ALUMINA HYDRATE FILTER CAKE

Richard Lee Schmidt, Bryant, and John Franklin Morgan, Benton, Ark., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Mar. 10, 1966, Ser. No. 533,188
6 Claims. (Cl. 23—143)

1. Method for reducing the viscosity of alumina hydrate in the form of a wet fiable solid which comprises incorporating in said alumina hydrate from about 0.05% to about 0.15% by weight, based upon the dry alumina hydrate content, of an acid viscosity reducing agent selected from the group consisting of (a) aliphatic monocarboxylic acids containing from 1 to 2 carbon atoms, and (b) mineral acids selected from the group consisting of hydrochloric and nitric acid.

3,408,161
PRODUCTION OF PURIFIED WET PROCESS PHOSPHORIC ACID FROM PHOSPHATE ROCK

John D. Nickerson, Atlanta, and Clifford M. Payne, East Point, Ga., assignors, by mesne assignments, to Armour Agricultural Chemical Company, a corporation of Delaware

Filed Aug. 23, 1965, Ser. No. 481,726
9 Claims. (Cl. 23—165)

Phosphate rock is dissolved in a first reaction zone with sulfuric acid in an aqueous organic solvent medium, the solids separated from the liquid, water introduced into the liquid to form an aqueous phase and an organic phase with the phosphoric acid entering into the aqueous phase, the phosphoric acid being recovered from the aqueous phase, the solids passed to a second reaction zone where it meets the organic phase and additional sulfuric acid, thus forming a second reaction zone in which a slurry is formed, the slurry being filtered and the filtrate recycled to the first reaction zone.

3,408,162
SUSPENSION OF SOLID IMPURITIES IN WET PROCESS PHOSPHORIC ACID

William A. Satterwhite and Robert C. Mazurek, Lakeland Fla., assignors, by mesne assignments, to Armour Agricultural Chemical Company, a corporation of Delaware

No Drawing. Filed Feb. 14, 1966, Ser. No. 527,043
6 Claims. (Cl. 23—165)

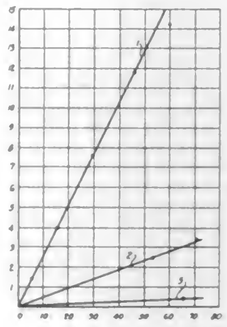
Wet process orthophosphoric acid contains metal impurities which tend to settle out on standing and also when the acid is concentrated to polyphosphoric acid metaphosphate solids are formed. To prevent such precipitation and build-up of solids, lignosulfonate is mixed with the wet process acid at a temperature of about 80–150° C.

3,408,163
ANTHRAQUINONE PROCESS FOR THE PRODUCTION OF HYDROGEN PEROXIDE

Valentin Iosifovich Franchuk, Ulitsa Marii Uljanovoi 9, korp. 1, Apt. 96, and Tatjana Borisovna Andrianova, Butyrsky val 7, Apt. 7, both of Moscow, U.S.S.R., and Mikhail Dmitrievich Bobyshev, deceased, late of Barrikadnaja ulitsa 8, korp. G, Apt. 63, Moscow, U.S.S.R., by Jury Mikhailovich Bobyshev, Dina Ivanovna Bobysheva, and Irina Mikhailovna Bobysheva, administrators, all of Moscow, U.S.S.R.

Filed Oct. 6, 1964, Ser. No. 403,446
7 Claims. (Cl. 23—207)

1. A process for the production of hydrogen peroxide, said process comprising hydrogenating at a temperature up to 65° C. at least one anthraquione in solution with an anthraquinone selective nickel catalyst, said catalyst being prepared by leaching same from a nickel-aluminum alloy with a first aqueous alkali solution at the boiling point of said alkali solution, and with a second aqueous alkali solution at a temperature of 130°–150° C., said leaching at 130°–150° C. imparting selectivity to said catalyst to obtain a hydrogenation product and oxidizing



said hydrogenation product to form hydrogen peroxide.

7. A catalyst for hydrogenating alkaylanthraquinones, said catalyst being prepared by leaching a nickel-aluminum alloy with a first aqueous solution of sodium hydroxide at the boiling point of said first aqueous solution of sodium hydroxide and then with a second aqueous solution of sodium hydroxide at a temperature of 130°–150° C. for a period of 1–3 hours.

3,408,164
PLASMA TREATMENT OF CARBON BLACKS

Marvin M. Johnson, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Continuation-in-part of application Ser. No. 232,108, Oct. 22, 1962. This application July 8, 1966, Ser. No. 568,716
11 Claims. (Cl. 23—209.3)

1. A process for treating a previously formed carbon black with plasma so as to modify at least one property of said carbon black, which process comprises: forming a stream of said plasma; passing said carbon black into contact with said plasma in a contacting zone; and recovering plasma treated carbon black from the effluent stream from said contacting zone.

3,408,165
PRODUCTION OF CARBON BLACK

Fletcher A. Hinson, Jr., Aransas Pass, Tex., assignor to Ashland Oil & Refining Company, Houston, Tex., a corporation of Kentucky

Filed June 24, 1966, Ser. No. 560,317
10 Claims. (Cl. 23—209.4)

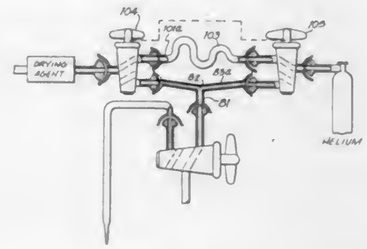
1. In the known process of regulating the surface area of carbon black as it is produced in the furnace process by preparing said carbon black by the decomposition of hydrocarbon feedstock in the presence of hot combustion gases and an alkaline earth metal, the improvement which comprises in combination: conducting said decomposition by providing said hot combustion gases in a first zone into which said feedstock is injected, turbulently mixing said feedstock and hot combustion gases and introducing them into a second zone through a restriction or choke of lesser

cross-section than either of said zones, injecting an alkaline earth metal selected from the group consisting of calcium, strontium and magnesium and mixtures thereof into the resultant turbulent reaction mass in said second zone, cooling said reaction mass below reaction or dissociation temperature a substantial distance downstream of the point of injection of said alkaline earth metal and recovering the resultant product.

3,408,166
GAS EXTRACTOR AND INJECTOR FOR GAS CHROMATOGRAPHY

Samuel Natelson, Valley Stream, N.Y., assignor to Scientific Industries, Inc., Queens Village, N.Y.

Continuation-in-part of application Ser. No. 221,172, Sept. 4, 1962. This application June 21, 1963, Ser. No. 289,680
2 Claims. (Cl. 23—253)

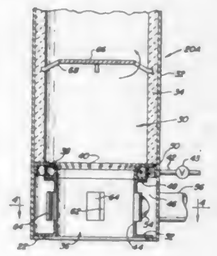


A device for the chromatographic analysis of components in trace amounts of volatile substances in a mixture, which includes means to eliminate a change in a recorder baseline due to different rates of carrier gas flow, comprising an adjustable bypass whereby the gas flow impedance of a sample chamber may be matched with that of the bypass.

3,408,167
EXHAUST GAS AFTERBURNER

Roy B. Burden, Jr., Sherwood, Oreg., assignor, by mesne assignments, to General Incinerators of California, Inc., San Diego, Calif., a corporation of California

Filed Aug. 17, 1965, Ser. No. 480,405
4 Claims. (Cl. 23—277)

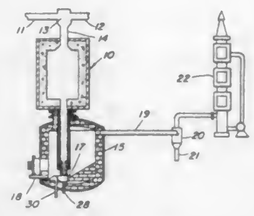


A tubular afterburner structure having an inlet end connected to a source of gas borne wastes and a burner ring surrounding the waste flow path within the burner tube. An annular air chamber surrounds the waste flow path immediately upstream from the burner ring. Combustion air is introduced tangentially into the air chamber to provide a unidirectional rotary flow of air within the chamber. This flow is introduced through openings in the chamber into the waste flow path to impart to wastes traveling downstream in such path a uniformly whirling motion which is maintained as the wastes pass by the burner ring, so that they are ignited and burned while thus whirling, thereby prolonging and intensifying the burning to result in more complete destruction of the wastes.

3,408,168
PHOSPHORIC ACID CONCENTRATION

Millard C. Godwin, Lakeland, Fla., assignor, by mesne assignments, to Armour Agricultural Chemical Company, a corporation of Delaware

Filed July 16, 1965, Ser. No. 472,410
3 Claims. (Cl. 23—307)

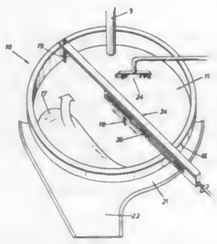


Submerged combustion concentration of phosphoric acid wherein water instead of phosphoric acid is introduced into the dehydrator vessel in starting up the process. When operating conditions are reached addition of water is stopped and phosphoric acid introduced into the vessel while withdrawing the water.

3,408,169
PAN GRANULATION

Joshua Beaumont Thompson, Trail, British Columbia, and Gordon Charles Hildred, Calgary, Alberta, Canada, assignors to Cominco Ltd., a corporation of Canada

Continuation-in-part of application Ser. No. 371,658, June 1, 1964. This application May 31, 1967, Ser. No. 648,526
7 Claims. (Cl. 23—313)



The disclosure of the invention relates to a pan granulating process in which an inclined circular pan rotated about its axis is operated to form a slow moving bed in its lower portion for classification of particles therein for discharge of relatively large particles as product and withdrawal of relatively small particles for the formation of a shallow layer of closely packed particles constituting a zone of fast moving particles. Cooled particles fed to the zone of fast moving particles at a controlled rate for temperature control constitute, with the fast moving particles, solid nuclei onto which a molten, substantially anhydrous nitrogenous compound is sprayed at a predetermined temperature. Solidification of successive layers of molten material by cooling of the particles results in the formation of hard, coarse and spherical granules.

3,408,170
MOTOR FUEL

Roy J. Betty, Chicago, Ill., assignor to Armour and Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Mar. 8, 1967, Ser. No. 621,438
11 Claims. (Cl. 44—74)

An improved hydrocarbon fuel composition containing a minor proportion, sufficient to improve the deicer and detergent characteristics thereof, of an aryl substituted alkyldiamine.

3,408,171
PROCESS OF STEAM REFORMING PARAFFINIC HYDROCARBONS

Samuel Pupko, Toulouse, France, assignor to Office National Industriel de l'Azote, Toulouse, France, a corporation of France

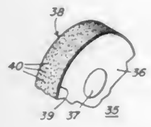
No Drawing. Original application Oct. 5, 1964, Ser. No. 401,650. Divided and this application June 12, 1967, Ser. No. 645,492
2 Claims. (Cl. 48—214)

A process for continuous pressure steam reforming of paraffinic hydrocarbons to obtain hydrogen-rich gases by contacting the hydrocarbons and steam with a catalyst having a nickel oxide content of 3–35% by weight on a support which is a mixture of magnesia and magnesium silicate, with the molar ratio of steam/carbon being between 2–5.

3,408,172
DIAMOND AND CUBIC BORON NITRIDE GRAINS COATED WITH PHOTOPOLYMERIZED MATERIAL

Archibald N. Wright, Schenectady, N.Y., and Wilfred F. Mathewson, Jr., Franklin, Mich., assignors to General Electric Company, a corporation of New York

Filed Mar. 1, 1966, Ser. No. 530,938
11 Claims. (Cl. 51—295)



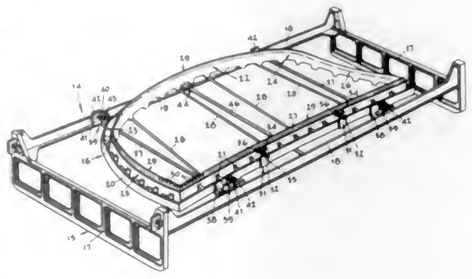
Abrasive particles comprising diamonds or cubic boron nitride are provided with an adhesive film on at least a portion of their faces or surfaces via ultraviolet surface photopolymerization of a photopolymerizable gaseous material. These coated abrasive articles when combined with an organic binder to form a grinding wheel, give an improved abrasive grinding wheel.

3,408,173
METHOD OF AND APPARATUS FOR BENDING AND TEMPERING GLASS SHEETS

Herbert A. Leflet, Jr., Toledo, Ohio, assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio

Filed Jan. 29, 1965, Ser. No. 428,951
9 Claims. (Cl. 65—104)

Bending a glass sheet in opposite directions about its major axes on a peripheral mold and subsequently tempering the bent sheet on the mold. The mold, having upwardly directed shaping surfaces curved convexly in the longitudinal dimension and concavely in the transverse dimension as viewed in elevation, is advanced through the heating and tempering areas along a substantially horizontal path parallel to its transverse axis. One of the convexly curved longitudinal shaping surfaces is elevated above the other sufficiently so that no point along the line of intersection of a vertical plane parallel to the path of movement with a sheet bent into conformity with the shaping surface so as to have an anticlastic configuration is lower than the line of intersection at the lower edge of the sheet. There is thus no depression in



the upper surface of the sheet in which a stagnant pocket of air can form as air blasts are directed downwardly thereagainst for tempering purposes.

3,408,174
DISPERSANT COMPOSITIONS AND TOXICANT CONCENTRATES CONTAINING THE SAME

Paul L. Lindner, Evanston, Ill., assignor to Witco Chemical Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 10, 1962, Ser. No. 243,627
16 Claims. (Cl. 71—4)

14. A combination biocidal toxicant water-soluble inorganic salt fertilizer composition containing an aqueous phase comprising a water solution of said water-soluble inorganic salt fertilizer material, and a normally water-immiscible oleaginous phase comprising an organic solvent solution of said biocidal toxicant, said composition comprising a substantially homogeneous emulsion which includes, in admixture therewith, (a) a compound represented by the formula

$$\begin{array}{l} R-COOR^1-SO_3M \\ | \\ SO_3M' \end{array}$$

where R is higher molecular weight aliphatic containing a chain of from 8 to 24 carbon atoms, R^1 is an aliphatic hydrocarbon containing from 2 to 4 carbon atoms, and M and M′ are members selected from the group consisting of alkali metals and organic substituted ammonium radicals with the proviso that at least one of M and M′ is an organic substituted ammonium radical, said (b) an amine salt of an alkyl benzene sulfonic acid in which alkyl contains from 12 to 18 carbon atoms, the weight ratio of said (a) to said (b) ingredient being from about 2 to about 20 of (a) to 1 of (b), the total of said (a) and (b) ingredients constituting from 3 to 30%, by weight, of the water-immiscible oleaginous phase.

3,408,175
HERBICIDAL PROCESS

Theodore R. Schuh, Jr., North Riverside, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 370,692, May 27, 1964. This application Apr. 19, 1967, Ser. No. 631,907
2 Claims. (Cl. 71—65)

This invention relates to a method of spraying oil solutions of herbicidal liquids in the presence of certain polymers whereby the misting and drifting tendencies of these liquids are reduced.

3,408,176
CHEMICAL CONTROL OF PIGWEED

Ralph P. Neighbors, Olathe, Kans., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed June 27, 1966, Ser. No. 560,813
4 Claims. (Cl. 71—118)

Different species of pigweed (Amaranthus) are controlled in the presence of a variety of crops by applying to the locus of the weeds a herbicidally effective amount of p-nitrobenzohydroxamic acid, either in the form of the free acid or a salt thereof.

3,408,177
PROCESS FOR REFINING OR MELTING METALS IN A FURNACE

Jean Levaux, Liege, Belgium, assignor to Ste. Ame. Cockerill-Ougree, Seraing, Belgium, a Belgian company

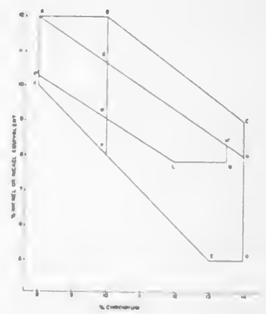
Filed Mar. 26, 1965, Ser. No. 442,931
Claims priority, application Luxembourg, Mar. 28, 1964, 45,773; May 12, 1964, 46,060; Nov. 28, 1964, 47,463
3 Claims. (Cl. 75—43)

A metallic charge is heated for refining or melting purposes by means of at least one burner fed with fuel and an oxidising gas, the fuel and oxidising gas being post-mixed before being fed to the burner. As a preferred feature a non-combustible liquid is injected into the burner and this non-combustible material dissociates due to the high temperature, to give rise to elements to whose recombination is highly exothermic. The jet of oxidising gas emerging from the burner preferably has a high speed which is substantially twice the speed of sound. The pressure of the non-combustible liquid is regulated to control the dimensions of the flame.

3,408,178
AGE HARDENABLE STAINLESS STEEL ALLOY

Lewis P. Myers, Mount Penn, and Kermit J. Goda, Jr., Leesport, Pa., assignors to The Carpenter Steel Company, Reading, Pa., a corporation of New Jersey

Continuation-in-part of application Ser. No. 401,831, Oct. 6, 1964. This application June 27, 1967, Ser. No. 655,260
10 Claims. (Cl. 75—125)



A high strength stainless steel alloy age hardenable to a hardness of at least 45 Rockwell C with no more than about 10% retained austenite containing no more than 0.2% carbon, 8–14% chromium, 5–12% nickel, up to 7% copper, 0.6 to 2% titanium, no more than 0.5% aluminum, 0.25 to 1% columbium, up to 0.1% boron, and the remainder iron in which the chromium and nickel or nickel equivalent content of the alloy are balanced as indicated by the area ABCDEF in the drawing, in which the nickel equivalent content is calculated by adding one-half the percent copper to the percent nickel, and in which the copper may replace no more than about 4% nickel.

3,408,179
CORROSION-RESISTANT NICKEL-CHROMIUM ALLOYS WITH IMPROVED STRESS-RUPTURE CHARACTERISTICS

Harry Lewis, Birmingham, and Ronald Alfred Smith, Stourbridge, England, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 12, 1965, Ser. No. 479,323
Claims priority, application Great Britain, Aug. 14, 1964, 33,351/64
2 Claims. (Cl. 75—171)

A corrosion-resistant nickel-chromium-base alloy of high chromium content (27% to 35%) possessing good stress-rupture properties at elevated temperatures and containing controlled amounts of titanium, aluminum, cobalt, molybdenum, carbon, boron and zirconium.

3,408,180
METHOD OF PRODUCING AN INORGANIC FOAM AND PRODUCT

Joseph Winkler, Hazleton, Pa., assignor, by mesne assignments, to General Foam Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 519,530, Jan. 10, 1966. This application Sept. 12, 1966, Ser. No. 578,454
10 Claims. (Cl. 75—221)

A method is described for preparing cellular inorganic materials. According to the method an open pore organic foam such as polyurethane is coated with a carbonizable support layer such as an acrylic resin and dried. The resulting product is then coated with sinterable inorganic particles and again dried. The underlying foam is heat decomposed, and the support layer carbonized by heating. In the final step, the inorganic particles are sintered with heat.

3,408,181
HEAT DEFORMABLE RECORDING MATERIALS CONTAINING PHOTOCONDUCTIVE RESINOUS CHARGE TRANSFER COMPLEXES

Joseph Mammino, Penfield, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

No Drawing. Filed Jan. 18, 1965, Ser. No. 426,401
28 Claims. (Cl. 96—1.1)

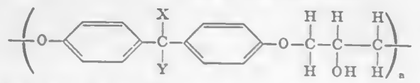
Photoconductive materials are prepared from phenol-aldehyde resins and Lewis acids. The materials are charge transfer complexes. The materials are used in conjunction with heat deformable materials to form a recording medium. Methods of using the recording medium are disclosed.

3,408,182
ELECTROPHOTOGRAPHIC MATERIALS AND METHODS EMPLOYING PHOTOCONDUCTIVE RESINOUS CHARGE TRANSFER COMPLEXES

Joseph Mammino, Penfield, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

No Drawing. Filed Jan. 18, 1965, Ser. No. 426,396
20 Claims. (Cl. 96—1.5)

Photoconductive materials are prepared from thermoplastic phenoxy resins having a repeating unit



plus a Lewis acid. The materials are charge transfer complexes. The photoconductive materials are used to

make electrophotographic plates. Methods of using the plates are disclosed.

3,408,183
ELECTROPHOTOGRAPHIC MATERIALS AND METHODS EMPLOYING PHOTOCONDUCTIVE RESINOUS CHARGE TRANSFER COMPLEXES
Joseph Mammino, Penfield, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
No Drawing. Filed Jan. 18, 1965, Ser. No. 426,409
26 Claims. (Cl. 96—1.5)

Photoconductive materials are prepared from phenol-aldehyde resins and Lewis acids. The material are charge transfer complexes. The photoconductive materials are used to make electrophotographic plates, methods of using the plates are also disclosed.

3,408,184
ELECTROPHOTOGRAPHIC MATERIALS AND METHODS EMPLOYING PHOTOCONDUCTIVE RESINOUS CHARGE TRANSFER COMPLEXES
Joseph Mammino, Penfield, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
No Drawing. Filed Jan. 18, 1965, Ser. No. 426,423
23 Claims. (Cl. 96—1.5)

Photoconductive materials are prepared from epoxy resins and a Lewis acid. The materials are charge transfer complexes. The photoconductive materials are used to make electrophotographic plates. Methods of using the plates are disclosed.

3,408,185
ELECTROPHOTOGRAPHIC MATERIALS AND METHOD EMPLOYING PHOTOCONDUCTIVE RESINOUS CHARGE TRANSFER COMPLEXES
Joseph Mammino, Penfield, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
No Drawing. Filed Jan. 18, 1965, Ser. No. 426,428
26 Claims. (Cl. 96—1.5)

Photoconductive materials are prepared from polyurethane resins and Lewis acids. The materials are charge transfer complexes. The photoconductive materials are used to make electrophotographic plates. Methods of using the plates are also disclosed.

3,408,186
ELECTROPHOTOGRAPHIC MATERIALS AND METHODS EMPLOYING PHOTOCONDUCTIVE RESINOUS CHARGE TRANSFER COMPLEXES
Joseph Mammino, Penfield, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
No Drawing. Filed Jan. 18, 1965, Ser. No. 426,431
24 Claims. (Cl. 96—1.5)

Photoconductive materials are prepared from polycarbonate resins and Lewis acids. The materials are charge transfer complexes. The photoconductive materials are used to make electrophotographic plates. Methods of using the plates are also disclosed.

3,408,187
ELECTROPHOTOGRAPHIC MATERIALS AND METHODS EMPLOYING PHOTOCONDUCTIVE RESINOUS CHARGE TRANSFER COMPLEXES
Joseph Mammino, Penfield, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
No Drawing. Filed Jan. 24, 1966, Ser. No. 522,393
24 Claims. (Cl. 96—1.5)

Photoconductive materials are prepared from aromatic silicone resins and Lewis acids. The materials are charge transfer complexes. The photoconductive materials are used to make electrophotographic plates. Methods of using the plates are also disclosed.

3,408,188
ELECTROPHOTOGRAPHIC PLATE AND PROCESS COMPRISING PHOTOCONDUCTIVE CHARGE TRANSFER COMPLEXES
Joseph Mammino, Penfield, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
No Drawing. Filed May 27, 1966, Ser. No. 553,325
19 Claims. (Cl. 96—1.5)

Photoconductive materials are prepared from polyphenylene oxide resins and Lewis acids. The materials are charge transfer complexes. The photoconductive materials are used to make electrophotographic plates. Methods of using the plates are also disclosed.

3,408,189
ELECTROPHOTOGRAPHIC PLATE AND PROCESS EMPLOYING PHOTOCONDUCTIVE CHARGE TRANSFER COMPLEXES
Joseph Mammino, Penfield, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
No Drawing. Filed Oct. 27, 1966, Ser. No. 589,803
24 Claims. (Cl. 96—1.5)

Photoconductive materials are prepared from melamine resins and Lewis acids. The materials are charge transfer complexes. The photoconductive materials are used to make electrophotographic plates. Methods of using the plates are also disclosed.

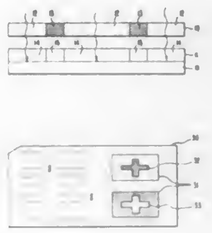
3,408,190
ELECTROPHOTOGRAPHIC PLATE AND PROCESS EMPLOYING PHOTOCONDUCTIVE CHARGE TRANSFER COMPLEXES
Joseph Mammino, Penfield, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
No Drawing. Filed Mar. 15, 1966, Ser. No. 534,417
21 Claims. (Cl. 96—1.5)

Photoconductive materials are prepared from polysulfone resins and Lewis acids. The materials are charge transfer complexes. The photoconductive materials are used to make electrophotographic plates. Methods of using the plates are also disclosed.

3,408,191
PROCESS OF DOUBLE EXPOSING A PHOTOPOLYMERIZABLE STRATUM LAMINATED BETWEEN TWO SUPPORTS, SAID DOUBLE EXPOSURE DETERMINING THE SUPPORT WHICH RETAINS THE POSITIVE IMAGE
William Jeffers, Fair Haven, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 28, 1964, Ser. No. 407,245
16 Claims. (Cl. 96—28)

7. A process for image reproduction which comprises (A) double exposing a photopolymerizable laminate to actinic radiation by an imagewise exposure through one support of said laminate and an over-all exposure on the opposite support of said laminate, said double exposure being accomplished in either sequence of exposure, and (B) separating said supports of said laminate to obtain a positive image on one support and a negative image on the other support, said laminate comprises a photopolymerizable composition laminated between two actinic radiation permeable supports at a temperature of about 50° C. to 150° C. and having an ethylenically unsaturated monomer with a molecular weight of at least 295 and a compatible polymeric binder present in a ratio of about 10 to 70 parts per 100 parts of binder-monomer composition.

3,408,192
LIGHT-SENSITIVE DIAZOTYPE COMPOSITIONS AND ELEMENTS
Claude M. Aebi, Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 10, 1964, Ser. No. 373,914
5 Claims. (Cl. 96—49)



A light-sensitive diazotype element capable of yielding both positive and negative color-forming and vesicular images comprising a diazonium compound, a coupler, an acid stabilizer, a coupler generator, a base generator and film-forming resin capable of out-diffusing nitrogen gas within ten seconds, the coupler and base generators being stable below about 100° C.

3,408,193
COATING COMPOSITIONS FOR THE COATING OUT OF ANIONIC MORDANT-ACID DYE LAYERS
Wilfred L. Wolf and Clark Beckett, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Dec. 16, 1964, Ser. No. 418,881
8 Claims. (Cl. 96—84)

1. A composition adapted to the coating out of layers for photographic products comprising in an aqueous system a hydrophilic colloid, a polymeric mordant having recurring basic groups, an acid dye and a coating aid selected from the group consisting of the compounds having the following general formulae:

$$ANH(CH_2)_xCOOM$$

and

$$AN[(CH_2)_xCOOM]_2$$

wherein A is selected from the group of aliphatic hydrocarbon radicals and aliphatic acyl radicals of 8–20 carbon atoms, $x=1—2$ and M is a cation which will contribute to the water solubility of the coating aid.

2. A photographic element having as a layer therein a mixture of a hydrophilic colloid, a polymeric mordant having recurring basic groups, an acid dye and a coating aid selected from the group consisting of the compounds having the following general formulae:

$$ANH(CH_2)_xCOOM$$

and

$$AN[(CH_2)_xCOOM]_2$$

wherein A is selected from the group of aliphatic hydrocarbon radicals and aliphatic acyl radicals of 8–20 carbon atoms, $x=1—2$ and M is a cation which will contribute to the water solubility of the coating aid.

ERRATUM

For Class 96—91 see:
Patent No. 3,408,203

3,408,194
SILVER HALIDE EMULSION LAYERS CONTAINING YELLOW DYE FORMING COUPLERS
Anthony Loria, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 312,894, Oct. 1, 1963. This application July 6, 1965, Ser. No. 469,887
9 Claims. (Cl. 96—100)

Open chain reactive methylene two-equivalent yellow-forming couplers in which one of the hydrogen atoms of the active methylene group is replaced with a cyclooxy group are used to advantage in color developer solutions and in light-sensitive photographic emulsion layers for forming yellow dye images in color photography.

3,408,195
SILVER HALIDE EMULSIONS CONTAINING N,α-ALKYLENE BRIDGED INDOCARBOCYANINE SENSITIZING DYES
Gene L. Oliver, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Dec. 28, 1964, Ser. No. 421,680
7 Claims. (Cl. 96—105)

New carbocyanine dyes containing an N,α-alkylene bridge, useful as spectral sensitizers for photographic silver halide emulsions, are incorporated therein to obtain new valuable silver halide emulsions useful in photography. 1,8,1′,10-diethylene-3,3,3′,3′-tetramethylindocarbocyanine iodide, 3′-ethyl-1,8-ethylene-3,3-dimethyl-4′,5′-benzoindothiacarbocyanine bromide, 1′ - ethyl-1,8-ethylene-3,3-dimethylindo-2′-carbocyanine iodide, 3′-ethyl-1,8-ethylene - 3,3 - dimethylindothiacarbocyanine iodide and 1,8,1′,10-diethylene - 3,3,3′,3′-tetramethyl-4,5-4′,5′-dibenzoindocarbocyanine bromide, for example, are illustrative of the new carbocyanine dyes.

3,408,196
SENSITIZATION OF SILVER HALIDE EMULSION WITH LABILE SELENIUM FORMED IN SITU
Patricia A. McVeigh, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Jan. 3, 1967, Ser. No. 606,588
13 Claims. (Cl. 96—108)

Sensitizing photographic systems, such as silver halide emulsions, with a noble metal and labile selenium which is formed in situ by activating a non-labile selenium compound, said activating being accomplished by employing a high concentration of noble metal.

3,408,197
SYNERGISTIC SENSITIZATION OF SILVER HALIDE EMULSIONS WITH LABILE SELENIUM FORMED IN SITU
Patricia A. McVeigh, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Jan. 3, 1967, Ser. No. 606,586
9 Claims. (Cl. 96—108)

Sensitizing photographic systems, such as silver halide emulsions, with a noble metal and labile selenium which is formed in situ by activating a non-labile selenium compound, said activating being accomplished by adding said noble metal, heating to sensitize, adding said non-labile selenium compound and further heating to increase the sensitivity.

3,408,198
ETHER-AMINES USED AS GELATIN HARDENERS

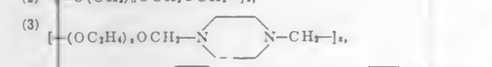
Delbert D. Reynolds and John F. Tinker, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

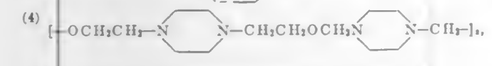
No Drawing. Filed Aug. 28, 1962, Ser. No. 220,031
29 Claims. (Cl. 96—111)

1. A composition of matter comprising gelatin containing a hardening amount of a compound selected from those having the formulas:

(1) $R'OCH_2OCH_2OR'$,

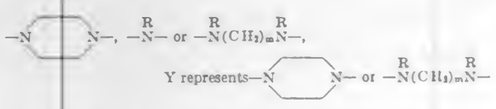
(2) $[-O(CH_2)_nOCH_2YCH_2-]_x$,

(3) 

(4) 

(5) 3-isobutoxymethyl-tetrahydro-1,3-oxazine,
(6) 5-methyl-1-aza-3,7-dioxa bicyclo(3.3.0)octane,
(7) 5 - hydroxymethyl - 1 - aza - 3,7 - dioxa bicyclo (3.3.0)octane, and
(8) 3-isobutoxymethyl oxazolidine,

wherein each R′ represents a lower alkyl group, Q represents



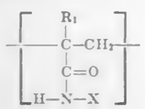
z represents 2 or 3, each R represents a lower alkyl group, each m is an integer of 2–10, n is an integer of 2–10 and each x is a number from 1 to 5,000 and wherein when x is 1 the terminal valence bonds are attached to hydrogen.

3,408,199
PHOTOGRAPHIC MATERIAL WITH IMPROVED SILVER COVERING POWER

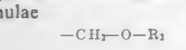
Wilhelm Saleck, Schildgen, Karl Dinges, Cologne-Stammheim, and Erwin Müller, Leverkusen, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed June 21, 1965, Ser. No. 465,769
Claims priority, application Germany, July 4, 1964, A 46,506
5 Claims. (Cl. 96—114)

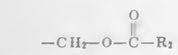
1. A light-sensitive material comprising at least one light sensitive silver halide emulsion layer having improved covering power of developed silver which contains a polymeric product with at least 15 mol percent of units of the following formula:



in which X represents a substituent selected from those having the formulae



or



R_1 represents a member of the group consisting of hydrogen and methyl and
R_2 stands for an alkyl radical containing up to 3 carbon atoms.

3,408,200
PRODUCTION OF ANIMAL FEED CONTAINING GAMMA AMINO BUTYRIC ACID AND THE RESULTING PRODUCT

Robert Teichman, Kirkwood, and James Peek Everett, Jr., St. Louis, Mo., assignors to Ralston Purina Company, St. Louis, Mo., a corporation of Missouri

No Drawing. Filed May 28, 1964, Ser. No. 371,080
3 Claims. (Cl. 99—2)

An appetite-depressing animal feed product comprising animal feed containing not less than about 0.68% by weight of added gamma amino butyric acid.

3,408,201
MINK FOOD PRODUCT CONTAINING BILE AND SLAUGHTER HOUSE AND PACKING HOUSE BY-PRODUCTS

John R. Moyle, Rte. 3, Box 266, Anacortes, Wash. 98221

No Drawing. Filed Oct. 6, 1965, Ser. No. 493,552
8 Claims. (Cl. 99—7)

A food product for mink and other carnivorous animals produced by grinding and blending bile with slaughter house by-products.

3,408,202
PROCESS FOR PREPARING A QUICK-COOKING RICE

George W. Serbia and Irving Benett, New City, N.Y., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 507,667, Nov. 15, 1965. This application Jan. 17, 1967, Ser. No. 609,964
17 Claims. (Cl. 99—80)

Preparation of a quick-cooking rice by soaking parboiled rice in water below its gelatinization temperature followed by employing at least two alternating steaming and cold water immersions to increase the moisture content to at least 60% by weight and thereafter dehydrating said rice to a stable moisture content.

3,408,203
DIAZOTYPE REPRODUCTION MATERIALS CONTAINING AN O-AMINO PHENOL AS COUPLER

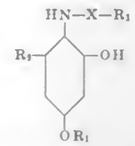
Oskar Sus and Johannes Munder, Wiesbaden-Biebrich, and Heinz Schafer, Wiesbaden-Sonnenberg, Germany, assignors, by mesne assignments, to Keuffel & Esser Company, Hoboken, N.J.

No Drawing. Filed July 29, 1965, Ser. No. 475,850
Claims priority, application Germany, Aug. 1, 1964, K 53,643
8 Claims. (Cl. 96—91)

1. A two-component diazotype material which comprises:

a support; and

a light-sensitive coating on said support, said coating comprising a diazonium salt and a substitution derivative of ortho-aminophenol as the only azo component, said substitution derivative having the general formula



wherein R_1 is a alkyl group with up to three carbon atoms; R_2 is a member selected from the group consisting of methyl and alkoxy group with up to three carbon atoms; R_3 is a member selected from the group consisting of an alkyl group with up to three carbon atoms, phenyl, benzyl, and amino; and

X is a member selected from the group consisting of carbonyl, thiocarbonyl, iminocarbonyl and sulfonyl.

3,408,204
FLOUR AGGREGATION PROCESS

Arthur M. Swanson, Madison, and Douglas J. Fenske, Tomah, Wis., assignors, by mesne assignments, to Arthur M. Swanson, Madison, Wis.

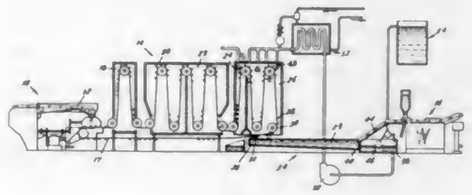
Filed Dec. 21, 1964, Ser. No. 420,078
4 Claims. (Cl. 99—93)

A process for aggregating finely divided flour particles including the steps of predrying the particles to a total moisture level substantially below the equilibrium moisture content of the flour for a given relative humidity and temperature without otherwise changing the nature of the constituents of the flour particles, subjecting the particles to an atmosphere of said given relative humidity and temperature to cause moisture to be diffused onto the particles to make their surfaces sticky and self-adhering, and causing said particles to collide randomly to adhere together in the form of aggregates having the same flavor and baking characteristics as the original flour particles. The aggregates may be subjected to final drying to a desired moisture level.

3,408,205
METHOD OF PROCESSING ENCASED FRANKFURTERS

Roy N. Olson, Palos Heights, and Paul H. Frey, La Grange, Ill., assignors to Union Carbide Corporation, a corporation of New York

Continuation-in-part of application Ser. No. 342,512, Feb. 4, 1964. This application Oct. 24, 1966, Ser. No. 588,912
5 Claims. (Cl. 99—109)



A method and apparatus are provided for unloading continuous strands of encased frankfurters so that they become freely unscrambled and aligned prior to being advanced for subsequent peeling.

3,408,206
5′-NUCLEOTIDES SEASONING AGENTS

Akihiro Yamazaki, Izumi Kumashiro, Tetsuya Kato, and Takashi Meguro, Kanagawa-ken, Tado Takenishi, Tokyo, Masaharu Yoshikawa and Tsunehiko Ninomiya, Kanagawa-ken, Shizuko Yamaguchi and Yasushi Komata, Tokyo, Takaomi Saito, Kanagawa-ken, and Shingo Ikeda, Tokyo, Japan, assignors to Ajinomoto Co., Inc., Tokyo, Japan

No Drawing. Filed Jan. 6, 1966, Ser. No. 518,986
Claims priority, application Japan, Jan. 11, 1965, 40/1,066, 40/1,067; Sept. 4, 1965, 40/54,147; Sept. 11, 1965, 40/55,540; Oct. 5, 1965, 40/60,866
9 Claims. (Cl. 99—140)

The 5′-monophosphates of 2-methylinosine, 2-ethylinosine, 2-methylmercaptoinosine, 2-ethylmercaptoinosine, 2-N-methylguanosine and 2-N,N-dimethylguanosine and their water-soluble, physiologically tolerated salts do not occur in nature and strongly enhance the flavor of foods, beverages, and seasonings, particularly when used in conjunction with monosodium glutamate.

3,408,207
PROCESS FOR MAKING A FREEZABLE EGG FOOD PRODUCT

Max Katz, Lakewood, N.J., assignor to Howell Foods Corp., Lakewood, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 433,451, Feb. 17, 1965. This application Feb. 2, 1967, Ser. No. 613,421
2 Claims. (Cl. 99—196)

A freezable egg food product comprising raw eggs, water, low methoxyl pectin, and salt proteinates, capable of retaining its flavor despite prolonged freezing prior to cooking, and maintaining its flavor, shape, color and texture during and after cooking; and a process for making such food product.

3,408,208
DEHYDRO-FREEZING OF MIXED INGREDIENTS OF FOODS TO PREDETERMINED DEGREES

Frank G. Lamb, Lake Oswego, Oreg., assignor to Lamb-Weston, Inc., Weston, Oreg., a corporation of Oregon

No Drawing. Continuation-in-part of application Ser. No. 195,948, May 18, 1962. This application July 31, 1964, Ser. No. 386,753
13 Claims. (Cl. 99—199)

A method of producing a readily reconstitutable dehydrofrozen food mixture wherein each ingredient is separately precooked and dehydrated to the optimum point of moisture removal of each ingredient and then frozen. The several frozen ingredients are then mixed together and subsequently reconstituted.

3,408,209
PROCESS FOR MANUFACTURING RAPIDLY REHYDRATABLE DEHYDRATED FRUITS AND VEGETABLES OF HIGH DENSITY

Roderick K. Eskew, Spring House, and James Cording, Jr., Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Mar. 8, 1965, Ser. No. 438,131
10 Claims. (Cl. 99—204)

A rapidly rehydratable food product of high density is prepared by drying a fruit or vegetable piece to about 20% to 50% moisture, explosion-puffing the piece, and then compressing one dimension of the puffed piece to between about ½ and 1/15 of said dimension before processing it to table form, e.g., drying, freezing, etc.

3,408,210
DEHYDRATION OF FOODS

Wilbert A. Heyman, 82 Monroe St., Lawrence, N.Y. 11559

No Drawing. Filed June 14, 1965, Ser. No. 463,937
12 Claims. (Cl. 99—204)

1. A process for dehydrating solid foodstuffs comprising immersing said products in a liquid selected from the group consisting of the acetylated monoglycerides of oleic, linoleic, palmitic and stearic acids and mixtures thereof, and subjecting said mix to a vacuum of 10 to 25,000 microns of mercury and at temperatures of about −5 to about 93° C. for a time sufficient to remove substantially all of the water therefrom.

3,408,211
PLATING SYSTEM

Harold Jefferson Coates, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

No Drawing. Filed Feb. 9, 1966, Ser. No. 526,025
9 Claims. (Cl. 106—1)

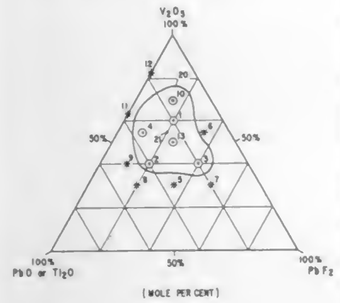
The immersion plating of lead or antimony on aluminum and aluminum base alloys is carried out in a bath comprising an aqueous solution of an alkali soluble salt of lead or antimony, an alkali metal tartrate, an alkali

soluble zinc compound, a ferric salt, and sufficient alkali metal hydroxide to render the bath alkaline. This bath enables removal of the oxide layer present on the aluminum surface by alkali, replacement by a temporary layer of zinc, followed by replacement of the zinc layer by the lead or antimony coating.

3,408,212
LOW MELTING OXIDE GLASS

Maurice E. Dumesnil, Palo Alto, Calif., assignor to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware

Filed June 4, 1965, Ser. No. 461,325
6 Claims. (Cl. 106—47)



A composition consisting essentially of a combination of V_2O_5, PbF_2, and either PbO or Tl_2O, the proportions being selected as described so as the composition will form a glass without need of additional components.

3,408,213
GLASS FIBER COMPOSITIONS

Jason D. Provance, Glendora, Albert Lewis, Covina, and Lawrence W. Kelley, West Covina, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Oct. 10, 1963, Ser. No. 315,386
14 Claims. (Cl. 106—50)

An improved glass composition, especially suitable for glass fiber manufacture having high tensile strength and containing typically 52% to 60% silica, 20% to 28% aluminum oxide, 1.38% to 7.5% sodium oxide, 6.53% to 12.5% magnesium oxide, 3% to 4.5% zirconium oxide, up to about 1% iron oxide, 0% to 4.5% boron oxide, 0% to about 4% calcium oxide with the sum of the boron oxide and sodium oxide ranging from about 3% to about 7.5% and the sum of the calcium oxide and magnesium oxide ranging from 9% to about 12.5%.

3,408,214
REMOISTENING ADHESIVE COMPOSITION

Merle J. Mentzer, Mokena, Ill., assignor to Corn Products Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 30, 1966, Ser. No. 561,690
15 Claims. (Cl. 106—212)

The present invention relates to the preparation of an adhesive composition suitable for use as a remoistening adhesive which adhesive possesses improved open time and improved bond time. The adhesive mixture consists of an ungelatinized, chemically modified starch substantially free of set back, a glycol selected from the group consisting of propylene glycol and polyethylene glycol, and a plasticizer. The components are mixed in water to provide a slurry having a solids content of 30 to 70%; preferably the pH of the mixture is adjusted to between 8 and 12, and the mixture is heated sufficiently to gelatinize the starch to provide a remoistening adhesive ready for application.

3,408,215
CURING AGENTS FOR EPOXY RESINS

Marco Wismer, Gibsonia, and John R. Peffer, Verona, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

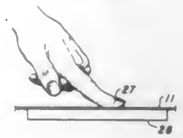
No Drawing. Filed June 26, 1964, Ser. No. 378,414
16 Claims. (Cl. 106—252)

Novel storage-stable curing agents for epoxide resins are obtained by esterifying an admixture of polyol, non-halogenated polycarboxylic acid, and halogenated polycarboxylic acid in the presence of an aliphatic diol having 2 to 10 carbon atoms and solubilizing the ester in a solvent. These curing agents give improved flexibility and harder cures to the epoxide resin coating systems.

3,408,216
IMAGE REPRODUCTION

George R. Mott, Rochester, and David H. Perry, Webster, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Dec. 2, 1964, Ser. No. 415,383
16 Claims. (Cl. 117—.5)

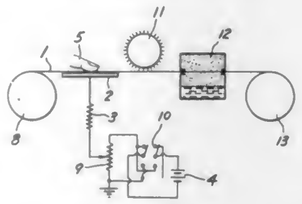


A method of reproducing images wherein an original document, capable of depositing a condensate reproduction of an original image, is positioned adjacent a support material to transfer the condensate image to the support material as by vaporization or pressure transfer. The support material bearing the condensate image of the original document is superimposed upon a donor film bearing transfer material which is adhesive to the support material in non-condensate image areas. The superposed materials are subsequently separated to produce complementary positive and negative reproductions of the original document.

3,408,217
FINGERPRINT RECORDING

Kazuo Obuchi, Kanagawa-ken, Japan, assignor to Fuji Shashin Film Kabushiki Kaisha, Kanagawa-ken, Japan

Filed June 29, 1965, Ser. No. 467,899
Claims priority, application Japan, July 1, 1964, 39/37,231
4 Claims. (Cl. 117—.5)



1. A method of recording a print which comprises placing a recording material consisting of a high insulating resin having a capacity for receiving static electricity on an electrically conductive electrode, connecting circuit means between an extremity of a human being which is to be printed and said electrically conductive electrode comprising a direct current voltage source and ground, bringing said extremity into contact with the surface of the recording material whereby to form an electrostatic pattern corresponding to the print made by said extremity, and developing said electrostatic pattern by depositing powdered material on the formed charge pattern so that the pattern is made visible by said powder being electrically drawn to the charged parts and adhering thereto, and fixing the visible image.

3,408,218
PROCESS FOR THE MANUFACTURE OF PRINTED OR DYED OBJECTS MADE OF INERT PLASTICS

Arend J. van Muylwijk, Treebeek, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands

No Drawing. Filed Nov. 19, 1964, Ser. No. 412,349
Claims priority, application Netherlands, Nov. 21, 1963, 300,828
7 Claims. (Cl. 117—15)

The present disclosure relates to the printing of glossy polyolefin surfaces without causing a special pretreatment of the surfaces which is normally necessary for permitting the acceptance of permanent printing. In the present disclosure, printing is found to be permanent if the surface of the polyolefin is foamed to provide a closed-cellular structure, particularly where the average cell diameter is between 0.01 and 2 mm. No other treatment is necessary.

3,408,219
NON-DRYING POLYEPOXIDE ESTER RESIN BASED TRAFFIC PAINTS

Dennis Neal, Convent Station, and John A. Lopez, Springfield, N.J., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

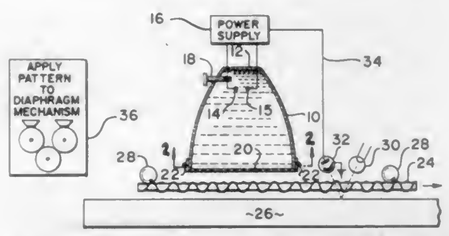
No Drawing. Filed Apr. 9, 1965, Ser. No. 447,086
6 Claims. (Cl. 117—37)

Markings on highways which are wear and weather resistant are obtained by cleaning the surface and applying a composition comprising an inert organic solvent, pigment and a non-drying polyepoxide ester prepared by esterifying a glycidyl polyether of a polyhydric phenol with long-chain, saturated monocarboxylic acid.

3,408,220
METHOD AND APPARATUS FOR ELECTRO-HYDRAULIC PRINTING

Gordon H. Bendix, Orland Park, Donald J. Roth, Chicago Heights, and Paul M. Erlandson, Palos Park, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed July 7, 1965, Ser. No. 470,073
32 Claims. (Cl. 117—37)



Apparatus and method for transferring patterns in the form of printing, coating, decorating, etc. to a substrate through the actuation of a pattern bearing member having an electro-hydraulic discharge. Chambers having different geometric configurations have an open end over which is secured an elastomeric diaphragm. The pattern, printing, etc. is applied to the outer surface of the membrane and the substrate to be acted upon is advanced adjacent the membrane. The electro-hydraulic actuating provisions include the chamber which may be filled with gaseous or liquid fluids and when the transfer of the pattern, printing, etc. from the membrane to the substrate is to be effected, an electrical discharge is caused to occur between a pair of electrodes positioned within the fluid filled chamber and the energy expended drives the membrane outwardly to transfer the printing medium from the membrane to the substrate.

3,408,221
FINISHED LEATHER AND METHODS OF MAKING THE SAME

Emerson B. Hovey, Wayland, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey

No Drawing. Filed Nov. 23, 1964, Ser. No. 413,338
9 Claims. (Cl. 117—55)

Leather in which the natural union between the grain layer and corium is reinforced and method of making such leather in which a low viscosity organic solvent solution of thermoplastic polymer resin is applied in small quantities to penetrate through the grain layer and into the corium to leave, on evaporation of the solvent, resinous extensions capable of transmitting stress applied to the grain layer to the corium. Additional resin coatings may be applied to anchor the fine resinous extensions.

3,408,222
GLASS-SILICON ASSEMBLIES

Louis Navias, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

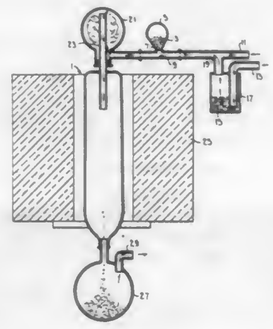
No Drawing. Filed Aug. 23, 1965, Ser. No. 481,977
4 Claims. (Cl. 117—70)

1. A vapor-tight, bubble-free, substantially strain-free glass-silicon assembly consisting of a silicon member united to a body of glass approximately matching the thermal expansion of silicon by means of a relatively thin layer of a glass which in the molten state does not react with silicon to produce bubbles and which has a coefficient of thermal expansion between 25° C. and 300° C. of between 2.4×10^{-6} and 3.6×10^{-6} cm. per cm. per degree centigrade.

3,408,223
INCREASING THE ELECTRON ENERGIZATION THRESHOLD OF PHOSPHOR PARTICLES

Samuel R. Shortes, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed May 28, 1965, Ser. No. 459,582
2 Claims. (Cl. 117—100)



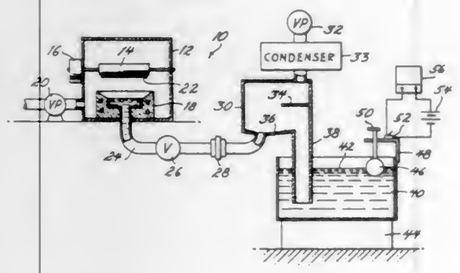
A method for increasing the electron energization threshold of phosphor particles is disclosed. The phosphor

particles are provided with a surface barrier layer of silicon dioxide or of a mixture of silicon dioxide and tin oxide. The particles to be coated are exposed to a gaseous medium of oxygen and an alkoxy-silane. The chloride is added to the gaseous medium when the coating is to contain tin oxide.

3,408,224
VAPOR COATING EMPLOYING DEGASSING OF COATING METAL

Lennie L. Ashburn, Rockledge, and Charles L. Starbuck, Valley Forge, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed June 25, 1964, Ser. No. 378,021
14 Claims. (Cl. 117—107)



An apparatus and method for vapor coating metallic materials on a substrate wherein the material to be coated on the substrate is melted outside an evacuated coating chamber, and then conveyed to a vessel within the chamber for vaporization.

3,408,225
GLASS FIBERS SIZED WITH POLYCARBONATE

Hugo Streib and Wilhelm Hechelhammer, Krefeld-Bockum, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed July 31, 1964, Ser. No. 386,738
Claims priority application Germany, Aug. 3, 1963, F 40,408; Nov. 29, 1963, F 41,418
8 Claims. (Cl. 117—126)

Glass fibers sized with from about 0.5 to about 5 percent by weight of a polycarbonate.

3,408,226
METAL-SIMULATING FILM PRODUCT

William Myron McKee, New Brighton, and Merle L. Erickson, St. Anthony, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Feb. 3, 1965, Ser. No. 430,191
5 Claims. (Cl. 117—138.8)

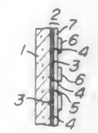
A film product that simulates the appearance of satin-finish metal comprising a grainy-surfaced light-transmissive film and an opaque metallic layer adhered to a surface of the film opposite the grainy surface.

3,408,227
CATHODE RAY TUBE SCREEN STRUCTURE

Atsushi Sato, Kokubunji-shi, and Masakatu Yamauchi, Musashino-shi, Japan, assignors to Hitachi, Ltd., Tokyo, Japan

Filed Mar. 17, 1965, Ser. No. 440,537
Claims priority, application Japan, Mar. 17, 1964, 39/14,575
9 Claims. (Cl. 117—212)

A cathode ray tube screen structure comprising a glass-like substrate containing a phosphor screen said screen having disposed thereon magnesium oxide strips made of crystalline magnesium oxide powder having a particle



size the substantial portion of which is less than about 0.1 micron.

3,408,228
ELECTRICAL INSULATING BODIES

Shaun Maturin Cox, South Shields, England, assignor to National Research Development Corporation, London, England

No Drawing. Filed Feb. 24, 1965, Ser. No. 435,084
10 Claims. (Cl. 117—227)

1. A method of stabilizing the resistivity of an electrical insulator substrate surface comprising alkali glass, said process comprising the steps of heating said entire surface in contact with a salt of a metal selected from the group consisting of silver, copper, and gold to effect an exchange of alkali ions with ions of said metal wherein said metal ions replace alkali ions of the alkali glass of said entire surface, removing said salt from said surface, and heating said entire surface in a gaseous reducing atmosphere to reduce said metal ions to neutral metal to stabilize the resistivity of said insulating body.

3,408,229
BATTERY EMPLOYING AMMONIA AS A SOLVENT

Ken Posey, Jr., Allen, and James K. Truitt, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed July 26, 1965, Ser. No. 474,835
15 Claims. (Cl. 136—6)

1. A battery comprising:
an anode,
a cathode, and
casing means enclosing said anode and said cathode,
said anode comprising a member selected from the group consisting of alkali metals and alkaline earth metals,
said cathode comprising a solution of sulphur in ammonia, said solution carrying thiocyanate ion and having an electrode immersed therein,
a thin membrane consisting essentially of cellophane carried in said casing means and separating said anode and said cathode,
said anode contacting said membrane on one side only thereof and said solution contacting said membrane on the other side only thereof.

3,408,230
METHOD OF MAKING FLEXIBLE ELECTRODES

Clayton D. Dickinson, Port Washington, and Irving Sheinhartz, Bayside, N.Y., assignors to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware

Filed Dec. 21, 1964, Ser. No. 419,936
5 Claims. (Cl. 136—25)

A method of making flexible negative electrodes wherein an iron-containing substrate is placed in a mixture of aluminum oxide, aluminum powder and a halide. The substrate and mixture are then heated in a reducing atmosphere to form an iron aluminide coating metallurgically bonded to the substrate. The substrate is next placed in a caustic solution to dissolve out the aluminum thereby forming a negative electrode.

3,408,231
METHOD OF MAKING FLEXIBLE ELECTRODES

Clayton D. Dickinson, Port Washington, N.Y., Jerome J. Perez, Fairfield, Conn., and Irving Sheinhartz, Bayside, N.Y., assignors to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware

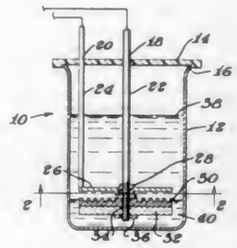
Filed Dec. 21, 1964, Ser. No. 419,935
5 Claims. (Cl. 136—29)

A method of making flexible negative electrodes wherein a nickel-containing substrate is placed in a mixture of aluminum oxide, aluminum powder and a halide. The substrate and mixture are then heated in a reducing atmosphere to form a nickel aluminide coating metallurgically bonded to the substrate. The substrate is next placed in a caustic solution to dissolve out the aluminum thereby forming a negative electrode.

3,408,232
BROMINE-ZINC SECONDARY CELL

Robert D. Blue, Midland, and James J. Leddy, Saginaw, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed July 6, 1965, Ser. No. 469,811
13 Claims. (Cl. 136—30)



1. A bromine-zinc secondary cell comprising: a case, a zinc electrode and a porous carbon electrode, said electrodes being spaced apart and disposed within said case, and an electrolyte system comprising a first layer of a water-insoluble organic liquid having elemental bromine dissolved therein and a second layer comprising an aqueous conducting salt solution containing zinc bromide, said second layer disposed above and in contact with said first layer, said layers being in the quiescent state at least at the time of the initial operation of said cell, said electrolyte system covering at least a part of each electrode.

3,408,233
STORAGE BATTERIES AND ELECTROLYTE THEREFOR

Konrad Parker, Park Ridge, and Jerry L. Brosilow, Chicago, Ill., assignors to International Battery, Inc., Schiller Park, Ill., a corporation of Illinois

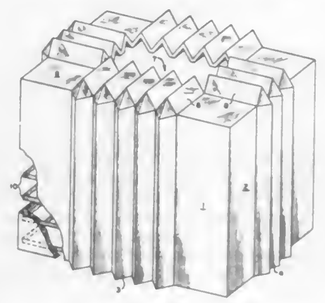
No Drawing. Filed Oct. 24, 1966, Ser. No. 588,773
6 Claims. (Cl. 136—153)

1. In a lead-acid storage battery comprising cells to be loaded with electrolyte, the improvement comprising an electrolyte forming material disposed in said cells, said material comprising a dry mixture consisting essentially of the combination of finely divided, highly absorbent silica and concentrated sulfuric acid, said battery being adapted to be activated by the addition of water to said cells whereby said acid is released from said combination to form an electrolyte solution with said water.

3,408,234
ADJUSTABLE JACKET FOR STORAGE BATTERIES

Otis E. Ririe, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Oct. 24, 1966, Ser. No. 588,792
7 Claims. (Cl. 136—181)

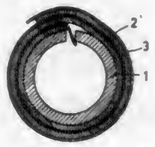


1. A storage battery jacket of generally rectangular shape and constructed of an insulative, flexible material comprising a first pair of opposed side walls having pleats therein to allow said jacket to be adjusted to accommodate different size batteries; a second pair of opposed side walls attached to said first pair of side walls to form said generally rectangular shape jacket; and a cover carried by at least one of said first walls and said second walls, said cover having a pleat to allow said cover to be adjusted to accommodate different size batteries.

3,408,235
METHOD OF MANUFACTURING WOUND Nb_3Sn-CONTAINING BODIES

Cornelis Willem Berghout, Emmasingel, Eindhoven, and Sonja Wolff, Krimpen aan den Ijssel, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Mar. 15, 1965, Ser. No. 439,681
Claims priority, application Netherlands, Mar. 17, 1964, 6402795
2 Claims. (Cl. 148—6.3)



Wound Nb_3Sn body having an insulating winding of a surface niobium oxidized foil.

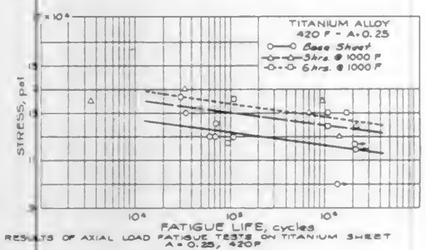
3,408,236
WEAR-RESISTANT TITANIUM ALLOY AND METHOD OF PRODUCING SAME

Carroll H. Van Hartesveldt, Toledo, Ohio, assignor to Hoover Ball and Bearing Company, Saline, Mich., a corporation of Michigan

Continuation-in-part of application Ser. No. 383,199, July 16, 1964. This application May 3, 1965, Ser. No. 452,639
8 Claims. (Cl. 148—6.3)

A continuous sheet metal belt is formed from the

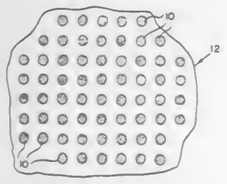
titanium alloy Ti-6Al-4V and is heat treated in an oxi-



RESULTS OF AXIAL LOAD FATIGUE TESTS ON TITANIUM SHEET A=0.25, 420F

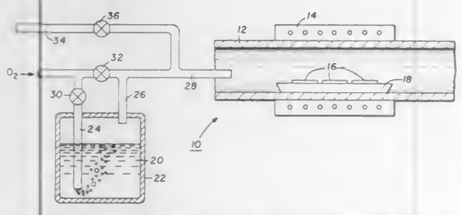
dizing atmosphere to form a wear-resistant surface without impairing the physical properties of the alloy.

3,408,237
DUCTILE CASE-HARDENED STEELS
John T. Gulliksen, Peekskill, and Alfred E. Oldaker, Poughkeepsie, N.Y., and Frank J. Bolda, Raleigh, N.C., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 379,139, June 30, 1964. This application Mar. 16, 1967, Ser. No. 633,651
2 Claims. (Cl. 148—15.5)



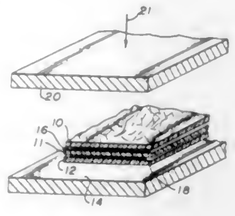
Steel materials having discontinuous case-hardened areas surrounded by continuous ductile areas, materials having series of very small case-hardened areas and materials fabricated from ductile case-hardenable steels having over surface regions thereof a case-hardened pattern imparting to that surface the hardness and wear characteristic of case-hardened steel and the bending and ductility characteristics of unhardened ductile steel are described herein.

3,408,238
USE OF BOTH SILICON OXIDE AND PHOSPHORUS OXIDE TO MASK AGAINST DIFFUSION OF INDIUM OR GALLIUM INTO GERMANIUM SEMICONDUCTOR DEVICE
Donald P. Sanders, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed June 2, 1965, Ser. No. 460,785
15 Claims. (Cl. 148—187)



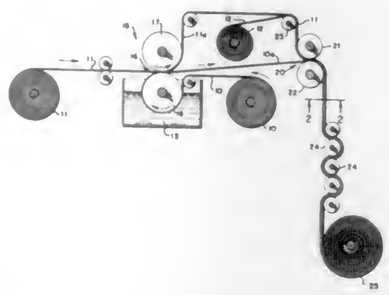
This specification discloses an improvement in the process of diffusing a P-type dopant into a germanium semiconductor device, characterized by employing both a silicon oxide and a phosphorous oxide in the film used to mask the germanium, selectively etching an opening in the film and diffusing the P-type dopant into the germanium. A detailed description of employing the improved process in conjunction with other steps to form multiple junction transistors is included. Furthermore, the known procedures of film deposition, selective etching and diffusion are described in detail.

3,408,239
METHOD FOR MANUFACTURING GLASS FIBER REINFORCED RESIN IMPREGNATED MATS
James A. Wedin, Livermore, Calif., assignor to Coast Manufacturing & Supply Company, Livermore, Calif.
Filed June 11, 1965, Ser. No. 463,116
2 Claims. (Cl. 156—62.8)



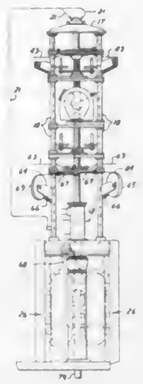
A method for molding glass fiber reinforced material and a glass fiber product in which a resin preimpregnated glass fiber mat is placed in contact with a plurality of unidirectionally oriented glass fiber strands and heat and pressure applied so that the flow of the material prior to setting is primarily transverse to the orientation of the strands.

3,408,240
DOUBLE LAMINATING PROCESS USING A SINGLE WAXING STATION
Richard H. Williams, Kintnersville, Pa., assignor to Riegel Paper Corporation, New York, N.Y., a corporation of Delaware
Filed May 20, 1965, Ser. No. 457,381
12 Claims. (Cl. 156—152)



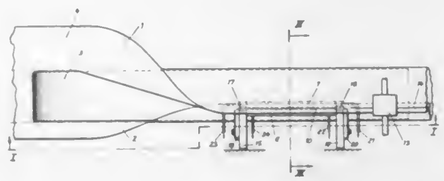
A process for the continuous production of a triplex laminate utilizing a single laminant coating station. Laminant is initially applied to one side of one web, and subsequently a substantial portion of this laminant is continuously transferred to another web by contacting the two webs under pressure and subsequently separating them before the laminant sets. The central ply web is then inserted between the coated surfaces of these separated webs and a triplex laminate is thereafter formed under heat and pressure.

3,408,241
METHOD OF MAKING TUBULAR FIBER REINFORCED RESIN ARTICLES
Robert L. Keyt and Anthony H. Ingle, Bristol, Va., assignors, by mesne assignments, to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware
Filed Mar. 2, 1965, Ser. No. 436,426
13 Claims. (Cl. 156—173)



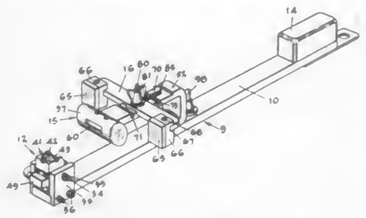
The procedure for initiating a vertical downward extraction type operation for producing fiber reinforced resin articles in tubular form includes threading certain rovings initially through the die in which there is no core. Thereafter, the core is inserted into the die, moving in an upward direction. The initial rovings are then employed to draw other reinforcements through the forming passage of the die.

3,408,242
PROCESS AND APPARATUS FOR WELDING LAYERS OF THERMOPLASTIC MATERIAL
Kurt Rochla, Lengerich, Germany, assignor to Windmoller & Holscher
Filed Mar. 11, 1964, Ser. No. 351,098
Claims priority, application Germany, Mar. 19, 1963, W 34,127
17 Claims. (Cl. 156—274)



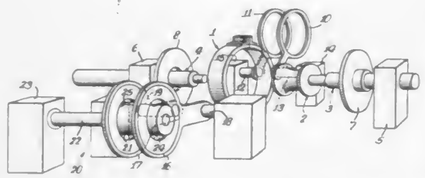
A process and apparatus for welding thermoplastic layers along a seam consisting of heating the layers of the material to a temperature above their melting point by radiant heat supplied at right angles to the plane of the material in the region in which the seam weld is to be formed, and subjecting the superimposed layers to a consolidating pressure in this region. The consolidating pressure is produced by at least one pressing roll arrangement located behind the heating station. At the heating station, an elongated heater is maintained spaced from the thermoplastic layers by means of elongated spacer members, with the heating element radiating heat to the thermoplastic layers at generally right angles thereto without engaging same.

3,408,243
DEVICE FOR SECURING A MOUNTING BRACKET TO A WINDSHIELD
Paul T. Mattimoe, Toledo, Ohio, assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed May 3, 1965, Ser. No. 452,774
3 Claims. (Cl. 156—391)



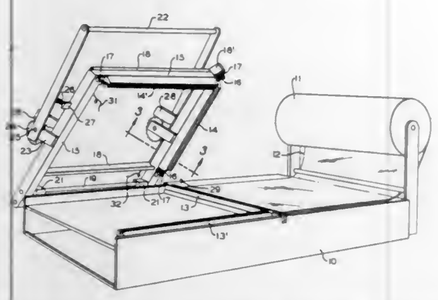
An apparatus for attaching a rear view mirror mounting bracket to an automobile windshield. Also provided is a device for locating the bracket on the windshield which includes means for heating the bracket and for applying a bonding load thereto.

3,408,244
TIRE ASSEMBLING APPARATUS AND APPARATUS FOR FORMING SIDE WALLS FOR TIRES
Larry C. Frazier, Prescott, Ariz., assignor to National-Standard Company, Niles, Mich., a corporation of Delaware
Filed Apr. 28, 1965, Ser. No. 451,436
19 Claims. (Cl. 156—403)



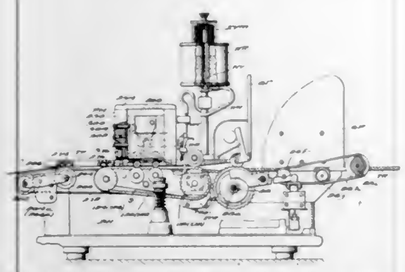
Apparatus for fabricating pneumatic tires in which tire carcass material is expanded by pressure into torus configuration to engage the crown of the carcass with a tread component, and while the carcass is expanded engage the circumferential edges or wings of the tread component with the adjacent portions of the carcass, and apply side walls to the carcass with the circumferential edges of the side walls covering the circumferential edges or tread wings of the tread. Apparatus for fabricating side wall components in which side wall material is formed around a cylindrical drum with the drum thereafter being radially expanded and axially contracted forming the side wall material into an annular member, and then severing the annular member at its outer circumference to form a pair of annular side wall components. A drum assembly having end head components movable axially relative to each other each having inner and outer ring members defining seats for a bladder and bead ring seats between the inner and outer ring members displaceable radially outwardly by relative axial movement of the inner and outer ring members. A drum as last noted in which the bladder is collapsible inwardly and tire carcass material outwardly away from the bladder with the bladder and tire carcass defining an air pressure chamber for displacing the tire carcass material into engagement with a tread component.

3,408,245
CUTTING AND HEAT SEALING THERMOPLASTIC FILM
Elmer C. Beason, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 11, 1965, Ser. No. 494,332
2 Claims. (Cl. 156—515)



A plastic film cutter and sealer is operated by moving a handle to clamp the film layers to be sealed firmly together on each side of the zone to be cut and sealed and continued movement of the operating handle then causes a rack and pinion gear system to move the frame carrying the heating element through the clamped film sections, cutting and sealing them together.

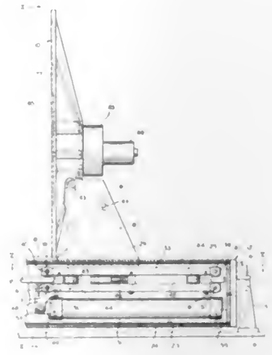
3,408,246
PUNCH MECHANISM FOR LABELING MACHINES
Kurt Rudolf Schneider, 4 Juliand St., Bainbridge, N.Y. 13733
Filed Apr. 28, 1965, Ser. No. 451,469
17 Claims. (Cl. 156—521)



11. A labeling machine comprising a punch mechanism for severing labels from a label sheet, means for moving the label sheet beneath the punch mechanism, said punch mechanism including a housing having an open bottom, means for moving articles beneath said open bottom, a punch mounted for reciprocal movement in said housing, and means carried by said punch housing for continuously applying a force against the punch in a direction generally transverse to the direction of reciprocal movement thereof for compensating for variations in fit between the punch housing and the punch due to variations in temperature.

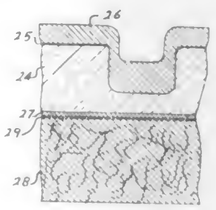
3,408,247
HEADER MECHANISM FOR ROLL WRAPPER
Ralph Derr, Jr., Downingtown, Pa., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Apr. 12, 1965, Ser. No. 447,219
12 Claims. (Cl. 156—538)

An apparatus for applying outside heads to the ends of paper rolls in which said paper rolls are rolled along a ramp which terminates at a transverse pivoted roll supporting beam forming a mounting means for movable suction header platens movable toward and from a paper roll on said beam. Two cylinders and cooperating pistons are mounted for pivotal movement about coaxial axes to tilt



the beam into roll receiving, holding and discharging positions wherein one of said cylinders and its cooperating piston is larger and has a shorter stroke than the other cylinder and its cooperating piston, and serves to hold the beam in its roll supporting position.

3,408,248
HARD SURFACE FLOOR COVERING AND METHOD OF MANUFACTURE
Richard L. Maass, Salisbury Township, Lehigh County, Pa., assignor, by mesne assignments, to GAF Corporation, a corporation of Delaware
Filed Jan. 20, 1964, Ser. No. 338,767
8 Claims. (Cl. 161—5)

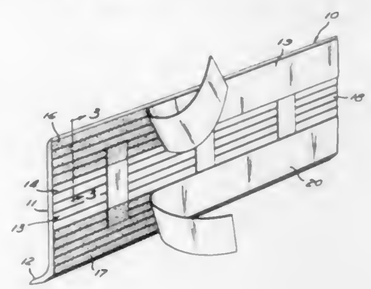


5. A sheet type covering product comprising a base, a wear layer, and decorative materials intervening between the base and the wear layer, the decorative materials comprising a single coat of resin material applied throughout the entire area of the base, portions of said single coat in certain pattern areas being of relatively small thickness as compared with other portions in intervening pattern areas, said areas of relatively small thickness being relatively narrow and comprising a network of valley areas and said intervening pattern areas comprising relatively broad elevated land areas formed of porous expanded polyvinyl chloride of sufficient thickness to provide a pronounced relief pattern effect in contrast with the valley areas, at least some of the pattern areas of one thickness being printed with a color material contrasting with the color pattern areas of different thickness to provide a contrasting color pattern effect in registry with the relief pattern effect, the wear layer covering all of the pattern areas and being at least as thick over the valley areas as over the land areas but not of sufficient thickness in the valleys to appreciably impair the relief pattern effect, and said wear layer comprising transparent polyvinyl chloride resin so that the color pattern effect is visible.

3,408,249
ADHERING TEXTILE MATERIALS TO RUBBER
Robert W. Brown, Middlebury, Conn., assignor to Uniroyal Inc., a corporation of New Jersey
No Drawing. Filed Aug. 7, 1964, Ser. No. 388,287
20 Claims. (Cl. 161—88)

10. A laminate of textile material and a calendered vulcanized rubber composition containing the reaction product of trimethylol acetaldehyde and material selected from the group consisting of resorcinol, partially reacted resorcinol-formaldehyde resins, condensation products of resorcinol and acetone, and condensation products of resorcinol and acetaldehyde.

3,408,250
BASEBOARD MOLDING STRIP AND METHOD OF INSTALLING SAME
Donald W. Finefrock, Middlefield, Ohio, assignor to The Johnson Rubber Company, Middlefield, Ohio, a corporation of Ohio
Filed Mar. 16, 1967, Ser. No. 623,614
6 Claims. (Cl. 161—102)



A rubber cove or baseboard molding having an angularly extending foot to be resiliently pressed against the floor is provided with a pressure sensitive adhesive backing on its wall contacting surface. The backing is covered with release strips which are removed when the molding is applied to the intersection between the wall and the floor. The pressure sensitive adhesive prevents the molding from creeping upward on the wall from the reaction of the resilient foot against the floor.

3,408,251
TOWS OF SYNTHETIC FILAMENTS AND METHOD FOR MAKING THE SAME
Stanley Davies, 11 Fairfield Estate, Goytre, Pontypool, England; Vincent Leighton Evans, "Yves" Belmont Crescent, Abergavenny, England; and John David Watt, 61 Chequer Road, Doncaster, England
Filed Jan. 11, 1965, Ser. No. 424,563
Claims priority, application Great Britain, Jan. 10, 1964, 1,146/64
6 Claims. (Cl. 161—169)

A tow and a method for producing said tow which is suitable for stretch-breaking produced by extruding a polyamide having a relative viscosity of less than about 30 into a plurality of filaments which make up the tow. The tow is split into a plurality of bundles or sub-tows and each bundle is then subjected to a different tensioning prior to drawing. The bundles are then reformed into the tow and draw-crimped. The resulting tow has an improved snap-break rating and a more desirable load extension curve.

3,408,252
PROCESS OF BONDING ORGANIC COMPOSITIONS TO FERROUS METAL SURFACES AND ARTICLE PRODUCED THEREBY
James J. Manganello, Birmingham, and Louis T. Feng, Southfield, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Mar. 31, 1965, Ser. No. 444,394
15 Claims. (Cl. 161—225)



A process for bonding organic compositions to a material having a ferrous metal surface which comprises forming a coating of magnetic iron oxide on the ferrous metal surface by treating the surface with an oxidizing agent and then applying the organic composition to the oxide coated surface.

3,408,253
TACKIFYING EPDM RUBBERS USING A CEMENT COMPRISING EPDM AND A PHENOL-TERPENE-CYCLIC POLYENE RESIN
Charles F. Eckert, Wayne, N.J., and Edwin S. English, Grosse Pointe Woods, Mich., assignors to Uniroyal, Inc., a corporation of New Jersey
No Drawing. Filed Apr. 5, 1965, Ser. No. 445,699
17 Claims. (Cl. 161—253)

Tackifier and bonding cement for EPDM stock comprising (A) EPDM, (B) compounding and vulcanizing ingredients for said EPDM and (C) a resinous reaction product of a phenol, a terpene and a cyclic polyene having been added last.

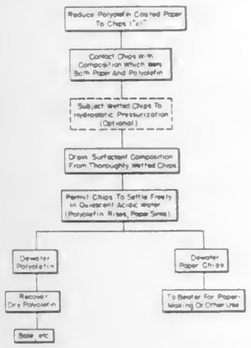
3,408,254
2,2'-(1,2-CYCLOBUTYLENE)BIS[4,6-DIAMINO-s-TRIAZINE] AND RESINS FORMED THEREFROM
Janice L. Greene, Warrensville Heights, and Franklin Veatch and Murrel Godfrey, Cleveland, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed July 22, 1964, Ser. No. 384,547
5 Claims. (Cl. 161—261)

Herein is disclosed a new compound, 2,2'-(1,2-cyclobutylene)bis[4,6-diamino-s-triazine], which is useful in preparing resin compositions. This compound is prepared by reacting 1,2-dicyanocyclobutane either with cyanamide or dicyandiamide.

3,408,255
PROCESSING OF COATED PAPER
David Tatum, 325 Dartmouth Ave., Swarthmore, Pa. 19081
Filed Aug. 20, 1964, Ser. No. 390,826
6 Claims. (Cl. 162—5)

A process for obtaining a clean separation of resin or

plastic coatings from the paper stock on which they are present, by contacting the coated paper with a liquid



which intrudes between the paper and the resin and effects a clean separation of the two from one another.

3,408,256
METHOD OF PRODUCING 5-AMINO-4-IMIDAZOLECARBOXAMIDE RIBOFURANOSIDE BY FERMENTATION

Hiroshi Sasaki and Mikio Aoki, Kanagawa-ken, Hiroshi Okada and Kazumoto Kinoshita, Tokyo, and Teruo Shiro, Kanagawa-ken, Japan, assignors to Ajinomoto Co., Inc., Tokyo, Japan

No Drawing. Filed June 1, 1966, Ser. No. 554,305
Claims priority, application Japan, June 8, 1965, 40/33,967
4 Claims. (Cl. 195—28)

1. In a process of producing 5-amino-4-imidazolecarboxamide ribofuranoside by fermentation of an oqueous culture medium with a bacterium of the genus Bacillus capable of producing 5-amino - 4 - imidazolecarboxamide ribofuranoside, the improvement which consists in adding to said culture medium an alkanoic acid having 3 to 9 carbon atoms or a salt of said acid which is soluble in said medium.

3,408,257
METHOD FOR THE PRODUCTION AND ISOLATION OF 5-PHOSPHO-D-RIBOSYL-1-PYROPHOSPHATE, D-RIBOSE-1,5-DIPHOSPHATE AND D-RIBOSE-5-PHOSPHATE

Yoshiaki Kawamori, Masahiko Matsuura, Takeshi Saito, and Yoshinobu Miyamura, Shizuoka-ken, Japan, assignors to Kyowa Hakko Koyo Co., Ltd., Chiyoda-ku, Tokyo, Japan, a corporation of Japan

No Drawing. Filed July 19, 1965, Ser. No. 473,191
Claims priority, application Japan, July 30, 1964, 39/42,859
3 Claims. (Cl. 195—31)

The present disclosure is directed to a method of preparing and recovering D-ribose phosphates such as 5-phospho-D-ribosyl-1-pyrophosphate (PRPP), D-ribose-1, 5-diphosphate (PRP) and D-ribose-5-phosphate (R–5–P) which comprises culturing a D-ribose phosphate-producing microorganism in an aqueous nutrient culture medium containing about 0.2 to 2.0% by weight (as phospho radical) of phosphate and about 0.01 to 0.2% by weight (as magnesium ion) of magnesium salt, accumulating the aforesaid phosphates in the fermentation liquor and in the cells of the cultured microorganism, separating the fermentation liquid from the remaining fermentation products and subjecting said liquid to fractional chromatography to separately recover said 5-phospho-D-ribosyl-1-pyrophosphate, D-ribose-1,5-dyphosphate and D-ribose-5-phosphate therefrom. The present process is not specific to any particular microorganisms or strains.

3,408,258
PROCESS FOR PRODUCING OXYTETRACYCLINE ANTIBIOTIC

Arpad Grein, Graziana Canevazzi, and Riccardo Barchielli, Milan, Italy, assignors to Società Farmaceutici Italia, Milan, Italy, a corporation of Italy

No Drawing. Filed Feb. 25, 1965, Ser. No. 435,336
Claims priority, application Italy, Feb. 27, 1964, 4,243/64
4 Claims. (Cl. 195—80)

The present invention relates to a fermentative process for obtaining the antibiotic, oxytetracycline, by means of a new species of Streptomyces, named by us *Streptomyces henetus* or Streptomyces F.I. 1782, and which has been deposited at the Institute of Microbiology of the Rutgers University, U.S.A., where it received the index I.M. 3872. The process of the present invention results in obtaining oxytetracycline in very high yields. These yields are shown to be as high as 11,000γ per cc.

3,408,259
PROCESS FOR DETECTING STAPHYLOCOCCI-ENTEROTOXIN IN FOODSTUFFS

Werner Herbert Krüger, Birkenwerder, near Berlin, Iwan Milanow Stojanow, Berlin-Pankow, and Gerd Friedrich Meeser, Bergfelde, near Berlin, Germany, assignors to Institut fur Mitchforschung Oranienburg, Oranienburg, near Berlin, Germany

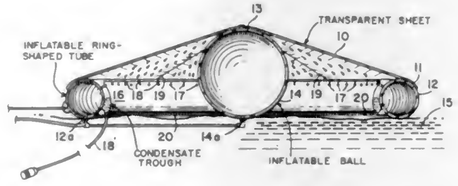
No Drawing. Filed Jan. 21, 1966, Ser. No. 522,040
2 Claims. (Cl. 195—103.5)

1. A process for detecting staphylococci-enterotoxin in foodstuffs which comprises preparing ejaculated sperm of male amphibians by treating the amphibians with 3 to 5 milliliters of 10 international units of pituitary gland gonadotropin or follicle stimulating hormone, allowing the sperm to remain in the cloaca of the amphibian for an hour, then withdrawing the sperm and determining the percentage of mobile spermotozoa by microscopic observation, mixing a determined amount of the sperm with an equal amount of the purified extract of the foodstuffs to be examined after having heated the foodstuffs for 30 to 60 minutes to a temperature in the range of 56° C. to 85° C., determining the decrease in mobility in the spermatozoa within 10 seconds to 20 minutes and calculating by comparison with the original mobility of the spermatozoa the presence of staphylococci-enterotoxin per weight unit of foodstuffs.

3,408,260
WATER VAPOR COLLECTING AND CONDENSING APPARATUS

Marshall H. Feldman, P.O. Box 922, Twenty Nine Palms, Calif. 92277, and Harry W. Feldman, 16016 Winterbrook Drive, Los Gatos, Calif. 95030

Filed Aug. 1, 1966, Ser. No. 569,512
1 Claim. (Cl. 202—83)

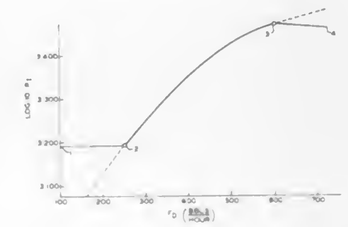


Apparatus for condensing water vapor rising from surfaces of the earth, including a thin flexible sheet of nonporous material that may be folded into a small package, a thin flexible tube of flexible material attached to the sheet around the edges thereof to unfold the sheet and expand it to its full area when the tube is inflated, an inflatable member attached to the center under side of the sheet raising the central part of the sheet above the other parts thereof. A trough of nonporous flexible material opening upward adjacent the inside of the tube to collect water running down the underside of the sheet.

3,408,261
CONTROL SYSTEM FOR FRACTIONAL DISTILLATION HAVING A NON-LINEAR FUNCTION GENERATOR

Merion L. Johnson and Dale E. Lupfer, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Aug. 20, 1965, Ser. No. 481,302
8 Claims. (Cl. 202—160)

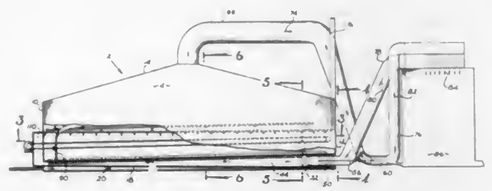


The internal reflux of a fractionator is non-linearly manipulated as a function of the feed flow utilizing a non-linear function generator which converts a signal representative of the feed flow to the fractionator to a signal which is non-linearly representative of the internal reflux necessary in the fractionator, the latter signal being employed as an input to an internal reflux computer.

3,408,262
TURBINE BLOWER TYPE DISTILLATION SYSTEM FOR CONVERSION OF SALINE WATER

Albert J. Matye, 15103 Tuba St., Sepulveda, Calif. 91343

Filed May 2, 1966, Ser. No. 546,908
6 Claims. (Cl. 202—177)



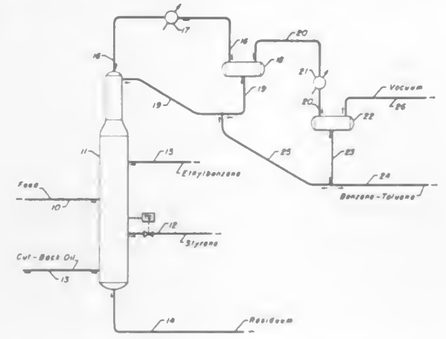
Salt water is introduced into heat exchange relationship with hot gases produced by turbines. The preheated liquid is discharged by a plurality of nozzles against a hot gas carrying duct to vaporize the liquid in a chamber in which a partial vacuum is created by blowers driven by the turbines. The blowers direct the vapor into a tank at atmospheric pressure where the vapor condenses and is collected.

3,408,263
SINGLE COLUMN DISTILLATION OF MIXTURE OF AROMATICS CONTAINING STYRENE

Dennis J. Ward, Lombard, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Nov. 22, 1966, Ser. No. 596,140
10 Claims. (Cl. 203—2)

Method for distilling a mixture of ethylbenzene and styrene in a single distillation column having a column bottoms temperature exceeding 220° F. Styrene in a purity from 95% to 99% by weight is recovered from the column as a side-cut vapor fraction. Ethylbenzene in high purity is recovered as an overhead fraction. Cut-

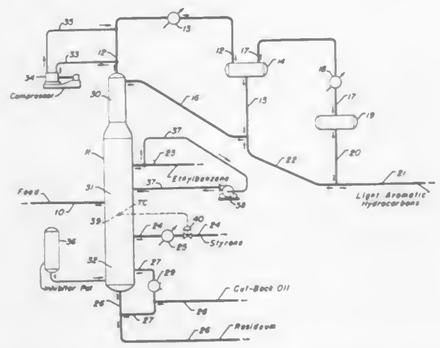


back oil is introduced into the bottom of the column to provide sufficient heat for distillation purposes and as a carrying medium for polymers and residuum which may be formed during the distillation of ethylbenzene from styrene.

3,408,264
SUBATMOSPHERIC DISTILLATION OF A BENZENE, TOLUENE, ETHYL BENZENE, STYRENE MIXTURE IN A SINGLE COLUMN WITH A CUT-BACK OIL

Dennis J. Ward, Lombard, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Nov. 22, 1966, Ser. No. 596,145
8 Claims. (Cl. 203—2)



Method for distilling a mixture of benzene, toluene, ethylbenzene and styrene in a single distillation column having a column bottoms temperature exceeding 220° F. Styrene in a purity from 95% to 99% by weight is recovered as a side-cut fraction from the distillation column.

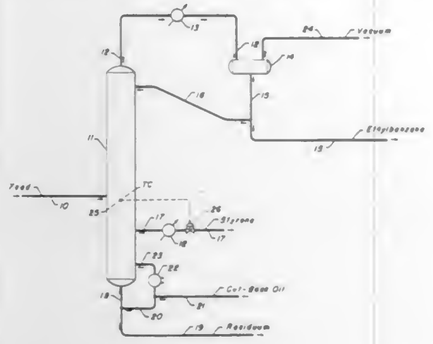
Ethylbenzene is also a side-cut fraction with the benzene and toluene being removed as an overhead distillate fraction.

3,408,265

RECOVERY OF STYRENE FROM ETHYL BENZENE BY A SINGLE COLUMN DISTILLATION WITH STYRENE VAPOR SIDE DRAW

Dennis J. Ward, Lombard, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Nov. 22, 1966, Ser. No. 596,154
5 Claims. (Cl. 203—2)



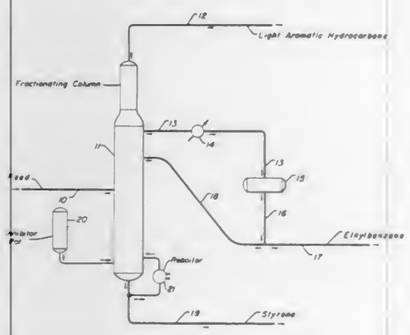
Method for distilling a mixture of ethylbenzene and styrene in a single distillation column having a column bottoms temperature exceeding 220° F. Styrene in a purity from 95% to 99% by weight is recovered from the column as a sidecut vapor fraction. Ethylbenzene in high purity is recovered as an overhead fraction. Cut-back oil is introduced into the bottom of the column to provide sufficient heat for distillation purposes and as a carrying medium for polymers and residuum which may be formed during the distillation of ethylbenzene from styrene.

3,408,266

SUB-ATMOSPHERIC DISTILLATION OF A BENZENE, TOLUENE, ETHYLBENZENE STYRENE MIXTURE IN A SINGLE COLUMN

Dennis J. Ward, Lombard, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Nov. 22, 1966, Ser. No. 596,137
4 Claims. (Cl. 203—9)



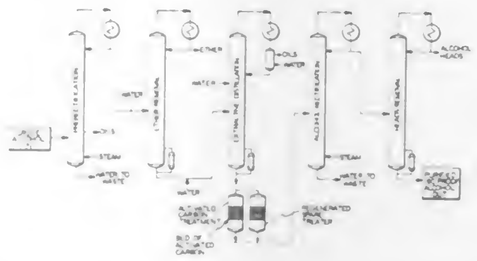
Method for distilling a mixture of benzene, toluene, ethylbenzene, and styrene in a single distillation column having a column bottoms temperature exceeding 220° F. Styrene in a purity from 95% to 99% by weight is recovered from the bottom of the distillation column. Ethylbenzene in high purity is recovered as a side-cut fraction from the column with benzene and toluene being removed as an overhead distillate fraction. The column is refluxed with a portion of the ethylbenzene.

3,408,267

EXTRACTIVE DISTILLATION OF ETHANOL FOLLOWED BY ACTIVATED CARBON TREATMENT

Franklyn D. Miller, Cincinnati, Ohio, and Raymond A. Kolbeson, Tuscola, Ill., assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

Filed Jan. 17, 1966, Ser. No. 520,899
12 Claims. (Cl. 203—19)



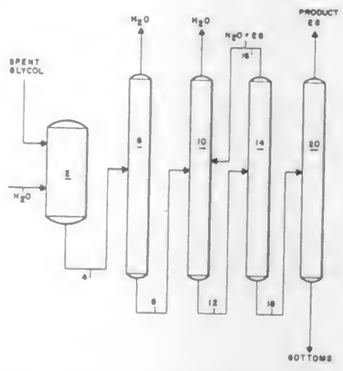
The purification of crude ethyl alcohol prepared by the hydration of olefins by extractively distilling the crude alcohol and treating the ethanol-containing bottoms fraction with activated charcoal prior to the final rectification step whereby purified alcohol is obtained as an overhead fraction.

3,408,268

RECOVERY OF SPENT GLYCOL BY DISTILLATION IN THE PRESENCE OF WATER

James W. Pitts, Port Neches, and Robert R. Reese, Austin, Tex., assignors to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware

Filed Oct. 27, 1966, Ser. No. 590,059
6 Claims. (Cl. 203—78)



Purified ethylene glycol can be recovered from terephthalate spent glycol streams by adding from 2% to 25% water and distilling the aqueous spent glycol followed by a subsequent distillation to remove the purified ethylene glycol.

3,408,269

ANALYSIS OF ORGANIC MATERIALS

Paul A. Hersch, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California

Filed Apr. 30, 1965, Ser. No. 452,256
18 Claims. (Cl. 204—1)



12. In a method for performing microanalysis of an organic sample, the steps comprising:

introducing said sample into an inert carrier gas stream;

converting the carbon and hydrogen in said sample into CO_2 and H_2O, respectively;

subsequently converting the CO_2 and H_2O into CO;

converting the CO into iodine vapor;

thereafter conveying the carrier gas stream containing iodine vapor to a coulometric cell comprising a cathode formed of an inert conductive material and an anode selected from the group consisting of active carbon, silver and mercury, with said electrodes being joined by an electrolyte, said cell generating a current which is proportional to the rate at which iodine vapor is delivered thereto; and

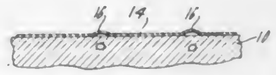
integrating the current signal generated by said cell as an indication of the amount of iodine vapor delivered thereto and, therefore, a function of the amount of hydrogen and carbon in the sample.

3,408,270

METHOD FOR NON-DESTRUCTIVE TESTING OF MATERIALS

Bernard Gentile, Cambridge, Mass., assignor to Anthony J. Gentile, Forestville, Conn.

Filed June 25, 1965, Ser. No. 466,878
6 Claims. (Cl. 204—1)



The method of testing a metallic product, particularly one of steel, for stress-raising material inhomogeneities therein, comprising the steps of: providing a low molecular weight nascent gas, such as atomic hydrogen, to said product for absorption in areas surrounding said inhomogeneities; covering the product with a deformable film; and finally treating, as by heating, the product to release the absorbed gas as bubbles in the film adjacent the inhomogeneities.

3,408,271

ELECTROLYTIC PLATING OF METAL BUMP CONTACTS TO SEMICONDUCTOR DEVICES UPON NONCONDUCTIVE SUBSTRATES

Karl H. Reissmueller and Ralph E. Alexander, Tustin, and Manfred W. Reissmueller, Costa Mesa, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Continuation-in-part of application Ser. No. 435,918, Mar. 1, 1965. This application Dec. 6, 1965, Ser. No. 511,780
11 Claims. (Cl. 204—15)

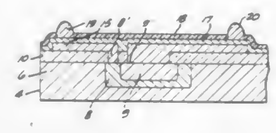
1. The method of providing an electronic component with an electroplated electrical connection to said component comprising the steps of:

(a) depositing an electrically conductive coating entirely over a surface of said electronic component including any electrically insulated portions of said surface;

(b) removing portions of said coating to form said coating into an electrically continuous predetermined pattern on said surface of said component including any electrically insulated portions of said surface;

(c) forming a mask of electrically nonconductive material on said surface of said component and over said electrically continuous pattern;

(d) opening a window in said mask to expose at least one preselected portion of said electrically continuous pattern;



(e) electroplating said preselected exposd portion of said electrically continuous pattern with a metal deposited through said window in said mask by employing said pattern as a plating electrode to form an electroplated metallic body on said preselected portion of said pattern;

(f) and removing further portions of said pattern to thereby electrically isolate said metallic body which is in electrical contact with said preselected portion of said pattern from the remaining portions of said pattern.

3,408,272

ELECTRODEPOSITION OF CHROMIUM

Tony Eugene Such, Wythall, and Malcolm Partington, Walsall, England, assignors to W. Canning & Company Limited, Birmingham, England

Filed July 21, 1964, Ser. No. 384,120
Claims priority, application Great Britain, July 24, 1963, 29,274/63
2 Claims. (Cl. 204—51)

A micro-cracked chromium coating having at least 600 micro-cracks per linear inch in any direction is obtained by a single-stage electrodeposition at less than 1920 amp-min. per sq. ft. from a solution consisting essentially of 100 to 225 g./l. of chromic acid, between 0.1 and 0.4% of sulphate ion, and between 1.5 and 4% of silicofluoride ion, with the percentages being based on the chromic acid content. If the sulphate ion content is less than 0.2%, the silicofluoride ion content is greater than 2% and if the sulphate ion content is greater than 0.3% the silicofluoride ion content is less than 3%.

3,408,273

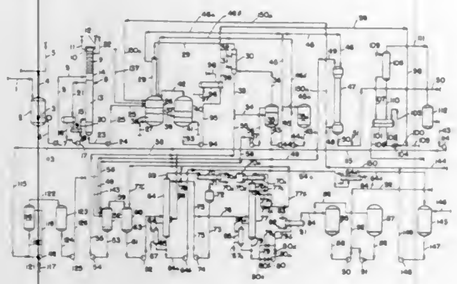
ORGANIC LEAD RECOVERY FROM ELECTROLYTES BY STEAM AND AZEOTROPIC DISTILLATION

David G. Braithwaite, Chicago, Lawrence L. Bott, Oak Park, and Peter L. Gross, Riverside, Ill., and James E. Laubach, Warren L. Altman, and William Hanzel, Lake Jackson, Tex., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

Filed Mar. 11, 1964, Ser. No. 351,021
2 Claims. (Cl. 204—59)

An organic lead compound is recovered from electrolytes containing a water miscible organic solvent, and optionally a water immiscible organic solvent, together with a high boiling organic solvent by steam distilling the mixture under conditions in which at least the water miscible organic solvent and the organic lead compound are steam distilled and the high boiling organic solvent remains as a residue, the distillate separates into an aqueous phase and a water immiscible phase, the aqueous phase is washed with a washing liquid to remove the

water miscible organic solvent which is recovered from said washing liquid, the organic lead compound is recovered from the water immiscible phase and the high boiling organic solvent is recovered from said residue.

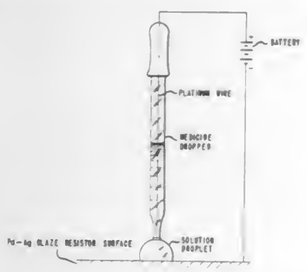


3,408,274

ELECTROLYTIC METHOD OF ADJUSTING THE RESISTANCE OF PALLADIUM GLAZE RESISTORS

Lewis C. Hoffman, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed July 29, 1965, Ser. No. 475,706
15 Claims. (Cl. 204—130)



1. A method for adjusting the resistance of a palladium glaze resistor comprising making said resistor an electrode in an electrolysis cell having an inert second electrode of opposite polarity, said cell having a suitable electrolyte between said electrodes, and passing a direct electric current through said cell, thereby increasing the resistance of said resistor when said resistor is made anodic to said inert electrode, and decreasing the resistance of said resistor when said resistor is made cathodic to said inert electrode.

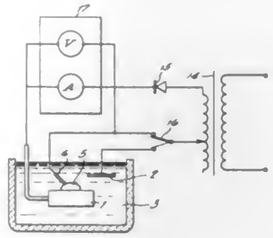
3,408,275

TUNNEL DIODES WHEREIN THE HEIGHT OF THE REDUCED CROSS SECTION OF THE MESA IS MINIMIZED AND PROCESS OF MAKING

Günther Kesel, Munich, Germany, assignor to Siemens Aktiengesellschaft, Berlin, Germany, a corporation of Germany

Continuation-in-part of application Ser. No. 238,898, Nov. 20, 1962. This application Dec. 9, 1966, Ser. No. 607,119
11 Claims. (Cl. 204—143)

A new process for electrolytically etching a semi-conductor component having a p-n junction is shown. In a first step a portion of the p-n junction is coarsely electrolytically etched with a counter electrode immersed in the electrolyte. In a fine etching step, voltage is applied to opposite sides of the p-n junction without the coaction of the counter electrode. The etching voltage varies between zero and a value no greater than the maximum operational load of the junction.



3,408,276

METHOD FOR PREPARING AND CONSERVING FREE RADICALS

Louis Rey, Vaud, Switzerland, assignor to L'Air Liquide

Filed May 5, 1965, Ser. No. 453,449
Claims priority, application France, May 11, 1964, 974,007
7 Claims. (Cl. 204—157.1)

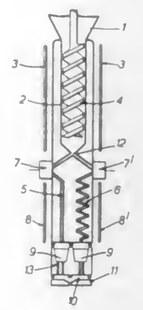
Free radicals are formed by freezing a free radicals-generating substance diluted in a liquid medium and irradiating, therefore the frozen liquid medium is separated out by selective sublimation at a low temperature to provide a residual porous mass containing the free radicals, and allowably raising the temperature to ambient temperatures with the exclusion of air.

3,408,277

PROCESS AND APPARATUS FOR PRODUCING HIGH-BULK SYNTHETIC YARNS

Jean Claude Martin, Lyon, Rhone, and Charles Martin, Lyon, France, assignors to Societe Rhodiaceta, Paris, France, a French body corporate

Filed Feb. 8, 1965, Ser. No. 431,007
Claims priority, application France, Feb. 14, 1964, 963,851
11 Claims. (Cl. 264—168)



Spontaneously crimpable fibres comprising chemically identical polymers differing in physical shrinkage-affecting characteristics such as viscosity are obtained by a melt spinning process in which molten polymer from a single melting zone passes to the spinneret through two or more conduits of different lengths or differently heated, so that the two or more streams of melt undergo different thermal treatments which give them different physical properties. A suitable apparatus is also described.

3,408,278

PAINTING PROCESS WHEREIN A CONDUCTIVE UNDERCOAT IS ELECTROPHORETICALLY DEPOSITED

Keith Herbert Stoodley, London, England, assignor to Porter Paints Limited, London, England, a British company

No Drawing. Filed Oct. 5, 1964, Ser. No. 401,694
Claims priority, application Great Britain, Oct. 4, 1963, 39,288/63
12 Claims. (Cl. 204—181)

The invention relates to an electrophoretic painting process which comprises applying to an article to be coated which possesses a conductive outer layer, a conductive undercoat and thereafter applying to the so-coated article a further coating of a paint by means of electrophoretic deposition. The conductive undercoat is a water-thinnable paint comprising a sufficient amount of a conducting pigment to render the undercoat conducting and a water dispersible resin. The conductive pigment is usually carbon, for example in the form of lamp-black. The water-dispersible resin is preferably a phenolic/alkyd or melamine/alkyd resin.

3,408,279

METHOD FOR THE CONSTRUCTION OF FERRITE MEMORY STORES UTILIZING ELECTROPHORETIC DEPOSITION

Anthony Howard Collins, Chislehurst, Kent, England, assignor to National Research Development Corporation, London, England, a British corporation

No Drawing. Filed Apr. 8, 1965, Ser. No. 446,723
Claims priority, application Great Britain, Apr. 11, 1964, 15,052/64; Mar. 25, 1965, 12,654/65
7 Claims. (Cl. 204—181)

1. The method of constructing a ferrite memory store comprising the steps of immersing a grid network of electrically conductive wires in a bath containing a liquid in which ferrite particles are suspended in such a manner as to prevent contact between wires at points of crossover of said wires in said network, applying a potential difference between said wires and an electrode immersed therein so as to cause electrophoretic deposition of said particles on the wires of said network until the deposits coalesce in the region of crossover of the wires in said network to form a continuous coating around each region of crossover, and sintering said deposits.

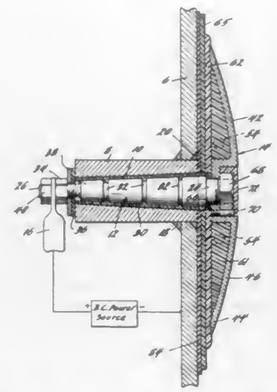
3,408,280

ANODE-ASSEMBLY FOR CATHODIC PROTECTION SYSTEMS

Herman S. Preiser, Ellicott City, Md., assignor to Hydronautics, Incorporated, Laurel, Md., a corporation of Maryland

Filed June 24, 1964, Ser. No. 377,632
17 Claims. (Cl. 204—196)

An anode and anode assembly for cathodic protection of a metal having inner and outer skins, the anode being a dome shaped valve metal wall secured to the larger end of an inwardly tapered valve metal connector rod, the rod extending through an opening in the skin and an inwardly tapered tube secured to the skin, insulating means between the rod and tube and co-operating securing and insulating means on the smaller end of rod water-tightly jamming the rod in the tube and insulating it therefrom.

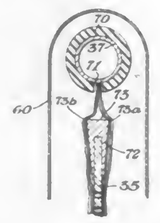


3,408,281

VERTICAL MERCURY CATHODE ELECTROLYTIC CELL WITH DIAPHRAGM ENCLOSED PERFORATED CATHODE SUPPORT

Robert D. Barnard, Walnut Creek, Carroll J. Dobratz, Concord, Arthur K. Johnson, San Diego, and Robert H. Meyer, Concord, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed July 15, 1965, Ser. No. 479,683
2 Claims. (Cl. 204—219)



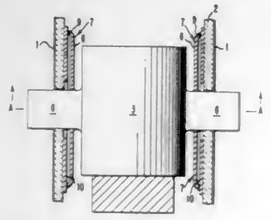
1. In a mercury vertical cathode cell, a two piece shell-like cell body joinable in a fluid tight seal to form a cell cavity, said body pieces having the inner walls at the bottom which are substantially free of obstructions and which slope inwardly and downwardly with respect to the horizontal axis to form a trough-shaped bottom within the cell body, said sloping walls and resulting trough-shaped bottom being inclined with respect to the horizontal axis towards an outlet in the bottom of the cell body, a plurality of rectangular leaf-like cathode supports attached by at least one edge substantially perpendicularly to one piece of said cell body, said cathode supports being plates of ferruginous material having a thickness of between $\frac{3}{64}$ inch and $\frac{1}{8}$ inch, said plates having an array of perforations which are staggered with respect to adjacent perfortions but are substantially uniformly distributed over the side surfaces of the plates, said perforations having a diameter equal to between $\frac{3}{4}$ and $1\frac{1}{2}$ times the thickness of said plate, the area of the array being between 10 percent and 50 percent of the area of the side surfaces of the plate, a plurality of rectangular leaf-like anode members attached substantially perpendicularly by at least one edge to the second piece of said cell body, said cathode supports and anode members being attached to their respective body pieces in a predetermined spatial

relationship such that the leaf-like cathode supports are disposed between the leaf-like anode members, said cathode supports and anode members being attached to their respective body pieces at a distance from the bottom of the pieces to thereby provide a space between the bottoms of the cathode supports and anode members and the sloping bottom of the cell cavity, a diaphragm, said diaphragm being disposed between said cathode supports and anode members, said diaphragm enclosing the cathode support at the top and being open at the bottom to thereby provide communication of the cathode support with the bottom of the cell, said diaphragm enclosing the bottom of the anodes and being open at the top of the anodes to provide communication of the anodes with the top of the cell, means to introduce electrolyte between the diaphragm and cathode supports at the bottom of the cathode supports, means to discharge the electrolyte from between the anode members and the diaphragm from the top of the anodes, means to flow amalgam over the cathode supports, means to vent gases from the cell, and means to impress an electrolysis current between said anode members and said cathode.

3,408,282
CATHODE ARM SEAL FOR FUSED SALT ELECTROLYSIS CELLS

Mason R. Frank, Niagara Falls, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Jan. 11, 1965, Ser. No. 424,721
2 Claims. (Cl. 204—243)



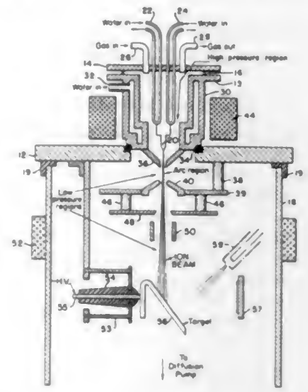
A cathode arm seal is disclosed which is to be used in a "Down's" type fused electrolysis cell. The seal is designed to allow a spacing between a circular metal plate, secured to the cell wall, and a seal ring, secured to the cathode arm, will accommodate cathode assembly to cell wall expansion, at operating temperatures, and will prevent cell wall damage as a result of this expansion.

3,408,283
HIGH CURRENT DUOPLASMATRON HAVING AN APERTURED ANODE POSITIONED IN THE LOW PRESSURE REGION

Kasturi L. Chopra, Lexington, and Myron Ronald Randlett, North Wilmington, Mass., assignors to Kennecott Copper Corporation, New York, N.Y., a corporation of New York

Filed Sept. 15, 1966, Ser. No. 579,599
4 Claims. (Cl. 204—298)

1. In duoplasmatron ion beam apparatus in which an arc is struck to form ionizable gas into a plasma from which an ion beam may be extracted, the combination of a first chamber to which said gas is supplied, means for pumping said first chamber down to a relatively high pressure of said gas, a second chamber, means for pumping said second chamber down to a relatively low pressure, means including an intermediate electrode separating said first chamber from said second chamber, said intermediate electrode including a portion formed of soft iron through which a first aperture is formed for the passage of said ion beam, a cathode disposed adjacent one side of said intermediate electrode and within said first chamber, an anode disposed adjacent the other side of said intermediate electrode and within said second chamber, at least a portion of said anode being formed of soft iron through which a second aperture is formed for the passage of said ion beam, means for applying a moderately high potential of a first polarity between said cathode and said anode and a moderately low potential of said first polarity between said cathode and said intermediate electrode whereby said arc is struck between said anode and said cathode to form said plasma, and means for producing a magnetic field in the region of said apertures, said soft iron portions of said intermediate electrode and said anode concentrating said magnetic field about said apertures, whereby said ion beam is confined to a predetermined size and direction.

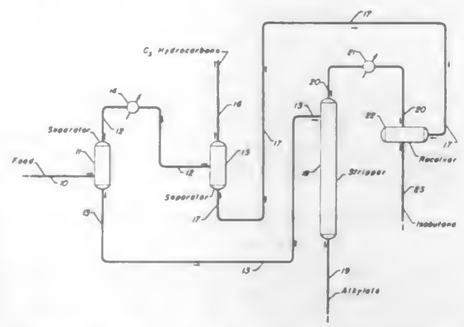


2. The apparatus of claim 1 including a target electrode disposed in said second chamber and aligned with said apertures in said intermediate electrode and said anode, and means for applying a very high potential of a second polarity between said cathode and said target electrode whereby said ion beam is directed upon predetermined discrete areas of said target electrode.

3,408,284
SEPARATION OF iC_4 FROM ALKYLATION EFFLUENT

William B. Borst, Jr., Mount Prospect, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Sept. 15, 1966, Ser. No. 579,613
5 Claims. (Cl. 208—102)



Method for separating normally gaseous paraffinic hydrocarbons from the effluent of a catalytic alkylation process. Specifically, an isobutane enriched stream is separated from the effluent of a C_4 alkylation reaction zone utilizing a two-stage pre-flash system prior to a conventional deisobutanizer tower.

3,408,285
CATALYSTS PREPARED BY IMPREGNATION OF SILICA-ALUMINA WITH AQUEOUS SOLUTION OF HEXATHIOCYANATO PLATINIC ACID OR AMMONIUM SALT THEREOF

Carl D. Keith, Summit, Kurt W. Cornely, Westfield, and Saul G. Hindin, Mendham, N.J., assignors to Engelhard Industries, Inc.

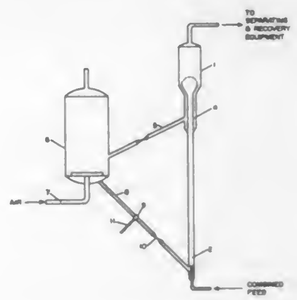
No Drawing. Filed Mar. 31, 1966, Ser. No. 538,987
9 Claims. (Cl. 208—111)

Platinum-promoted, acidic silica-alumina catalysts are prepared by impregnating with an aqueous solution of hexathiocyanato platinic acid, $H_2Pt(SCN)_6$, or the ammonium salt thereof, i.e., ammonium hexathiocyanoplatinate (IV), $(NH_4)_2Pt(SCN)_6$. The resultant catalysts possess excellent activities for hydrocracking of hydrocarbons.

3,408,286
CATALYTIC CRACKING WITH THE PURGING OF THE REGENERATED CATALYST WITH A LIQUID HYDROCARBON

Peter S. Hepp, Needham, Mass., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed July 6, 1967, Ser. No. 651,386
12 Claims. (Cl. 208—120)



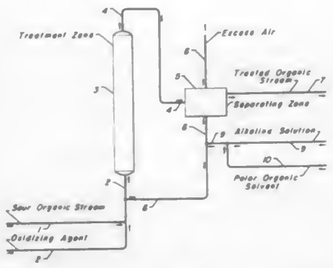
A method of reducing catalyst regenerator gases which are normally charged with regenerated cracking catalyst which comprises charging a small amount of liquid hydrocarbon to regenerated catalyst under cracking conditions and removing the regenerator gases comprising nitrogen, carbon monoxide, and carbon dioxide displaced by the products of cracking before said regenerated catalyst is recharged to the cracker.

3,408,287
OXIDATION OF MERCAPTANS

Peter Urban, Northbrook, and Henry A. Cyba, Evanston, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Apr. 20, 1966, Ser. No. 543,871
9 Claims. (Cl. 208—207)

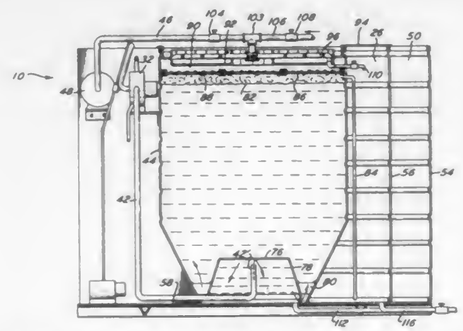
Sweetening of sour hydrocarbon fractions containing high molecular weight mercaptans by contact with oxygen and phthalocyanine catalyst in the presence of an alkali metal hydroxide solution containing a polar organic solvent selected from the group consisting of dialkyl sulfoxide, amino-alcohols, amino-hydroxy-alkyl ethers, alkylamines, alkylpolyamines, alkylamides, and mixtures thereof.



3,408,288
INDUSTRIAL WASTE WATER TREATMENT APPARATUS AND METHOD

Matthew A. Messa, Wyncote, Pa., assignor, by mesne assignments, to Met-Pro, Inc., Lansdale, Pa., a corporation of Pennsylvania

Continuation-in-part of application Ser. No. 503,567, Oct. 23, 1965. This application Dec. 3, 1965, Ser. No. 511,470
13 Claims. (Cl. 210—20)



Apparatus and method are disclosed for processing waste liquids to remove turbidity, solids, ABS, colloidal suspensions, etc. An upflow clarifier is surrounded at least in part by a sludge chamber which in turn is surrounded at least in part by a holding tank. The waste liquid is pretreated in the sludge chamber by sludge, coagulant and/or a bleaching chemical. The pretreated liquid is pumped to the bottom of an upflow clarifier and mixed with a coagulant and a pH corrective chemical. The upflow clarifier has a floc blanket whose upper limit is defined by a porous filter member to prevent the blanket from being upset. The effluent which passes through the floc blanket and porous member is pumped to the holding tank.

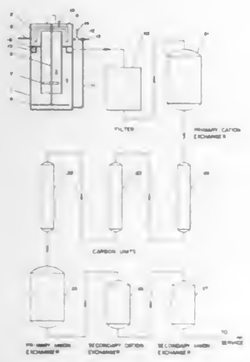
3,408,289
METHOD FOR WASTE WATER RENOVATION

Hilding B. Gustafson, Tucson, Ariz., assignor to Fuller Company, Catasauqua, Pa., a corporation of Delaware

Filed Sept. 1, 1965, Ser. No. 484,373
6 Claims. (Cl. 210—27)

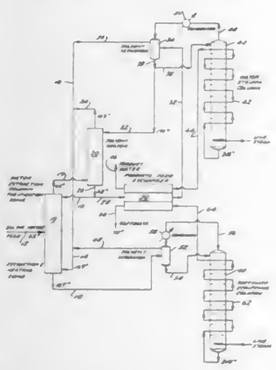
1. A process for waste water renovation comprising the steps of:
(a) clarifying the effluent;
(b) filtering the clarified effluent to remove suspended matter;

(c) partially demineralizing the clarified and filtered effluent by treating the effluent with a cation exchange material;



(d) treating the partially demineralized effluent with activated carbon; and
(e) further demineralizing the effluent by treating the effluent with an anion exchange material.

3,408,290
RECOVERY OF WATER FROM SALINE SOLUTION BY SOLVENT EXTRACTION
Edward G. Scheibel, 75 Harrison Ave., Montclair, N.J. 07042
Filed Aug. 4, 1966, Ser. No. 570,330
10 Claims. (Cl. 210—22)



1. In solvent extraction for the recovery of water of reduced salt content by contacting an equeous saline solution with a solvent having a minimum consolute temperature where extraction is effected at one temperature and phase separation is effected at a more elevated temperature the improvement which comprises: extracting the aqueous saline solution by thermally balanced countercurrent direct extraction contact with heated solvent whereby the solvent contacted by the entering saline solution has been cooled to effective extraction temperature levels, thereafter heating the solvent extract phase to an elevated temperature by thermally balanced countercurrent direct extraction contact with heated desalinated water whereby the heated saline raffinate leaving the extraction step has a minimal solvent content dissolved therein and the heated solvent leaving the solvent heating step has minimal water dissolved therein, recycling the so heated solvent back to the extraction step for further contact with saline solution, reheating and recycling a portion of the now desalinated water output from the solvent heating step back thereto, and stripping the residual solvent content from the heated saline raffinate and from the water product, said water product being a further portion of the water output of the solvent heating step.

3,408,291
METHOD OF SEPARATING CATIONS FROM SOLUTIONS CONTAINING THE SAME
Rainer Thomas and Paul Weber, Siegburg, Germany, assignors to Phrix-Werke Aktiengesellschaft, Hamburg, Germany
No Drawing. Application June 7, 1965, Ser. No. 462,056, now Patent No. 3,347,968, which is a continuation-in-part of abandoned application Ser. No. 232,344, Oct. 18, 1962, which in turn is a continuation-in-part of abandoned application Ser. No. 146,341, Oct. 19, 1961. Divided and this application Aug. 31, 1967, Ser. No. 664,652
Claims priority, application Germany, Oct. 21, 1960, P 25,897; Oct. 20, 1961, P 28,062
11 Claims. (Cl. 210—32)

Cations are separated from an aqueous solution containing the same and incorporated in a shaped body, or bodies, by contacting an aqueous liquid, containing in solution a first cation adapted to form a sulfide which is at most slightly soluble in water, with a shaped body of a material adapted to swell in contact with water and having distributed therethrough a sulfide including a cation of lesser affinity to ionic sulfide radicals then the first cation and of greater solubility in water than the sulfide of the first cation, whereby it is accomplished that the shaped body will swell and the sulfide of the first cation will be precipitated throughout the shaped body, and thus the first cation will be separated from the aqueous solution and incorporated in the form of its sulfide in the shaped body.

3,408,292
WATER FILTRATION PROCESS
Mahmoud T. Dajani, Park Forest, and Thomas G. Cocks, La Grange Park, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Mar. 24, 1966, Ser. No. 536,976
4 Claims. (Cl. 210—52)

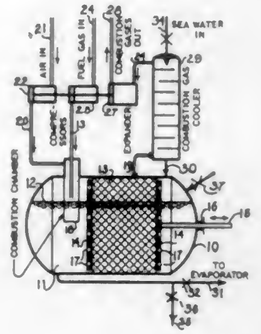
1. A method for filtering aqueous liquids containing finely-divided suspended solids and at least 0.1 p.p.m. of residual chlorine which comprises: adding to said liquid an amount of a polymer which contains a plurality of basic nitrogen sites in form of quaternary groups sufficient to increase the rate of filtration but insufficient to form a visible floc, and thereafter passing said liquid through a filtering medium selected from the group consisting of sand, anthracite coal and mixtures thereof.

3,408,293
COAL SLURRY CLARIFICATION
Mahmoud T. Dajani, Park Forest, John D. Ingraham, Lyons, and Walter F. Lorenc, Harvey, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Apr. 11, 1966, Ser. No. 541,494
4 Claims. (Cl. 210—53)

1. A process for removing coal fines and clay from an aqueous suspension thereof comprising the sequential addition of an anionic polymer followed by a cationic polymer, wherein the amount of anionic polymer is sufficient to form a floc, but insufficient to agglomerate said floc into rapidly-settling particles, and wherein the amount of cationic polymer is sufficient to balance the product of the amount of clay multiplied by the critical mobility thereof, and thereafter allowing said coal fines and said

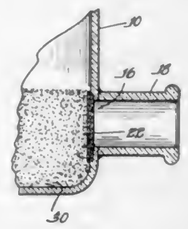
clay to settle from said suspension to provide a clear aqueous supernate.

3,408,294
METHOD FOR REMOVING SCALE-FORMING CONSTITUENTS FROM SEA WATER AND OTHER SOLUTIONS WHICH FORM SCALE
Donald F. Othmer, 333 Jay St., Brooklyn, N.Y. 11201
Continuation-in-part of application Ser. No. 252,473, Jan. 18, 1963. This application June 7, 1967, Ser. No. 644,247
11 Claims. (Cl. 210—56)



Some soluble materials, principally salts, in sea water and other hard waters, form hard, dense, crystalline deposits or scales on surfaces when the solution is heated to an elevated temperature; and time is allowed for crystallization to take place. A metal wire mesh may fill a part of the volume of a vessel in which the heated solution is maintained for 1 to 200 minutes; and scale is allowed to form during this time on the surfaces of the wire which makes up the mesh. Changing the bulk volume of the metal mesh by compression or expansion due to an external mechanical force, causes the wire in the mesh to flex, and the scale to crack therefrom, in solid particles which may readily be removed from the water, now comparatively soft. If the water then is to be evaporated, the particles may remain in the liquid for further crystallization thereon as the concentration proceeds.

3,408,295
APPARATUS AND METHOD FOR DISINFECTING OR PURIFYING WATER
John A. Vaichulis, 10455 S. Wabash Ave., Chicago, Ill. 60628
Filed Aug. 8, 1966, Ser. No. 570,815
10 Claims. (Cl. 210—62)



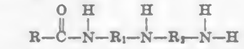
Apparatus for, and method of, purifying water utilizing elemental iodine. The apparatus advantageously comprises a portable container having an upper inlet for admitting impure water into the container and a lower outlet for purified water. The container is adapted to hold a quantity of elemental iodine sufficient in depth to overlie completely the outlet thereof. A porous body, which preferably is in the form of a fritted glass disc, is fixedly secured to the container at the outlet and below the impure water inlet thereof. The porous body is characterized by being inert with respect to iodine, and by having a porosity such that it is pervious to the passage of a water solution of iodine therethrough and impervious to the passage therethrough of iodine in undissolved form.

3,408,296
LOW LIQUID LOSS COMPOSITION
David A. Kuhn and Jack L. Brown, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed Jan. 25, 1965, Ser. No. 427,956
14 Claims. (Cl. 252—8.55)

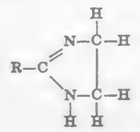
1. A solid particulate, low fluid loss additive for aqueous fracturing media comprising:
(a) about 100 to about 150 parts by weight of a low density particulate silicate material having two dimensions substantially greater than the third dimension selected from the class consisting of perlite and diatomaceous earth,
(b) about 250 to about 350 parts starch, and
(c) about 125 to about 175 parts water-swellable clay.

3,408,297
CORROSION-RESISTANT SOLUBLE OIL COMPOSITION
David B. Sheldahl, Griffith, Ind., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 28, 1966, Ser. No. 530,317
7 Claims. (Cl. 252—33.3)

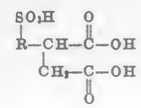
1. An emulsifiable oil composition consisting essentially of a mineral oil base as the major component, an emulsifier selected from the group consisting of the sodium and potassium salts of naphthenic acids, oleic acid, rosin acids, tall oil acids and oil-soluble sulfonic acids, about 1–5 weight percent water, about 0.25–5 percent of an oil-soluble fatty amido diamine having the structural formula:



wherein R is an aliphatic hydrocarbon containing at least 6 carbon atoms, and R_1 and R_2 are divalent aliphatic hydrocarbons of 2–8 carbon atoms, about 0.25–6 weight percent of an oil-soluble, substituted imidazoline having the structural formula:



wherein R is a monovalent aliphatic hydrocarbon containing at least 6 carbon atoms, said amounts being sufficient to provide rust inhibiting properties, and about 0.25 to 5 weight percent of a member selected from the group consisting of the oil-soluble alkali metal, alkaline earth metal and ammonium salts of sulfo-succinic acid having the structure:



wherein R is aliphatic hydrocarbon of about 6 to 24 carbon atoms.

3,408,298

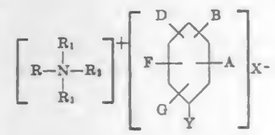
DETERGENT GERMICIDAL COMPOSITIONS

Thomas R. Baravalle, Union City, N.J., assignor to Gerdau Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Original application Aug. 18, 1965, Ser. No. 480,763. Divided and this application Mar. 11, 1966, Ser. No. 533,401

9 Claims. (Cl. 252—107)

1. A detergent germicidal composition consisting essentially of an organic detergent selected from the group consisting of alkyl phenoxy polyethoxy ethanol containing 4 to 20 ethoxy units, ethoxy alcohols wherein the alcohol is of 12–18 carbon atoms and containing 6–25 ethoxy units, ethoxy acids containing 6–20 ethoxy units and wherein the acid is of 12–18 carbon atoms, ethoxy alkyl thiols containing 6–20 ethoxy units and wherein the alkyl is of 8–16 carbon atoms, cetyl pyridinium chloride, alkyl dimethyl benzyl ammonium chloride, lauryl isoquinolinium bromide, N-alkyl trimethyl ammonium chloride, di-stearyl dimethyl ammonium chloride, alkenyl, ethyl and ethanol imidazolinium bromide, dioctyl phenoxy ethoxy ethyl dimethyl ammonium chloride, stearyl amido propyl trimethyl ammonium chloride, alkenyl trimethyl ammonium chloride, dodecyl benzyl, trimethyl ammonium chloride, dodecylbenzene sulfonates, metal and ammonium fatty acid soaps, dodecyl sodium sulfate, dodecyl ammonium sulfate, dodecyl triethanolamine sulfate, myristyl sodium sulfate, myristyl ammonium sulfate, myristyl triethanolamine sulfate, palmityl sodium sulfate, palmityl ammonium sulfate, palmityl triethanolamine sulfate, stearyl sodium sulfate, stearyl ammonium sulfate, stearyl triethanolamine sulfate, and lauryl, myristyl, palmityl and stearyl polyethoxy sodium sulfates wherein ethoxy is 1 to 6 units; and a germicidally effective amount of a quaternary ammonium complex of the formula:



wherein R is selected from the group consisting of alkyl of 8–24 carbon atoms, dodecylbenzyl, octyl phenoxy ethoxy ethyl; wherein R_1 alone is selected from the group consisting of alkyl, phenyl, chlorophenyl, bromophenyl, alkylphenyl, benzyl, alkylbenzyl, dialkylbenzyl, chlorobenzyl, dichlorobenzyl, dibromobenzyl, naphthyl-lower alkyl and alkyl naphthyl ammonium chloride wherein the alkyl is from 8–24 carbon atoms; wherein R_2 alone is lower alkyl; wherein R_3 alone is lower alkyl; wherein R_1 together with one of the groups R_2 and R_3 is selected from the group consisting of morpholino, methylmorpholino and piperidino, and wherein R_1, R_2 and R_3 together is selected from the group consisting of pyridino quinolino and isoquinolino; wherein A, B, D and F are each selected from the group consisting of hydrogen, lower alkyl, chlorine, bromine, iodine, phenyl, lower alkyl phenyl, lower alkoxy phenyl, chlorphenyl, bromophenyl, benzyl, lower alkyl benzyl, lower alkoxy benzyl chlorobenzyl and bromobenzyl; wherein G is selected from the group consisting of lower alkyl, chlorine, bromine, iodine, phenyl, lower alkyl phenyl, lower alkoxy phenyl, chlorophenyl, bromophenyl, benzyl, lower alkyl benzyl, lower alkoxy benzyl, chlorobenzyl and bromobenzyl; wherein Y is selected from the group consisting of oxygen and sulfur; and wherein X is selected from the group consisting of chlorine, bromine and iodine.

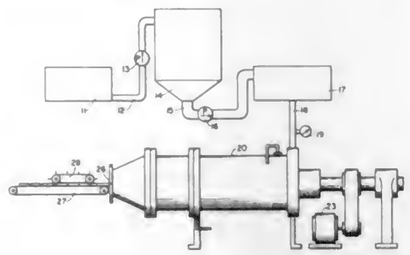
3,408,299

PROCESS FOR PREPARING SOAP BARS

Wilbur G. Henry, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed Dec. 17, 1965, Ser. No. 514,561

8 Claims. (Cl. 252—129)



Process for preparing a soap bar containing an abrasive material comprising the steps of (1) forming a molten soap composition; (2) adjusting its temperature to between 170° F. and 220° F.; (3) cooling the soap composition to effect partial solidification; (4) mixing and working the soap composition; (5) extruding the soap composition while annularly rotating the soap composition; (6) forcing the soap composition into an expansion zone; and (7) extruding the soap composition in blank bar form.

3,408,300

STABLE, ALKALINE, NON-FORMING CLEANSING AGENTS

Hans-Joachim Schlüssler, Dusseldorf-Holthausen, Helmut V. Freyhold, Dusseldorf-Oberkassel, and Heinz Groschopp and Karl-Heinz Worms, Dusseldorf-Holthausen, Germany, assignors to Henkel & Cie GmbH, Dusseldorf-Holthausen, Germany

No Drawing. Filed Dec. 13, 1965, Ser. No. 513,550

16 Claims. (Cl. 252—156)

Solid, alkaline, water-soluble cleansing agents which are stable on prolonged storage and substantially non-foaming. They consist of essentially 40–95 percent caustic alkali and a foam-suppressant which is an ethylene or propylene or ethylene-propylene oxide adduct having a cloud point of 10–60° C. in 1% aqueous solution. These adducts are deposited on finely divided silica. The latter prevents the deterioration of the adducts on storage. An acid reacting salt and/or customary cleansing aids may also be present, such as phosphates, glucomates, soda or potash.

3,408,301

CURING AGENTS FOR LIQUID POLYURETHANES

Norman K. Sundholm, Middlebury, Conn., assignor to Uniroyal, Inc., a corporation of New Jersey

No Drawing. Original application Oct. 27, 1964, Ser. No. 406,878. Divided and this application Apr. 11, 1967, Ser. No. 629,887

2 Claims. (Cl. 252—182)

New chemical compositions useful as curing agents for polyurethane comprise the condensation products of 2-chloroaniline, 2,5-dichloroaniline and formaldehyde.

3,408,302

THORIA/TERBIUM FLUORIDE LUMINOPHORS

Hans J. Borchardt, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 24, 1965, Ser. No. 458,160

9 Claims. (Cl. 252—301.1)

Luminescent compositions suitable for fluorescent lights and X-ray or cathode ray screens can be made by heating

the oxides, fluorides or oxyfluorides of thorium and terbium to give a ratio of terbium to total cations of 0.0005 and 0.05, and a ratio of fluoride ions to total cations of



0.01 and 0.2, and a ratio of fluoride ions to terbium between 0.5 and 100, to a temperature greater than 900° C. in an inert atmosphere.

3,408,303

THORIA/EUROPIUM FLUORIDE LUMINOPHORS

Hans J. Borchardt, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 13, 1965, Ser. No. 487,066

11 Claims. (Cl. 252—301.1)

Luminescent compositions suitable for fluorescent lights and X-ray or cathode ray screens can be made by heating the oxides, fluorides and oxyfluorides of thorium and europium to give a ratio of europium to total cations of 0.008 to 0.05 and a ratio of fluoride ions to europium of 1.5 to 4 to a temperature greater than 900° C. in an inert atmosphere.

3,408,304

METHOD OF PREPARING AN ACTINIDE PEROXIDE SOL

Eugene J. Kosiancic, Lynchburg, Va., assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 8, 1966, Ser. No. 592,720

8 Claims. (Cl. 252—301.1)

In making plutonium oxide from spent nuclear fuel, an aqueous plutonium sol is made by first adding hydrogen peroxide to plutonium nitrate solution, thus precipitating plutonium peroxide, and then peptizing the washed and filtered precipitate.

3,408,305

MODIFIED MONTMORILLONITE CONTAINING EXCHANGEABLE AMMONIUM CATIONS AND PREPARATION THEREOF

Andrew Torok, Morris Plains, N.J., assignor to Georgia Kaolin Company, Elizabeth, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 437,599, Mar. 5, 1965. This application Nov. 22, 1965, Ser. No. 509,687

11 Claims. (Cl. 252—317)

Novel compositions of matter, each comprising modified montmorillonite whose exchangeable cations consist essentially of calcium and/or magnesium, ammonium and also or neither sodium and/or lithium. Each of said montmorillonites contains specified milliequivalents of calcium and/or magnesium and specified milliequivalents of ammonium per 100 grams thereof and if they contain sodium and/or lithium, no more than a certain number of milliequivalents of sodium and/or lithium per 100 grams thereof, said compositions of matter are substantially free of water soluble, ionizable alkaline earth compounds, also novel systems comprising said compositions of matter and water soluble ionizable sodium and/or lithium compounds in amount sufficient to provide available sodium and/or lithium at least equivalent to the total amount of exchangeable ammonium and exchangeable calcium and/or magnesium ions in said montmorillonte. Also a novel method for removing cristobalite from the montmorillonite in a naturally occurring alkaline earth bentonite comprising forming an aqueous slurry of said bentonite which was rendered slakeable and then with or without removing the quartz component therefrom treating and agitating the slurry with a water soluble ammonium compound, whose anions are capable of insolubilizing alkaline earth cations, to replace alkaline earth cations in said montmorillonite with ammonium and to insolubilize said replaced cations, the quantity of said compound being such that the alkaline earth cations are substituted by ammonium in amount sufficient that the particle size of the montmorillonite therein is less than that of the cristobalite and less than 0.1 micron and then separating the crystobalite therefrom, as by centrifuging.

3,408,306

METHOD OF CONTROLLING FOAMING

Francis J. Boylan, Wilmington, Del., assignor to Hercules Incorporated, a corporation of Delaware

No Drawing. Continuation-in-part of applications Ser. No. 828,051, July 20, 1959, and Ser. No. 19,990, Apr. 5, 1960. This application July 7, 1961, Ser. No. 122,395

The portion of the term of the patent subsequent to Feb. 5, 1980, has been disclaimed

9 Claims. (Cl. 252—321)

1. The method of controlling foaming in an aqueous system which comprises adding thereto a small amount of a defoaming composition comprising from about 80% to about 97% of a water-insoluble hydrophobic organic liquid selected from the group consisting of vegetable oils, mineral hydrocarbons, fluorinated hydrocarbons, long chain alcohols, long chain esters and long chain amines, from about 3% to about 20% of small solid normally hydrophilic particles selected from the group consisting of silica particles, bentonite particles, diatomaceous earth particles, talc particles, attapulgite particles and titanium dioxide particles which have been treated to render the surface thereof hydrophobic suspended in the organic liquid, and from about 0% to about 5% of a surfactant, said percentages being based on the composition.

3,408,307

INHIBITING CORROSION OF COPPER WITH TETRAZOLES

Edwin S. Troscinski, Chicago, Ill., Edgar A. Steck, Fairfield, Conn., and Chappelle C. Cochrane, Maywood, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Feb. 10, 1966, Ser. No. 526,363

3 Claims. (Cl. 252—394)

Certain tetrazoles are shown to be effective for inhibiting the corrosion of copper containing metals in contact with corrosive aqueous liquids.

3,408,308
SELF-EMULSIFYING LIQUID ANTIOXIDANTS
Raymond R. Waterman, Easton, Conn., and John Bogdany, Dumont, N.J., assignors to R. T. Vanderbilt Company, Inc., New York, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 133,320, Aug. 23, 1961. This application May 19, 1966, Ser. No. 551,201
22 Claims. (Cl. 252—401)

This application discloses a stable emulsion concentrate comprising a continuous phase of a major amount of a water-immiscible liquid antioxidant for latex rubber, a relatively small amount of water as a discontinuous phase, and as an emulsifier a small amount of a fatty acid water-soluble soap. This concentrate when added to water forms an oil in water emulsion with the antioxidant as the discontinuous phase which is then used in the processing of latex rubber. The application also discloses a method for making such concentrates by forming a mix B containing water and a fatty acid, forming a mix A containing a base capable of forming water-soluble soaps with said fatty acid and also a relatively large amount of a water-immiscible liquid antioxidant for latex rubber, and then adding mix B to mix A with high speed stirring.

3,408,309
Fe, Mo, Co, AND W MIXED OXIDES AS OXIDATION CATALYSTS
Adolf W. Gessner, Montclair, N.J., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 16, 1964, Ser. No. 411,614
4 Claims. (Cl. 252—470)

This disclosure is particularly directed to the preparation of a catalyst for the oxidation of methanol to formaldehyde. An aqueous solution of an iron or cobalt salt having a pH of from 0.8 to 1.5 is added to an aqueous solution of a salt whose anion contains molybdenum or tungsten at a rate of about 1 to 5 liters/liter/minute to form a mixed oxide precipitate. The precipitate is filtered, washed and treated to a water content of from 55 to 62 percent by weight whereupon the precipitate is slowly dried at progressively increasing temperatures ranging from 70° to 325° F. until the water content is between 0.5 to 1.5 percent by weight. The dried precipitate is comminuted to a particle size of −4 to +10 mesh and calcined at a temperature of from 600° to 900° F. for 24 to 72 hours to form the catalyst.

3,408,310
METAL-ORGANIC ALLOY COMPOSITION AND PROCESS OF MAKING SAME
Harden M. McConnell, Stanford, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed July 26, 1965, Ser. No. 474,708
25 Claims. (Cl. 252—512)

Alloys of metals and organic molecules are produced by co-depositing from the gaseous phase (or by depositing in sequence from the gaseous phase) a metal or a conventional metal alloy and organic molecules. In a preferred method these components are deposited on a supercold (liquid helium temperature) surface at an ultra low pressure. The end product may be a substantially homogeneous alloy or a laminar product having a very thin layer or film of metal upon which is deposited a thin layer or film of organic molecules, such laminar structure being repeated if desired. The organic molecules include organic free radicals (provided they are not paramagnetic when incorporated in or on the metal) and they also include organo-metallic compounds. If the metal and organic molecules are appropriately selected, a superconductor is produced whose critical temperature, T_c, is greater than that of the metal alone. In any event novel and useful compositions are provided.

3,408,311
THERMISTOR COMPOSITIONS AND THERMISTORS MADE THEREFROM
Oliver A. Short, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Sept. 29, 1966, Ser. No. 583,068
25 Claims. (Cl. 252—514)

The invention relates to thermistor compositions which can be printed and fired to produce thermistors possessing a desired range of electrical resistance and a negative temperature coefficient of resistance, comprising (a) a finely divided metal powder consisting essentially of palladium and up to 60% silver, (b) a finely divided metal oxide powder mixture consisting essentially of Co_2O_3 and MnO_2, and (c) finely divided inorganic binder powder. Additionally, an inert vehicle may also be included to disperse the powders.

3,408,312
ELECTRICALLY CONDUCTIVE CERMET COMPOSITIONS
Nolan Earle Richards, Florence, Ala., James Simmons Berry, Jr., Savannah, Tenn., and Thomas Joseph Johnston, Muscle Shoals, Ala., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
No Drawing. Original application Apr. 7, 1964, Ser. No. 358,068. Divided and this application May 3, 1967, Ser. No. 649,757
13 Claims. (Cl. 252—518)

Cermet materials containing about 25% to about 60% by weight of aluminum nitride and an electrically conductive constituent such as titanium diboride or aluminum or both aluminum and a refractory hard metal are produced by compressing and heating a mixture thereof.

3,408,313
PROCESS FOR POLYMERIZING 1,2-EPOXIDES WITH AN ANIONIC INITIATOR
George Edward Foll, Runcorn, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Feb. 17, 1966, Ser. No. 528,059
14 Claims. (Cl. 260—2)

There is provided a process for the polymerization of 1,2-epoxides by contacting monomeric 1,2-epoxides free of interfering functional groups with an anionic initiator system comprising (i) a tetra (β-diketo chelate) of zirconium, and (ii) an aluminum alkyl selected from the trialkyl and dialkyl aluminum halides. The ratio of (i) to (ii) is chosen to give from 1.5 to 6 aluminum atoms for each zirconium atom in the composition. High yields of high molecular weight materials are obtained. The process produces a tough, self-adhesive rubber.

3,408,314
DIGLYCIDYL ETHERS OF POLY(TETRAHYDROFURAN) PROCESS OF MAKING SAME AND POLYMERS THEREOF
Gene E. Schroll, Louisville, Ky., assignor to Celanese Coatings Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 27, 1966, Ser. No. 553,282
7 Claims. (Cl. 260—2)

Diglycidyl ethers of poly(tetrahydrofuran) are prepared by first polymerizing epichlorohydrin, tetrahydrofuran and 3-chloro-1,2-propanediol to form a polymer of tetrahydrofuran containing chlorohydrin ether end groups, and then dehydrohalogenating the chlorohydrin groups to form the diglycidyl ether. These diglycidyl ethers when reacted with epoxide resin curing agents from thermoset resins useful, for example, as protective coatings, molding compounds and adhesives.

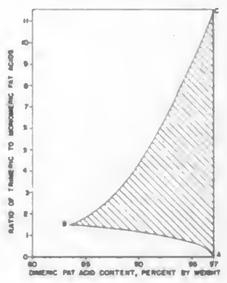
3,408,315
NYLON MEMBRANE FILTER
Richard A. Paine, Bedford, Mass., assignor to Millipore Filter Corporation, Bedford, Mass., a corporation of Massachusetts
No Drawing. Filed Jan. 12, 1965, Ser. No. 425,046
3 Claims. (Cl. 260—2.5)

A process for producing a microporous nylon plastic membrane filter comprising applying to a smooth casting surface a uniform layer of a nylon-solvent containing composition having a thickener which regulates the viscosity of the composition from about 500 to 1000 cps. (Brookfield measured at 70° to 80° F.), subjecting the composition to two separate evaporating stages to first remove the organic solvent and then water, forming the membrane filter and removing the thickener from the filter.

3,408,316
PREFORMED THERMAL INSULATION MATERIAL AND BINDER FOR MOLDING SAME
Arthur P. Mueller and Beverly Asher, Cincinnati, Ohio, assignors, by mesne assignments, to Phillip Carey Corporation, a corporation of Ohio
No Drawing. Continuation-in-part of application Ser. No. 344,563, Feb. 13, 1964. This application Feb. 9, 1966, Ser. No. 526,052
16 Claims. (Cl. 260—17.2)

(*a*) A binder composition for use in pressure molded mass of finely divided cellular and fibrous siliceous mineral and inorganic thermal insulating material consisting of a mutually compatible colloidal solution in water of a high swelling bentonite clay-water-dispersible low-and-stable viscosity modified starch-phenol-formaldehyde thermosetting resin binder and (*b*) molded thermal insulation for service in the "dual temperature" range consisting of said binder, cellular expanded perlite, asbestos fiber and glass fibers.

3,408,317
LOW MELTING POLYAMIDE RESIN OF FRACTIONATED POLYMERIC FAT ACIDS AND A MIXTURE OF ETHYLENE DIAMINE AND DIAMINOPROPANE
Leonard R. Vertnik, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware
Filed Oct. 19, 1964, Ser. No. 404,889
6 Claims. (Cl. 260—18)



There is disclosed a low melting polyamide resin of fractionated polymeric fat acids and a mixture of ethylene diamine and diaminopropane. The polymeric fat acids have a dimeric content greater than 83% and when in the range of 83 to 97% a trimer to monomer ratio within a certain area of the drawing. The products find utility as thermoplastic adhesives.

3,408,318
SACRIFICIAL ZINC COATING COMPOSITIONS
Ralph Eugene Madison, Louisville, Ky., assignor to Celanese Coatings Company, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 95,044, Mar. 13, 1961. This application Mar. 17, 1966, Ser. No. 535,047
5 Claims. (Cl. 260—18)

1. A corrosion resistant paint comprising an intimate admixture of a Portland cement binder and zinc dust in a solution of a film-forming polyepoxide resin, wherein the polyepoxide resin contains more than one 1,2 epoxide group per molecule and is a glycidyl polyether of p,p'-dihydroxydiphenyl propane and an organic solvent for the polyepoxide resin, wherein the organic solvent contains no groups reactive with Portland cement, zinc and the polyepoxide resin, the weight ratio of cement to zinc being 1:1 to 1:8, the amount of film-forming resin being 1 to 10 weight percent based on the weight of the cement-zinc-resin mixture, the amount of solvent being sufficient to confer application properties on the composition, and wherein said paint is substantially free of water.

3,408,319
TANNING COMPOSITIONS COMPRISING AQUEOUS SOLUTIONS OF UNSATURATED ACID-UNSATURATED SULFATED OIL COPOLYMERS
William J. Rau, Wyndmoor Valley, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Dec. 8, 1964, Ser. No. 416,874
17 Claims. (Cl. 260—23)

Tanning compositions are made by copolymerization of a mixture of (A) methacrylic acid, acrylic acid or mixtures of such acids with (B) a sulfated unsaturated oil. The unsaturated acid used is preferably 75 to 100% methacrylic acid and 25 to 0% respectively of acrylic acid, and generally the use of methacrylic acid exclusively is most practical from the standpoint of cost and effectiveness. The amount of sulfonated oil is from 10 to 25% by weight of the acid monomer.

3,408,320
TRANSPARENT ETHYLENE-PROPYLENE-DIENE TERPOLYMER RUBBER VULCANIZATE
William F. Brucksch, North Caldwell, N.J., assignor to Uniroyal, Inc., a corporation of New Jersey
No Drawing. Filed Apr. 21, 1965, Ser. No. 449,875
12 Claims. (Cl. 260—23.5)

Transparent vulcanizates are made by peroxide cure of silica-filled ethylene-propylene-diene terpolymer rubber in admixture with one or more of the following additives: zinc salts of carboxylic acids, alkanolamines, polycarboxylic acids, epoxidized soybean or castor oil, epoxidized polybutadiene, hydroxyl terminated polybutadiene, glycols, and polyoxyethylene compounds.

3,408,321
MOISTURE CURABLE SILOXY TERMINATED POLYETHERS
Bruce A. Ashby, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed June 14, 1965, Ser. No. 463,877
7 Claims. (Cl. 260—37)

Compositions curable at room temperature, comprising an organic polymer, such as polyether having terminal silylurethane groups with hydrolyzable radicals, such as acyloxy radicals attached to silicon. A method for mak-

ing the organic polymer with terminal silylurethane groups also is provided, involving the addition of a silicon hydride to an organic polymer having terminal olefinic unsaturation. The curable compositions are useful as sealants and caulking compounds.

3,408,322
POLYOLEFIN-PIGMENT BLENDS
Kenneth R. Mills, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed May 16, 1966, Ser. No. 550,102
5 Claims. (Cl. 260—41)

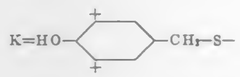
Olefin polymer-pigment blends are prepared by mixing together the pigment with a small amount of a blowing agent and blending the mixture thus formed with the olefin polymer under conditions to disperse the pigment uniformly through the polymer.

3,408,323
INSECT RESISTANT THERMOPLASTIC COMPOSITIONS
Ronald J. Hackney, Croydon Park, New South Wales, Australia, assignor to Union Carbide Australia Limited, a corporation of Australia
No Drawing. Filed May 13, 1965, Ser. No. 455,583
Claims priority, application Australia, May 13, 1964, 44,472/64
6 Claims. (Cl. 260—45.85)

An insect resistant polymer composition comprising a polyethylene, polypropylene or poly(vinyl chloride) base, a N-substituted carbamate insecticide and an acidic stabilizer for the insecticide.

3,408,324
STABILIZING ORGANIC MATERIALS
Harry Braus, Springdale, and Jay R. Woltermann, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Dec. 27, 1966, Ser. No. 604,531
3 Claims. (Cl. 260—45.95)

1. A stable composition comprising a polymer of an aliphatic olefin having from 2 to 8 carbon atoms per molecule and from about 0.001 to about 5.0 percent by weight, based on the polymer, of a compound having the formula $(KRO)_2P$, wherein



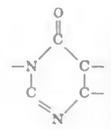
and R is a divalent alkylene group having 2 to 24 carbon atoms which may be straight chain or branched.

3,408,325
ROOM TEMPERATURE VULCANIZABLE ORGANOPOLYSILOXANE ELASTOMERS
Paul Hittmair, Siegfried Nitzsche, Manfred Wick, and Ernst Wohlfarth, Burghausen, Upper Bavaria, Germany, assignors to Wacker-Chemie G.m.b.H., Munich, Germany
No Drawing. Filed Feb. 13, 1967, Ser. No. 615,320
Claims priority, application Germany, Feb. 11, 1966, W 40,925
13 Claims. (Cl. 260—46.5)

A room temperature vulcanizable silicone rubber stock based on a mixture of a siloxane polymer prepared by reacting a hydroxyl endblocked diorganopolysiloxane with the reaction product of a diorganodihalogenosilane with ammonia or certain amines and certain amino substituted organosilanes.

3,408,326
NOVEL COPOLYMERS OF POLYFUNCTIONAL AMINES AND A BIS-ANTHRANYL COMPOUND
Louis A. Errede, Roseville, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed June 27, 1963, Ser. No. 290,913
14 Claims. (Cl. 260—47)

Resinous materials suitable for use as protective coatings are prepared by reacting a polyfunctional amine containing a plurality of active amine-attached hydrogen atoms with a bis-anthranyl compound to yield polymers containing quinazolone rings of the formula



For example, representative copolymers are prepared by reacting methylene-bis-acetylanthranyl with hexamethylene diamine or 4,4'-diaminodiphenylether.

3,408,327
CONDENSATION OF PHENOLS WITH DITHIOL POLYTHIOETHERS
Yves Labat, Gelos, France, assignor to Societe Nationale des Petroles d'Aquitaine, Paris, France
No Drawing. Filed May 5, 1966, Ser. No. 547,788
Claims priority, application France, May 12, 1965, 16,666, Patent 1,443,325
13 Claims. (Cl. 260—48)

There is provided a novel process for the preparation of sulphur containing phenoplasts which comprises heating a phenol with a dithiol polythioether in the presence of an acidic catalyst.

3,408,328
SULPHUR PHENOPLASTS AND THE OBTAINING THEREOF
Yves Labat, Gelos, France, assignor to Societe Nationale des Petroles d'Aquitaine, Paris, France
No Drawing. Filed Jan. 18, 1965, Ser. No. 426,429
Claims priority, application France, Jan. 21, 1964, 960,999
10 Claims. (Cl. 260—48)

Polymeric materials are produced by the condensation of phenols with dithiol polythioethers. These materials have a sulphur content which varies between 15 to 40% by weight and which are partially soluble in organic solvents and alkaline solutions. The products produced by this process are useful in the formation of heat hardenable materials which have properties comparable to those of phenol formaldehyde resins.

3,408,329
PROCESS FOR THE PREPARATION OF PHENOTHIOPLASTS COMPRISING THE REACTION OF PHENOLS WITH DITHIOLPOLYTHIOETHERS
Yves Labat, Gelos, France, assignor to Societe Nationale des Petroles d'Aquitaine, Paris, France
No Drawing. Filed Apr. 12, 1966, Ser. No. 541,972
Claims priority, application France, Apr. 13, 1965, 12,940, Patent 1,440,026
7 Claims. (Cl. 260—48)

There is provided an improved process for preparing phenoplasts from phenols and dithiolpolythioethers. The improvement in the novel process resides in the continuous

introduction of the dithiolpolythioether into a stirred molten mass of phenol previously activated by the addition of a basic substance.

3,408,330
POLYMERIZATION OF 3,4-DIHYDRO-2H-PYRAN-2-CARBOXALDEHYDE
Eugene S. Barabas, Watchung, and John Manson, New Providence, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y.
No Drawing. Filed Sept. 4, 1962, Ser. No. 221,372
16 Claims. (Cl. 260—67)

1. A process which comprises homoloplymerizing 3,4-dihydro-2H-pyran-2-carboxaldehyde in a homogeneous system in the presence of a catalyst selected from the group consisting of aluminum trialkyls and acid-reacting inorganic halides at a temperature of about −20° to −90° C., said aluminum trialkyls having the formula AlR_3, wherein R is a lower alkyl radical containing from 1 to 5 carbon atoms, and said halides being Friedel-Crafts catalysts.

3,408,331
HIGH NITROGEN CONTAINING MONOMERIC 1,2-ETHYLENE BIS(AMINOQUANIDINE) COMPOUND-ALDEHYDE CONDENSATION POLYMER
Earl Thomas Niles, Midland, Mich., and Phyllis D. Oja, San Francisco, and Calvin E. Pannell, Walnut Creek, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Sept. 9, 1965, Ser. No. 486,601
10 Claims. (Cl. 260—72)

High nitrogen containing monomeric 1,2-ethylene bis (amino guanidine) compound-aldehyde condensation polymers. Said polymers are useful as solid propellant binders, gas generators in ammunition and chemical intermediates.

3,408,332
FORMALDEHYDE AND DIENE INTERPOLYMERS
Calvin N. Wolf, Princeton, N.J., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Apr. 26, 1963, Ser. No. 276,094
20 Claims. (Cl. 260—73)

1. A high molecular weight, thermoplastic polyoxymethylene interpolymer of (a) a formaldehyde selected from the group consisting of essentially anhydrous monomeric formaldehyde and essentially anhydrous trioxane, and (b) a diene monomer having the formula R″═R′═R wherein each of R, R′ and R″ are hydrocarbon groups each containing from 1 to about 18 carbon atoms, the amount of said monomer chemically combined in said interpolymer ranging from about 0.1 mole percent to about 20 mole percent of the interpolymer, said interpolymer having a polymer melting temperature of from about 140° C. up to about 190° C.

9. The process of preparing a high molecular weight, thermoplastic polyoxymethylene interpolymer comprising copolymerizing under essentially anhydrous conditions a formaldehyde selected from the group consisting of essentially anhydrous monomeric formaldehyde and essentially anhydrous trioxane in admixture with a diene monomer having the formula R″═R′═R wherein each of R, R′ and R″ are hydrocarbon groups each containing from about 1 to about 18 carbon atoms and a polymerization catalyst that is effective under said essentially anhydrous conditions; said diene monomer being employed in an amount ranging from about 0.1 to about 20 mole percent of said formaldehyde; said copolymerization being conducted at a temperature in the range of from about −90° C. up to about 200° C. and at a pressure of from about atmospheric up to about 15 atmospheres.

3,408,333
PRODUCTION OF SPINNABLE POLYESTERS
Karl Heinz Tiedtke, Grosse Fischerstrasse 21, Frankfurt am Main, Germany, and Hans Scheller, Auf dem Hugel 4, Schonberg, Taunus, Germany, and Werner Ilse, 48 Rue Demy Schlechter, Luxembourg, Luxembourg
No Drawing. Filed Apr. 13, 1965, Ser. No. 447,888
12 Claims. (Cl. 260—75)

The specification discloses use of metal thioantimonates or metal thioantimonites as catalysts in the production of a spinnable colorless polyester by the transesterification of a dialkyl terephthalate with an aliphatic glycol and subsequent polycondensation. The catalysts, such as sodium or zinc thioantimonates or thioantimonites, are useful for catalyzing either or both reactions.

3,408,334
PREPARATION OF POLYAMIDES FROM AROMATIC AMINO COMPOUNDS
John R. Caldwell and Russell Gilkey, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Apr. 5, 1965, Ser. No. 445,736
16 Claims. (Cl. 260—78)

A novel process for the preparation of high molecular weight, fiber- and film-forming polyamides, said process comprising heating organic compounds containing carboxyl groups and aromatic amino groups as the sole reactive groups (for example, dicarboxylic acids, aromatic diamines, and aromatic amino acids) in the presence of a tin compound (for example, dibutyl tin oxide, dibutyl tin diacetate, and tin tetrabutoxide).

3,408,335
ANIONIC POLYMERIZATION OF LACTAMS WITH UNSATURATED LACTONE AS PROMOTER
Johannes van Mourik, Geleen, and Johannes van Beveren, Sittard, Netherlands, assignors to Stamicarbon N.V., Heerlen, Netherlands
No Drawing. Filed June 10, 1965, Ser. No. 463,010
Claims priority, application Netherlands, June 13, 1964, 6406750
14 Claims. (Cl. 260—78)

In the process wherein a lactam is subjected to anionic catalytic polymerization in the presence of a catalyst and a promoter, the improvement consisting in using an unsaturated lactone as said promoter wherein said unsaturated lactone is selected from the class consisting of tricyclo-$(9.3.0.0^{2,8})$ 3.10-dioxa-4.9-dioxo-tetradecadiene-1–11.2–8 and 1.2-benzopyrone.

3,408,336
HEAT STABILIZED POLYBENZIMIDAZOLES
Royal H. Benson, Texas City, Tex., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Aug. 12, 1965, Ser. No. 479,339
17 Claims. (Cl. 260—78.4)

Novel polybenzimidazoles having improved heat stability prepared by reacting linear polybenzimidazole condensation polymers with a monocarboxylic acid ester at temperatures from 100° to 500° C.

3,408,337
PROCESS FOR REMOVAL OF CROSS-LINKING AGENT FROM A THERMO-SET-THERMOPLASTIC
Eugene R. Moore, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 5, 1964, Ser. No. 342,797
6 Claims. (Cl. 260—78.5)

Removal of crosslinking agent from a polyol crosslinked polymer by heating at elevated temperatures and reduced pressures.

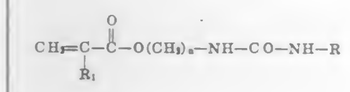
3,408,338

POLYMERS OF ACRYLONITRILE WITH OLEFINICALLY UNSATURATED UREA

Jeno Szita, Dormagen, Ulrich Bahr, Opladen, and Herbert Marzolph and Gunther Nischk, Dormagen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed June 29, 1965, Ser. No. 468,096
Claims priority, application Germany, July 15, 1964, F 43,441
15 Claims. (Cl. 260—79.3)

A novel class of acrylonitrile copolymers and process of preparing the same. The copolymer comprising acrylonitrile and a polymerizable olefinically unsaturated urea compound of the formula:



wherein R is an N-heteroaromatic radical, *n* represents an integer of from 2 to 4, and R_1 is hydrogen or alkyl. The copolymers are prepared by copolymerizing acrylonitrile and said olefinically unsaturated urea compound in an aqueous medium at a pH of from 3 to 5 and a temperature of 10 to 70° C. in the presence of a Redox catalyst system.

3,408,339

POLYMERIC SCAVENGING SYSTEMS

Massimo Baer, Longmeadow, Mass., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Nov. 20, 1963, Ser. No. 325,134
15 Claims. (Cl. 260—80.73)

14. An adduct of a metal selected from the class consisting of alkali metals and alkaline earth metals with an insoluble, cross-linked interpolymer comprising in chemical combination (a) from about 30 to 99% by weight of a vinylidene Schiff base containing a hydrocarbon unit selected from the group consisting of vinyl and isopropenyl radicals, (b) from about 1 to 20% by weight of a cross-linking agent containing multiple ethylenic unsaturation, and (c) from zero to about 70% by weight of an interpolymerizable monomer.

15. A process for purifying an organic liquid of acidic impurities which comprises contacting the organic liquid with an adduct of a metal selected from the class consisting of alkali metals and alkaline earth metals with an insoluble, cross-linked interpolymer comprising in chemical combination (a) from about 30 to 99% by weight of a vinylidene Schiff base containing a hydrocarbon unit selected from the group consisting of vinyl and isopropenyl radicals, (b) from about 1 to 20% by weight of a cross-linking agent containing multiple ethylenic unsaturation, and (c) from zero to about 70% by weight of an interpolymerizable monomer.

3,408,340

PROCESS FOR THE POLYMERIZATION OF OLEFINS WITH THE TRI-COMPONENT CATALYST INCLUDING DI-SUBSTITUTED POLYSILOXANE

Tsutomu Tanaka and Tadaichi Tokuzumi, Hiroshima-ken, and Hiroshi Fujimura, Kuga-gun, Yamaguchi-ken, Japan, assignors to Mitsui Petrochemical Industries, Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Feb. 5, 1964, Ser. No. 342,816
Claims priority, application Japan, Feb. 15, 1963, 38/6,160; Feb. 26, 1963, 38/8,544
16 Claims. (Cl. 260—88.2)

Process of polymerizing olefins in the presence of a catalyst composition comprising (1) a hydrocarbon-insoluble reaction product of a compound of transition metal of Groups IV–A, V–A, VI–A or VIII or manganese with an organometallic compound of alkali, alkaline earth, zinc, earth or rare earth metal, (2) an organometallic compound of alkali, alkaline earth, zinc, earth or rare earth metal, and (3) a dialkyl polysiloxane, diaryl polysiloxane or alkylaryl polysiloxane in certain proportions in an inert solvent.

3,408,341

CRYSTALLINITY PROMOTERS

Frederick B. Joyner and George O. Cash, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 21, 1964, Ser. No. 405,586
17 Claims. (Cl. 260—94.9)

Poly-alpha-olefin compositions having an improved crystalline structure with improved physical and optical properties are obtained by employing as crystallinity promoters certain organic compounds which form a "liquid crystal" mesophase at a temperature at least below the melting point of the poly-alpha-olefinic material.

3,408,342

STABILIZED POLY(ARYLENE SULFIDES)

Elizabeth G. Horvath, Bartlesville, Okla., and David A. Frey, Woodstock, Ill., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Aug. 31, 1965, Ser. No. 484,091
13 Claims. (Cl. 260—45.9)

The discoloration of poly(arylene sulfide) resins is reduced or prevented by contacting the resins with a hydroxy-substituted amine.

3,408,343

CLEAVAGE OF N-(CYCLOALK-2-EN-1-ONE-3-YL) PROTECTIVE GROUPS WITH NITROSYL CHLORIDE

Berthold Halpern, Menlo Park, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed July 12, 1965, Ser. No. 471,416
Claims priority, application Mexico, July 21, 1964, 78,161
11 Claims. (Cl. 260—112.5)

N-(cycloalk-2-en-1-one-3-yl) groups, e.g., the dimedonyl group, may be used to protect amino groups during peptide synthesis. Following the synthesis of the desired peptide, the instant protective groups may be removed by treatment with nitrosyl chloride as well as by bromine. Also disclosed are N-(cycloalk-2-en-1-one-3-yl) derivatives of many amino acids.

3,408,344

3-AMINO-2-CYCLOBUTEN-1-ONE COMPOUNDS AND PROCESS FOR THEIR PREPARATION

James C. Martin, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 23, 1964, Ser. No. 413,281
7 Claims. (Cl. 260—239)

3-amino-2-cyclobuten-1-one compounds are prepared by reacting a 3-alkoxy-2-cyclobuten-1-one compound with certain organic amines. The 3-amino-2-cyclobuten-1-one compounds are useful, for example, as corrosion inhibitors for ferrous alloys and as chemical intermediates in the production of other useful compounds such as cyanine dyes.

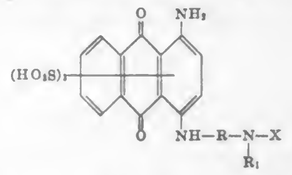
3,408,345

TRISULPHONATED ANTHRAQUINONE REACTIVE DYESTUFFS SUBSTITUTED IN THE 1- AND 4-POSITIONS BY AMINE GROUPS

Hans-Samuel Bien, Burscheid, and Walter Hohmann and Heinrich Vollmann, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Aug. 31, 1964, Ser. No. 393,377
Claims priority, application Germany, Aug. 29, 1963, F 40,620, F 40,621
4 Claims. (Cl. 260—240)

Anthraquinone reactive dyestuffs of the formula



wherein R is an aromatic, hydroaromatic, or araliphatic radical; R_1 is hydrogen or alkyl; and X is an organic radical with at least one reactive group. The dyestuffs are particularly suitable for the dyeing and printing of hydroxyl- or amide-containing materials such as fibers and fabrics of wool, silk, synthetic polyamide, polyurethane, and natural and regenerated cellulose.

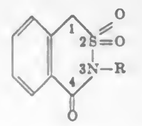
3,408,346

1H-2,3-BENZOTHIAZIN-4(3H)-ONE 2,2-DIOXIDE AND PROCESS FOR THEIR PRODUCTION

Gerhard Satzinger, Memingerberg, Allgau, Germany, assignor to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed Dec. 3, 1965, Ser. No. 529,896
8 Claims. (Cl. 260—243)

1H-2,3-benzothiazin-4(3H)-one 2,2-dioxides of the formula:



wherein R represents hydrogen, lower alkyl of 1 to 4 carbon atoms and β-dialkylaminoethyl and a process for preparing these compounds which are useful as hypoglycemic agents.

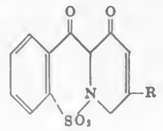
3,408,347

PYRIDO-[1,2-b] [1,2]BENZOTHIAZIN-10,11-(7H,10aH)-DIONE 5,5-DIOXIDES AND 7,8-DIHYDROPYRIDO-[1,2-b] [1,2]BENZOTHIAZIN - 10,11 - (9H,10aH)-DIONE 5,5-DIOXIDES AND PROCESS FOR THEIR PRODUCTION

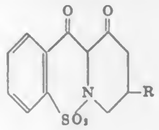
John Shavel, Jr., Mendham, N.J., and Harold Zinnes, Rockaway, N.Y., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed Apr. 20, 1966, Ser. No. 543,821
13 Claims. (Cl. 260—243)

This invention relates to novel heterocyclic compounds having the following formulas:



(I)



(II)

wherein R is hydrogen, lower alkyl or aryl. These compounds exhibit antifungal activity against *T. mentagrophytes* and *M. canis*.

3,408,348

AZINEDIONES

James C. Martin and Ronald H. Meen, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed May 26, 1966, Ser. No. 553,029
7 Claims. (Cl. 260—243)

The preparation of oxazinediones and thiazinediones by reacting a malonyl chloride with an aryl or heterocyclic amide or thioamide. The oxazinediones and thiazinediones can be reacted with alcohol to form N-acylmalonamates and N-thioacylmalonamates which are useful as plasticizers for resins such as cellulose acetate.

3,408,349

AZINE ION-RADICAL SALTS

Yoshio Matsunaga, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Dec. 4, 1963, Ser. No. 328,095
4 Claims. (Cl. 260—243)

1. A complex of the formula

$$[D]_m[A]_n$$

where D is selected from the group consisting of phenothiazine, benzo[c]phenothiazine, dibenzo[c,d]phenothiazine, phenoselenazine, dibenzo[c,d]phenoselenazine and their N-lower alkyl derivatives, A is a dihalogenodicyano-p-benzoquinone wherein the halogen is selected from the group consisting of chlorine, bromine and iodine, *m* is a positive integer of less than 4 and *n* is a positive integer of less than 3.

3,408,350

ISOINDOLONES

William J. Houlihan, Mountain Lakes, N.J., assignor to Sandoz Inc., Hanover, N.J.

No Drawing. Original application Dec. 18, 1963, Ser. No. 331,372, now Patent No. 3,334,113, dated Aug. 1, 1967. Divided and this application Mar. 8, 1967, Ser. No. 621,455
5 Claims. (Cl. 260—243)

The compounds are of the class of tricyclic compounds having a heterocyclic ring of at least 5 ring atoms fused to the b-side of a 3-phenylphthalimidine, the heterocyclic ring containing one additional hetero atom which is in a 1,3-relationship with respect to the other hetero atom and also ortho to the point of fusion. The compounds are useful as anti-inflammatories and are prepared by reacting an o-benzoylbenzoic acid (or acid halide) with an appropriate ω-substituted alkyleneamine.

3,408,351

METHOD OF PREPARING OCTAHYDROPHENANTHRIDINES

Harry Chafetz, Poughkeepsie, and Edwin L. Patmore, Fishkill, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 25, 1966, Ser. No. 574,901
9 Claims. (Cl. 260—283)

A method of preparing 1,2,3,4,7,8,9,10-octahydrophenanthridines which are useful as corrosion inhibitors

in oil and gas well fluids comprising contacting a 2-(1-cyclohexenyl)cyclohexanone with a hydrocarbyl amide in the presence of an acidic catalyst.

3,408,352

2H-BENZO(b) QUINOLIZINES

Goetz E. Hardtmann, Florham Park, N.J., assignor to Sandoz Inc., Hanover, N.J.

No Drawing. Continuation-in-part of application Ser. No. 365,498, May 6, 1964. This application Apr. 11, 1967, Ser. No. 629,922

9 Claims. (Cl. 260—288)

The compounds are 1,3,4,6,11,11*a*-hexahydro-2H-benzo-(b) quinolizin-11-ones (A), 11-hydroxy-derivatives (B) of said 11-ones and intermediates (C) in the preparation of (A). (A) is prepared by condensing a pipecolic acid with, e.g., a benzyl halide and cyclizing the product (C) with polyphosphoric acid. (B) results from subjecting (A) to a Grignard reaction. Both (A) and (B) are useful as analgesics.

3,408,353

1,3,4,9b-TETRAHYDRO-2H-INDENO(1,2-c)PYRIDINE DERIVATIVES

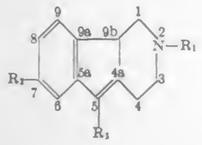
Ernst Jucker, Ettingen, and Anton Ebnöther, Reinach, Basel-Land, Switzerland, assignors to Sandoz Ltd., Basel, Switzerland

No Drawing. Filed Jan. 12, 1965, Ser. No. 425,049

Claims priority, application Switzerland, Jan. 17, 1964, 492/64; Sept. 18, 1964, 12,187/64; Oct. 20, 1964, 13,571/64; Oct. 26, 1964, 13,572/64

16 Claims. (Cl. 260—293)

1,3,4,9b - tetrahydro - 2H - indeno(1,2-c)pyridine derivatives of the formula



wherein

R_1 is hydrogen, lower alkyl, lower hydroxyalkyl or benzyl,

R_2 is hydrogen, halogen or lower alkyl and

R_3 is phenyl which may be substituted by halogen, lower alkyl, methoxy or methylthio, or benzyl, pyridyl, pyridyl-methyl, thienyl, and their acid addition salt possess sedative and neuroleptic properties. Processes for producing these pyridine derivatives are disclosed.

3,408,354

CATALYTIC HYDROGENATION OF 3- AND 4-HYDROXY PYRIDINES

Paul N. Rylander, Newark, and Nathan Himelstein, Hillside, N.J., assignors to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

No Drawing. Filed Oct. 4, 1965, Ser. No. 492,843

7 Claims. (Cl. 260—293.2)

Hydroxypiperidines are prepared by catalytic hydrogenation of hydroxypyridines in admixture with a stoichiometric excess of an anhydride of a lower saturated aliphatic monocarboxylic acid, followed by hydrolysis of the hydrogenation product.

3,408,355

THIAXANTHENE DERIVATIVES

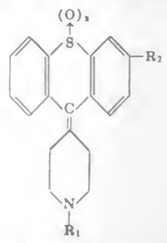
Jany Renz and Jean-Pierre Bourquin, Basel, Conrad Bruschweiler, Birsfelden, Hans Winkler, Basel, and Gustav Schwarb, Neuallschwil, Switzerland, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland

No Drawing. Filed Dec. 3, 1963, Ser. No. 327,836

Claims priority, application Switzerland, Dec. 7, 1962, 14,449/62; July 24, 1963, 9,199/63; Oct. 16, 1963, 12,650/63

6 Claims. (Cl. 260—293.4)

I. A thiaxanthene derivative of the formula:



(I)

wherein R_1 is lower alkyl, R_2 is a member selected from the group consisting of hydrogen, halogen and lower alkoxy, x is an integer selected from the group consisting of 1 and 2, and acid addition salts thereof with an acid selected from the group consisting of hydrochloric acid, hydrobromic acid, sulfuric acid, fumaric acid, maleic acid, malic acid, acetic acid and citric acid.

3,408,356

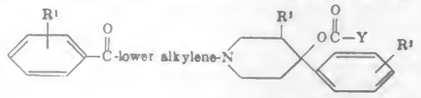
LONG CHAIN ESTERS OF 4'-FLUORO-4-[4-HYDROXY - 4 - (α,α,α - TRIFLUOROTOLYL)PIPERIDINO]BUTYROPHENONE AND THE LIKE

Zola P. Horovitz, East Brunswick, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 31, 1965, Ser. No. 484,125

5 Claims. (Cl. 260—294.3)

This invention relates to long chain esters of 4'-fluoro-4 - [4 - hydroxy - 4-(α,α,α-trifluorotolyl)piperidino]butyrophenone and related compounds having the formula



which are produced by interacting an appropriately substituted or unsubstituted [(4-hydroxy - 4 - phenyl)piperidino]acetophenone or the like with a long chain acyl halide and which are useful as long acting tranquilizers.

3,408,357

ALKYL ACID ESTERS OF 4-ALKYLOXY-N-SUBSTITUTED-4-PIPERIDINOLS

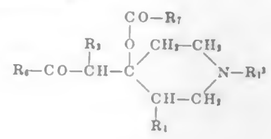
Hans Herbert Kühnis, Hugo Ryf, and Rolf Denss, Basel, Switzerland, assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 382,955, July 15, 1964. This application Jan. 12, 1966, Ser. No. 520,093

Claims priority, application Switzerland, July 19, 1963, 9,052/63

7 Claims. (Cl. 260—294.3)

1. A member selected from the group consisting of a ketone of the formula



wherein

R_1[3] is a member selected from the group consisting of alkyl of at most 12 carbon atoms, alkenyl of 3 to 4 carbon atoms, cyclopropylmethyl, and phenylalkyl of 7 to 9 carbon atoms,

R_2 and R_4 are each a member selected from the group consisting of hydrogen and methyl,

R_6 is alkyl of at most 4 carbon atoms,

R_2 and R_6 taken together represent a member selected from the group consisting of trimethylene, tetramethylene and 1-methyl-tetramethylene, and

R_7—CO— represents an alkanoyl radical having at most 5 carbon atoms,

and a pharmaceutically acceptable acid addition salt thereof.

3,408,358

PYRIDYL-THIENYL KETONES AND PROCESSES FOR PREPARING SAME

Goetz E. Hardtmann, Florham Park, and Hans Ott, Convent Station, N.J., assignors to Sandoz Inc., Hanover, N.J.

No Drawing. Filed Mar. 6, 1967, Ser. No. 620,613

9 Claims. (Cl. 260—294.8)

The compounds are of the class pyridyl-thienyl ketones which are useful as anti-inflammatory agents and are prepared either by (1) reacting a cyanopyridine with a lithium derivative of thiophene, (2) reacting thiophene with a pyridinecarbonyl halide or (3) oxidizing the corresponding carbinol with chromium trioxide.

3,408,359

7-METHYL-8-HYDROXY-1,4-DIHYDRO-o-DIOXIN(4,5-c)PYRIDINE

Peter I. Pollak, Scotch Plains, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Original application Oct. 21, 1965, Ser. No. 500,345, now Patent No. 3,365,461, dated Jan. 23, 1968. Divided and this application Aug. 3, 1967, Ser. No. 671,173

1 Claim. (Cl. 260—297)

7 - methyl - 8 - hydroxy-1,4-dihydro-o-dioxin-(4,5,c)-pyridine, an intermediate useful in preparing pyridoxine, prepared by reacting 4-methyl-5-cyanooxazole with a cyclic peroxide derivative of 2-butene-1,4-diol, namely, 3,6-dihydro-1,2-dioxin.

3,408,360

BENZOCYCLOHEPTAOXAZOLES

Eugene E. Galantay, Morristown, N.J., assignor to Sandoz, Inc., Hanover, N.J.

No Drawing. Continuation-in-part of applications Ser. No. 591,980, Nov. 4, 1966, and Ser. No. 645,471, June 12, 1967. This application Dec. 18, 1967, Ser. No. 691,171

14 Claims. (Cl. 260—307)

The compounds are of the class of 4-(3-mono-or-di-alkylaminopropylidene)-2-lower alkyl - 9,10 - dihydro-4H-benzo[5,6]cyclohepta[1,2-d]oxazoles. The compounds are useful as tranquilizers and are prepared by converting a 6,7,8,9-tetrahydro-5H-benzcyclohepten-5-one to a 2-lower alkyl - 9,10 - dihydro-4H-benzo[5,6]cyclohepta[1,2-d]oxazol-4-one, which is then reacted with a metallo-di-alkylaminopropyl halide Grignard reagent, and dehydrating the carbinol resulting from the hydrolysis of the Grignard adduct to obtain the corresponding 4-(3-dialkylaminopropylidene)-2-lower alkyl-9,10-dihydro-4H-benzo[5,6]cycloheptа[1,2-d]oxazole, which may then me N-dealkylated to the corresponding 3-alkylaminopropylidene-containing analog.

3,408,361

METHODS FOR PRODUCING IMIDAZOLINES AND DERIVATIVES THEREOF

Hans S. Mannheimer, 23 Haines Cove Drive, Toms River, N.J. 08753

No Drawing. Continuation-in-part of application Ser. No. 544,373, Apr. 22, 1966. This application Apr. 5, 1967, Ser. No. 628,519

20 Claims. (Cl. 260—309.6)

Methods for producing high imidazoline-content reaction mass of reduced diamide-content by continuously maintaining at least about 1.08 moles of diamine reactant ($NH_2C_2H_4NHR_1$) per mole of monocarboxylic acid (RCOOH) orginally in the mass during entire period of reaction accompanied by formation water of reaction removing a distillate comprising said water and some diamine, said about 1.08 mols of diamine calculated on the basis that none of the unremoved diamine has been reacted. Said reaction mass is a useful product of commerce and also may be reacted in aqueous media to produce 20–50% solutions of the amphoteric derivatives thereof by following the methods of the patents hereinafter indentified. Said reaction masses as well as the water soluble derivatives thereof are products of commerce and are useful in emulsions, cosmetics, detergents, etc., especially when combined with other components.

3,408,362

N-SUBSTITUTED PYRAZOLES

Jean Druey, Riehen, and Paul Schmidt, Therwil, Switzerland, assignors to Ciba Corporation, a corporation of Delaware

No Drawing. Application May 26, 1959, Ser. No. 815,824, now Patent No. 3,187,006, dated June 1, 1965, which is a continuation-in-part of abandoned application Ser. No. 775,356, Nov. 21, 1958, which in turn is a continuation-in-part of abandoned application Ser. No. 637,895, Feb. 4, 1957. Divided and this application May 3, 1965, Ser. No. 452,908

Claims priority, application Switzerland, Feb. 10, 1956, 29,762; Apr. 7, 1956, 31,859; July 16, 1956, 35,476; Sept. 28, 1956, 37,936; Jan. 2, 1957, 41,224; Nov. 26, 1957, 53,081; Mar. 28, 1958, 57,621; May 30, 1958, 60,080; June 13, 1958, 60,541; Jan. 22, 1959, 68,600; Apr. 3, 1959, 71,540; Apr. 9, 1959, 71,799

The portion of the term of the patent subsequent to June 1, 1982, has been disclaimed

3 Claims. (Cl. 260—310)

1. 3-unsubstituted 1-R-5-amino-4-carbo - lower alkoxypyrazole, wherein R represents a member of the group consisting of lower alkyl, cycloalkyl having from 5 to 6 carbon atoms, lower alkoxyalkyl, halophenyl, lower alkylphenyl, nitrophenyl and pyridyl.

3,408,363

PRODUCTION OF DIOXOLANES

Walter H. Brader, Jr., Austin, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware

No Drawing. Filed Dec. 27, 1965, Ser. No. 516,776

6 Claims. (Cl. 260—340.9)

1,3-dioxolane is produced by contacting a lower 1,2-glycol with a metal phosphate salt catalyst containing in the cationic portion an alkali metal and from one to about four mols of trivalent metal per mol of alkali metal. The trivalent metal is selected from aluminum, boron, bismuth or iron.

3,408,364

PREPARATION OF CYCLIC ETHERS

Paul N. Rylander and Duane R. Steele, Newark, N.J., assignors to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

Filed May 26, 1965, Ser. No. 459,010

4 Claims. (Cl. 260—345.1)

Cyclic ethers are prepared from cyclic diones by hydrogenation of the dione in the presence of an iridium cata-

lyst. The cyclic ether products of the disclosed process have utility as solvents for copolymers of the perfluorochloroolefins.

3,408,365
2-ISOPRENOID SUBSTITUTED PHENOLS AND THE CORRESPONDING CHROMANS

Karl Folkers, Harold W. Moore, and Doyle Daves, Jr., Menlo Park, Calif., assignors, by mesne assignments, to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed May 17, 1965, Ser. No. 456,511
14 Claims. (Cl. 260—345.2)

Phenols substituted with an isoprenoid-type substituent at the 2- or 4-position, useful as intermediates in the preparation of chroman derivatives, the latter compounds exhibiting antioxidant activity.

Method: Phenol or a p-carbloweralkoxyphenol is reacted with a polyisoprenoid alcohol in the presence of an acidic condensing agent. The resulting isoprenoid substituted phenol may then be treated with an acidic cyclizing agent to form the chroman derivative.

3,408,366
PROCESS FOR THE PRODUCTION OF ORTHO-HYDROXYBENZOPHENONES AND XANTHONES

Dwain M. White, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Aug. 11, 1967, Ser. No. 659,880
7 Claims. (Cl. 260—345.3)

This disclosure relates to a method for producing orthohydroxybenzophenones and xanthones by the thermal rearrangement of ortho-formyldiphenyl ethers. The process comprises heating an ortho-formyldiphenyl ether to a temperature of from about 100° C. to about 450° C. either in the presence or absence of a free radical initiator. It has been found that at these temperatures, the formyldiphenyl ether is rearranged to produce the ortho-hydroxybenzophenones and the xanthones. The yields of the xanthones can be increased by adding an oxidizing agent to the reaction mixture. The ortho-hydrobenzophenones produced in accordance with this process are useful as light stabilizers in plastic compositions; for example, in polyethylene, polypropylene, and the like.

3,408,367
TETRAARYL - 1,4 - BIS(DICYANO - METHYLENE)CYCLOHEXADIENES AND THEIR DIHYDRO DERIVATIVES

Sam Andreades, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 12, 1965, Ser. No. 471,460
8 Claims. (Cl. 260—396)

Tetraaryl - 1,4 - bis(dicyanomethylene)cyclohexadienes (I) and their dihydro derivatives (II) are claimed. The electrolytic reductive dimerization of a dicyanomethylenecyclopropene yield II which is converted into I by oxidation. The cyclohexadienes I are useful as polymerization inhibitors and the dihydro derivatives are useful as intermediates to the cyclohexadienes.

3,408,368
METHODS OF PRODUCING THE BISULPHITE ADDUCT OF 2-METHYL-1,4-NAPHTHOQUINONE

Jean Louis Emile Pomot, Neuilly-sur-Seine, France, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 27, 1965, Ser. No. 505,398
Claims priority, application France, Oct. 27, 1964, 992,791
4 Claims. (Cl. 260—396)

Prepare the bisulfite adduct of naphtho-2-methyl-1,4-naphthoquinone by the reaction of sulfurous acid on an alcoholic solution of 2-methyl-naphthoquinone while keeping the reaction medium at an acid pH.

3,408,369
2-SUBSTITUTED-3-KETO-$\Delta^{4,6}$-9β,10α-STEROIDS

Engbert Harmen Reerink, Pieter Westerhof, and Hendrik Frederik Louis Schöler, Van Houtenlaan, Weesp, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Continuation-in-part of applications Ser. No. 201,824, June 12, 1962, and Ser. No. 343,197, Feb. 7, 1964. This application July 16, 1965, Ser. No. 472,704
13 Claims. (Cl. 260—397.3)

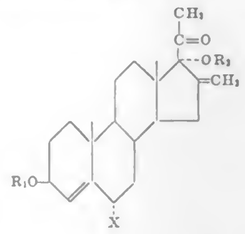
2 substituted 3 keto or 3-acyloxy 9β,10α steroids of the pregnane and androstane series. The substituent at the 2 position may be halogen, hydroxy, alkoxy or acyloxy. Specific examples are 2β-fluoro-17β-hydroxy, 9β,10α androst - 4-en-3-one and 2β-bromo-17α-methyl-17β-acetoxy-9β,10α androsta-1,4,6-trien-3-one.

3,408,370
3-HYDROXY AND 3-MONOACYLATED STEROIDS AND THE 6- AND 16-SUBSTITUTED ANALOGUES THEREOF

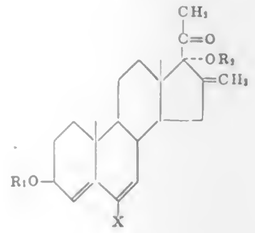
John C. Babcock and J. Allan Campbell, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed May 1, 1963, Ser. No. 277,090
The portion of the term of the patent subsequent to Sept. 28, 1982, has been disclaimed
8 Claims. (Cl. 260—397.4)

1. A member selected from the group consisting of

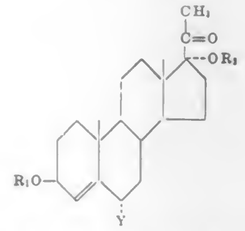


(1)



(2)

and



(3)

wherein X is selected from the group consisting of H and methyl; R_1 is selected from the group consisting of H and the acyl radical of a hydrocarbon monocarboxylic acid containing from 1 to 12 carbon atoms, inclusive; R_2 is

the acyl radical of a hydrocarbon carboxylic acid containing from 1 to 12 carbon atoms, inclusive, and Y is a member of the group consisting of F, trifluoromethyl, difluoromethyl and fluoromethyl.

3,408,371
ESTERIFICATION OF 17α-ETHINYL-17β-HYDROXY STEROIDS

Otto Halpern, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed June 16, 1966, Ser. No. 557,885
10 Claims. (Cl. 260—397.4)

1. A process for the esterification of 17β-hydroxy-17α-ethynyl steroids which comprises treating the steroid with at least a 5-molar excess of an anhydride of a hydrocarbon carboxylic acid at a temperature sufficient to permit removal by distillation of the acid that is formed.

9. The process according to claim 1 wherein the 17β-hydroxy-17α-ethynyl steroid is 17α-ethynyl-17β-hydroxyestr-4-en-3-one.

3,408,372
PREPARATION OF 3-KETO-10β-METHYL-11β-HYDROXY-Δ^4 STEROIDS

John H. Fried, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Continuation-in-part of application Ser. No. 533,877, Mar. 14, 1966. This application Feb. 20, 1967, Ser. No. 617,034
11 Claims. (Cl. 260—397.45)

Process of preparing a 3-keto-10β-methyl-11β-hydroxy-Δ^4 steroid having anabolic and progestational activities comprising oxidation of the corresponding 11α-hydroxy ring A aromatic steroid to the 11-keto ring A aromatic steroid, reduction, ring A dearomatization, and acid hydrolysis to the 3-keto-11β-hydroxy-$\Delta^{5(10)}$-19-nor steroid, and direct methylation to the 3-keto-10β-methyl-11β-hydroxy-Δ^4 steroid. The previous process including preparing the 11α-hydroxy ring A aromatic steroid from the corresponding $\Delta^{1,3,5(10),9(11)}$-tetraene. Process of improved oxidation of an 11α-hydroxy ring A aromatic steroid to the corresponding 11-keto ring A aromatic steroid intermediates. Process of direct methylation of a 3-keto-11β-hydroxy-$\Delta^{5(10)}$-19-nor steroid to the corresponding 3-keto-10β-methyl-11β-hydroxy-Δ^4 steroid products.

3,408,373
ALPHA-SULFO BRANCHED CHAIN FATTY ACIDS AND METHOD FOR PREPARING THEM

Waldo C. Ault, Glenside, and Thomas J. Micich, Alexander J. Stirton, and Raymond G. Bistline, Jr., Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Aug. 11, 1964, Ser. No. 388,963
19 Claims. (Cl. 260—400)

Branched chain fatty acids of the formula

$$RCH(R')CO_2H$$

where the sum of the carbon atoms of R and R' is between 10 and 20 were prepared by the peroxide-initiated free radical addition of normal fatty acids in linear α-olefins. Sulfonation with dioxane-SO_3 and neutralization, gave surface-active salts of α-sulfo branched chain fatty acids with excellent wetting properties.

3,408,374
PROCESS FOR THE TREATMENT OF VEGETABLE MATERIALS

John C. Cavanagh and Raymond A. Couche, both of 168 Adelaide Terrace, Perth, Western Australia, Australia

Filed Dec. 2, 1965, Ser. No. 525,270
8 Claims. (Cl. 260—412.4)

The invention relates to a multi-stage countercurrent process for extracting oils from vegetable materials such as rice bran (rice pollard), soybean, ground nuts, maize (corn) germ and coconut meat with hydrophilic solvents such as acetone in the presence of water added to the material or the extraction liquor.

3,408,375
PROCESS FOR MAKING TETRAMETHYL LEAD

Rudolph Louis Pedrotti, Charles Anthony Sandy, and Victor Tullio, New Castle County, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 7, 1965, Ser. No. 493,927
6 Claims. (Cl. 260—437)

Manufacture of tetramethyl lead by reaction of monosodium lead alloy with methyl chloride in the presence of a catalyst which comprises from 0.05 to about 1 mole of methylamine per mole of alloy and from 0 to about 0.01 mole of water per mole of alloy.

3,408,376
NOVEL PROCESSES FOR PREPARING FERROCENE-CYCLIC ETHERS

John T. Suh, Mequon, Wis., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 7, 1965, Ser. No. 493,872
9 Claims. (Cl. 260—439)

The process comprises dissolving a ferrocene diol in an acidic media containing at least about 70% of a lower aliphatic acid, then adding water in increments to the resulting solution to selectively precipitate the corresponding ferrocene cyclic ether in a highly purified form in yields higher than those previously obtainable. The cyclic ethers thus obtained are useful as hematinic agents.

3,408,377
PROCESS FOR THE PRODUCTION OF ALUMINUM ALKYL COMPOUNDS FROM ALPHA-OLEFINS, METALLIC ALUMINUM AND HYDROGEN

Maria Jadwiga Jarzynska, Gorska St. 34, m. 53, Warsaw, Poland

No Drawing. Filed Aug. 24, 1964, Ser. No. 391,784
2 Claims. (Cl. 260—448)

A process for producing aluminum trialkyl compounds comprising reacting aluminum, trialkyl aluminum compound and hydrogen to produce a dialkyl aluminum which is reacted with alpha-olefin to produce trialkyl aluminum compound. The reactions are carried out in the presence of one or more of alumina, magnesia, silica or aluminosilicate compounds.

3,408,378
ORGANOALUMINUM COMPOUNDS AND PROCESS FOR PREPARATION

Donald L. Schmidt, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 8, 1965, Ser. No. 446,690
5 Claims. (Cl. 260—448)

The invention is to the compound Δ-5,5'(2H,2'H)-bi-1,3,2-diazoaluminine and to a method of its preparation by reacting a solvated aluminum hydride, preferably as a diethyl ether solution, with tetracyanoethylene in an ether solvent.

3,408,379
TRIS(DIMETHYLSILYL)AMINE

Donald E. McVannel, Merrill, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Aug. 13, 1965, Ser. No. 479,656
20 Claims. (Cl. 260—448.2)

Tris(dimethylsilyl)amine, a useful crosslinker, is disclosed. Also disclosed are methods of preparation of the

tris(dimethylsilyl)amine as shown by the following equations:

$$[H(CH_3)_2Si]_2NH+H(CH_3)_2SiCl+(\text{acid acceptor})\rightarrow [H(CH_3)_2Si]_3N+(\text{acid acceptor}\cdot HCl)$$

$$3[H(CH_3)_2Si]_2NH+2R_3SiCl+2(\text{acid acceptor})\rightarrow 2[H(CH_3)_2Si]_3N+(R_3Si)_2NH+2(\text{acid acceptor}\cdot HCl)$$

$$(R_3Si)_2NH+3H(CH_3)_2SiCl+(\text{acid acceptor})\rightarrow [H(CH_3)_2Si]_3+2R_3SiCl+(\text{acid acceptor}\cdot HCl)$$

where R is a monovalent hydrocarbon radical.

3,408,380

PREPARATION OF FLUOROSILANES

Allen G. Pittman, El Cerrito, and William L. Wasley, Berkeley, Calif., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Mar. 17, 1966, Ser. No. 535,038
6 Claims. (Cl. 260—448.2)

1. The process which comprises reacting under anhydrous conditions,

(I) a compound of the formula



wherein X is a halogen and
M is an alkali metal, with
(II) a compound of the formula,

$$(R)_{4-n}SiY_n$$

wherein R is a monovalent hydrocarbon radical,
Y is a member of the group consisting of chlorine and bromine, and
n is an integer from 1 to 4, to produce
(III) a compound of the structure

$$(R)_{4-n}SiF_n$$

wherein R and *n* are as above defined.

3,408,381

S-2-[(CYCLOALKYL-ALKYL AND CYCLOALKENYL-ALKYL)AMINO]ETHYL THIOSULFATES AND SALTS THEREOF

Roger D. Westland, Ann Arbor, Mich., assignor to Parke Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Oct. 23, 1965, Ser. No. 504,113
6 Claims. (Cl. 260—453)

S-2-[(cycloalkyl-, 4-bicyclohexylyl-, decalyl-, and cycloalkenyl-alkyl)amino] ethyl thiosulfates and salts thereof, useful as antiradiation agents; and their production by (a) reacting a cycloalkyl-, 4-bicyclohexylyl-, decalyl-, or cycloalkenyl-alkyl halide with an alkali metal salt of S-2-aminoethyl thiosulfate, (b) reacting a 2-[(cycloalkyl-, 4-bicyclohexylyl-, decalyl-, or cycloalkenyl-alkyl)amino]-ethyl disulfide compound with a salt of sulfurous acid in the presence of an oxidizing agent, and (c) reacting a hydrohalide salt of an N-(cycloalkyl-, 4-bicyclohexylyl-, decalyl-, or cycloalkenyl-alkyl)aminoethyl halide compound with aqueous sodium thiosulfate.

3,408,382

PHENYL-BENZENE-SULFONIC ACID ESTERS

Wilhelm Sirrenberg, Sprockhoevel, Günter Unterstenhöfer, Opladen, and Ingeborg Hammann, Cologne, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Mar. 16, 1966, Ser. No. 534,629
Claims priority, application Germany, Mar. 20, 1965, F 45,583
10 Claims. (Cl. 260—456)

Alkylmercapto-, haloalkylmercapto-, cycloalkylmercapto-, and halocycloalkylmercapto-substituted phenyl esters of unsubstituted and 4-halo-substituted benzene sulfonic acids, which possess acaricidal properties and which may be produced by conventional methods.

3,408,383

PREPARATION OF PENTAERYTHRITOL TRINITRATE

Henry A. Rolewicz, Charles D. Grimes, Jr., and Kenyon Stevenson, Jr., Huntsville, Ala., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Mar. 8, 1957, Ser. No. 644,957
3 Claims. (Cl. 260—467)

1. A process for preparing pentaerythritol trinitrate which comprises reacting between about −5° and about 5° C. pentaerythritol with oxide-free nitric acid in a 100% to 200% excess in the presence of sulfuric acid which provides a mixed acid containing 30% to 45% of nitric acid, 35% to 55% of sulfuric acid, and 5% to 25% of water, and in the presence of methylene chloride, whereby nitrated pentaerythritol results and forms a solution in the methylene chloride, washing the methylene chloride solution with water, concentrating the washed solution, taking up the resulting concentrate in diethyl ether, filtering the resulting solution, and recovering pentaerythritol trinitrate from the filtrate.

3,408,384

4-METHOXY-3,5-DIMETHYLPHENYL METHYLCARBAMATE

Jerome G. Kuderna, Jr., and Donald D. Phillips, Modesto, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 8, 1963, Ser. No. 300,921
1 Claim. (Cl. 260—479)

1. 4-methoxy-3,5-dimethylphenyl methylcarbamate.

3,408,385

RACEMIZATION OF α-ALKYL PHENYLALANINES

David Taub, Metuchen, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 4, 1963, Ser. No. 313,765
8 Claims. (Cl. 260—479)

α-Alkyl phenylalanines, particularly the D-isomer, upon acylation followed by oxidation with lead tetraacetate is converted to an N-acyl-α-alkyl-β-phenethyl ketimine which optionally can be hydrolyzed to the corresponding ketone. Either the ketimine or ketone then can be converted to racemic α-alkyl-α-acylamino-β-phenylpropionitrile which can either be resolved and the L-form converted to an L-α-alkylphenylalanine or the racemic propionitrile can be converted to a racemic α-alkylphenylalanine which may be resolved and the D-form again degraded to the ketimine or ketone to be recycled in the foregoing process to make, in particular, the antihypertensive product, L-α-methylDOPA.

3,408,386

DIESTER OF THIODIPROPIONIC ACID

Hugh J. Hagemeyer, Jr., Vernon K. Park, and Alfred G. Robinson, Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Original application July 25, 1962, Ser. No. 212,485, now Patent No. 3,282,890, dated Nov. 1, 1966. Divided and this application Feb. 1, 1966, Ser. No. 544,323
1 Claim. (Cl. 260—481)

The diester of thiodipropionic acid and 3-hydroxy-2,2,4-trimethylpentyl isobutyrate useful as a stabilizer for plastic materials subject to oxidative degradation.

3,408,387

AMIDOAROXYALKANOLAMINES

Ralph Howe and Leslie Harold Smith, Macclesfield, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Sept. 17, 1965, Ser. No. 488,252
Claims priority, application Great Britain, Sept. 30, 1964, 39,774/64
22 Claims. (Cl. 260—482)

1. An alkanolamine derivative selected from the group consisting of compounds of the formula:



(I)

or



(II)

wherein R^2 is alkyl of up to 12 carbon atoms, hydroxyalkyl of up to 12 carbon atoms, alkyl of up to 12 carbon atoms substituted by alkoxy of up to 5 carbon atoms, alkyl of up to 12 carbon atoms substituted by aryloxy of up to 10 carbon atoms, cycloalkyl of up to 8 carbon atoms, alkenyl of up to 6 carbon atoms, or alkyl of up to 6 carbon atoms substituted by phenyl, halogenophenyl or phenyl itself substituted by at least one alkoxy of up to 5 carbon atoms; wherein R^3 is hydrogen or alkyl of up to 4 carbon atoms; wherein R^4 is alkanoyl, alkanesulphonyl or alkoxycarbonyl each of up to 6 carbon atoms or aroyl, aralkanoyl or arenesulphonyl each of up to 10 carbon atoms; and wherein R^7 is hydrogen or alkyl of up to 4 carbon atoms; and the pharmaceutically-acceptable acid-addition salts thereof.

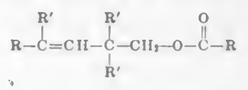
3,408,388

PROCESS FOR PREPARING ESTERS OF UNSATURATED ALCOHOLS FROM MONOESTERS OF SATURATED 2,2,4-TRISUBSTITUTED-1,3-DIOLS

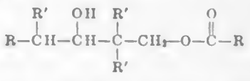
Hugh John Hagemeyer, Jr. and Howard Nolan Wright, Jr., Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of abandoned application Ser. No. 331,092, Dec. 17, 1963, which is a continuation-in-part of abandoned application Ser. No. 122,638, July 10, 1961. This application May 24, 1966, Ser. No. 552,420
10 Claims. (Cl. 260—491)

1. A process for making an ester of an unsaturated 2,2,4-trisubstituted alcohol of the formula



wherein each R is a radical independently selected from the group consisting of hydrogen and R′ radicals and each R′ is a radical independently selected from the group consisting of alkyl, cycloalkyl, aryl, alkylaryl and arylalkyl radicals, which comprises: contacting a glycol monoester of the formula



wherein R and R′ are as specified above with a highly acidic, nonvolatile compound selected from the group consisting of sulfuric acid, alkyl and aryl sulfates, alkyl and aryl sulfonic acids, phosphoric acid, alkyl and aryl phosphates, alkyl and aryl phosphonic acids, alkyl and aryl phosphinic acids, pyrophosphoric acid, meta phosphoric acid and acetylsulfoacetic acid at a catalytic concentration for a period of about 2 to about 24 hours at a temperature of about 90° C. to about 160° C.

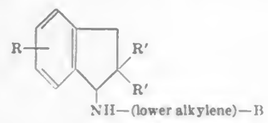
3,408,389

1-AMINOALKYL-AMINO-INDANES AND SALTS THEREOF

Jack Bernstein, New Brunswick, and Ervin R. Spitzmiller, Highland Park, N.J., and Herman A. Bruson, Woodbridge, Conn., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 27, 1964, Ser. No. 385,458
5 Claims. (Cl. 260—501.2)

1. A compound selected from the group consisting of



and the pharmaceutically acceptable acid-addition and quaternary ammonium salts thereof, wherein R is selected from the group consisting of hydrogen, lower alkyl, bromine, chlorine, fluorine, trifluoromethyl, lower alkoxy, phenyloxy and di(lower alkyl)-amino; R′ and R″ each is selected from the group consisting of lower alkyl, monocyclic aryl, chlorophenyl, bromophenyl, trifluoromethylphenyl, lower alkoxyphenyl, monocyclic aryl(lower alkyl), and lower alkoxy substituted monocyclic aryl (lower alkyl); and B is selected from the group consisting of amino, (lower alkyl)amino, di(lower alkyl) amino, hydroxy(lower alkyl)amino, di[hydroxy(lower alkyl)]amino, (lower alkyl)aralkylamino of from 6 to 12 carbon atoms and aralkylamino of from 6 to 12 carbon atoms.

3,408,390

HALOGENATED PHENOXY DIPHENYL PHOSPHINIC ACIDS AND SALTS THEREOF

Eric Jungermann, Chicago, Ill., and Andrew T. Guttmann, Lakewood, Ohio, assignors to Armour and Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed May 15, 1967, Ser. No. 638,632
5 Claims. (Cl. 260—502.4)

(Halogenated phenoxy) diphenyl phosphinic acids and salts thereof useful as bacteriostatic agents, are disclosed. The disclosed compounds, such as [p-(p-bromo-phenoxy) phenyl]-phosphinic acid and its alkali metal and ammonium salts, are especially useful as the active ingredients in germicidal detergent compositions.

3,408,391

1-BENZOCYCLOBUTENYL AMINO ACIDS

Joseph A. Skorcz, Milwaukee, Wis., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 19, 1965, Ser. No. 449,285
5 Claims. (Cl. 260—518)

The compounds are 1-benzocyclobutenyl amino acids useful as central nervous system depressants. Among the compounds disclosed are 1-benzocyclobutenylglycine and β-(1-benzocyclobutenyl)-alanine.

3,408,392

PREPARATION OF α,β-UNSATURATED CARBOXYLIC ACIDS WITH A MOLYBDENUM-ANTIMONY - VANADIUM - OXYGEN TERNARY CATALYST

Kazuo Yamagishi, Tokyo, and Kouzou Sakakibara, Iwao Abe, and Masayoshi Kubo, Saitama-ken, Japan, assignors to Dai Cellu Kabushiki Kaisha, Higashi-ku, Osaka-shi, Japan

No Drawing. Filed Aug. 2, 1965, Ser. No. 476,690
Claims priority, application Japan, Aug. 11, 1964, 39/44,670
2 Claims. (Cl. 260—430)

1. A process for preparing α,β-unsaturated carboxylic acid comprising oxidizing an α,β-unsaturated aldehyde with gaseous oxygen in the presence of a ternary catalyst having the chemical composition represented by the following formula

$$Mo_aV_bSb_cO_d$$

wherein $a=12$; $b=1$–25; $c=0.1$–10 and $d=38.65$–113.5.

3,408,393

PROCESS FOR THE MANUFACTURE OF ALPHA-HYDROXY ISOBUTYRIC ACID

Erwin F. Schoenbrunn, Ridgefield, Conn., assignor to Escambia Chemical Corporation, Pace, Fla., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 435,702, Feb. 26, 1965, which is a continuation of application Ser. No. 184,514, Apr. 2, 1962. This application Mar. 9, 1967, Ser. No. 621,999
10 Claims. (Cl. 260—535)

A tertiary butyl ester of isobutylene is oxidized to produce as the principal reaction product, alpha-hydroxyisobutyric acid. The oxidation is carried out in the presence of nitric acid or an oxide of nitrogen at a temperature of between about 0° and 100° C. The t-butyl ester of isobutylene is desirably of an acid which is a lower alkanoic acid or a mineral acid. Among the t-butyl esters of isobutylene which may be employed are the acetate, nitrate, chloride, propionate, oxalate, phosphate, etc.

3,408,394

PROCESS FOR PREPARATION OF DITHIOOXAMIDE

Paul D. Schickedantz, St. Albans, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Aug. 17, 1965, Ser. No. 480,514
7 Claims. (Cl. 260—551)

Dithiooxamide is prepared in high yield by adding a cupric tetrammine salt to a cyanide salt in an aqueous alcoholic reaction medium at a temperature in the range of from about −5° C. to about 50° C. and treating the resulting reaction mixture with a sulfide. A typical example involves the controlled addition at a slow rate of an aqueous solution of cupric tetrammine sulfate to a solution of sodium cyanide in a mixture of ethanol and water, followed by treatment with hydrogen sulfide to effect precipitation of dithiooxamide.

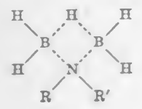
3,408,395

PREPARATION OF ALKYLAMINODIBORANE COMPOUNDS

Albert Khuri, South Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 7, 1966, Ser. No. 540,838
8 Claims. (Cl. 260—551)

Process for producing alkylaminodiboranes of the formula



wherein R is alkyl and R′ is hydrogen or alkyl, are prepared by reacting certain metal borohydrides with tetra(mono- or dialkyl-amino) diboron compounds. The alkylaminodiboranes are useful as rocket fuels and as components in rocket fuels.

3,408,396

α-CYCLOHEXYL-3,4-DISUBSTITUTED-PHENYL ACETAMIDES

John T. Suh and Claude I. Judd, Mequon, Wis., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 22, 1965, Ser. No. 502,559
4 Claims. (Cl. 260—559)

The compounds are α-cycloalkyl and α-heterocyclic-3,4-disubstituted phenylacetamides useful as antihypertensive agents. Among the compounds disclosed are α-cyclohexyl-3,4-dimethoxyphenylacetamide and α-cyclohexyl-3,4-dibenzyloxy-phenylacetamide.

3,408,397

METHYL PENTAMETHYLENE DIAMINE PROCESS

Julian Feldman, Amberly Village, and Martin Thomas, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed June 1, 1965, Ser. No. 460,561
12 Claims. (Cl. 260—583)

A process for preparing beta-alkyl-alpha, omega-diaminoalkanes which comprises sequentially contacting an alpha substituted aliphatic dinitrile containing an unsaturated side chain with hydrogen at a temperature within the range of about 10° to 100° C., a pressure less than about 2,000 p.s.i. in the presence of a Group VIII hydrogenation catalyst, and then contacting the resulting reaction mixture with hydrogen in the presence of a suppressant compound selected from the group consisting of ammonia, tertiary alkyl amine, and mixtures thereof, at a temperature within the range of about 50° to 150° C. and at a pressure of at least 1,000 p.s.i., in the presence of a Group VIII hydrogenation catalyst, and recovering said beta-alkyl-alpha, omega-diaminoalkane.

3,408,398

2-CYCLOBUTEN-1-ONE COMPOUNDS AND PROCESS FOR THEIR PREPARATION

James C. Martin, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 17, 1964, Ser. No. 352,629
11 Claims. (Cl. 260—586)

2-cyclobuten-1-yne compounds are prepared by combining ketenes and 1-butene-3-yne compounds. The reaction of dimethyl ketene and 1-methoxy-1-butene-3-yne to produce 4,4-dimethyl-3-(2-methoxyvinyl)-cyclobuten-1-one is representative. The novel 2-cyclobuten-1-one compounds are effective plasticizers for resins such as polyvinyl chloride.

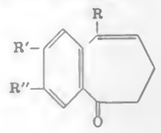
3,408,399

6,7-DIHYDRO-5H-BENZOCYCLOHEPTEN-5-ONES AND PROCESS OF PREPARING SAME

Eugene E. Galantay, Morristown, N.J., assignor to Sandoz Inc., Hanover, N.J.

No Drawing. Filed June 23, 1966, Ser. No. 559,753
6 Claims. (Cl. 260—590)

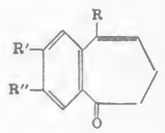
1. A compound of the formula



wherein

R represents phenyl or p-chlorophenyl, and
R′ and R″ each independently represent hydrogen or lower alkoxy.

3. A process for preparing a compound of the formula



wherein

R represents phenyl or p-chlorophenyl, and
R′ and R″ each independently represent hydrogen or lower alkoxy.

which comprises reacting a compound selected from the group consisting of a γ-aroyl-butyric acid and its corresponding lactone, wherein aroyl represents benzoyl or p-chlorobenzoyl, with a compound of the formula



wherein R′ and R″ are as defined, in the presence of an acid dehydrating agent selected from the group consisting of polyphosphoric acid and esters thereof.

3,408,400

PRODUCTION OF UNSATURATED ALDEHYDES

John Bohemen, Sutton, Surrey, Frank Christopher Newman, Great Bookham, and Barrie Wood, Epsom, Surrey, England, assignors to The Distillers Company Limited, Edinburgh, Scotland, a British company

No Drawing. Filed Mar. 15, 1965, Ser. No. 439,952
Claims priority, application Great Britain, Apr. 1, 1964, 13,510/64
24 Claims. (Cl. 260—604)

1. A process for the production of a substance selected from the group consisting of acrolein and methacrolein which comprises reacting at an elevated temperature in the vapor phase an olefine selected from the group consisting of propylene and isobutene with molecular oxygen over an oxide composition containing antimony, tin and a polyvalent metal selected from the group consisting of chromium, manganese, titanium, and vanadium.

3,408,401

PRODUCTION OF UNSATURATED ALIPHATIC ALDEHYDES

William John Ball, Capel, near Dorking, John Lynn Barclay, Tadworth, Edward James Gasson and David Gordon Stewart, Epsom, John Bohemen, Sutton, Frank Christopher Newman, Great Bookham, and Barrie Wood, Epsom, England, assignors to The Distillers Company Limited, Edinburgh, Scotland, a British company

No Drawing. Original application July 20, 1964, Ser. No. 383,958. Divided and this application June 14, 1966, Ser. No. 567,325
Claims priority, application Great Britain, July 30, 1963, 30,087/63; Apr. 1, 1964, 26,260/64, 13,510/64
4 Claims. (Cl. 260—604)

1. A process for the production of acrolein from propylene or methacrolein from isobutene which comprises reacting said propylene or isobutene with oxygen in the vapor phase at an elevated temperature and in the presence of an oxide composition catalyst which contains antimony, tin and uranium.

3,408,402

MONO-ETHERS OF 2,2′-DIHYDROXYDIPHENYL SULFONE AND METHOD OF MAKING THE SULFONE AND MONO-ETHERS

Robert H. Callighan, John O. Hawthorne, and Edward L. Mihelic, Penn Hills Township, Allegheny County, Pa., assignors to United States Steel Corporation, a corporation of Delaware

No Drawing. Filed Dec. 3, 1965, Ser. No. 511,322
6 Claims. (Cl. 260—607)

Phenyl ether is reacted with sulfur in the presence of aluminum chloride to give phenoxathin. Phenoxathin is then reacted with hydrogen peroxide in acetic acid producing phenoxathin - 10 - dioxide. This product is reacted with an alcohol or a hydroxyalkyl radical, containing potassium hydroxide, to give 2,2′ - dihydroxydiphenyl sulfone or 2 - hydroxy - 2′ - alkoxydiphenyl sulfone, useful as dye intermediates and bactericides.

3,408,403

METHOD OF PRODUCING A MIXTURE OF SULFIDES AND MERCAPTANS

Paul F. Warner, Phillips, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Dec. 16, 1964, Ser. No. 418,864
5 Claims. (Cl. 260—609)

A mixture of sulfides and mercaptans in a predetermined ratio is produced by reacting a compound with hydrogen sulfide to form mercaptans and sulfides and controlling the temperature of the reaction to produce the predetermined ratio of the compounds.

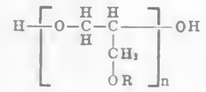
3,408,404

DIOLS OF POLY(GLYCIDYL ETHER)S

Edwin J. Vandenberg, Foulk Woods, Del., assignor to Hercules Incorporated, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 298,434, July 29, 1963. This application Oct. 20, 1965, Ser. No. 499,003
7 Claims. (Cl. 260—611)

1. As a new composition of matter, a diol of a poly-(glycidyl ether), said diol having the formula



wherein R is an alkyl, cycloalkyl, aryl, haloaryl or alkaryl radical, and n has a value such that the number average molecular weight of said diol is between about 1,000 and about 20,000.

3,408,405

METHOD OF OBTAINING ESSENTIALLY PURE ESTRAGOLE

Albert B. Booth, Jekyll Island, Ga., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 4, 1967, Ser. No. 636,011
3 Claims. (Cl. 260—612)

Substantially pure estragole is obtained from estragole rich feed stocks by crystallization of the estragole.

3,408,406
CAROTENOID COMPOUNDS
Albert J. Chechak and Charles D. Robeson, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Mar. 23, 1966, Ser. No. 536,655
3 Claims. (Cl. 260—612)

Novel carotenoid compounds useful as food colorants and as additives in poultry feed are:

1,20-bis(2,6,6-trimethylcyclohex-1-enyl)-3,7,14,18-tetramethyleicos-1,3,5,7,9,11,13,15,17,19-decaene
1-(2,6,6-trimethylcyclohex-1-enyl)-18-(p-methoxyphenyl)-3,7,12,16-tetramethyloctadec-1,3,5,7,9,11,13,15,17-nonaene, and
1,18-bis(p-methoxyphenyl)-3,7,12,16-tetramethyloctadec-1,3,5,7,9,11,13,15,17-nonaene.

3,408,407
NOVEL BISPHENOLS OF CYCLOHEXADIENE
Robert J. Cotter, Bernardsville, Francis N. Apel, Nutley, and Louis B. Conte, Jr., Newark, N.J., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Mar. 27, 1964, Ser. No. 355,461
1 Claim. (Cl. 260—619)

1. Crystalline 1,4 - bis(p-hydroxyphenyl)cyclohexane having a melting point of about 230–232° C.

3,408,408
PROCESS FOR PREPARING BIS-(3,5,6-TRICHLORO-2-HYDROXYPHENYL) METHANE
John W. Drew, Basking Ridge, and William E. Rosen, Summit, N.J., assignors to Hoffman Laboratories, Inc., Springfield, Mo., a corporation of Missouri, and Cambridge Research Inc., Roselle, N.J., a corporation of New Jersey
No Drawing. Filed June 3, 1965, Ser. No. 461,196
8 Claims. (Cl. 260—619)

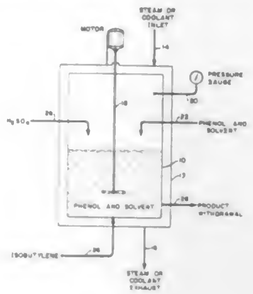
This invention relates to a process for the production of bis-(3,5,6-trichloro-2-hydroxyphenyl) methane, which is commonly known in the trade as hexachlorophene, by reacting 2,4,5-trichlorophenol, a formaldehyde-yielding substance and chlorosulfonic acid, either in the presence or absence of organic solvents, to condense 2,4,5-trichlorophenol with formaldehyde and form concentrated sulfuric acid and hydrogen chloride gas.

3,408,409
OXIDATION OF AROMATIC HYDROCARBONS TO PHENOLS
Robert Stevenson Coffey and Leonard Andrew Duncanson, Norton-on-Tees, England, assignors to Imperial Chemical Industries, Limited, London, England, a corporation of Great Britain
No Drawing. Filed Aug. 10, 1966, Ser. No. 571,383
Claims priority, application Great Britain, Aug. 18, 1965, 35,365/65
14 Claims. (Cl. 260—621)

A process for the production of phenols in which an aromatic hydrocarbon is oxidized in the liquid phase by a gas containing free oxygen in the presence of formic acid and a transition metal catalyst.

3,408,410
ORTHO-TERTIARY BUTYLATION OF PHENOL
Robert J. Laufer and Metro D. Kulik, Pittsburgh, Pa., assignors to Consolidation Coal Company, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 359,038, Apr. 13, 1964. This application July 28, 1965, Ser. No. 477,653
7 Claims. (Cl. 260—624)

An improved process for the tertiary-butylation of either phenol or 2-tertiary-butylphenol, in which preferentially ortho-substitution is obtained by adding the



sulfuric acid catalyst in successive increments during the course of the reaction.

3,408,411
MANUFACTURE OF ORGANIC COMPOUNDS CONTAINING FLUORINE
Victor Conrad Richard McLoughlin, Farnborough, and John Thrower, Farnham, Surrey, England, assignors to Minister of Technology in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England
No Drawing. Continuation-in-part of application Ser No. 550,892, May 18, 1966. This application July 21, 1967, Ser. No. 654,980
Claims priority, application Great Britain, May 21, 1965, 21,636/65
12 Claims. (Cl. 260—646)

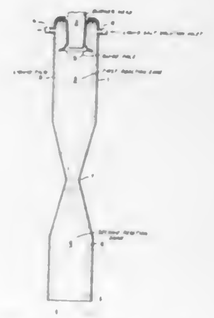
Process for the manufacture of a fluorinated organic compound having an aromatic group directly connected to a fluorinated alkyl group, which comprises reacting an aromatic compound having a reactive nuclear halogeno-substituent, a fluorinated alkane having a reactive halogeno-substituent, and metallic copper in a dipolar aprotic organic solvent at between 60° and 200° C., and separating out the fluorinated compound formed by elimination of a reactive halogeno-substituent between the aromatic compound and the alkane.

3,408,412
METHOD OF PREPARING FLUOROBENZENES
William D. Blackley, Wappingers Falls, and William R. Siegart, Poughkeepsie, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 15, 1966, Ser. No. 579,530
4 Claims. (Cl. 260—650)

A method of preparing a fluorobenzene of the empirical formula $C_6F_xCl_{6-x}$ where x is an integer from 1 to 6 comprising contacting hexachlorobenzene with cesium fluoride, rubidium fluoride or potassium fluoride in the presence of chlorine and where the presence of water is less than 1 wt. percent based on said hexachlorobenzene.

3,408,413
PROCESS FOR THE PREPARATION OF ACETYLENE AND VINYL CHLORIDE
Willem P. Hendal and Albertus J. Mulder, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed July 8, 1965, Ser. No. 471,479
Claims priority, application Netherlands, July 16, 1964, 6408161
7 Claims. (Cl. 260—656)

1. In a process for the preparation of acetylene and vinyl chloride by the flame reaction of methane and chlorine the improvement which comprises maintaining a stabilizing flame of oxygen and hydrocarbon gas in a first reaction zone into which methane and chlorine are fed while constantly flowing a liquid selected from the group consisting of saturated aqueous alkali metal sulfate solutions and molten mixtures consisting essentially of potassium chloride, zinc chloride and mercury chloride along the inside walls of said reaction zone, passing the resulting gaseous product stream along with said liquid flowing along the inside walls of said first reaction zone through a zone of constricted cross-section separating the



first reaction zone from a second reaction zone thereby causing a portion of said liquid to be atomized into the gaseous stream passing through said constricted zone and cooling said gases and extinguishing the flame, passing said cooled gases and atomized liquid through the second reaction zone bounded by walls having the inner surface thereof coated with a liquid layer of the unatomized liquid flowing through said constricted zone whereby further reaction takes place, passing the gaseous products and liquid from said second reaction zone and separating the acetylene and vinyl chloride thus formed.

3,408,414
NOVEL PROCESSES AND INTERMEDIATES
Joseph Donald Surmatis, West Caldwell, N.J., assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Dec. 4, 1964, Ser. No. 416,128
9 Claims. (Cl. 260—666)

A process for preparing trans-β-carotene from oxenin or isooxenin by means of reaction with a phosphine or phosphite and intermediates formed in this process.

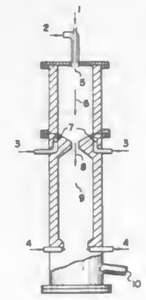
3,408,415
CATALYTIC HYDROGENATION
Frederick S. Dovell, Naugatuck, and Harold Greenfield, Watertown, Conn., assignors to Uniroyal, Inc., a corporation of New Jersey
No Drawing. Filed Sept. 20, 1965, Ser. No. 488,757
5 Claims. (Cl. 260—666)

This application discloses a method of selectively hydrogenating acyclic and cyclic conjugated diolefins to the corresponding monoolefins. The catalysts employed are sulfides of platinum metals and particularly sulfides of platinum, palladium and ruthenium.

3,408,416
METHOD FOR BUTENYL CYCLOHEXENES
Wolfgang Schneider, Broadview Heights, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
No Drawing. Filed Oct. 20, 1966, Ser. No. 587,954
10 Claims. (Cl. 260—666)

Butenyl cyclohexene is prepared from ethylene and vinyl cyclohexene by reaction in the presence of a coordination compound of nickel such as bisacrolein nickel, bisacrylonitrile nickel, bisfumaryl chloride nickel and bisfumaryl nitrile nickel and an aluminum halide or boron halide etherate.

3,408,417
THERMAL CRACKING METHOD OF HYDROCARBONS
Toru Sogawa, Ichikawa-shi, Shinpei Gomi, Nakoso-shi, and Toshio Kanai, Ota-ku, Tokyo, Japan, assignors to Kureha Kagaku Kogyo Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
Filed Aug. 20, 1965, Ser. No. 481,281
Claims priority, application Japan, Aug. 24, 1964, 39/47,125
6 Claims. (Cl. 260—679)



Method for thermal cracking of hydrocarbons including introducing combusting gases and hydrocarbons into a first zone, the latter at a speed of sound or greater, then passing the thereby mixed resultant through a constriction at the speed of sound or greater into a second zone for thermal cracking purposes, then quenching the reactants with a coolant.

3,408,418
METHOD OF PREPARING DIOLEFINS CONTAINING SIX CARBON ATOMS BY THE REACTION OF ETHYLENE WITH 1,3-BUTADIENE IN THE PRESENCE OF A CATALYST SYSTEM OF FERRIC CHLORIDE, A TERTIARY PHOSPHINE, AND A TRIALKYLALUMINUM
Masao Iwamoto and Sadao Yuguchi, Ohtsu-shi, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
No Drawing. Filed Sept. 7, 1965, Ser. No. 485,533
Claims priority, application Japan, Sept. 11, 1964, 39/51,382
5 Claims. (Cl. 260—680)

A method for preparing diolefins containing six carbon atoms e.g., principally 3-methylpentadiene-1,4 and hexadiene-1,3 which comprises reacting ethylene with 1,3-butadiene in the presence of a three component catalyst consisting of (1) ferric chloride, (2) a tertiary phosphine, and (3) a trialkyl aluminum.

3,408,419
ISOPARAFFIN ALKYLATION PROCESS
Raymond R. Herber, Clarendon Hills, and Kenneth D. Vesely, La Grange Park, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Apr. 5, 1966, Ser. No. 540,213
4 Claims. (Cl. 260—683.51)

Alkylation of an isoparaffin with an olefin utilizing an anhydrous HF catalyst in admixture with an organic dilu-

ent which is formed by reacting isobutylene with anhydrous HF and having a molecular weight of 200–500. The diluent used in amounts less than 25% by weight of the HF catalyst enhances the octane number of the alkylate.

3,408,420

SILANE-MODIFIED OLEFINIC COPOLYMERS

John Bentley Wiggill, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 363,973, Apr. 30, 1964. This application Mar. 19, 1965, Ser. No. 441,357

3 Claims. (Cl. 260—827)

Olefinic copolymers containing at least 50 mol percent alpha olefin units, acid halide units, and at least 0.1 mol percent pendant silane groups, said silane groups containing at least one readily hydrolyzable group, and process of preparing said copolymers by reactions such as reaction of an ethylene/acryl chloride polymer with an aminosilane.

3,408,421

CARBOXYL-TERMINATED POLYESTER-EPOXY ADDUCT

Kurt A. Kurka, Roseville, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Jan. 10, 1964, Ser. No. 336,873

7 Claims. (Cl. 260—830)

A heat-curable polyester-epoxy adduct curable to a flexible resin is provided comprising a mixture of carboxyl-terminated polyester and epoxy resin, the polyester being derived from a polycarboxylic acid compound and a lactone, the polyester and epoxy resin being combined in an approximate equivalent weight ratio of epoxy groups to carboxyl groups in the range of about 1:4 to 4:1.

3,408,422

STABILIZATION OF UNSATURATED POLYESTERS AND RESULTING PRODUCTS

Clayton A. May, Orinda, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 4, 1964, Ser. No. 408,733

6 Claims. (Cl. 260—837)

New compositions containing stabilized unsaturated polyesters are disclosed. These compositions comprise (1) a hydroxy-containing ethylenically unsaturated polyester of a glycidyl polyether of a polyhydric phenol and an ethylenically unsaturated monocarboxylic acid and (2) a hydroxyl amine compound, said compound stabilizing the polyester against premature gelation. Uses of the above-noted compositions such as in the preparation of laminates, are also disclosed.

3,408,423

UNSATURATED PERESTER CATALYSTS FOR POLYESTER POLYMERIZATION

Ronald L. Friedman, San Rafael, and Ronald L. Pastorino, Oakland, Calif., assignors to Argus Chemical Corporation, a corporation of Delaware

No Drawing. Filed July 21, 1966, Ser. No. 566,722

3 Claims. (Cl. 260—872)

Tertiary butyl per crotonate is used to initiate the polymerization of polyester resins at elevated temperatures. Unexpectedly fast gel and peak temperature times at high peak temperatures are obtained.

3,408,424

PROCESS OF POLYMERIZING VINYL HALIDE WITH TERPOLYMERS OF 1-MONOOLEFINS AND DIENES

Raymond A. Barkhuff, Jr., Hampden, Mass., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Dec. 30, 1963, Ser. No. 334,620

5 Claims. (Cl. 260—878)

Graft blends are disclosed comprising a mixture of (1) about 3 to 75% by weight of a graft copolymer of a vinyl halide monomer upon a terpolymer of ethylene, a 1-monoolefin of at least three carbon atoms such as propylene, and a conjugated or non-conjugated diene, (2) about 97 to 25% by weight of a polymer of the vinyl halide, and (3) less than 15% by weight of said terpolymer. The graft blends are prepared by polymerizing 60 to 98% by weight of vinyl halide or mixtures thereof with ethylenically unsaturated comonomers in the presence of 40 to 2% by weight of the terpolymer.

3,408,425

S-PHENYLMERCAPTOCYANOMETHYL PHOSPHORIC -ONIC OR -INIC ACID ESTERS

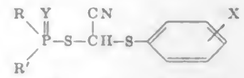
Hans-Gerd Schicke, Wuppertal-Elberfeld, and Gerhard Schrader, Wuppertal-Cronenberg, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Apr. 21, 1965, Ser. No. 449,877

Claims priority, application Germany, Apr. 23, 1964, F 42,700

17 Claims. (Cl. 260—940)

1. Phosphorus-containing thio esters of the general formula



in which R and R′ each respectively is a member selected from the group consisting of C_1–C_4 alkyl, C_1–C_4 alkoxy, mononuclear aryl having 6 ring carbon atoms, mononuclear chloro-substituted aryl having 6 ring carbon atoms, and mononuclear C_1–C_4 alkyl-substituted aryl having 6 ring carbon atoms, X is selected from the group consisting of hydrogen, chloro, bromo and lower alkyl, and Y is selected from the group consisting of oxygen and sulfur.

3,408,426

O,O-DIISOPROPYL-ETHYLSULFINYLMETHYL-DITHIOPHOSPHATE

Takashi Yamamoto and Shuichi Kobayashi, Fujisawa, Kentaro Nakatomi, Minato-ku, Tokyo, Saburo Takahashi, Kamakura, and Hideo Ueda and Mamoru Kondo, Fujisawa, Japan, assignors to Hokko Chemical Industry Co., Ltd., Chiyoda-tu, Tokyo, Japan, a corporation of Japan

No Drawing. Filed June 18, 1964, Ser. No. 376,269

Claims priority, application Japan, June 22, 1963, 38/32,507

1 Claim. (Cl. 260—948)

Insecticidal compositions containing O,O-diisopropyl-ethylsulfinylmethyl-dithiophosphate.

3,408,427

BIS(FLUOROPHENYL)PHOSPHORYL CHLORIDES

Robert H. Boschan, Los Angeles, and James P. Holder, Woodland Hills, Calif., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

No Drawing. Filed Dec. 28, 1964, Ser. No. 421,641

4 Claims. (Cl. 260—960)

Fluorophenyl phosphoryl chlorides, including fluorophenyl phosphoryl dichlorides and bis(fluorophenyl) phosphoryl chlorides, having particular value as intermediates for producing fluorophenyl phosphates, especially useful as hydraulic fluids, lubricants and heat transfer media.

3,408,428

HALOGENATED PHOSPHONATE ESTERS

Robert H. Boschan, Los Angeles, and James P. Holder, Woodland Hills, Calif., assignors, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland

No Drawing. Filed Dec. 28, 1964, Ser. No. 421,699

8 Claims. (Cl. 260—961)

Halogenated, e.g., fluoro- and/or chloro-substituted diphenyl benzenephosphonates containing a single halogen in each benzene ring, useful particularly at elevated temperature, as hydraulic fluids, additives for hydraulic fluids, lubricants and heat transfer or cooling media, for aircraft systems and for industrial use.

3,408,429

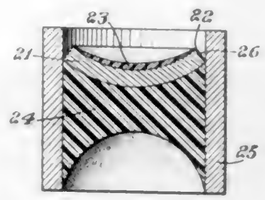
METHOD FOR CENTRIFUGAL CASTING A CONTACT LENS

Otto Wichterle, Prague, Czechoslovakia, assignor to Ceskoslovenska akademie ved, Prague, Czechoslovakia

Continuation-in-part of application Ser. No. 393,505, Sept. 1, 1964. This application Jan. 4, 1965, Ser. No. 423,034

Claims priority, application Czechoslovakia, Sept. 11, 1963, PV 5,041/63

3 Claims. (Cl. 264—1)



A precisely defined feather edge can be formed on a contact lens made by polymerization of a monomer mixture mainly consisting of ethyleneglycol monomethacrylate and a small amount of ethylenglycol dimethacrylate as a cross linking agent in a mold rotating approximately about the central axis and having a concavely arcuate mold face portion if the latter is bounded by another mold face portion with which it forms a sharply angular annular edge, and if the mold is rotated fast enough to drive the initially fluid monomer mixture to that edge, but not beyond the same.

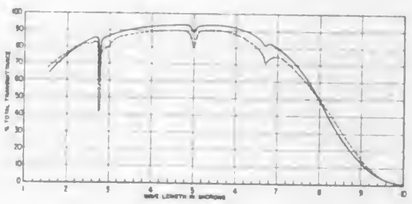
3,408,430

METHOD FOR IMPROVING THE VISIBLE AND INFRARED TRANSMISSION OF HOT PRESSED MAGNESIUM FLUORIDE

Irwin M. Lachman, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Mar. 17, 1965, Ser. No. 440,496

3 Claims. (Cl. 264—1)



A process for producing bodies of magnesium fluoride having improved visible and infrared transmission characteristics comprising heating magnesium fluoride powder in an oxygen containing atmosphere at a temperature in the range of from 350° to 850° C., then heating the powder under vacuum at a temperature in the range of from 500° to 900° C., to remove water and reaction products of water and finally hot pressing the treated powder to a body of the desired shape.

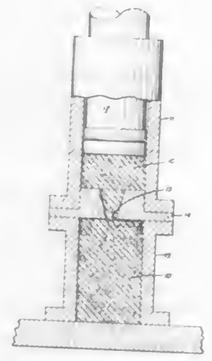
3,408,431

METHOD OF PREPARING PROPELLANT GRAIN

William G. Stanley, Ogden Dunes, and Edwin F. Morello, Whiting, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed Dec. 21, 1965, Ser. No. 515,389

11 Claims. (Cl. 264—3)



A process for improving the ballistic properties of a solid propellant which contains an oxidizer and a thermoplastic binder. The process involves the steps of heating the propellant to a temperature of between about 100° C. and 125° C., and then extruding the heated propellant through an orifice of between 1/16 to 3/4 inch diameter at a pressure in excess of 2,000 p.s.i.

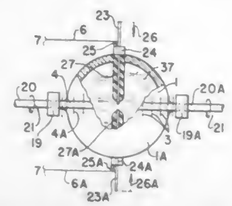
3,408,432

APPARATUS AND METHOD FOR COATING, MOLDING AND HARDENING WORK PIECES

Guenter W. Tumm, Mansfelder Str. 27, 1, Berlin 31, Germany, and Joel B. Guin, 148 E. 48th St., New York, N.Y. 10017

Filed Aug. 20, 1965, Ser. No. 481,347

9 Claims. (Cl. 264—84)



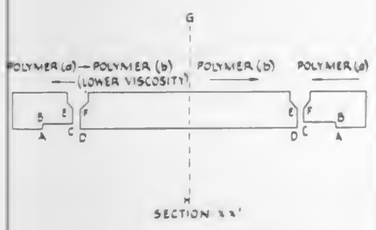
This disclosure relates to an improvement in apparatus and method with which matter or work pieces can be molded, molded and coated, or molded, coated and hardened by passing one or more electrical charges across the spark gap between two electrodes or a battery of electrodes immersed in a liquid to produce one or more shock waves that impact some of the sinter particles dispersed in said liquid into a thin sintered layer that is impacted or bonded into the exposed surface of a sheet of material or a work piece, or cast them into a cohesive

sintered body conforming to a mold. Alternatively, a sheet of material or a roughly formed body placed over a mold will be forced into the mold as it is being coated with a sintered layer of hard material of selective thickness and compactness. Thirdly, the work piece or sheet can be molded, coated and hardened at the same time, the degree of hardness and the thickness of the sintered layer coating depending on the number and strength of the spark discharges, the number and quality of the sintered particles, the amount, temperature and constituency of the liquid, the size and shape of the container, the shape and location of the molds, etc. The preferred embodiment of our invention is provided with rotation means for turning the container holding the molds, liquid, electrodes, etc. in order to distribute more evenly the sinter particles and to cause most of them to form a sludge near the surface of the mold or work piece, to facilitate and expedite the sintering process.

ERRATUM

For Class 264—168 see:
Patent No. 3,408,277

3,408,433
METHOD AND APPARATUS FOR SPINNING HETEROFILAMENTS
John Raymond Brayford, Harrogate, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed June 20, 1966, Ser. No. 558,670
Claims priority, application Great Britain, June 23, 1965, 26,598/65
9 Claims. (Cl. 264—171)

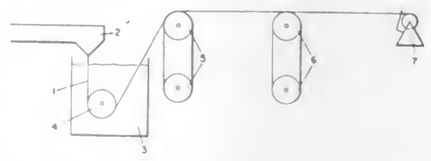


Each spinneret hole of a spinneret plate is constructed with one wall portion of relatively great length in the extrusion direction and another parallel wall portion of relatively short length. Composite, side-by-side filaments are made by forcing two polymer components of significantly different melt viscosities through each hole in a manner such that the lower viscosity component contacts the longer wall portion and the higher viscosity component contacts the shorter wall portion, whereby the components issue from the hole at uniform velocity and the threadline exhibits no appreciable deflection from the axis of the hole.

3,408,434
PROCESS FOR THE PRODUCTION OF FOILS OF HIGH E-MODULUS
Wilhelm Thoma, Cologne-Flittard, and Heinrich Rinke and Hieronymus Zygan, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed June 9, 1965, Ser. No. 462,735
Claims priority, application Germany, June 26, 1964, F 43,275
13 Claims. (Cl. 264—210)

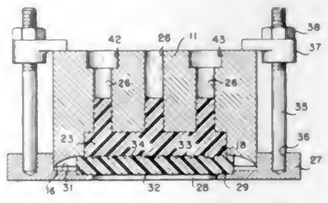
A method which comprises reacting an organic polyisocyanate with a linear polyester having a molecular weight in the range of from about 800 to about 6,000 and melting above about 180° C. in the presence of an inert organic solvent having a boiling point of at least about 150° C., removing the solvent, extruding the solvent-free reaction product, biaxially stretching the extruded product to form a foil and thereafter fixing the stretched foil with heat while in the stretched condition.

3,408,435
PROCESS FOR EXTRUDING ELASTIC POLY(EPICHLOROHYDRIN) FILAMENTS
Lawrence J. Logan, Jr., Wilmington, Del., and George C. Oppenlander, Embreeville, Pa., assignors to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
Filed Dec. 13, 1966, Ser. No. 601,300
3 Claims. (Cl. 264—210)



Elastic filaments based on epichlorohydrin polymers and copolymers are prevented from breaking when wound upon bobbins by permitting the same to relax at low temperatures prior to winding. Relaxation can be accomplished by operating the take-up rolls (6) at a lower rate than the draw-down rolls.

3,408,436
METHOD FOR MAKING COMPOSITE DIE
Robert Bruce Cubitt, Jersey City, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed Mar. 26, 1963, Ser. No. 268,031
4 Claims. (Cl. 264—225)

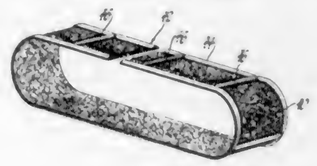


1. A method of producing a composite die part having a design panel insert in a recess in the forming surface of a metal die member and being adapted for the pressing of soap or like relatively soft material into a desired solid compact form which comprises the steps of mounting said die member having a plurality of bores leading from the top of said member to said recess in a fixture wherein said recess is closed by a rigid blank that has its inner face extending across said recess substantially continuous with said die forming surface of the die member and formed with the desired design in reverse facing into said recess, introducing a fluent moldable synthetic resin plastic material through a bore in said die member to at least fill said closed recess, allowing said material to harden in said recess and removing the completed composite die part having the molded panel insert fixedly incorporated therein from said fixture, said insert surface being a substantial continuation of said die member forming surface.

3,408,437
MOLDING THERMOPLASTIC PRINTING PLATES
John B. Wheeler III, Somerville, John Sonia, Califon, Herbert Samuels, Somerville, and James G. Kirkis, Highland Park, N.J., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 566,465, July 20, 1966. This application Oct. 23, 1967, Ser. No. 677,053
14 Claims. (Cl. 264—226)

Process for forming thermoplastic printing plates and the like by forming a thermoplastic matrix against an original pattern from a thermoplastic material having a HDT at 264 p.s.i. of at least about 65° C., backing the thus formed matrix with a heat sink, thereafter forcing against said matrix a hot, formable thermoplastic material at a temperature above its softening temperature, said temperature being above but not greater than about 172° C. above the HDT of the matrix, cooling the hot thermoplastic material below its softening temperature and the HDT of the matrix, and separating the thus formed printing plate from the matrix.

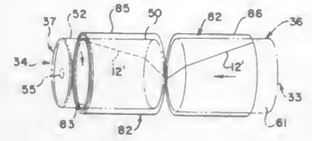
3,408,438
METHOD OF MAKING SELF-SUPPORTING FILTER ELEMENT
Richard T. Staunton, Birmingham, Mich., assignor to G. S. Staunton & Co. Inc., Birmingham, Mich., a corporation of Michigan
Original application Feb. 5, 1964, Ser. No. 342,599. Divided and this application June 14, 1966, Ser. No. 557,560
7 Claims. (Cl. 264—252)



1. A method for forming a self-supporting filter element comprising the steps of:
placing a batt of flexible nonself-supporting material into a mold having cavities formed in a predetermined pattern therein, said batt being located to lie across all of said cavities;
injecting a thermoplastic material into said mold and in contact with and filling the interstices in the portions of said batt overlying said cavities;
and curing said thermoplastic material to provide a supporting frame for said filter element integral with said filter material and with said portions of said filter material underlying said frame being compressed to prevent air flow therepast.

3,408,439
METHOD FOR SHAPING REINFORCED FLEXIBLE DIAPHRAGMS
John O. Probaska, San Clemente, Calif., assignor to The Mansfield Tire and Rubber Company, Mansfield, Ohio, a corporation of Ohio
Original application Mar. 3, 1965, Ser. No. 436,823, now Patent No. 3,323,423, dated June 6, 1967. Divided and this application Jan. 24, 1967, Ser. No. 630,478
10 Claims. (Cl. 264—294)

Method for making a flexible diaphragm by rotating a mandrel relative to another mandrel so that one end of a sleeve mounted on the mandrel is rotated relative to the other end of the sleeve on the other mandrel to constrict their portion between the mandrels. Subsequently



one end of the sleeve is folded over the other to form a double walled cup. Heat and pressure is applied to mold the shaped cup to its final form.

3,408,440
METHOD OF PREPARING SUBSTANTIALLY CELL-FREE SOMATIC ANTIGENS
Jack G. Voss, Wyoming, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed Sept. 26, 1966, Ser. No. 581,773
11 Claims. (Cl. 424—12)

1. A method of preparing substantially cell-free somatic antigens comprising the steps of (1) washing intact *E. coli* cells in an aqueous solution of an extracting agent selected from the group consisting of:

(a) amines having the formula

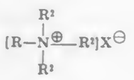


wherein R is an alkyl group containing from about 8 to about 18 carbon atoms and having as substituents from 0 to about 1 amine group having the formula



and from 0 to about 2 halogen atoms and wherein each R^1 group is selected from the group consisting of hydrogen, alkyl groups containing from 1 to about 3 carbon atoms and hydroxy alkyl groups containing from 1 to about 3 carbon atoms;

(b) quaternary ammonium compounds having the formula



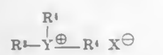
wherein R has the definition hereinbefore given and each R^2 group is selected from the group consisting of alkyl groups containing from 1 to about 3 carbon atoms, mono halogen substituted alkyl groups containing from 1 to about 3 carbon atoms, benzyl groups and hydroxy alkyl groups containing from 1 to about 3 carbon atoms, and wherein X is selected from the group consisting of iodide, bromide, methosulfate, ethosulfate and chloride anions;

(c) N-alkyl piperidines wherein the alkyl group contains from about 8 to about 18 carbon atoms;

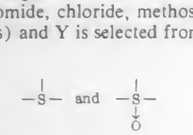
(d) alkyl pyridinium halides wherein the alkyl group contains from about 8 to about 18 carbon atoms and the halide is selected from the group consisting of bromide, chloride and iodide;

(e) N-alkyl alkylene diamines wherein the alkyl group contains from about 8 to about 18 carbon atoms and the alkylene group contains from about 2 to about 4 carbon atoms;

(f) sulfonium and sulfoxonium compounds having the formula



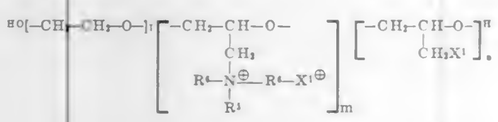
wherein R^3 is a hydrocarbon group containing from about 8 to about 18 carbon atoms, wherein each R^4 group is an alkyl group containing from 1 to about 3 carbon atoms, wherein X has the definition hereinbefore given (e.g., selected from the group consisting of iodide, bromide, chloride, methosulfate and ethosulfate anions) and Y is selected from the group consisting of



groups;

(g) 1-alkyl-2-imino imidazolidines wherein the alkyl group contains from about 8 to about 18 carbon atoms;

(h) polyquaternary ammonium compounds having the formula:



wherein R^5 is a hydrocarbon group containing from 1 to about 24 carbon atoms, wherein each R^6 group is a hydrocarbon group containing from 1 to about 4 carbon atoms, wherein X^1 is selected from the group consisting of chlorine, iodine and bromine atoms, where L, *m*, and *n* are integers such that L is an integer from 0 to about 50, the sum of *m* and *n* is from about 2 to about 50, and the sum of *m*, *n* and the number of carbon atoms in R^5 is greater than 12; and

(i) mixtures thereof;

the concentration of said cells ranging from about 5 micrograms/ml. to about 100 milligrams/ml.; the concentration of said extracting agent ranging from about 1 p.p.m. to about 1000 p.p.m.; the weight ratio of cells to extracting agent ranging from about 5:1 to about 100:1; while maintaining a temperature ranging from about 5° C. to about 150° C. and a pH ranging from about 4 to about 12; and (2) separating the antigens extracted in the first step from the remaining whole cells and cell walls.

6. A method of preparing substantially cell-free somatic antigens comprising the steps of (1) washing intact *S. typhosa* cells in an aqueous solution of an extracting agent selected from the group consisting of:

(a) amines having the formula

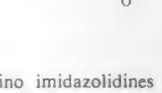


wherein R is an alkyl group containing from about 8 to about 18 carbon atoms and having as substituents from 0 to about 1 amine group having the formula



and from 0 to about 2 halogen atoms and wherein each R^1 group is selected from the group consisting of hydrogen, alkyl groups containing from 1 to about 3 carbon atoms and hydroxyl alkyl groups containing from 1 to about 3 carbon atoms;

(b) quaternary ammonium compounds having the formula



wherein R has the definition hereinbefore given and each R^2 group is selected from the group consisting of alkyl groups containing from 1 to about 3 carbon atoms, mono halogen substituted alkyl groups containing from 1 to about 3 carbon atoms, benzyl groups and hydroxy alkyl groups containing from 1 to about 3 carbon atoms, and wherein X is selected from the group consisting of iodide, bromide, methosulfate, ethosulfate and chloride anions;

(c) N-alkyl piperidines wherein the alkyl group contains from about 8 to about 18 carbon atoms;

(d) alkyl pyridinium halides wherein the alkyl group contains from about 8 to about 18 carbon atoms and the halide is selected from the group consisting of bromide, chloride and iodide;

(e) N-alkyl alkylene diamines wherein the alkyl group contains from about 8 to about 18 carbon atoms and the alkylene group contains from about 2 to about 4 carbon atoms;

(f) sulfonium and sulfoxonium compounds having the formula



wherein R^3 is a hydrocarbon group containing from about 8 to about 18 carbon atoms, wherein each R^4 group is an alkyl group containing from 1 to about 3 carbon atoms, wherein X has the definition hereinbefore given (e.g., selected from the group consisting of iodide, bromide, chloride, methosulfate and ethosulfate anions) and Y is selected from the group consisting of

groups;

(g) 1-alkyl-2-imino imidazolidines wherein the alkyl group contains from about 8 to about 18 carbon atoms;

(h) polyquaternary ammonium compounds having the formula:

wherein R^5 is a hydrocarbon group containing from 1 to about 24 carbon atoms, wherein each R^6 group

is a hydrocarbon group containing from 1 to about 4 carbon atoms, wherein X^1 is selected from the group consisting of chlorine, iodine and bromine atoms, wherein L, *m*, and *n* are integers such that L is an integer from 0 to about 50, the sum of *m* and *n* is from about 2 to about 50, and the sum *m*, *n* and the number of carbon atoms in R^5 is greater than 12;

(i) sodium and potassium salts of ethylenediamine tetraacetic acid; and

(j) mixtures thereof;

the concentration of said cells ranging from about 5 micrograms/ml. to about 100 milligrams/ml.; the concentration of said extracting agent ranging from about 1 p.p.m. to about 1000 p.p.m.; the weight ratio of cells to extracting agent ranging from about 5:1 to about 100:1; while maintaining a temperature ranging from about 5° C. to about 150° C. and a pH ranging from about 4 to about 12; and (2) separating the antigens extracted in the first step from the remaining whole cells and cell walls.

3,408,441

EPIPODOPHYLLOTOXIN-β-D-GLUCOSIDES AND DERIVATIVES THEREOF

Albert von Wartburg, Max Kuhn, Camilla Keller, and Jany Renz, Basel, Switzerland, assignors to Sandoz Ltd., also known as Sandoz, A.G., Basel, Switzerland

No Drawing. Filed Dec. 12, 1966, Ser. No. 600,718

Claims priority, application Switzerland, Dec. 14, 1965, 17,231/65

5 Claims. (Cl. 424—180)

This invention relates to epipodophyllotoxin-benzylidene-β-D-glucoside and to pharmaceutical compositions containing it, and also to epipodophyllotoxin-β-D-glucoside and to tetra - O-acetyl-epipodophyllotoxin-β-D-glucoside. The epipodophyllotoxin-benzylidene-β-D-glucoside is useful in the treatment of leukemia L–1210 of the mouse.

3,408,442

CONTROLLING SOIL INSECTS WITH PARATHION-PENTACHLOROPHENOL COMPOSITIONS

John M. Deming, Hazelwood, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Apr. 20, 1964, Ser. No. 361,259

7 Claims. (Cl. 424—218)

A method of controlling insect life [illegible] by the use of a mixture of parathion and pentachlorophenol whereby the degrading effect of soil microorganisms on parathion is substantially reduced.

3,408,443

CONTROL OF INTERNAL PARASITES OF SWINE AND SHEEP WITH DIMETHYL 2,2-DICHLOROVINYL PHOSPHATE

Sumner H. McAllister, Greenwich, Conn., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 17, 1964, Ser. No. 411,719

2 Claims. (Cl. 424—219)

The control of internal parasites in swine and sheep with dimethyl-2,2-dichlorovinyl phosphate.

3,408,444

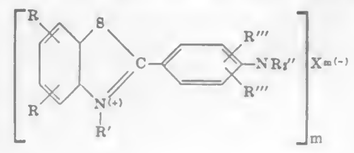
CERTAIN METAL SALT COMPLEXES USEFUL FOR CONTROLLING HELMINTHS AND IMPROVING GROWTH IN ANIMALS

Robert L. Klingbail, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 11, 1966, Ser. No. 533,431

26 Claims. (Cl. 424—245)

Methods employing and compositions comprising a complex of a benzothiazolium compound of the formula:



and a metal salt compound useful in controlling helminths and improving growth in animals.

3,408,445

TREATMENT OF INFLAMMATION WITH 1-METHYL - 3 - BENZOYL - 4 - HYDROXY - 4-PHENYLPIPERIDINE AND HALO DERIVATIVES THEREOF

Louis Levy, Encino, and David A. McClure, Canoga Park, Calif., assignors to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware

No Drawing. Filed Apr. 10, 1967, Ser. No. 629,424

3 Claims. (Cl. 424—267)

This invention is directed to a method of alleviating the symptoms of inflammation in an animal suffering from an inflammatory condition which comprises the administration to such an animal of a pharmaceutically effective amount of 1-methyl-3-benzoyl-4-hydroxy-4-phenylpiperidine, 1-methyl-3-p-chlorobenzoyl-4 - hydroxy-4-p-chlorophenylpiperidine or 1-methyl-3-p-fluorobenzoyl-4-hydroxy-4-p-fluorophenylpiperidine.

3,408,446

SUPPRESSING COUGHS AND INCREASING SECRETIONS IN WARM-BLOODED ANIMALS WITH N-(AMINO-3,5-DIHALOBENZYL)-CAMPHIDINES

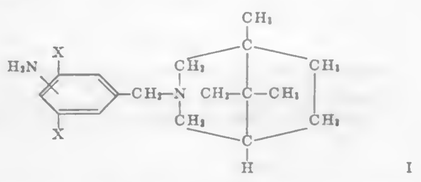
Johannes Keck, Biberach an der Riss, Germany, assignor to Boehringer Ingelheim GmbH, Ingelheim am Rhein, Germany, a corporation of Germany

No Drawing. Continuation-in-part of abandoned application Ser. No. 438,741, Mar. 10, 1965, which is a continuation-in-part of abandoned application Ser. No. 237,714, Nov. 14, 1962. This application June 30, 1967, Ser. No. 650,204

Claims priority, application Germany, Nov. 20, 1961, T 21,147

7 Claims. (Cl. 424—267)

Novel antitussive compositions having as the active ingredient N-(amino-3,5-dihalobenzyl)-camphidines of the formula



I

wherein X is a halogen selected from the group consisting of bromine and chlorine and their non-toxic, pharmaceutically acceptable acid addition salts and a novel method of suppressing cough and producing secretion in warm-blooded animals.

ELECTRICAL

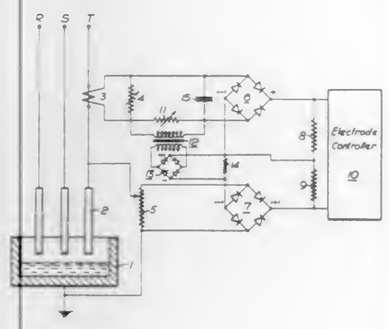
3,408,447
ELECTRODE CONTROL MEANS FOR ELECTRIC ARC APPARATUS

Ferdinand Beck, Vienna, Austria, assignor to Wiener Schwachstromwerke Gesellschaft m.b.H., Vienna, Austria

Filed Sept. 3, 1965, Ser. No. 484,904

Claims priority, application Austria, Sept. 8, 1964, 7,708/64

9 Claims. (Cl. 13—13)



A system and method for controlling the feed of a movable arc electrode in accordance with the actual voltage drop across the arc includes current transformer means deriving the arc current, potential transformer of the electrode and the opposite electrode, such as an arc furnace, and means for applying respective voltages corresponding to the arc current and to the output of the potential transformer means across a voltage divider. The voltage divider is connected to the input of electrode feed control means. A resistance is connected in series with the secondary of the current transformer, and a potential transformer connected across this latter resistance derives a corrective potential which is applied, in opposition to the output of the potential transformer connected to the supply conductor for the electrode, in advance of application of this potential to a section of the voltage divider. A capacitor is connected across the secondary of the current transformer to compensate for the overall inductance.

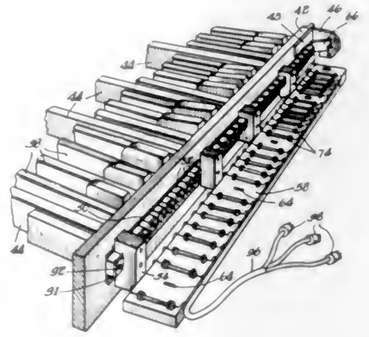
3,408,448
MAGNETIC KEYING FOR ELECTRONIC ORGANS

Thomas A. Lazzaro, Amherst, N.Y., assignor to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio

Filed May 24, 1965, Ser. No. 457,963

7 Claims. (Cl. 84—1.01)

Magnetically operable pedal switches for an electronic organ wherein each pedal carries at its inner end a flat magnet polarized in the direction of the pedal. An encapsulated dry reed switch is spaced from the end of each pedal in alignment therewith, and magnetic symmetry holds the switch contacts open. Upon movement of the pedal, the magnetic circuit becomes asymmetric, and the



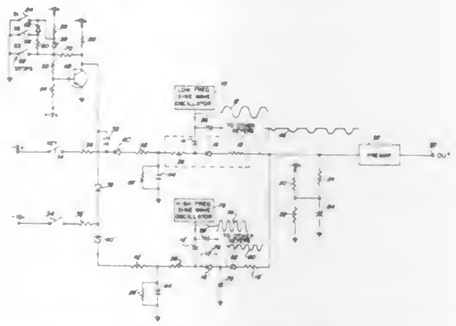
overlapping ends of the reed switches are magnetically attracted into contact.

3,408,449
KEYING AND WAVE-SHAPING CIRCUIT FOR ELECTRONIC MUSICAL INSTRUMENT

Frederick B. Tinker, Beaverton, Oreg., assignor to Rodgers Organ Company, Hillsboro, Oreg., a corporation of Oregon

Filed Apr. 5, 1965, Ser. No. 445,661

8 Claims. (Cl. 84—1.11)



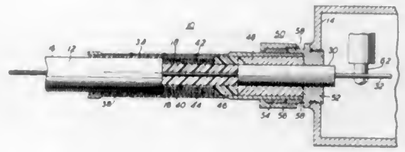
A keying and wave-shaping circuit for an electronic organ is described in which the output of a free running sine wave oscillator is gated by a normally nonconducting gating diode. Different keying voltages are applied to the gating diode to enable it to be rendered conducting by the sine wave to vary the width of the transmitted sine wave pulses and therefore the harmonic content of the output signal of such circuit. The keying voltages are produced by charging and discharging a keying capacitance connected to the gating diode from a D.C. voltage source when a key switch is closed and opened to provide gradual attack and decay effects in such output signal. The different steady state keying voltages are produced by a voltage clamping diode connected to the keying capacitance and having means including a plurality of stop switches for selectively applying different D.C. reference voltages to the clamping diode to reverse bias such diode until the voltage on the keying capacitance exceeds the selected reference voltage and renders the diode conducting to limit further charging of the keying capacitance.

3,408,450
CABLE TERMINATION

Walter C. Kleinfelder, Summit, N.J., assignor to Bell Telephone Laboratories Incorporated, Murray Hill, N.J., a corporation of New York

Filed Aug. 4, 1966, Ser. No. 570,208

8 Claims. (Cl. 174—21)



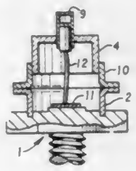
1. A cable termination comprising an inner conductor, an outer conductor coaxially surrounding said inner conductor, radially crushable dielectric means spacing said conductors, vapor barrier means surrounding said outer conductor and including sheets of insulating and conductive material, rigid bushing means between said outer conductor and said dielectric means for supporting said outer conductor independent of said dielectric means, said bushing means extending at least up to said vapor barrier means, clip means of relatively hard metallic material surrounding said vapor barrier means and said outer conductor and having inwardly extending hard metal tangs, an outer insulating jacket surrounding said outer conductor, an outer sleeve surrounding said jacket and being crimped for forcing said tangs through said vapor barrier and against said outer conductor and to hold said outer jacket.

3,408,451
ELECTRICAL DEVICE PACKAGE

James O. Redwanz, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Continuation-in-part of application Ser. No. 414,994, Dec. 1, 1964. This application Sept. 1, 1965, Ser. No. 485,633

8 Claims. (Cl. 174—52)



Disclosed is a stud-type power rectifier package which includes a hard metal threaded stud base with a soft metal enclosing wall mounted on the base and a cover cold-welded to the wall portion, the cover including a terminal through which electrical contact may be made to a semiconductor device enclosed within the package.

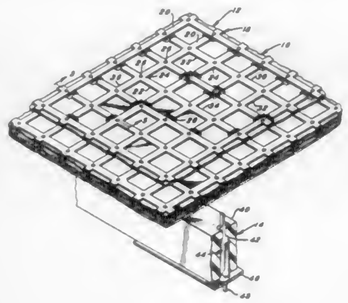
3,408,452
ELECTRICAL INTERCONNECTOR FORMED OF INTERCONNECTED STACKED MATRICES

Herbert E. Ruehlemann, Huntingdon Valley, Pa., assignor to Elco Corporation, Willow Grove, Pa., a corporation of Pennsylvania

Filed Oct. 1, 1965, Ser. No. 492,164

7 Claims. (Cl. 174—68.5)

A matrix of electrical interconnectors comprises a plurality of sheets of insulating material with each sheet having a conductive grid on one surface thereof. The conductive grid on each sheet is comprised of two groups of conductors, the conductors of one group intersecting the conductors of the other group at a plurality of electrical junctions. Each conductive grid is separated from an adjacent conductive grid by one of the sheets of insulating material, and at least two of said grids in the matrix are electrically interconnected by a bonded junction between said at least two of said grids at vertically aligned electrical junctions.



3,408,453
POLYIMIDE COVERED CONDUCTOR

Charles F. Shelton, Jr., Branford, Conn., assignor to Cerro Corporation, New York, N.Y.

Filed Apr. 4, 1967, Ser. No. 628,387

17 Claims. (Cl. 174—68.5)



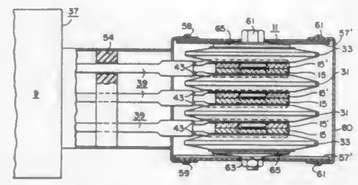
An electrically insulated conductor for conducting electricity at high temperatures without breakdown comprising a metallic conductor covered by laminated layers of polyimide resin and polytetrafluoroethylene sealed together by means of heat-sealable B-state polytetrafluoroethylene, or a melt-processable resin such as fluorinated ethylene propylene resin or polychlorotrifluoroethylene in such a manner that the polyimide resin is always protected by a layer of polytetrafluoroethylene.

3,408,454
BUS DUCT WITH POWER TAKE-OFF MEANS

Samuel S. Fouse, Aliquippa, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

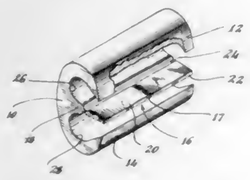
Filed Nov. 16, 1966, Ser. No. 594,883

9 Claims. (Cl. 174—71)



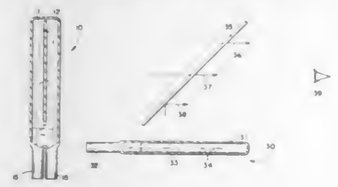
Improved bus duct comprises connectable sections with means for tapping power off of the bus duct at the connection.

3,408,455
ELECTRICAL CONNECTOR WITH CONDUCTOR RETAINERS
Dennie Dannes, Norwalk, Conn., assignor to Burndy Corporation, a corporation of New York
Filed May 25, 1967, Ser. No. 641,362
2 Claims. (Cl. 174—94)



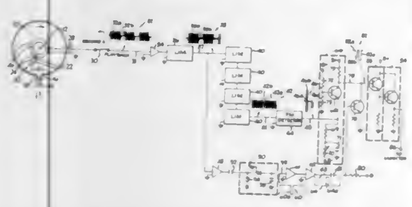
An electrical tap connector of the compression type having a pair of channels for receiving conductors therein, and a bendable element adjacent each channel adapted to be used for temporarily retaining conductors in the channels prior to compression of the connector.

3,408,456
METHOD FOR PROVIDING HIGH DEFINITION COLORED TELEVISION IMAGE
Leo A. Shanafelt, 5823 Keokuk Ave., Woodland Hills, Calif. 91364, and Harold W. Berger, 4540 Alonzo Road, Encino, Calif. 91316
Filed Oct. 23, 1965, Ser. No. 503,925
2 Claims. (Cl. 178—5.4)



A three-color television image is provided by combining with two images on opposite sides of a thin plate in a thin-tube type tube, an image from a third tube which preferably is also of the thin-tube type.

3,408,457
CLAMPED VIDEO DROPOUT COMPENSATOR
William F. Boylan, Morton Grove, and Leonard Kowal, Chicago, Ill., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed June 23, 1965, Ser. No. 466,297
5 Claims. (Cl. 178—6.6)



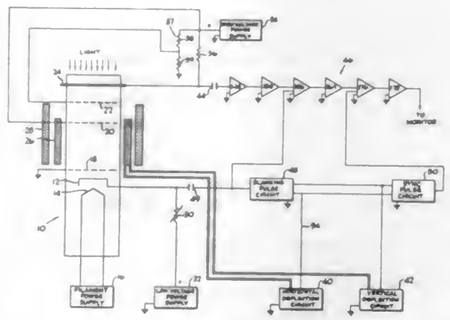
A clamp circuit is provided to prevent dropout-induced instability in a picture produced by a video tape recorder. A dropout detector responds to the reproduced signal from the recorder to produce dropout pulses of time and duration corresponding to intervals where the recorded signal is not reproduced. The dropout pulses are then used to clamp the demodulated reproduced signal to a reference level for the duration of the dropout to prevent its triggering the vertical deflection circuit of the picture reproducing apparatus. Preferably the reference level is at the grey level of the picture and is displaced from the blanking level in a direction opposite from vertical synchronizing pulses.

3,408,458
LINE IDENTIFYING AND MARKING APPARATUS
Robert B. Hennis, Rochester, Minn., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 2, 1964, Ser. No. 415,232
16 Claims. (Cl. 178—15)



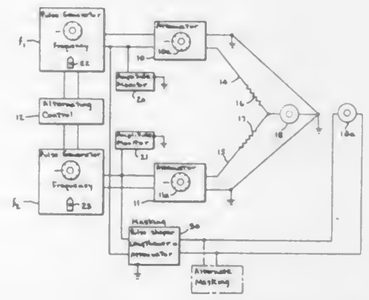
A line marking system is provided which includes apparatus for identifying the location of certain lines on a document in terms of digital data while the document is in a reading station. This data is stored and as the document moves relative to a selectively operable line marking device, each line position on the document is identified in terms of digital data. This latter line identifying data is compared with the line identifying data from storage and when there is equal comparison, the line marking device is operated.

3,408,459
TELEVISION CAMERA CIRCUIT FOR DEVELOPING HORIZONTAL AND VERTICAL SYNC PULSES AND BLANKING PULSES FROM THE SWEEP CIRCUITS
Stanley E. Lehnert, Addison, Ill., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed June 28, 1965, Ser. No. 467,784
8 Claims. (Cl. 178—69.5)



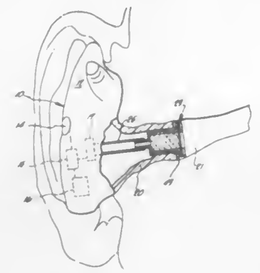
1. In a closed-circuit video system including an imaging device for converting a light image into electrical picture signals wherein the light image is dissected for sequential conversion by operation of horizontal and vertical scanning means, a horizontal deflection circuit for producing horizontal deflecting pulses of first predetermined wave shape and duration at the horizontal scanning frequency to drive the horizontal deflection means, and a vertical deflection circuit for producing vertical deflection pulses of a second predetermined wave shape and duration at the vertical scanning frequency to drive the vertical scanning means: apparatus for producing horizontal and vertical blanking and synchronizing pulses for developing a composite picture signal, said apparatus comprising means responsive to said horizontal deflection pulses for producing square wave horizontal blanking pulses of duration substantially equal to the duration of said horizontal deflection pulses, means coupled to said horizontal deflection circuit for clipping said horizontal deflection pulses to produce first clipped pulses of duration shorter than said horizontal deflection pulses and inset in time from both ends of respective horizontal deflection pulses, means responsive to said first clipped pulses for producing square wave horizontal synchronizing pulses of duration substantially equal to the duration of said first clipped pulses and occurring in time inset from both ends of respective horizontal blanking pulses, means responsive to said vertical deflection pulses for producing square wave vertical blanking pulses of duration equal to the duration of said vertical deflection pulses, differentiating means coupled to said vertical deflection circuit for differentiating said vertical deflection pulses to produce differentiated pulses narrower than said vertical deflection pulses, means coupled to said differentiating means to produce second clipped pulses of duration shorter than said vertical deflection pulses and terminating prior to the termination of respective vertical deflection pulses, means responsive to said second clipped pulses for producing square wave vertical synchronizing pulses of duration substantially equal to the duration of said second clipped pulses and terminating prior to the termination of respective vertical blanking pulses, and means for mixing said electrical picture signals, said horizontal blanking pulses, said vertical blanking pulses, said horizontal synchronizing pulses and said vertical synchronizing pulses to produce a composite picture signal.

3,408,460
METHOD AND APPARATUS FOR TESTING HEARING
John A. Victoreen, 350 N. Maitland Ave., Maitland, Fla. 32751
Continuation-in-part of application Ser. No. 330,144, Dec. 12, 1963. This application Aug. 24, 1967, Ser. No. 667,028
26 Claims. (Cl. 179—1)



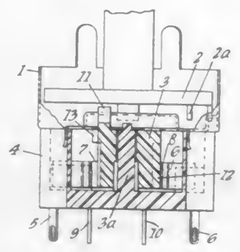
Two series of audible pulses are generated, interposed equally in time, and applied through a single transducer to an ear to be tested, one series having a fixed amplitude and frequency, the other variable in both parameters. The amplitude of the variable pulses is varied for a given frequency until an audible sensation of even rythmic spacing is attained.

3,408,461
HEARING AID
Byron G. Langford, Phoenix, Ariz., assignor to Royal Industries, Inc., Pasadena, Calif., a corporation of California
Filed May 28, 1965, Ser. No. 459,786
4 Claims. (Cl. 179—107)



A sound coupling device for an ear mold of an electrical hearing aid, the device including a removable housing which carries an acoustic attenuator. The housing and attenuator are readily removable as a unit for cleaning. A passage is provided to vent the ear canal of the user to outside air to avoid annoying pressure buildup within the ear.

3,408,462
ELECTRICAL SWITCH WITH IMPROVED ACTUATOR MEANS
Gwyn Davies, Cwmbach, Aberdare, Wales, assignor to A.B. Metal Products Limited, Abercynon, Glamorgan, Wales, a British company
Filed Dec. 19, 1966, Ser. No. 602,918
Claims priority, application Great Britain, Sept. 9, 1966, 40,467/66
6 Claims. (Cl. 200—6)

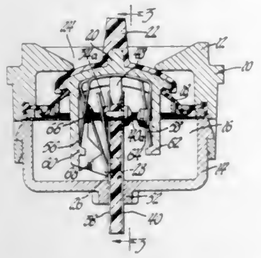


An electrical switch of simple construction wherein moving contacts are pivotally mounted intermediate the end for rocking movement on supporting members which are yieldable. A rotary cam is located between the yieldable supporting members and has a pair of lobes which bear continually on the moving contacts and press them towards or away from the fixed contacts depending on the relative position of the lobes and pivot points. During movement of the lobes the yieldable supporting members tend to part and reclose to maintain mechanical engagement between the lobes and the movable contacts.

3,408,463
DOUBLE POLE, DOUBLE THROW SWITCH ASSEMBLY

Bert R. Wanlass, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 13, 1967, Ser. No. 622,757
3 Claims. (Cl. 200—6)

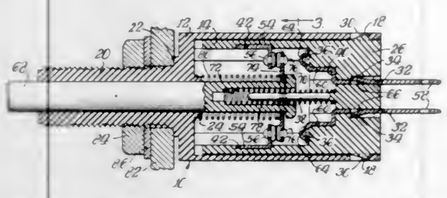


In a preferred form, the electric switch set forth herein is a double-pole double-throw switch adapted for use in circuits allowing the reversing of rotation of a permanent magnet motor. The reversal of rotation of permanent magnet motors requires that the polarity be switched from one lead to the armature to the opposite lead as well as a shifting of the ground path.

3,408,464
BRAKE SWITCH

Aubrey W. Earleywine, Jr., Springfield, and Neil E. Grah, Rochester, Ill., assignors to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Filed May 10, 1967, Ser. No. 637,494
8 Claims. (Cl. 200—16)



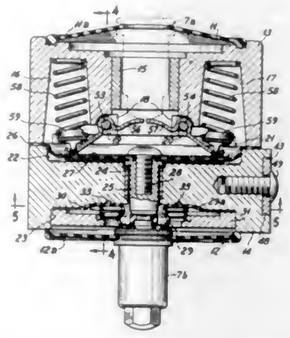
A brake switch comprising spaced pairs of contact means, a movable contact carrier having contact means selectively engageable with either of the spaced pairs of contact means, and a rectilinearly movable plunger and cooperating spring means for effecting movement of the contact carrier.

3,408,465
PNEUMATIC TIMING DEVICE HAVING STRAIGHT THROUGH OPERATION

Eugene F. Duncan, Milwaukee, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed July 25, 1966, Ser. No. 567,569
8 Claims. (Cl. 200—34)

1. A pneumatic timing device comprising, in combination, a housing having a cavity therein, a flexible diaphragm secured along its periphery to said housing in sealed relation thereto and having a central portion forming a chamber with a portion of said cavity in a normal position of said diaphragm, means biasing said central portion of said diaphragm to said normal position, first and second openings in said housing extending from said cavity to exterior surfaces of said housing and being on opposite sides of said diaphragm, a plunger member secured to said central portion of said diaphragm within said chamber and extending through the first one of said openings, flexible sealing means providing an air-tight seal between said plunger and said first opening and permitting reciprocable movement of said plunger within said first opening, means extending through said second opening for causing movement of said central portion of said diaphragm in one direction to effect movement

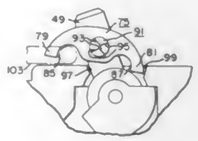


of said plunger within said first opening, one-way valve means permitting substantially unrestricted passage of air out of said chamber upon movement of said central portion away from said normal position, and metering means permitting air to enter said chamber at a controlled rate upon movement of said central portion to said normal position.

3,408,466
CIRCUIT INTERRUPTER WITH LOCKING PROVISION

Douglas W. Palmer, Castro Valley, Calif., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 10, 1964, Ser. No. 417,400
7 Claims. (Cl. 200—42)



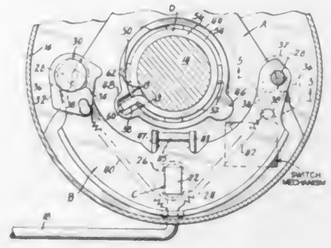
1. A circuit controlling device comprising a molded-case type circuit interrupter, said circuit interrupter comprising an insulating housing having a generally planar front having an opening therein, a pair of contacts supported within said housing, a handle protruding out through said opening and being pivotally movable along a plane generally normal to the plane of said generally planar front, said handle being pivotally movable between two different positions to open and close said contacts, a locking device mounted on said handle and being movable with said handle between said two positions, when said handle is in one of said positions said locking device being movable on said handle to a locking position to prevent movement of said handle to the other of said positions, and said circuit interrupter and said locking device being constructed and arranged such that when said handle is in said one position and said locking device is in said locking position the hasp of a padlock can be captured in place between said locking device and said circuit interrupter such that when said padlock is locked said hasp, said locking device and said circuit interrupter

will interengage to prevent movement of said locking device out of said locking position and to prevent removal of said locked padlock.

3,408,467
DIRECTIONAL SIGNAL SWITCH

Joseph C. Shenstone, Detroit, and William J. Flanigan, Pontiac, Mich., assignors to Essex Wire Corporation, Fort Wayne, Ind., a corporation of Michigan

Filed Oct. 24, 1965, Ser. No. 504,326
6 Claims. (Cl. 200—61.27)

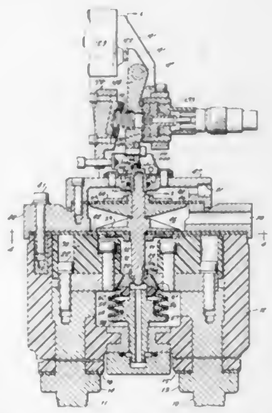


A vehicle turn-signal switch mechanism manually operated by deflecting a control handle in a selected direction thereby moving a rocker plate with respect to a fixed frame to a signaling position where the plate is held by one of two spring loaded pawls. These pawls are carried on the plate and engage with latching notches on the frame. The frame also carries a captive canceling cam ring which is coupled to rotate with the steering shaft by means of a spring steel clip which surrounds the shaft. A cam on the ring, when rotated in the appropriate direction, disengages the latched pawl from the frame notch to allow the rocker plate to return to its normal position.

3,408,468
DIFFERENTIAL PRESSURE ACTUATED SWITCH UTILIZING HIGH SPEED LATCH AND LOST MOTION MEANS

William A. Carter, Devon, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Oct. 28, 1966, Ser. No. 590,303
7 Claims. (Cl. 200—83)

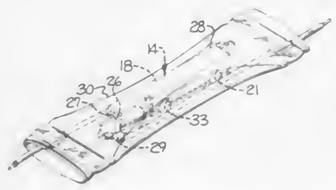


This disclosure describes a high speed, high accuracy closing switch in which the movable contact is provided with strong closing biasing springs. A differential pressure operated diaphragm holds an operating rod in abutting relation with the contact to hold the contact open against the force of its biasing springs. A high speed latch holds the rod against the differential pressures across the diaphragm to normally hold the contact open. When the latch is removed, the differential pressure causes the high speed motion of the operating rod away from the movable contact with the high pressure springs rapidly closing the contact.

3,408,469
ELECTRICALLY HEATED BEDCOVER AND SWITCH THEREFOR

Edwin R. Mills, Raleigh, N.C., assignor to Fieldcrest Mills, Inc., Spray, N.C., a corporation of Delaware

Filed Nov. 30, 1966, Ser. No. 597,960
4 Claims. (Cl. 337—94)

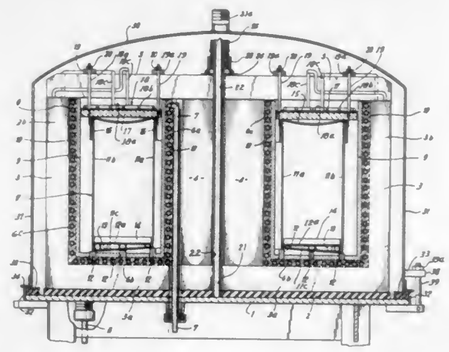


A malleable calibration component is provided in a thermostatic switch for an electrically heated bedcover, to cooperate with a bimetallic strip which is one member of an electrical switch couple. The malleable calibration component, preferably in strip form, biases the bimetallic strip for contact with a fixed contact point within an elongate casing while permitting the bimetallic strip to disengage the fixed contact point at a predetermined elevated temperature, and may be selectively deformed to attain narrow calibration tolerances and permit recalibration of the switch.

3,408,470
INDUCTION FURNACE EMPLOYING HIGH PURITY ATMOSPHERE

John R. Gier, Jr., Hines Hill Road, Hudson, Ohio 44236

Filed Apr. 4, 1966, Ser. No. 539,847
10 Claims. (Cl. 219—10.49)



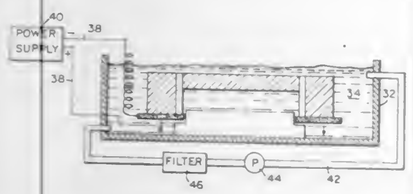
The furnace is a low frequency induction furnace having a covered, electrically conductive annular retort form-

ing a short circuited secondary which is heated by currents induced therein.

It has an electromagnetic core comprised of a plurality of O-shaped core pieces each arranged with one side passing through the central opening of the retort and the other sides extending along the outer walls of the retort and cover.

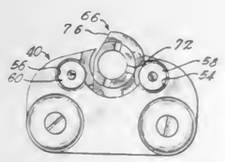
The retort is enclosed in an evacuable sealing chamber and means are provided for evacuating the chamber and for admitting gaseous media into the retort. A labyrinth type seal is disposed between the retort and its cover.

3,408,471
METHOD OF MAKING CUTTING DIES BY ELECTROEROSION
Elliott Shulman, New York, N.Y., assignor to British Industries Corporation, Plainview, N.Y., a corporation of New York
Filed Oct. 19, 1965, Ser. No. 497,724
7 Claims. (Cl. 219—69)



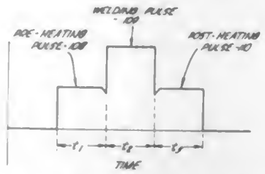
Cutting dies for use in working sheet metal are prepared by securing a graphite slab under the upper surface of one die member; forming the graphite slab to the outline of the cutting edge of the die member with a desired overlapping of the graphite over the cutting edge of the die, machining the graphite with a guide member set to the desired clearance distance in contact with the edge of the one die during the machining of the graphite, employing the die member with the graphite thereon as one electrode in an electro-machining discharge process with the other electrode being a rough cut die material from which the complementary die member is to be formed and electro-machining the rough cut die member.

3,408,472
WELDING TOOL
Steve Spisak, Elyria, Ohio, assignor to Gregory Industries, Inc., Lorain, Ohio, a corporation of Michigan
Filed July 15, 1965, Ser. No. 472,191
12 Claims. (Cl. 219—98)



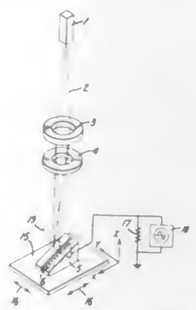
A novel means for mounting a spark shield in a supporting foot of a stud welding tool is provided. The spark shield has a flange at one end which is received in an opening of the supporting foot and abuts a shoulder therein. The shield is held in the opening by fasteners affixed to the front surface of the supporting foot. The flange has notches therein to clear the fasteners and enable the shield to be removed quickly and easily.

3,408,473
RESISTANCE WELDING CIRCUIT
John A. Gilbert, Upland, Calif., assignor to Unitek Corporation, Monrovia, Calif., a corporation of California
Original application May 23, 1963, Ser. No. 282,753, now Patent No. 3,317,703, dated May 2, 1967. Divided and this application Apr. 27, 1967, Ser. No. 634,162
11 Claims. (Cl. 219—111)



A resistance welding circuit which produces a plurality of DC pulses during each welding sequence. In addition to a welding pulse of a predetermined amplitude the circuit also provides a preheating and optionally a postheating pulse of an amplitude less than the welding pulse. The duration of each pulse is controlled by a separate one-shot multivibrator and when a given multivibrator is operated a switch is closed connecting a resistor and a DC source of energy in series with the welding electrodes. The value of each of the resistors connected in series with the DC source determines the amplitude of the pulse in each sequence.

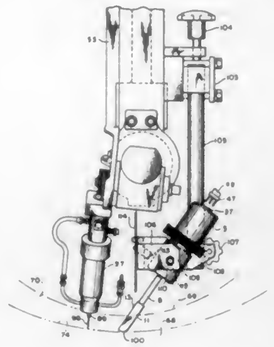
3,408,474
ELECTRON BEAM WELDING APPARATUS
Robert D. Downing, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Apr. 4, 1966, Ser. No. 539,757
8 Claims. (Cl. 219—121)



1. An electron beam welding apparatus comprising, in combination, an electron beam source; means for focusing said electron beam; and means for determining the focal point of said electron beam comprising an electrode having a surface inclined in a selected direction, means for moving said electrode in a horizontal plane and means for sweeping said beam transversely to the direction of said incline to determine the focal point of said beam by measuring the point of maximum current to said electrode.

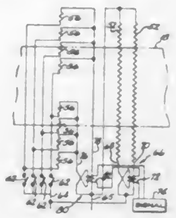
3,408,475
SENSOR FOR A WELDING MACHINE
Raymond Louis Fier, Wickliffe, Ohio, assignor to Lewis Welding and Engineering Corporation, a corporation of Ohio
Filed Apr. 28, 1965, Ser. No. 451,584
11 Claims. (Cl. 219—125)

There is provided an automatic sensing apparatus for guiding a piece of equipment such as a welder along a predetermined path and which is characterized by a feeler cooperating with apparatus for determining the position



of the welding head and also means for controlling the load on the sensing member.

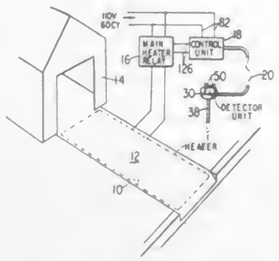
3,408,476
APPARATUS FOR DETECTING FAILURE OF ELECTRICAL HEATING ELEMENTS
Buddy D. Wahl, Ann Arbor, Mich., assignor to Hoover Ball and Bearing Company, Saline, Mich., a corporation of Michigan
Filed Mar. 21, 1966, Ser. No. 535,806
6 Claims. (Cl. 219—388)



A continuous press having two endless sheet metal belts for pulling workpieces sandwiched therebetwen between opposite heating and compressing shoes. A plurality of electrical heating elements are provided for heating the shoes in a desired manner, and means are provided for detecting and indicating failure of any of the heating elements.

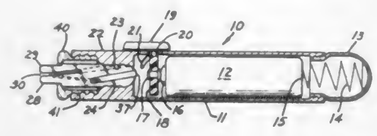
3,408,477
DETECTOR AND SYSTEM FOR REMOVING ICE AND SNOW
Wilhelm K. Kolster, Michigan City, Ind., assignor to Swiss Controls & Research, Inc., Michigan City, Ind., a corporation of Illinois
Filed Feb. 28, 1966, Ser. No. 530,625
11 Claims. (Cl. 219—200)

1. In a system for detecting an accumulation of ice and snow and controlling the operation of a heating means for removing the same from an exposed surface, the combination of a relay for controlling the operation of said heating means, a first sensor responsive to ambient temperature, a second sensor responsive to accumulation of moisture, a pair of electronic valves, electrical circuit means for triggering one of said valves into conductive and non-conductive condition in response to operation of one of said sensors, the second of said valves and said relay being connected in the conductive path of said first valve, and circuit means for triggering said second valve into conductive and non-conductive condition in response to operation of the other of said sensors, whereby said relay is energized upon triggering both said valves into



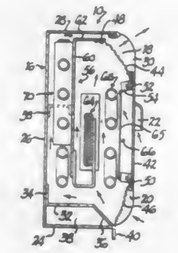
conductive condition and is de-energized upon triggering either valve into non-conductive condition.

3,408,478
TOOL FOR WELDING THE EDGES OF PLASTIC SHEETS TOGETHER
Joseph Dewey Penn, 1314–A E. Harvard St., Glendale, Calif. 91205
Filed June 1, 1965, Ser. No. 460,341
5 Claims. (Cl. 219—229)



A tool for welding the edges of superimposed thermoplastic sheets together employs an electric heating wire seated in an open-end slot formed in a support member carried at the end of a handle which houses a battery for energizing the wire. The peripheral edges of a pair of superimposed plastic sheets to be welded are inserted into the slot in contact with each other and with the wire. The wire is energized to raise its temperature to the fusion temperature of the plastic and the tool is drawn along the superimposed edges to form a continuous welded seam.

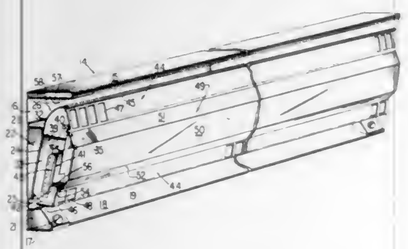
3,408,479
ELECTRIC SPACE HEATER
Russel A. Welch, Sr., St. Clair Shores, Mich., assignor of forty-five percent to Eugene A. Cassroll, Grosse Pointe, and five percent to Paul G. Hogue, Mount Clemens, Mich.
Filed Aug. 16, 1965, Ser. No. 480,054
6 Claims. (Cl. 219—365)



A convection-type space heater unit is provided with liquid filled heat absorbing cells disposed on opposite sides of a thermostatically controlled air heating element. The cells are connected for free circulation of liquid

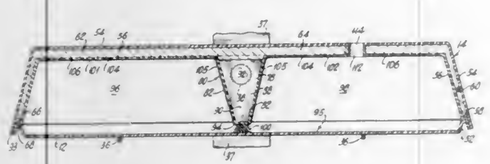
from one to the other. In one arrangement, one cell includes spaced manifolds interconnected by conduits providing spaced parallel flow paths therebetween. In another arrangement, the cells each comprise plate members incorporating means defining a sinuous liquid circulation path. Furthermore, a space heater of the above type is combined with a housing mounted in a wall between adjoining rooms to simultaneously heat both rooms.

3,408,480
ELECTRIC BASEBOARD HEATER
Thomas F. Peltak, Manchester, and Harley J. Orr, Bedford, N.H., assignors to Basic Products Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 27, 1965, Ser. No. 490,442
3 Claims. (Cl. 219—368)



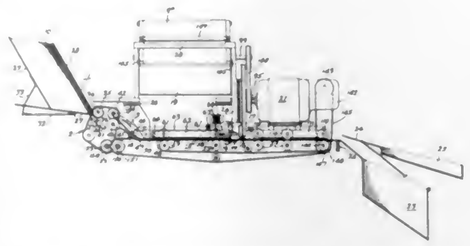
A baseboard heater has a heating element-containing subassembly removable as an integral unit from an open-faced housing. The subassembly includes a front plate and a rear baffle with a curved upper edge held in spaced relation to each other by brackets to define an air flow passage. An electric heating element is freely suspended within the passage from the brackets and a screen guard is secured to the brackets intermediate the heating element and the front plate. The subassembly is removably secured to a sloping support surface in the housing so that the subassembly is forwardly and downwardly inclined relative to the vertical housing rear wall.

3,408,481
PORTABLE SERVING EQUIPMENT UTILIZING THE PELTIER PHENOMENON
Philip Golden, 124 W. 79th St., New York, N.Y. 10024
Filed Nov. 23, 1966, Ser. No. 596,654
18 Claims. (Cl. 219—386)



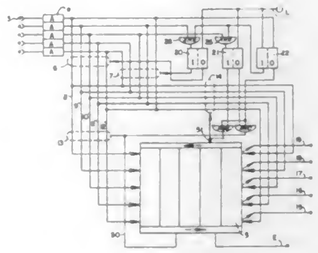
1. In combination with a tray having a plurality of separated areas, each separate area providing means to receive material to be heated or to be cooled, a removable cover positioned on the tray; the cover having means to cooperate with the tray to insulate the areas from each other, and means to be activated by the passage of an electric current to cause heat to flow from one area to be cooled to another area to be heated.

3,408,482
MACHINE FOR SEQUENTIALLY SCANNING LINES, AS IN TEST SCORING
John W. Busby, Levittown, N.J., assignor to Optical Scanning Corporation, a corporation of Pennsylvania
Filed July 5, 1962, Ser. No. 207,607
56 Claims. (Cl. 235—61.7)



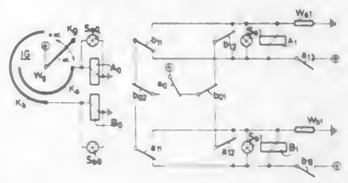
Data in the form of contrasting markings in critical locations on a surface of successive pieces, such as pencilled answer marks in selected multiple choice positions on test answer sheet papers, are extracted by a machine which provides rotatable pickup means for optically scanning selected lines on each piece and conveyor means for moving the successive pieces past the pickup means. A common drive means assures proper relative speeds of the conveyor and the scanning means so that each selected line on the sheet will be scanned and preferably the axis of the scanning means is slightly canted so that scanning is essentially perpendicular to the direction of movement. Indexing means referencing on some predetermined part of each piece cause the selected lines on each piece to assume proper position relative to the scanning member as by intermittent feeding of the pieces onto the portion of the conveyor passing the scanning. Comparison may be made with a standard which is also optically scanned and corresponding data compared. Logic may be provided for such comparison on a variety of selected bases and results of the comparison may be accumulated and even printed out on the piece.

3,408,483
READOUT FOR SPACE CODED DATA
Konrad Zuse, Hunfeld Im Haselgrund, Hesse, Germany, assignor to Zuse KG, Bad Hersfeld, Germany, a firm
Filed Apr. 23, 1964, Ser. No. 362,093
Claims priority, application Germany, May 2, 1963, Z 10,096
15 Claims. (Cl. 235—61.11)



A translating apparatus for a space coded data reader for reading out in proper sequence data on a card without regard to the physical orientation of the card. The translating apparatus evaluates and stores the space coded data in proper sequence by means of control data on the cards. The translating apparatus is composed of electronic gates, a buffer storage device, and translating circuitry. The first column or line of data at either end of the card is coded to provide signals which, upon the reading thereof, establish the orientation of the cards with respect to two axes of symmetry. Translating circuitry transmits the data stored on the record card into the buffer storage device so that the data stored therein is an accurate representation of the data on the card, as if the card were inserted into the reader in correct physical orientation. The buffer storage comprises a plurality of simultaneously operated shift registers which are shiftable in two directions and which are commonly known in the art as bi-directional shift registers. The data stored in the bi-directional shift registers is read out, in proper orientation, upon application of a pulse to the shift registers.

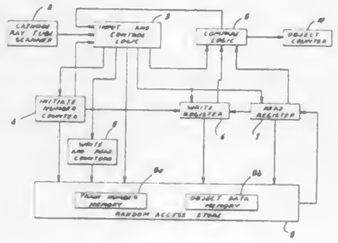
3,408,484
ARRANGEMENT FOR COUNTING SIGNALS OF SPECIFIC SIGNIFICANCE
Theo Stutz, Zurich, Switzerland, assignor to Contraves A.G., Zurich, Switzerland
Continuation-in-part of application Ser. No. 279,039, May 6, 1963. This application Aug. 24, 1964, Ser. No. 392,998
Claims priority, application Switzerland, May 4, 1962, 5,370/62; Aug. 23, 1963, 10,417/63; Aug. 30, 1966, 12,559/66
11 Claims. (Cl. 235—92)



Logic network means for use with multiphase binary signal generator means which, for a continuous change of a physical quantity, are adapted to generate a primary combination signal consisting of a first predetermined cyclic sequence of possible signal combinations for a positive unit change of the quantity and a second sequence for a negative unit change of the aforesaid physical quantity. This logic network includes a plurality of input lines corresponding in number to the number of phases of the primary combination signal, a plurality of output lines corresponding in number to the number of the input lines, and a plurality of bistable switching means direct current coupled and logically interconnected both mutually and to the input lines and output lines, in such a manner that a secondary combination signal is generated, the secondary combination signal having the same number of phases and the identical sequence of binary signal combinations as the primary combination signal, but a secondary period which is an integral multiple of the primary combination signal period.

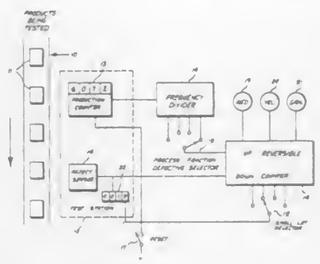
3,408,485
APPARATUS FOR COUNTING IRREGULARLY SHAPED OBJECTS
Larkin B. Scott, Fort Worth, Tex., and Kendall Preston, Jr., New Haven, Conn., assignors to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York
Filed Feb. 24, 1965, Ser. No. 434,767
5 Claims. (Cl. 235—92)

A scanner and computer count all of the particles in a field, regardless of how irregularly shaped these particles are. The field is line scanned, and two adjacent scan lines are compared. The computer assigns a new "train number" to each particle part found, which is not connected to an object part in the immediately preceding scan line, while all continuous parts of already found particles are assigned the same (old) number. Upwardly extending branches of certain types (e.g. V-shaped) particles cannot be immediately identified as parts of a single particle, since these branches join only in a region of the field not yet scanned. The absence of a "continuity" relationship between such branches and any previously found particle part causes each of these branches to be given a new "train number" (i.e., tentatively counted). Another part of the computer determines when such differently numbered branches eventually join. Specifically the lower train numbers are retained to identify the joined parts, and the higher numbers stored as a "junction" signal in



the memory part of the computer for subsequent use. After the entire field has been scanned (so that each particle has been assigned at least one train number), the correct count of particles will be the number of train numbers used, less the number of "junctions" found. Because of the positive identification (i.e., tagging with a "train number") of each particle part, the apparatus can distinguish between joining of two previously counted (i.e., different numbered) parts (as in a V-shaped particle) and the joining of two parts already known-to-be of a single particle (i.e., the bottom of an O-shaped particle). Therefore these types (and all other types) of particles are ultimately counted correctly as single particles.

3,408,486
PROCESS FRACTION DEFECTIVE MONITOR
Howard I. Becker, Jr., Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed May 7, 1965, Ser. No. 454,096
5 Claims. (Cl. 235—92)

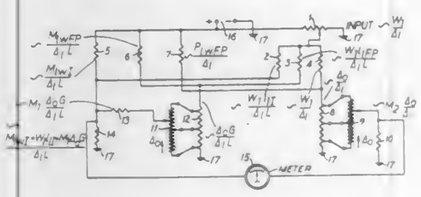


A reversible counter indicates the fraction of defective products on a production line. The counter counts up for each N product monitored and counts down for each rejected product. The counter is inhibited from counting up or down beyond preset limits such that a fading with time memory is realized. When the count is above a preset limit, one indication is provided. When the count is below a preset limit, another indication is provided.

3,408,487
APPARATUS FOR CALCULATING THE LOADING EFFECT IN A SHIP

Gustavus de Wilde, 188 Kilmopstraat, The Hague, Netherlands

Filed Mar. 10, 1964, Ser. No. 350,847
Claims priority, application Great Britain, Mar. 11, 1963, 9,575/63; Nov. 29, 1963, 42,671/63
4 Claims. (Cl. 235—150.2)

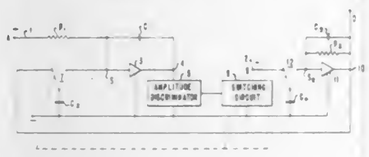


Electrical analogue apparatus for calculating the bending moment, shearforce and trim at any one of a plurality of sections along the length of a ship resulting from a presupposed distribution of load in the ship. The calculating circuit of the apparatus comprises a plurality of adjustable inputs each of which corresponds to a load in a compartment of the ship. By manual manipulation of a selector switch a reading of the bending moment, shearforce or trim at a given section can be obtained.

3,408,488
SQUARE ROOT COMPUTING CIRCUIT

Hendrikus J. Nihof and Aart Bijl, Amsterdam, Netherlands, and Albertus C. H. Borsboom, Oakland, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Mar. 26, 1965, Ser. No. 442,914
Claims priority, application Netherlands, Mar. 31, 1964, 6403441
6 Claims. (Cl. 235—193.5)



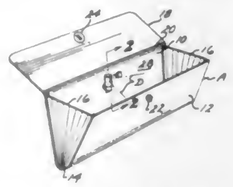
A circuit for producing an output signal corresponding to the square root of the product of two input signals wherein one signal is supplied to a first integrating amplifier while the second signal is used to charge a storage capacitor. When the voltage level of the first integrating amplifier reaches a selected level, it actuates a switch means to couple the storage capacitor to a second integrating amplifier. The output signal of the second integrating amplifier is used to charge a second storage capacitor that is coupled to the first integrating amplifier by the actuation of the switch means.

3,408,489
ILLUMINABLE HANDBAG

John D. Boyer, 347 W. 10th St. 90813, and Walter T. Harrison, 4016 E. 10th St. 90804, both of Long Beach, Calif.

Filed Sept. 27, 1965, Ser. No. 490,186
1 Claim. (Cl. 240—6.45)

A woman's handbag having a small light mounted on an L-shaped bracket which is rotatably supported on the inner surface of the rear wall of the handbag. The light has an opaque cap with a hole through which the light projects. The cap is rotatably mounted such that by

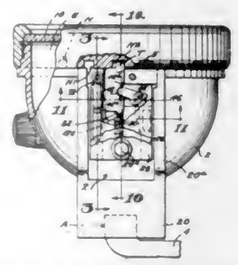


rotation of the cap and the L-shaped bracket the light may be directed to any desired point.

3,408,490
SAFETY LIGHTING EQUIPMENT

Homer A. Lozeau, Worcester, Mass., assignor to Koehler Manufacturing Company, Marlboro, Mass., a corporation of Massachusetts

Filed Mar. 1, 1966, Ser. No. 538,891
10 Claims. (Cl. 240—11.3)

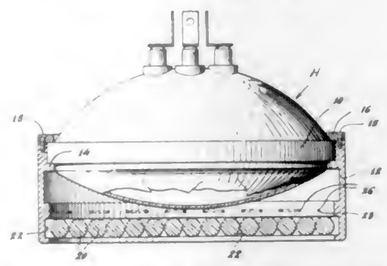


Miner's safety lamp apparatus equipped with a novel bezel member adjustably secured about the lamp enclosure. The bezel member has an inner peripheral locking rim which is recessed at spaced apart points to form notches. The bezel member is selectively locked into place by a locking slide having an engaging tip that is moved into and out of the notches when the bezel member is in a threaded position around the lens opening. In this way, the bezel member can only be released by retracting the locking slide. Hence, tampering or dismantling of the lamp while in use is prevented.

3,408,491
HEADLIGHT LENS

Stephen George, deceased, late of Easton, Conn., by City Trust Co., Inc., executor, 916 Main St., Bridgeport, Conn. 06603

Continuation of application Ser. No. 435,818, Mar. 1, 1965. This application July 28, 1967, Ser. No. 688,630
10 Claims. (Cl. 240—41.4)



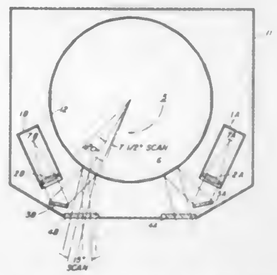
A lens for positioning before an automobile headlight to reduce glare to one side. The lens comprises a single plane of refracting elements which are partially circular

in horizontal cross section. Between the plane and the light source are a number of at least partially opaque objects. In the case of cylindrical refracting elements, these may be cords or wires. Each object is associated with one of the refracting members and is positioned at its focal point on a line extending through the center of curvature of the element in the direction in which glare is to be reduced.

3,408,492
OPTICAL SCANNING SYSTEM FOR SCANNING ACROSS RADIATION DISCONTINUITIES

Robert W. Astheimer, Westport, Conn., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware

Filed Aug. 10, 1965, Ser. No. 478,627
4 Claims. (Cl. 250—83.3)



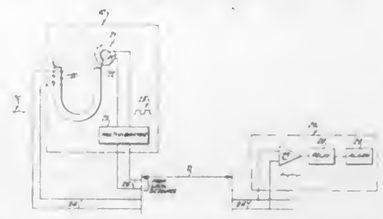
A horizon sensor is provided with a slowly rotating drum-shaped element with a large number of mirror facets interspersed with non-reflecting facets and optics focusing the reflected, substantially parallel radiation from objects at optical infinity, onto an infrared detector. The drum turns sufficiently slowly so that slowly volatile lubricants are not necessary and so the scanner can be used on satellites which orbit in the vacuum of space.

There can be two detectors which either provide for a redundancy so that the scan is still effective if one detector and its processing circuits malfunction, or a second detector is associated with optical elements, such as mirrors or a Dove prism, which rotate the incoming radiation 90°, in which case the scanner can give information with respect to tilt about two orthogonal axes.

3,408,493
TRANSDUCER INTERROGATOR

Thomas A. Westover, Hempstead, and Mark Weinstein, Wantagh, N.Y., assignors to Servo Corporation of America, Hicksville, N.Y., a corporation of New York

Filed Dec. 13, 1966, Ser. No. 601,420
11 Claims. (Cl. 246—249)

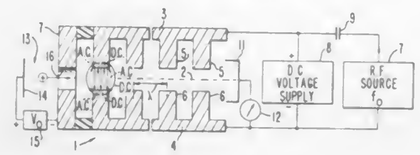


1. In combination, an electromagnetic transducer comprising a permanently magnetized circuit including a core of magnetic flux-conducting material and spaced poles defining an air gap, an output electric winding coupled to a part of said core, whereby said winding will develop an output voltage for reluctance changes in said circuit, a saturable reactor fixed in the vicinity of said gap and including an input electric excitation winding, said reactor being oriented to so that its magnetic field will change the reluctance of said circuit upon excitation of said input winding, a source of varying voltage connected to said input winding to change the condition of said reactor between saturated and unsaturated states, and means continuously monitoring the output-winding voltage for a signal reflecting voltage variations of said source, whereby the operative condition of said transducer to respond to an unknown variation in the reluctance of said circuit may be continuously established.

3,408,494
PARTICLE VELOCITY SORTER USING AN R.F. TRANSVERSE ELECTRIC SPACE HARMONIC AND A TRANSVERSE BIAS FIELD

Peter M. Llewellyn, Menlo Park, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Apr. 19, 1966, Ser. No. 543,743
10 Claims. (Cl. 250—41.9)



A charged particle velocity sorter is disclosed. The sorter includes an ion source for forming and projecting a stream of ions over a predetermined beam path. A periodic wave supportive structure is disposed along the beam path for producing a spacially periodic radio frequency electric field transverse to the beam path. The spacially periodic radio frequency field is selected to have an even numbered spacial harmonic component at the frequency of the radio frequency field for cumulative electronic interaction with charged particles of the beam to produce a net average transverse deflecting force tending to force the particles out of the beam which have a certain predetermined synchronous velocity. A D.C. bias potential is also applied to the radio frequency wave supportive structure for producing a coextensive static electric field for applying a second transverse electric field to the charged particles of the beam. The static field is selected to have a magnitude to produce a net average transverse deflecting force on the synchronous particles which is equal and opposite to that produced by the synchronous radio frequency field such that charged particles having a certain predetermined synchronous velocity remain in the beam path and are detected at the end thereof, while non-synchronous particles are removed from the beam. The velocity sorter is especially useful in mass spectrometers since with a given beam voltage only ions having a certain charge-to-mass ratio have the synchronous velocity to be detected. A scan of the beam voltage thus produces a scan of the charge-to-mass ratios of the ionized particles making up the beam.

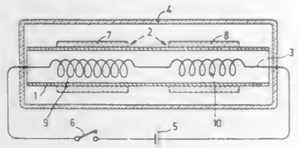
3,408,495
THERMO-LUMINESCENT DOSIMETER COMPRISING TWO PARTS MOUNTED IN A COMMON EVACUATED SPACE

Raymond Schayes and Isidore Kozlowitz, Brussels, Belgium, assignors to Societe Anonyme, Manufacture Belge de Lampes et de Materiel Electronique, Brussels, Belgium

Filed Jan. 26, 1966, Ser. No. 523,106
Claims priority, application Belgium, Jan. 29, 1965, 659,086
9 Claims. (Cl. 250—71)

A thermoluminescent device comprising two parts in a common evacuated space, each part comprising an

active substance and a support. Each of the substances is provided with means to heat the substance causing it to luminesce but the resistance to a rise in temperature of the surfaces of the two parts is different in order that

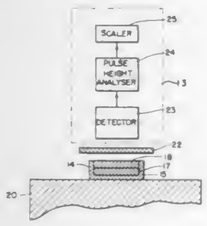


information collected by each part at different instants can be withdrawn so that one of the substances can thus indicate the total radiation received successively by the device.

ERRATUM

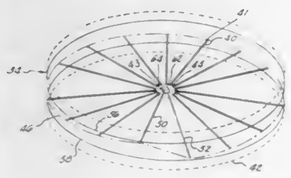
For Class 250—83.3 see:
Patent No. 3,408,492

3,408,496
ALPHA RAY EXCITED COMPOSITION ANALYSIS
Francis B. Sellers, Sudbury, and Charles A. Ziegler, Saxonville, Mass., assignors to Parametrics, Inc., a corporation of Massachusetts
Filed Nov. 23, 1964, Ser. No. 413,174
2 Claims. (Cl. 250—83.3)



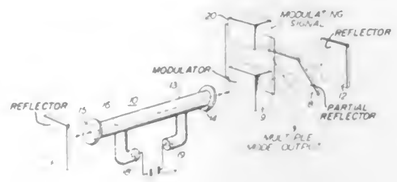
A system for determining the elemental composition of a material. Alpha particles are used to excite the characteristic X-rays from the material and a detector which can discriminate between different energy levels is used to provide an output indication of the quantity of X-rays which are characteristic of specific elements.

3,408,497
INFRARED SCANNING SYSTEM USING FIBER OPTICS
Donald S. Lowe, Ann Arbor, Mich., assignor to The Bendix Corporation, a corporation of Delaware
Filed Dec. 6, 1965, Ser. No. 511,932
10 Claims. (Cl. 250—83.3)



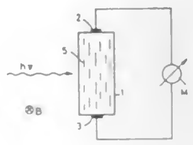
An infrared scanning system having a lens system for providing a focused infrared image in combination with a plurality of optical fibers to scan the image by moving one end of each fiber sequentially across the image thereby providing a light signal at the other ends representing the radiation level variation of the image along the scan lines. Particularly, optical fibers are mounted axially spaced in a spoke-like fashion on a scanning wheel such that the wheel may be rotated with the outer ends of the fibers sequentially receiving axially spaced portions of the image.

3,408,498
OPTICAL MODULATOR
Edward A. Ohm, Shrewsbury, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 28, 1965, Ser. No. 517,003
4 Claims. (Cl. 250—199)



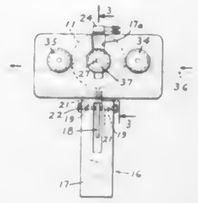
A modulation system for an optical maser beam including a plurality of frequency spaced longitudinal modes. Instead of suppressing all but one of the modes present, or pulse modulating the laser by application of a modulating frequency equal to the mode frequency spacing, this system provides for modulation of the simultaneously oscillating multiple modes in parallel, and separate detection of each spaced carrier frequency, resulting in increased useful received power, and an improved signal-to-noise ratio.

3,408,499
RADIATION SENSOR UTILIZING SEMICONDUCTOR BODY HAVING PHOTO-ELECTROMAGNETIC EFFECT
Herbert Weiss, Nuremburg, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany
Filed Aug. 18, 1964, Ser. No. 390,344
Claims priority, application Germany, Dec. 18, 1963, S 88,772
8 Claims. (Cl. 250—211)



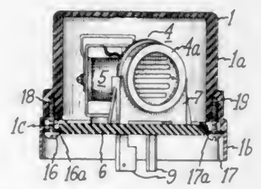
A semiconductor crystalline body having a photo-electromagnetic effect is mounted in a magnetic field and has mutually spaced electrodes for providing radiation-responsive voltage between such electrodes. The semiconductor body has between the electrodes a radiation incidence face accessible to radiation to be sensed. The semiconductor body has a multitude of geometrically anisotropic inclusions in the shape of elongated needles which are dispersed and embedded in the semiconductor body and are of higher conductivity than the semiconductor substance of the semiconductor body. The inclusions are oriented transversely to the spacing direction of the electrodes and to the direction of current flow produced by the photo-electromagnetic effect in the semiconductor body. The inclusions are parallel to the direction of incidence of radiation at the radiation incidence face.

3,408,500
RADIATION SENSITIVE SPEED MEASURING DEVICE
Robert D. Carr, Hopewell, Va., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Mar. 4, 1966, Ser. No. 531,810
4 Claims. (Cl. 250—219)



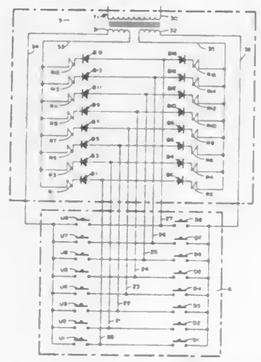
1. A yarn speed measuring device comprising a housing including a cylindrical casing and a front and back wall, a mounting assembly adapted to support and to vary the position of said housing, an elongated slot extending through said casing, a photocell attached to said casing and disposed over said elongated slot, a rotatable shield having a wall at one end, said shield being concentrically disposed within said casing having a pair of diametrically opposed slots extending through the periphery of said shield, a light source disposed through said back wall of said housing and within said shield, a pair of yarn guiding rolls in contact with a running yarn, and rotating means associated with said running yarn, guide rolls, shield and housing for periodically alternately aligning one of said slots in said shield with the slot in said casing to permit light impulses from said light source to pass through said slots in contact with said photocell at a frequency of time depending on the yarn speed travel, and a read-out instrument associated with said photocell to correlate the frequency of light impulses with the speed of yarn travel.

3,408,501
PHOTOELECTRIC CONTROL DEVICE WITH ROTATABLE HOUSING FOR ADJUSTABLE LIGHT CONTROL TO THE PHOTOSENSITIVE ELEMENT
Richard L. Thompson, Hendersonville, N.C., assignor to General Electric Company, a corporation of New York
Filed Apr. 14, 1966, Ser. No. 542,599
11 Claims. (Cl. 250—239)



1. A photoelectric control device comprising, in combination, a base member having opposite sides, photoelectric means mounted on one side of said base member and having a light sensitive element extending in a plane, an opaque housing covering said one side of said base member and leaving said opposite side thereof open to the exterior of said housing, said housing having a light transmitting window through which external light may enter the interior of said housing, said housing being adjustable relative to said base member between a position wherein said light sensitive element directly faces said window so as to be substantially normal to the axis thereof, and a position wherein the plane of said light sensitive element is at a different angle to said window axis, and securing means releasably holding said housing and said base member in adjusted position, whereby the response of said photoelectric means to the illumination level of the entering light may be varied.

3,408,502
POWER DISTRIBUTING SYSTEM
Fred W. Gardner, 2040 Pine Ridge Drive, Clearwater, Fla. 33515
Filed Dec. 6, 1965, Ser. No. 511,899
4 Claims. (Cl. 307—29)

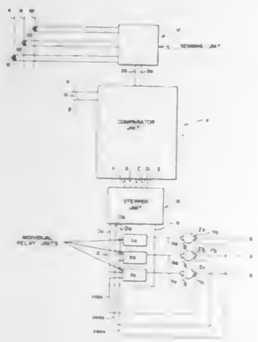


1. In a signal and control system, a given number of pairs of electrically actuated devices each device having first and second terminals for connection with a circuit for energizing the device, a given number of pairs of electric switches each switch having first and second terminals for connection in a circuit to be controlled thereby, conductor means connecting the first terminals of individual pairs of switches with the first terminals of individual pairs of said devices, two electric current sources each having a potential between two sides thereof, conductor means connecting one side of said first power source with the second terminals of one device of each pair of devices, conductor means connecting the other side of said first source with the said second terminal of one of said switches of each pair of switches, conductor means connecting one side of second source with said second terminals of the other device of each of said pairs of devices, conductor means connecting the other side of said second source with said second terminal of each of the other switches of said pairs of switches, and means to prevent the flow of current in one direction relative to said first and second terminals of said devices.

3,408,503
MONITORING DEVICE FOR REGULATING THE USAGE OF ELECTRIC CURRENT TO PROVIDE A MORE ECONOMICAL LOAD FACTOR
Harry E. Wyman, Kenmore, and John T. Bensley, Lewiston, N.Y., assignors, by mesne assignments, to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed May 25, 1965, Ser. No. 458,687
1 Claim. (Cl. 307—38)

A system is disclosed for regulating the supply of electric power to a load including noninterruptible services

and interruptible services having a predetermined priority to provide a means for automatically switching on the interruptible services in said priority order for the purpose of providing a more economical load factor. Means are provided to generate a load demand signal which is proportional to the total power demand at any instant. Two fixed reference signals are established representing respectively the desired maximum and minimum demands. The load signal is compared with each of said fixed reference signals respectively in difference amplifiers, the outputs of which control respective switching relays. The operation is such that if the load demand signal rises above the fixed maximum demand signal, the switching relay simultaneously dumps *all* the interruptible loads. If, then, the load demand signal goes below



the fixed minimum demand signal, the loads are picked up one by one in priority order until the load demand signal is above the fixed minimum demand signal but less than the fixed maximum demand signal in which case the system is balanced. The sequential pick up of the individual loads is accomplished by a non-reversible motor-operated cam switch which pulses a solenoid stepping switch having a reset winding which, when energized, returns the switch to its initial position.

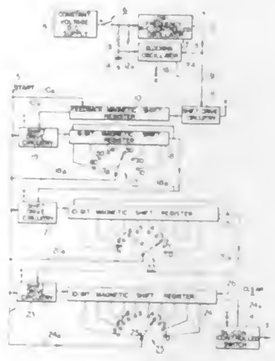
3,408,504
AMPLIFIER FOR ELECTRICAL OSCILLATIONS
Herbert Holzwarth, Stockdorf, Germany, assignor to Siemens Aktiengesellschaft Berlin and Munich, a corporation of Germany
Filed Jan. 4, 1963, Ser. No. 249,982
Claims priority, application Germany, Jan. 10, 1962, S 77,474
10 Claims. (Cl. 307—88)

1. An amplifier for electrical oscillations, comprising an electrical cyclically pumped variable parameter storer to which are conducted the oscillations and from which the oscillations are obtained amplified, an input storer, disposed ahead of said variable parameter storer, for receiving the oscillations which are to be amplified, a first periodically actuated switch for connecting said input storer with said variable parameter storer, an output storer, disposed following said variable parameter storer, for receiving the amplified oscillations, a second periodically actuated switch for connecting said output storer with said variable parameter storer, the switching frequency of both said switches amounting to at least twice the highest frequency of the oscillations which are to be amplified, and the closure times and opening times of said switches being in point of time mutually displaced so as to effect an energy flow from the input storer over the variable parameter storer to the output storer, first circuit means including the first periodically operated switch providing a first pulse transmission path between the input storer and the variable parameter storer, said first pulse transmission path being effective to transmit signal energy pulses from the input storer directly to the variable parameter storer during the respective intervals of closure of the first switch without any intervening demodulation of such signal energy pulses, and second circuit means including the second periodically operated switch provid-



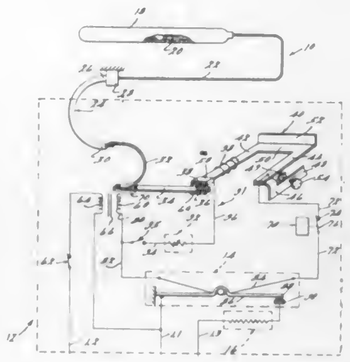
ing a second pulse transmission path between the variable parameter storer and the output storer, said second pulse transmission path being effective to transmit signal energy pulses from the variable parameter storer to the output storer without any intervening demodulation of such signal energy pulses, the amplifier thereby providing a pulse transmission path between the input storer and the output storer which transmits the oscillations as signal energy pulses without any demodulation of the signal pulses during their transmission along said pulse transmission path.

3,408,505
ELECTRONIC TIMING VIA MAGNETIC CORE SHIFT CIRCUITRY
Charles A. Coolidge, Jr., Belmont, and Marshall M. Kincaid, Winchester, Mass., assignors to C & K Components, Inc., Watertown, Mass., a corporation of Massachusetts
Filed Dec. 18, 1963, Ser. No. 331,472
9 Claims. (Cl. 307—88)



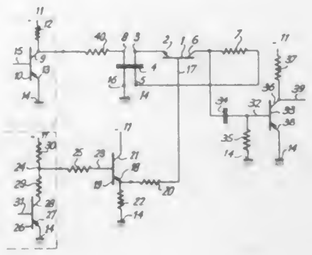
Timed electrical output signals are developed electronically and with low average power consumption by an RC-controlled pulse generator regulating the shifts of magnetically-stored data in a normally passive shift register array and thereby triggering a normally substantially non-conductive output circuit into conduction when the data stored in the shift register array assumes a predetermined pattern.

3,408,506
HYDRAULIC-ELECTRIC TEMPERATURE CONTROL
Rudolph Bergsma, Ann Arbor, Mich., assignor to King-Seeley Thermos Co., Ann Arbor, Mich., a corporation of Michigan
Filed May 7, 1965, Ser. No. 454,046
20 Claims. (Cl. 307—117)



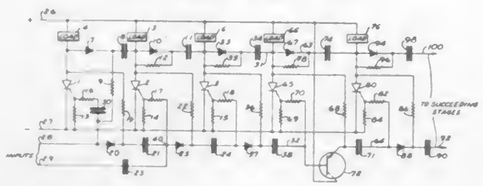
A temperature controlling system in which a low-energy electrical system is modulatingly controlled by a hydraulic temperature senser.

3,408,507
LOGIC PROTECTION CIRCUITS FOR EFFECTING AN Ā.B. OPERATION HAVING A COMBINED AND/NOT FUNCTION
Gérard Martin, Noisy-le-Sec, France, assignor to Societe Anonyme dite: Compagnie des Freins et Signaux Westinghouse, Paris, France, a French society of France
Filed Mar. 26, 1965, Ser. No. 443,140
Claims priority, application France, Apr. 3, 1964, 969,619
5 Claims. (Cl. 307—210)



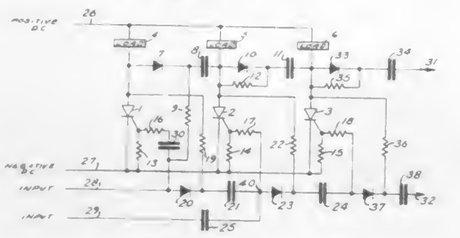
A logic circuit having a combined AND/NOT function for producing a 0 output in the event an internal component of the circuit malfunctions. A four terminal capacitor is connected to integrate a first recurrent input signal and apply the integrated value of said signal as a bias voltage on a switching transistor. A second recurrent input signal is applied through a driving transistor as a second bias voltage to said switching transistor. The switching transistor is biased to conduct only when the first input signal is absent, the second input signal is present and all the internal circuit components function properly.

3,408,508
SCR COUNTER FEATURING AMPLIFICATION STAGE TO COMPENSATE FOR SIGNAL ATTENUATION OF PRECEDING STAGES
Alexander Kuckens, Hamburg, Germany, assignor to National Rejectors, Inc., St. Louis, Mo., a corporation of Missouri
Filed June 16, 1966, Ser. No. 557,986
Claims priority, application Germany, June 18, 1965, K 56,403
7 Claims. (Cl. 307—225)



A number of electrical stages have input circuits, a plurality of members serially supply input signals to those input stages and are selectively rendered conductive and non-conductive to selectively pass or block the input signals for the various input circuits, and an amplifier provides amplification to compensate for reductions in the amplitude of input signals due to drops across various of the members which precede that amplifier.

3,408,509
SCR COUNTER FEATURING TURN-OFF CIRCUITRY BY SUCCEEDING STAGE FOR PRECEDING STAGE
Wolfgang Niehaus, Hamburg-Neugraben, Germany, assignor to National Rejectors, Inc., St. Louis, Mo., a corporation of Missouri
Filed Mar. 2, 1966, Ser. No. 531,157
Claims priority, application Germany, Mar. 10, 1965, K 55,498
9 Claims. (Cl. 307—225)

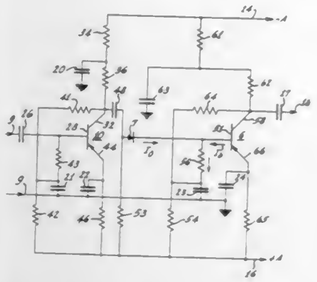


A plural-stage binary counter has an electronic switch in each stage thereof, has the input circuits of all of the stages thereof connected to the same input terminal, utilizes the states of conduction of the electronic switches of the various stages thereof to determine which stage shall receive the next signal applied to said input terminal, and has turn-off circuits which enable a succeeding stage to turn off a preceding stage but which keep a preceding stage from turning off a succeeding stage.

3,408,510
SOLID STATE WAVE AMPLITUDE LIMITING DEVICE
Pawel Mrozek, Washington, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed Apr. 7, 1965, Ser. No. 446,293
6 Claims. (Cl. 307—237)

A solid state wave amplitude limiting device in which a diode is connected to the base of a linear transistor amplifier. The quiescent D.C. diode current and the

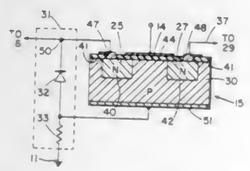
quiescent D.C. base current flow through a base biasing resistor. On large amplitude input signal excursions in one direction, the diode current substantially doubles and the base current is clipped. On large amplitude input signal excursions in the opposite direction, the diode current and base current are both clipped. An amplified voltage replica of the base current appears in the transistor amplifier output.



3,408,511
CHOPPER CIRCUIT CAPABLE OF HANDLING LARGE BIPOLARITY SIGNALS

Thor B. Bergersen, Scottsdale, James F. Kane, Phoenix, and Dustin E. Morris, Tempe, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed May 13, 1966, Ser. No. 549,942
7 Claims. (Cl. 307—237)

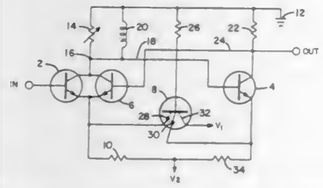


A field-effect transistor switching circuit including voltage limiting means connected between an FET substrate and one of the source and drain regions thereof. The voltage limiting means includes a diode which prevents the FET PN junctions from becoming forward biased by large bipolarity input signals.

3,408,512
CURRENT MODE MULTIVIBRATOR CIRCUITS

Walfred R. Raisanen, Phoenix, Ariz., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 23, 1965, Ser. No. 481,723
8 Claims. (Cl. 307—273)

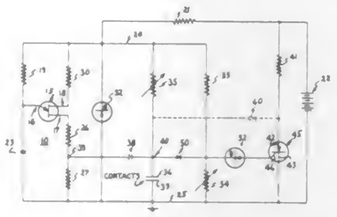


An inductively timed monostable multivibrator having like-conductivity type transistors suitable for integration is described. A current mode bistable multivibrator having like-conductivity type transistors suitable for integration is also described. Each circuit utilizes a sharp threshold multiple emitter transistor for supplying desired bias voltages.

3,408,513
TIMING NETWORK

David Cooper and John R. Swanson, Erie, Pa., assignors to General Electric Company, a corporation of New York

Filed Dec. 21, 1964, Ser. No. 419,668
1 Claim. (Cl. 307—293)

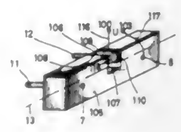


A timing circuit for gating on a controlled rectifier wherein an exponentially rising voltage having superimposed pulses is applied to a gating circuit comprising a biased reversely poled diode and a breakdown device serially connected to the gate electrode of the controlled rectifier.

3,408,514
ELECTROMECHANICAL TRANSDUCER OF THE ELECTROSTRICTIVE TYPE

Josef Adamietz, Traubing, Germany, and Dietwalt Thierbach, deceased, late of Traubing, Germany, by Emma Thierbach, heir, Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany

Original application May 19, 1964, Ser. No. 368,716. Divided and this application Sept. 18, 1967, Ser. No. 675,269
Claims priority, application Germany, May 21, 1963, S 85,316
15 Claims. (Cl. 310—8.2)

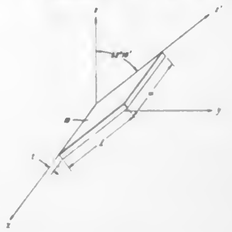


A transducer for translating electrical oscillations into mechanical bending vibrations or vice versa comprises essentially a bar, tuning fork or other elastic structure capable of bending vibrations at a natural frequency and defining a neutral fiber or axis between the compressing and tensioning forces due to the bending motions. The structure forms a slot, preferably on a lateral side of the straight bar, or on opposite sides of the bar, or between the tines of the tuning fork. One or more electrostrictive members with respective electrode coatings are disposed in the slots in transversely spaced relation to the neutral axis and are firmly joined at both sides with the elastic vibrator structure. Electric conductor means are connected with the electrode coatings to supply excitation voltage to, or take generated voltage from, the transducer. Since the bendable structure is constituted by a single integral piece which is not fully subdivided by the slots or the electrostrictive insertions, the transducer has increased mechanical strength.

3,408,515
SECOND OVERTONE DT-CUT QUARTZ RESONATOR

William C. Morse, Center Valley, Pa., assignor to Bell Telephone Laboratories, New York, N.Y., a corporation of New York

Filed Mar. 25, 1966, Ser. No. 537,500
2 Claims. (Cl. 310—9.5)

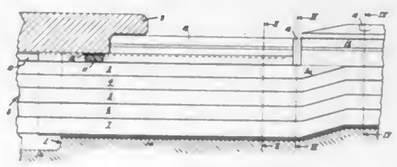


The specification describes DT-cut quartz crystals designed for the frequency range of 800 kc. to 4 mc. The crystals are driven at the second harmonic and have good mode selection if the length (Z')-to-width (X) ratios are in the ranges 0.20 to 0.23, 0.30 to 0.33 and 0.48 to 0.69.

3,408,516
DYNAMOELECTRIC MACHINE ROTOR WITH CURRENT CARRYING ROTOR WEDGES

Henry W. Kudlacik, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Filed Feb. 7, 1966, Ser. No. 525,768
7 Claims. (Cl. 310—195)

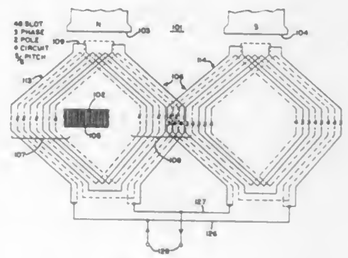


A dynamoelectric machine rotor with current carrying wedges extending beyond the periphery of the rotor that serve as top conductors of the winding and hold the remaining conductors in the place in the rotor slots.

3,408,517
MULTIPLE CIRCUIT WINDING PATTERNS FOR POLYPHASE DYNAMOELECTRIC MACHINES

David M. Willyoung, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Filed Feb. 23, 1966, Ser. No. 529,273
10 Claims. (Cl. 310—198)

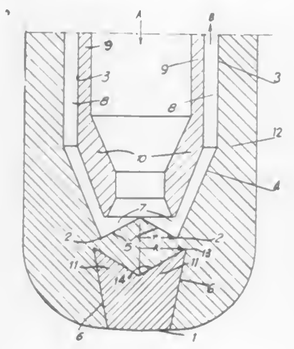


In a two-layer multiple circuit polyphase winding for a dynamoelectric machine, the circuit sequence in the top layer coil sides of each phase belt is in partially or wholly interchanged relationship with the circuit sequence in the bottom layer coil sides of the same phase belt to reduce voltage unbalance between parallel connected circuits.

3,408,518
COMPOSITE CATHODE FOR USE IN AN ARC PLASMA TORCH

Andrzej Strupczewski, Grojecka 19/25, Apt. 97, Warsaw, Poland

Filed Oct. 3, 1966, Ser. No. 583,884
5 Claims. (Cl. 313—32)

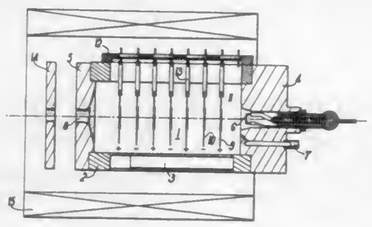


Plasma-generating cathode with a generally cylindrical copper body having a rounded front end with a tungsten insert at its vertex, cooling water being axially admitted into the vicinity of this insert through an inner tube disposed in an axial bore of the body and defining therewith a flow channel having an inversion point near the insert, the cross-sectional area of the channel being less at the inversion point than in a cylindrical discharge portion beyond the inversion point whereby a turbulent flow is generated to increase the rate of heat removal from the copper body.

3,408,519
ION SOURCE WITH SPACED ELECTRODE IONIZING PITS

Claude Etievant, Versailles, Pierre Hubert, Sceaux, and Mariano Perulli, Sucy en Brie, France, assignors to Commissariat a l'Energie Atomique, Paris, France

Filed Aug. 8, 1966, Ser. No. 571,109
Claims priority, application France, Aug. 20, 1965, 29,045
6 Claims. (Cl. 313—63)



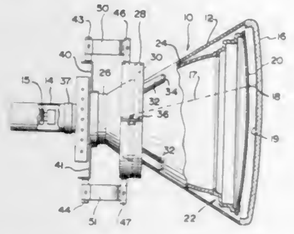
An ion source in a vacuum chamber has between the cathode and the extraction aperture a succession of electrodes each with an aperture and of alternate D.C. potentials. Each electrode forms an ionizing pit with the ions of a given sign being expelled to the pits on either side of a given electrode.

3,408,520

TEMPERATURE RESPONSIVE MEANS FOR MOVING THE YOKE OF A COLOR TELEVISION RECEIVER TO COMPENSATE FOR BEAM LANDING ERROR DURING TUBE WARMUP

Richard J. Lindeman, Elmwood Park, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Nov. 1, 1966, Ser. No. 591,244
5 Claims. (Cl. 313—75)



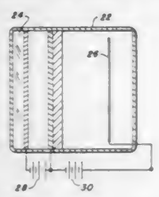
A color television deflection yoke is movably mounted within a fixed yoke support. Bimetallic strips are coupled between the fixed yoke support and the movable yoke. The change in temperature within the television receiver during tube warmup is sensed by the bimetallic strips, which react to move the deflection yoke along the tube neck within the yoke mounting to compensate for beam landing errors induced by shadow mask expansion.

3,408,521

SEMICONDUCTOR-TYPE PHOTOCATHODE FOR AN INFRARED DEVICE

Burnell V. Dore, Sunnyvale, and Donovan V. Geppert, Los Altos, Calif., assignors to Stanford Research Institute, Menlo Park, Calif., a corporation of California

Filed Nov. 22, 1965, Ser. No. 509,112
9 Claims. (Cl. 313—94)



A photocathode made of a film of semiconductor material having a film of a large band gap semiconductor material deposited over one surface thereon. On the opposite surface of said large band gap semiconductor film there is deposited a high work function metal film. On the opposite surface of the high work function metal film there is deposited a low work function material.

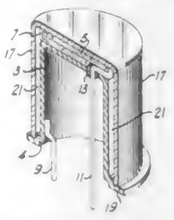
3,408,522

CUP-SHAPED PHOTOCONDUCTOR TUBE

Charles C. Casamo and Donald R. Kerstetter, Emporium, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Original application Mar. 4, 1963, Ser. No. 262,650, now Patent No. 3,326,618, dated June 20, 1967. Divided and this application Jan. 24, 1967, Ser. No. 611,307
3 Claims. (Cl. 313—102)

This disclosure relates to photoconductor type tubes and a process for fabricating such tubes. The tubes include a light-frequency responsive element affixed to a metallic support and surrounded by a light transparent envelope sealed to the support. A dry and inert atmosphere is provided intermediate the support and envelope and the light responsive element may be in contacting relationship with the envelope to provide a path for heat conduction therefrom. In the process of fabricating photoconductor type



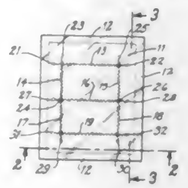
tubes, the support, light-frequency responsive element, and envelope are dehydrated and sealed without removal from a dry and inert atmosphere.

3,408,523

LIGHT BULB WITH A PLURALITY OF INDEPENDENTLY CONNECTED FILAMENTS FOR INDICATING GRAPHIC SYMBOLS

Philip C. Demarest, Pine Brook, and Karl Karlson, Wallington, N.J., assignors to Ohmega Laboratories, Pine Brook, N.J., a corporation of New Jersey

Filed May 6, 1966, Ser. No. 548,193
12 Claims. (Cl. 313—109.5)



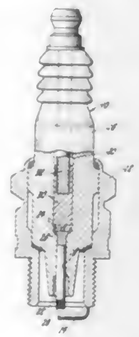
An incandescent bulb having filament segments attached directly to support posts and capable of being separately energized to form lighted symbols of numerals and letters. Filaments overlap each other slightly at corners to minimize gaps in the symbols. The support posts are also electrical terminals, and one or more may be hollow to evacuate the bulb.

3,408,524

SPARKPLUG AND SEAL THEREFOR

Jack F. Blum and Robert G. Fournier, Flint, and Patrick N. Kesten, Davison, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 8, 1966, Ser. No. 563,775
5 Claims. (Cl. 313—145)



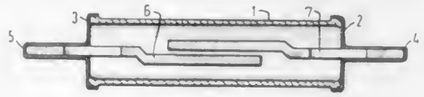
An electrical conductive hermetic glass seal in the centerbore of a ceramic insulator adapted to operate at temperatures up to 1500° F. An example of this invention is a glass seal formed by heating a composition containing 60 weight percent copper powder, 6.5 weight percent silicon powder and 33.5 weight percent glass powder in a sparkplug insulator centerbore.

3,408,525

GAS DISCHARGE SURGE ARRESTER

Alex Bahr, Berlin, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany

Filed May 26, 1965, Ser. No. 458,951
Claims priority, application Germany, June 10, 1964, S 91,442
3 Claims. (Cl. 313—146)



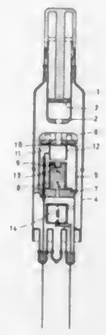
The invention is directed to a gas discharge voltage regulator which includes a pair of overlapping electrodes. Each of the electrodes is secured in a cup-shaped contact retainer which extend outwardly of the discharge arrester in an axial direction. Spacing of the electrodes can be adjusted by bending the cup-shaped extended portion of the retainers thereby moving the electrodes within the interior of the gas discharge voltage regulator.

3,408,526

ION SOURCE HAVING AN ANNULAR PERMANENT MAGNET

Cornelis Willem Elenga, Otto Reifenschweiler, and Martinus Hendricus Maria Schenkelaars, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Apr. 18, 1966, Ser. No. 543,118
Claims priority, application Netherlands, Apr. 17, 1965, 6504935
3 Claims. (Cl. 313—154)



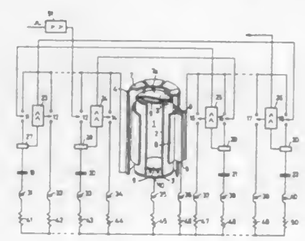
An ion source for a neutron generator and ion accelerators employing two spaced apart substantially flat plates, one of which is apertured to permit ions to exit, constituting a cathode and a hollow, tubular anode therebetween. A permanent magnet positioned behind the non-apertured plate provides an axial field while an annular magnet, coaxial with the exit aperture, providing a predominant magnetic field in the axial direction, aids the field of the first magnet. A soft iron envelope surrounds the assembly and completes the magnetic circuit.

3,408,527

HIGH ENERGY PLASMA CONTAINMENT DEVICE UTILIZING ALTERNATE Z AND θ PINCHES

Alois Koller and Alfred Michel, Erlangen, Germany, assignors to Siemens Aktiengesellschaft, Erlangen, Germany, a German corporation

Filed June 12, 1964, Ser. No. 374,617
Claims priority, application Germany, June 14, 1963, S 85,669
8 Claims. (Cl. 313—156)



1. Apparatus for producing and confining high energy plasma in a discharge vessel, comprising

means for producing z-pinch discharges in said discharge vessel;

means for producing θ-pinch discharges in said discharge vessel;

circuit means connected to said z- and θ-pinch discharge producing means for alternately producing z-pinch and θ-pinch discharges in said discharge vessel; and

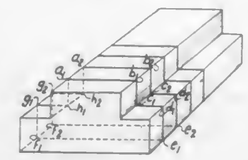
further circuit means interconnected with said circuit means for producing in the plasma in said discharge vessel a magnetic-field-free inertia phase between each pinch discharge and the next-succeeding pinch discharge.

3,408,528

COMPOSITE ELECTRODE STRUCTURE FOR MAGNETOHYDRODYNAMIC DEVICE

Robert Devime, Rueil-Malmaison, and David Yerouchalmi, Issy-les-Moulineaux, France, assignors to Commissariat a l'Energie Atomique, Paris, France, and Institut Francais du Petrole des Carburants et Lubrifiants, Rueil-Malmaison, Hauts-de-Seine, France

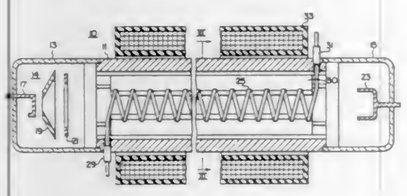
Filed Mar. 9, 1965, Ser. No. 438,343
Claims priority, application France, Mar. 24, 1964, 968,517
7 Claims. (Cl. 313—352)



The invention relates to a composite electrode for use in a magnetohydrodynamic generator. The electrode is structurally comprised of a plurality of flat sided segments of refractory oxide spaced apart in side to side relationship and fixed together to form a composite unit by joints of noble or inert refractory metal. The aligned array of the front faces of the segments contacts the ionized gas of the generator, forming a thin conductive layer of material which resists corrosion and oxidation at the high operating temperature. The array of back faces of the segments

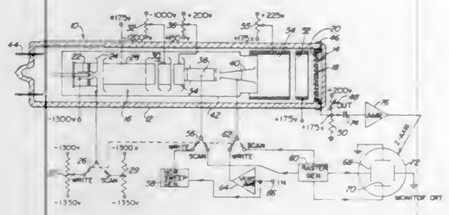
serves as an excellent collector since the refractory metal joints form a conductive path between the two faces of the segments.

3,408,529
HELICAL SLOW WAVE STRUCTURE FOR A TRAVELLING WAVE TUBE TO PROVIDE HEAT REMOVAL FROM THE SLOW WAVE STRUCTURE
David E. Solomon, Ann Arbor, Mich., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 30, 1965, Ser. No. 483,607
6 Claims. (Cl. 315—3.5)



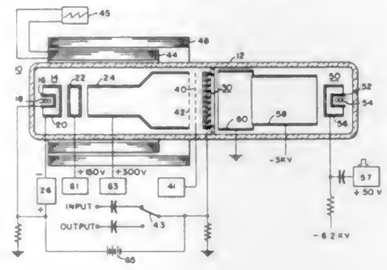
This invention relates to a traveling wave tube utilizing a helical member for a slow wave structure in which the helical conductor has a cross-section configuration such that the inner surface of the helical conductor is a curved line and the outer surface of the helical conductor is a straight line to provide a flattened outer surface. The outer flattened surface provides a larger area surface to remove heat from the conductor by means of heat conducting rods having surfaces substantially parallel to the flattened surfaces on the helix and in contact therewith.

3,408,530
SCAN CONVERSION STORAGE TUBE AND METHOD OF OPERATION
Charles B. Gibson, Jr., Portland, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon
Filed Nov. 20, 1964, Ser. No. 412,713
14 Claims. (Cl. 315—12)



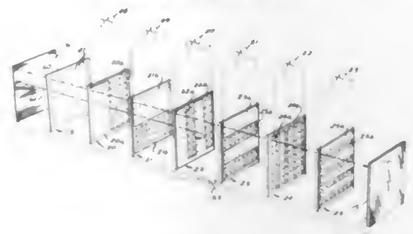
A scan conversion storage tube is described which writes a charge image on its storage dielectric by electron beam deflection signal modulation and reads out the charge image by uniformly scanning such storage dielectric with an electron beam to produce an electrical readout signal corresponding to such charge image. The tube is operated in a secondary electron redistribution mode during writing and reading to provide a low potential gradient above the surface of the storage dielectric which enables charge images to be stored closer together. An electron multiplier may be employed within the storage tube to amplify the electrical readout signal and provide it with a high signal to noise ratio. The storage dielectric is preferably of aluminum oxide but can also be a photosensitive material to enable the use of light for writing or erasing of charge images.

3,408,531
STORAGE SYSTEM
Gerhard W. Goetze, Elmira, N.Y., and Arthur E. Anderson, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 10, 1966, Ser. No. 556,634
8 Claims. (Cl. 315—12)



This disclosure relates to a storage device including a storage target having a layer of an insulating material with a density less than 10% of its bulk density and an electrically conductive member, a first electron gun for writing a charge pattern upon the storage target by modulating a writing electron beam and for directing a reading electron beam of sufficient current density to derive an output signal corresponding to the pattern of charges stored upon the target, and a second electron gun for directing a flood beam of electrons with sufficient energy to pass through the conductive member into the porous layer to prime the exposed surface of the porous layer to a substantially uniform potential.

3,408,532
ELECTRON BEAM SCANNING DEVICE
Donald E. Hultberg, Venice, and Lester A. Jeffries, Palos Verdes, Calif., assignors to Northrop Corporation, Beverly Hills, Calif., a corporation of California
Filed Dec. 6, 1965, Ser. No. 511,747
11 Claims. (Cl. 315—12)



1. An electron beam scanning device comprising
a gas evacuated sealed casing member,
an electron source mounted within said casing member,
a target member mounted within said casing member opposite said electron source,
a power source connected between said target member and said electron source for providing an electron accelerating potential therebetween,
a plurality of dynode member sandwiched between said electron source and said target member for controlling the flow of electrons therebetween,
said electron source, said target member and said dynode member being alined opposite each other,
said dynode members each having a plurality of conductive coded finger portions which are insulated from each other,

said dynode members further each having a plurality of aperture means formed therein for channeling the flow of electrons between said electron source and said target member, and
control means for selectively applying an electron accelerating potential to at least one of the finger portions of each of said dynode members and an electron repelling potential to the others of the finger portions of each of said dynode members,
whereby said dynode members cause an electron beam from said electron source to said target member to be addressed in response to said control means.

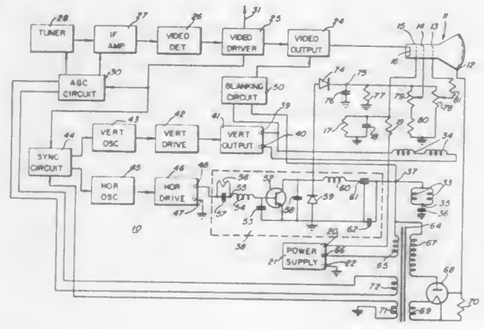
3,408,533
LOW-LOSS AMPLIFICATION CIRCUIT
John M. P. Gates, Tokyo, Japan, assignor to Tekronix, Inc., Beaverton, Oreg., a corporation of Oregon
Filed Mar. 21, 1966, Ser. No. 536,050
8 Claims. (Cl. 315—19)



A pair of first amplifier means drive opposite terminals of a load in push-pull fashion wherein the load is characterized by increased current demands as the frequency of operation increases. Additional amplifier means provide additional current to the first amplifier means for application to the load terminals with an increase in operating frequency. In the illustrated embodiment, frequency sensitive alternating current coupling means cross-couple each first amplifier means in driving relation to the additional amplifier means associated with the opposite load terminal, causing additional current to be delivered to the opposite amplifier means of the first pair.

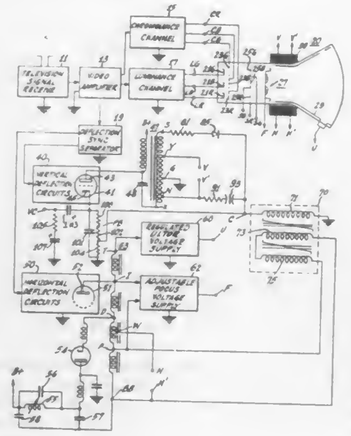
3,408,534
PROTECTIVE VOLTAGE SUPPLY CIRCUIT
George A. Kent, Fort Wayne, and Richard J. Waring, Auburn, Ind., assignors to The Magnavox Company, Fort Wayne, Ind., a corporation of Delaware
Filed Oct. 25, 1966, Ser. No. 589,284
10 Claims. (Cl. 315—22)

9. In a television receiver including a picture tube having a screen and an electron gun structure including an accelerating electrode, deflection coils for said picture tube including horizontal deflection coil means, a transformer having primary and secondary winding means, a DC power supply having a pair of terminals, means connecting one terminal of said primary winding means to one terminal of said power supply, a transistor having base, emitter and collector electrodes, means connecting said emitter and collector electrodes to the other terminal of said power supply and to another terminal of said primary winding means, means for applying a horizontal deflection signal to said base electrode to build up current through said primary winding means and to then operate for a short flyback interval to abruptly cut off current through said primary winding means and to induce relatively large voltages across said primary winding means and across said secondary winding means, high voltage rectifier means connected to said secondary winding means for applying a high voltage to said picture tube screen, a rectifier diode, a capacitor, means connecting said rectifier diode and said capacitor in series directly



between said emitter and collector electrodes, and load means connected to said accelerating electrode and connected across said capacitor, the product of the capacitance of said capacitor and the effective resistance of said load means being at least several times greater than the duration of one cycle of the horizontal deflection signal.

3,408,535
RASTER CORRECTION CIRCUIT
Eugene Lemke, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 17, 1966, Ser. No. 550,710
4 Claims. (Cl. 315—27)



1. In a television receiver comprising a deflection yoke having respective vertical and horizontal deflection windings, a horizontal deflection system including a horizontal output transformer serving as a source of horizontal scanning current for said horizontal deflection winding, and a vertical deflection system including a vertical output tube, having respective anode and cathode circuits, and a vertical output transformer, driven by

said anode circuit and serving as a source of vertical scanning current for said vertical deflection winding;

side pincushion correction apparatus comprising the combination of:

a saturable reactor including a control winding and a controlled winding, the impedance of said controlled winding varying in response to changes in current through said control winding:

means connecting said controlled winding to said horizontal output transformer for causing any of said variations of the impedance of said controlled winding to modulate the amplitude of the scanning current traversing said horizontal deflection winding;

means for deriving from said vertical output transformer a periodic voltage waveform of vertical frequency;

means included in said vertical output tube cathode circuit for developing a substantially parabolic voltage of vertical frequency in response to the cathode current of said vertical output tube;

and means applying a combination of said vertical frequency voltage waveform derived from said vertical output transformer and said parabolic voltage derived from said cathode circuit to said control winding for causing the impedance of said controlled winding to so vary as to produce pincushion correcting changes in said horizontal scanning current amplitude.

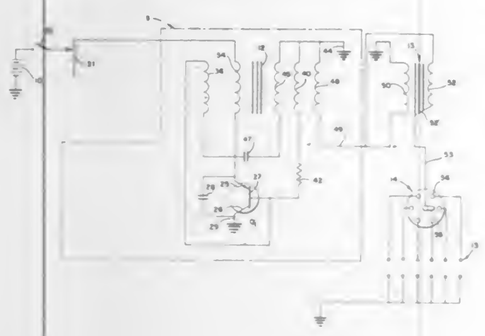
3,408,536

BREAKERLESS OSCILLATOR IGNITION SYSTEM

Oscar F. Tibbs, Ripley, Tenn., assignor of one-half to John W. Buzick, Monette, Ark.

Filed Sept. 20, 1966, Ser. No. 580,795

15 Claims. (Cl. 315—212)



1. A converter device adapted for use in the ignition system of a spark ignited internal combustion engine for changing direct electrical current to pulsating DC current comprising: a converter transformer means having at least a first primary winding and at least first and second inductively coupled secondary windings, an oscillator means including at least one alternately conducting and nonconducting amplifier means having first and second power circuit electrodes and a control electrode, a capacitor means connected in parallel across the power circuit electrodes, and a control means for controlling the voltage at the control electrode, said first primary winding having one end connected to said first power circuit electrode and having its other end adapted to be connected to a source of electrical energy, the other power circuit electrode being connected to ground, said first secondary winding having one end connected to the said first power circuit electrode through a capacitor means, and said second secondary winding being an output winding and having one end adapted to deliver pulsating DC current from said converter, said first and second secondary winding being connected at their other ends to ground.

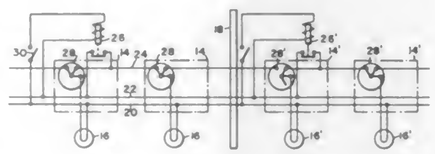
3,408,537

LIGHTING CONTROL SYSTEM USING SWITCHING MEANS FOR SELECTIVELY INTERRUPTING AND COMPLETING A THIRD WIRE CIRCUIT

Roy O. Wiley, Huntington, Conn., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 13, 1965, Ser. No. 495,410

7 Claims. (Cl. 315—313)



The invention comprises a system for changing, controlling and isolating light arrangements. This is accomplished by permanently connecting one terminal of each light to one power conductor and connecting the other terminal of each light to the other power conductor through a multiposition switch and a second switch serially connected between the light and the other power conductor. The multiposition switches further form part of a third conductor circuit connecting the lights and switches together, the multiposition switches being effective to open the third conductor circuit for isolating the lights or groups of lights.

3,408,538

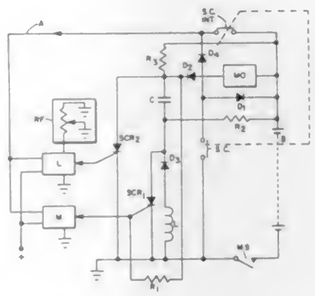
CONTROL MEANS FOR ELECTRICAL APPARATUS

Isaac David Gurwicz, Durham, England, assignor to Sevcon Engineering Ltd., Gateshead, England

Continuation-in-part of application Ser. No. 404,630, Oct. 19, 1964. This application Aug. 16, 1967, Ser. No. 660,974

Claims priority, application Great Britain, Oct. 23, 1963, 41,731/63

1 Claim. (Cl. 317—11)



A control system for a load in which an auxiliary contactor closes before and opens after the main shorting contactor when it is desired to change the supply arrangement to the load and thus prevents arcing at the shorting contactor.

3,408,539

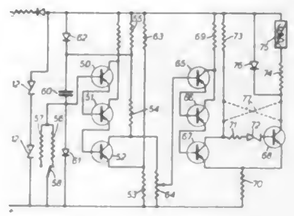
ELECTRIC TIMING CIRCUITS

Malcolm Legg and John Brian Patrickson, South Shields, and Leonhard Martin Wedepohl, Disley, England, assignors to A. Reyrolle & Company Limited, Hebburn, England, a company of Great Britain

Filed Apr. 22, 1966, Ser. No. 544,583

Claims priority, application Great Britain, Apr. 23, 1965, 17,292/65

3 Claims. (Cl. 317—36)



Timing circuits are provided for producing a delay in the generation of a control signal in response to an initiating signal by means of integrating circuits. An initiating circuit is included for providing a constant pre-charge to the integrating circuit and a discharging network is provided for discharging the integrating circuit to a voltage below that produced by the constant pre-charge to insure that the integrating circuit is always activated at a constant starting voltage. An input signal shaping circuit may be included for providing an initiating signal proportional to a selected function of the input current and to provide a time lag in the generation of the control signal that is inversely proportional to the selected function of the input current.

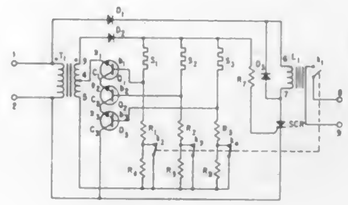
3,408,540

CONTROL CIRCUIT

Joseph G. Nield, Jr., Central Falls, and Richard W. Strachan, Providence, R.I., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Oct. 24, 1965, Ser. No. 504,718

11 Claims. (Cl. 317—41)



A control circuit for monitoring simultaneously conditions, such as heat generation, at various locations of electrical apparatus, and upon the occurrence of a specific condition such as overheating, causing the electrical apparatus to be de-energized. The control circuit is fail-safe even when one or more of the circuit sensors is shorted. Sensor-resistor circuits are employed to bias transistors into a conducting state, which in turn control the gate current to an SCR which when conducting, permits current flow through a relay controlling the energization of the electrical apparatus. The circuit is so arranged that upon the shorting out or overheating of any one of the sensors, the gate current of the SCR drops to a value below that necessary for conduction causing the relay to open and thereby disconnecting the electrical apparatus. Several embodiments are disclosed to cause the circuit to be inoperative while an overheated sensor cools to a predetermined safe temperature.

3,408,541

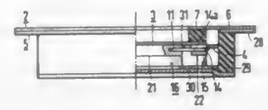
SEMICONDUCTOR DEVICE HAVING A HOUSING AND A SEMICONDUCTOR MEMBER DISPOSED IN A FRAME WITHIN THE HOUSING

Joachim Haus, Ebermannstadt, Germany, assignor to Siemens Aktiengesellschaft, Berlin, Germany, a corporation of Germany

Filed Aug. 25, 1965, Ser. No. 482,460

Claims priority, application Germany, Aug. 26, 1964, S 92,820

12 Claims. (Cl. 317—234)



Semiconductor device includes a housing, a semiconductor element enclosed in the housing, the semiconductor element including a disc-shaped body of semiconductor material having opposite flat faces, contact electrodes located on the flat faces, and frame means for the semiconductor element, the frame means being in close-fitting installation in the housing.

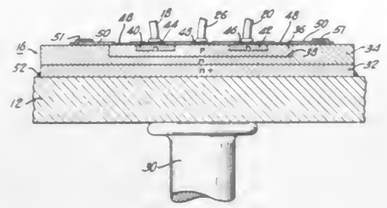
3,408,542

SEMICONDUCTOR CHOPPER AMPLIFIER WITH TWIN EMITTERS

Winand J. Dautzenberg and Walter B. Mitchell, Danbury, Robert L. Trent, Westport, and Julius E. Van Wagenen and Richard R. Rau, Newtown, Conn., assignors to National Semiconductor Corporation, Danbury, Conn.

Filed Mar. 29, 1963, Ser. No. 269,012

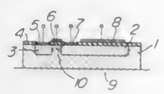
11 Claims. (Cl. 317—235)



1. An electrical switching device made of semiconductor material, said device consisting of: a first region, a second region and a third region of a material of one conductivity type, said first and second regions being separated from said third region by an intervening region of a material of another conductivity type; electrically conductive electrode means on said first, second, third and intervening regions; bias circuit means connected to said electrodes on said first and second regions for conducting an input signal through said device in a first path; control bias circuit means connected to said electrodes on said intervening region and on said third region for conducting a control signal through said element in a second path extending through said device, said second path being, at

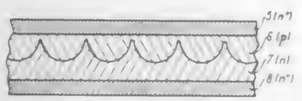
substantially all points along its length, transverse to said first path.

3,408,543
COMBINATION CAPACITOR AND FIELD-EFFECT TRANSISTOR
Minoru Ono and Koji Usuda, Kodaira-shi, Japan, assignors to Hitachi, Ltd., Tokyo, Japan
Filed June 1, 1965, Ser. No. 460,270
Claims priority, application Japan, June 1, 1964, 39/42,803
10 Claims. (Cl. 317—235)



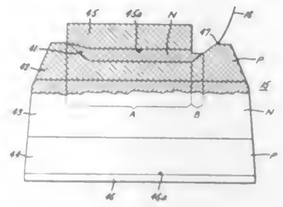
A semiconductor integrated circuit comprising a MOS FET portion and a MOS diode portion. The MOS FET portion comprises a P-type silicon substrate, N-type source and drain diffused regions formed in a main surface of said silicon substrate, a carrier path formed in the semiconductor surface layer between the regions, a first insulating layer disposed on the carrier path, and metal electrodes formed on the source and drain regions, and the insulating layer. The MOS diode portion comprises the drain region, a second insulating layer disposed on the drain region, and a metal layer formed on the second insulating layer. As examples, the integrated circuit is employed in an amplifier circuit and an oscillator circuit.

3,408,544
JUNCTION AND FIELD-EFFECT COMBINED TRANSISTOR
Stanislas Teszner, 49 Rue de la Tour, Paris, France
Filed Nov. 22, 1965, Ser. No. 509,007
Claims priority, application France, Nov. 23, 1964, 996,017
6 Claims. (Cl. 317—235)



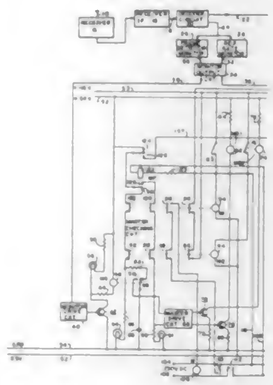
A junction and field-effect combined transistor comprising a semiconductor wafer of a given type of conductivity, a first surface layer of the same type of conductivity of substantially constant thickness constituting the emitter and the source electrode, a second surface layer of said same type of conductivity constituting the collector and the drain electrode, the second surface layer having inner frustum-shaped projections, the terminal base of the frustums being closed to the first surface layer and being separated by small gap regions of the opposite type of conductivity, an intermediate layer of said opposite type of conductivity comprised between said first and second surface layers which is integral with said gap regions and forms at the same time the base and the gate electrode. The gap regions are substantially thinner than the gate regions at the gate electrode. Positive or negative bias can be applied to the base and gate electrode with respect to the emitter and source electrode and, according to the polarity of the bias, the combined transistor behaves as a junction transistor or as a field-effect transistor.

3,408,545
SEMICONDUCTOR RECTIFIER WITH IMPROVED TURN-ON AND TURN-OFF CHARACTERISTICS
Angelo L. De Cecco, Newtown Square, Dante E. Piccone, Philadelphia, and Istvan Somos, Drexel Hill, Pa., assignors to General Electric Company, a corporation of New York
Continuation-in-part of application Ser. No. 385,323, July 27, 1964. This application Oct. 22, 1965, Ser. No. 514,734
20 Claims. (Cl. 317—235)



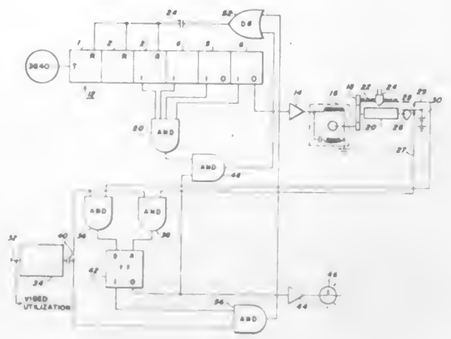
The switching capabilities of a 4-layer broad area PNPN semiconductor device are dramatically improved by providing an electrode-less auxiliary region in one of the end layers in the vicinity of the small area where conduction begins, and by constructing and arranging the auxiliary region so that load current initially traversing it acts as a high-current peremptory trigger signal for the laterally-adjacent main region of broader area.

3,408,546
CRANE COMMAND CIRCUIT HAVING CHECK MEANS FOR DETECTING RELAY MALFUNCTION
Robert Delliban, Menlo Park, Calif., assignor to Barrett Electronics Corporation, Palo Alto, Calif., a corporation of Illinois
Filed June 7, 1965, Ser. No. 461,852
16 Claims. (Cl. 318—16)



Crane control system having a portable transmitter which sends word message comprised of three discrete signal commands to a crane mounted receiver. Crane operation occurs only if three different controls operate in tandem. Checking circuits monitor critical relays for restoration prior to crane operation, and prevent non-operation if malfunction is detected.

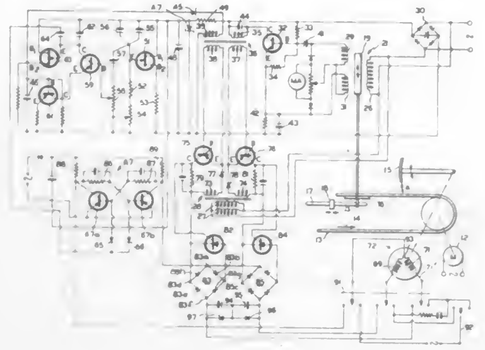
3,408,547
SYNCHRONIZING SYSTEM FOR SYNCHRONOUS MOTOR UTILIZING A FREQUENCY DIVIDER
Waldemar Saeger, La Canada, Calif., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 1, 1965, Ser. No. 492,252
3 Claims. (Cl. 318—18)



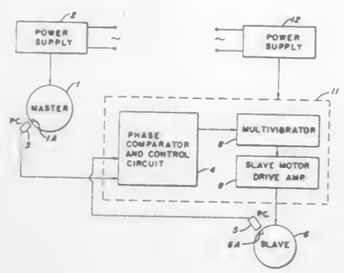
1. Synchronizing apparatus to synchronize a motor driven mechanical apparatus with an incoming periodic electrical synchronizing signal comprising:
a stable high frequency oscillator operating at a frequency *f*,
phase coherent dividing means to divide the frequency of said oscillator by a factor *n*1 to produce a divided frequency *f*/*n*1 suitable for application to a salient pole synchronous motor connected to said apparatus to provide approximate speed synchronism with said synchronizing signals,
means to connect the output of said divider to a motor connected to said apparatus,
pulse means operated by said apparatus to generate a local periodic pulse,
coincidence means to detect coincidences or non-coincidences between said synchronizing signals and local pulses,
means associated with said coincidence means and responsive to non-coincidences between said synchronizing signals and local pulses to cause the dividing means to divide by a factor *n*2 different from *n*1 thus producing an output frequency different from *f*/*n*1 and tending to drive the apparatus towards synchronism with said synchronizing signals and,
means connected to said coincidence means and responsive to coincidences to cause the dividing means to divide by a factor *n*1 and further connecting the synchronizing signals to said dividing means whereby each synchronizing signal resets said divider.

3,408,548
CONTROLLER INCLUDING A MULTIVIBRATOR-FED STEP MOTOR
Pasco Anthony Cola, Providence, R.I., assignor to General Signal Corporation, a corporation of New York
Filed June 29, 1964, Ser. No. 378,553
7 Claims. (Cl. 318—28)

An electrical proportional speed floating controller includes means producing an AC error voltage signal whose amplitude is proportional to the magnitude of the departure of a measured variable from a desired value and whose phase displacement indicates whether the departure is positive or negative. A multivibrator is caused to produce power pulses to drive a stepping motor to drive the controller at a rate proportional to the magnitude of the error signal. Switch means direct the power pulses so as to drive the motor in opposite directions depending upon the direction of phase displacement of the error signal.



3,408,549
MOTOR SYNCHRONIZING SYSTEM UTILIZING REVERSIBLE COUNTER AND LOGIC MEANS
George T. Shimabukuro, Monterey Park, Calif., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed June 24, 1966, Ser. No. 560,309
6 Claims. (Cl. 318—85)

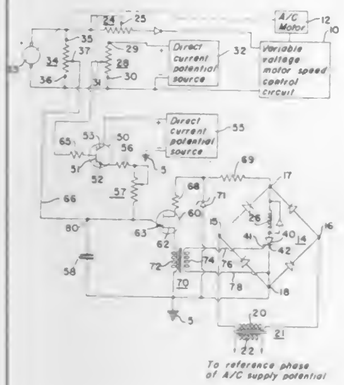


1. In a system for operating a synchronous AC slave motor in substantial synchronism with an AC master motor, the combination comprising:
(a) means for generating a pattern of periodic master synchronizing pulses indicative of the rotational position and speed of said master motor;
(b) means for generating a pattern of periodic slave synchronizing signals indicative of the rotational position and speed of said slave motor;
(c) means including a source of variable frequency AC power for selectively controlling the speed of said slave motor;
(d) digital-to-analog converter means coupled to said variable AC power source for selectively developing frequency determining signals for controlling the frequency of said variable AC power source;
(e) reversible counter means having two inputs for causing said counter means to enter a count in either a forward or a reverse direction in response to count signals at one or the other of said inputs, respectively;

(f) circuit means for coupling a signal representative of the count in said reversible counter means to said digital-to-analog converter means; and,

(g) control means responsive to said master and slave synchronizing pulses for generating at either said one or said other of said inputs of said reversible counter means, depending upon the sense of phase difference between said master and said slave motors, count signals indicative of the phase difference between said master and slave motors.

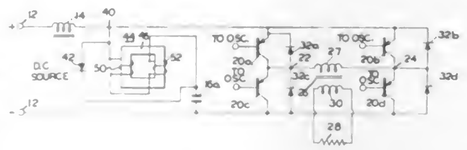
3,408,550
DYNAMIC BRAKING SYSTEM FOR ALTERNATING CURRENT INDUCTION TYPE MOTORS
Donald E. Graham, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 11, 1966, Ser. No. 519,988
2 Claims. (Cl. 318—212)



A system for dynamically braking an alternating current induction type motor, the speed of which is controlled by a variable voltage motor speed control system which includes a motor speed control potentiometer. Respective potentiometers are connected in shunt across a source of direct current reference potential and a direct current tachometer generator driven by the motor, the movable contact of the potentiometer connected across the source of reference potential being mechanically interlocked with the movable contact of the motor speed control potentiometer. Upon an adjustment of the motor speed control potentiometer movable contact to change motor speed, a difference potential signal appears across the movable contacts of the potentiometers connected across the source of reference potential and the tachometer generator which activates responsive circuitry to complete an energizing circuit for a separate brake winding wound upon the stator of the motor across a separate source of direct current brake potential.

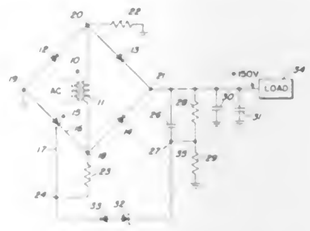
3,408,551
CURRENT SPIKE SUPPRESSOR FOR INVERTER
Richard E. Kuba, Columbus, Ohio, assignor to North Electric Company, Galion, Ohio, a corporation of Ohio
Filed July 23, 1965, Ser. No. 474,278
4 Claims. (Cl. 321—10)

Apparatus for suppressing undesirable current spikes present in circuit components used with transistor type inverter circuits in which an improved control circuit of a parallel combination of rectifier and reactor winding is connected in series with a capacitor so that when the inverter has a low impedance value during commutation



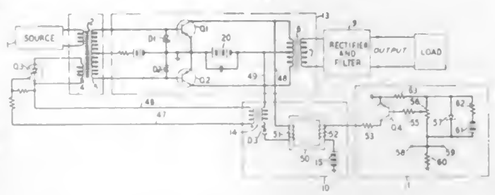
of the inverter and in which a capacitor is being discharged, the windings of the reactor absorb the discharge during such commutation and thereby suppress the spike otherwise present.

3,408,552
AUTOMATIC PROTECTION CIRCUIT FOR REMEDIABLE SHORT CIRCUIT IN LOAD
Charles A. Weber, Marion, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Apr. 9, 1965, Ser. No. 446,873
5 Claims. (Cl. 321—14)



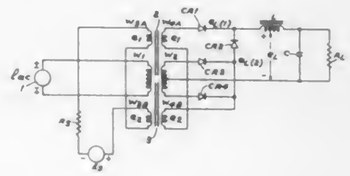
A protection circuit for automatically and momentarily removing the supply voltage from a load which experiences a remediable short circuit. A silicon controlled rectifier in an AC or DC converter normally conducts every other half-cycle and allows the converter to provide a DC voltage to the load. Means responsive to a momentary short circuit in the load prevents the silicon rectifier from conducting thereby preventing the functioning of the converter during one of said alternate half-cycles.

3,408,553
DRIVEN INVERTER-REGULATOR WITH MAGNETIC AMPLIFIER IN FEEDBACK LOOP
John D. Bishop, Basking Ridge, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 11, 1966, Ser. No. 541,578
10 Claims. (Cl. 321—16)



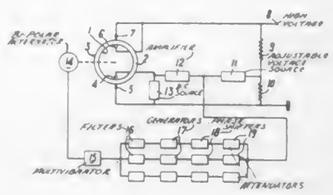
A regulated power supply comprising a magnetic amplifier in a feedback loop which is connected and biased so as to be responsive to changes in the input voltage to, and the output voltage of, a driven power inverter. A semiconductor switch is coupled with the source of driving signals to remove the driving signals to the power inverter whenever the core of the magnetic amplifier saturates.

3,408,554
COMBINED MAGNETIC REGULATOR AND TRANSFORMER
Joseph A. Fingerett, Van Nuys, Calif., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Feb. 28, 1966, Ser. No. 530,309
11 Claims. (Cl. 321—18)



A magnetic regulator compactly combined with a transformer by winding primary and secondary transformer and control windings on two cores, one set of such windings being common to both cores. The secondary winding of the transformer is coupled to the load through a full wave rectifier, a diode and a low pass filter; and the output windings of the magnetic regulator are differentially connected and are further coupled to the load via diodes to maintain the voltage across said load substantially constant regardless of variations in the A.C. input voltage or load impedance.

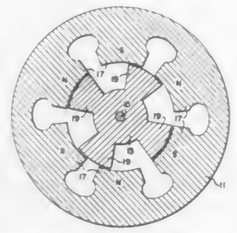
3,408,555
METHOD AND DEVICE FOR STABILIZING ELECTROSTATIC GENERATORS
Charles Fremiot and Robert Gerbier, Grenoble, France, assignors to Commissariat a l'Energie Atomique, Paris, France
Filed Apr. 4, 1966, Ser. No. 540,076
Claims priority, application France, Apr. 20, 1965, 13,758
4 Claims. (Cl. 322—2)



Electrostatic generators producing an output voltage including a periodical modulation voltage are stabilized by superimposing on the output voltage an adjustment voltage similar to the periodical modulation voltage but of opposite sign provided by a source synchronized with the periodical modulation voltage.

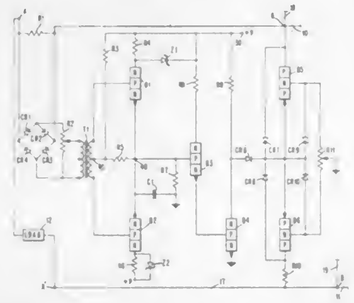
3,408,556
TACHOMETER
Andrew Gabor, Huntington, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed Oct. 20, 1965, Ser. No. 498,377
10 Claims. (Cl. 322—95)

This specification discloses a tachometer having a rotor and stator with poles conforming to rectangular sections of concentric cylinders. The tachometer produces output pulses having flat tops which are rectified and combined in parallel into a common output. The stator and rotor



poles are arranged so that the pulses are produced in sequence overlapping in their flat topped portions. This results in a ripple free output from the tachometer.

3,408,557
CONSTANT SOURCE CURRENT REGULATING SYSTEM
Thomas B. Horgan, Endwell, N.Y., and Richard A. Stanley, Trumbull, Conn., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 9, 1965, Ser. No. 512,729
6 Claims. (Cl. 323—1)

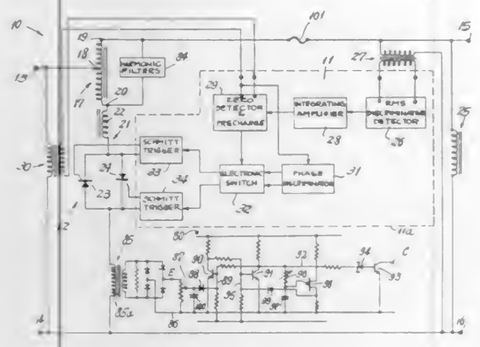


A regulating circuit provides a shunt circuit path which is so controlled that the total current from the source remains constant regardless of variation in one or more load currents, as well as variation in source voltage and load parameters.

3,408,558
AUTOMATIC VOLTAGE REGULATOR WITH SEMICONDUCTOR SHUNT PATH
Thomas G. Peterson, Bristol, and James P. Somerset, Wethersfield, Conn., assignors to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut
Filed Dec. 15, 1965, Ser. No. 513,963
6 Claims. (Cl. 323—22)

An automatic voltage regulator having a shunt path which when conductive provides a voltage that is vectorially added to the output voltage to provide the regulation of the input voltage to the desired value of the

output voltage in which the shunt path includes controlled rectifiers that are rendered conductive by a control circuit



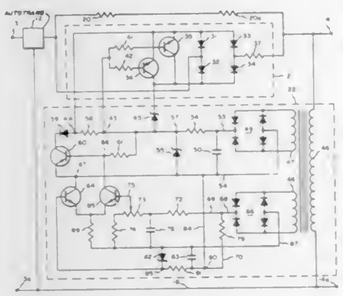
that includes an integrating amplifier and in which overcurrent protection is provided in the shunt path.

3,408,559

LINE VOLTAGE STABILIZER HAVING PARALLEL DYNAMIC AND STABLE IMPEDANCE PATHS

Natale J. Bambace, Greenwich, Conn., Charles R. Kenny, Purdy Station, N.Y., and Adolph G. Oesterle, Wyckoff, N.J., assignors to General Precision Systems Inc., a corporation of Delaware

Filed Aug. 10, 1966, Ser. No. 571,483
8 Claims. (Cl. 323—22)



A resistive path and a transistor path variable over a continuous range are connected in parallel between a generator output and a load input. The voltage across the load is monitored and the transistor path is varied in accordance with the voltage sensed across the load. The components are substantially frequency insensitive.

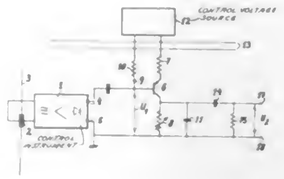
3,408,560

APPARATUS FOR INCREASING THE VIRTUAL SENSING FIELD LENGTH OF SENSING ELEMENTS IN ELECTRONIC CONTROL INSTRUMENTS, MAINLY IN THE TEXTILE INDUSTRY

Ernst Felix and Ernst Meili, Uster, Switzerland, assignors to Zellweger, Ltd., Uster, Switzerland

Filed Oct. 1, 1964, Ser. No. 400,702
Claims priority, application Switzerland, Oct. 1, 1963, 12,137/63
6 Claims. (Cl. 323—100)

Means, including both method and apparatus permitting a single adjustment to be made to increase the virtual sensing field length of the sensing elements of a plurality of electronic control instruments, said means employing a common power supply, or control voltage source, for all of the control instruments, said power supply having an adjustable voltage with an RC circuit having selectively variable parameters arranged in the circuit between the



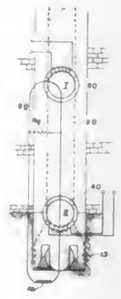
power supply and the control instruments to influence the frequency curve of the output signal of the control instrument.

3,408,561

FORMATION RESISTIVITY MEASUREMENT WHILE DRILLING, UTILIZING PHYSICAL CONDITIONS REPRESENTATIVE OF THE SIGNALS FROM A TOROIDAL COIL LOCATED ADJACENT THE DRILLING BIT

Fletcher H. Redwine, Irving, and William F. Osborn, Dallas, Tex., assignors to Arps Corporation, Garland, Tex., a corporation of Delaware

Filed July 29, 1963, Ser. No. 298,298
14 Claims. (Cl. 324—6)



2. A resistivity logging system which comprises the combination of:

(a) a drill collar adapted to receive a drill bit at the lower end thereof for contact with bottom hole formations,

(b) a first toroid encircling said drill collar immediately adjacent to said bit,

(c) a second toroid encircling said drill collar at a point spaced from said first toroid,

(d) means for energizing said second toroid with alternating current at a predetermined level for the production of current flow through said drill collar said first toroid and said bit into said formations at the bit-formation contact,

(e) generating means in said drill collar for producing pressure pulsations in the drilling fluid flowing to said formation through said bit for transmission to the earth's surface, and

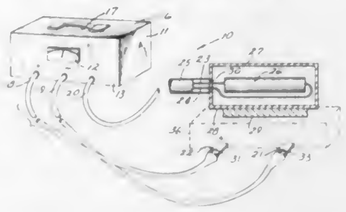
(f) means coupled to said first toroid for energizing said generating means at a rate proportional to the magnitude of said current flowing through said bit-formation contact.

3,408,562

TEMPERATURE COMPENSATED TESTER FOR VOLTAGE REGULATORS

Anatolijs Mazurkevics, Kalamazoo, Mich., assignor to Allen Electric and Equipment Company, Kalamazoo, Mich., a corporation of Michigan

Filed Oct. 23, 1965, Ser. No. 503,906
6 Claims. (Cl. 324—28)



A temperature compensated testing arrangement for testing the voltage across the output terminals of a voltage regulator taking into consideration the ambient temperature of the air surrounding said voltage regulator and temperature sensitive means connected in series with a meter circuit to achieve a temperature compensated reading.

3,408,563

MAGNETIC-FIELD-RESPONSIVE PROXIMITY DETECTOR APPARATUS UTILIZING A HALL-EFFECT DEVICE

Richard M. Chapman and Raymond H. Stevens, Columbus, Ohio, assignors to F. W. Bell, Inc., Columbus, Ohio, a corporation of Ohio

Filed Feb. 12, 1965, Ser. No. 432,326
5 Claims. (Cl. 324—45)

Disturbance of a static magnetic field is detected by a magnetic-field-sensing device incorporating a Hall-effect element and residual magnetic field canceling circuitry and which forms an alternating current waveform signal related to the field disturbance. This signal is then detected by an amplitude sensitive circuit that operates to form an output signal when the field disturbance reaches a predetermined level and will maintain the output signal for the duration of the disturbance with removal of the output signal occurring within one cycle of the input signal after the disturbance has diminished to a value less than the predetermined level.

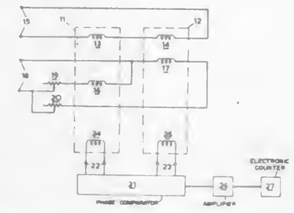
3,408,564

ELECTRICAL APPARATUS INCLUDING A PAIR OF REPLICA IMPEDANCES FOR MEASURING DISTANCES ALONG A LOADED ELECTRICAL LINE

Hans Hoel, Oslo, Norway, assignor to The English Electric Company Limited, London, England, a British company

Filed Feb. 1, 1965, Ser. No. 429,216
Claims priority, application Great Britain, Feb. 5, 1964, 4,863/64
5 Claims. (Cl. 324—52)

1. Apparatus for measuring from a reference datum the distance to a load point along an electrical line having a predetermined load locus on an R–X operating characteristic of said apparatus, comprising a pair of replica impedances defining predetermined impedance vectors intersecting the said datum on the characteristic, means for monitoring the current and voltage of the line and applying one of these quantities to said replica impedances, means for deriving from the monitored quantities two



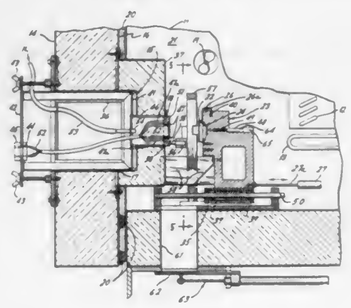
like vectorial components each dependent on said impedance vector and at least one of which is dependent also on the ratio of the monitored voltage and current signals in a manner such as to intersect the load locus at said load point, and a phase comparator for determining the phase difference between the two components whereby to derive therefrom a measurement of the said distance.

3,408,565

APPARATUS FOR SEQUENTIALLY TESTING ELECTRICAL COMPONENTS UNDER CONTROLLED ENVIRONMENTAL CONDITIONS INCLUDING A COMPONENT SUPPORT MATING TEST HEAD

Frank W. Frick, Lansdale, and Robert E. Kirschman, Sellersville, Pa., assignors to Philco-Ford Corporation, a corporation of Delaware

Filed Mar. 2, 1966, Ser. No. 531,235
5 Claims. (Cl. 324—158)



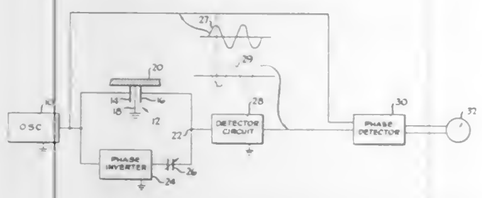
Apparatus for the automatic testing of electrical components, such as integrated circuit devices of the type including a housing from which a plurality of lead wires extend. An environmental chamber maintains an ambient atmospheric temperature condition within which the devices are tested. A mounting support is provided for each of a plurality of the devices, and a loading station is provided for introducing the supports into the chamber for movement through the chamber by a conveyor, in sequential step-by-step fashion. Test probe means within the chamber includes a set of test probe contacts engageable by the lead wires of the devices as the conveyor moves each support toward the test probe contacts. Each device is ejected from the chamber by an ejector mechanism after it has been tested. The test probe contacts are maintained at the controlled chamber temperature, while the test circuitry associated with the probe contacts is maintained at the temperature prevailing outside the chamber.

3,408,566

PHASE SHIFT METHOD AND APPARATUS FOR MASS-INDEPENDENT MEASUREMENT OF THE PROPERTIES OF DIELECTRIC MATERIALS

Alan Norwich, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio

Filed Mar. 17, 1964, Ser. No. 352,482
13 Claims. (Cl. 324—61)



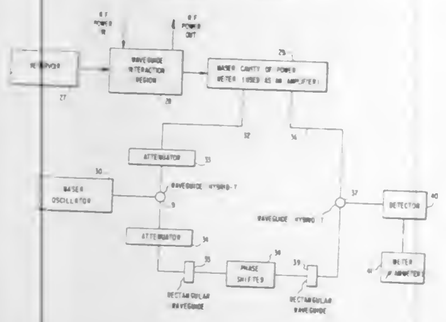
Specifically described and illustrated herein is a method and apparatus for measuring the moisture content of a continuously moving sheet of paper having a variable mass per unit area in addition to a variable moisture content. The paper is passed adjacent to a capacitive probe having spaced electrode energized with a radiofrequency voltage, and a signal from the probe is detected. The portion of the signal which is due to the effect of the capacitance of the probe in the absence of the material is balanced out. The phase shift of the remaining portion of the detected signal is measured with respect to the phase of the voltage applied to the probe, independently of the amplitudes of the detected signal and the applied voltage. The resultant output signal indicates the percentage moisture content of the paper and is independent of the mass of the paper and the mass variations.

3,408,567

RF POWER METER EMPLOYING A TRAVELLING WAVE APPARATUS AND A MASER CAVITY

Walter K. Kahn, Brooklyn, N.Y., assignor to Polytechnic Institute of Brooklyn, a corporation of New York

Filed Aug. 20, 1964, Ser. No. 390,927
5 Claims. (Cl. 324—95)



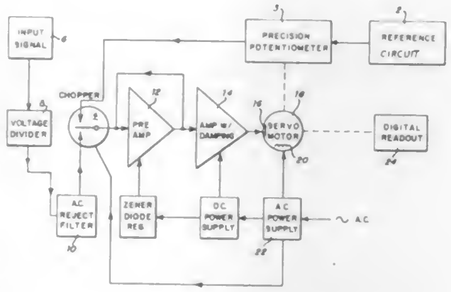
A radio frequency power meter is disclosed by the hereinafter specification. According to the invention a beam of gas molecules is formed and directed through an RF field of unknown field strength in a waveguide. The field acts to focus or defocus the beam. The focused or defocused beam is received in a maser cavity where it is used to amplify a standard signal from a source of such signals. The amount of amplification achieved within the cavity is dependent upon the population state of the gas beam which state is dependent on the energy content of the RF field. The amplified signal is compared with a phase shifted signal from the standard source to produce a resultant output signal that is indicative of RF power and may be displayed. This abstract is neither intended to define the invention of the application which, of course, is to be measured by the claims nor is it intended to be limiting as to the scope of the invention in any way.

3,408,568

SERVO-BALANCING VOLTMETER EMPLOYING AN OVERVOLTAGE PROTECTED CHOPPER AND A D.C. DAMPED SERVO-MOTOR

Bernard Fisher, Dayton, Ohio, assignor to United Systems Corporation, Dayton, Ohio, a corporation of Ohio

Filed June 24, 1963, Ser. No. 290,020
3 Claims. (Cl. 324—99)



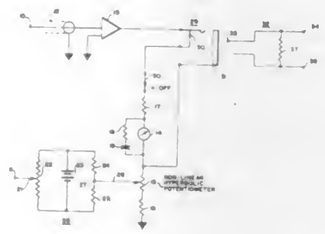
The invention contemplates the incorporation into a digital reading meter of the servo-balancing potentiometer type employing chopper comparator means, of a pair of oppositely poled diodes in parallel across a pair of chopper contacts, with unlike poles facing one another. The diodes are arranged to employ the forward characteristic or forward drop of the diodes so as to limit the voltage across the chopper contacts to the normal ½ volt drop typical of the forward characteristic of such diodes. In another aspect of the invention a capacitor is employed in the base biasing circuit of a transistor stage of the amplifier which discharges when the AC error signal disappears to thus permit the higher static DC current level to pass through the motor coil to create a drag field on the motor to effect braking action.

3,408,569

NULL BALANCE FOR pH METER

Donald C. Douglass, St. Pomona, and Jack J. Keegan, Fullerton, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed Sept. 8, 1964, Ser. No. 394,968
2 Claims. (Cl. 324—123)



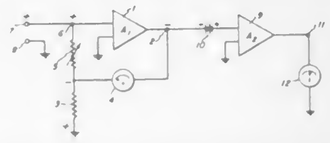
A null balance circuit for a pH meter is described in which a feedback resistor is provided with a hyperbolic taper to linearize the change in instrument sensitivity with adjustment of a tap on the feedback resistor. A variable balancing tap on an associated bridge balancing network connecting a reference electrode to the feedback resistor tap may be varied, together with the sensitivity tap, to rapidly balance the instrument. An output connection removes a null meter and its characteristics from the output of the pH amplifier and simultaneously replaces it with a recorder and with a proper series recorder impedance. The recorder impedance may be mounted in a phone jack which disconnects the meter and connects the recorder.

3,408,570

WIDE SCALE INDICATOR FOR WEAK CURRENT AMPLITUDES WITHIN A PREDETERMINED RANGE ABOVE A MINIMUM AMPLITUDE

Robert L. Watters, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed July 1, 1964, Ser. No. 379,486
3 Claims. (Cl. 324—131)



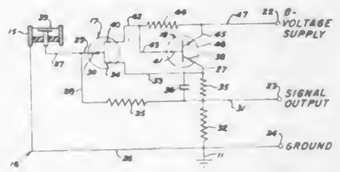
Apparatus for providing an expanded scale indication for current measured by an electrometer utilizes a bias voltage in series opposition with the output signal of the electrometer so that the output signal amplitude must exceed the bias voltage amplitude before an indication is produced on the expanded scale. This insures that the electrometer is operating above its high drift range, enhancing reliability of the expanded scale indication.

3,408,571

TRANSISTORIZED HIGH-INPUT-IMPEDANCE AMPLIFIER

George Paul Wilson, San Anselmo, Calif. (5917 Fresno Ave., Richmond, Calif. 94804)

Continuation-in-part of application Ser. No. 330,116, Dec. 12, 1963. This application Jan. 27, 1966, Ser. No. 528,696
25 Claims. (Cl. 325—145)



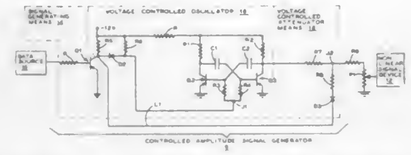
A self-contained miniaturized assembly for a microphone and a high-impedance-input amplifier. A housing contains a condenser microphone, having first and second terminals, and an amplifier. The amplifier includes a field-effect transistor having a gate connected to the second terminal and having third and fourth terminals, an amplifier transistor having a base connected to the third terminal, an emitter, and a collector, a D-C power supply having a negative side and a positive side connected to the first terminal through a ground line, a first resistor connecting the negative side of the power supply to the third terminal, a signal output line connected to the second terminal through a second resistor, a third resistor connecting the signal output line to the ground line on the signal output terminal side of the second resistor, and a fourth resistor and a first capacitor connected in parallel between the signal output side of the third resistor and the fourth terminal and the collector in parallel. There may be a frequency-modulation transmitter in the same housing connected to the signal output line.

3,408,572

CONTROLLED AMPLITUDE FREQUENCY SHIFT SIGNAL GENERATOR

Edgar Wolf, New Hyde Park, and Francis C. Marino, Huntington, N.Y., assignors to Digitronics Corporation, Albertson, N.Y., a corporation of Delaware

Filed July 6, 1965, Ser. No. 469,764
9 Claims. (Cl. 325—163)



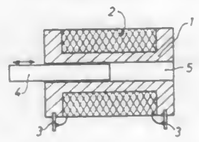
A controlled amplitude signal generator transmits signals shifting between two frequencies to a non-linear device. The controlled amplitude signal generator comprises a signal generating means for generating a signal shifting between two voltage levels which controls the output frequency of a voltage-controlled oscillator. The output of the oscillator is connected to the non-linear device via an attenuator whose attenuation properties are controlled by the signal from the signal generating means. Thus, the signal generating means not only controls the frequency but also the amplitude of signals fed to the non-linear device.

3,408,573

COIL CORE MANUFACTURED FROM SOFT-MAGNETIC AND PERMANENT-MAGNETIC MATERIALS

Hellmuth Wullkopf, Harksheide, and Gerd Samow, Hamburg-Fuhlsbuttel, Germany, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed June 8, 1966, Ser. No. 556,144
Claims priority, application Germany, June 19, 1965, P 37,088
7 Claims. (Cl. 335—297)



1. A coil core manufactured from soft-magnetic and permanent-magnetic materials in which the permanent-magnetic material serves for bias magnetization of the soft-magnetic material, characterized in that the coil core consists of a mixture of soft-magnetic and permanent-magnetic materials in powder form homogeneously distributed in a solid plastic binder.

3,408,574

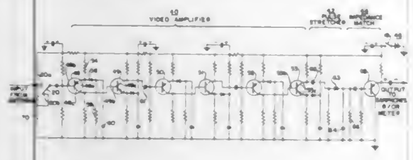
PORTABLE RADAR WARNING RECEIVER

Charles J. Schmidt, Islip, and Oliver G. Currlin, Massapequa, N.Y., assignors to Maxson Electronics Corporation, Great River, N.Y., a corporation of New York

Filed Apr. 13, 1964, Ser. No. 359,387
5 Claims. (Cl. 325—364)

A portable radar warning unit comprises a crossed polarization antenna coupled to video detectors. The output of the detectors is coupled to a video amplifier having

a logarithmic gain characteristic. A switchable attenuator is provided at the input of the video-amplifier to provide a predetermined attenuation to the input video signals. The output of the logarithmic video amplifier is coupled to an output indicator. By selectively placing the attenua-

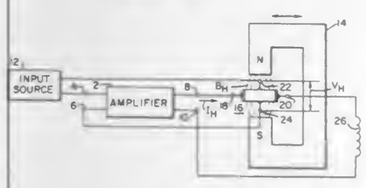


tion into the amplifier the direction of the radiated radar signals as a function of the maximum strength thereof, and the range variation of the radar signal as a function of the time that it takes for the output signals to return to the value prior to the insertion of the attenuation, may be determined.

3,408,575
RECEIVING APPARATUS USING HALL EFFECT FEEDBACK CONTROL

Edward A. Petrocelli, Daytona Beach, Fla., and Hung Chang Lin, Silver Spring, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 23, 1965, Ser. No. 450,412
5 Claims. (Cl. 325—411)

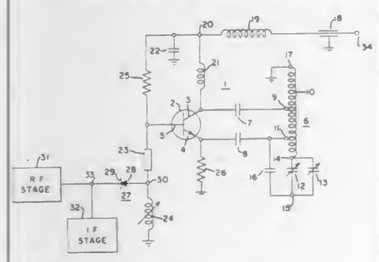


A Hall effect device is disposed in the magnetic field of an audio output transducer with its current coil connected in the output of the amplifier, thereby generating an output proportional to the product of the current and the magnetic field, which output is negatively fed back to the input of the amplifier.

3,408,576
VARIABLE FREQUENCY TRANSISTORIZED RF AMPLIFIER WITH AMPLITUDE COMPENSATED OUTPUT

Sanjar Ghaem-Maghami, Liverpool, N.Y., assignor to General Electric Company, a corporation of New York

Filed Sept. 21, 1964, Ser. No. 397,822
11 Claims. (Cl. 325—439)

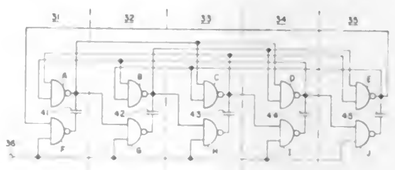


An adjustable LC network is connected between the collector and base electrodes of a transistor to permit frequency variation in a UHF transistor oscillator. The base electrode of the transistor is connected to a biasing resistor and a series frequency sensitive voltage dividing impedance. A first element of the voltage dividing impedance comprises a carbon resistor with inherent capacitive reactance and a second element of the voltage dividing impedance comprises an inductor with a low resistance. Utilization circuitry including a mixer diode for RF conversion is connected to the junction point between the carbon resistor and inductor.

3,408,577
PULSE COUNTER

Robert J. Ehret, Los Altos, Calif., assignor to Beckman Instruments, Inc., a corporation of California

Filed July 1, 1966, Ser. No. 562,179
3 Claims. (Cl. 328—43)

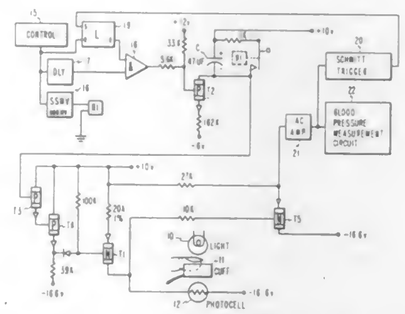


A ring counter consisting of a plurality of logic gates, a given one having its output terminal connected to input terminals of the two most remote gates for an odd number of stages and of the three most remote gates for an even number of stages in the ring and of an input switching gate having its input terminal connected to the input terminal of a logic gate adjacent the given one whereby only two or three input terminals are required for each logic gate depending upon whether the number of stages are odd or even.

3,408,578
AUTOMATIC GAIN CONTROL CIRCUIT

William D. Smith, Rochester, Minn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Oct. 20, 1965, Ser. No. 498,275
5 Claims. (Cl. 328—67)

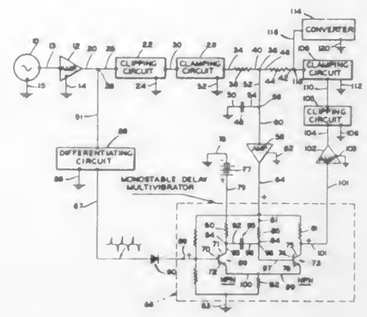


An automatic gain control circuit is provided for fixing a current level in a photoelectric cell. A storage capacitor is connected to the base of a control transistor which in turn is connected in series with the photoelectric cell. The capacitor is initially discharged and then charged to a level where the collector of the transistor is at a desired value. The collector current is sensed by an AC amplifier and Schmitt trigger. The triggering of the Schmitt trigger discontinues the charging of the capacitor.

3,408,579
VARIABLE PHASE SHIFT GENERATOR

Ralph M. Pincus, Fort Lee, N.J., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware

Filed Feb. 12, 1965, Ser. No. 432,194
5 Claims. (Cl. 328—155)

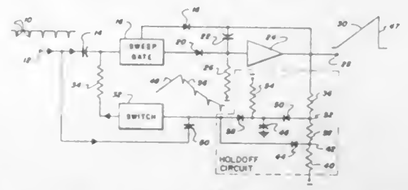


Means for providing a reference signal having a preselected phase relationship with a sinusoidal input signal. The sinusoidal signal is converted to a square wave pulse and which square wave pulse is maintained at a predetermined level relative to a fixed potential. Another pulse is provided at a predetermined level but in an opposite sense relative to the fixed potential with the amplitude and pulse width of said other pulse varying with the phase angle of the square wave pulse.

3,408,580
OSCILLOSCOPE DEVICE EXHIBITING REDUCED JITTER

Hiro Moriyasu, Beaverton, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon

Filed Mar. 17, 1966, Ser. No. 535,211
11 Claims. (Cl. 328—185)

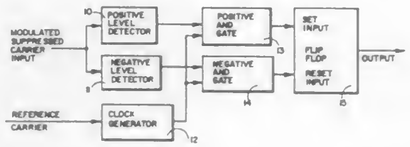


An oscilloscope device, including a horizontal sweep generator, is provided with a holdoff circuit for developing a sweep holdoff signal at the end of each horizontal sweep waveform. Repetitive sweep triggering signals derived from repetitive input signals are coupled for initiating operation of the sweep generator, and are also coupled to a control means or switch operated by triggering signals and the holdoff signal. This control means inhibits operation of the sweep generator until such time as the said control means responds conjointly to a triggering signal and a predetermined level of holdoff signal for enabling operation of the sweep generator. The sweep generator will then not be triggered in response to the same triggering signal that operated the control means, but will be enabled to respond stably to the next triggering signal whereby jitter in generation of the horizontal sweep is avoided. Desirably the control means is responsive to a higher value of the hold off signal so as to be switched by the holdoff signal alone after a more extended period of time. In this manner, the oscilloscope is rendered more fully responsive to low repetition rate signals.

3,408,581
DIGITAL SUPPRESSED CARRIER DEMODULATOR

Charles Y. Wakamoto, Orange, and Larry L. Wilson, Placentia, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware

Filed Aug. 26, 1965, Ser. No. 482,684
6 Claims. (Cl. 329—50)



A digital suppressed carrier demodulator capable of generating a square wave or digital output from a modulated suppressed carrier input. The modulated suppressed carrier is fed into level detectors which provide "true" outputs to corresponding "AND" gates when the incoming carrier is at the respective detector's trigger level. These "true" signals are then "ANDed" with a clock pulse at the same frequency as the carrier reference signal. The outputs of the "AND" gates are applied to "set" and "reset" inputs of a flip-flop causing it to toggle with the modulation. The clock pulses are phased at a nominal 90° with respect to the carrier to provide assurance of a definite "true" signal from the level detectors.

3,408,582
WIDE DYNAMIC RANGE SQUARE-LAW DETECTOR WITH LOGARITHMIC READ-OUT

Ralph H. Britton, Jr., Palo Alto, Calif., assignor to Alfred Electronics, Palo Alto, Calif., a corporation of California

Filed June 16, 1966, Ser. No. 558,091
10 Claims. (Cl. 329—192)



1. A detector system for recovering a signal modulated upon a carrier, comprising in combination:
crystal detector means to which the modulated carrier is applied and which provides a detected signal, said crystal detector means having a square-law region for small amplitude detected signals, a linear region for large amplitude detected signals and a transition region for intermediate amplitude detected signals;
a logarithmic gain amplifier responsive to said detected signal and operative to provide a first signal, said logarithmic gain amplifier having gain which varies as the logarithm of the amplitude of said detected signal; and
variable gain amplifier means responsive to said first signal and operative to provide a second signal, said variable gain amplifier means having a gain which varies with the amplitude of said first signal.

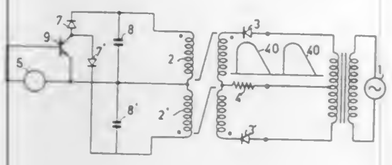
3,408,583
MAGNETIC AMPLIFIER

Marinus Pieter Breedveld, The Hague, and Cornelis Josephus Maria Huyben, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Feb. 3, 1964, Ser. No. 342,206
Claims priority, application Netherlands, Feb. 8, 1963, 288,713
18 Claims. (Cl. 330—8)

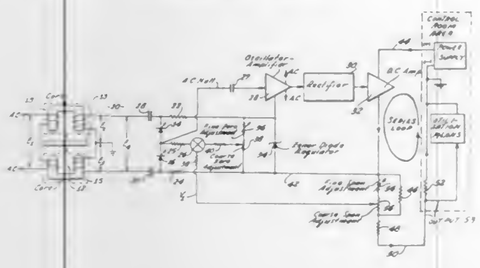
A magnetic amplifier includes a winding wound on a saturable magnetic core. A first rectifier is connected in

series with the winding, a source of A.C. voltage and a load. A capacitor is coupled to the winding to form a resonant circuit therewith tuned approximately to the frequency of the A.C. voltage. A control circuit is coupled



to the winding and comprises an adjustable damping element in series with a second rectifier poled so as to pass a current to the winding which magnetizes the core in the same direction as the load current passed by the first rectifier.

3,408,584
SELF-EXCITED LINEAR DC AMPLIFIER HAVING A BRIDGE INPUT PORTION
Edward J. Miller, Jr., Tempe, and George A. Prell, Phoenix, Ariz., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Oct. 14, 1963, Ser. No. 315,997
6 Claims. (Cl. 330—9)



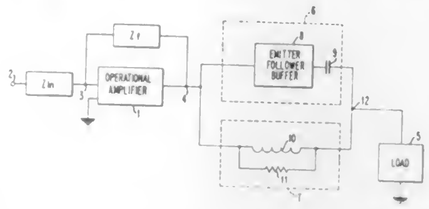
An AC symmetrical bridge network having a varactor diode in each of two legs in series connection with a center tapped transformer input forming the two other legs of the bridge. Two capacitors couple the transformer to the varactor diodes. An AC amplifier amplifies the signal from the junction of the two varactor diodes and feeds back the AC signal to the center tapped transformer. This loop connection forms an oscillator. When the bridge is unbalanced, the amplitude of the oscillations increases. A DC feedback including a DC amplifier is provided which tends to re-balance the bridge by adjusting the voltage across the diodes. Perfect bridge balance is never reached.

3,408,585
OPERATIONAL AMPLIFIER WITH IMPROVED DRIVE MEANS
James C. Greeson, Jr., Woodstock, N.Y., and James J. Kennedy, Rochester, Minn., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 9, 1966, Ser. No. 600,496
3 Claims. (Cl. 330—20)

1. In combination with an operational amplifier having input and negative feedback impedances,

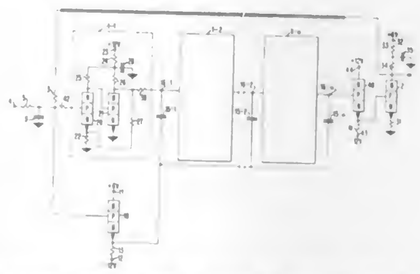
circuit means for coupling the output of the amplifier to various reactive load impedances without disturbing amplifier stability, said circuit means being characterized by:

a first signal path including a series-connected capacitor and an active buffer device coupling high frequency signals from the amplifier output to the load and blocking low frequency signals; and



a second signal path including an inductive element coupling low frequency signals from the amplifier output to the load and blocking high frequency signals.

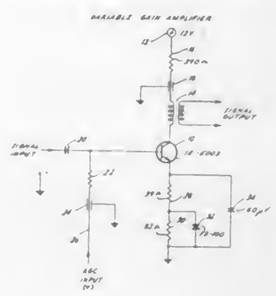
3,408,586
FEEDBACK AMPLIFIER UTILIZING A FEED FORWARD TECHNIQUE TO ACHIEVE HIGH DIRECT CURRENT GAIN AND WIDE BANDWIDTH
Robert Ordower, Vestal, N.Y., assignor to International Business Machines Corporation, a corporation of New York
Filed July 19, 1966, Ser. No. 566,328
8 Claims. (Cl. 330—28)



A stable direct current feedback amplifier with a high gain bandwidth product includes a low frequency path characterized by a plurality of cascaded transistor amplifier stages and a high frequency path characterized by an emitter follower. Each stage has a high input impedance and a low output impedance. Resistors of selected value couple the output of each stage to the input of the next stage, and capacitors of selected value couple the output of the emitter follower to the second and succeeding stages to bypass succeedingly higher frequency signals around a succeedingly larger number of stages. The low voltage gain of the high frequency path (e.g. less than unity) obviates conditional stability problems encountered in the known art, and the capacitors roll off the loop gain of the amplifier at a constant predetermined slope.

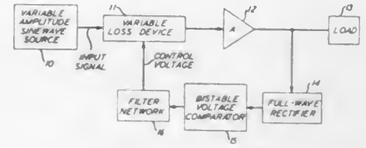
3,408,587
VARIABLE GAIN AMPLIFIER
William W. Lancaster, Philadelphia, Pa., assignor to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Aug. 15, 1966, Ser. No. 572,359
11 Claims. (Cl. 330—29)

Automatic gain-controlled transistor amplifier whose emitter circuit includes serially-connected resistors with a diode in parallel with one resistor. When weak input signals are received, AGC current will be low, creating a low emitter current which is insufficient to forward bias the diode, whereby full resistance of both resistors will be in series with emitter. High emitter impedance pro-



vides low AGC sensitivity for reduction of noise in output. Strong input signals create a high AGC current and hence a high emitter current which forward biases the diode, shorting out one resistor. Low emitter impedance provides a high AGC sensitivity for reduction of loading of AGC supply stage.

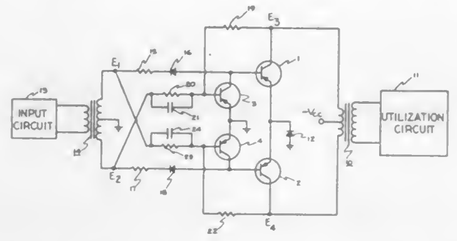
3,408,588
AUTOMATIC CONTROL SYSTEM UTILIZING BISTABLE VOLTAGE COMPARATOR
John J. Rugo, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Dec. 29, 1966, Ser. No. 605,792
6 Claims. (Cl. 330—29)



In an automatic control system for a periodic input signal a full-wave rectified sample of the output of the system is compared in a bistable voltage comparator to a predetermined threshold level, thereby generating a square wave which has an average value proportional to the amplitude of the sampled signal. The filtered square wave is then used as a control voltage to control and stabilize the amplitude of the output signal.

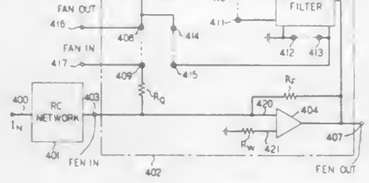
3,408,589
OVERLOAD PROTECTION CIRCUIT FOR TRANSISTOR AMPLIFIER
Norman S. Nishioka, Downey, Calif., assignor to California Computer Products, Inc., Anaheim, Calif., a corporation of California
Filed Sept. 18, 1964, Ser. No. 397,418
3 Claims. (Cl. 330—51)

1. An amplifier comprising, in combination, a pair of output transistors, each of said transistors having an emitter, a collector and a base electrode, means for applying a rectangular wave input signal to the base electrodes of said transistors in opposite phase, means for coupling said emitter electrodes to a common junction, means for applying a direct-current supply voltage to said collector electrodes, a pair of auxiliary switching transistors, each having base and collector electrodes respectively coupled to the collector and base electrodes of a different one of the output transistors and an emitter electrode coupled to said common junction, each of said auxiliary switching transistors being operative to switch the associated output



transistor into a state of nonconduction whenever the voltage at the collector electrode of the associated output transistor exceeds a predetermined threshold level, and means coupled to the collector electrodes of said output transistors for providing an amplified output voltage.

3,408,590
ACTIVE HYBRID FILTER USING FREQUENCY EMPHASIZING AND ATTENUATING NETWORKS
George S. Moschytz, Highland Park, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Oct. 31, 1966, Ser. No. 590,700
8 Claims. (Cl. 330—85)

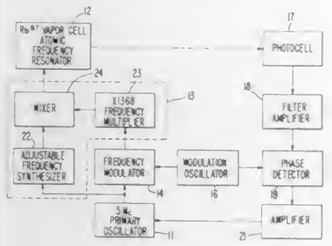


1. In a wave transmission network, a passive filter network which includes only resistive and capacitive elements and a frequency emphasizing network connected in cascade with said passive filter network for accentuating the transmission characteristic at the natural frequency of said passive filter network, said frequency emphasizing network including a first amplifier and a feedback circuit connected between the input and output of said first amplifier, said feedback circuit including in series a frequency selective network having an attenuation peak at said natural frequency and a second amplifier arranged with said first amplifier to isolate said frequency selective network from said passive network.

3,408,591
TIME SCALE CHANGER FOR ATOMIC STABILIZED FREQUENCY SOURCES
Alan L. Helgesson, Los Altos Hills, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Sept. 16, 1966, Ser. No. 579,939
11 Claims. (Cl. 331—3)

A first oscillator operated to provide a first frequency signal is coupled to a phase modulator and a fixed divider. The divider provides a signal which triggers a sam-

ple pulse generator to generate a pulse train. A second oscillator provides a second frequency signal which is adjustable in steps of a selected frequency increment being equal to the pulse repetition rate of the pulse train generated by the sample pulse generator. The frequency signals from the first and second oscillators are coupled to a mixer which provides a signal having a frequency equal to the difference of the frequency signals. The difference frequency signal is coupled to a phase-to-voltage comparator which is gated by the pulses of the pulse train to provide a DC voltage proportional to the amplitude

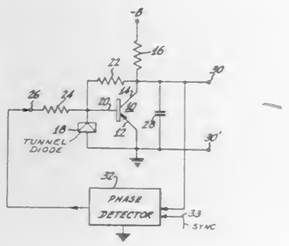


of the difference frequency signal during the presence of the pulse at the comparator. The DC voltage is coupled to lock the second oscillator to the second frequency. Frequency multipliers, dividers and mixers receive the frequency signals from the oscillators and provide a frequency modulated signal having a center frequency corresponding to a hyperfine resonance frequency of an atomic frequency resonator. The frequency modulated signal is coupled to initiate hyperfine energy state transitions in the resonator. The transitions are monitored to generate an error signal to lock the first oscillator to the first frequency.

3,408,592
TRANSISTOR-NEGATIVE RESISTANCE DIODE CIRCUITS USING D.C. FEEDBACK

Gerald B. Herzog, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Apr. 19, 1961, Ser. No. 104,165
9 Claims. (Cl. 331—8)

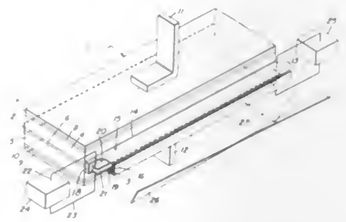


1. The combination comprising a transistor having input, output and common electrodes, a negative resistance diode of the voltage controlled type having high and low voltage states connected between said input electrode and said common electrode in a polarity to maintain said transistor cut-off when said diode is in said low voltage state and to cause conduction in said transistor when said diode is in said high voltage state, means including an impedance for coupling a source of unidirectional voltage between said output and said common electrodes, and a direct current feedback connection means between said output electrode and said input electrode to switch said diode between said high and low voltage states.

3,408,593
SCANNED LASER BEAM DEVICE

Henry Hurwitz, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Apr. 30, 1964, Ser. No. 363,832
11 Claims. (Cl. 331—94.5)

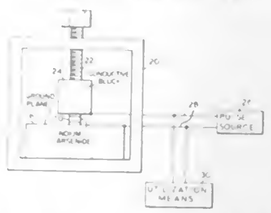


A scanning beam of coherent light is emitted from a laser by situating a light valve cell between a pair of polarizers along one of the reflecting ends of the laser. The polarizers are of mutually perpendicular polarization. A transmission line is disposed along the length of the cell. When an electrical pulse is transmitted along the line, the cell becomes doubly refracting in the vicinity of the pulse, thereby rotating the polarization of light received from the polarizer adjacent the laser by 90° so that the light may pass through the remaining polarizers.

3,408,594
INDIUM ARSENIDE GUNN OSCILLATOR

John W. Allen, Palo Alto, Megha Shyam, East Palo Alto, and Gerald L. Pearson, Menlo Park, Calif., assignors to Research Corporation, New York, N.Y., a nonprofit corporation of New York

Filed Oct. 19, 1966, Ser. No. 587,931
6 Claims. (Cl. 331—107)



A Gunn type oscillator is provided by applying pressure to a semi-conductor body, made of indium arsenide for example, while applying an electric potential thereacross.

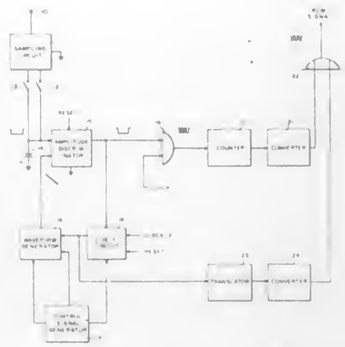
3,408,595
PULSE CODE MODULATION SYSTEM

Kurt Hillman, Flushing, N.Y., assignor to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware

Filed May 3, 1965, Ser. No. 452,776
10 Claims. (Cl. 332—11)

A staircase waveform generator for PCM systems is described wherein all or part of an arbitrary quantizing characteristic can be generated by the control of band and level switches. The generator comprises a resistive network to which a reference voltage can be applied at

many points with the effective resistance between the reference and ground being varied by switches. The net-

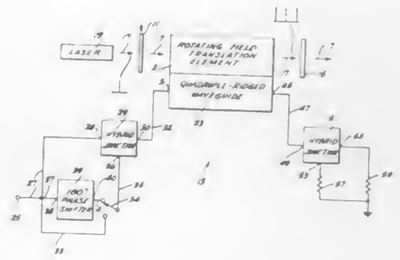


work is divided into bands which permit simultaneous generation of portions of the waveform.

3,408,596
MULTIPLE TRANSLATION LASER MODULATOR

Robert L. Forward, Oxnard, and Francis E. Goodwin, Malibu, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed May 25, 1965, Ser. No. 458,710
3 Claims. (Cl. 332—16)



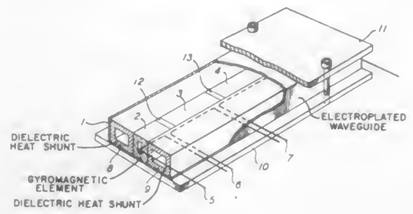
This is a laser frequency translator capable of accurately increasing or decreasing the frequency of a laser beam passing through it, comprising a laser generating a laser beam that is intercepted in turn by a first quarter-wave plate followed by a succession of half-wave rotating elements with adjacent ones of these elements having opposite senses of positive rotation and thereafter followed by a second quarter-wave plate. All but one of the half-wave elements may be of the fixed frequency narrow band type while the remaining half-wave element is a variable frequency wide band type.

3,408,597
NONRECIPROCAL GYROMAGNETIC WAVEGUIDE DEVICE WITH HEAT TRANSFER MEANS FORMING A UNITARY STRUCTURE

George L. Heiter, Whippany, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 11, 1966, Ser. No. 549,325
4 Claims. (Cl. 333—24.1)

A waveguide device is constructed about a pair of dielectric heat transfer members which are bonded to a gyromagnetic element thus forming a mandrel having exact dimensions required for the waveguide. A conductive boundary, deposited upon the mandrel, forms a unitary structure which can be clamped to an external heat

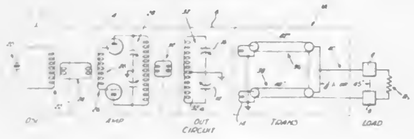


sink to provide an effective means for removing heat from the gyromagnetic element.

3,408,598
LOAD COMPENSATING CIRCUIT FOR RADIO FREQUENCY GENERATORS

John T. Beeston, Jr., 712 32nd St., Des Moines, Iowa 50312

Filed Nov. 15, 1963, Ser. No. 324,101
5 Claims. (Cl. 333—33)

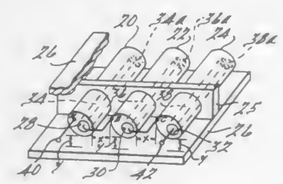


A high frequency system which can be used for various purposes, such as diathermy treatment, destructive effect on insects, or the like, which comprises a high frequency source having a tuned output circuit, electrode means for applying radio frequency generated by the source to a load, and coupling means connecting the output circuit with the electrode means, wherein the coupling means includes reactive means for automatically electrically producing equal and opposite cancelling electrical effects in response to variations in the load to maintain resonance of the tuned output circuit.

3,408,599
DISTRIBUTED CONSTANT FILTER CIRCUITS COMPRISING AN ARRAY OF COUPLED, PARALLEL, CONDUCTIVE BARS

Milford C. Horton, Birmingham, and Robert J. Wenzel, Hazel Park, Mich., assignors to The Bendix Corporation, a corporation of Delaware

Filed Nov. 14, 1966, Ser. No. 594,245
17 Claims. (Cl. 333—73)

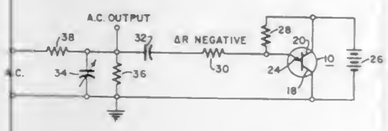


A strip line microwave filter for passing or stopping a prescribed band of frequencies, comprising an array of parallel, conductive bars coupled along their length and to a ground potential plane, with internal line elements disposed in the bars.

3,408,600
TUNED AMPLIFIER EMPLOYING UNIJUNCTION TRANSISTOR BIASED IN NEGATIVE RESISTANCE REGION

Angel G. Jordan, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 10, 1961, Ser. No. 94,868
1 Claim. (Cl. 333—80)

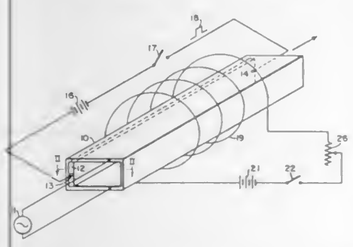


1. A regenerative tuned amplifier comprising a semiconductor unijunction transistor, means to bias said unijunction transistor to an operating point in the negative resistance region of its current-voltage characteristic and means electrically coupled in series with said unijunction transistor having a positive resistance of a magnitude slightly less than the negative resistance of said unijunction transistor at said operating point, capacitive means and load means each connected in parallel with the negative resistance region of said unijunction transistor.

3,408,601
MAGNETOPLASMA MICROWAVE SWITCH

Charles Moskowitz, Randallstown, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation-in-part of application Ser. No. 447,194, Apr. 12, 1965. This application June 7, 1967, Ser. No. 644,239
6 Claims. (Cl. 333—98)



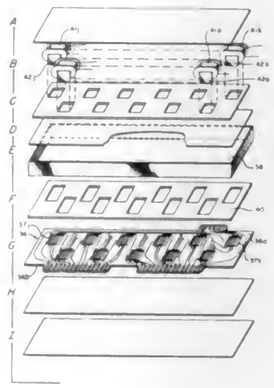
A microwave switch, or attenuator, utilizing so-called anomalous skin effect is described herein. A high density electron plasma exists in most single crystal metals. The electron plasma in metals may be thought of as an electron gas.

In the presence of a magnetic field the electrons move in circular orbital paths, the planes of which are perpendicular to the field. The rotational frequency of the electrons is called cyclotron frequency and depends upon the electron charge, mass and the strength of the magnetic field. When the cyclotron frequency equals the microwave signal frequency, the electrons will absorb microwave energy at the same frequency. The magnetic field is adjusted to make the cyclotron frequency equal to the operating frequency of the wave guide so that the orbiting electrons will absorb the microwave energy and constitute an effective open switch. An electric biasing field applied to the single crystal metal body in a direction parallel to the magnetic field will increase the collision frequency of the electrons. A bias voltage that makes the collision frequency equal to or greater than the cyclotron resonance frequency causes the orbital movement of the electrons to cease and the anomalous skin effect is destroyed, thus producing the effect of a closed microwave switch so that the microwave energy passes down the guide. Switching action is obtained by switching the biasing field on and off.

3,408,602
SHIELDED SWITCHING DEVICE

Malcolm M. McWhorter, Menlo Park, Calif., assignor to Vidar Corporation, Mountain View, Calif., a corporation of California

Filed Apr. 12, 1967, Ser. No. 630,385
4 Claims. (Cl. 335—112)



A switching device with leaf switches in groups of three are mounted in cutouts in a printed circuit board. Each switch group is associated with a voltage or current source which is selectively switched to a common output. Printed circuitry associated with one of the three switches is a guard conductor and the remaining circuitry, data conductors. Such data circuitry of each switch is isolated from each other by proper arrangement of the guard conductor on the board. Metal plates on each side of the board provide isothermal planes.

3,408,603
SHIELDING ARRANGEMENT FOR A REED RELAY

Ralph Morrison, Pasadena, Calif., assignor to Dynamics Instrumentation Company, a corporation of California

Filed July 1, 1966, Ser. No. 562,391
12 Claims. (Cl. 335—151)



1. A reed relay structure wherein at least one current path is controlled in accordance with control signals, comprising:

a set of reed contacts adapted to be connected in said current path;

a magnetic coil means for controlling said reed contacts to be opened and closed;

a first conductive shield fixed about said set of reed contacts;

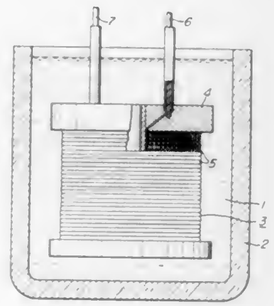
a second conductive shield fixed about said first conductive shield; and

insulation means for ohmically isolating said first and said second conductive shields.

3,408,604
SUPERCONDUCTING ALLOYS AND APPARATUS FOR GENERATING SUPERCONDUCTING MAGNETIC FIELD

Toshio Doi, Masao Mitani, Masaru Kobayashi, and Hideharu Ohara, Tokyo, and Seijiro Maeda, Fuchu-shi, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

Continuation-in-part of application Ser. No. 390,821, Aug. 20, 1964. This application Mar. 6, 1967, Ser. No. 620,936
Claims priority, application Japan, Oct. 23, 1963, 38/56,102
11 Claims. (Cl. 335—216)



A superconducting magnet containing at least one coil made of an alloy having superconductivity at a temperature below its critical temperature, said alloy consisting essentially of about 20 to 63 atomic percent niobium, about 1 to 79 atomic percent zirconium and about 1 to 79 percent titanium. The superconducting alloys of the present disclosure find application in superconducting magnets for magnetic hydrodynamic generators and in coils for magnets which provide the driving force in submarines.

ERRATA

For Class 335—216 see:
Patent No. 3,408,619

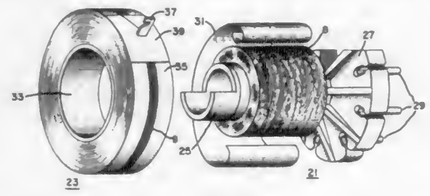
For Class 335—297 see:
Patent No. 3,408,573

3,408,605
HORIZONTAL OUTPUT TRANSFORMER FOR TELEVISION RECEIVERS

William L. Hughes, North Syracuse, and Benjamin O. Powell, Liverpool, N.Y., assignors to General Electric Company, a corporation of New York

Continuation of application Ser. No. 539,702, Apr. 4, 1966. This application Feb. 13, 1968, Ser. No. 705,226
5 Claims. (Cl. 336—96)

This invention is directed to a horizontal output transformer having a primary winding assembly surrounded by an annular tertiary assembly which includes an open ended cylindrical coil form having a non-wax-impregnated layer-wound tertiary winding positioned thereon. The layers of the tertiary are separated by slow burning polyethylene terepthalate film. A napthalene chloride wax

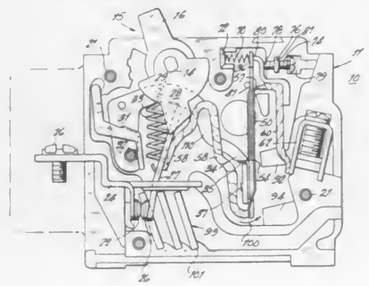


corona tire surrounds the tertiary assembly and extends into the interstices between adjacent layers of the film.

3,408,606
LOW AMPERE CIRCUIT BREAKER WITH INDIRECTLY HEATED THERMAL ELEMENT

Felix E. Myers, Haddon Heights, N.J., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed June 10, 1966, Ser. No. 556,607
6 Claims. (Cl. 337—59)



A circuit breaker construction intended for low ampere applications, typically below 4 amperes, which includes the basic operational components of a higher rated circuit breaker, with an additional heater means being series wound about the overload responsive bimetal to suitably modify the tripped characteristics.

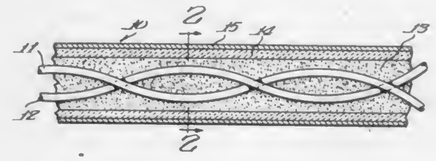
ERRATUM

For Class 337—94 see:
Patent No. 3,408,469

3,408,607
SHIELDED CONDUCTOR FOR USE AS THERMOELECTRIC TRANSDUCER

Bayard C. Davis, Lombard, Ill., assignor to Continental Sensing, Inc., Melrose Park, Ill., a corporation of Illinois

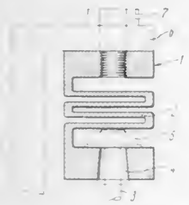
Filed Apr. 11, 1966, Ser. No. 541,570
5 Claims. (Cl. 338—26)



A shielded conductor for use as a thermoelectric transducer, including at least a pair of spaced conductive wires

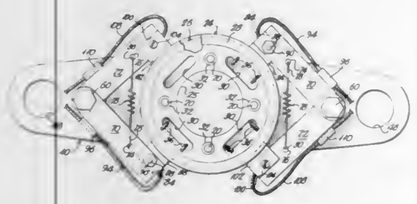
embedded in heat-responsive semiconductor material. The outer metallic sheath is insulated from the semiconductor material by temperature-resistant electrically-insulating material. The conductive wires may be maintained in a helically wrapped configuration, and may be formed of dissimilar materials capable of establishing thermoelectric junctions across the semiconductor material. A separate voltage sensing lead may be embedded in the electrically insulating material and attached at one end to one of the conductive wires.

3,408,608
CONNECTOR FOR HIGH TEMPERATURE ELECTRICAL HEATING ELEMENT
Nikolai Mikhailovich Chikinev, Kaluzhskoi Oblasti, ulitsa Pushkina, 2/5, Apt. 49, Obninsk, U.S.S.R.
Filed June 16, 1965, Ser. No. 464,324
8 Claims. (Cl. 338—316)



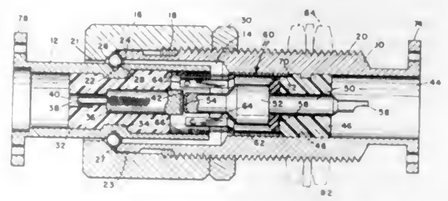
An expansion compensator connecting a heater element and a current-carrying terminal of a high temperature heater such as in high pressure furnaces in which the temperature may reach as high as 3200° C. and the pressure as high as hundreds of atmospheres. The compensator is an axially deformable graphite body in the form of a sylphon, spiral spring, zig zag member, or the like.

3,408,609
BRUSH AND COLLECTOR RING ASSEMBLY
Lavern R. Iserman, Waverly, Iowa, assignor to United Equipment Accessories, Inc., Waverly, Iowa, a corporation of Iowa
Filed Jan. 10, 1967, Ser. No. 608,437
5 Claims. (Cl. 339—8)



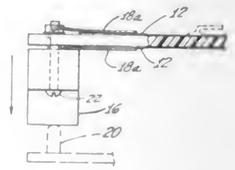
A collector ring support means formed of a plurality of spacer members of electrical insulating material supports a plurality of annular collector rings in spaced parallel relationship to one another. A brush support means includes a pair of upwardly extending pins. A plurality of pairs of arms are disposed on these pins, each of the arms being vertically slidable along the associated pins. Each adjacent pair of arms is connected by a spring to bias the outer ends of the arms toward one another. Brushes are mounted on the outer ends of the arms for engagement with the collector rings. The outer ends of the arms are provided with cutout portions within which the brushes are disposed, the cutout portions being in facing surfaces of adjacent arms so that the brushes of the two associated arms are disposed substantially in the same plane. In one form of the apparatus, the brushes are pivotally supported at the outer end of the arms to compensate for wear or misalignment of the collector rings with respect to the brush support means. Integral clips are provided on the outer edges of the arms for supporting electrical leads connected with the brushes of the associated arms.

3,408,610
ROTATABLE COAXIAL COUPLING
Anthony T. Clarkson, 5655 N. Maria Drive, Tucson, Ariz. 85704
Filed Apr. 10, 1967, Ser. No. 629,723
6 Claims. (Cl. 339—8)



The coupling is designed to minimize electrical noise and undesirable inductance and capacitance by utilizing a plurality of resilient fingers of different, non-harmonic lengths for the ground or shield contact and a springless pin arrangement for the center contact of a coaxial cable; the structure uses a minimum of parts and incorporates a free running bearing within the coupling parts themselves.

3,408,611
PRINTED CIRCUIT BOARD CONNECTOR
Jack Katz, 6630 W. Colgate Ave., Los Angeles, Calif. 90048
Filed June 3, 1966, Ser. No. 555,020
2 Claims. (Cl. 339—17)

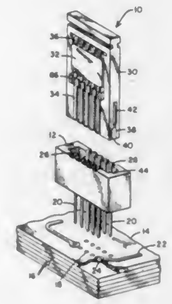


A plug-in type connector for a printed circuit board is provided which has a plurality of contacts mounted in side-by-side relationship in an elongated insulated housing. The housing is positioned at one end of the printed circuit board within a notch. Each of the contacts includes a pair of resilient conductive strips which extend out from one face of the housing and along corresponding printed circuit conductors on the board and are electrically connected thereto by soldering, or otherwise.

3,408,612
CONNECTOR DESIGN
Curtis J. Bute, St. Paul, and Gordon E. La Valley, White Bear Lake, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 26, 1966, Ser. No. 582,143
11 Claims. (Cl. 339—17)

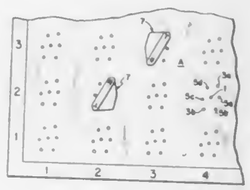
An apparatus for the mounting of an encapsulated microelectronic circuit that requires no permanent affixing thereto. The apparatus includes an electrically insulative body having an aperture therein that substantially

conforms to the planar contour of the circuit for locating the circuit in a fixed relationship therewith. Spaced-apart raised portions on the body conform to the spaced-apart pattern of the circuit's electrical leads for insulatively aligning the circuit's electrical leads along the body's two opposing surfaces. A channel along a bottom surface of the body receives the end terminals of the circuit's elec-



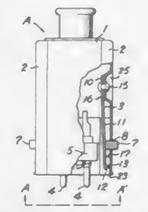
trical leads which are secured therein by a press-fit electrical insulating plug. A second embodiment provides an electrically insulative, heat conductive body of two sections having mating surfaces having a cavity therebetween for holding the circuit in a fixed relationship. The circuit's electrical leads are formed about the two body sections for securing the two body sections about the circuit in the fixed relationship.

3,408,613
TELEPHONE CONNECTING PANEL AND CONNECTOR THEREFOR
Edward S. Baker, Lawrence, Kans., assignor to Paul H. Snider, Wichita, Kans.
Filed July 20, 1966, Ser. No. 566,541
14 Claims. (Cl. 339—18)



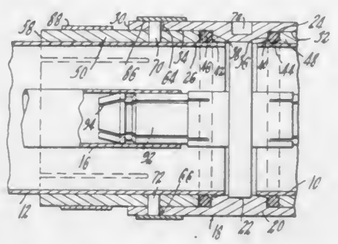
1. In a telephone exchange connector panel assembly capable of supporting and electrically interconnecting a plurality of component networks, in which certain components and conductors are mounted on one side of a board-like assembly while the connecting terminals thereof extend to the opposite side and are arranged in groups one for each subscriber, said groups forming lines and columns, a plurality of pin clusters comprising said terminals of a group, one pin being centrally located while the remaining pins substantially encircle said one pin, certain of said surrounding pins being substantially longer than the other pins and a coupling connector for selectively coupling certain pairs of said remaining pins in different relations by alternative positioning thereof, said plug in each of its alternative positions coupling both said longer pins with different shorter pins.

3,408,614
ELECTRIC CONNECTING DEVICE
Takeshi Kuwahata, Tokyo, Japan, assignor to Hirose Electric Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed Jan. 3, 1966, Ser. No. 518,141
1 Claim. (Cl. 339—91)



A connector providing for the secure fastening and easy disengagement of interconnecting elements, for example, male and female electrical components, including a spring means rigidly mounted to one connecting portion, which is engaged by a coupling means, provided at the mating edge of the counter-connecting portion when the cooperating elements are properly seated.

3,408,615
COAXIAL CABLE CONNECTOR
Donald N. Sewell, Acton, Mass., assignor to Dielectric Products Engineering Company, Inc., Littleton, Mass., a corporation of Michigan
Filed Dec. 29, 1965, Ser. No. 517,409
8 Claims. (Cl. 339—94)

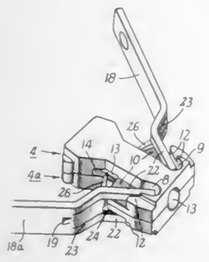


A coupling for a coaxial electrical transmission line includes a tubular housing having a central channel for receiving an inner conductor support and a recess at each end for receiving a clamping sleeve in sliding fit. Each recess has two angularly inclined slots and each sleeve has radially projecting pins that are received in those slots. In the housing between each recess and the central channel is a frustoconical contact surface. Sealing members are disposed in each recess adjacent the contact surface; the sleeves are clamped to the outer conductor sections; and the housing is then rotated about the sleeves—forcing the ends of the central conductors into the contact surfaces and compressing the sealing members so that sealed coaxial line joint is provided.

3,408,616
INSULATION PIERCING ELECTRICAL CONNECTORS
Arthur Greenbaum, Scarsdale, N.Y. (% Academy Electrical Products Corp., 3842 9th Ave., New York, N.Y. 10034)
Filed Apr. 21, 1966, Ser. No. 544,304
8 Claims. (Cl. 339—99)

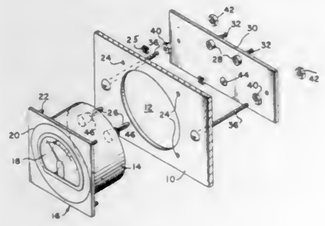
This invention provides a new electrical connector of the insulation-piercing type, which automatically makes its connection with a flexible electrical conductor by

probing the dielectric covering and pressure-impaling the wire strands thereof. Accordingly, the wire strands are



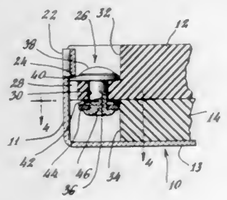
not de-insulated, and a tool is not used, when attaching this type of electrical connector to an insulated flexible conductor cord.

3,408,617
QUICK CHANGE MOUNTING MEANS FOR SWITCHBOARD METERS AND THE LIKE
Wayne E. Broyles, P.O. Box 2572, Houston, Tex. 77001
Filed Jan. 20, 1967, Ser. No. 610,619
5 Claims. (Cl. 339—126)



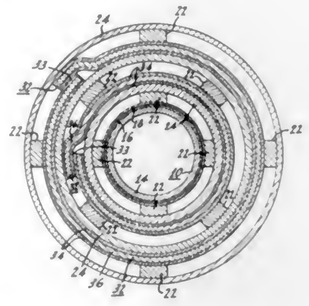
A mounting for meters whereby a meter may be quickly mounted on or removed from a display panel by the use of jack plugs in lieu of the terminal posts to which electrical leads are normally connected to panel mounted meters. The jacks are plugged into registering female sockets permanently mounted in a secondary panel part rigidly fixed to the panel in spaced relationship with respect to the inner side by means of adjustable nuts and bolts. With this arrangement, a meter is merely plugged into its position of use or unplugged therefrom without the necessity of connecting and disconnecting wires and/or fastening elements.

3,408,618
WIRING DEVICE
Harvey Hubbell, Southport, Conn., assignor to Harvey Hubbell Incorporated, Bridgeport, Conn., a corporation of Connecticut.
Filed June 10, 1966, Ser. No. 556,671
4 Claims. (Cl. 339—196)



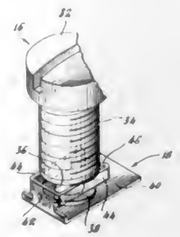
An improved wiring device having a metal shell with inwardly deformed locking portions and an insulating member disposed in the shell, the insulating member carrying rotatable locking fasteners which are slightly rotatable to coact with respective locking portions to hold the insulating member in the shell.

3,408,619
SUPERCONDUCTIVE MAGNET HAVING GREASE BETWEEN ADJACENT WINDING LAYERS
Edward R. Schrader, Hightstown, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 20, 1966, Ser. No. 603,222
5 Claims. (Cl. 335—216)



1. A superconductive magnet comprising
a layer of turns of a superconductor wound in a helical manner about an axis, said turns being spaced from one another along said axis, and
grease between the turns of said superconductor, said grease being soft and plastic at temperatures above that at which the superconductor exhibits superconductive properties and becoming hard and having good heat transfer properties compared to that of superconductive material at temperatures below that at which said superconductor exhibits superconductive properties.

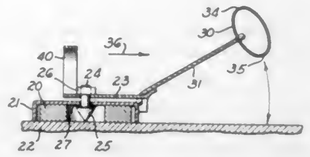
3,408,620
PRESSURE PAD TYPE WIRING TERMINAL
Ralph R. Damiano, Naugatuck, Conn., assignor to Harvey Hubbell, Incorporated, Bridgeport, Conn., a corporation of Connecticut
Filed July 6, 1966, Ser. No. 563,233
6 Claims. (Cl. 339—272)



An improved clamping screw including a threaded shank having an undercut groove and retaining flange at one end, and a spring metal pressure pad mounted on the one end of the screw. The pressure pad includes a pressure wall disposed in front of the flange, and laterally

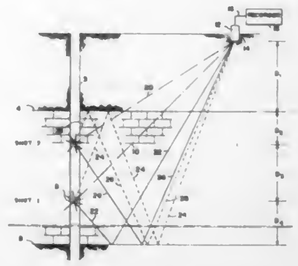
deflectable mounting arms positioned in the groove having camming portions located at their ends to retain the pressure pad on the screw.

3,408,621
SUBMARINE TRACKING APPARATUS
Franklin A. Dobson, Corona Del Mar, Calif., assignor, by mesne assignments, to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Feb. 14, 1961, Ser. No. 89,581
19 Claims. (Cl. 340—5)



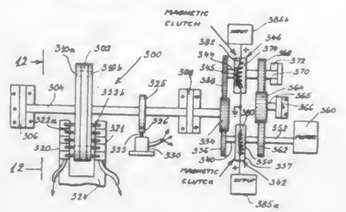
A hydrodynamic oscillating unit for generating underwater sound waves is described. The unit includes a magnet for attachment to the hull of a submarine, and the sound is generated by an oscillating rod which hammers against the hull due to hydrodynamic forces resulting from the movement of the submarine through the water. In practice several of said units are dropped in the vicinity of a target submarine and after attachment of one of the units to the submarine hull, the sound generated by the unit is used to track the submarine by conventional sonar apparatus.

3,408,622
METHOD AND APPARATUS FOR THE PRODUCTION OF SEISMOGRAPHIC RECORDS
William H. Cox, Beaumont, Tex., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed May 19, 1967, Ser. No. 639,871
10 Claims. (Cl. 340—15.5)



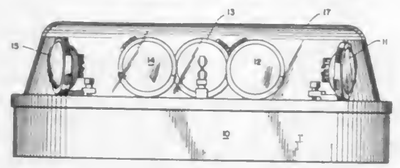
A pair of shots are detonated at different depths, and a separate record is made of each shot. The records are then read simultaneously to produce a pair of electrical signals, but they are adjusted so that corresponding ghosts from each shot are aligned and appear simultaneously as electrical signals. These signals are subtracted from each other to cancel the ghosts. Because of the difference in shot depths, the desired reflections are not aligned and a distorted signal is produced by the subtraction of the desired signal resulting from one shot from the desired signal resulting from the other shot. The desired signal is obtained from the distorted signal by passing it through a specially designed filter which corrects the phase and amplitude distortion resulting from subtractive mix of the desired signals.

3,408,623
SAFETY TRAFFIC SIGNAL LIGHT
Tobias Wagner, Bronx, N.Y.; Adelaide Wagner, administratrix of Tobias Wagner, deceased, assignor to Mary T. Hanner, New York, N.Y.
Continuation-in-part of application Ser. No. 217,356, Aug. 16, 1962. This application Aug. 9, 1965, Ser. No. 478,190
3 Claims. (Cl. 340—43)



A traffic signal system is disclosed in which a plurality of lamps in a fixture are extinguished in succession to indicate to a motorist the amount of time remaining before the end of a timed period. The lamps are controlled by a switching apparatus including reciprocatable stepped contact plates. A rotatable disk having stepped contact plates is also disclosed. The speed of disk rotation is controlled selectively by two gear trains of different gear ratios connected alternately to a motor via two selectively operated magnetic clutches.

3,408,624
EMERGENCY VEHICLE SIGNAL DEVICE
Jeremiah D. Kennelly, 408 S. Oak Park Ave., Oak Park, Ill. 60302
Filed Dec. 8, 1965, Ser. No. 512,356
4 Claims. (Cl. 340—50)

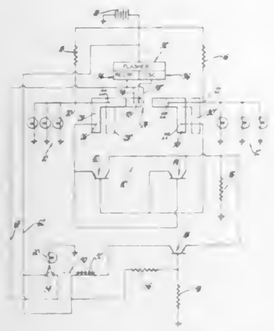


1. A signal device for emergency vehicles comprising a housing equipped with a transposed globe, five warning lamps rotatably mounted within said housing for projecting beams thereof out of said globe, said five lamps being generally aligned with the end lamps being mounted for oscillation about a center line extending generally parallel to the aligned lamps, two of the remaining lamps being arranged to oscillate about center lines extending generally normal to the aligned lamps and means in said housing for oscillating all of said lamps and for specifically the last mentioned two lamps about their respective axes in arcs in a common plane, so that beams therefrom are in overlapping relation for a portion of each oscillation, said oscillating means including a plurality of linkage actuated from a common reciprocating bar mounted on said frame to provide each lamp with an oscillating arc of about 70 to about 90°.

3,408,625
LAMP BURNOUT DETECTION CIRCUIT
Kenneth R. Skinner, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 3, 1965, Ser. No. 476,815
4 Claims. (Cl. 340—79)

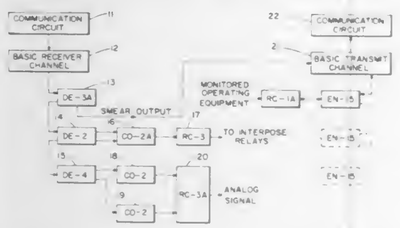
A circuit for detecting burnout of a turn signal lamp is disclosed which utilizes the usual turn signal pilot lamp

as a lamp burnout indicator. The circuit includes a turn signal switch which, in the neutral position, connects transistorized detector means across the output of a bridge network comprising the signal lamps. Any un-



balance in the bridge is detected and amplified and energizes a relay which is effective to connect the pilot lamp directly across the battery providing a constant energization thereof as an indication of lamp burnout.

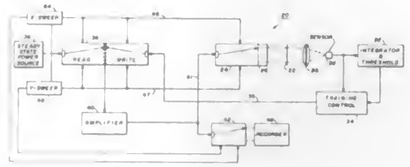
3,408,626
CONTROL SYSTEM WITH VARIABLE LENGTH MESSAGES AND PLURAL DECODER LEVELS
Reidar G. Gabrielson, Scottsdale, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed July 16, 1964, Ser. No. 383,202
5 Claims. (Cl. 340—163)



Supervisory control system having a central station and a plurality of remote stations joined by a common communication line. A message type signal indicates message length to a receiving station. Such station has a decoding level for each message length made selectively responsive thereto by a first or message length decoder. Provisions are made for checking length in each decoding level and decoder.

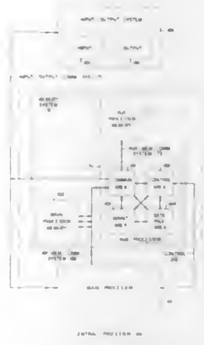
3,408,627
TRAINING ADJUSTED DECISION SYSTEM USING SPATIAL STORAGE WITH ENERGY BEAM SCANNED READ-OUT
Charles L. Kettler, Austin, Joseph A. Walston, Dallas, and Morton E. Jones, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 28, 1964, Ser. No. 421,369
15 Claims. (Cl. 340—172.5)

Disclosed is a training adjusted decision system using spatial storage with energy beam scanned read-out. Adaptive weight values stored in an array of adaptive elements are modulated in accordance with predetermined weighting factors and read out by a scanning beam of energy to produce an optical signal which is further modulated optically by input data. The signal is then transformed into an electrical signal and integrated and com-



pared with one or more threshold values to classify the input data or produce a decision.

3,408,628
DATA PROCESSING SYSTEM
Robert L. Brass, Colts Neck, Joseph B. Connell, Lincroft, and John A. Harr, Fair Haven, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 498,673, Oct. 20, 1965. This application Jan. 3, 1966, Ser. No. 518,280
44 Claims. (Cl. 340—172.5)

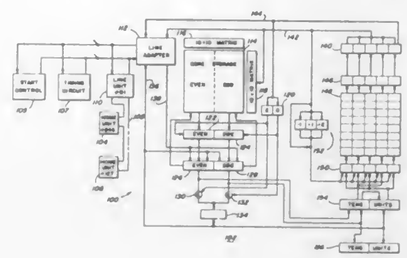


This application discloses a multiple processor arrangement for controlling a telephone communication switching system. A special purpose program-controlled processor performs the input-output work functions which detect telephone service requests and which exert control over the telephone switching system components. A more general purpose program-controlled processor performs the more complex data processing functions which determine required system control actions from data supplied by the special purpose processor and define these actions for implementation by the special purpose processor. The general purpose processor communicates with the special purpose processor in the same way that the general purpose processor communicates with its own memory.

3,408,629
DATA HANDLING SYSTEM
Donald E. Haselwood, Deerfield, Ill., assignor to A. C. Nielsen Company, Chicago, Ill., a corporation of Delaware
Filed Jan. 10, 1966, Ser. No. 519,731
9 Claims. (Cl. 340—172.5)

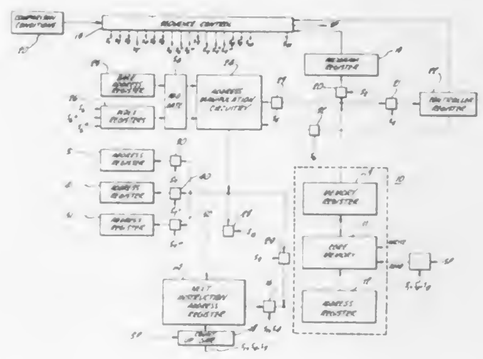
A data handling system capable of carrying out programs, incident to completing one program, automatically stores a future time at which another program is to be

initiated. A comparator compares the stored future time with actual or elapsed time and delivers a start signal to



the system to start the designated program when the stored future time is reached.

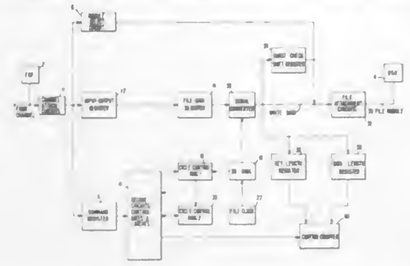
3,408,630
DIGITAL COMPUTER HAVING HIGH SPEED BRANCH OPERATION
Roger E. Packard, Glendora, and William F. Buster, West Covina, Calif., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 25, 1966, Ser. No. 537,572
14 Claims. (Cl. 340—172.5)



A digital computer having apparatus for expediting the fetch of conditional branch instructions. Detection circuitry detects operation codes within an instruction which specify that a conditional branch operation is being fetched and responsive to such detection determines whether the branch conditions are satisfied. Upon a determination that the branch conditions have not been satisfied, control circuitry terminates the fetch of the conditional branch instruction thereby enabling the fetch of the next instruction to commence without delay.

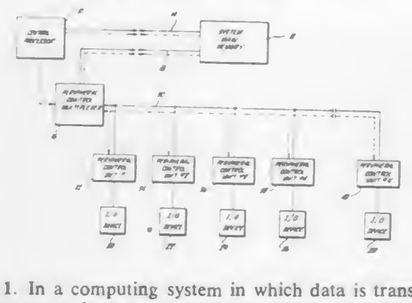
3,408,631
RECORD SEARCH SYSTEM
James R. Evans, Endicott, and Robert A. Jones, Endwell, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Mar. 28, 1966, Ser. No. 537,998
7 Claims. (Cl. 340—172.5)

A record search system characterized by a data processor storing a search mask, a bulk storage unit storing a plurality of records on tracks, first means for reading each of said records, second means for comparing a key field with said search mask and for generating a signal indicating the location of the desired key field during a corresponding portion of one revolution, and a third means



responsive to said signal for reading said data field during a corresponding portion of the same revolution.

3,408,632
INPUT/OUTPUT CONTROL FOR A DIGITAL COMPUTING SYSTEM
Erwin A. Hauck, Arcadia, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed June 3, 1966, Ser. No. 555,025
10 Claims. (Cl. 340—172.5)

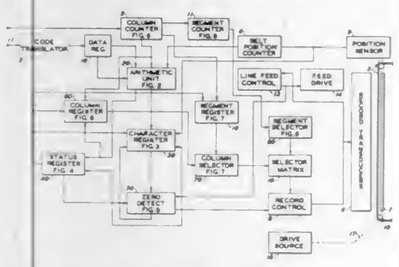


1. In a computing system in which data is transferred between at least one memory module and a plurality of peripheral input/output units in response to an initiating control signal from a processor, a multiplex control unit for transferring data to and from the plurality of peripheral units on a time sharing basis, said control unit comprising a buffer memory for storing a plurality of words, the word storage capacity being less than the number of peripheral units, an associative memory for addressing the buffer memory, means responsive to said initiating control signal for storing an address corresponding to a particular peripheral unit in the associative memory and activating the corresponding peripheral unit, means associated with each peripheral unit for generating an access signal when it is ready to receive or send a data character, means responsive to the access signal from a particular peripheral unit for addressing the associative memory to select the corresponding location in the buffer memory, and means responsive to the selection of the location in the buffer memory for initiating transfer of a character between the particular peripheral unit and the selected location in the buffer memory.

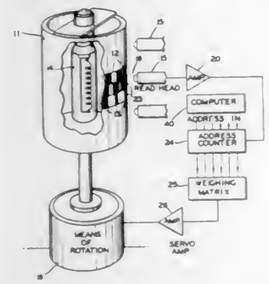
3,408,633
HIGH SPEED PRINTER SYSTEM
George T. Shimabukuro, Monterey Park, Calif., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Jan. 9, 1967, Ser. No. 608,156
7 Claims. (Cl. 340—172.5)

A high speed printer system wherein the recording zone is divided into a plurality of segments, each segment being itself subdivided into a plurality of columns and an

endless character-bearing belt is moved through the recording zone. The position of each belt character is monitored relative to a reference point. As each character information is received, a binary number is determined as a function of the character's individual code, the position of the desired character on the belt relative to the reference point, and the segment column in which the character is to be recorded. This binary number is then stored and counted down as each belt character passes the reference point. When this number is reduced to zero, the particular printer actuator is enabled and the recording is effected.

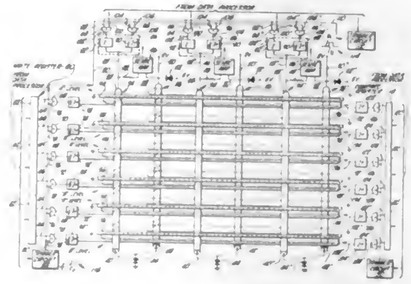


3,408,634
OPTICAL MEMORY SYSTEM
Walter W. Lee, Allendale, N.J., Arthur S. Robinson, South Huntington, N.Y., David H. Blauvelt, Ridgewood, and Israel L. Fischer, Harrington Park, N.J., assignors to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed Jan. 8, 1964, Ser. No. 336,487
5 Claims. (Cl. 340—173)



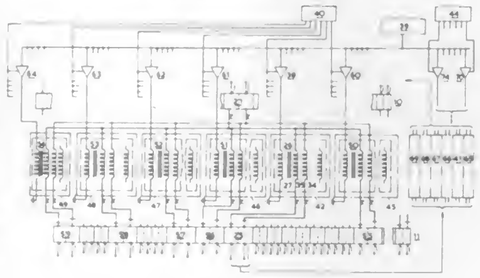
1. A digital computer comprising a storage medium including means to present microimages on a surface of said storage medium, illuminating means about which said storage medium rotates to selectively render effective said microimages, means for effecting incremental rotation of said storage medium about said illuminating means to predetermined positions, means to control said incremental rotation means including a computer to provide signals to determine direction and extent of angular rotation of said storage medium to provide said predetermined positions of the storage medium, an address counter means, an electronic means for readout of the microimage selectively rendered effective by the angular rotation of said storage medium to said predetermined positions, said address counter means being operable by the signals from said computer and the electronic read out means, said address counter means including means to generate an error signal of a magnitude dependent upon difference in angular relation of the storage medium to the position predetermined by the signals from the computer, and said incremental rotation means being operable by said error signal to angularly rotate the storage medium to the predetermined position.

3,408,635
TWISTOR ASSOCIATIVE MEMORY SYSTEM
Edwin S. Lee III, Altadena, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed May 31, 1963, Ser. No. 284,658
22 Claims. (Cl. 340—174)



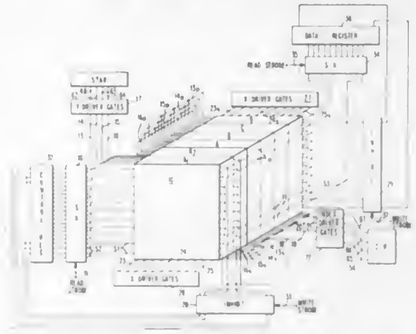
1. In a magnetic storage apparatus, the combination of:
a twistor having a central electrical conductor;
first binary input means for selectively setting magnetic flux in opposite directions along first and second helical portions of the conductor to store a bit of binary coded information in the twistor;
and second binary input means responsive to a binary coded input signal for passing a current signal about the conductor over a segment of one of the helical portions in response to a signal of a binary one value and over a segment of the other helical portion in response to a signal of a binary zero value to produce a voltage signal of predetermined magnitude in the conductor when a match exists between the value of the binary coded input signal and the bit of binary information stored in the twistor.

3,408,636
ELECTRIC DATA SHIFT REGISTER
Reginald Hugh Allmark and Warwick Reginald Abbott, Kidsgrove, Stoke-on-Trent, England, assignors to The English Electric Company Limited, London, England, a British company
Filed Apr. 8, 1964, Ser. No. 358,158
Claims priority, application Great Britain, Apr. 11, 1963, 14,519/63; 14,520/63
3 Claims. (Cl. 340—174)



The specification describes apparatus for enabling groups of bits stored in a register to be gated in a parallel manner by a single gating signal into a second register either into corresponding elements of the register or with a shift, and subsequently to be gated in parallel by a single gating signal into the original register either into corresponding elements of the register or with a shift, whereby shifts along the register may be produced by successive parallel transfers to the second register and then to the original register.

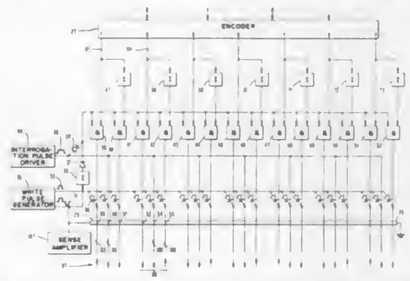
3,408,637
ADDRESS MODIFICATION CONTROL ARRANGEMENT FOR STORAGE MATRIX
Robert G. Gibson, Binghamton, Richard A. Steigerwald, Vestal, N.Y., and Richard A. Ide, Sweet Valley, Pa., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 20, 1964, Ser. No. 383,612
12 Claims. (Cl. 340—174)



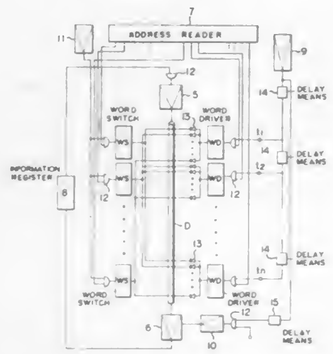
A storage matrix is operable during one storage cycle to maintain one portion of a word fixed while moving another portion of the word to another position with or without modification. Column drive lines are arranged in a control group and two or more data groups. Each column drive line in the control group is connected to a corresponding column drive line in each data group. Driver gates selectively complete series circuits through a desired column drive line of the control group and its corresponding column drive line in a desired data group. By selecting one data group column drive line during the read portion of the storage cycle and another data group column drive line during the write portion of the storage cycle, data can be transferred between data groups during one storage cycle, while the data in the control group is maintained fixed.

3,408,638
READ-WRITE NETWORK FOR CONTENT ADDRESSABLE MEMORY
Lester M. Spandorfer, Cheltenham, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of of Delaware
Filed Dec. 30, 1964, Ser. No. 422,109
2 Claims. (Cl. 340—174)

The present device provides an encoder means which translates any particular machine word into an increased number of bits per digit. The code into which the machine code is translated guaran ees a minimum number of bit difference between any two information words. Accordingly, when there is an interrogation of the plated wire memory there is a large signal-to-noise ratio which enables the system to distinguish between a match and a mis-match of the interrogation signals with the signals stored in the plated wire memory.

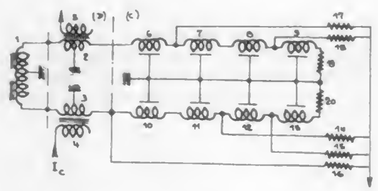


3,408,639
MAGNETIC MEMORY DEVICE
Katsuro Nakamura, Tokyo-to, Japan, assignor to Toko Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan
Filed May 24, 1965, Ser. No. 458,845
5 Claims. (Cl. 340—174)



1. A magnetic memory device comprising: a plurality of laminated memory planes, each of said planes consisting of a plurality of transverse magnetic wires provided with magnetic films and a plurality of longitudinal conductors intersecting said magnetic wires, said magnetic wires and conductors acting as either information lines or word lines, coresponding information lines in the respective planes being connected in series; a word drive commanding pulse generating circuit; and a plurality of delay means having progressively different delay times included in the respective circuits extending between said word drive command pulse generating circuit and said word lines thereby to compensate for the time required for signals to travel through said information lines.

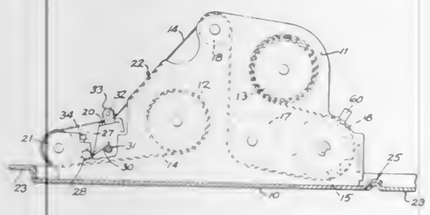
3,408,640
READ-OUT CIRCUITRY FOR HIGH DENSITY DYNAMIC MAGNETIC STORES
Claude Marie Edmond Masson, Asnieres, France, assignor to Societe d'Electronique et d'Automatisme, Courbevoie, Hauts-de-Seine, France
Filed Sept. 13, 1965, Ser. No. 486,658
Claims priority, application France, Oct. 8, 1964, 990,778
5 Claims. (Cl. 340—174.1)



A tapped two-branch delay line has its inputs connected to the outputs of a two-polarity read-out magnetic head

for reading a high density magnetic record. The taps are evenly distributed on either side of a mid-tap in each branch of the delay line and calibrated summing resistances sum up the signals from said taps to a common output. The distribution of the taps and the calibration of the summing resistances together define a transfer function, from the head output to the said common input, which narrows the width of any bell-shaped alternating signal from the read-out head, consequently resetting the excursions through zero and peaks of the complete read-out waveform.

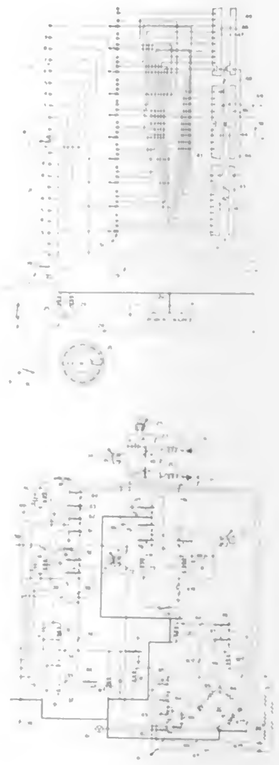
3,408,641
LATCHING MEANS FOR AUTOMATIC TELEPHONE DIALER
James W. Healy, Wakefield, Mass., assignor to Dasa Corporation, a corporation of California
Continuation of application Ser. No. 233,601, Oct. 29, 1962. This application Oct. 31, 1966, Ser. No. 595,298
3 Claims. (Cl. 340—174.1)



For use in an automatic telephone dialer in which a repertory of names and associated telephone numbers is recorded in a removable magazine, a latching arrangement to uniquely position the magazine relative to the dialer body when the dialer is operational. The latching arrangement includes complementary arcuate lips formed on the magazine and on the adjacent portions of the dialer body, together with a spring load latch, the arrangement being operative to simply and accurately position the magazine in the dialer.

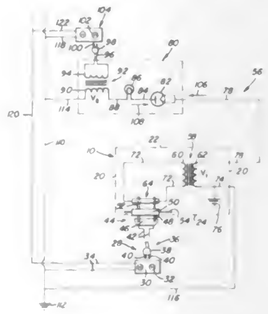
3,408,642
BURGLAR ALARM SYSTEMS
Robert A. Palladino, 34 Aspen Road, West Orange, N.J. 07052
Filed Mar. 4, 1966, Ser. No. 531,677
10 Claims. (Cl. 340—276)

1. An alarm system for protecting a guarded area having intrusion sensing wiring connected in series, comprising:
(a) a source of power;
(b) alarm means;
(c) first relay means connected in circuit between the source and the alarm means and holding the circuit open when the first relay means is energized;
(d) measuring means coupled to said sensing wiring and sensitive to changes in the resistance of the latter;
(e) second relay means connected to the measuring means to be actuated by the latter in response to a change in said resistance, and including normally-closed contacts connected to energize the first relay means from said power source unless the second relay means is energized;
(f) digital switching means connected to control the "on"-"off" condition of the system by controlling said digital means including means for preselecting a plural-digit numerical sequence and rendering the switching means responsive to the selected sequence to alternately change its condition between "on" and "off";
(g) digital entry means connected to said switching means to enter a sequence of digits thereinto; and



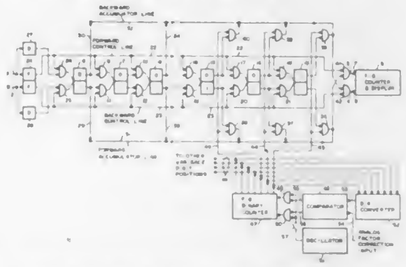
(h) means connected to said switching means for coupling the alarm means directly to the power source whenever a nonselected digit is entered.

3,408,643
ALARM DEVICE
Michael T. Sliman, West Sacramento, Calif. (32651 Cloverdale, Farmington, Mich. 95230)
Filed Sept. 3, 1965, Ser. No. 484,860
2 Claims. (Cl. 340—280)



Means disposed within an encased electrical appliance for energizing a remotely positioned alarm device upon attempted unauthorized removal of the appliance from a given location and including a source of electrical energy common to the appliance and to the alarm device; means in the casing for generating a first voltage, means at the remotely located alarm device for generating a second voltage, a series circuit including an alarm indicator means and a unidirectional current passing device connected between said voltage generating means, the current passing device becoming operative, and consequently the indicator means, when the potential on the current passing device becomes less than the second voltage but is greater than the second voltage minus the first voltage, and interlocking current carrying means on the casing and connecting the electrical appliance and the first voltage generating means in the casing with said common source of electrical energy.

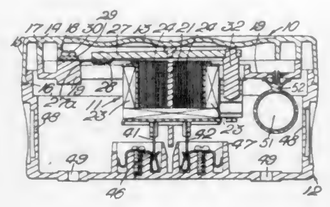
3,408,644
PULSE COUNT CONVERSION SYSTEM
Paul Marvin Kintner, Huntington Station, N.Y., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Feb. 12, 1965, Ser. No. 432,219
6 Claims. (Cl. 340—347)



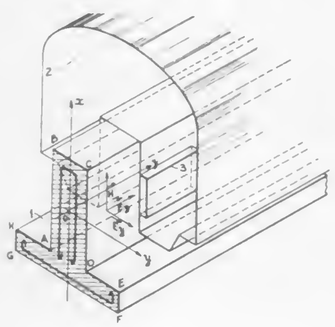
1. A count conversion device, comprising:
(a) a reversible binary counter including a series of bistable stages each adapted to change from either stable state to the other in response to an input pulse, each having first and second output terminals and means to provide an output pulse at one of said terminals upon change of state in one sense and at the other of said terminals upon change of state in the other sense, and counting direction control means adapted to couple the first output terminal of each stage as an input to the succeeding stage for counting in one direction, and to couple the second output terminal of each stage as an input to the succeeding stage for counting in the other direction,
(b) two main output terminals,
(c) means for coupling a selected group of said counter stage first output terminals to one of said main output terminals and for coupling a corresponding group of said counter stage second output terminals to the other of said main output terminals, and
(d) means responsive to said counting direction control means for selectively disabling the coupling of one of said groups to the respective main output terminal.

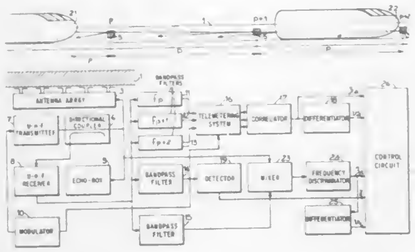
3,408,645
SOUND SIGNALLING DEVICE HAVING DIAPHRAGM AND STRIKER APPARATUS
John Doggart and Geoffrey Roy Lawton, Macclesfield, Cheshire, England, assignors to V. & E. Friedland Limited, Macclesfield, Cheshire, England, a British company
Filed Oct. 7, 1965, Ser. No. 493,819
Claims priority, application Great Britain, Oct. 7, 1964, 40,952/64
5 Claims. (Cl. 340—388)

A sound signalling device including a sound emitting diaphragm forming one side of an enclosure. A striker is fixed upon an armature mounted within the enclosure and normally biased in contact with the diaphragm by a spring. An electrical coil wound upon a magnetic core fixed within the enclosure is selectively energized to attract the armature and move the striker away from the diaphragm. Each time the armature moves a predetermined distance away from said diaphragm a peg attached to the armature opens a pair of normally closed contacts in the coil power circuit to allow the striker to hit the diaphragm.



3,408,646
SYSTEM FOR LOCALIZING TRAINS ALONG A TRACK
Jean-Claude Simon and Georges Jean Broussaud, Paris, France, assignors to CSF—Compagnie Generale de Telegraphie Sans Fil. a corporation of France
Filed May 9, 1967, Ser. No. 637,187
Claims priority, application France, May 16, 1966, 61,800
10 Claims. (Cl. 343—6.5)

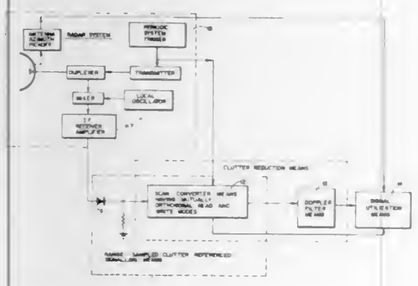




An ultra-high frequency radar system for localizing trains along a track wherein a surface wave is propagated from the train along a dielectric wave guide extending along the track and is reflected towards the train either by another train or by responders located along the track. Preferably the track being in the shape of a

concrete beam, a part of this beam is used as the wave guide. The responders are coded for responding to the energy received from the train in accordance with a predetermined code.

3,408,647
AMTI RADAR SYSTEM
Forest J. Dynan, La Mirada, and Richard G. Whitnah, Garden Grove, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed Aug. 18, 1964, Ser. No. 391,073
16 Claims. (Cl. 343—7.7)



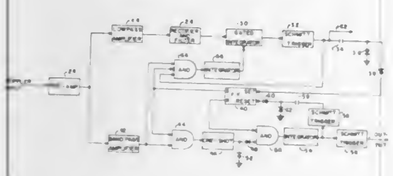
3. In a pulsed radar system, means for indicating moving targets comprising

signal storage means responsive to said radar system for storing signals reecived from targets at various ranges for each of a selected number of successive pulse repetition periods;

scanning means responsive to said signal storage means for sequentially scanning successive ones of said stored signals for a selected range to provide an output signal; and

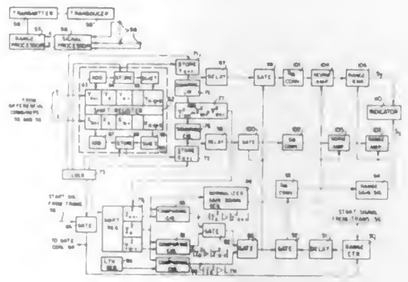
a bandpass Doppler filter responsive to said output signal for providing a signal having a spectral content indicative of the presence of a moving target.

3,408,648
SPEED SENSOR
John L. Barker, Norwalk, Charles L. Du Vivier, Darien, John R. Odion, Wilton, and Bernard J. Midlock, Norwalk, Conn., assignors to Laboratory for Electronics, Inc., Waltham, Mass., a corporation of Delaware
Filed Dec. 2, 1966, Ser. No. 598,748
16 Claims. (Cl. 343—8)



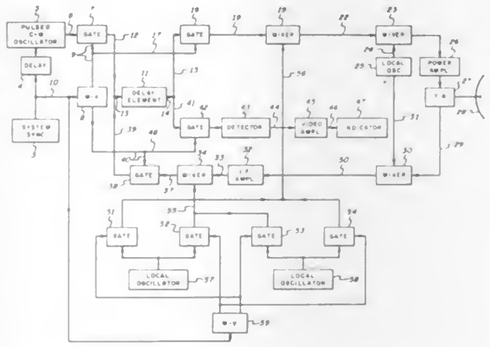
A speed sensor adapted for use with a Doppler radar detection device of the type which produces a Doppler signal including a low-frequency portion, indicative of the detection of a passing vehicle, and a high-frequency portion, indicative of the speed of the passing vehicle. The Doppler signal is divided into its two portions, and the high-frequency speed portion is blocked until the low-frequency detection portion has terminated. The speed portion is then received while the vehicle travels a known distance. The length of time required for the vehicle to travel this distance is a measure of the vehicle speed.

3,408,649
RANGE AND BEARING MEASUREMENT SYSTEM
Ernest A. Keller, Wilmette, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Jan. 30, 1967, Ser. No. 612,601
11 Claims. (Cl. 343—13)



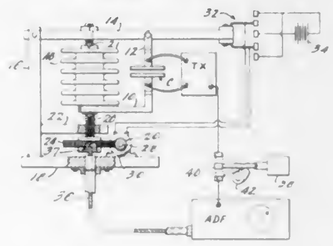
A range and bearing measurement system using persistency of bearing as a range measurement criterion. Bearing signals are derived by processing the received signals to determine the direction from which the received signal is coming. By further processing of the bearing signals, the sum of the squares of the bearing signals forms a merit signal. When the merit signal is greater than an arbitrary threshold signal and a local maximum, the arrival of the return echo is indicated.

3,408,650
PULSE COMPRESSION RADAR
Charles E. Cook, Farmingdale, and Arnold M. Fine, Plainview, N.Y., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed June 22, 1960, Ser. No. 38,072
7 Claims. (Cl. 343—17.2)



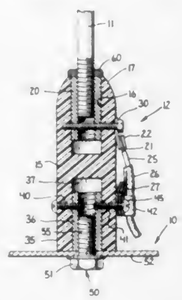
1. A system for transmitting and receiving electromagnetic energy, said system comprising in combination means for generating a pulsed signal which is progressively swept in frequency between two frequency values, first signal mixing means, means for applying said pulsed signal to said first mixing means, signal transmitting means connected to the output of said first mixing means, signal receiving means, second signal mixing means connected to the output of said receiving means, means coupled to the output of said second mixing means for progressively delaying the different frequency components of the signal at the output of said second mixing means in accordance with the frequency values of said components, a source of first signals, a source of second signals, and means for applying said first and second signals in alternation to each of said first and second mixing means.

3,408,651
AIRCRAFT COLLISION AVOIDANCE SYSTEM
Angelo Boudouris, 5856 Highlandview Drive, Sylvania, Ohio 43560
Filed Dec. 27, 1966, Ser. No. 604,928
6 Claims. (Cl. 343—112)



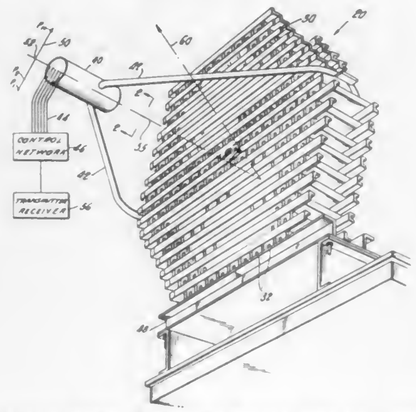
An aircraft collision avoidance system includes a transmitter and a receiver the frequency of both of which is maintained equal and is varied in response to the altitude. The transmitter and receiver preferably are alternately operated at different time periods in order to sense other aircraft at the same altitude transmitting on the same frequency.

3,408,652
AERIAL MOUNT
John H. Allisbaugh, 6308 Breamore Road, Indianapolis, Ind. 46220
Filed July 13, 1966, Ser. No. 564,941
7 Claims. (Cl. 343—715)



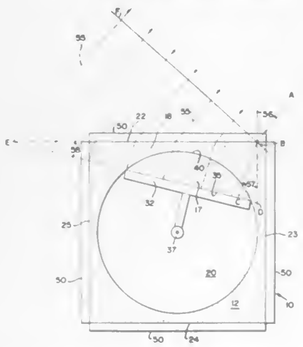
1. An aerial mount for an automobile or the like comprising an insulating member having a bore therein, an electrically-conductive internally-threaded sleeve press fitted within said bore, an electrically-conductive enlarged-headed screw threaded into said insulating member and into said sleeve and providing means firmly securing said sleeve to said insulating member, said screw also being operable to secure a terminal on an electrical conductor to said insulating member underneath the head of said screw to provide electrical connection between the electrical conductor and said sleeve, a second enlarged-headed screw threaded into said insulating member, a looped retainer element having opposite ends received under the head of the second screw, said retainer element being adapted to grip a ground sleeve and an insulating covering around said electrical conductor, and means for securing the insulating member to the automobile.

3,408,653
ANTENNA SYSTEM COMPENSATING FOR PRISM EFFECT UTILIZING CONTROL MEANS AT THE SIGNAL FEED
Judd Blass, Bayside, N.Y., assignor to Blass Antenna Electronics Corporation, Long Island City, N.Y., a corporation of Delaware
Filed Nov. 12, 1964, Ser. No. 409,905
31 Claims. (Cl. 343—754)



An antenna system is provided which includes an energy impinging surface and a feed surface spaced therefrom. In systems of this type non-broadside scanning produces path length variations for the various frequency components comprising the desired bandwidth. By utilizing a plurality of feed points within the focal plane of the energy impinging surface, with the location of each of these feed points determined by the scan angle and associated frequency component, the variations in path length can be compensated for such that bandwidth is materially increased. Because of physical limitations, the required feed point spacing becomes a physical limitations, the required feed point spacing becomes a physical impossibility. However, by the implementation of Huygens' principle, a plurality of feed members can be spaced outside of the focal plane and controlled to produce the necessary feed points within the focal plane of the energy impinging surface.

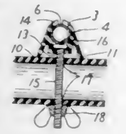
3,408,654
SCANNING ANTENNA
Scott H. Walker, Scottsdale, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Sept. 29, 1965, Ser. No. 491,140
5 Claims. (Cl. 343—754)



A beam scanning antenna with a prism having a movable portion secured to a movable input feed waveguide

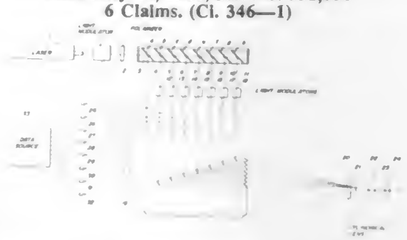
and movable therewith such that the prism shape is effectively changed as the input feed waveguide moves. This action changes the relative position of the prism outer surface with respect to the input waveguide for causing the beam leaving the prism to scan at a greater rate than the movement of the input feed waveguide.

3,408,655
MULTI-ELEMENT HIGH FREQUENCY ANTENNA AND ELEMENT MOUNTING MEANS THEREFOR
Masanobu Tsuge, Yokohama-shi, Japan, assignor to DX Antenna Co., Ltd., Kobe, Japan, a corporation of Japan
Filed June 14, 1966, Ser. No. 557,405
7 Claims. (Cl. 343—817)



1. In a high frequency antenna having at least one element adapted to be mounted transversely of a supporting rod, means for securing said element to said rod comprising supporting means having an elongated cylindrical body part adapted to receive said element, the wall of said body part including a gap extending longitudinally thereof and a longitudinal portion of reduced thickness extending along the opposing side of said body portion, a pair of opposing legs secured to opposing portions of said cylindrical body between said slot and said portion of reduced thickness, said legs extending from their respective body portions in a direction away from said gap to form divergent angles with a plane defined by said gap and said portion of reduced thickness, and a bolt carried by said cylindrical member and extending outwardly therefrom between said legs in substantial alignment with said plane whereupon said bolt upon engagement of a transverse opening in said rod to secure said element supporting means thereto will cause said legs to engage the rod and enlarge said angles to firmly clamp the antenna element extending through said body.

3,408,656
METHOD AND APPARATUS FOR RECORDING COMPOSITE DIFFRACTION GRATING PATTERN
Robert L. Lamberts, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed May 18, 1966, Ser. No. 551,056
6 Claims. (Cl. 346—1)

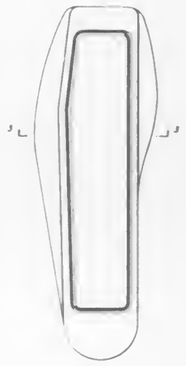


Apparatus for recording digital data in the form of a plurality of superimposed but distinct single frequency diffraction gratings, the gratings being formed by interference patterns created between reference and "digit" beams derived from a laser source. Beam splitters and electro-optical light modulating devices are used to control selectively the "digit" beams.

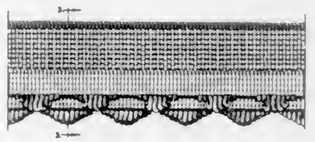
DESIGNS

OCTOBER 29, 1968

212,521
SOLE FOR A SKI BOOT
Franz Herunter, 12 Rooseveltplatz, 1090 Vienna, Austria
Filed Sept. 8, 1967, Ser. No. 8,530
Claims priority, application Austria Mar. 16, 1967
Term of patent 7 years
(Cl. D2—320)



212,522
ELASTIC FABRIC BAND
Robert T. Spillane, Wernersville, Pa., assignor to Wyomissing Corporation, Reading, Pa., a corporation of Pennsylvania
Filed July 10, 1967, Ser. No. 7,746
Term of patent 14 years
(Cl. D3—33)



212,523
BOTTLE
John W. Affleck, West Bridgetown, Nova Scotia, and Kenneth P. Jolly, Toronto, Ontario, Canada, assignors to Acadian Distillers Limited, Bridgetown, Nova Scotia, Canada, a corporation of Nova Scotia
Filed July 5, 1967, Ser. No. 7,718
Claims priority, application Canada Jan. 27, 1967
Term of patent 14 years
(Cl. D9—115)



212,524
BOTTLE
Richard L. Weckman, Perrysburg, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed Jan. 19, 1968, Ser. No. 10,231
Term of patent 14 years
(Cl. D9—126)



212,525
BOTTLE
Stephen J. Kneapler, Miami, Fla., assignor to Richford Corporation, Farmingdale, N.Y., a corporation of New York
Filed July 17, 1967, Ser. No. 7,839
Term of patent 14 years
(Cl. D9—135)



212,526
POUR SPOUT
Gary H. Ward, Fremont, Mich., assignor to Gerber Products Company, Fremont, Mich., a corporation of Michigan
Filed Sept. 13, 1967, Ser. No. 8,580
Term of patent 14 years
(Cl. D9—290)



212,527
ORNAMENTAL RAILING
Louis Blum and William J. Horgan, Jr., Pittsburgh, Pa., assignors to Blumcraft of Pittsburgh, Pittsburgh, Pa., a firm
Filed Dec. 19, 1967, Ser. No. 9,847
Term of patent 14 years
(Cl. D13—7)



212,528
ORNAMENTAL RAILING
Louis Blum and William J. Horgan, Jr., Pittsburgh, Pa., assignors to Blumcraft of Pittsburgh, Pittsburgh, Pa., a firm
Filed Dec. 19, 1967, Ser. No. 9,848
Term of patent 14 years
(Cl. D13—7)



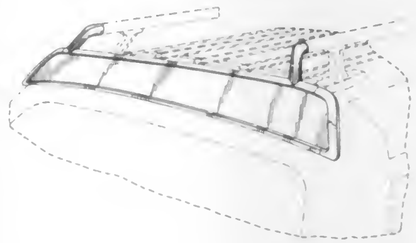
212,529
ORNAMENTAL RAILING
Louis Blum and William J. Horgan, Jr., Pittsburgh, Pa., assignors to Blumcraft of Pittsburgh, Pittsburgh, Pa., a firm
Filed Dec. 19, 1967, Ser. No. 9,851
Term of patent 14 years
(Cl. D13—7)



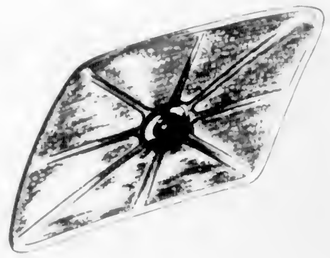
212,530
TRUCK BED GUARD
Wayne E. Smith, 312 S. Chestnut, Lamoni, Iowa 50140
Filed Aug. 23, 1967, Ser. No. 8,351
Term of patent 14 years
(Cl. D14—6)



212,531
AIR DEFLECTOR FOR AUTOMOTIVE VEHICLES
James Stephen, Royal Oak, Mich., assignor to Helm Design & Manufacturing, Inc., Detroit, Mich., a corporation of Michigan
Filed Oct. 20, 1967, Ser. No. 9,093
Term of patent 14 years
(Cl. D14—6)



212,532
ICE SHIELD FOR AN AUTOMOBILE WINDOW
Louis A. Gorgei, General Delivery, North Jackson, Ohio 44451
Filed Jan. 29, 1968, Ser. No. 10,389
Term of patent 14 years
(Cl. D14—6)



212,533
WHEEL AND TIRE COMBINATION
Irwin R. Barr, Lutherville, Md., assignor to AAI Corporation, Cockeysville, Md., a corporation of Maryland
Filed May 3, 1967, Ser. No. 6,938
Term of patent 14 years
(Cl. D14—30)



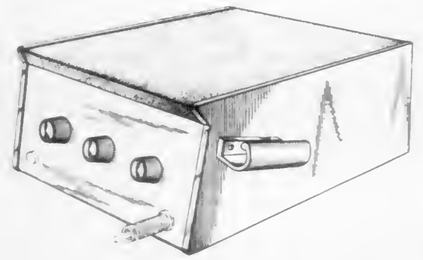
212,534
COMBINED OTTOMAN AND TRAY UNIT
Martin Borenstein, 737 2nd St., Oakland, Calif. 94607
Filed Apr. 11, 1966, Ser. No. 1,851
Term of patent 14 years
(Cl. D15—8)



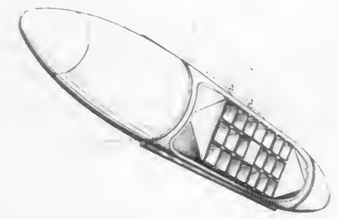
212,535
COMBINED HAND GRIP AND SPRAY NOZZLE FOR A SHOWERBATH
Clifford Lewis Barker, Cheltenham, England, assignor to Walker Crosweller & Company Limited, Cheltenham, England, a British company
Filed June 7, 1967, Ser. No. 7,389
Term of patent 14 years
(Cl. D23—35)

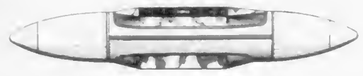


212,536
CABINET FOR AN ELECTRONIC DEVICE OR SIMILAR ARTICLE
Harvey E. Diamond, Brooklyn, N.Y., assignor to Union Broach Co., Inc., Long Island City, N.Y., a corporation of New York
Filed Jan. 30, 1968, Ser. No. 10,358
Term of patent 14 years
(Cl. D26—5)

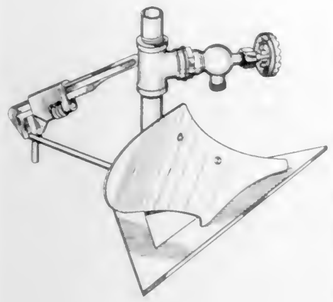


212,537
AIRCRAFT WING MOUNTED SPEAKER
Charles R. Banks, 2350 Duke St., Alexandria, Va. 22314
Filed Jan. 19, 1968, Ser. No. 10,229
Term of patent 14 years
(Cl. D26—14)

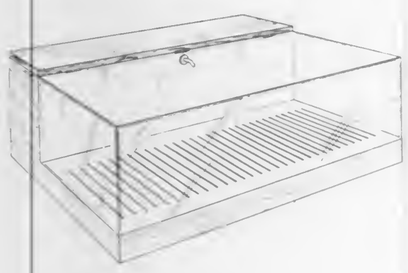




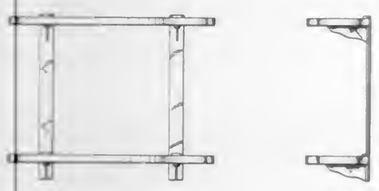
212,538
SYMBOLIC FLAGPOLE STAND
Cecil E. Click, Box 67, Pala, Calif. 92059
Filed Jan. 24, 1968, Ser. No. 10,290
Term of patent 14 years
(Cl. D29—17)



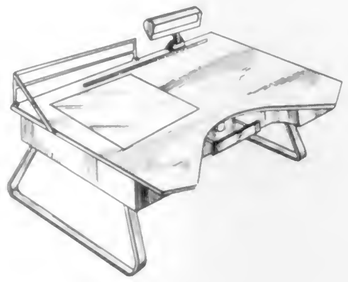
212,539
AQUARIUM
Robert R. Rowe, 55 Erskine Ave.,
Toronto, Ontario, Canada
Filed Oct. 16, 1967, Ser. No. 8,996
Term of patent 7 years
(Cl. D30—6)



212,540
SHELF
I. Martin Spier, 50 Park Ave.,
New York, N.Y. 10016
Filed Jan. 13, 1967, Ser. No. 5,405
Term of patent 14 years
(Cl. D33—3)



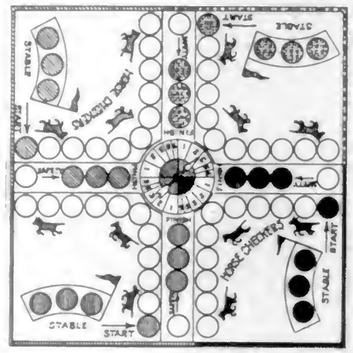
212,541
PORTABLE DESK AND LIGHT COMBINATION
Horace J. Taylor, 349 N. Homan Ave.,
Chicago, Ill. 60624
Filed Aug. 15, 1967, Ser. No. 8,268
Term of patent 14 years
(Cl. D33—7)



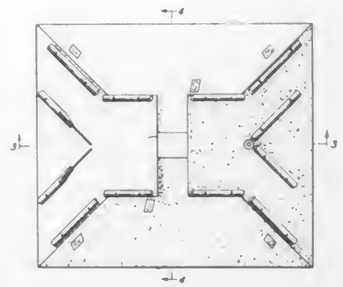
212,542
GAME PIECE
May G. McCarthy, 121 Oakdale Road,
Cherry Hill, N.J. 08034
Filed Sept. 8, 1967, Ser. No. 8,562
Term of patent 3½ years
(Cl. D34—5)



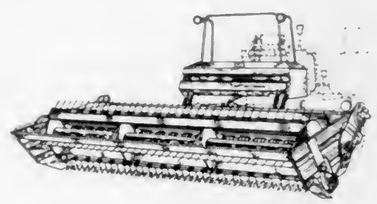
212,543
GAME BOARD
Joseph C. Tortorici, 3790 Newton St.,
Denver, Colo. 80211
Filed Nov. 8, 1967, Ser. No. 9,327
Term of patent 14 years
(Cl. D34—5)



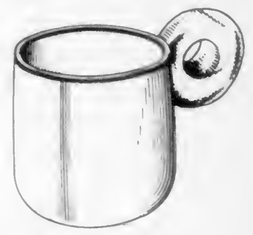
212,544
GOLF GAME BOARD FOR POOL TABLE PLAY
Lawrence R. Hermes, 1145 Atwood Ave.,
Cincinnati, Ohio 45224
Filed Mar. 13, 1968, Ser. No. 10,984
Term of patent 14 years
(Cl. D34—5)



212,545
AGRICULTURAL WINDROWING MACHINE
Constantine J. Kermes, Lancaster, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Mar. 26, 1968, Ser. No. 11,149
Term of patent 14 years
(Cl. D40—1)



212,546
MUG OR SIMILAR ARTICLE
Owen Warren, 5524 E. Belknap
Fort Worth, Tex. 76100
Filed June 19, 1967, Ser. No. 7,516
Term of patent 14 years
(Cl. D44—9)



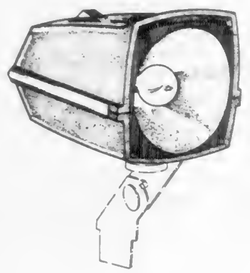
212,547
DINNER PLATE OR SIMILAR ARTICLE
Michael J. Szymanski, Camillus, N.Y., assignor to Syracuse China Corporation, Syracuse, N.Y., a corporation of New York
Filed June 2, 1967, Ser. No. 7,341
Term of patent 14 years
(Cl. D44—15)



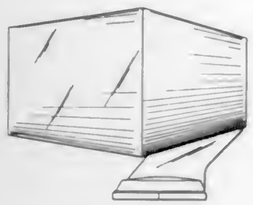
212,548
MEDICINE SPOON OR SIMILAR ARTICLE
Lewis Clark Ganssle, Glen Ridge, N.J., assignor to Hartwyk, Mfg. Co., Orange, N.J., a corporation of New Jersey
Filed Feb. 23, 1967, Ser. No. 5,918
Term of patent 14 years
(Cl. D44—29)



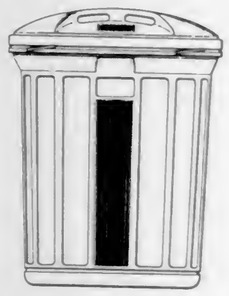
212,549
SPOTLIGHT FOR MOVIE CAMERAS
Robert B. MacLeod, Jr., Marblehead, and Hendrik A. J. de Vos, Wenham, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Mar. 11, 1968, Ser. No. 10,916
Term of patent 14 years
(Cl. D48—20)



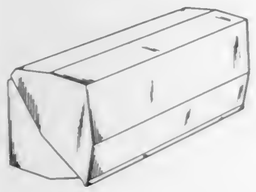
212,550
VEHICLE MARKER LIGHT
David O. Chase and Martin V. Maloney, Skaneateles, N.Y., assignors to R. E. Dietz Company, Syracuse, N.Y., a corporation of New York
Filed Dec. 15, 1967, Ser. No. 9,800
Term of patent 14 years
(Cl. D48—32)



212,551
COMBINED CONTAINER AND COVER FOR REFUSE, GOODS AND THE LIKE
Melvin S. Shutt, Bartlesville, Okla., and Thomas E. Salisbury, Lake Forest, Ill., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed July 17, 1967, Ser. No. 7,817
Term of patent 14 years
(Cl. D49—33)



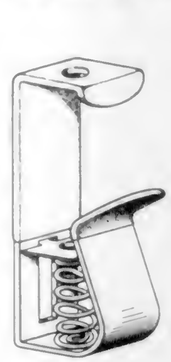
212,552
DISPENSING CONTAINER FOR LAPPED SHEETS OF PAPER OR THE LIKE
Nathan Shapira, 555/308 Westwood Plaza, Los Angeles, Calif. 90024
Filed May 15, 1967, Ser. No. 7,129
Claims priority, application Italy Feb. 3, 1967
Term of patent 14 years
(Cl. D52—2)



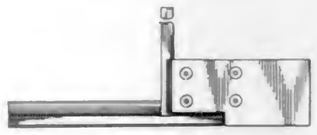
212,553
WALL MOUNT HOOK
Louis H. Hekman, 143 Sunrise Drive, Holland, Mich. 49422
Filed Sept. 1, 1967, Ser. No. 8,465
Term of patent 14 years
(Cl. D54—1)



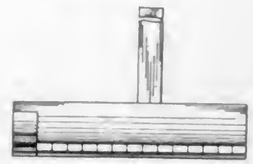
212,554
SKI SUPPORTING BRACKET
Leon J. Pratt, Trailsend Drive, Canton, Conn. 44730
Filed Dec. 14, 1967, Ser. No. 9,783
Term of patent 14 years
(Cl. D54—1)



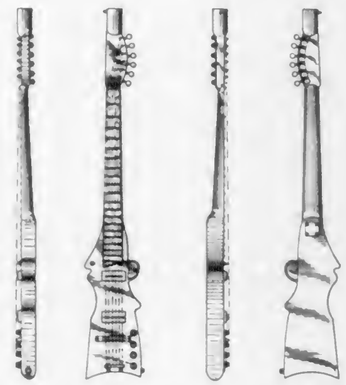
212,555
MIXER PLOW
Elbert C. Troy, Highland Park, Ill., assignor to National Engineering Company, Chicago, Ill., a corporation of Delaware
Filed Dec. 22, 1966, Ser. No. 5,157
Term of patent 3½ years
(Cl. D55—1)



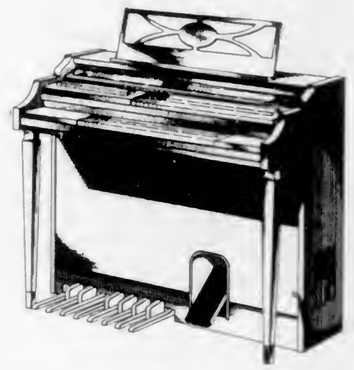
212,556
MIXER PLOW
Elbert C. Troy, Highland Park, Ill., assignor to National Engineering Company, Chicago, Ill., a corporation of Delaware
Filed Dec. 22, 1966, Ser. No. 5,158
Term of patent 3½ years
(Cl. D55—1)



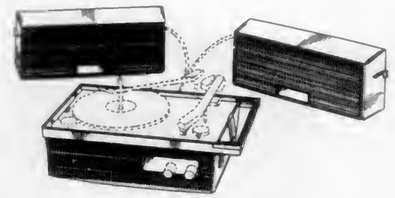
212,557
GUITAR OR SIMILAR ARTICLE
Cecil A. Null, P.O. Box 23, and George L. Lewis, 732 Cheyrl Ave., both of Madison, Tenn. 37115
Filed Sept. 22, 1967, Ser. No. 8,694
Term of patent 14 years
(Cl. D56—1)



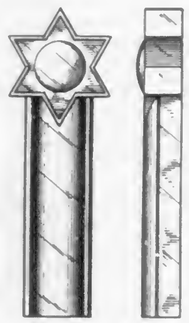
212,558
ORGAN CONSOLE
Winsor D. White, Jr., Blowing Rock, N.C., assignor to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio
Filed Oct. 4, 1967, Ser. No. 8,857
Term of patent 14 years
(Cl. D56—2)



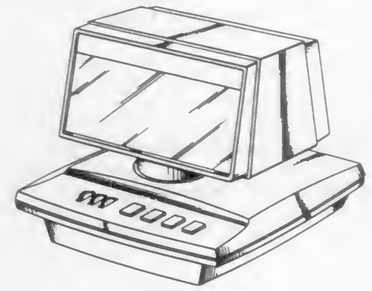
212,559
PORTABLE STEREO PHONOGRAPH OR SIMILAR ARTICLE
Albert T. Rayburn, Columbus, and David B. Rote, Fort Wayne, Ind., assignors to Arvin Industries, Inc., Columbus, Ind., a corporation of Indiana
Filed Nov. 6, 1967, Ser. No. 9,274
Term of patent 14 years
(Cl. D56—4)



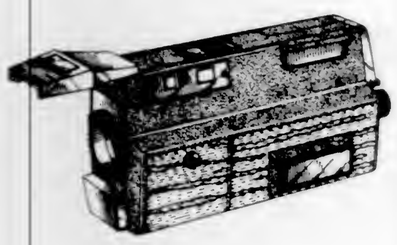
212,560
HAND MAGNIFIER—STAR SHAPED
St. Barth Alaska, 3811 Scoville Ave., Berwyn, Ill. 60402
Filed Feb. 7, 1968, Ser. No. 10,491
Term of patent 14 years
(Cl. D57—1)



212,561
MICROFILM READER OR SIMILAR ARTICLE
Lewis E. Simpson, 255 W. 234th St., Wilmington, Calif. 90744, and William E. Karow, 7367 W. 93rd Place, Los Angeles, Calif. 90045
Filed Apr. 11, 1967, Ser. No. 6,646
Term of patent 14 years
(Cl. D61—1)



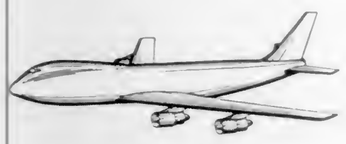
212,562
MOTION PICTURE CAMERA
Grant D. Ross, Jr., Deerfield, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 7, 1967, Ser. No. 9,689
Term of patent 14 years
(Cl. D61—1)



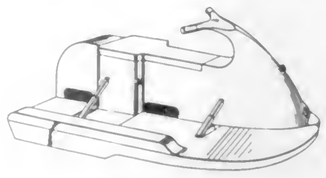
212,563
PAINT PAIL FOR A PAINT ROLLER
James O. Tidwell, Mountain View, Calif., assignor to E. P. Research, Inc., Los Altos, Calif., a corporation of Delaware
Filed Oct. 23, 1967, Ser. No. 9,099
Term of patent 14 years
(Cl. D64—18)



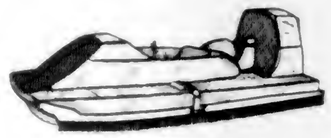
212,564
AIRPLANE
Joseph F. Sutter, Rowland E. Brown, Donald W. Finlay, Milton Heinemann, Kenneth C. Plewes, and Everette L. Webb, King County, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Dec. 20, 1966, Ser. No. 5,128
Term of patent 14 years
(Cl. D71—1)



212,565
POWERED AQUATIC VEHICLE
Clayton J. Jacobson, 5403 Seacrest Drive, Rolling Hills, Calif. 90274
Filed Sept. 11, 1967, Ser. No. 8,539
Term of patent 14 years
(Cl. D71—1)



212,566
AIR CUSHION VEHICLE
Ralph P. Maloof, Encino, Calif., assignor to Cushionflight Corporation, San Bernardino, Calif., organized under the laws of California
Filed Oct. 18, 1967, Ser. No. 9,062
Term of patent 14 years
(Cl. D71—1)



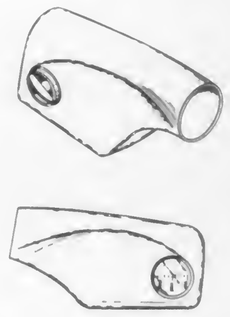
212,567
HOLDING PLATE FOR A CLIP OR THE LIKE
Frank Stanley Schade, Holyoke, Mass., assignor, by mesne assignments, to National Blank Book Company, Inc., Holyoke, Mass., a corporation of Nevada
Filed Feb. 27, 1967, Ser. No. 5,961
Term of patent 14 years
(Cl. D74—2)



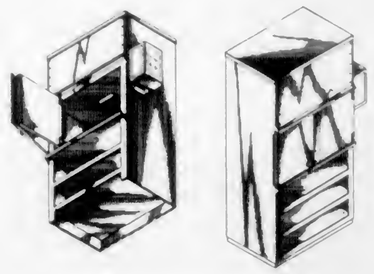
212,568
DISPLAY STAND
Ernest M. Emery, San Diego, Calif. (1997 Vista Way, El Cajon, Calif. 92020), and Jerry N. Wellnitz and John J. Chaparro, both of 8731 Pinecrest Ave., San Diego, Calif. 92123
Filed Mar. 20, 1967, Ser. No. 6,312
Term of patent 14 years
(Cl. D80—11)



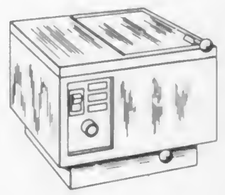
212,569
URINAL
Richard Gelak, Cherry Hill, N.J., and Ralph Ippoliti, Philadelphia, Pa., assignors to Herbert A. Segal, Philadelphia, Pa.
Filed Aug. 18, 1967, Ser. No. 8,320
Term of patent 14 years
(Cl. D83—1)



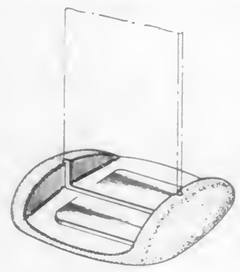
212,570
X-RAY CABINET
Webster J. Daly, 1200 N. Maclay, San Fernando, Calif. 40913
Filed Sept. 26, 1967, Ser. No. 8,747
Term of patent 14 years
(Cl. D83—1)



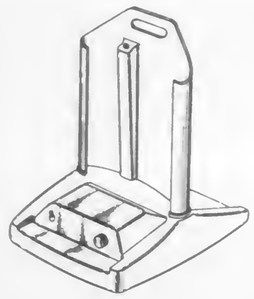
212,571
COMBINED SURGICAL INSTRUMENT CLEANER AND STERILIZER
Thomas E. Eaton, Hawthorne, Calif., assignor to Vernitron Corporation, Farmingdale, N.Y., a corporation of New York
Filed Oct. 3, 1967, Ser. No. 8,853
Term of patent 14 years
(Cl. D83—1)



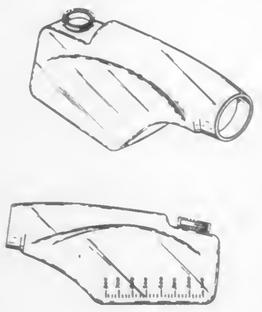
212,572
STAND FOR DRAINAGE APPARATUS
Robert Ernest Bidwell, Wantagh, and Sidney Mishkin, Roslyn, N.Y., assignors to Deknatel Incorporated, Queens Village, N.Y., a corporation
Filed Oct. 4, 1967, Ser. No. 8,856
Term of patent 14 years
(Cl. D83—1)



212,573
STAND FOR DRAINAGE APPARATUS
Robert Ernest Bidwell, Wantagh, and Sidney Mishkin, Roslyn, N.Y., assignors to Deknatel Incorporated, Queens Village, N.Y.
Filed Oct. 4, 1967, Ser. No. 8,858
Term of patent 14 years
(Cl. D83—1)



212,574
URINAL
Richard Gelak, Cherry Hill, N.J., and Ralph Ippoliti, Philadelphia, Pa., assignors to Samson Plastics, Inc., Cherry Hill, N.J., a corporation of New Jersey
Filed Oct. 16, 1967, Ser. No. 9,012
Term of patent 14 years
(Cl. D83—1)



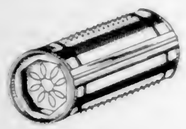
212,575
COMB
Nathan L. Solomon, P.O. Box 550, Englewood, N.J. 07631
Filed Aug. 18, 1966, Ser. No. 3,517
Term of patent 14 years
(Cl. D86—8)



212,576
SHOE TREE
Harry Wiles, 5814 Wilkinson Ave., North Hollywood, Calif. 91600
Filed Mar. 6, 1967, Ser. No. 6,066
Term of patent 14 years
(Cl. D86—10)



212,577
ROLLER FOR A HAIR CURLER
Minoru Noguchi, Shima Ito, Yoritaka Ikejima, and Mikio Maeda, Kadoma, Japan, assignors to Matsushita Electric Works, Ltd., Kadoma City, Japan, a corporation of Japan
Filed June 20, 1967, Ser. No. 7,530
Claims priority, application Japan Mar. 31, 1967
Term of patent 14 years
(Cl. D86—10)



212,578
BICYCLE SADDLE STRUT UNIT
Frank P. Brilando, Niles, and Rudolph G. Blaho, Franklin Park, Ill., assignors to Schwinn Bicycle Co., Chicago, Ill., a corporation of Illinois
Filed Dec. 11, 1967, Ser. No. 9,727
Term of patent 14 years
(Cl. D90—15)



212,579
CHIPPING HAMMER HEAD
Irving V. Hefner, 439 Papworth, Metairie, La. 70005
Filed Aug. 21, 1967, Ser. No. 8,330
Term of patent 14 years
(Cl. D93—4)





LIST OF PLANT PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 29TH DAY OF OCTOBER, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Utsumi, Masami. Red poinsettia plant. 2,842, 10–29–68, Cl. 86.
Utsumi, Masami. Red poinsettia plant. 2,843, 10–29–68, Cl. 86.

LIST OF DESIGN PATENTEES

AAI Corp.: *See*—
Barr, Irwin R. 212,533.
Acadian Distillers Ltd.: *See*—
Affleck, John W., and Jolly. 212,523.
Affleck, John W., and K. P. Jolly, to Acadian Distillers Ltd. Bottle. 212,523, 10–29–68, Cl. D9—115.
Alaska, St. Barth. Hand magnifier star shaped. 212,560, 10–29–68, Cl. D57—1.
Arvin Industries, Inc.: *See*—
Rayburn, Albert T., and Rote. 212,559.
Baldwin, D. H., Co.: *See*—
White, Winsor D., Jr. 212,558.
Banks, Charles R. Aircraft wing mounted speaker. 212,537, 10–29–68, Cl. D26—14.
Barker, Clifford L., to Walker Crosweller & Co. Ltd. Combined hand grip and spray nozzle for a showerbath. 212,535, 10–29–68, Cl. D23—35.
Barr, Irwin R., to AAI Corp. Wheel and tire combination. 212,533, 10–29–68, Cl. D14—30.
Bell & Howell Co.: *See*—
Ross, Grant D., Jr. 212,562.
Bidwell, Robert E., and S. Mishkin, to Deknatel Inc. Stand for drainage apparatus. 212,572, 10–29–68, Cl. D83—1.
Bidwell, Robert E., and S. Mishkin, to Deknatel Inc. Stand for drainage apparatus. 212,573, 10–29–68. D83—1.
Blaho, Rudolph G.: *See*—
Brilando, Frank P., and Blaho. 212,578.
Blum, Louis, and W. J. Horgan, Jr., to Blumcraft of Pittsburgh. Ornamental railing. 212,527, 10–29–68, Cl. D13—7.
Blum, Louis, and W. J. Horgan, Jr., to Blumcraft of Pittsburgh. Ornamental railing. 212,528, 10–29–68, Cl. D13—7.
Blum, Louis and W. J. Horgan, Jr., to Blumcraft of Pittsburgh. Ornamental railing. 212,529, 10–29–68, Cl. D13—7.
Blumcraft of Pittsburgh: *See*—
Blum, Louis, and Horgan. 212,527.
Blum, Louis, and Horgan. 212,528.
Blum, Louis, and Horgan. 212,529.
Borenstein, Martin. Combined ottoman and tray unit. 212,534, 10–29–68, Cl. D15—8.
Boeing Co., The: *See*—
Sutter, Joseph F., Brown, Finlay, Heinemann, Plewes, and Webb. 212,564.
Brilando, Frank P., and R. G. Blaho, to Schwinn Bicycle Co. Bicycle saddle strut unit. 212,578, 10–29–68, Cl. D90—15.
Brown, Rowland E.: *See*—
Sutter, Joseph F., Brown, Finlay, Heinemann, Plewes, and Webb. 212,564.
Chaparro, John J.: *See*—
Emery, Ernest M., Wellnitz, and Chaparro. 212,568.
Chase, David O., and M. V. Maloney, to R. E. Dietz Co. Vehicle marker light. 212,550, 10–29–68, Cl. D48—32.
Click, Cecil E. Symbolic flag pole stand. 212,538, 10–29–68, Cl. D29—17.
Cushionflight Corp.: *See*—
Maloof, Ralph P. 212,566.
Daly, Webster J. X-ray cabinet. 212,570, 10–29–68, Cl. D83—1.
Deknatel Inc.: *See*—
Bidwell, Robert E., and Mishkin. 212,572.
Bidwell, Robert E., and Mishkin. 212,573.
De Vos, Hendrik A. J.: *See*—
MacLeod, Robert B., Jr., and De Vos. 212,549.
Diamond, Harvey E., to Union Broach Co., Inc. Cabinet for an electronic device or similar article. 212,536, 10–29–68, Cl. D26—5.
Dietz, R. E., Co.: *See*—
Chase, David O., and Maloney. 212,550.
E. P. Research, Inc.: *See*—
Tidwell, James O. 212,563.
Eaton, Thomas E., to Vernitron Corp. Combined surgical instrument cleaner and sterilizer. 212,571, 10–29–68, Cl. D83—1.
Emery, Ernest M., J. N. Wellnitz, and J. J. Chaparro. Display stand. 212,568, 10–29–68, Cl. D80—11.
Finlay, Donald W.: *See*—
Sutter, Joseph F., Brown, Finlay, Heinemann, Plewes, and Webb. 212,564.
Ganssle, Lewis C., to Hartwyk Mfg. Co. Medicine spoon or similar article. 212,548, 10–29–68, D48—29.
Gelak, Richard, and R. Ippoliti, to H. A. Segal. Urinal. 212,569, 10–29–68, Cl. D83—1.
Gelak, Richard, and R. Ippoliti, to Samson Plastics, Inc. Urinal. 212,574, 10–29–68, Cl. D83—1.
Gerber Products Co.: *See*—
Ward, Gary H. 212,526.
Gorgei, Louis A. Ice shield for an automobile window. 212,532, 10–29–68, Cl. D14—6.
Hartwyk Mfg. Co.: *See*—
Ganssle, Lewis C. 212,548.
Hefner, Irving V. Chipping hammer head. 212,579, 10–29–68, Cl. D93—4.
Heinemann, Milton: *See*—
Sutter, Joseph F., Brown, Finlay, Heinemann, Plewes, and Webb. 212,564.
Hekman, Louis H., to Holland Industries, Inc. Wall mount hook. 212,553, 10–29–68, Cl. D54—1.
Helm Design & Mfg., Inc.: *See*—
Stephen, James. 212,531.
Hermes, Lawrence R. Golf game board for pool table play. 212,544, 10–29–68, Cl. D34—5.
Herunter, Franz. Sole for a ski boot. 212,521, 10–29–68, Cl. D2—320.
Holland Industries, Inc.: *See*—
Hekman, Louis H. 212,553.
Horgan, William J., Jr.: *See*—
Blum, Louis, and Horgan. 212,527.
Blum, Louis, and Horgan. 212,528.
Blum, Louis, and Horgan. 212,529.
Ikejima, Yoritaka: *See*—
Noguchi, Minoru, Ito, Ikejima, and Maeda. 212,577.
Ippoliti, Ralph: *See*—
Gelak, Richard, and Ippoliti. 212,569.
Gelak, Richard, and Ippoliti. 212,574.
Ito, Shima: *See*—
Noguchi, Minoru, Ito, Ikejima, and Maeda. 212,577.
Jacobson, Clayton J. Powered aquatic vehicle. 212,565, 10–29–68, Cl. D71—1.
Jolly, Kenneth P.: *See*—
Affleck, John W., and Jolly. 212,523.
Karow, William E.: *See*—
Simpson, Lewis E., and Karow. 212,561.
Kermes, Constantine J., to Sperry Rand Corp. Agricultural windrowing machine. 212,545, 10–29–68, Cl. D40—1.
Kneapler, Stephen J., to Richford Corp. Bottle. 212,525, 10–29–68, Cl. D9—135.
Lewis, George L.: *See*—
Null, Cecil A., and Lewis. 212,557.
MacLeod, Robert B., Jr., and H. A. J. de Vos, to Sylvania Electric Products Inc. Spot light for movie cameras. 212,549, 10–29–68, Cl. D48—20.
Maeda, Mikio: *See*—
Noguchi, Minoru, Ito, Ikejima, and Maeda. 212,577.
Maloney, Martin V.: *See*—
Chase, David O., and Maloney. 212,550.
Maloof, Ralph P., to Cushionflight Corp. Air cushion vehicle. 212,566, 10–29–68, Cl. D71—1.
Matsushita Electric Works, Ltd.: *See*—
Noguchi, Minoru, Ito, Ikejima, and Maeda. 212,577.
McCarthy, May G. Game piece. 212,542, 10–29–68, Cl. D34—5.
Mishkin, Sidney: *See*—
Bidwell, Robert E., and Mishkin. 212,572.
Bidwell, Robert E., and Mishkin. 212,573.
National Blank Book Co., Inc.: *See*—
Schade, Frank S. 212,567.
National Engineering Co.: *See*—
Troy, Elbert C. 212,555.
Troy, Elbert C. 212,556.
Noguchi, Monoru, S. Ito, Y. Ikejima, and M. Maedo, to Matsushita Electric Works, Ltd. Roller for a hair curler. 212,577, 10–29–68, Cl. D86—10.
Null, Cecil A., and G. L. Lewis. Guitar or similar article. 212,557, 10–29–68, Cl. D56—1.
Owens-Illinois, Inc.: *See*—
Weckman, Richard L. 212,524.
Ozymanski, Michael J., to Syracuse China Corp. Dinner plate or similar article. 212,547, 10–29–68, Cl. D44—15.
Phillips Petroleum Co.: *See*—
Shutt, Melvin S., and Salisbury. 212,551.
Plewes, Kenneth C.: *See*—
Sutter, Joseph F., Brown, Finlay, Heinemann, Plewes, and Webb. 212,564.
Pratt, Leon J. Ski supporting bracket. 212,554, 10–29–68, Cl. D54—1.
Rayburn, Albert T., and D. B. Rote, to Arvin Industries, Inc. Portable stereo phonograph or similar article. 212,559, 10–29–68, Cl. D56—4.
Richford Corp.: *See*—
Kneapler, Stephen J. 212,525.
Ross, Grant D., Jr., to Bell & Howell Co. Motion picture camera. 212,562, 10–29–68, Cl. D61—1.
Rote, David B.: *See*—
Rayburn, Albert T., and Rote. 212,559.

Rowe, Robert R. Aquarium, 212,539, 10–29–68, Cl. D30—6.
Salisbury, Thomas E.: *See*—
Shutt, Melvin S., and Salisbury, 212,551.
Samson Plastics, Inc.: *See*—
Gelak, Richard, and Ippoliti, 212,574.
Schade, Frank S., to National Blank Tool Co., Inc. Holding plate for a clip or the like. 212,567, 10–29–68, Cl. D74—2.
Schwinn Bicycle Co.: *See*—
Brando, Frank P., and Blaho, 212,578.
Segal, Herbert A.: *See*—
Gelak, Richard, and Ippoliti, 212,569.
Shapira, Nathan. Dispensing container for lapped sheets of paper or the like. 212,552, 10–29–68, Cl. D52—2.
Shutt, Melvin S., and T. E. Salisbury, to Phillips Petroleum Co. Combined container and cover for refuse, goods and the like. 212,551, 10–29–68, Cl. D49—33.
Simpson, Lewis E., and W. E. Karow. Microfilm reader or similar article. 212,561, 10–29–68, Cl. D61—1.
Smith, Wayne E. Truck bed guard. 212,530, 10–29–68, Cl. D14—6.
Sperry Rand Corp.: *See*—
Kermes, Constantine J. 212,545.
Spier, L. Martin. Shelf. 212,540, 10–29–68, Cl. D33—3.
Spillane, Robert T. Elastic fabric band. 212,522, 10–29–68, Cl. D3—33.
Solomon, Nathan L. Comb. 212,575, 10–29–68, Cl. D86—8.
Stephen, James, to Heim Design & Mfg., Inc. Air deflector for automotive vehicles. 212,531, 10–29–68, Cl. D14—6.
Sutter, Joseph F., R. E. Brown, D. W. Finlay, M. Heinemann, K. C. Plewes, and E. L. Webb, to The Boeing Co. Airplane. 212,564, 10–29–68, Cl. D71—1.
Sylvania Electric Products Inc.: *See*—
MacLeod, Robert B., Jr., and De Vos, 212,549.
Syracuse China Corp.: *See*—
Ozymanski, Michael J. 212,547.
Taylor, Horace J. Portable desk and light combination. 212,541, 10–29–68, Cl. D33—7.
Tidwell, James O., to E. P. Research, Inc. Paint pail for a paint roller. 212,563, 10–29–68, Cl. D64—18.
Tortorici, Joseph C. Game board. 212,543, 10–29–68, Cl. D34—5.
Troy, Elbert C., to National Engineering Co. Mixer plow. 212,555, 10–29–68, Cl. D55—1.
Troy, Elbert C., to National Engineering Co. Mixer plow. 212,556, 10–29–68, Cl. D55—1.
Union Broach Co., Inc.: *See*—
Diamond, Harvey E. 212,536.
Vernitron Corp.: *See*—
Eaton, Thomas E. 212,571.
Walker Crosweller & Co., Ltd.: *See*
Barker, Clifford L. 212,535.
Ward, Gary H., to Gerber Products Co. Pour spout. 212,526, 10–29–68, Cl. D9—290.
Warren, Owen. Mug or similar article. 212,546, 10–29–68, Cl. D44—9.
Webb, Everette L.: *See*—
Sutter, Joseph F., Brown, Finlay, Heinemann, Plewes, and Webb, 212,564.
Weckman, Richard L., to Owens-Illinois, Inc. Bottle. 212,524, 10–29–68, Cl. D9—126.
Wellnitz, Jerry N.: *See*—
Emery, Ernest M., Wellnitz, and Chaparro, 212,568.
White, Winsor D., Jr., to D. H. Baldwin Co. Organ console. 212,558, 10–29–68, Cl. D56—2.
Wiles, Harry. Shoe tree. 212,576, 10–29–68, Cl. D86—10.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 29TH DAY OF OCTOBER, 1968

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

A.B. Metal Products Ltd.: *See*—
Davies, Gwyn. 3,408,462.
A.R. Industries, Inc.: *See*—
Reckman, Albert C., Barklage, Ax, and Shotwell. 3,407,458.
AVM Corp.: *See*—
Martin, Afton V. 3,408,002.
AWB Mfg., Inc.: *See*—
Foote, George W. 3,408,111.
Abbott, Warwick R.: *See*—
Allmark, Reginald H., and Abbott. 3,408,636.
Abcor, Inc.: *See*—
Crowley, Richard P. 3,407,573.
Abe, Iwao: *See*—
Yamagishi, Kazuo, Sakakibara, Abe, and Kubo. 3,408,392.
Abelson, Louis. Adenotome having a flat cutting surface. 3,407,815, 10–29–68, Cl. 128—309.
Abert, Jack C., and S. R. Perin; said Perin assor. to said Abert. Quick release buckle and strap means. 3,407,452, 10–29–68, Cl. 24—197.
Abex Corp.: *See*—
Rantz, Robert W. 3,407,750.
Abrams, Rudolf, to Great American Knitting Mills, Inc. Yarn finger selection mechanism. 3,407,631, 10–29–68, Cl. 66—138.
Abrasive Developments Ltd.: *See*—
Ashworth, Stewart I. 3,407,539.
Adamietz, Josef, and D. Thierbach, deceased (by E. Thierbach, heir), to Siemens Aktiengesellschaft. Electromechanical transducer of the electrostrictive type. 3,408,514, 10–29–68, Cl. 310—8.2.
Addington, William F. Chain end interconnecting clasp. 3,407,456, 10–29–68, Cl. 24—232.
Addison, James. Holders for rolls of sheet material. 3,407,980, 10–29–68, Cl. 225—76.
Aebi, Claude M., to International Business Machines Corp. Light-sensitive diazotype compositions and elements. 3,408,192, 10–29–68, Cl. 96—49.
Aerojet-General Corp.: *See*—
Provance, Jason D., Lewis, and Kelley. 3,408,213.
Aerospace Systems Co.: *See*—
Kriesel, Marshall S. 3,408,026.
Agfa-Gevaert Aktiengesellschaft: *See*—
Saleck, Wilhelm, Dinges, and Muller. 3,408,199.
Wick, Richard, and Bestenreiner. 3,407,716.
Aida Iron Works & Co., Ltd.: *See*—
Tezuka, Yoshitomo. 3,407,913.
Aiken, Robert W., R. E. Canup, and C. E. Galaspie, to Texaco Inc. Ignition system for internal combustion engines. 3,407,795, 10–29–68, Cl. 123—148.
Air Reduction Co., Inc.: *See*—
Barabas, Eugene S., and Manson. 3,408,330.
Szymanski, Thaddeus A. 3,408,083.
Air Reduction Inc.: *See*—
Galleher, Ellis A., Jr. 3,407,817.
Aisin Seiki Kabushiki Kaisha: *See*—
Asano, Tadao, and Torii. 3,408,118.
Ajac Corp., The: *See*—
Antonious, Anthony J. 3,408,074.
Ajinomoto Co., Inc.: *See*—
Sasaki, Hiroshi, Aoki, Okada, Kinoshita, and Shiro. 3,408,256.
Yamazaki, Akihiro, Kumashiro, Kato, Meguro, Takenishi, Yoshikawa, Ninomiya, Yamaguchi, Komata, Saito, and Ikeda. 3,408,206.
Aktiebolaget Platmanufaktur: *See*—
Gaumin, Claes G. E. 3,407,966.
Aktiengesellschaft Brown, Boveri & Cie: *See*—
Burger, Willy. 3,408,044.
Burger, Willy. 3,408,122.
Guidi, Vinzenz, and Meier. 3,407,703.
Alexander, James H., and B. A. Boggs, to Allied Chemical Corp. Compact, light and durable bobbin. 3,408,023, 10–29–68, Cl. 242—118.31.
Alexander, Lawrence G. Template for trimming of dental casts. 3,407,501, 10–29–68, Cl. 32—38.
Alexander, Ralph E.: *See*—
Reissmueller, Karl H., Alexander, and M. W. Reissmueller. 3,408,271.
Alfa-Laval AB: *See*—
Nilson, Carl-Göran. 3,408,000.
Nilsson, Vilgot R. 3,408,001.
Alfred Electronics: *See*—
Britton, Ralph H., Jr. 3,408,582.
Allen Electric and Equipment Co.: *See*—
Mazurkevics, Anatolijs. 3,408,562.
Allen, John W., M. Shyam, and G. L. Pearson, to Research Corp. Indium arsenide gunn oscillator. 3,408,594, 10–29–68, Cl. 331—107.
Allied Chemical Corp.: *See*—
Alexander, James H., and Boggs. 3,408,023.
Carr, Robert D. 3,408,500.
Alligator Ventilfabrik G.m.b.H.: *See*—
Lutz, Sepp. 3,407,832.
Allisbaugh, John H. Aerial mount. 3,408,652, 10–29–68, Cl. 343—715.
Allmark, Reginald H., and W. R. Abbott, to The English Electric Co. Ltd. Electric data shift register. 3,408,636, 10–29–68, Cl. 340—174.
Alpha Industrial Center: *See*—
Weiss, Adolf F. 3,407,710.
Alpha Press Co.: *See*—
Weiss, Adolf F. 3,407,710.
Altman, Warren L.: *See*—
Braithwaite, David G., Botts, Gross, Laubach, Altman, and Hanzel. 3,408,273.
American Air Filter Co., Inc.: *See*—
Cole, Saxon. 3,408,152.
American Bosch Arma Corp.: *See*—
Kebbon, Earl R. 3,407,427.
American Cyanamid Co.: *See*—
Matsunaga, Yoshio. 3,408,349.
American Hoist & Derrick Co.: *See*—
Camm, William T. 3,407,511.
American Metal Products Corp.: *See*—
Epstein, Saul. 3,408,093.
American Motors Corp.: *See*—
McKey, Thomas J. 3,408,100.
American Optical Co.: *See*—
Hovey, Richard J. 3,408,134.
American Packaging Corp., The: *See*—
Watts, Ridley, Jr. 3,407,928.
American Standard, Inc.: *See*—
Noakes, Thomas E., Van Kuyk, and Sokoly. 3,407,665.
American Toy and Furniture Co., Inc.: *See*—
Rapaport, Gerald M. 3,407,499.
Ampex Corp.: *See*—
Boylan, William F., and Kowal. 3,408,457.
Lehnert, Stanley E. 3,408,459.
Amsler Morton Co.: *See*—
Gustashaw, William E., and Rosner. 3,407,944.
Amtsberg, Lester A., and W. K. Wallace, to Chicago Pneumatic Tool Co. Pneumatic nut-runner with a differential pressure switch control. 3,407,883, 10–29–68, Cl. 173—12.
Anastasio, Andrew A., and C. D. Francy, to United States of America, Navy. Fairing support ring. 3,407,777, 10–29–68, Cl. 114—235.
Anderko, Kurt, R. Henle, and M. Stark, to Karl Schmidt G.m.b.H. Forming hollow cast articles. 3,407,864, 10–29–68, Cl. 164—41.
Anderson, Arthur E.: *See*—
Goetze, Gerhard W., and Anderson. 3,408,531.
Anderson, Kelvin G., and I. F. Churchill, to W. R. Grace & Co. Method and apparatus for electrostatically securing film to an object. 3,407,436, 10–29–68, Cl. 18—1.
Anderson, Phillip J.: *See*—
Khan, Amanullah R., Eakin, and Anderson. 3,407,606.
Andre, Otto A.: *See*—
MacQuaid, Craig, and Andre. 3,407,518.
Andreades, Sam, to E. I. du Pont de Nemours and Co. Tetraaryl-1,4-bis(dicyano-methylene) cyclohexadienes, and their dihydro derivatives. 3,408,367, 10–29–68, Cl. 260—396.
Andrianova, Tatjana B.: *See*—
Franchuk, Valentin I., Andrianova, and Bobyshev. 3,408,163.
Angeles Metal Trim Co.: *See*—
Doke, Jack, and Van Meter. 3,407,547.
Annibale, Joseph R.: *See*—
Hunley, William H., and Annibale. 3,407,769.
Anthony, Donald R., R. G. Loncaric, and R. E. Fields, to Atlantic Richfield Co. Apparatus for preventing corrosion. 3,407,831, 10–29–68, Cl. 137—209.
Antioch College: *See*—
Vernet, Sergius. 3,407,663.
Antonious, Anthony J., to The Ajac Corp. Putter with alignment facilitating and weighting means. 3,408,074, 10–29–68, Cl. 273—164.
Antonsen, Anker K., and M. L. Foreman. Uniflow scavenged engine having improved gaseous fuel admission. 3,407,790, 10–29–68, Cl. 123—65.
Aoki, Mikio: *See*—
Sasaki, Hiroshi, Aoki, Okada, Kinoshita, and Shiro. 3,408,256.
Apel, Francis N.: *See*—
Cotter, Robert J., Apel, and Conte. 3,408,407.
Appeldorn, Roger H., and D. C. Gilkeson, to Minnesota Mining and Mfg. Co. Projective objective having three elements plus an integral right angle prism. 3,408,135, 10–29–68, Cl. 350—202.
Appelton, Arthur I. Single piece connector for flexible hosing. 3,408,092, 10–29–68, Cl. 285—39.
Appleton, Arthur I. Connector for flexible hosing. 3,408,099, 10–29–68, Cl. 285—247.
Appleton Machine Co.: *See*—
Bender, Ray S., Lamon, Paull, and Plach. 3,407,565.
Applied Power Industries, Inc.: *See*—
Heinrich, Allan E. 3,407,597.
Stein, Gary. 3,407,737.
Ardire, Francis J., and A. De Pasquale, to International Business Machines Corp. Combined indicator and order card form. 3,407,781, 10–29–68, Cl. 116—114.

Argus Chemical Corp.: *See*—
Friedman, Ronald L., and Pastorino. 3,408,423.
Armour Agricultural Chemical Co.: *See*—
Godwin, Millard C. 3,408,168.
Mestian, William R., Jr. 3,407,862.
Nickerson, John D., and Payne. 3,408,161.
Satterwhite, William A., and Mazurek. 3,408,162.
Armour and Co.: *See*—
Betty, Roy J. 3,408,170.
Juergermann, Eric, and Guttmann. 3,408,390.
Armstrong Cork Co.: *See*—
Stanley, Edward W. 3,407,690.
Armstrong, Raymond E. Skiing simulator device. 3,408,067, 10–29–68, Cl. 272—16.
Arnoldy, Roman F. Method of making abrasion resistant plate. 3,407,478, 10–29–68, Cl. 29—528.
Aro Corp., The: *See*—
Brandenberg, Karl A. 3,407,833.
Brandenberg, Karl A. 3,407,846.
Arps Corp.: *See*—
Redwine, Fletcher H., and Osborn. 3,408,561.
Artiano, Adrian: *See*—
Lindberg, Verne L., and Artiano. 3,407,854.
Asano, Tadao, and T. Torii, to Aisin Seiki Kabushiki Kaisha. Brake apparatus for a vehicle. 3,408,118, 10–29–68, Cl. 303—22.
Ashburn, Lennie L., and C. L. Starbuck, to Pennsalt Chemicals Corp. Vapor coating employing degassing of coating metal. 3,408,224, 10–29–68, Cl. 117—107.
Ashby, Bruce A., to General Electric Co. Moisture curable siloxy terminated polyethers. 3,408,321, 10–29–68, Cl. 260—37.
Asher, Beverly: *See*—
Mueller, Arthur P., and Asher. 3,408,316.
Ashland Oil & Refining Co.: *See*—
Hinson, Fletcher A., Jr. 3,408,165.
Ashworth, Stewart L., to Abrasive Developments Ltd. Abrading devices. 3,407,539, 10–29–68, Cl. 51—11.
Astheimer, Robert W., to Barnes Engineering Co. Optical scanning system for scanning across radiation discontinuities. 3,408,492, 10–29–68, Cl. 250—83.3.
Atlantic Richfield Co.: *See*—
Anthony, Donald R., Loncaric, and Fields. 3,407,831.
Cymbalisty, Lubomyr M. O. 3,407,972.
Atlas Copco Aktiebolag: *See*—
Olofsson, Hans K., Pettersson, and Trulsson. 3,407,996.
Ault, Waldo C., T. J. Micich, A. J. Stirton, and R. G. Bistline, Jr., to United States of America, Agriculture. Alpha-sulfo branched chain fatty acids and method for preparing them. 3,408,373, 10–29–68, Cl. 260—400.
Ax, Theodore M.: *See*—
Reckman, Albert C., Barklage, Shotwell, and Ax. 3,407,458.
Babcock, John C., and J. A. Campbell, to The Upjohn Co. 3-hydroxy and 3-monoacylated steroids and the 6- and 16-substituted analogues thereof. 3,408,370, 10–29–68, Cl. 260—397.4.
Babcock & Wilcox Co., The: *See*—
McDonald, Bertrand N. 3,407,625.
Babson, Robert C., and V. C. James. Turbulence indicator for aircraft. 3,407,668, 10–29–68, Cl. 73—517.
Bachi, John, Jr., to Standard Oil Co. Spinner for a liquid fuel burner. 3,408,154, 10–29–68, Cl. 431—353.
Bade, Heinz E., to J. F. Behrens. Compressed air-operated apparatus to drive in staples, nails or other fasteners in workpieces. 3,407,709, 10–29–68, Cl. 91—461.
Badger, Joe G.: *See*—
Valdettaro, Alarico A., Badger, and Meadows. 3,407,669.
Badische Anilin- Soda-Fabrik Aktiengesellschaft: *See*—
Raichle, Ludwig, Mahler, Mueller, Koch, Immel, Urban, and Hotz. 3,408,007.
Baer, Massimo, to Monsanto Co. Polymeric scavenging systems. 3,408,339, 10–29–68, Cl. 260—80.73.
Bahr, Alex, to Siemens Aktiengesellschaft. Gas discharge surge arrester. 3,408,525, 10–29–68, Cl. 313—146.
Bahr, Ulrich: *See*—
Szita, Jeno, Bahr, Marzolph, and Nischk. 3,408,338.
Bailey, David Z. Hydrofoil. 3,407,770, 10–29–68, Cl. 114—66.5.
Bailey, Robert. Router guide. 3,407,853, 10–29–68, Cl. 144—144.5.
Baker, Allister L., to Keuffel & Esser Co. Micro-angle generator. 3,408,146, 10–29–68, Cl. 356—140.
Baker, Edward S., to P. H. Snider. Telephone connecting panel and connector therefor. 3,408,613, 10–29–68, Cl. 339—18.
Baker, Stephen C., to Su-Ev, Inc. Recoil snubbing device. 3,408,062, 10–29–68, Cl. 267—1.
Bakker, Lubertus, and B. S. Hazel, to Midland-Ross Corp. Immiscible liquid separator. 3,407,937, 10–29–68, Cl. 210—301.
Baldin-Lima-Hamilton Corp.: *See*—
Will, Richard B. 3,408,049.
Baldwin, Leoniel C., to Howmet Corp. Dental mouthguard. 3,407,808, 10–29–68, Cl. 128—136.
Baldwin, William E., to General Electric Co. Apparatus for altering the configuration of electrical coils of inductive devices. 3,407,468, 10–29–68, Cl. 29—205.
Baldwin, William E., to General Electric Co. Method for altering the configuration of electrical coils of inductive devices. 3,407,486, 10–29–68, Cl. 29—596.
Ball, William J., J. L. Barclay, E. J. Gasson, D. G. Stewart, J. Bohemen, F. C. Newman, and B. Wood, to The Distillers Co. Ltd. Production of unsaturated aliphatic aldehydes. 3,408,401, 10–29–68, Cl. 260—604.
Balogh, Stephen, to Parker-Hannifin Corp. Spring loaded dryer. 3,407,936, 10–29–68, Cl. 210—282.
Balon Corp.: *See*—
Scaramucci, Domer. 3,408,038.
Balsiger, Harold E.: *See*—
Price, Ralph E., and Balsiger. 3,407,541.
Bambace, Natale J., C. R. Kenny, and A. G. Oesterle, to General Precision Systems Inc. Line voltage stabilizer having parallel dynamic and stable impedance paths. 3,408,559, 10–29–68, Cl. 323—22.
Bander, Miriam S.: *See*—
Hollander, Dolores S., and Bander. 3,407,407.
Barnabus, Eugene S., and J. Manson, to Air Reduction Co., Inc. Polymerization of 3,4-dihydro-2H-pyran-2-carboxaldehyde. 3,408,330, 10–29–68, Cl. 260—67.
Baravalle, Thomas R., to Gerdau Chemical Corp. Detergent germicidal compositions. 3,408,298, 10–29–68, Cl. 252—107.
Barber, Julia W.: *See*—
Savage, Brian D. 3,408,107.
Barchielli, Riccardo: *See*—
Grein, Arpad, Canevazzi, and Barchielli. 3,408,258.
Barclay, John L.: *See*—
Ball, William J., Barclay, Gasson, Stewart, Bohemen, Newman, and Wood. 3,408,401.
Barker, John L., C. L. Du Vivier, J. R. Odlon, and B. J. Midlock, to Laboratory for Electronics, Inc. Speed sensor. 3,408,648, 10–29–68, Cl. 343—8.
Barkhuff, Raymond A., Jr., to Monsanto Co. Process of polymerizing vinyl halide with terpolymers of 1-monoolefins and dienes. 3,408,424, 10–29–68, Cl. 260—878.
Barklage, Herman F.: *See*—
Reckman, Albert C., Barklage, Ax, and Shotwell. 3,407,458.
Barmer Maschinenfabrik Aktiengesellschaft: *See*—
Lenk, Erich. 3,407,437.
Lenk, Wilhelm, and Rehn. 3,408,011.
Barnard, Robert D., C. J. Dobratz, A. K. Johnson, and R. H. Meyer, to The Dow Chemical Co. Vertical mercury cathode electrolytic cell with diaphragm enclosed perforated cathode support. 3,408,281, 10–29–68, Cl. 204—219.
Barnes Engineering Co.: *See*—
Astheimer, Robert W. 3,408,492.
Barnes, Mabs R. Self-adjusting brassiere. 3,407,819, 10–29–68, Cl. 128—479.
Barr, Earl L.: *See*—
Christian, Alpha. 3,407,514.
Barrett Electronics Corp.: *See*—
Deliban, Robert. 3,408,546.
Basic Products Corp.: *See*—
Miller, Charles F. 3,407,985.
Peltak, Thomas F., and Orr. 3,408,480.
Baskir, Emanuel, to Shell Oil Co. Downhole detector for determining magnetic north. 3,407,508, 10–29–68, Cl. 33—204.
Baso, Loris. Fastening device for ski and mountaineering shoes. 3,407,450, 10–29–68, Cl. 24—163.
Bastian-Blessing Co., The: *See*—
Vantroba, Robert W. 3,408,053.
Batko, Adam D., to Village of Edina. Snow retaining gate for front end diagonal plow. 3,407,519, 10–29–68, Cl. 37—42.
Battelle Development Corp., The: *See*—
Mitchell, Robert K., Swain, Thomas, and Wilcox. 3,407,742.
Baumann, Hanns U. Expanded, trussed structural assemblance and method of assembly. 3,407,560, 10–29–68, Cl. 52—645.
Baxter, Roderick C. Systems for controlling the position of a floating vessel. 3,407,773, 10–29–68, Cl. 114—144.
Beason, Elmer C., to Phillips Petroleum Co. Cutting and heat sealing thermoplastic film. 3,408,245, 10–29–68, Cl. 156—515.
Beatrice Foods Co.: *See*—
Dandridge, Gerald W. 3,407,843.
Bechler, Andre. Attachment on automatic lathe. 3,407,705, 10–29–68, Cl. 90—56.
Beck, Ferdinand, to Wiener Schwachstromwerke Gesellschaft m.b.H. Electrode control means for electric arc apparatus. 3,408,447, 10–29–68, Cl. 13—13.
Beck, Leonard R., to Martin Tool Works, Inc. Air-hydraulic system and apparatus. 3,407,601, 10–29–68, Cl. 60—54.5.
Becker, Earl L. Lawnmower edger attachment. 3,407,579, 10–29–68, Cl. 56—256.
Becker, Howard I., Jr., to General Electric Co. Process fraction defective monitor. 3,408,486, 10–29–68, Cl. 235—92.
Beckett, Clark: *See*—
Wolf, Wilfred L., and Beckett. 3,408,193.
Beckman Instruments, Inc.: *See*—
Douglass, Donald C., and Keegan. 3,408,569.
Ehret, Robert J. 3,408,577.
Hersch, Paul A. 3,408,269.
Beebe, William B., and J. J. Miller, to McGraw-Edison Co. Commercial washing machine. 3,407,635, 10–29–68, Cl. 68—207.
Beebee, Brian H., and E. G. Bullivant, to Dunlop Rubber Co., Ltd. Injection molding apparatus. 3,407,443, 10–29–68, Cl. 18—30.
Beeston, John T., Jr. Load compensating circuit for radio frequency generators. 3,408,598, 10–29–68, Cl. 333—33.
Behrens, Joh., Friedrich: *See*—
Bade, Heinz E. 3,407,709.
Bell, F. W., Inc.: *See*—
Chapman, Richard M., and Stevens. 3,408,563.
Bell Telephone Laboratories, Inc.: *See*—
Bishop, John D. 3,408,553.
Brass, Robert L., Connell, and Harr. 3,408,628.
Helter, George L. 3,408,597.
Kleinfelder, Walter C. 3,408,450.
Morse, William C. 3,408,515.
Moschytz, George S. 3,408,590.
Ohm, Edward A. 3,408,498.
Ortel, William C. G. 3,407,465.
Rugo, John J. 3,408,588.
Belliere, Pierre A., to Ratier Forest. Hydraulic motor of small overall dimensions for driving rotatably the lead screw controlling the feed motion of a machine carriage. 3,407,707, 10–29–68, Cl. 91—29.

Belliere, Pierre A., to International Telephone and Telegraph Corp. Hydraulic motor of small overall dimensions for driving rotatably the lead screw controlling the feed motion of a machine carriage. 3,407,708, 10–29–68, Cl. 91—29.
Beloit Corp.: *See*—
Berzins, Karlis. 3,407,679.
Derr, Ralph, Jr. 3,408,247.
Bender, Ray S., D. E. Lamon, H. Paull, Jr., and E. F. Plach, to Appleton Machine Co. Roll wrapper. 3,407,565, 10–29–68, Cl. 53—214.
Bender, Werner K.: *See*—
Schwartz, Morris, Bender, Castedello, and Kaprelian. 3,408,139.
Bendix Corp., The: *See*—
Horton, Milford C., and Wenzel. 3,408,599.
Lee, Walter W., Robinson, Blauvelt, and Fischer. 3,408,634.
Lowe, Donald S. 3,408,497.
Pincus, Ralph M. 3,408,579.
Troeger, Henry. 3,407,677.
Bendix, Gordon H., D. J. Roth, and P. M. Erlandson, to Continental Can Co., Inc. Method and apparatus for electrohydraulic printing. 3,408,220, 10–29–68, Cl. 117—37.
Benett, Irving: *See*—
Serbia, George W., and Benett. 3,408,202.
Benichasa, Thomas J.: *See*—
Wysocki, Kazmier, and Benichasa. 3,407,964.
Bennett, John D., to Sun Oil Co. Apparatus for wellbore telemetering. 3,407,886, 10–29–68, Cl. 175—27.
Bennett, Kathleen I.: *See*—
Reynolds, Robert J. 3,407,799.
Bennett, William N., to Skisearch, Inc. Three-dimensional surface for skis and the like. 3,408,080, 10–29–68, Cl. 280—11.13.
Bensley, John T.: *See*—
Wyman, Harry E., and Bensley. 3,408,503.
Benson, Royal H., to Monsanto Co. Heat stabilized polybenzimidazoles. 3,408,336, 10–29–68, Cl. 260—78.4.
Bentley, John G., to Rockwell Mfg. Co. Plane. 3,407,857, 10–29–68, Cl. 145—4.
Berger, Harold W.: *See*—
Shanafelt, Leo A., and Berger.
Bergersen, Thor B., J. F. Kane, and D. E. Morris, to Motorola, Inc. Chopper circuit capable of handling large bipolarity signals. 3,408,511, 10–29–68, Cl. 307—237.
Berghout, Cornelis W., and S. Wolff, to North American Philips Co., Inc. Method of manufacturing wound Nb_3Sn-containing bodies. 3,408,235, 10–29–68, Cl. 148—6.3.
Berglund, Wilhelm A. Safety valve system for brake lines. 3,408,119, 10–29–68, Cl. 303—84.
Bergman, Gunnar B., and R. A. McClintock, to Pike Corp. of America. Stabilized floating structure. 3,407,766, 10–29–68, Cl. 114—.5.
Bergman, Gunnar B.: *See*—
McClintock, Ross A., and Bergman. 3,407,767.
Bergman, Rudolph, to King-Seeley Thermos Co. Hydraulic-electric temperature control. 3,408,506, 10–29–68, Cl. 307—117.
Bernstein, Jack, E. R. Spitzmiller, and H. A. Bruson, to E. R. Squibb & Sons, Inc. 1-aminoalkyl-amino-indanes and salts thereof. 3,408,389, 10–29–68, Cl. 260—501.2.
Berry, James S., Jr.: *See*—
Richards, Nolan E., Berry, and Johnston. 3,408,312.
Berwick Forge & Fabricating Corp.: *See*—
Smith, Ray F. 3,407,908.
Berzins, Karlis, to Beloit Corp. Deflection roll drive. 3,407,679, 10–29–68, Cl. 74—423.
Best, John H., and Sons, Inc.: *See*—
Best, Leon H. 3,408,018.
Best, Leon H., to John H. Best and Sons, Inc. Racks. 3,408,018, 10–29–68, Cl. 242—66.
Bestenreiner, Friedrich: *See*—
Wick, Richard, and Bestenreiner. 3,407,716.
Betty, Roy J., to Armour and Co. Motor fuel. 3,408,170, 10–29–68, Cl. 44—74.
Beuschel, Helmut, to Dynamit Nobel Aktiengesellschaft. Internal burner solid fuel propellant charge for rocket engines. 3,407,736, 10–29–68, Cl. 102—99.
Beyer, George L., and W. C. York, to Eastman Kodak Co. Applicator device. 3,407,786, 10–29–68, Cl. 118—637.
Bien, Hans-Samuel, W. Hohmann, and H. Vollmann, to Farbenfabriken Bayer Aktiengesellschaft. Trisulphonated anthraquinone reactive dyestuffs substituted in the 1- and 4-positions by amine groups. 3,408,345, 10–29–68, Cl. 260—240.
Bijl, Aart: *See*—
Nihof, Hendrikus J., Bijl, and Borsboom. 3,408,488.
Billin, Arthur G., and W. L. Remley, to Ritter Pfaudler Corp. Air cushioned wheeled base. 3,407,896, 10–29–68, Cl. 180—119.
Bills, Daniel G., and K. A. Warren, to Granville-Phillips Co. Apparatus for ion pumping and pressure measurement. 3,407 991, 10–29–68, Cl. 230—69.
Bird, Walter W., to Birdair Structures, Inc. Pressure balanced door. 3,407,534, 10–29–68, Cl. 49—68.
Birdair Structures, Inc.: *See*—
Bird, Walter W. 3,407,534.
Bishop, John D., to Bell Telephone Laboratories, Inc. Driven inverter-regulator with magnetic amplifier in feedback loop. 3,408,553, 10–29–68, Cl. 321—16.
Bistline, Raymond G., Jr.: *See*—
Ault Waldo C., Micich, Stirton, and Bistline. 3,408,373.
Black Clawson Co., The: *See*—
Lindberg, Verne L., and A. Artiano. 3,407,854.
Black Products Co.: *See*—
Lau, Erwin M. 3,408,034.
Blackley, William D., and W. R. Siegart, to Texaco Inc. Method of preparing fluorobenzenes. 3,408,412, 10–29–68, Cl. 260—650.
Blackwell, Elliott H., to Warren Pumps, Inc. Pump. 3,408,114, 10–29–68, Cl. 302—14.
Blaske, Joseph T., Jr. Test analyser. 3,407,516, 10–29–68, Cl. 35—48.
Blass Antenna Electronics Corp.: *See*—
Blass, Judd. 3,408,653.
Blass, Judd, to Blass Antenna Electronics Corp. Antenna system compensating for prism effect utilizing control means at the signal feed. 3,408,653, 10–29–68, Cl. 343—754.
Blauvelt, David H.: *See*—
Lee, Walter W., Robinson, Blauvelt, and Fischer. 3,408,634.
Bleuer, Keith T. Pencil. 3,408,147, 10–29–68, Cl. 401—65.
Bliss & Laughlin Industries, Inc.: *See*—
Schladermundt, Peter, and Dennerlain. 3,407,524.
Blom, Sven R. R., to Durox International S.A. Plant for the manufacture of aerated concrete. 3,407,457, 10–29–68, Cl. 25—2.
Blomet, Denise S. O. (nee Soules), and G. Coindreau. Device for packing objects having a cylindrical or prismatic shape. 3,407,566, 10–29–68, Cl. 53—380.
Blue, Robert D., and J. J. Leddy, to The Dow Chemical Co. Bromine-zinc secondary cell. 3,408,232, 10–29–68, Cl. 136—30.
Blum and Co., Inc.: *See*—
Hollander, Dolores S., and Bander. 3,407,407.
Blum, Jack F., R. G. Fournier, and P. N. Kesten, to General Motors Corp. Spark plug and seal therefor. 3,408,524, 10–29–68, Cl. 313—145.
Bobyshev, Jury M.: *See*—
Franchuk, Valentin, Andrianova, and Bobyshev. 3,408,163.
Bobyshev, Mikhail D.: *See*—
Franchuk, Valentin, Andrianova, and Bobyshev. 3,408,163.
Bobysheva, Irina M.: *See*—
Bobyshev, Irina M.: *See*—
Franchuk, Valentin, Andrianova, and Bobyshev. 3,408,163.
Bodge, Philip K., to Insco Corp. Speed-shift transmission. 3,407,675, 10–29–68, Cl. 74—329.
Boehringer, Ingelheim G.m.b.H.: *See*—
Keck, Johannes. 3,408,446.
Bogdany, John: *See*—
Waterman, Raymond R., and Bogdany. 3,408,308.
Boggs, Beryl A.: *See*—
Alexander, James H., and Boggs. 3,408,023.
Bohemen, John, F. C. Newman, and B. Wood, to Distillers Co., Ltd. Production of unsaturated aldehydes. 3,408,400, 10–29–68, Cl. 260—604.
Bohemen, John: *See*—
Ball, William J., Barclay, Gasson, Stewart, Bohemen, Newman, and Wood. 3,408,401.
Bolda, Frank J.: *See*—
Gulliksen, John T., Oldaker, and Bolda. 3,408,237.
Bolling, Vernon B., and E. C. Levit, to Steelcase, Inc. Molded chair construction. 3,408,106, 10–29–68, Cl. 297—452.
Bonnell, Charles R., to Electronic Communications, Inc. Liquid-weight data transmitter. 3,407,659, 10–29–68, Cl. 73—309.
Booth Albert B., to Hercules, Inc. Method of obtaining essentially pure estragole. 3,408,405, 10–29–68, Cl. 260—612.
Boots, Ira J., J. Metz, Jr., and M. H. Paris, to Whirlpool Corp. Apparatus for producing flechettes. 3,407,463, 10–29–68 Cl. 29—1.2.
Borchardt, Hans J., to E. I. du Pont de Nemours and Co. Thoria/terbium fluoride luminophors. 3,408,302, 10–29–68, Cl. 252—301.1.
Borchardt, Hans J., to E. I. du Pont de Nemours and Co. Thoria/europium fluoride luminophors. 3,408,303, 10–29–68, Cl. 252—301.1.
Borg-Warner Corp.: *See*—
Mamo, Anthony C. 3,407,748.
Samerdyke, Bertram P. 3,407,103.
Borsboom, Albetus C. H.: *See*—
Nihof, Hendrikus J., Bijl, and Borsboom. 3,408,488.
Borst, William B., Jr., to Universal Oil Products Co. Separation of iC_4 from alkylation effluent. 3,408,284, 10–29–68, Cl. 208—102.
Bosch, Paul, to Robert Bosch, G.m.b.H. Control arrangement for pumps. 3,407,738, 10–29–68, Cl. 103—17.
Bosch, Robert, G.m.b.H.: *See*—
Bosch, Paul. 3,407,738.
Lang, Herbert. 3,407,793.
Boschan, Robert H., and J. P. Holder, to McDonnell Douglas Corp. Bis (fluorophenyl) phosphoryl chlorides. 3,408,427, 10–29–68, Cl. 260—960.
Boschan, Robert H., and J. P. Holder, to McDonnell Douglas Corp. Halogenated phosphonate esters. 3,408,428, 10–29–68, Cl. 260—961.
Bostrom, Harry H., to Molon Motor & Coil Corp. Blower. 3,407,993, 10–29–68, Cl. 230—117.
Botalam: *See*—
Grenon, Rene E. 3,408,015.
Boteler, Henry W., to Grinnell Corp. Plastic lined valve. 3,407,838, 10–29–68, Cl. 137—375.
Bott, Lawrence L.: *See*—
Braithwaite, David G., Bott, Gross, Laubach, Altman, and Hanzel. 3,408,273.
Boudouris, Angelo. Aircraft collision avoidance system. 3,408,651, 10–29–68, Cl. 343—112.
Bougard, Jacques, to Ateliers J. Hanrez, Societe anonyme. Apparatus for submerged combustion heating. 3,407,805, 10–29–68, Cl. 126—360.
Bouladon, Gabriel. Pneumatic transport means. 3,408,113, 10–29–68, Cl. 302—2.

Boulton Paul Aircraft Ltd.: *See*—
North, John D., and Millard. 3,407,745.

Bourquin, Jean-Pierre: *See*—
Renz, Jany, Bourquin, Bruschweiler, Winkler, and Schwarb. 3,408,355.

Bower, Joseph G., to United States Borax & Chemical Corp. Supersaturated borax solution stabilized with sodium dichromate and method of making same. 3,408,155, 10–29–68, Cl. 23—59.

Bower, Joseph G., to United States Borax & Chemical Corp. Process for producing stable supersaturated borax solutions. 3,408,156, 10–29–68, Cl. 23—59.

Box, Theodor. Plastic poultry crate and the like. 3,407,961, 10–29–68, Cl. 220—97.

Boyer, John D., and W. T. Harrison. Illuminable handbag. 3,408,489, 10–29–68, Cl. 240—6.45.

Boylan, Francis J., to Hercules Inc. Method controlling foaming. 3,408,306, 10–29–68, Cl. 252—321.

Boylan, William F., and L. Kowal, to Ampex Corp. Clamped video dropout compensator. 3,408,457, 10–29–68, Cl. 178—6.6.

Brader, Walter H., Jr., to Jefferson Chemical Co., Inc. Production of dioxolanes. 3,408,363, 10–29–68, Cl. 260—340.9.

Braithwaite, David G., L. L. Bott, P. L. Gross, J. E. Laubach, W. L. Altman, and W. Hanzel, to Nalco Chemical Co. Organic lead recovery from electrolytes by steam and azeotropic distillation. 3,408,273, 10–29–68, Cl. 204—59.

Brammer, Robert C., to Stromberg-Carlson Products, Inc. Step for campers, mobile homes and the like. 3,407,901, 10–29–68, Cl. 182—156.

Brandenberg, Karl A., to The Aro Corp. Fluid logic circuit mechanism. 3,407,833, 10–29–68, Cl. 137—271.

Brandenberg, Karl A. Fluid logic circuit mechanism. 3,407,834, 10–29–68, Cl. 137—271.

Brandenberg, Karl A., to The Aro Corp. Circuit board and control module for fluid logic circuit mechanism. 3,407,846, 10–29–68, Cl. 137—608.

Brass, Robert L., J. B. Connell, and J. A. Harr, to Bell Telephone Laboratories, Inc. Data processing system. 3,408,628, 10–29–68, Cl. 340—172.5.

Braune, Rudolf E., and K. Sanderson. Recuperative type heat exchanger. 3,407,870, 10–29–68, Cl. 165—83.

Braus, Harry, and J. R. Woltermann, to National Distillers and Chemical Corp. Stabilizing organic materials. 3,408,324, 10–29–68, Cl. 260—45.95.

Brayford, John R., to Imperial Chemical Industries Ltd. Method and apparatus for spinning heterofilaments. 3,408,433, 10–29–68, Cl. 264—171.

Breedveld, Marinus P., and C. J. M. Huyben, to North American Philips Co., Inc. Magnetic amplifier. 3,408,583, 10–29–68, Cl. 330—8.

Breting, Ulysses A.: *See*—
Tuck, Robert M., and Breting. 3,407,686.

Brickhouse, Abner A. Buoyant mooring tower. 3,407,416, 10–29–68, Cl. 9—8.

Brilando, Frank P.: *See*—
Fritz, Albert J., and Brilando. 3,408,090.

British Aircraft Corp. (Operating) Ltd.: *See*—
Walker, Brian T. 3,407,984.

British Industries Corp.: *See*—
Shulman, Elliott. 3,408,471.

Britton, Ralph H., Jr., to Alfred Electronics. Wide dynamic range square-law detector with logarithmic read-out. 3,408,582, 10–29–68, Cl. 329—192.

Brookside Corp.: *See*—
Wooden, John A., and Quinlan. 3,407,882.

Brosilow, Jerry L.: *See*—
Parker, Konrad, and Brosilow. 3,408,233.

Bross, Helmut K. Writing instrument. 3,408,148, 10–29–68, Cl. 401—113.

Broussaud, Georges J.: *See*—
Simon, Jean-Claude, and Broussaud. 3,408,646.

Browder, Jack E. Slip grinding machine. 3,407,540, 10–29–68, Cl. 51—92.

Brown, Boveri & Co., Ltd.: *See*—
Jenny, Ernst. 3,407,992.

Brown, Jack L.: *See*—
Kuhn, David A., and Brown. 3,408,296.

Brown, Robert W., to Uniroyal Inc. Adhering textile materials to rubber. 3,408,249, 10–29–68, Cl. 161—88.

Brown, Wilburn K., to Pettibone Mulliken Corp. Material handling apparatus with "float" accommodations to ground. 3,407,953, 10–29–68, Cl. 214—770.

Broyles, Wayne E. Quick change mounting means for switchboard meters and the like. 3,408,617, 10–29–68, Cl. 339—126.

Brubaker, Reginald L. Measuring instrument. 3,407,507, 10–29–68, Cl. 33—179.

Brucksch, William F., to Uniroyal, Inc. Transparent ethylene-propylene-diene terpolymer rubber vulcanizate. 3,408,320, 10–29–68, Cl. 260—23.5.

Bruschweiler, Conrad: *See*—
Renz, Jany, Bourquin, Bruschweiler, Winkler, and Schwarb. 3,408,355.

Bruson, Herman A.: *See*—
Bernstein, Jack, Spitzmiller, and Bruson. 3,408,389.

Buchwald, Robert M., to General Motors Corp. Valve gear with rocker arm guide means. 3,407,792, 10–29–68, Cl. 123—90.

Bullivant, Edward G.: *See*—
Beebee, Brian H., and Bullivant. 3,407,443.

Burch, Andrew E. Yielding and indicating caliper. 3,407,504, 10–29–68, Cl. 33—148.

Burden, Roy B., Jr., to General Incinerators of California, Inc. Exhaust gas afterburner. 3,408,167, 10–29–68, Cl. 23—277.

Burger, Jeanne F.: *See*—
Burger, Willy. 3,408,044.
Burger, Willy. 3,408,122.

Burger-Straumann, Ull R.: *See*—
Burger, Willy. 3,408,044.
Burger, Willy. 3,408,122.

Burger, Willy, deceased, by J. F. Burger, and U. R. Burger-Straumann, to Aktiengesellschaft Brown, Boveri & Cie. Combustion gas turbine with cooled guide vane support structure. 3,408,044, 10–29–68, Cl. 253—39.1.

Burger, Willy, deceased by J. F. Burger, and U. R. Burger-Straumann, to Aktiengesellschaft Brown Boveri & Cie. Axial plain bearing. 3,408,122, 10–29–68, Cl. 308—160.

Burke, Alan W.: *See*—
Hulka, Jaroslav G., Butler, and Burke. 3,407,806.

Burke, Arthur J. Steering device for boats. 3,407,774, 10–29–68, Cl. 114—163.

Burlington Industries Inc.: *See*—
Woods, Herbert J. 3,407,590.

Burndy Corp.: *See*—
Dannes, Dennie. 3,408,455.

Burns, Helen U.: *See*—
Burns, Willis E., II. U., and J. A. 3,407,414.

Burns, Judith A.: *See*—
Burns, Willis E., Burns, H. and J. A. 3,407,414.

Burns, Willis E., II. U., and J. A. Disposable bedpad. 3,407,414, 10–29–68, Cl. 5—335.

Burroughs Corp.: *See*—
Hauck, Erwin A. 3,408,632.
Lee, Edwin S., III. 3,408,635.
Packard, Roger E., and Buster. 3,408,630.
Staugaard, Kenneth. 3,407,981.

Burton, Robert E. Liquid distribution means in apparatus for treating liquid wastes. 3,407,935, 10–29–68, Cl. 210—151.

Busby, John W., to Optical Scanning Corp. Machine for sequentially scanning lines, as in test scoring. 3,408,482, 10–29–68, Cl. 235—61.7.

Buster, William F.: *See*—
Packard, Roger E., and Buster. 3,408,630.

Bute, Curtis J., and G. E. La Valley, to Sperry Rand Corp. Connector design. 3,408,612, 10–29–68, Cl. 339—17.

Butler Automatic Machine, Inc.: *See*—
Hulka, Jaroslav G., Butler, and Burke. 3,407,806.

Butler, Richard A.: *See*—
Karlovsky, Jerry, Jr., and Butler. 3,408,110.

Butler, Richard A., Jr.: *See*—
Hulka, Jaroslav G., Butler, and Burke. 3,407,806.

Butlin, John G. Method of shaping leather materials. 3,407,421, 10–29–68, Cl. 12—142.

Buzick, John W.: *See*—
Tibbs, Oscar F. 3,408,536.

C & F Compagnie Generale de Telegraphie Sans Fil: *See*—
Simon, Jean-Claude, and Broussaud. 3,408,646.

C & K Components, Inc.: *See*—
Coolidge, Charles A., Jr., and Kincaid. 3,408,505.

Caldwell, John R., and R. Gilkey, to Eastman Kodak Co. Preparation of polyamides from aromatic amino compounds. 3,408,334, 10–29–68, Cl. 260—78.

California Computer Products, Inc.: *See*—
Nishioka, Norman S. 3,408,589.

Callighan, Robert H., J. O. Hawthorne, and E. L. Mibelle, to United States Steel Corp. Mono-ethers of 2,2'-dihydroxydiphenyl sulfone and method of making the sulfone and mono-ethers. 3,408,402, 10–29–68, Cl. 260—607.

Cameo, Inc.: *See*—
Kerbow, Odis B., and Delatorre. 3,407,658.

Camm, William T., to American Hoist & Derrick Co. Rotary dryer for aggregate. 3,407,511, 10–29–68, Cl. 34—109.

Campbell, J. Allan: *See*—
Babcock, John C., and Campbell. 3,408,370.

Campbell, Robert L., to United Aircraft Products, Inc. Flow distributing means in heat exchangers. 3,407,875, 10–29–68, Cl. 165—174.

Canadian Ingersoll-Rand Co., Ltd.: *See*—
Trollope, William G. A. 3,407,904.

Canevazzi, Grazinana: *See*—
Greis, Arpad, Canevazzi, and Barchielli. 3,408,258.

Canning, W., & Co. Ltd.: *See*—
Such, Tony E., and Partington. 3,408,272.

Canup, Robert E.: *See*—
Aiken, Robert W., Canup, and Galaspie. 3,407,795.

Capewell Mfg. Co.: *See*—
Dewey, Dwight N., and Stacherl. 3,407,451.

Capita, Emil R. Vapor deposition apparatus. 3,407,783, 10–29–68, Cl. 118—49.5.

Capps, Ralph C., and L. Scoppe, to Parke, Davis & Co. Narrow ware loom shuttle. 3,407,849, 10–29–68, Cl. 139—201.

Caputo, Carmelo, to Carl Schenck, Maschinenfabrik G.m.b.H. Gyroscopic device adapted to provide oscillating stresses having adjustable amplitude and frequency particularly for use as fatigue testing. 3,407,648, 10–29–68, Cl. 73—67.3.

Carboni, Ralph J. Golf swing indicator. 3,408,076, 10–29–68, Cl. 273—186.

Carey, Philip, Corp.: *See*—
Leibrook, Walton V. 3,407,556.

Carlson, Drexel T.: *See*—
Zebarth, Ralph S., and Carlson. 3,408,057.

Carlson, Robert L.: *See*—
Wallace, William D., and Carlson. 3,407,752.

Carpenter Steel Co., The: *See*—
Myers, Lewis P., and Goda. 3,408,178.

Carr, Robert D., to Allied Chemical Corp. Radiation sensitive speed measuring device. 3,408,500, 10–29–68, Cl. 250—219.

Carter, William A., to I-T-E Circuit Breaker Co. Differential pressure actuated switch utilizing high speed latch and lost motion means. 3,408,468, 10–29–68, Cl. 200—83.

Carvallo, Pierre. Hydrostatic pressure type continuous sterilizing and cooling apparatus. 3,407,721, 10–29–68, Cl. 99—249.

Casamo, Charles C., and D. R. Kerstetter, to Sylvania Electric Products Inc. Cup-shaped photoconductor tube. 3,408,522, 10–29–68, Cl. 313—102.

Cascade Corp.: *See*—
Faust, Donald M., and Chochrek. 3,407,951.

Cash, George O., Jr.: *See*—
Joyner, Frederick B., and Cash. 3,408,341.

Cassidy, Paul G. Basement waterproofing method and arrangement. 3,407,552, 10–29–68, Cl. 52—169.

Cassroll, Eugene A.: *See*—
Welch, Russell A., Sr. 3,408,479.

Castedello, William: *See*—
Schwartz, Morris, Bender, Castedello, and Kaprelian. 3,408,139.

Castle, Willard J., and R. J. Manning. Wheel lock for injector tools. 3,407,988, 10–29–68, Cl. 81—15.7.

Caterpillar Tractor Co.: *See*—
Gardner, Charles W. 3,407,952.
Huling, Paul T. 3,408,084.
Weber, Robert L., and Wiggins. 3,407,741.

Cavanagh, John C., and R. A. Couche. Process for the treatment of vegetable materials. 3,408,374, 10–29–68, Cl. 260—412.4.

Celanese Coatings Co.: *See*—
Madison, Ralph E. 3,408,318.
Schroll, Gene E. 3,408,314.

Cermak, Jiri, and B. Novotny, to Vyzkumny a vyvojovy ustav Zavod vseobecneho strojirenstvi. Automatic firearm with retarded blow-back breech mechanism. 3,407,702, 10–29–68, Cl. 89—194.

Cerro Corp.: *See*—
Shelton, Charles F., Jr. 3,408,453.

Cervenak, Michael J. Camper stove with disposable brazier. 3,407,803, 10–29–68, Cl. 126—25.

Ceskoslovenska akademie ved: *See*—
Wichterle, Otto. 3,408,429.

Chadenson, Pierre, and A. Lepeuve, to Societe Generale de Constructions Electriques et Mecaniques (Alsthom). Apparatus for continuous weighing of powdered or granular materials with weight regulation of the flow. 3,407,656, 10–29–68, Cl. 73—194.

Chafetz, Harry, and E. L. Patmore, to Texaco, Inc. Method of preparing octahydrophenanthridines. 3,408,351, 10–29–68, Cl. 260—283.

Chamberlain, George: *See*—
Tetzlaff, Clarence C., and Chamberlain. 3,407,448.
Tetzlaff, Clarence C., and Chamberlain. 3,407,449.

Champion Cooler Corp.: *See*—
Myers, Charles F. 3,407,739.

Chandler, Jasper S., J. J. De Palma, and S. B. Saunders, to Eastman Kodak Co. Projection screen. 3,408,132, 10–29–68, Cl. 350—125.

Chapman, Richard M., and R. H. Stevens, to F. W. Bell, Inc. Magnetic-field-responsive proximity detector apparatus utilizing a hall-effect device. 3,408,563, 10–29–68, Cl. 324—45.

Chechak, Albert J., and C. D. Robeson, to Eastman Kodak Co. Carotenoid compounds. 3,408,406, 10–29–68, Cl. 260—612.

Chiabrandy, Robert E., to General Electric Co. Gas drive for a rotating barrel gun. 3,407,701, 10–29–68, Cl. 89—126.

Chicago Pneumatic Tool Co.: *See*—
Amtsberg, Lester A., and Wallace. 3,407,883.

Chiknilev, Nikolai M. Connector for high temperature electrical heating element. 3,408,608, 10–29–68, Cl. 338—316.

Chmielowiec, Louis J., to Continental Can Co., Inc. Dispensing container having piston-bag structure. 3,407,974, 10–29–68, Cl. 222—386.5.

Chochrek, Henry F.: *See*—
Faust, Donald M., and Chochrek. 3,407,951.

Chopra, Kasturi L., and M. R. Randlett, to Kennecott Copper Corp. High current duoplasmatron having an apertured anode positioned in the low pressure region. 3,408,283, 10–29–68, Cl. 204—298.

Christian, Alpha, ½ to Earl L. Barr. Alphabet educational toy. 3,407,514, 10–29–68, Cl. 35—35.

Chrysler Corp.: *See*—
Hewitt, Keith A. 3,408,103.
Holbrook, Rex R. 3,408,003.
Manganello, James J., and Feng. 3,408,252.
Marchand, George A. 3,407,629.

Churchill, Ivan F.: *See*—
Anderson, Kelvin G., and Churchill. 3,407,436.

Ciba Corp.: *See*—
Druey, Jean and Schmidt. 3,408,362.

Ciliuffo, Francis A., to Continental Can Co., Inc. Electric light bulb carton. 3,407,921, 10–29–68, Cl. 206—46.

Cities Service Athabasca, Inc.: *See*—
Cymbalisty, Lubomyr M. O. 3,407,972.

City Trust Co.: *See*—
George, Stephen. 3,408,491.

Clarke Floor Machine Division, Studebaker Corp.: *See*—
Otto, Louis L., and Freiheit. 3,407,422.

Clarke, Hubert S., to The Patent Automatic Feeding Machine Co. Ltd. Apparatus for breaking up and conveying fibrous textile materials. 3,407,918, 10–29–68, Cl. 198—102.

Clarkson, Anthony T. Rotatable coaxial coupling. 3,408,610, 10–29–68, Cl. 339—8.

Cleghorn, John. Self-lathering shaving brush. 3,408,151, 10–29–68, Cl. 401—201.

Clevenger, Carl L., E. B. Hughel, and L. W. Miller, to General Motors Corp. Molded commutator. 3,407,491, 10–29–68, Cl. 29—597.

Coast Manufacturing & Supply Co.: *See*—
Wedin, James A. 3,408,239.

Coates, Harold J., to Reynolds Metals Co. Plating system. 3,408,211, 10–29–68, Cl. 106—1.

Cochrane, Chappelle C.: *See*—
Troscinski, Edwin S., Steck, and Cochrane. 3,408,307.

Cocks, Eric H. Apparatus for applying hot metal adhesives. 3,408,008, 10–29–68, Cl. 239—135.

Cocks, Thomas G.: *See*—
Dajani, Mahmoud T., and Cocks. 3,408,292.

Codina, Anthony E., and G. C. Punton. Sandblaster for floors. 3,407,538, 10–29–68, Cl. 51—8.

Coe, Thomas D., to Wakefield Engineering, Inc. Semiconductor device cooling. 3,407,868, 10–29–68, Cl. 165—80.

Coffer, Henry F., D. A. Shock, W. W. Woods, and J. M. Crawford, to Continental Oil Co. Method for isolating a cavity. 3,407,605, 10–29–68, Cl. 61—1.

Coffey, Robert S., and L. A. Duncanson, to Imperial Chemical Industries, Ltd. Oxidation of aromatic hydrocarbons to phenols. 3,408,409, 10–29–68, Cl. 260—621.

Cola, Pasco A., to General Signal Corp. Controller including a multivibrator-fed step motor. 3,408,548, 10–29–68, Cl. 318—28.

Coindreau, Gilbert: *See*—
Blomet, Denise S. O. S., and Coindreau. 3,407,566.

Cole, Saxon, to American Air Filter Co., Inc. Liquid fuel supply assembly. 3,408,152, 10–29–68, Cl. 431—89.

Colgate-Palmolive Co.: *See*—
Cubitt, Robert B. 3,408,436.
Grippo, George D., and Tundermann. 3,407,813.
Skoccz, Joseph A. 3,408,391.
Sub, John T. 3,408,376.
Sub, John T., and Judd. 3,408,396.

Collet Toy Mfg. Co.: *See*—
Hughes, Larry M. 3,407,533.

Collins, Anthony H., to National Research Development Corp. Method for the construction of ferrite memory stores utilizing electrophoretic deposition. 3,408,279, 10–29–68, Cl. 204—181.

Collins Radio Co.: *See*—
Weber, Charles A. 3,408,552.

Colton, Roland J. Golf club including power-band grip forces sensing means. 3,408,075, 10–29–68, Cl. 273—183.

Cominco Ltd.: *See*—
Higgins, John T. 3,407,785.
Thompson, Joshua B., and Hildred. 3,408,169.

Commissariat a l'Engergie Atomique: *See*—
Devime, Robert, and Yerouchalmi. 3,408,528.
Etievant, Claude, Hubert, and Perulli. 3,408,519.
Fremiot, Charles, and Gerbier. 3,408,555.
Sophy, Yvon. 3,407,651.

Compur-Werk Gesellschaft mit beschrankter Haftung & Co.: *See*—
Singer, Franz. 3,407,718.

Conductron Corp.: *See*—
Turnblade, Richard C., and Sturman. 3,407,622.

Conn, Howard F. Data viewing machine. 3,407,513, 10–29–68, Cl. 35—9.

Connell, James P. Sign with changeable characters. 3,407,525, 10–29–68, Cl. 40—140.

Connell, Joseph B.: *See*—
Brass, Robert L., Connell, and Harr. 3,408,628.

Consolidation Coal Co.: *See*—
Laufer, Robert J., and Kulik. 3,408,410.

Constructiewerkhuizen Gilbos P.V.B.A.: *See*—
Gilbos, Paul. 3,408,022.

Conte Louis B., Jr.: *See*—
Cotter Robert J., Apel, and Conte. 3,408,407.

Continental Aviation and Engineering Corp.: *See*—
Saarinen, Edward, and Pearsall. 3,407,791.

Continental Can Co., Inc.: *See*—
Bendix, Gordon H., Roth, and Erlandson. 3,408,220.
Chmielowiec, Louis J. 3,407,974.
Ciliuffo ,Francis A. 3,407,921.
Simkins, Daniel. 3,407,758.
Wright, Norbert L. 3,407,442.

Continental Oil Co., Inc.: *See*—
Coffer, Henry F., Shock, Woods, and Crawford. 3,407,605.
Graham, John F. 3,407,768.
Kuhn, David A., and Brown. 3,408,296.
Manizza, Guelfo A. 3,407,986.
Perkins, Gerald, Jr., Haase, and Crawford. 3,407,574.

Continental Sensing Inc.: *See*—
Davis, Bayard C. 3,408,607.

Contraves A.G.: *See*—
Stutz, Theo. 3,408,484.

Cook, Charles E., and A. M. Fine, to Sperry Rand Corp. Pulse compression radar. 3,408,650, 10–29–68, Cl. 343—17.2.

Cooksley, R. D., Mfg. Co.: *See*—
Cooksley, Ralph D. 3,407,845.

Cooksley, Ralph D., to R. D. Cooksley Mfg. Co. Electromagnetically operated valves. 3,407,845, 10–29–68, Cl. 137—607.

Coolidge, Charles A., Jr., and M. M. Kincaid, to C & K Components, Inc. Electronic timing via magnetic core shift circuitry. 3,408,505, 10–29–68, Cl. 307—88.

Cooper, David, and J. R. Swanson, to General Electric Co. Timing network. 3,408,513, 10–29–68, Cl. 307—293.

Copas, Lee A. Weather diffusing apparatus. 3,407,733, 10–29–68, Cl. 102—34.2.

Corbin, Paul. Automobile suspension. 3,408,088, 10–29–68, Cl. 280—96.2.

Cording, James, Jr.: *See*—
Eskew, Roderick K., and Cording. 3,408,209.

Corn Products Co.: *See*—
Mentzer, Merle J. 3,408,214.

Cornely, Kurt W.: *See*—
Keith, Carl D., Cornely, and Hindin. 3,408,285.

Corning Glass Works: *See*—
Kelm, Everett F. 3,407,850.
Lachman, Irwin M. 3,408,430.
Sawchuk, Peter. 3,407,866.

Costanzo, Raphael J. Electric heating belt. 3,407,818, 10–29–68, Cl. 128—384.

Cotter, Robert J., F. N. Apel, and L. B. Conte, Jr., to Union Carbide Corp. Novel bisphenols of cyclohexadiene. 3,408,407, 10–29–68, Cl. 260—619.
Couche, Raymond A.: *See*—
Cavanagh, John C., and Couche. 3,408,374.
Coultrup, James G. Method of constructing submarine pipelines. 3,407,611, 10–29–68, Cl. 61—72.3.
Cowan, Charles F., Jr., to Producers Service Co. Film advancing means. 3,408,144, 10–29–68, Cl. 355—48.
Cox, Shaun M., to National Research Development Corp. Electrical insulating bodies. 3,408,228, 10–29–68, Cl. 117—227.
Cox, William H., to Sun Oil Co. Method and apparatus for the production of seismographic records. 3,408,622, 10–29–68, Cl. 340—15.5.
Crane, Edward J., to International Agri-Systems, Inc. Heat exchange tank. 3,407,872, 10–29–68, Cl. 165—109.
Crasford Fitting Co.: *See*—
Zaburanec, Emery J. 3,407,842.
Crawford, John M.: *See*—
Colter Henry F., Shock, Woods, and Crawford. 3,407,605.
Perkins, Gerald, Jr., Haase, and Crawford. 3,407,574.
Crawford, Ralph W., to Fisher-Price Toys, Inc. Wobble wheeled toy. 3,407,531, 10–29–68, Cl. 46—104.
Creve Coeur Mfg. Co.: *See*—
Smith, Charles R., and Slagell. 3,407,858.
Crookston, Albert A. Record cleaner. 3,408,982, 10–29–68, Cl. 27—47.
Crouzet: *See*—
Julien-Davin, Jean. 3,407,655.
Crowley, Richard P., to Abcor, Inc. Chromatographic columns. 3,407,573, 10–29–68, Cl. 55—386.
Cubitt, Robert B., to Colgate-Palmolive Co. Method for making composite die. 3,408,436, 10–29–68, Cl. 264—225.
Currlin, Oliver G.: *See*—
Schmidt, Charles J., and Currlin. 3,408,574.
Curutchet, Pedro D. Surgical instrument handle. 3,407,816, 10–29–68, Cl. 128—318.
Cusi, Eduardo L., to Sarco Co., Inc. Diaphragm actuated control valve. 3,407,829, 10–29–68, Cl. 137—154.
Cutler-Hammer, Inc.: *See*—
Duncan, Eugene F. 3,408,465.
Kintner, Paul M. 3,408,644.
Cyba, Henry A.: *See*—
Urban, Peter, and Cyba. 3,408,287.
Cymbalisty, Lubomyr M. O., 30% each to Cities Service Athabasca, Inc., Imperial Oil Ltd., Atlantic Richfield Corp., and 10% to Royalite Oil Co. Ltd. Apparatus for discharging particulate solids from a vessel. 3,407,972, 10–29–68, Cl. 222—193.
D Antenna Co., Ltd.: *See*—
Tsuge, Masanobu. 3,408,655.
Dai Ceiu Kabushiki Kaisha: *See*—
Yamagishi, Kazuo, Sakakibara, Abe, and Kubo. 3,408,392.
Daily, William C., to R. A. Jones and Co., Inc. Method and apparatus for feeding nested articles from a magazine. 3,407,963, 10–29–68, Cl. 221—36.
Daimler-Benz Aktiengesellschaft: *See*—
Forster, Hans-Joachim M., and Helmer. 3,408,047.
Dajani, Mahmoud T., and T. G. Cocks, to Nalco Chemical Co. Water filtration process. 3,408,292, 10–29–68, Cl. 210—52.
Dajani, Mahmoud T., J. D. Ingraham, and W. F. Lorenc, to Nalco Chemical Co. Coal slurry clarification. 3,408,293, 10–29–68, Cl. 210—53.
Damiano, Ralph R., to Hubbell, Harvey, Inc. Pressure pad type wiring terminal. 3,408,620, 10–29–68, Cl. 339—272.
Dana Corp.: *See*—
Tabbert, Gene H. 3,407,592.
Dandridge, Gerald W., to Beatrice Foods Co. Hydraulic safety system and device. 3,407,843, 10–29–68, Cl. 137—563.
Danielsen, Berne E.: *See*—
Ryan, John W., MacMeekin, and Danielsen. 3,407,532.
Danly Machine Corp.: *See*—
Heiberger, Francis E. 3,407,724.
Dannes, Dennie, to Burndy Corp. Electrical connector with conductor retainers. 3,408,455, 10–29–68, Cl. 174—94.
Dasa Corp.: *See*—
Healy, James W. 3,408,641.
Dasbach, Curt J., and A. G. Kalb, to United States of America, Navy. Prevaporizing burner can. 3,407,596, 10–29–68, Cl. 60—39.71.
Data Packaging Corp.: *See*—
Mathus, Gregory. 3,407,923.
Dautzenberg, Winand J., W. B. Mitchell, R. L. Trent, J. E. Van Wagenen, and R. R. Rau, to National Semiconductor Corp. Semiconductor chopper amplifier with tin emitters. 3,408,542, 10–29–68, Cl. 317—235.
Daves, Doyle, Jr.: *See*—
Folkers, Karl, Moore, and Daves. 3,408,365.
Davidsson, Mats I. Device for separating thread connected work pieces. 3,407,763, 10–29–68, Cl. 112—252.
Davies, Gwyn, to A. B. Metal Products Ltd. Electrical switch with improved actuator means. 3,408,462, 10–29–68, Cl. 200—6.
Davies, Stanley, V. L. Evans, and J. D. Watt. Tows of synthetic filaments and method for making the same. 3,408,251, 10–29–68, Cl. 161—169.
Davis, Bayard C., to Continental Sensing Inc. Shielded conductor for use as thermoelectric transducer. 3,408,607, 10–29–68, Cl. 338—26.
Davis, Burt L. Emergency evacuation system. 3,408,025, 10–29–68, Cl. 244—118.
Davis, Charles B. Fire extinguisher utilizing products of combustion. 3,407,880, 10–29–68, Cl. 169—12.
Davis, William W., to Sperry Rand Corp. Method of fabricating a tubular thin-film memory device. 3,407,492, 10–29–68, Cl. 29—604.
De Cecco, Angelo L., D. E. Piccone, and I. Somos, to General Electric Co. Semiconductor rectifier with improved turn-on and turn-off characteristics. 3,408,545, 10–29–68, Cl. 317—235.
Decker, Paul M.: *See*—
Lathrop, Francis M., and Decker. 3,408,035.
Dedricks, Alvin N., and R. H. Swanson, to The Manitowoc Co., Inc. Spray type icemaker with overflow drain. 3,407,621, 10–29–68, Cl. 62—188.
De Hoff, Edward J.: *See*—
Van House, Robert M., and De Hoff. 3,407,780.
Delafrange, Kenneth M. Combination step-stool, step-ladder and container means. 3,407,899, 10–29–68, Cl. 182—20.
Delatorre, Leroy C.: *See*—
Kerbow, Odis D., and Delatorre. 3,407,658.
Delliban, Robert, to Barrett Electronics Corp. Crane command circuit having check means for detecting relay malfunction. 3,408,546, 10–29–68, Cl. 318—16.
Demarest, Philip C., and K. Karlson, to Ohmega Laboratories. Light bulb with a plurality of independently connected filaments for indicating graphic symbols. 3,408,523, 10–29–68, Cl. 313—109.5.
De Meo, Attilio A.: *See*—
Walter, Gerald O., Goldammer, and De Meo. 3,407,938.
Deming, John M., to Monsanto Co. Controlling soil insects with parathionpentachlorophenol compositions. 3,408,442, 10–29–68, Cl. 424—218.
Dennerlein, William H.: *See*—
Schladermundt, Peter, and Dennerlein. 3,407,524.
Dennis, James T. Automatic record changer with single record play facilities. 3,408,081, 10–29–68, Cl. 274—10.
Denss, Rolf: *See*—
Kubnis, Hans H., Ryf, and Denss. 3,408,357.
De Palma, James J.: *See*—
Chandler, Jasper S., De Palma, and Saunders. 3,408,132.
De Pasquale, Anthony: *See*—
Ardire, Francis J., and De Pasquale. 3,407,781.
Derr, Ralph, Jr., to Beloit Corp. Header mechanism for roll wrapper. 3,408,247, 10–29–68, Cl. 156—538.
Devime, Robert, and D. Yerouchalmi, to Commissariat a l'Energie Atomique and Institut Francais du Petrole des Carburants et Lubrifiants. Compositie electrode structure for magnetohydrodynamic device. 3,408,528, 10–29–68, Cl. 313—352.
Dewey, Dwight N., and J. Stacherl, to Capewell Mfg. Co. Low profile reversible three-bar adjustable strap connector. 3,407,451, 10–29–68, Cl. 24—196.
De Wilde, Gustavus. Apparatus for calculating the loading effect in a ship. 3,408,487, 10–29–68, Cl. 235—150.2.
Dickinson, Ben W. O., III. Method and apparatus for generating a high power ultrasonic burst pulse signal. 3,407,649, 10–29–68, Cl. 73—67.5.
Dickinson, Ben W. O., III. Ultrasonic apparatus for detecting flaws. 3,407,650, 10–29–68, Cl. 73—67.7.
Dickinson, Clayton D., and I. Sheinhartz, to General Telephone and Electronics Laboratories, Inc. Method of making flexible electrodes. 3,408,230, 10–29–68, Cl. 136—25.
Dickinson, Clayton D., J. J. Perez, and I. Sheinhartz, to General Telephone and Electronics Laboratories, Inc. Method of making flexible electrodes. 3,408,231, 10–29–68, Cl. 136—29.
Dielectric Products Engineering Co., Inc.: *See*—
Sewell, Donald N. 3,408,615.
Dieter, Julian A., G. E. Ott, Jr., and R. J. Welchhand, to Ra. A., Jones & Co. Packaging method and apparatus. 3,407,563, 10–29–68, Cl. 53—35.
Dietz, Helmut, H.-J. Lippman, and H. Schenk, to Simens Aktiengesellschaft. Electrodynamic method for forming metallic workpieces. 3,407,637, 10–29–68, Cl. 72—56.
Digitronics Corp.: *See*—
Wolf, Edgar, and Marino. 3,408,572.
Dimitracopoulos, Panayotis C. Portable phonograph. 3,408,080, 10–29–68, Cl. 274—9.
Di Napoli, Robert N.: *See*—
Muller, Werner C., and Di Napoli. 3,407,613.
Di Nardo, Lidio A. Paint can apron and brush holder. 3,407,429, 10–29–68, Cl. 15—257.
Dinges, Karl: *See*—
Saleck, Wilhelm, Dinges, and Muller. 3,408,199.
Di Nicola, Nicola G., to General Electric Co. Capacitor assembly method. 3,407,562, 10–29–68, Cl. 53—24.
Distillers Co. Ltd., The: *See*—
Ball, William J., Barclay, Gasson, Stewart, Bohemen, Newman, and Wood. 3,408,401.
Bohemen, John, Newman, and Wood. 3,408,400.
Dixon, John D.: *See*—
Ward, Joseph L., and Dixon. 3,407,950.
Dobratz, Carroll J.: *See*—
Barnard, Robert D., Dobratz, Johnson, and Meyer. 3,408,281.
Dobson, Franklin A., to Philco-Ford Corp. Submarine tracking apparatus. 3,408,621, 10–29–68, Cl. 340—5.
Dockery, Calvin D., to Phillips Petroleum Co. Article transfer mechanisms. 3,408,056, 10–29–68, Cl. 263—6.
Doeringsfeld, Karl H., to Honeywell, Inc. Omnidirectional inertial trigger apparatus. 3,407,667, 10–29–68, Cl. 73—492.
Doggart, John, and G. R. Lawton, to V & E Friedland Ltd. Sound signalling device having diaphragm and striker apparatus. 3,408,645, 10–29–68, Cl. 340—388.
Doi, Toshio, M. Mitani, M. Kobayashi, H. Ohara, and S. Maeda, to Hitachi, Ltd. Superconducting alloys and apparatus for generating superconducting magnetic field. 3,408,604, 10–29–68, Cl. 335—216.
Doke, Jack, and J. P. Van Meter, to Angeles Metal Trim Co. Metallic wall stud structure for supporting shelf brackets. 3,407,547, 10–29–68, Cl. 52—36.
Donkers, Jacobus M., to Verschure & Co's Scheepswerf en Machinefabriek N.V. Suction dredger installation, more particularly a towed dredger. 3,407,520, 10–29–68, Cl. 37—58.

Dore, Burnell V., and D. V. Geppert, to Stanford Research Institute. Semiconductor-type photocathode for an infrared device. 3,408,521, 10–29–68, Cl. 313—94.
Douglass, Donald C., and J. J. Keegan, to Beckman Instruments, Inc. Null balance for pH meter. 3,408,569, 10–29–68, Cl. 324—123.
Douglass, Edward T., Jr. Apparatus for storing and feeding bulky materials. 3,407,943, 10–29–68, Cl. 214—17.
Dove, Frank, to Sperry Rand Ltd. Take-off director. 3,407,654, 10–29–68, Cl. 73—178.
Dovell, Frederick S., and H. Greenfield, to Uniroyal, Inc. Catalytic hydrogenation. 3,408,415, 10–29–68, Cl. 260—666.
Dover Corp.: *See*—
Gingrich, John A. 3,407,905.
Dow Chemical Co., The: *See*—
Barnard, Robert D., Dobratz, Johnson, and Meyer. 3,408,281.
Blue, Robert D., and Leddy. 3,408,232.
Klingball, Robert L. 3,408,444.
Moore, Eugene R. 3,408,337.
Niles, Earl T. M., Oja, and Pannell. 3,408,331.
Schmidt, Donald L. 3,408,378.
Dow Corning Corp.: *See*—
McVannel, Donald E. 3,408,379.
Downer, Charles E.: *See*—
Seckerson, Clifford A., and Downer. 3,407,909.
Downing, Robert D., to General Electric Co. Electron beam welding apparatus. 3,408,474, 10–29–68, Cl. 219—121.
Doyle, Robert L., to Western Progress, Inc. Umbrella holder and assembly using same. 3,407,825, 10–29–68, Cl. 135—5.
Drake, Edwin L. Vibrator tuning device. 3,407,698, 10–29–68, Cl. 84—315.
Drew, John W., and W. E. Rosen, to Hoffman Laboratories, Inc. Process for preparing bis-(3,5,6-trichloro-2-hydroxyphenyl) methane. 3,408,408, 10–29–68, Cl. 260—619.
Druey, Jean, and P. Schmidt, to Ciba Corp. N-substituted pyrazoles. 3,408,362, 10–29–68, Cl. 260—310.
Drumm, Arthur E. Spacer for use in rotary brush assembly. 3,407,425, 10–29–68, Cl. 15—181.
Drummond, Charles A. Flexible fins for swimmers. 3,407,419, 10–29–68, Cl. 9—307.
Duda, John L., Jr. Wagon with descending floor. 3,408,108, 10–29–68, Cl. 298—18.
Duff, James B., and L. W. Pieper, to General Electric Co. Method of forcing back electrical coils carried by slotted structure. 3,407,484, 10–29–68, Cl. 29—596.
Dumesnil, Maurice E., to Fairchild Camera and Instrument Corp. Low melting oxade glass. 3,408,212, 10–29–68, Cl. 106—47.
Duncan, Eugene F., to Cutler-Hammer, Inc. Pneumatic timing device having straight through operation. 3,408,465, 10–29–68, Cl. 200—34.
Duncanson, Leonard A.: *See*—
Coffey, Robert S., and Duncanson. 3,408,409.
Dunlop Rubber Co. Ltd.: *See*—
Beebee, Brian H., and Bullivant. 3,407,443.
Du Pont de Nemours, E. I. and Co.: *See*—
Andreades, Sam. 3,408,367.
Borchardt, Hans J. 3,408,302.
Borchardt, Hans J. 3,408,303.
Evans, William L. 3,407,731.
Frank, Mason R. 3,408,282.
Hitt, Otha A., and Fernstrom. 3,407,784.
Hoffman, Lewis C. 3,408,274.
Jeffers, William. 3,408,191.
Martin, James H., Jr. 3,407,692.
Pedrotti, Rudolph L., Sandy, and Tullio. 3,408,375.
Short, Oliver A. 3,408,311.
Triplett, John M. 3,407,460.
Wiggill, John B. 3,408,420.
Durand, Pierre, to Richier (Societe Anonyme). Crane towers and the like hoisting apparatus. 3,407,559, 10–29–68, Cl. 52—637.
Durox International S.A.: *See*—
Blom, Sven R. R. 3,407,457.
Du Vivier, Charles L.: *See*—
Barker, John L., Du Vivier, Odion, and Midlock. 3,408,648.
Dvorak, George A.: *See*—
Schomburg, Louis M., and Dvorak. 3,407,652.
Dynamics Instrumentation Co.: *See*—
Morrison, Ralph. 3,408,603.
Dynamit Nobel Aktiengesellschaft: *See*—
Beuschel, Helmut. 3,407,736.
Dynan, Forest J., and R. G. Whitnah, to North American Rockwell Corp. AMTI radar system. 3,408,647, 10–29–68, Cl. 343—7.7.
Dyroff, David R., and C. Y. Shen, to Monsanto Co. Process for separating selected polyphosphoric acids from condensed phosphoric acid and novel complexes resulting therefrom. 3,408,158, 10–29–68, Cl. 23—105.
Eakin, Bertram E.: *See*—
Khan, Amanullah R., Eakin, and Anderson. 3,407,606.
Earleywine, Aubrey W., Jr., and N. E. Grah, to Stewart-Warner Corp. Brake switch. 3,408,464, 10–29–68, Cl. 200—16.
Eastman Kodak Co.: *See*—
Beyer, George L., and York. 3,407,786.
Caldwell, John R., and Gilkey. 3,408,334.
Chandler, Jasper S., De Palma, and Saunders. 3,408,132.
Chechak, Albert J., and Robeson. 3,408,400.
Ernisse, Paul J. 3,407,717.
Hagemeyer, Hugh J., Jr., Park, and Robinson. 3,408,386.
Hagemeyer, Hugh J., Jr., and Wright. 3,408,388.
Hunt, Robert W. G., Forsyth, and Roberts. 3,408,142.
Joyner, Frederick B., and Cash. 3,408,341.
Lamberts, Robert L. 3,408,656.
Loria, Anthony. 3,408,194.
Martin, James C. 3,408,344.
Martin, James C. 3,408,398.
Eastman Kodak Co.: *See*—Continued
Martin, James C., and Meen. 3,408,348.
McVeigh, Patricia A. 3,408,196.
McVeigh, Patricia A. 3,408,197.
Oliver, Gene L. 3,408,195.
Reynolds, Delbert D., and Tinker. 3,408,198.
Touey, George P., and Mumpower. 3,407,822.
Wolf, Wilfred L., and Beckett. 3,408,193.
Ebnother, Anton: *See*—
Jucker, Ernst, and Ebnother. 3,408,353.
Eby, Ralph H.: *See*—
Friedmann, Anton R. J., and Eby. 3,408,009.
Eccher, Oreste B. Parallel shaft coupling. 3,407,628, 10–29–68, Cl. 64—31.
Eckert, Charles F., and E. S. English, to Uniroyal, Inc. Tackifying EPDM rubbers using a cement comprising EPDM and a phenol-terpene-cyclic polyene resin. 3,408,253, 10–29–68, Cl. 161—253.
Educational Development Laboratories, Inc.: *See*—
Roe, Donald A. 3,407,512.
Edwards, William B. Vehicle steering and stabilizing mechanism. 3,408,089, 10–29–68, Cl. 280—99.
Egan, Frank W., & Co.: *See*—
Gregory, Robert B. 3,407,439.
Ehret, Robert J., to Beckman Instruments, Inc. Pulse counter. 3,408,577, 10–29–68, Cl. 328—43.
Ejefors, Karl-Goran H. Method and apparatus for separating particles from suspensions such as sludge and the like. 3,407,934, 10–29–68, Cl. 210—73.
Elco Corp.: *See*—
Ruehlemann, Herbert E. 3,407,925.
Ruehlemann, Herbert E. 3,408,452.
Elder, Bruce E. Burial casket lid lining construction. 3,407,459, 10–29–68, Cl. 27—19.
Electrolytic Machining, Inc.: *See*—
Rosengren, Harry N. 3,407,726.
Electromatic Beer Controls, Ltd.: *See*—
Smith, Leonard H., and McMillan. 3,408,036.
Electronic Communications, Inc.: *See*—
Bonnell, Charles R. 3,407,659.
Electro-Optical Systems, Inc.: *See*—
Lee, Stuart M. 3,408,133.
Elenga, Cornelis W., O. Reifenschweiler, and M. H. M. Schenkelaars, to North American Philips Co., Inc. Ion source having an annular permanent magnet. 3,408,526, 10–29–68, Cl. 313—154.
Elliott Bros. (London) Ltd.: *See*—
Wilson, Peter. 3,407,643.
Elliott Business Machines Inc.: *See*—
Johnston, Merle R. 3,407,725.
Engeler, Paul, to Schweizerische Industrie-Gesellschaft. Machine for arranging articles in batches. 3,407,916, 10–29–68, Cl. 198—24.
Engelhard Industries, Inc.: *See*—
Keith, Carl D., and Mattia. 3,407,604.
Keith, Carl D., Cornely, and Hindin. 3,408,285.
Rylander, Paul N., and Himelstein. 3,408,354.
Rylander, Paul N., and Steele. 3,408,364.
Engle, Charles J., to Phillips Petroleum Co. Lost circulation control. 3,407,878, 10–29–68, Cl. 166—30.
English, Edwin S.: *See*—
Eckert, Charles F., and English. 3,408,253.
English Electric Co. Ltd., The: *See*—
Allmark, Reginald H., and Abbott. 3,408,636.
Hoel, Hans. 3,408,564.
English, William A., to Westinghouse Electric Corp. Steam iron. 3,407,521, 10–29–68, Cl. 38—77.
Epstein, Irving, and D. A. Obert, to Washington Chain & Supply Co., Inc. Marine towing plate. 3,407,778, 10–29–68, Cl. 114—235.
Epstein, Saul, to American Metal Products Corp. Tubular connector union. 3,408,093, 10–29–68, Cl. 285—52.
Erickson, Merle L.: *See*—
McKee, William M., and Erickson. 3,408,226.
Erlandson, Paul M.: *See*—
Bendix, Gordon H., Roth, and Erlandson. 3,408,220.
Ernisse, Paul J., to Eastman Kodak Co. One-piece moldable camera for detachably holding a multilamp photoflash package. 3,407,717, 10–29–68, Cl. 95—11.
Errede, Louis A., to Minnesota Mining and Mfg. Co. Novel copolymers of polyfunctional amines and a bis-anthranyl compound. 3,408,326, 10–29–68, Cl. 260—47.
Escambia Chemical Corp.: *See*—
Schoenbrunn, Erwin F. 3,408,393.
Escher Wyss Aktiengesellschaft: *See*—
Kaiser, Friedrich, Pirchl, and Surber. 3,408,037.
Eskew, Roderick K., J. Cording, Jr., to United States of America, Agriculture. Process for manufacturing rapidly rehydratable dehydrated fruits and vegetables of high density. 3,408,209, 10–29–68, Cl. 99—204.
Essex Wire Corp.: *See*—
Shenstone, Joseph C., and Flanigan. 3,408,467.
Etablissements Neu: *See*—
Reiterer, Ferdinand. 3,408,115.
Ethyl Corp.: *See*—
Wolf, Calvin N. 3,408,382.
Etievant, Claude, P. Hubert, and M. Perulli, to Commissariat a l'Energie Atomique. Ion source with spaced electrode ionizing pits. 3,408,519, 10–29–68, Cl. 313—63.
Evans, James R., and R. A. Jones, to International Business Machines Corp. Record search system. 3,408,631, 10–29–68, Cl. 340—172.5.
Evans, Vincent L.: *See*—
Davies, Stanley, Evans, and Watt. 3,408,251.
Evans, William L., to E. I. du Pont de Nemours and Co. Flexible detonating fuse. 3,407,731, 10–29–68, Cl. 102—27.
Everett, Harry F.: *See*—
Williams, Norman C., and Everett. 3,408,043.

Everett, James P., Jr.: *See*—
Teichman, Robert, and Everett. 3,408,200.
Exactel Instrument Co.: *See*—
Glassey, Eugene A. 3,407,666.
FMC Corp.: *See*—
Keller, Henry G. 3,407,672.
Pearce, Bert L., and Kelch. 3,407,674.
Fabrig, Paul, to Messrs. Hans Biel. Apparatus for stacking sheets of material. 3,408,063, 10–29–68, Cl. 271—3.
Fairbanks Morse Inc.: *See*—
Fellows, James W. 3,407,890.
Wiegand, James J. 3,407,891.
Fairchild Camera and Instrument Corp.: *See*—
Dumesnil, Maurice E. 3,408,212.
Falerni, Dorothy, and Jack. Golfer's head movement restraining device. 3,408,078, 10–29–68, Cl. 273—190.
Falerni, Jack: *See*—
Falerni, Dorothy, and Jack. 3,408,078.
Farbenfabriken Bayer Aktiengesellschaft: *See*—
Bien, Hans-Samuel, Hohmann, and Vollmann. 3,408,345.
Schicke, Hans-Gerd, and Schrader. 3,408,425.
Sirrenberg, Wilhelm, Unterstenhöfer, and Hammann. 3,408,332.
Streib, Hugo, and Hechelhammer. 3,408,225.
Szita, Jeno, Bahr, Marzolph, and Nischk. 3,408,338.
Thoma, Wilhelm, Rinke, and Zygan. 3,408,434.
Farrar, Henry C., to Uniroyal Inc. Stay opening machine for footwear. 3,407,420, 10–29–68, Cl. 12—51.
Faust, Donald M., and H. F. Chochrek, to Cascade Corp. Load clamp with arm travel retarding means. 3,407,951, 10–29–68, Cl. 214—653.
Fedders Corp.: *See*—
Packard, George H. 3,407,940.
Federal-Mogul Corp.: *See*—
Hall, James F. 3,407,642.
Feese, Wolfgang, to Siemens Aktiengesellschaft. Roping method and apparatus. 3,407,588, 10–29–68, Cl. 57—59.
Fegley, Charles R., to Western Electric Co., Inc. Apparatus for cyclically loading and unloading a pair of article carriers. 3,407,949, 10–29–68, Cl. 214—309.
Feldman, Harry W.: *See*—
Feldman, Marshall H., and H. W. 3,408,260.
Feldman, Julian, and M. Thomas, to National Distillers and Chemical Corp. Methyl pentamethylene diamine process. 3,408,397, 10–29–68, Cl. 260—583.
Feldman, Marshall H. and H. W. Water vapor collecting and condensing apparatus. 3,408,260, 10–29–68, Cl. 202—83.
Felix, Ernst, and E. Meili, to Zellweger, Ltd. Apparatus for increasing the virtual sensing field length of sensing elements in electronic control instruments, mainly in the textile industry. 3,408,560, 10–29–68, Cl. 323—100.
Fellows, James W., to Fairbanks Morse Inc. Control provision for bulk material weighing systems. 3,407,890, 10–29–68, Cl. 177—60.
Feng, Louis T.: *See*—
Manganello, James J., and Feng. 3,408,252.
Fenske, Douglas J.: *See*—
Swanson, Arthur M., and Fenske. 3,408,204.
Ferguson, Harry, Research Ltd.: *See*—
Hill, Claude, and Webb. 3,407,893.
Ferguson, Paul R. Pivoted door mounting. 3,407,433, 10–29–68, Cl. 16—130.
Fernstrom, George A.: *See*—
Hitt, Otha A., and Fernstrom. 3,407,784.
Fieldcrest Mills, Inc.: *See*—
Mills, Edwin R. 3,408,469.
Fields, Robert E.: *See*—
Anthony, Donald R, Loncaric, and Fields. 3,407,831.
Fier, Raymond L., to Lewis Welding and Engineering Corp. Sensor for a welding machine. 3,408,475, 10–29–68, Cl. 219—125.
Figa, Rubin. Tootbrush and toothpaste integral unit. 3,408,150, 10–29–68, Cl. 401—153.
Fine, Arnold M.: *See*—
Cook, Charles E., and Fine. 3,408,650.
Finefrock, Donald W., to The Johnson Rubber Co. Baseboard molding strip and method of installing same. 3,408,250, 10–29–68, Cl. 161—102.
Fingerett, Joseph A., to International Telephone and Telegraph Corp. Combined magnetic regulator and transformer. 3,408,554, 10–29–68, Cl. 321—18.
Finn, Charles O., to The Finn Equipment Co. Debris collector. 3,407,432, 10–29–68, Cl. 15—352.
Finn Equipment Co., The: *See*—
Finn, Charles O. 3,407,432.
Finnegan, Francis, to Texas Instruments Inc. Apparatus for controlling the level of a liquid. 3,407,840, 10–29–68, Cl. 137—392.
Fiquet, Claude, and R. Leplat. Distributor device for pasty or liquid products. 3,407 968, 10–29–68, Cl. 222—104.
Firma Rheinmetall G.m.b.H.: *See*—
Gähle, Walter. 3,407,735.
Firma Roll Kestermann Maschinenfabrik: *See*—
Selbach, Hans-Werner. 3,407,438.
Fischer, Hermann, to Maschinenfabrik Augsburg-Nurnberg AG. Supplementary driving gear arrangement for multicolor sheet-fed rotary printing presses. 3,407,727, 10–29–68, Cl. 101—177.
Fischer, Israel L.: *See*—
Lee, Walter W., Robinson, Blauvelt, and Fischer. 3,408,634.
Fisher, Bernard, to United Systems Corp. Servo-balancing voltmeter employing an over-voltage protected chopper and a D.C. damped servo-motor. 3,408,568, 10–29–68, Cl. 324—99.
Fisher, Charles H., to United States of America, Agriculture. Permanently crimped textile materials of increased elasticity. 3,407,462, 10–29–68, Cl. 28—76.
Fisher, Daniel J., Jr., to Leesona Corp. Yarn traversing mechanism for textile machine. 3,408,014, 10–29–68, Cl. 242—43.
Fisher & Ludlow Ltd.: *See*—
Owin, Olaf J. B. 3,407,751.
Fisher-Price Toys, Inc.: *See*—
Crawford, Ralph W. 3,407,531.
Fiske, Chester G., to Jari Corp. Underwater weed cutter drive mechanism. 3,407,577, 10–29–68, Cl. 56—8.
Flachbarth, Charles T., and R. Hadfield, to Textron, Inc. Floor fittings. 3,408,094, 10–29–68, Cl. 285—90.
Flanigan, William J.: *See*—
Shenstone, Joseph C., and Flanigan. 3,408,407.
Flinner, Vaughn D.: *See*—
Fulton, Howard A., and Flinner. 3,407,837.
Folkers, Karl, H. W. Moore, and D. Daves, Jr., to Merck & Co., Inc. 2-Isoprenoid substituted phenols and the corresponding chromans. 3,408,365, 10–29–68, Cl. 260—345.2.
Foll, George E., to Imperial Chemical Industries Ltd. Process for polymerizing 1,2-epoxides with an anionic initiator. 3,408,313, 10–29–68, Cl. 260—2.
Follett, John L. Automatic shut-off valve. 3,407,827, 10–29–68, Cl. 137—39.
Foote, George W., to AWB Mfg., Inc. Ventilating wheel balancer. 3,408,111, 10–29–68, Cl. 301—5.
Ford Motor Co.: *See*—
Leese, Albert H. 3,407,945.
Fordemwalt, James N., and B. Van Pul, to Motorola, Inc. Isolation of semiconductor devices. 3,407,479, 10–29–68, Cl. 29—577.
Foreman, Matthew L.: *See*—
Antonsen, Anker K., and Foreman. 3,407,790.
Format Industrial Corp. Ltd.: *See*—
Yates, Herbert G., and Wilcox. 3,407,546.
Forster, Hans-Joachim M., and J. A. Helmer, to Daimler-Benz Aktiengesellschaft. Rotor of a hydrodynamic unit. 3,408,047, 10–29–68, Cl. 253—77.
Forsyth, Patrick M.: *See*—
Hunt, Robert W. G., Forsyth, and Roberts. 3,408,142.
Forward, Robert L., and F. E. Goodwin, to Hughes Aircraft Co. Multiple translation laser modulator. 3,408,596, 10–29–68, Cl. 332—16.
Foseco International Ltd.: *See*—
Hammerton, Roderic H. 3,407,865.
Fournier, Robert G.: *See*—
Blum, Jack F., Fournier, and Kesten. 3,408,524.
Fouse, Samuel S., to Westinghouse Electric Corp. Bus duct with power take-off means. 3,408,454, 10–29–68, Cl. 174—71.
Franchuk, Valentin I., T. B. Andrianova, and M. D. Boyshev, deceased (J. M. and I. M. Bobyshev, administrators). Anthraquinone process for the production of hydrogen peroxide. 3,408,163, 10–29–68, Cl. 23—207.
Francis, Donald W. Book support device. 3,408,032, 10–29–68, Cl. 248—450.
Francy, Christopher D.: *See*—
Anastasio, Andrew A., and Francy. 3,407,777.
Frank, Johann E.: *See*—
Ganske, Kingston E., and Frank. 3,408,016.
Frank, Mason R., to E. I. du Pont de Nemours and Co. Cathode arm seal for fused salt electrolysis cells. 3,408,282, 10–29–68, Cl. 204—243.
Frankl & Kirchner Fabrik fur Electromotren und Elektrische Apparate: *See*—
Heidt, Alfred. 3,407,910.
Fransen, Jan J. B., and C. P. G. Gilsing, to North American Philips Co., Inc. Nonevaporative getter. 3,408,130, 10–29–68, Cl. 316—25.
Frazier, Larry C., to National-Standard Co. Tire assembling apparatus and apparatus for forming side walls for tires. 3,408,244, 10–29–68, Cl. 156—403.
Freed, George H., 50% to F. C. Scerbo. Revolver-type pistol for firing shotgun cartridges. 3,407,526, 10–29–68, Cl. 42—59.
Freeman, William P., Jr., to John E. Mitchell Co. Vaporizer for fuel gases. 3,407,616, 10–29–68, Cl. 62—51.
Freibeit, Frederick E.: *See*—
Otto, Louis L., and Freibeit. 3,407,422.
Fremiot, Charles, and R. Gerbier, to Commissariat a l' Energie Atomique. Method and device for stabilizing electrostatic generators. 3,408,555, 10–29–68, Cl. 322—2.
Frey, David A.: *See*—
Horvath, Elizabeth G., and Frey. 3,408,342.
Frey, Paul H.: *See*—
Olson, Roy N., and Frey. 3,408,205.
Freyhold, Helmut V.: *See*—
Schlussler, Hans-Joachim, Freyhold, Groschopp, and Worms. 3,408,300.
Frick, Frank W., and R. E. Kirschman, to Philco-Ford Corp. Apparatus for sequentially testing electrical components under controlled environmental conditions including a component support mating test head. 3,408,565, 10–29–68, Cl. 324—158.
Fried, John H., to Syntex Corp. Preparation of 3-keto-10β-methyl-11β-hydroxy-Δ⁴ steroids. 3,408,372, 10–29–68, Cl. 260—397.45.
Friedberg, Samuel. Collapsible enclosure for sunning and the like. 3,407,549, 10–29–68, Cl. 52—90.
Friedman, Ronald L., and R. L. Pastorino, to Argus Chemical Corp. Unsaturated perester catalysts for polyester polymerization. 3,408,423, 10–29–68, Cl. 260—872.
Friedmann, Anton R. J., and R. H. Eby, to Ashley F. Ward, Inc. Rotary sprinkler. 3,408,009, 10–29–68, Cl. 239—230.
Friedrich Deckel Prazisions Mechanik und Maschinenban: *See*—
Reeber, Rudolf, and Muller. 3,407,704.
Friedrich, Ralph W.: *See*—
Hill, Menno E., Kraft, and Friedrich. 3,407,480.

Frig, Gerald E., to General Motors Corp. Motor for propulsion and load support. 3,407,749, 10–29–68, Cl. 104—148.
Fritz, Albert J., and F. P. Brilando, to Schwinn Bicycle Co. Bicycle having adjustable handlebar and seat. 3,408,090, 10–29–68, Cl. 280—278.
Fuji Shashin Film Kabushiki Kaisha: *See*—
Obuchi, Kazuo. 3,408,217.
Fujimura, Hiroshi: *See*—
Tanaka, Tsutomu, Tokuzumi, and Fujimura. 3,408,340.
Fukui, Yukiya, to Kabushiki Kaisha Mitani Valve (Mitani Valve Co., Ltd.). Liquor atomizer with supply holder for carrier fluid. 3,408,010, 10–29–68, Cl. 239—308.
Fuller Co.: *See*—
Gustafson, Hilding B. 3,408,289.
Fulton, Howard A., and V. D. Flinner, to Mansfield Sanitary, Inc. Silicock with ice expansion control. 3,407,837, 10–29–68, Cl. 137—375.
Fumat, Joseph, to Societe des Mecaniques Verdol. Device for rotating the pattern cylinder of double-lift dobbies independently of its normal drive. 3,407,848, 10–29–68, Cl. 139—1.
Fynewever, Forrest J.: *See*—
Kochevar, Matthew A., and Fynewever. 3,408,033.
GAF Corp.: *See*—
Goodman, Robert C., and Mastroianni. 3,408,065.
Maass, Richard L. 3,408,248.
Gabor, Andrew, to Potter Instrument Co., Inc. Tachometer. 3,408,556, 10–29–68, Cl. 322—95.
Gabrielson, Reidar G., to Motorola, Inc. Control system with variable length messages and plural decoder levels. 3,408,626, 10–29–68, Cl. 340—163.
Gagnebin, Fredy: *See*—
Jucker, Erich, and Gagnebin. 3,407,645.
Gähle, Walter, to Firma Rheinmetall G.m.b.H. Separately-loaded ammunition. 3,407,735, 10–29–68, Cl. 102—97.
Galantay, Eugene E., to Sandoz, Inc. Benzocycloheptaoxazoles. 3,408,360, 10–29–68, Cl. 260—307.
Galantay, Eugene E., to Sandoz, Inc. 6,7-dihydro-5H-benzocyclohepten-5-ones and process of preparing same. 3,408,399, 10–29–68, Cl. 260—590.
Galaspie, Charles E.: *See*—
Aiken, Robert W., Canup, and Galaspie. 3,407,795.
Galassi, Angelo, to Pneumafil Corp. Scraper roll clearer. 3,407,428, 10–29–68, Cl. 15—256.51.
Gallaher, Ellis A., Jr., to Air Reduction Inc. Catheter with cuff inflater and indicator. 3,407,817, 10–29–68, Cl. 128—351.
Ganske, Kingston E., and J. E. Frank, to Newell Associates, Inc. Tape transport apparatus. 3,408,016, 10–29–68, Cl. 242—55.12.
Gardner, Charles W., to Caterpillar Tractor Co. Loader bucket with positive side ejector. 3,407,952, 10–29–68, Cl. 214—767.
Gardner, Fred W. Power distributing system. 3,408,502, 10–29–68, Cl. 307—29.
Garland, Charles, to Sun Shipbuilding & Dry Dock Co. Buoyant device. 3,407,417, 10–29–68, Cl. 9—8.
Garrett Corp., The: *See*—
Kelley, Archibald P., and Norman. 3,407,603.
Gasson, Edward J.: *See*—
Ball, William J., Barclay, Gasson, Stewart, Bohemen, Newman, and Wood. 3,408,401.
Gates, John M. P., to Tekronix, Inc. Low-loss amplification circuit. 3,408,533, 10–29–68, Cl. 315—19.
Gauffin, Claes G. E., to Aktiebolaget Platmanufaktur. Magazine for drinking cups which can be stacked in one another, which has no manual actuating member. 3,407,966, 10–29–68, Cl. 221—303.
Gebel, Kurt M., to Landis Tool Co. Precision size control by a positive stop. 3,407,543, 10–29–68, Cl. 51—165.
Geigy Chemical Corp.: *See*—
Kuhnis, Hans H., Ryf, and Denss. 3,408,357.
General American Transportation Corp.: *See*—
Price, Albert E. 3,408,027.
General Electric Co.: *See*—
Ashby, Bruce A. 3,408,321.
Baldwin, William E. 3,407,468.
Baldwin, William E. 3,407,486.
Becker, Howard I., Jr. 3,408,486.
Chiabrandy, Robert E. 3,407,701.
Cooper, David, and Swanson. 3,408,513.
De Cecco, Angelo L., Piccone, and Somos. 3,408,545.
Di Nicola, Nicola C. 3,407,562.
Downing, Robert D. 3,408,474.
Duff, James B., and Pieper. 3,407,484.
Ghaem-Maghami, Sanjar. 3,408,576.
Gibbs, Richard D. 3,407,470.
Gibbs, Richard D. 3,407,472.
Gibbs, Richard D. 3,407,474.
Gibbs, Richard D. 3,407,483.
Gibbs, Richard D. 3,407,489.
Gibbs, Richard D. 3,407,490.
Hersbberger, Doran D., and Gibbs. 3,407,485.
Hopkins, Willard C., and Rediger. 3,407,481.
Hughes, William L., and Powell. 3,408,605.
Hurwitz, Henry, Jr. 3,408,593.
Kiernan, James G., and Trabler. 3,407,681.
Kudlacik, Henry W. 3,408,516.
Larsen, John E. 3,407,469.
Larsen, John E. 3,407,488.
Larsen, John E. 3,407,493.
Miller, Meritt L. 3,407,471.
Miller, Meritt L. 3,407,487.
Moore, Marshall G. 3,407,912.
Navias, Louis. 3,408,222.
Raymond, Mark H. 3,408,028.
Rushing Raymond G. 3,407,473.
General Electric Co.: *See*—Continued
Rushing, Raymond G. 3,407,482.
Rushing, Raymond G. 3,407,494.
Strong, Herbert M. 3,407,445.
Thompson, Richard L. 3,408,501.
Wagner, James B. 3,407,826.
Watters, Robert L. 3,408,570.
White, Dwain M. 3,408,366.
Willyoung, David M. 3,408,517.
Wright, Archibald N., and Mathewson. 3,408,172.
General Foam Corp.: *See*—
Winkler, Joseph. 3,408,180.
General Foods Corp.: *See*—
Serbia, George W., and Benett. 3,408,202.
General Incinerators of California, Inc.: *See*—
Burden, Roy B., Jr. 3,408,167.
General Mills, Inc.: *See*—
Vertnik, Leonard R. 3,408,317.
General Motors Corp.: *See*—
Blum, Jack F., Fournier, and Kesten. 3,408,524.
Buchwald, Robert M. 3,407,792.
Clevenger, Carl L., Hughel, and Miller. 3,407,491.
Frig, Gerald E. 3,407,749.
Graham, Donald E. 3,408,550.
Hetzler, Lewis R. 3,407,796.
Lorenz, Harald H. 3,407,906.
Portell, Walter L. 3,408,105.
Skinner, Kenneth R. 3,408,625.
Thompson, William B., Treloar, and Thorsby. 3,407,894.
Tuck, Robert M., and Breting. 3,407,686.
Van House, Robert M., and De Hoff. 3,407,780.
Wanlass, Bert R. 3,408,463.
General Precision Systems Inc.: *See*—
Bambace, Natale J., Kenny, and Oesterle. 3,408,559.
General Signal Corp.: *See*—
Cola, Pasco A. 3,408,548.
General Telephone and Electronics Laboratories, Inc.: *See*—
Dickinson, Clayton D., and Sheinhartz. 3,408,230.
Dickinson, Clayton D., Perez, and Sheinhartz. 3,408,231.
Hillman, Kurt. 3,408,595.
Gentile, Anthony J.: *See*—
Gentile, Bernard. 3,408,270.
Gentile, Bernard, to Anthony J. Gentile. Method for nondestructive testing of materials. 3,408,270, 10–29–68, Cl. 204—1.
George, Donald K., and K. C. Hokanson, to Riegel Textile Corp. Flushable sanitary napkin having a reinforcing and securing strip therein. 3,407,814, 10–29–68, Cl. 128—290.
George, Stephen. Headlight lens. 3,408,491, 10–29–68, Cl. 240—41.4.
Georgia Kaolin Co.: *See*—
Torok, Andrew. 3,408,305.
Geppert, Donovan V.: *See*—
Dore, Burnell V., and Geppert. 3,408,521.
Gerbier, Robert: *See*—
Fremiot, Charles and Gerbier. 3,408,555.
Gerdau Chemical Corp.: *See*—
Baravalle, Thomas R. 3,408,298.
Gerlach, Tadeusz: *See*—
Zygmunt, Kazimierz, and Gerlach. 3,407,884.
Gessner, Adolf W., to The Lummus Co. Fe, Mo, Co, and W mixed oxides as oxidation catalysts. 3,408,309, 10–29–68, Cl. 252—470.
Gessner, Harold B. Sling back sandal. 3,407,517, 10–29–68, Cl. 36—11.5.
Ghaem-Maghami, Sanjar, to General Electric Co. Variable frequency transistorized RF amplifier with amplitude compensated output. 3,408,576, 10–29–68, Cl. 325—439.
Giambertino, Natale. Washing machine filter. 3,407,633, 10–29–68, Cl. 68—18.
Gibbs, Richard D., to General Electric Co. Apparatus for effective coil-placing operations in inductive devices and method of manufacturing same. 3,407,470, 10–29–68, Cl. 29—205.
Gibbs, Richard D., to General Electric Co. Apparatus for developing electrical coils in inductive devices. 3,407,472, 10–29–68, Cl. 29—205.
Gibbs, Richard D., to General Electric Co. Apparatus for obtaining desired positions of electrical coils relative to magnetic cores. 3,407,474, 10–29–68, Cl. 29—205.
Gibbs, Richard D., to General Electric Co. Process for achieving desired positions for electrical coils relative to a magnetic core. 3,407,483, 10–29–68, Cl. 29—596.
Gibbs, Richard D.: *See*—
Hershberger, Doran D., and Gibbs. 3,407,485.
Gibbs, Richard D., to General Electric Co. Method for obtaining desired positions of electrical coils relative to magnetic cores. 3,407,489, 10–29–68, Cl. 29—596.
Gibbs, Richard D., to General Electric Co. Process for developing electrical coils in inductive devices. 3,407,490, 10–29–68, Cl. 29—596.
Giberson, Iva C. Confining garment. 3,407,807, 10–29–68, Cl. 128—134.
Gibson, Charles B., Jr., to Tektronix, Inc. Scan conversion storage tube and method of operation. 3,408,530, 10–29–68, Cl. 315—12.
Gibson, Robert G., R. A. Steigerwald, and R. A. Ide, to International Business Machines Corp. Address modification control arrangement for storage matrix. 3,408,637, 10–29–68, Cl. 340—174.
Gier, John R., Jr. Fin tube assemblage for heat exchangers. 3,407,874, 10–29–68, Cl. 165—151.
Gier, John R., Jr. Induction furnace employing high purity atmosphere. 3,408,470, 10–29–68, Cl. 219—10.49.
Gilbert, John A., to Unitek Corp. Resistance welding circuit. 3,408,473, 10–29–68, Cl. 219—111.
Gilbos, Paul, to Constructiewerkhuizen Gilbos P.V.B.A. Skeinholder for unwinding skeins of thread. 3,408,022, 10–29–68, Cl. 242—110.1.

Gilchrist, Reginald S., and D. A. E. Mattingly, to The Klinger Mfg. Co. Ltd. Apparatus for crimping yarn. 3,407,586, 10–29–68, Cl. 57—34.

Gilkeson, David C.: *See*—
Appeldorn, Roger H., and Gilkeson. 3,408,135.

Gilkey, Russell: *See*—
Caldwell, John R., and Gilkey. 3,408,334.

Gillette Co., The: *See*—
Schroeder, George A. 3,407,975.

Glising, Christianus P. G.: *See*—
Fransen, Jan J. B., and Glising. 3,408,130.

Gingrich, John A., to Dover Corp. Control system for elevators including reed switch detectors for position and speed control. 3,407,905, 10–29–68, Cl. 187—29.

Glasgow, Clarence O. Gasket ring and conduit coupling. 3,408,097, 10–29–68, Cl. 285—112.

Glassey, Eugene A. Apparatus for manometer temperature control and temperature compensation circuit and method. 3,407,664, 10–29–68, Cl. 73—401.

Glassey, Eugene A., to Exactel Instrument Co. Submerged density sensing instrument. 3,407,666, 10–29–68, Cl. 73—452.

Goda, Kermit J., Jr.: *See*—
Myers, Lewis P., and Goda. 3,408,178.

Godfrey, Murrel: *See*—
Greene, Janice L., Veatch, and Godfrey. 3,408,254.

Godwin, Millard C., to Armour Agricultural Chemical Co. Phosphoric acid concentration. 3,408,168, 10–29–68, Cl. 23—307.

Goetze, Gerhard W., and A. E. Anderson, to Westinghouse Electric Corp. Storage system. 3,408,531, 10–29–68, Cl. 315—12.

Goldammer, Freeland R.: *See*—
Walter, Gerard O., Goldammer, and De Meo. 3,407,938.

Golden, Carl E., to Ransome Torch & Burner Co. LPG vaporizer. 3,407,787, 10–29–68, Cl. 122—4.

Golden, Philip. Portable serving equipment utilizing the peltier phenomenon. 3,408,481, 10–29–68, Cl. 219—386.

Gomi, Shinpei: *See*—
Segawa, Toru, Gomi, and Kanai. 3,408,417.

Gonzales, Anthony, and H. C. Packer. Revolving baseball toy comprising magnetic clutch means. 3,408,070, 10–29–68, Cl. 273—26.

Goodacre, Ronald, to Lansing Bagnall Ltd. Mounting of rods or spindles. 3,408,120, 10–29–68, Cl. 308—15.

Goodman, Robert C., and E. G. Mastroianni, to GAF Corp. Sheet handling apparatus for use in a reproduction machine. 3,408,065, 10–29–68, Cl. 271—64.

Goodrich, B. F., Co., The: *See*—
Schneider, Wolfgang. 3,408,416.

Goodrich, Geoffrey J., to National Research Development Corp. Roll stabiliser for floating bodies. 3,407,772, 10–29–68, Cl. 114—125.

Goodwin, Francis E.: *See*—
Forward, Robert L., and Goodwin. 3,408,596.

Grace, W. R., & Co.: *See*—
Anderson, Kelvin G., and Churchill. 3,407,436.
Spolsino, Peter P. 3,407,989.

Grah, Neil E.: *See*—
Farleywine, Aubrey W., Jr., and Grah. 3,408,464.

Graham, Donald E., to General Motors Corp. Dynamic braking system for alternating current induction type motors. 3,408,550, 10–29–68, Cl. 318—212.

Graham, John F., to Continental Oil Co. Offshore storage, mooring and loading facility. 3,407,768, 10–29–68, Cl. 114—.5.

Graipin, Raymond. Device and method for the rapid execution of bore-holes in all types of ground. 3,407,888, 10–29–68, Cl. 175—173.

Granberg, Elof. File guide handle. 3,407,466, 10–29–68, Cl. 29—80.

Grant, Allan, and L. Monahan. Sectionally formed toy with identifying indicia on the sections. 3,407,530, 10–29–68, Cl. 46—22.

Grant, G. Peter, Jr. Document copying device. 3,408,141, 10–29–68, Cl. 355—28.

Granville-Phillips Co.: *See*—
Bills, Daniel G., and Warren. 3,407,991.

Great American Knitting Mills, Inc.: *See*—
Abrams, Rudolf. 3,407,631.

Green, Ellis J.: *See*—
Hallee, Lawrence P., Green, and Woebcke. 3,407,789.

Greenbaum, Arthur. Insulation piercing electrical connectors. 3,408,616, 10–29–68, Cl. 339—99.

Greene, Janice L., F. Veatch, and M. Godfrey, to The Standard Oil Co. 2,2′-(1,2-cyclobutylene)bis[4,6-diamino-s-triazine] and resins formed therefrom. 3,408,254, 10–29–68, Cl. 161—261.

Greenfield, Harold: *See*—
Dovell, Frederick S., and Greenfield. 3,408,415.

Greeson, James C., Jr., and J. J. Kennedy, to International Business Machines Corp. Operational amplifier with improved drive means. 3,408,585, 10–29–68, Cl. 330—20.

Gregory Industries, Inc.: *See*—
Spisak, Steve. 3,408,472.

Gregory, Robert B., to Frank W. Egan & Co. Thrust bearing for rotating screw. 3,407,439, 10–29–68, Cl. 18—12.

Grein, Arpad, G. Canevazzi, and R. Barchielli, to Societa' Farmaceutici Italia. Process for producing oxytetracycline antibiotic. 3,408,258, 10–29–68, Cl. 195—80.

Greis, Howard A., V. T. Kubert, and G. H. Pettee, to Kinefac Corp. Method for forming serrated or corrugated hollow tubes. 3,407,638, 10–29–68, Cl. 72—96.

Grenon, Rene E., to Botalam. Wire-feeding device, in particular for a binding machine. 3,408,015, 10–29–68, Cl. 242—47.01.

Griesser A.G.: *See*—
Griesser, Friedrich. 3,407,863.

Griesser, Friedrich, to Griesser A.G. Drum-type Venetian blinds. 3,407,863, 10–29–68, Cl. 160—133.

Griffith, George L., to Trojan Powder Co. Retainer for holding a detonator in a detonator receptacle and explosive cartridge container containing the same. 3,407,730, 10–29–68, Cl. 102—24.

Griffiths, David K., and J. H. Richards, to United States Steel Corp. Anti-clogging furnace regenerator. 3,408,058, 10–29–68, Cl. 263—19.

Grimes, Charles D., Jr.: *See*—
Rolewicz, Henry A., Grimes, and Stevenson. 3,408,383.

Grinnell Corp.: *See*—
Boteler, Henry W. 3,407,838.

Grippo, George D., and W. O. Tundermann, to Colgate-Palmolive Co. Diaper holder. 3,407,813, 10–29–68, Cl. 128—287.

Groschopp, Heinz: *See*—
Schlussler, Hans-Joachim, Freyhold, Groschopp, and Worms. 3,408,300.

Gross, Peter L.: *See*—
Braithwaite, David G., Bott, Gross, Laubach, Altman, and Hanzel. 3,408,273.

Guidi, Vinzenz, and M. Meier, to Aktiengesellschaft Brown, Boveri & Cie. Machine tool for back working of bore holes. 3,407,703, 10–29–68, Cl. 90—11.

Guin, Joel B.: *See*—
Tumm, Guenter W., and Guin. 3,408,432.

Gulf Reserach & Development Co.: *See*—
Neighbors, Ralph P. 3,408,176.

Gulliksen, John T., A. E. Oldaker, and F. J. Bolda, to International Business Machines Corp. Ductile case-hardened steels. 3,408,237, 10–29–68, Cl. 148—17.5.

Gundlach, Wladyslaw: *See*—
Radecki, Hubert, and Gundlach. 3,407,584.

Gurwicz, Isaac D., to Sevcon Engineering Ltd. Control means for electrical apparatus. 3,408,538, 10–29–68, Cl. 317—11.

Gustafson, Hilding B., to Fulier Co. Method for waste water renovation. 3,408,298, 10–29–68, Cl. 210—27.

Gustashaw, William E., and D. Rosner, to Amsler Morton Co., a Division of Textron, Inc. Slab charger. 3,407,944, 10–29–68, Cl. 214—26.

Guttmann, Andrew T.: *See*—
Jungermann, Eric, and Guttmann. 3,408,390.

Gutzmer, Ralph T., to V. D. Hansen. Film cartridge conveyor and remover. 3,407,948, 10–29–68, Cl. 214—305.

H & W Industries, Inc.: *See*—
Walker, Frank M. 3,407,619.

Haase, Donald J.: *See*—
Perkins, Gerald, Jr., Haase, and Crawford. 3,407,574.

Hackney, Ronald J., to Union Carbide Australia Ltd. Insect resistant thermoplastic compositions. 3,408,323, 10–29–68, Cl. 260—45.85.

Hadfield, Robert: *See*—
Flachbarth, Charles T., and Hadfield. 3,408,094.

Hagemeyer, Hugh J., Jr., V. K. Park, and A. G. Robinson, to Eastman Kodak Co. Diester of thiodipropionic acid. 3,408,386, 10–29–68, Cl. 260—481.

Hagemeyer, Hugh J., Jr., and H. N. Wright, Jr., to Eastman Kodak Co. Process for preparing esters of unsaturated alcohols from monoesters of saturated 2,2,4-trisubstituted-1,3-diols. 3,408,388, 10–29–68, Cl. 260—491.

Hagmann, Fritz, to Sulzer Bros., Ltd. Expansible linkage for a steam generator. 3,407,788, 10–29–68, Cl. 122—6.

Hall, C. M., Lamp Co.: *See*—
Liedel, Douglas D. 3,407,683.

Hall, James F., to Federal-Mogul Corp. Die holder and support block. 3,407,642, 10–29–68, Cl. 72—462.

Hallee, Lawrence P., E. J. Green, and H. N. Woebcke, to Stone & Webster Engineering Corp. Heating apparatus and process. 3,407,789, 10–29–68, Cl. 122—356.

Halpern, Berthold, to Syntex Corp. Cleavage of N-(cycloalk-2-en-1-one-3-yl) protective groups with nitrosyl chloride. 3,408,343, 10–29–68, Cl. 260—112.5.

Halpern, Ernst, to Williamsburg Steel Products Co. Elevator door frame construction. 3,407,553, 10–29–68, Cl. 52—217.

Halpern, Otto, to Syntex Corp. Esterification of 17α-ethinyl-17β-hydroxy steroids. 3,408,371, 10–29–68, Cl. 260—397.4.

Hammann, Ingeborg: *See*—
Sirrenberg, Wilhelm, Unterstenhöfer, and Hammann. 3,408,382.

Hammerton, Roderic H., to Foseco International Ltd. Method of coating metal mould walls. 3,407,865, 10–29–68, Cl. 164—67.

Hampel, Frederick J. E.: *See*—
Irwin, Malcolm F., and Hampel. 3,407,583.

Hamren, Victor E., to Mechanized Science Seals, Inc. Fabrication method for a rotary seal assembly. 3,407,476, 10–29–68, Cl. 29—423.

Handmann, Richard W.: *See*—
Orebic, Oleg J., and Handmann. 3,407,464.

Hanner, Mary T.: *See*—
Wagner, Tobias. 3,408,623.

Hanrez, Ateliers J., Societe Anonyme: *See*—
Bougard, Jacques. 3,407,805.

Hansen, Vilena P. Swimming cap. 3,407,408, 10–29–68, Cl. 2—68.

Hansen, Vincent D.: *See*—
Gutzmer, Ralph T. 3,407,948.

Hanzel, William: *See*—
Braithwaite, David G., Botta, Gross, Laubach, Altman, and Hanzel. 3,408,273.

Hardtmann, Goetz E., to Sandoz, Inc. 2H-benzo(b)quinolizines. 3,408,352, 10–29–68, Cl. 260—288.

Hardtmann, Goetz E., and H. Ott, to Sandoz, Inc. Pyridylthienyl ketones and processes for preparing same. 3,408,358, 10–29–68, Cl. 260—294.8.

Hardy, Pierre P. Self regulating fluid flow valves. 3,407,839, 10–29–68, Cl. 137—389.

Harp, James L., Jr., to The Marquardt Corp. Supersonic wind tunnel and method of operation. 3,407,653, 10–29–68, Cl. 73—147.

Harr, John A.: *See*—
Brass, Robert L., Connell, and Harr. 3,408,628.

Harrison, Walter T.: *See*—
Boyer, John D., and Harrison. 3,408,489.

Hart, John J., to Westinghouse Electric Corp. Turbine nozzle seal structure. 3,408,045, 10–29–68, Cl. 253—45.

Hartman, John E., to U.S. Industries, Inc. Removable feed storage bin construction. 3,407,551, 10–29–68, Cl. 52—143.

Harvey, Robert R., and M. M. Vaclaw, to Phillips Petroleum Co. Aqueous fluid drive process. 3,407,877, 10–29–68, Cl. 166—9.

Harz, Fred C., and F. S. Timko, to Inflight Motion Pictures, Inc. Cooling apparatus for motion picture projector. 3,408,138, 10–29–68, Cl. 352—202.

Hasegawa, Osamu, to Kyoritsu Machinery Works, Ltd. Apparatus for manufacturing various fancy twisted yarns. 3,407,589, 10–29–68, Cl. 57—91.

Haselwood, Donald E., to A. C. Nielsen Co. Data handling system. 3,408,629, 10–29–68, Cl. 340—172.5.

Hasenbalg, Ralph D. Self controlled tractor guidance system. 3,407,895, 10–29–68, Cl. 180—79.

Hashimoto, Isamu, to Pioneer Kabushiki Kaisha. Sound recording-reproducing device of tape-magazine type. 3,408,017, 10–29–68, Cl. 242——55.13.

Hassia Veysackungsmaschinen G.m.b.H.: *See*—
Klein, Karl, and Walter. 3,407,969.

Haubold, Dieter: *See*—
Volkmann, Dieter. 3,408,039.

Hauck, Erwin A., to Burroughs Corp. Input/output control for a digital computing system. 3,408,632, 10–29–68, Cl. 340—172.5.

Hauck, Leon P., and H. L. Woellner, to Western Electric Co., Inc. Wire take-up apparatus. 3,408,013, 10–29–68, Cl. 242—25.

Haus, Joachim, to Siemens Aktiengesellschaft. Semiconductor device having a housing and a semiconductor member disposed in a frame within the housing. 3,408,541, 10–29–68, Cl. 317—234.

Hauser, Jon W., to National Brush Co. Combination brush and shoehorn. 3,407,423, 10–29–68, Cl. 15—105.

Hawthorne, John O.: *See*—
Callighan, Robert H., Hawthorne, and Mihelic. 3,408,402.

Hayashi, Tadashi. Variable ratio power transmission device. 3,407,687, 10–29–68, Cl. 74—796.

Hazel, Beverly S.: *See*—
Bakker, Lubertus, and Hazel. 3,407,937.

Healy, James W., to Dasa Corp. Latching means for automatic telephone dialer. 3,408,641, 10–29–68, Cl. 340—174.1.

Hechelhammer, Wilhelm: *See*—
Streib, Hugo, and Hechelhammer. 3,408,225.

Heckman, Robert S. Ski mat. 3,407,713, 10–29–68, Cl. 94—3.

Heiberger, Francis E., to Danly Machine Corp. Power press acceleration control system. 3,407,724, 10–29–68, Cl. 100—43.

Heidt, Alfred to Frankl & Kirchner Fabrik fur Electromotoren und Elektrische Apparate. Method and means for the automatic stopping of an electric driving arrangement in a predetermined position, particularly for sewing machines. 3,407,010, 10–29–68, Cl. 192—18.

Heinrich, Allan E., to Applied Power Industries, Inc. Vibrator assembly. 3,407,597, 10–29–68, Cl. 60—52.

Heiter, George L., to Bell Telephone Laboratories, Inc. Nonreciprocal gyromagnetic waveguide device with heat transfer means forming a unitary structure. 3,408,597, 10–29–68, Cl. 333—24.1.

Helgesson, Alan L., to Varian Associates. Time scale changer for atomic stabilized frequency sources. 3,408,591, 10–29–68, Cl. 331—3.

Helmer, Josef A.: *See*—
Forster, Hans-Joachim M., and Helmer. 3,408,047.

Hemphill, Kent W., to Xerox Corp. Document handling apparatus. 3,408,140, 10–29–68, Cl. 355—23.

Hendal, Willem P., and A. J. Mulder, to Shell Oil Co. Process for the preparation of acetylene and vinyl chloride. 3,408,413, 10–29–68, Cl. 260—656.

Henderson, Zack L., to Monsanto Co. Apparatus for anchoring the margin of synthetic turf. 3,407,714, 10–29–68, Cl. 94—7.

Hendricks, John E., to Owens-Illinois, Inc. Method and apparatus for separating compressible and incompressible fluids in a mixture thereof. 3,407,569, 10–29–68, Cl. 55—52.

Henkel & Cie G.m.b.H.: *See*—
Schlussler, Hans-Joachim, Freyhold, Groschopp, and Worms. 3,408,300.

Henle, Rudolf: *See*—
Anderko, Kurt, Henle, and Stark. 3,407,864.

Henning, Robert W., to Olin Mathieson Chemical Corp. Muzzle bushing and fastener for power-actuated tools. 3,407,982, 10–29–68, Cl. 227—9.

Hennis, Robert B., to International Business Machines Corp. Line identifying and marking apparatus. 3,408,458, 10–29–68, Cl. 178—15.

Henry, Colonel. Hollow braided animal halter. 3,407,568, 10–29–68, Cl. 54—24.

Henry, Wilbur G., to The Procter & Gamble Co. Process for preparing soap bars. 3,408,299, 10–29–68, Cl. 252—129.

Hepp, Peter S., to Sun Oil Co. Catalytic cracking with the purging of the regenerated catalyst with a liquid hydrocarbon. 3,408,286, 10–29–68, Cl. 208—120.

Herber, Raymond R., and K. D. Vesely, to Universal Oil Products Co. Isoparaffin alkylation process. 3,408,419, 10–29–68, Cl. 260—683.51.

Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, Minister of Technology in: *See*—
McLoughlin, Victor C. R., and Thrower. 3,408,411.

Hercules Inc.: *See*—
Booth, Albert B. 3,408,405.
Boylan, Francis J. 3,408,306.
Logan, Lawrence J., Jr., and Oppenlander. 3,408,435.
Vandenberg, Edwin J. 3,408,404.

Hersch, Paul A., to Beckman Instruments, Inc. Analysis of organic materials. 3,408,269, 10–29–68, Cl. 204—1.

Hershberger, Doran D., and R. D. Gibbs, to General Electric Co. Method for controlling the desired position of coil end turns relative to a turn-accommodating member. 3,407,485, 10–29–68, Cl. 29—596.

Herzog, Gerald B., to Radio Corp. of America. Transistor-negative resistance diode circuits using D.C. feedback. 3,408,592, 10–29–68, Cl. 331—8.

Hetzler, Lewis R., to General Motors Corp. Radiation triggered internal combustion engine ignition system. 3,407,796, 10–29–68, Cl. 123—148.

Hewitt, Keith A., to Chrysler Corp. Folding seat assembly. 3,408,103, 10–29–68, Cl. 296—66.

Heyman, Wilbert A. Dehydration of foods. 3,408,210, 10–29–68, Cl. 99—204.

Higgins, John T., to Cominco Ltd. Apparatus for spraying solid particles. 3,407,785, 10–29–68, Cl. 118—302.

Hilbert, Richard G., to Leesona Corp. Yarn handling apparatus. 3,407,585, 10–29–68, Cl. 57—34.

Hildebrant, Vernon H., to Studebaker Corp. Traction stud for vehicle tires and method of making. 3,407,861, 10–29–68, Cl. 152—210.

Hildred, Gordon C.: *See*—
Thompson, Joshua B., and Hildred. 3,408,169.

Hill, Claude, and O. Webb, to Harry Ferguson Research Ltd. Motor vehicles having four wheel drive. 3,407,893, 10–29–68, Cl. 180—44.

Hill, Frank R., ½ to Frank R. Hill, Sr. and ½ to Louis S. Ridgeway. Fish rod holder. 3,407,527, 10–29–68, Cl. 43—15.

Hill, Menno E., J. K. Kraft, and R. W. Friedrich, to Westinghouse Electric Corp. Wiring and testing of controller harness. 3,407,480, 10–29–68, Cl. 29—593.

Hillman, Kurt, to General Telephone and Electronics Laboratories, Inc. Pulse code modulation system. 3,408,595, 10–29–68, Cl. 332—11.

Himelstein, Nathan: *See*—
Rylander, Paul N., and Himelstein. 3,408,354.

Hindin, Saul G.: *See*—
Keith, Carl D., Cornely, and Hindin. 3,408,285.

Hinson, Fletcher A., Jr., to Ashland Oil & Refining Co. Production of carbon black. 3,408,165, 10–29–68, Cl. 23—209.4.

Hirose Electric Co., Ltd.: *See*—
Kuwahata, Takeshi. 3,408,614.

Hitachi, Ltd.: *See*—
Doi, Toshio, Mitani, Kobayashi, Ohara, and Maeda. 3,408,604.
Ono, Minoru, and Usuda. 3,408,543.
Sato, Atsushi, and Yamauchi. 3,408,227.

Hitt, Otha A., and G. A. Fernstrom, to E. I. du Pont de Nemours and Co. Apparatus for applying finishing to yarns. 3,407,784, 10–29–68, Cl. 118—234.

Hittmair, Paul, S. Nitzsche, M. Wick, and E. Wohlfarth, to Wacker-Chemie G.m.b.H. Room temperature vulcanizable organopolysiloxane elastomers. 3,408,325, 10–29–68, Cl. 260—46.5.

Hjalsten, John A., and H. A. I. Wiredal, to Sandvikens Jernverks AB. Drill bit with an eccentric cutting edge portion. 3,407,889, 10–29–68, Cl. 175—263.

Hoang, Van C.: *See*—
Teichner, Stanislas J., Thomas, and Hoang. 3,408,159.

Hoare, Stanley W., to Newall Engineering Co. Ltd. Dressing apparatus for grinding wheels. 3,407,800, 10–29–68, Cl. 125—11.

Hoel, Hans, to The English Electric Co. Ltd. Electrical apparatus including a pair of replica impedances for measuring distances along a loaded electrical line. 3,408,564, 10–29–68, Cl. 324—52.

Hoffman, John E.: *See*—
Wischmeyer, William F., and Hoffman. 3,407,617.

Hoffman Laboratories, Inc.: *See*—
Drew, John W., and Rosen. 3,408,408.

Hoffman, Lewis C., to E. I. du Pont de Nemours and Co. Electrolytic method of adjusting the resistance of palladium glaze resistors. 3,408,274, 10–29–68, Cl. 204—130.

Hoffmann-La Roche Inc.: *See*—
Surmatis, Joseph D. 3,408,414.

Hogue, Paul G.: *See*—
Welch, Russel A., Sr. 3,408,479.

Hohmann, Walter: *See*—
Bien, Hans-Samuel, Hohmann, and Vollmann. 3,408,345.

Hoing, Christine E. Method for dry sorting the constituents of a homogeneous mixture. 3,407,929, 10–29–68, Cl. 209—3.

Hoing, Christine E. Means for conveying a granular product suspended in a gaseous current and separating the product at the end of the conveying operation. 3,408,116, 10–29–68, Cl. 302—52.

Hokanson, Kenneth C.: *See*—
George, Donald K., and Hokanson. 3,407,814.

Hokko Chemical Industry Co., Ltd.: *See*—
Yamamoto, Takashi, Kobayashi, Nakatomi, Takahashi, Ueda, and Kondo. 3,408,426.

Holbrook, Rex R., to Chrysler Corp. Odometer. 3,408,003, 10–29–68, Cl. 235—96.

Holder, James P.: *See*—
Boschan, Robert H., and Holder. 3,408,427.
Boschan, Robert H., and Holder. 3,408,428.

Hollander, Dolores S., and M. S. Bander, to Blum and Co., Inc. Bib construction. 3,407,407, 10–29–68, Cl. 2—49.

Hollander, Ralph. Humidifier for musical instruments. 3,407,700, 10–29–68, Cl. 84—453.
Holzwarth, Herbert, to Siemens Aktiengesellschaft. Amplifier for electrical oscillations. 3,408,304, 10–29–68, Cl. 307—88.
Homma, Zensho. Container with plural pour spouts and frangible closure. 3,407,976, 10–29–68, Cl. 222—485.
Honeywell, Inc.: *See*—
Doerlingsfeld, Karl H. 3,407,667.
Iverson, Marlowe W. 3,408,024.
Jones, Keith C. 3,407,828.
Hoover Ball and Bearing Co.: *See*—
Van Hartesveldt, Carroll H. 3,408,236.
Wahl, Buddy D. 3,408,476.
Hoover Co., The: *See*—
McKinney, Jack D. 3,407,994.
Hopfeld, Henry. Pole engaging device for ladders. 3,407,900, 10–29–68, Cl. 182—107.
Hopkins, Willard C., and A. L. Rediger, to General Electric Co. Method of pressing back electrical coil end turn portions in an inductive device. 3,407,481, 10–29–68, Cl. 29—596.
Horgan, Thomas B., and R. A. Stanley, to International Business Machines Corp. Constant source current regulating system. 3,408,557, 10–29–68, Cl. 323—1.
Hornak, John N., to United States Steel Corp. Apparatus for stream degassing molten metal. 3,408,059, 10–29–68, Cl. 266—34.
Horovitz, Zola P., to E. R. Squibb & Sons, Inc. Long chain esters of 4'-fluoro-4-[4-hydroxy-4-(α,α,α-trifluorotolyl)-piperidino]butyrophenone and the like. 3,408,356, 10–29–68, Cl. 260—294.3.
Horton, Milford C., and R. J. Wenzel, to The Bendix Corp. Distributed constant filter circuits comprising an array of coupled, parallel, conductive bars. 3,408,599, 10–29–68, Cl. 333—73.
Horvath, Elizabeth G., and D. A. Frey, to Phillips Petroleum Co. Stabilized poly(arylene sulfides). 3,408,342, 10–29–68, Cl. 260—45.9.
Hotz, Johann: *See*—
Ratchle, Ludwig, Mahler, Mueller, Koch, Immel, Urban, and Hotz. 3,408,007.
Houlihan, William J., to Sandoz, Inc. Isoindolones. 3,408,350, 10–29–68, Cl. 260—243.
Hovey, Emerson B., to United Shoe Machinery Corp. Finished leather and methods of making the same. 3,408,221, 10–29–68, Cl. 117—55.
Hovey, Richard J., to American Optical Co. Variable density light filtering means utilizing stannous chloride and thiazine dye. 3,408,134, 10–29–68, Cl. 350—160.
Howe, Ralph, and L. H. Smith, to Imperial Chemical Industries, Ltd. Amidoaroxyalkanolamines. 3,408,387, 10–29–68, Cl. 260—482.
Howell Foods Corp.: *See*—
Katz, Max. 3,408,207.
Howmet Corp.: *See*—
Baldwin, Leoniel C. 3,407,808.
Hoza, Martin D., and R. A. Pennison, to Reed International Inc. Air balance for impact wrenches. 3,407,885, 10–29–68, Cl. 173—93.6.
Hubbell, Harvey, to Harvey Hubbell Inc. Wiring device. 3,408,618, 10–29–68, Cl. 339—196.
Hubbell, Harvey, Inc.: *See*—
Damiano, Ralph R. 3,408,620.
Hubbell, Harvey. 3,408,618.
Hubert, Pierre: *See*—
Ettevant, Claude, Hubert, and Perulli. 3,408,519.
Huck Co.: *See*—
Schlesinger, William A. 3,407,691.
Huck, William F.: *See*—
Schlesinger, William A. 3,407,691.
Hudson, Doyle R., to Olinkraft, Inc. Bag opening apparatus. 3,407,567, 10–29–69, Cl. 53—385.
Hughel, Edward B.: *See*—
Clevenger, Carl L., Hughel, and Miller. 3,407,491.
Hughes Aircraft Co.: *See*—
Forward, Robert L., and Goodwin. 3,408,596.
Reissmueller, Karl H., Alexander, and M. W. Reissmueller. 3,408,271.
Hughes, Larry M., to Collet Toy Mfg. Co. Toy train and undercarriage assembly therefor. 3,407,533, 10–29–68, Cl. 46—217.
Hughes, William L., and B. O. Powell, to General Electric Co. Horizontal output transformer for television receivers. 3,408,605, 10–29–68, Cl. 336—96.
Huling, Paul T., to Caterpillar Tractor Co. Precision seal for a rotating shaft. 3,408,084, 10–29–68, Cl. 277—37.
Hulka, Jaroslav G., R. A. Butler, Jr., and A. W. Burke; said Butler and said Burke assors. to Butler Automatic Machine, Inc. Contraceptive intra-uterine devices. 3,407,806, 10–29–68, Cl. 128—130.
Hultberg, Donald E., and L. A. Jeffries, to Northrop Corp. Electron beam scanning device. 3,408,532, 10–29–68, Cl. 315—12.
Hunley, William H., and J. R. Annibale, to United States of America, Navy. Docking cradle. 3,407,769, 10–29–68, Cl. 114—49.
Hunt, Robert W. G., P. M. Forsyth, and C. J. V. Roberts, to Eastman Kodak Co. Color film printing. 3,408,142, 10–29–68, Cl. 355—38.
Hunt, Russell A., Jr.: *See*—
Walker, Donald C., and Hunt. 3,407,804.
Huppmann, Fritz H. L. Apparatus for the continuous fermentation and curing of beer. 3,407,722, 10–29–68, Cl. 99—277.1.
Hurlburt, Joseph C., to Sperry Rand Corp. Cutter bar latch. 3,407,578, 10–29–68, Cl. 56—25.
Hurwitz, Henry, Jr., to General Electric Co. Scanned laser beam device. 3,408,593, 10–29–68, Cl. 331—94.5.
Husky Mfg. and Tool Works Ltd.: *See*—
Rees, Herbert. 3,407,444.
Huyben, Cornelis J. M.: *See*—
Breedveld, Marinus P., and Huyben. 3,408,583.
Hydronautics, Inc.: *See*—
Preiser, Herman S. 3,408,280.
I-T-E Circuit Breaker Co.: *See*—
Carter, William A. 3,408,468.
Myers, Felix E. 3,408,606.
Ide, Richard A.: *See*—
Gibson, Robert G., Steigerwald, and Ide. 3,408,637.
Ide, Whitman D., to Scott & Williams, Inc. Knitted sweaters and methods of making the same. 3,407,632, 10–29–68, Cl. 66—176.
Ideal Industries, Inc.: *See*—
Whitehurst, Joe R. 3,407,446.
Ikeda, Shingo: *See*—
Yamazaki, Akihiro, Kumashiro, Kato, Meguro, Takenishi, Yoshikawa, Ninomiya, Yamaguchi, Komata, Saito, and Ikeda. 3,408,206.
Ilse, Werner: *See*—
Tiedtke, Karl H., Scheller, and Ilse. 3,408,333.
Imiolczyk, Josef, to Schumag Schumacher Metallwerke G.m.b.H. Assembly for statically balancing rotary articles. 3,407,545, 10–29–68, Cl. 51—169.
Immel, Wolfgang: *See*—
Raichle, Ludwig, Mahler, Mueller, Koch, Immel, Urban, and Hotz. 3,408,007.
Imperial Chemical Industries Ltd.: *See*—
Brayford, John R. 3,408,433.
Coffey, Robert S., and Duncanson. 3,408,409.
Foll, George E. 3,408,313.
Howe, Ralph, and Smith. 3,408,387.
Imperial Oil Ltd.: *See*—
Cymbalisty, Lubomyr M. O. 3,407,972.
Imperial Tobacco Co. (of Great Britain and Ireland) Ltd., The: *See*—
Westcott, David T., and Reynolds. 3,407,820.
Industrial Nucleonics Corp.: *See*—
Norwich, Alan. 3,408,566.
Inflight Motion Pictures, Inc.: *See*—
Harz, Fred C., and Timko. 3,408,138.
Ingle, Anthony H.: *See*—
Keyt, Robert L., and Ingle. 3,408,241.
Ingles & Machines Ltd.: *See*—
Stephenson, George W. 3,408,096.
Ingraham, John D.: *See*—
Dajani, Mahmoud T., Ingraham, and Lorenc. 3,408,293.
Insco Corp.: *See*
Bodge, Philip K. 3,407,675.
Institut Francais du Petrole des Carburants et Lubrifiants: *See*—
Devime, Robert, and Yerouchalmi. 3,408,528.
Institut fuer Leichtbau und Oekonomische Verwendung von Werkstoffen: *See*—
Ulbricht, Kurt. 3,407,599.
Institut fur Mitchforschung Oranienburg: *See*—
Kruger, Werner H., Stojanow, and Meeser. 3,408,259.
Institute of Gas Technology: *See*—
Khan, Amanullah R., Eakin, and Anderson. 3,407,606.
Interco Inc.: *See*—
MacQuaid, Craig, and Andre. 3,407,518.
International Agri-Systems, Inc.: *See*—
Crane, Edward J. 3,407,872.
International Battery, Inc.: *See*—
Parker, Konrad, and Brosilow. 3,408,233.
International Business Machines Corp.: *See*—
Aebi, Claude M. 3,408,192.
Ardire, Francis J., and De Pasquale. 3,407,781.
Evans, James R., and Jones. 3,408,631.
Gibson, Robert G., Steigerwald, and Ide. 3,408,637.
Greeson, James C., Jr., and Kennedy. 3,408,585.
Gulliksen, John T., Oldaker, and Bolda. 3,408,237.
Hennis, Robert B. 3,408,458.
Horgan, Thomas B., and Stanley. 3,408,557.
Ordower, Robert. 3,408,586.
Smith, William D. 3,408,578.
International Nickel Co., The: *See*—
Lewis, Harry, and Smith. 3,408,179.
International Telephone and Telegraph Corp.: *See*—
Belliere, Pierre A. 3,407,708.
Fingerett, Joseph A. 3,408,554.
Ray, William A. 3,407,708.
Invernizzi, Attilio. Fastener for an armlet, bracelet or watchband. 3,407,453, 10–29–68, Cl. 24—206.
Irwin, Malcolm F., and F. J. E. Hampel, to Techniservice Corp. Splicing of textile strands. 3,407,583, 10–29–68, Cl. 57—22.
Iserman, Labern R., to United Equipment Accessories, Inc. Brush and collector ring assembly. 3,408,609, 10–29–68, Cl. 339—8.
Ishibashi, Kay. Multiple spark plug per cylinder ignition system. 3,407,797, 10–29–68, Cl. 123—148.
Ishiguro, Mitsuei. Gas lighter with a manually operable piezoelectric ignition device. 3,408,153, 10–29—68, Cl. 431—143.
Iverson, Marlowe W., to Honeywell, Inc. Control apparatus. 3,408,024, 10–29–68, Cl. 244—77.
Iwamoto, Masao, and Yughchi, to Toyo Rayon Kabushiki Kaisha. Method of preparing diolefins containing six carbon atoms by the reaction of ethylene with 1,3-butadiene in the presence of a catalyst system of ferric chloride, a tertiary phosphine, and a trialkylaluminum. 3,408,418, 10–29–68, Cl. 260—680.
Jackson, David H. Tuner for electric steel guitar. 3,407,697, 10–29–68, Cl. 84—312.
Jackson, James H.: *See*—
Melton, James O., Wilkinson, and Jackson. 3,408,124.
Jacobs, John, III, to Sonic Engineering Corp. Apparatus for mixing fluids. 3,408,050, 10–29–68, Cl. 259—4.
Jacoby-Tarbox Corp.: *See*—
Tarbox, George S. 3,407,662.

James, David R., to Mecanaids Ltd. Apparatus for disabled persons. 3,407,413, 10–29–68, Cl. 5—81.
James, Virgil C.: *See*—
Babson, Robert G., and James. 3,407,668.
Jari Corp.: *See*—
Fiske, Chester G. 3,407,577.
Jarzynska, Maria J. Process for the production of aluminum alkyl compounds from alpha-olefins, metallic aluminum and hydrogen. 3,408,377, 10–29–68, Cl. 260—448.
Jefferson Chemical Co., Inc.: *See*—
Brader, Walter H., Jr. 3,408,368.
Pitts, James W., and Reese. 3,408,268.
Jeffers, William, to E. I. du Pont de Nemours and Co. Process of double exposing a photopolymerizable stratum laminated between two supports, said double exposure determining the support which retains the positive image. 3,408,191, 10–29–68, Cl. 96—28.
Jeffrey Galion Mfg. Co.: *See*—
Lewis, John M., and Verbine. 3,407,510.
Simmons, Cecil E. 3,408,052.
Jeffries, Lester A.: *See*—
Hultberg, Donald E., and Jeffries. 3,408,532.
Jenny, Ernst, to Brown, Boveri & Co., Ltd. Aerodynamic pressure wave machine. 3,407,992, 10–29–68, Cl. 230—69.
Jenny, Hans. Device for rendering visible acoustic vibrations. 3,407,897, 10–29–68, Cl. 181—.5.
Jepson, Ivar, and J. L. Viecelli, to Sunbeam Corp. Pressing iron. 3,407,522, 10–29–68, Cl. 38—78.
Johnson, Arthur A., and G. Pistey. Auxiliary paper tray for copying machines. 3,408,064, 10–29–68, Cl. 271—61.
Johnson, Arthur K.: *See*—
Barnard, Robert D. Dobratz, Johnson, and Meyer. 3,408,281.
Johnson, John G.: *See*—
Richardson, Douglas K., and Johnson. 3,407,623.
Johnson, Marvin M., to Phillips Petroleum Co. Plasma treatment of carbon blacks. 3,408,164, 10–29–68, Cl. 23—209.4.
Johnson, Merlon L., and D. E. Lupfer, to Phillips Petroleum Co. Control system for fractional distillation having a nonlinear function generator. 3,408,261, 10–29–68, Cl. 202—160.
Johnson Rubber Co., The: *See*—
Finefrock, Donald W. 3,408,250.
Johnson, Russell L., to The John E. Mitchell Co. High pressure piston pump. 3,407,746, 10–29–68, Cl. 103—185.
Johnson, Tilden W. Inner safety tire buffer with air simulating means. 3,407,859, 10–29–68, Cl. 152—158.
Johnson, Wesley V. Pole-climbing equipment. 3,407,898, 10–29–68, Cl. 182—9.
Johnston, Merle R., to Elliott Business Machines Inc. Manually operated printing machine. 3,407,725, 10–29–68, Cl. 101—123.
Johnston, Thomas J.: *See*—
Richards, Nolan E., Berry, and Johnston. 3,408,312.
Jones, Keith C., to Honeywell Inc. Control apparatus. 3,407,828, 10–29–68, Cl. 137—81.5.
Jones, Morton E.: *See*—
Kettler, Charles L., Walston, and Jones 3,408,627.
Jones, R. A., and Co., Inc.: *See*—
Daily, William C. 3,407,963.
Dieter, Julian A., Ott, and Weichhand. 3,407,563.
Jones, Robert A.: *See*—
Evans, James R., and Jones. 3,408,631.
Jones, Stephen A. Disposable tongs. 3,407,927, 10–29–68, Cl. 206—65.
Jones, William M., to The Youngstown Steel Door Co. Method of forming studs. 3,407,641, 10–29–68, Cl. Cl. 72—349.
Jordan, Angel G., to Westinghouse Electric Corp. Tuned amplifier employing unijunction transistor biased in negative resistance region. 3,408,600, 10–29–68, Cl. 333—80.
Jordan, Arthur D.: *See*—
Kirikos, Nicholas. 3,408,079.
Jordan, Carl F. Lysimeter with means for breaking surface tension. 3,407,607, 10–29–68, Cl. 61—11.
Joyner, Frederick B., and G. O. Cash, Jr., to Eastman Kodak Co. Crystallinity promoters. 3,408,341, 10–29–68, Cl. 260—94.9.
Jucker, Erich, and F. Gagnebin, to Portescap Le Porte-Echappement Universel S.A. Timepiece testing apparatus. 3,407,645, 10–29–68, Cl. 73—6.
Jucker, Ernst, and A. Ebnother, to Sandoz, Inc. 1,3,4,9b-tetrahydro-2H-indeno (1,2-c) pyridine derivatives. 3,408,353, 10–29–68, Cl. 260—293.
Judd, Claude I.: *See*—
Suh, John T., and Judd. 3,408,396.
Jullien-Davin, Jean, to Crouzet. Compensated anemometer, especially for the measurement of low velocities. 3,407,655, 10–29–68, Cl. 73—182.
Junemann, Hubert: *See*—
Scholl, Hans, and Junemann. 3,407,759.
Jungermann, Eric, and A. T. Guttmann, to Armour and Co. Halogenated phenoxy diphenyl phosphinic acids and salts thereof. 3,408,390, 10–29–68, Cl. 260—502.4.
Kabushiki Kaisha Komatsu Seisakusho: *See*—
Yoshizawa, Heiji, Suzuki, and Watanabe. 3,407,682.
Kabushiki Kaisha Mitani Valve (Mitani Valve Co., Ltd.): *See*—
Fukui, Yukiya. 3,408,010.
Kahn, Walter K., to Polytechnic Institute of Brooklyn. RF power meter employing a travelling wave apparatus and a maser cavity. 3,408,567, 10–29–68, Cl. 324—95.
Kaiser, Friedrich, H. Pirchl, and A. Surber, to Escher Wyss Aktiengesellschaft. Rotary valve with fluid pressure sealing closure member. 3,408,037, 10–29–68, Cl. 251—175.
Kalart Co., Inc., The: *See*—
Schwartz, Morris, Bender, Castedello, and Kaprelian. 3,408,139.
Kalb, Arno G.: *See*—
Dasbach, Curt J., and Kalb. 3,407,596.
Kanai, Toshio: *See*—
Sogawa, Toru, Gomi, and Kanai. 3,408,417.
Kane, James F.: *See*—
Bergersen, Thor B., Kane, and Morris. 3,408,511.
Kapany, Narinder S., to Optics Technology, Inc. Apparatus for coupling and amplifying light between optical fibers. 3,408,131, 10–29–68, Cl. 350—96.
Kaprelian, Edward K.: *See*—
Schwartz, Morris, Bender, Castedello, and Kaprelian. 3,408,139.
Karlovsky, Jerry, Jr., and R. A. Butler, to National Mine Service Co. Cutter head having a torque responsive shearable connection. 3,408,110, 10–29–68, Cl. 299—86.
Karlson, Karl: *See*—
Demarest, Philip C., and Karlson. 3,408,523.
Karstens, Edward S. Precision plumb level device. 3,407,506, 10–29–68, Cl. 33—174.
Kato, Tetsuya: *See*—
Yamazaki, Akihiro, Kumashiro, Kato, Meguro, Takenishi, Yoshikawa, Ninomiya, Yamaguchi, Komata, Saito, and Ikeda. 3,408,206.
Katz, Jack. Printed circuit board connector. 3,408,611, 10–29–68, Cl. 339—17.
Katz, Max, to Howell Foods Corp. Process for making a freezable egg food product. 3,408,207, 10–29–68, Cl. 99—196.
Kawamori, Yoshiaki, M. Matsuura, T. Saito, and Y. Miyamura, to Kyowo Hakko Koyo Co., Ltd. Method for the production and isolation of 5-phospho-D-ribosyl-1-pyrophosphate, D-ribose-1,5-diphosphate and D-ribose-5-phosphate. 3,408,257, 10–29–68, Cl. 195—31.
Kebbon, Earl R., to American Bosch Arma Corp. Windshield wiper mechanism. 3,407,427, 10–29–68, Cl. 15—250.17.
Keck, Johannes, to Boehringer Ingelheim G.m.b.H. Suppressing coughs and increasing secretion in warm-blooded animals with N-(amino-3,5-dihalobenzyl)-campbidines. 3,408,446, 10–29–68, Cl. 424—267.
Keegan, Jack J.: *See*—
Douglass, Donald C., and Keegan. 3,408,569.
Kehne, Lothar. Device and method for forming helical tubing 3,407,639, 10–29–68, Cl. 72—135.
Keiser, Keril M. Wheeled collapsible tower for a tank or the like. 3,407,836, 10–29–68, Cl. 137—344.
Keith, Carl D., and F. J. Mattia, to Engelhard Industries, Inc. Catalytic rocket propulsion method of chemically combining hydrogen and oxygen at low subzero ignition temperatures. 3,407,604, 10–29–68, Cl. 60—217.
Keith, Carl D., K. W. Cornely, and S. G. Hindin, to Engelhard Industries, Inc. Catalysts prepared by impregnation of silica-alumina with aqueous solution of hexathiocyanato platinic acid or ammonium salt thereof. 3,408,285, 10–29–68, Cl. 208—111.
Kelch, Clarence E.: *See*—
Pearce, Bert L., and Kelch. 3,407,674.
Keller, Camilla: *See*—
Von Wartburg, Albert, Kuhn, Keller, and Renz. 3,408,441.
Keller, Ernest A., to Motorola, Inc. Range and bearing measurement system. 3,408,649, 10–29–68, Cl. 343—13.
Keller, Henry G., to FMC Corp. Power transmitting chain. 3,407,672, 10–29–68, Cl. 74—236.
Kelley, Archibald P., and L. W. Norman, to The Garrett Corp. Reaction propulsion engines. 3,407,603, 10–29–68, Cl. 60—204.
Kelley, Lawrence W.: *See*—
Provance, Jason D., Lewis, and Kelley. 3,408,213.
Kellner, Hans. Apparatus for the transportation of living fish. 3,407,529, 10–29–68, Cl. 43—57.
Kelly, Donald A. Reciprocating stirling cycle engine with dual wave cam drive. 3,407,593, 10–29–68, Cl. 60—24.
Kelm, Everett F., to Corning Glass Works. Wire bending apparatus. 3,407,850, 10–29–68, Cl. 140—71.
Kennecott Copper Corp.: *See*—
Chopra, Kasturi L., and Randlett. 3,408,283.
Kennedy, James J.: *See*—
Greeson, James C., Jr., and Kennedy. 3,408,585.
Kennelly, Jeremiah D. Emergency vehicle signal device. 3,408,624, 10–29–68, Cl. 340—50.
Kenny, Charles R.: *See*—
Bambace, Natale J., Kenny, and Oesterle. 3,408,559.
Kent Engineering: *See*—
Van Noord, Andrew J. 3,407,684.
Kent, George A., and R. J. Waring, to The Magnavox Co. Protective voltage supply circuit. 3,408,534, 10–29–68, Cl. 315—22.
Kerbow, Odis D., and L. C. Delatorre, to Camco, Inc. Flow meter. 3,407,658, 10–29–68, Cl. 73—205.
Kerr-McGee Oil Industries, Inc.: *See*—
Wolff, Paul A. 3,407,610.
Kerstetter, Donald R.: *See*—
Casamo, Charles C., and Kerstetter. 3,408,522.
Kesel, Günther, to Siemens Aktiengesellschaft. Tunnel diodes wherein the height of the reduced cross section of the mesa is minimized and process of making. 3,408,275, 10–29–68, Cl. 204—143.
Kesling, Peter C. Tooth positioner. 3,407,500, 10–29–68, Cl. 32—14.
Kesten, Patrick N.: *See*—
Blum, Jack E., Fournier, and Kesten. 3,408,524.
Ketterer, Stanley J., to The Singer Co. Bobbin thread replenishing mechanism for sewing machines. 3,407,760, 10–29–68, Cl. 112—184.
Kettler, Charles L., J. A. Walston, and M. E. Jones, to Texas Instruments Inc. Training adjusted decision system using spatial storage with energy beam scanned read-out. 3,408,627, 10–29–68, Cl. 340—172.5.

Keuffel & Esser Co.: *See*—
Baker, Allister L. 3,408,146.
Sus, Oskar, Munder, and Schafer. 3,408,203.

Keyt, Robert L., and A. H. Ingle, to Koppers Co., Inc. Method of making tubular fiber reinforced resin articles. 3,408,241, 10–29–68, Cl. 156—173.

Khan, Amanullah R., B. E. Eakin, and P. J. Anderson, to Institute of Gas Technology. Underground cavern storage for liquefied gases near atmospheric pressure. 3,407,606, 10–29–68, Cl. 61—.5.

Khuri, Albert, to Union Carbide Corp. Preparation of alkylaminodiborane compounds. 3,408,395, 10–29–68, Cl. 260—551.

Kierman, James G., and M. O. Trabler, to General Electric Co. Face gear and method of its manufacture. 3,407,681, 10–29–68, Cl. 74—448.

Kincaid, Marshall M.: *See*—
Coolidge, Charles A., Jr., and Kincaid. 3,408,505.

Kinefac Corp.: *See*—
Greis, Howard A., Kubert, and Pettee. 3,407,638.

King-Seeley Thermos Co.: *See*—
Bergman, Rudolph. 3,408,506.

Kinoshita, Kazumoto: *See*—
Sasaki, Hiroshi, Aoki, Okada, Kinoshita, and Shiro. 3,408,256.

Kinsler, Carlton O. Sliver can and drive means therefor. 3,407,447, 10–29–68, Cl. 19—159.

Kinsworthy, Donald D., to The Lau Blower Co. Blower assembly. 3,407,995, 10–29–68, Cl. 230—128.

Kintner, Paul M., to Cutler-Hammer, Inc. Pulse count conversion system. 3,408,644, 10–29–68, Cl. 340—347.

Kirikos, Nicholas, ½ to Arthur D. Jordan. Golf tee having a vertically adjustable ground engaging stop member. 3,408,079, 10–29–68, Cl. 273—202.

Kirkis, James G.: *See*—
Wheeler, John B., III, Sonia, Samuels, and Kirkis. 3,408,437.

Kirkpatrick, William J., to Pennsalt Chemicals Corp. Sludge discharge means for a centrifuge. 3,407,999, 10–29–68, Cl. 233—19.

Kirschman, Robert E.: *See*—
Frick, Frank W., and Kirschman. 3,408,565.

Klann, Paul A. Mechanically preset setter board. 3,407,699, 10–29–68, Cl. 84—344.

Klein, Karl, and K. Walter, to Hassia Veysackungsmaschinen G.m.b.H. Cardboard fluid container. 3,407,969, 10–29–68, Cl. 222—107.

Klein, William H. Method and device for gravity separation of particles. 3,407,933, 10–29–68, Cl. 209—447.

Kleinfelder, Walter C., to Bell Telephone Laboratories Inc. Cable termination. 3,408,450, 10–29–68, Cl. 174—21.

Klingbail, Robert L., to The Dow Chemical Co. Certain metal salt complexes useful for controlling helminths and improving growth in animals. 3,408,444, 10–29–68, Cl. 424—245.

Klink, Jerome P.: *See*—
Smith, Roy E., and Klink. 3,408,012.

Klinger Mfg. Co. Ltd., The: *See*—
Gilchrist, Reginald S., and Mattingly. 3,407,586.

Klipping, Gustav, to Max-Planck-Gesellschaft zur Forderung de Wissenschaften e.V. Low temperature heat exchanger. 3,407,615, 10–29–68, Cl. 62—45.

Knauth, Walter T. Apparatus for totalizing liquid volumes in a plurality of containers. 3,407,661, 10–29–68, Cl. 73—311.

Kobayashi, Masaru: *See*—
Doi, Toshio, Mitani, Kobayashi, Ohara, and Maeda. 3,408,604.

Kobayashi, Shuichi: *See*—
Yamamoto, Takashi, Kobayashi, Nakatomi, Takahashi, Ueda, and Kondo. 3,408,426.

Kobe Steel Ltd.: *See*—
Yasunami, Kazuo. 3,407,644.

Koch, Klaus: *See*—
Raichle, Ludwig, Mahler, Mueller, Koch, Immel, Urban, and Hotz. 3,408,007.

Kochevar, Matthew A., and F. J. Fynewever, to Samsonite Corp. Mirror mounting. 3,408,033, 10–29–68, Cl. 248—474.

Kochs Adlernahmaschinen Werke AG: *See*—
Scholl, Hans, and Junemann. 3,407,759.

Koehler Mfg. Co.: *See*—
Lozeau, Homer A. 3,408,490.

Kolbeson, Raymond A.: *See*—
Miller, Franklyn D., and Kolbeson. 3,408,267.

Koller, Alois, and A. Michel, to Siemens Aktiengesellschaft. High energy plasma containment device utilizing alternate Z and O pinches. 3,408,527, 10–29–68, Cl. 313—156.

Kolster, Wilhelm K., to Swiss Controls & Research, Inc. Detector and system for removing ice and snow. 3,408,477, 10–29–68, Cl. 219—200.

Komata, Yasushi: *See*—
Yamazaki, Akihiro, Kumashiro, Kato, Meguro, Takenishi, Yoshikawa, Ninomiya, Yamaguchi, Komata, Saito, and Ikeda. 3,408,206.

Kondo, Mamoru: *See*—
Yamamoto, Takashi, Kobayashi, Nakatomi, Takahashi, Ueda, and Kondo. 3,408,426.

Konijnenberg, Johan, and B. M. Sprado, to North American Philips Co., Inc. Joints between a cap and a housing of a bipartite envelope. 3,407,958, 10–29–68, Cl. 220—4.

Koppers Co., Inc.: *See*—
Keyt, Robert L., and Ingle. 3,408,241.

Kopplus, Otto G. Technique for fabricating EDM electrodes. 3,407,475, 10–29–68, Cl. 29—420.5.

Koranda, Clarence J., to North American Car Corp. Railroad car hopper discharge apparatus. 3,408,117, 10–29–68, Cl. 302—52.

Kosogorin, Patricia L. Tunnelling method and apparatus. 3,407,609, 10–29–68, Cl. 61—42.

Kotas, John A., to Remington Arms Co., Inc. Extractor for powder actuated tools. 3,407,983, 10–29–68, Cl. 227—9.

Kovacevic, Boris N. Key holder. 3,407,636, 10–29–68, Cl. 70—456.

Kowal, Leonard: *See*—
Boylan, William F., and Kowal. 3,408,457.

Kozlowitz, Isidore: *See*—
Schayes, Raymond, and Kozlowitz. 3,408,495.

Kraft, Joseph K.: *See*—
Hill, Menno E., Kraft, and Friedrich. 3,407,480.

Kraft, Wilbur P. Variable control metering and check valve. 3,408,040, 10–29–68, Cl. 251—257.

Kraft, Wilbur P. Sliding block valve. 3,408,041, 10–29–68, Cl. 251—260.

Krechman, David. Support bracket. 3,408,030, 10–29–68, Cl. 248—360.

Kriesel, Marshall S., to Aerospace Systems Co. Variable time delay reefing line cutter. 3,408,026, 10–29–68, Cl. 244—152.

Krizman, John. Through-flow spark arrester. 3,407,575, 10–29–68, Cl. 55—448.

Krüger, Werner H., I. M. Stojanow, and G. F. Meeser, to Institut fur Mitchforschung Oranienburg. Process for detecting staphylococci-enterotoxin in foodstuffs. 3,408,259, 10–29–68, Cl. 195—103.5.

Kuba, Richard E., to North Electric Co. Current spike suppressor for inverter. 3,408,551, 10–29–68, Cl. 321—10.

Kubert, Vincent T.: *See*—
Greis, Howard A., Kubert, and Pettee. 3,407,638.

Kubo, Masayoshi: *See*—
Yamagishi, Kazuo, Sakakibara, Abe, Kubo. 3,408,392.

Kuckens, Alexander, to National Rejectors, Inc. SCR Counter featuring amplification stage to compensate for signal attenuation of preceding stages. 3,408,508, 10–29–68, Cl. 307—225.

Kuderna, Jerome G., Jr., and D. D. Phillips, to Shell Oil Co. 4-methopy-3,5-dimethylphenyl methylcarbomate. 3,408,384, 10–29–68, Cl. 260—479.

Kudlacik, Henry W., to General Electric Co. Dynamoelectric machine rotor with current carrying rotor wedges. 3,408,516, 10–29–68, Cl. 310—195.

Kuhlman, Roy M., to Packaging Corp. of America. Denesting apparatus with article gripping discharge assistant. 3,407,965, 10–29–68, Cl. 221—210.

Kuhn, David A., and J. L. Brown, to Continental Oil Co. Low liquid loss composition. 3,408,296, 10–29–68, Cl. 252—8.55.

Kuhn, Max: *See*—
Von Wartburg, Albert, Kuhn, Keller, and Renz. 3,408,441.

Kuhnis, Hans H., H. Ryf, and R. Denss, to Geigy Chemical Corp. Alkyl acid esters of 4-alkyloxy-N-substituted-4-piperidinols. 3,408,357, 10–29–68, Cl. 260—294.3.

Kulik, Metro D.: *See*—
Laufer, Robert J., and Kulik. 3,408,410.

Kumashiro, Izumi: *See*—
Yamazaki, Akihiro, Kumashiro, Kato, Meguro, Takenishi, Yoshikawa, Ninomiya, Yamaguchi, Komata, Saito, and Ikeda. 3,408,206.

Kump, Ernest J. Display and storage device. 3,408,128, 10–29–68, Cl. 312—234.

Kureha Kagaku Kogyo Kabushiki Kaisha: *See*—
Sogawa, Toru, Gomi, and Kanai. 3,408,417.

Kurka, Kurt A., to Minnesota Mining and Mfg. Co. Carboxyl terminated polyester-epoxy adduct. 3,408,421, 10–29–68, Cl. 260—830.

Kuwahata, Takeshi, to Hirose Electric Co., Ltd. Electric connecting device. 3,408,614, 10–29–68, Cl. 339—91.

Kyoritsu Machinery Works, Ltd.: *See*—
Hasegawa, Osamu. 3,407,589.

Kyowa Hakko Koyo Co., Ltd.: *See*—
Kawamori, Yoshiaki, Matsuura, Saito, and Miyamura. 3,408,257.

Labat, Yves, to Societe Nationale des Petroles d'Aquitaine. Condensation of phenols with dithiol polythioethers. 3,408,327, 10–29–68, Cl. 260—48.

Labat, Yves, to Societe Nationale des Petroles d'Aquitaine. Sulphur phenoplasts and the obtaining thereof. 3,408,328, 10–29–68, Cl. 260—48.

Labat, Yves, to Societe Nationale des Petroles d'Aquitaine. Process for the preparation of phenothioplasts comprising the reaction of phenols with dithiol polythioethers. 3,408,329, 10–29–68, Cl. 260—48.

Laboratory for Electronics, Inc.: *See*—
Barker, John L., DuVivier, Odion, and Midlock. 3,408,648.

Lachman, Irwin M., to Corning Glass Works. Method for improving the visible and infrared transmission of hot pressed magnesium fluoride. 3,408,430, 10–29–68, Cl. 264—1.

L'Air Liquide: *See*—
Rey, Louas. 3,408,276.

Lakes, Sigmund A., to Lake Supply Co., Inc. Liquid applicator. 3,408,149, 10–29–68, Cl. 401—147.

Lakes Supply Co., Inc.: *See*—
Lakes, Sigmund A. 3,408,149.

LaMagna, Vito A. Dispenser with a metering device having a chamber scraper. 3,407,970, 10–29–68, Cl. 222—148.

Lamb, Frank G., to Lamb-Weston, Inc. Dehydro-freezing of mixed ingredients of foods to predetermined degrees. 3,408,208, 10–29–68, Cl. 99—199.

Lamb-Weston, Inc.: *See*—
Lamb, Frank G. 3,408,208.

Lamberts, Robert L., to Eastman Kodak Co. Method and apparatus for recording composite diffraction grating pattern. 3,408,056, 10–29–68, Cl. 346—1.

Lamon, David E.: *See*—
Bender, Ray S., Lamon, Paull, and Plach. 3,407,565.

Lancaster, William W., to Philco-Ford Corp. Variable gain amplifier. 3,408,587, 10–29–68, Cl. 330—29.

Landis Tool Co.: *See*—
Gebel, Kurt M. 3,407,543.
Price, Ralph E., and Balsiger. 3,407,541.

Landreau, Jean F. F. M. R. Rotary pressure-fluid machines. 3,407,743, 10–29–68, Cl. 103—159.

Lang, Ernest U., to National-Standard Co. Wire supply apparatus and method of supplying wire. 3,407,852, 10–29–68, Cl. 140—147.

Lang, Herbert, to Robert Bosch, G.m.b.H. Electronic controller for diesel engines. 3,407,793, 10–29–68, Cl. 123—102.

Langford, Byron G., to Royal Industries, Inc. Hearing aid. 3,408,461, 10–29–68, Cl. 179—107.

Lansing Bagnall Ltd.: *See*—
Goodacre, Ronald. 3,408,120.
Ward, Joseph L., and Dixon. 3,407,950.

Lanzarone, Otto R. and R. L. Adjustable, extensible, telescopic and collapsible handle for attachment to household cleaning devices. 3,407,424, 10–29–68, Cl. 15—145.

Lanzarone, Richard L.: *See*—
Lanzarone, Otto R. and R. L. 3,407,424.

Larsen, John E., to General Electric Co. Apparatus for developing electrical coils in inductive devices. 3,407,469, 10–29–68, Cl. 29—205.

Larsen, John E., to General Electric Co. Methods for altering the configuration of electrically conductive turns of inductive devices and devices having altered turns. 3,407,488, 10–29–68, Cl. 29—596.

Larsen, John E., to General Electric Co. Process of developing electrical coils in inductive devices. 3,407,493, 10–29–68, Cl. 29—605.

Lathrop, Francis M., II., and P. M. Decker, to M & J Valve Co. Flow control systems and operator therefor. 3,408,035, 10–29–68, Cl. 251—14.

Lätsch, Horst, H. Meusel, and E. Nagel, to VEB Getriebewerk Gotha. Elastic coupling for high dynamic stresses. 3,407,627, 10–29–68, Cl. 64—11.

Latulippe, Armond: *See*—
Rohrlick, Michael K., Latulippe, Seguin, and Roth. 3,407,764.

Lau Blower Co., The: *See*—
Kinsworthy, Donald D. 3,407,995.

Lau, Erwin M., to Black Products Co. Pinch valve. 3,408,034, 10–29–68, Cl. 251—9.

Laubach, James E.: *See*—
Braithwaite, David G., Bott, Gross, Laubach, Altman, and Hanzel. 3,408,273.

Laufer, Robert J., and M. D. Kulik, to Consolidation Coal Co. Ortho-tertiary butylation of phenol. 3,408,410, 10–29–68, Cl. 260—624.

La Valley, Gordon E.: *See*—
Bute, Curtis J., and La Valley. 3,408,612.

Lawrence, Samuel C., Jr. Hydrogen detector with temperature sensing and control means. 3,408,129, 10–29–68, Cl. 316—1.

Lawton, Geoffrey R.: *See*—
Doggart, John, and Lawton. 3,408,645.

Lazzaro, Thomas A., to The Wurlitzer Co. Magnetic keying for electronic organs. 3,408,448, 10–29–68, Cl. 84—1.01.

Leddy, James J.: *See*—
Blue, Robert D., and Leddy. 3,408,232.

Lee, Edwin S., III, to Burroughs Corp. Twistor associative memory system. 3,408,635, 10–29–68, Cl. 340—174.

Lee, Stuart M., to Electro-Optical Systems, Inc. Kerr-cell camera shutter. 3,408,133, 10–29–68, Cl. 350—150.

Lee, Walter W., A. S. Robinson, D. H. Blauvelt, and I. L. Fischer, to The Bendix Corp. Optical memory system. 3,408,634, 10–29–68, Cl. 340—173.

Leese, Albert H., to Ford Motor Co. Locking means for offset backhoe. 3,407,945, 10–29–68, Cl. 214—138.

Leesona Corp.: *See*—
Fisher, Daniel J., Jr. 3,408,014.
Hilbert, Richard G. 3,407,585.

Leflet, Herbert A., Jr., to Libbey-Owens-Ford Glass Co. Method of and apparatus for bending and tempering glass sheets. 3,408,173, 10–29–68, Cl. 65—104.

Legg, Malcolm, J. B. Patrickson, and L. M. Wedepohl, to A. Reyrolle & Co. Ltd. Electric timing circuits. 3,408,539, 10–29–68, Cl. 317—36.

Lehnert, Stanley E., to Ampex Corp. Television camera circuit for developing horizontal and vertical sync pulses and blanking pulses from the sweep circuits. 3,408,459, 10–29–68, Cl. 178—69.5.

Leibrook, Walton V., to Philip Carey Corp. Leak resistant roof covering and multitab shingle therefor. 3,407,556, 10–29–68, Cl. 52—559.

Lemke, Eugene, to Radio Corp. of America. Raster correction circuit. 3,408,535, 10–29–68, Cl. 315—27.

Lenk, Erich, to Barmer Maschinenfabrik Aktiengesellschaft. Spinning head for high pressure melt spinning. 3,407,437, 10–29–68, Cl. 18—8.

Lenk, Wilhelm, and K.-H. Rehn, to Barmer Maschinenfabrik Aktiengesellschaft. Thread reserve forming devices for thread winding mechanisms. 3,408,011, 10–29–68, Cl. 242—18.

Lenning, Henry A. Ice fishing reel and suspension means therefor. 3,407,528, 10–29–68, Cl. 43—17.

Lannox Industries Inc.: *See*—
Norris, John W., and Sieverding. 3,407,867.

Lepeuve, Andre: *See*—
Chadenson, Pierre, and Lepeuve. 3,407,656.

Leplat, Robert: *See*—
Fiquet, Claude, and Leplat. 3,407,968.

Levaux, Jean, to Ste. Ame. Cockerill-Ougree. Process for refining or melting metals in a furnace. 3,408,177, 10–29–68, Cl. 75—43.

Levit, Edward C.: *See*—
Bolling, Vernon B., and Levit. 3,408,106.

Levy, Louis, and D. A. McClure, to Rexall Drug and Chemical Co. Treatment of inflammation with 1-methyl-3-benzoyl-4-hydroxy-4-phenylpiperidine and halo derivatives thereof. 3,408,445, 10–29–68, Cl. 424—267.

Lewis, Albert: *See*—
Provance, Jason D., Lewis, and Kelley. 3,408,213.

Lewis, Eugene W., F. Warden, J. H. Mills, and B. F. McNickle. Method and package for producing dental molds or molding material. 3,407,924, 10–29–68, Cl. 206—63.5.

Lewis, Harry, and R. A. Smith, to The International Nickel Co. Corrosion-resistant nickel-chromium alloys with improved stress-rupture characteristics. 3,408,179, 10–29–68, Cl. 75—171.

Lewis, Jack R. Spring board. 3,408,069, 10–29–68, Cl. 272—66.

Lewis, John M., and C. J. Verhine, to Jeffrey Galion Mfg. Co. Drying particulate material. 3,407,510, 10–29–68, Cl. 34—22.

Lewis, Leroy M. Alarm valve. 3,407,881, 10–29–68, Cl. 169—20.

Lewis Welding and Engineering Corp.: *See*—
Fier, Raymond L. 3,408,475.

Libbey-Owens-Ford Glass Co.: *See*—
Leflet, Herbert A., Jr. 3,408,173.
Mattimoe, Paul T. 3,408,243.

Licentia Patent-Verwaltungs G.m.b.H.: *See*—
Schaefer, Heinz. 3,407,990.

Liedel, Douglas D., to C. M. Hall Lamp Co. Universal mirror. 3,407,083, 10–29–68, Cl. 74—501.

Lin, Hung C.: *See*—
Petrocelli, Edward A., and Lin. 3,408,575.

Lindberg, Verne L., and A. Artiano, to The Black Clawson Co. Wood chipping apparatus. 3,407,854, 10–29–68, Cl. 144—162.

Lindeman, Richard J., to Motorola, Inc. Temperature responsive means for moving the yoke of a color television receiver to compensate for beam landing error during tube warmup. 3,408,520, 10–29–68, Cl. 313—75.

Lindner, Paul L., to Witco Chemical Co., Inc. Dispersant compositions and toxicant concentrates containing the same. 3,408,174, 10–29–68, Cl. 71—4.

Linkletter, Robert P., and J. D. Pauls. Bottle cap. 3,407,956, 10–29–68, Cl. 215—41.

Linser, Joerg, to Zahnradfabrik Friedrichshafen Aktiengesellschaft Friedrichshafen. Valve for power steering systems. 3,407,844, 10–29–68, Cl. 137—596.

Lipp, Xaver, to Reinhardt Maschinenbau G.m.b.H. Device for connecting edges of sheet metal. 3,407,640, 10–29–68, Cl. 72—181.

Lippmann, Hans-Joachim: *See*—
Dietz, Helmut, Lippman, and Schenk. 3,407,637.

Lips N.V.: *See*—
Van Spijk, Hubertus P., and Van Weert. 3,408,085.

Llewellyn, Peter M., to Varian Associates. Particle velocity sorter using an R.F. transverse electric space harmonic and a transverse bias field. 3,408,494. 10–29–68, Cl. 250—41.9.

Lockwood, Peter, to Mining Progress Inc. Mining machine with rocker arm controlled front pusher plate. 3,408,109, 10–29–68, Cl. 299—56.

Lockwood, Richard D. Orienting device. 3,407,917, 10–29–68, Cl. 198—33.

Lodge, Robert H. Water-source heat pump system. 3,407,620, 10–29–68, Cl. 62—159.

Logan, Lawrence J., Jr., and G. C. Oppenlander, to Hercules Inc. Process for extruding elastic poly(epichlorohydrin) filaments. 3,408,435, 10–29–68, Cl. 264—210.

Loncaric, Rado G.: *See*—
Anthony, Donald R., Loncaric, and Fields. 3,407,831.

Lopez, John A.: *See*—
Neal, Dennis, and Lopez. 3,408,219.

Lorenc, Walter F.: *See*—
Dajani, Mahmoud T., Ingraham, and Lorenc. 3,408,293.

Lorenz, Hsrald H., to General Motors Corp. Brake lining wear signalling device. 3,407,906, 10–29–68, Cl. 188—1.

Loria, Anthony, to Eastman Kodak Co. Silver halide emulsion layers containing yellow dye forming couplers. 3,408,194, 10–29–68, Cl. 96—100.

Lowe, Donald S., to The Bendix Corp. Infrared scanning system using fiber optics. 3,408,497, 10–29–68, Cl. 250—83.3.

Lozeau, Honier A., to Koehler Mfg. Co. Safety lighting equipment. 3,408,490, 10–29–68, Cl. 240—11.3.

Lucas, Victor G., to Dade Reagents, Inc. Method for performing plasmapheresis in situ. 3,407,812, 10–29–68, Cl. 128—214.

Luchsinger, Charles R., to The Luckland Co. Toy with magnetically operated striking members. 3,408,072, 10–29–68, Cl. 273—108.

Luckland Co., The: *See*—
Luchsinger, Charles R. 3,408,072.

Luger, Marvin A.: *See*—
Werner, Frank D., and Luger. 3,407,406.

Lummus Co., The: *See*—
Gessner, Adolf W. 3,408,309.

Lunde, Thomas T. Method and apparatus for pulling anchors. 3,407,775. 10–29–68, Cl. 114—206.

Lundy, Lawrence I. Collapsible backstop. 3,408,071, 10–29–68, Cl. 273—26.

Lupfer, Dale E.: *See*—
Johnson, Merion L., and Lupfer. 3,408,261.

Lutz, Sepp, to Alligator Ventilfabrik G.m.b.H. Inflation valve having integrally connected resilient cover and seat. 3,407,832, 10–29–68, Cl. 137—223.

Lynn, Theodore R. Chromatography. 3,407,647, 10–29–68, Cl. 73—23.1.

M & J Valve Co.: *See*—
Lathrop, Francis M., II, and Decker. 3,408,035.

Maass, Richard L., to GAF Corp. Hard surface floor covering and method of manufacture. 3,408,248, 10–29–68, Cl. 161—5.

Machiels, André J. G. M. G., to Stamicarbon N.V. Fluid distributor. 3,408,055, 10–29–68, Cl. 261—98.

MacMeekin, Robert A.: *See*—
Ryan, John W., MacMeekin, and Danielsen. 3,407,532.

MacQuaid, Craig, and O. A. Andre, to Interco Inc. Shoe with toe and instep guard assembly. 3,407,518, 10–29–68, Cl. 36—72.

Macy, James B., Jr.: *See*—
Satterthwaite, James G., and Macy. 3,407,779.
Madison, Ralph E., to Celanese Coatings Co. Sacrificial zinc coating compositions. 3,408,318, 10–29–68, Cl. 260—18.
Maeda, Seijiro: *See*—
Doi, Toshio, Mitani, Kobayashi, Ohara, and Maeda. 3,408,604.
Magerle, Karl. Clamping device. 3,407,544, 10–29–68, Cl. 51—166.
Magg, Alfred, to Zahnradfabrik Friedrichshafen A.G. Multiple speed gearshift control for motor vehicles. 3,407,676, 10–29–68, Cl. 74—335.
Magnarox Co., The: *See*—
Kent, George A., and Waring. 3,408,534.
Mahler, Karl: *See*—
Reichle, Ludwig, Mahler, Mueller, Koch, Immel, Urban, and Hotz. 3,408,007.
Mallory, Edwin E.: *See*—
Vigansky, Victor C., and Mallory. 3,407,441.
Mammino, Joseph, to Xerox Corp. Heat deformable recording materials containing photoconductive resinous charge transfer complexes. 3,408,181, 10–29–68, Cl. 96—1.1.
Mammino, Joseph, to Xerox Corp. Electrophotographic materials and methods employing photoconductive resinous charge transfer complexes. 3,408,182, 10–29–68, Cl. 96—1.5.
Mammino, Joseph, to Xerox Corp. Electrophotographic materials and methods employing photoconductive resinous charge transfer complexes. 3,408,183, 10–29–68, Cl. 96—1.5.
Mammino, Joseph, to Xerox Corp. Electrophotographic materials and methods employing photoconductive resinous charge transfer complexes. 3,408,184, 10–29–68, Cl. 96—1.5.
Mammino, Joseph, to Xerox Corp. Electrophotographic materials and method employing photoconductive resinous charge transfer complexes. 3,408,185, 10–29–68, Cl. 96—1.5.
Mammino, Joseph, to Xerox Corp. Electrophotographic materials and methods employing photoconductive resinous charge transfer complexes. 3,408,186, 10–29–68, Cl. 96—1.5.
Mammino, Joseph, to Xerox Corp. Electrophotographic materials and method employing photoconductive resinous charge transfer complexes. 3,408,187, 10–29–68, Cl. 96—1.5.
Mammino, Joseph, to Xerox Corp. Electrophotographic plate and process comprising photoconductive charge transfer complexes. 3,408,188, 10–29–68, Cl. 96—1.5.
Mammino, Joseph, to Xerox Corp. Electrophotographic plate and process employing photoconductive charge transfer complexes. 3,408,189, 10–29–68, Cl. 96—1.5.
Mammino, Joseph, to Xerox Corp. Electrophotographic plate and process employing photoconductive charge transfer complexes. 3,408,190, 10–29–68, Cl. 96—1.5.
Mamo, Anthony C., to Borg-Warner Corp. Blood circulating apparatus. 3,407,748, 10–29–68, Cl. 103—239.
Manganello, James J., and L. T. Feng, to Chrysler Corp. Process of bonding organic composition to ferrous metal surface and article produced thereby. 3,408,252, 10–29–68, Cl. 161—225.
Manitowoc Co., Inc., The: *See*—
Dedricks, Alvin N., and Swanson. 3,407,621.
Manizza, Guelfo A., to Continental Oil Co., Inc. Ornament cartons. 3,407,986, 10–29–68, Cl. 229—28.
Mannheimer, Hans S. Methods for producing imidazolines and derivatives thereof. 3,408,361, 10–29–68, Cl. 260—309.6.
Manning, Robert J.: *See*—
Castle, Willard J., and Manning. 3,407,688.
Mansfield Sanitary, Inc.: *See*—
Fulton, Howard A., and Flinner. 3,407,837.
Mansfield Tire and Rubber Co.: *See*—
Prohaska, John O. 3,408,439.
Manson, John: *See*—
Barabas, Eugene S., and Manson. 3,408,330.
Marchand, George A., to Chrysler Corp. Heat shield. 3,407,629, 10–29–68, Cl. 64—32.
Marino, Francis C.: *See*—
Wolf, Edgar, and Marino. 3,408,572.
Marquardt Corp., The: *See*—
Harp, James L., Jr. 3,407,653.
Martin, Afton V., to AVM Corp. Voting machine. 3,408,002, 10–29–68, Cl. 235—54.
Martin, Charles: *See*—
Martin, Jean C. and C. 3,408,277.
Martin, Gerard, to Societe anonyme dite Compagnie des Freins et Signaux Westinghouse. Logic protection circuits for effecting an A.B. operation having a combined and/not function. 3,408,507, 10–29–68, Cl. 307—210.
Martin, James C., to Eastman Kodak Co. 3-amino-2-cyclobuten-1-one compounds and process for their preparation. 3,408,344 10–29–68, Cl. 260—239.
Martin, James C., to Eastman Kodak Co. 2-cyclobuten-1-one compounds and process for their preparation. 3,408,398, 10–29–68, Cl. 260—586.
Martin, James C., and R. H. Meen, to Eastman Kodak Co. Azindiones. 3,408,348, 10–29–68, Cl. 260—243.
Martin, James H., Jr., to E. I. du Pont de Nemours and Co. Long ends detector. 3,407,692, 10–29–68, Cl. 83—522.
Martin, Jean C. and C., to Societe Rhodiaceta. Process and apparatus for producing high-bulk synthetic yarns. 3,408,277, 10–29–68, Cl. 264—168.
Martin Tool Works, Inc.: *See*—
Beck, Leonard R. 3,407,601.
Martinez, Jose S. Vertical locating tool. 3,407,509, 10–29–68, Cl. 33—207.
Marzolph, Herbert: *See*—
Szita, Jeno, Bahr, Marzolph, and Nischk. 3,408,338.
Maschinenfabrik Augsburg-Nurnberg AG: *See*—
Fischer, Hermann. 3,407,727.
Maschinenfabrik Benhil: *See*—
Northoff, Karl-Heinz. 3,407,932.
Masi, Lawrence R. Non-refillable bottle cap. 3,407,955, 10–29–68, Cl. 215—22.
Masson, Claude M. E., to Societe d'Electronique et d'Automatisme. Read-out circuitry for high density dynamic magnetic stores. 3,408,640, 10–29–68, Cl. 340—174.1.
Mastrolanni, Emilio G.: *See*—
Goodman, Robert C., and Mastrolanni. 3,408,065.
Mathewson, Wilfred F., Jr.: *See*—
Wright, Archibald N., and Mathewson. 3,408,172.
Mathus, Gregory, to Data Packaging Corp. Reel case with preassembled handle 3,407,923, 10–29–68, Cl. 206—52.
Matsunaga, Yoshio, to American Cyanamid Co. Azine ion-radical salts. 3,408,349, 10–29–68, Cl. 260—243.
Matsuura, Masahiko: *See*—
Kawamori, Yoshiaki, Matsuura, Saito, and Miyamura. 3,408,257.
Mattel, Inc.: *See*—
Ryan, John W., MacMeekin, and Danielsen. 3,407,532.
Mattia, Francis J.: *See*—
Keith, Carl D., and Mattia. 3,407,604.
Mattimoe, Paul T., to Libbey-Owens-Ford Glass Co. Device for securing a mounting bracket to a windshield. 3,408,243, 10–29–68, Cl. 156—391.
Mattingly, Dennis A. E.: *See*—
Gilchrist, Reginald S., and Mattingly. 3,407,586.
Matye, Albert J. Turbine blower type distillation system for conversion of saline water. 3,408,262, 10–29–68, Cl. 202—177.
Mauquoi, Fred W., to The Singer Co. Thread guide for sewing machines. 3,407,761, 10–29–68, Cl. 112—218.
Maurer, Robert. Meters for measuring the mass flow of fluid. 3,407,657, 10–29–68, Cl. 73—203.
Max-Planck-Gesellschaft zur Forderung de Wissenschaften e.V.: *See*—
Klipping, Gustav. 3,407,615.
Maxson Electronics Corp.: *See*—
Schmidt, Charles J., and Curtlin. 3,408,574.
May, Clayton A., to Shell Oil Co. Stabilization of unsaturated polyesters and resulting products. 3,408,422, 10–29–68, Cl. 260—837.
May, James L., and J. A. Stephens, Jr. Retriever apparatus. 3,407,418, 10–29–68, Cl. 9—9.
Mayer, James A., to Outboard Marine Corp. Hydro-dynamic drive for marine propulsion unit. 3,407,600, 10–29–68, Cl. 60—54.
Mazurek, Robert C.: *See*—
Satterwhite, William A., and Mazurek. 3,408,162.
Mazurkevics, Anatolijs, to Allen Electric and Equipment Co. Temperature compensated tester for voltage regulators. 3,408,562, 10–29–68, Cl. 324—28.
McAllister, Sumner H., to Shell Oil Co. Control of internal parasites of swine and sheep with dimethyl 2,2-dichlorovinyl phosphate. 3,408,443, 10–29–68, Cl. 424—219.
McAuley Mfg. Inc.: *See*—
Rauch, Thomas G. 3,407,920.
McClintock, Ross A.: *See*—
Bergman, Gunnar B., and McClintock. 3,407,766.
McClintock, Ross A., and G. B. Bergman, to Pike Corp. of America. Stabilized floating apparatus. 3,407,767, 10–29–68, Cl. 114—.5.
McClure, David A.: *See*—
Levy, Louis, and McClure. 3,408,445.
McComb, Austin B.: *See*—
McComb, William P. 3,407,594.
McComb, William P., deceased; A. B. McComb, administrator. Gas compressor apparatus. 3,407,594, 10–29–68, Cl. 60—39.6.
McConnell, Harden M., to Varian Associates. Metal-organic alloy composition and process of making same. 3,408,310, 10–29–68, Cl. 252—512.
McCutchen, Charles W. Photographic fingerprinting device and method. 3,407,715, 10–29–68, Cl. 95—1.1.
McDonald, Bertrand N., to The Babcock & Wilcox Co. Vapor generator. 3,407,625, 10–29–68, Cl. 62—476.
McDonnell Douglas Corp.: *See*—
Boschan, Robert H., and Holder. 3,408,427.
Boschan, Robert H., and Holder. 3,408,428.
McGee, George S., Jr. Method and apparatus for controlling liquid extraction. 3,407,415, 10–29–68, Cl. 8—151.
McGraw-Edison Co.: *See*—
Beebe, William B., and Miller. 3,407,635.
McIntyre, Maurice J., and D. G. Rennie, to Skagit Corp. Log yarding system. 3,407,942, 10–29–68, Cl. 212—84.
McKee, William M., and M. L. Erickson, to Minnesota Mining and Mfg. Co. Metal-simulating film product. 3,408,226, 10–29–68, Cl. 117—138.8.
McKey, Thomas J., to American Motors Corp. Tail gate latch mechanism. 3,408,100, 10–29–68, Cl. 292—216.
McKibben, Richard K., to Southwestern Engineering Co. Automatic unloader for finishing mills. 3,407,542, 10–29–68, Cl. 51—163.
McKinney, Jack D., to The Hoover Co. Shaft seal. 3,407,994, 10–29–68, Cl. 230—117.
McLoughlin, Victor C. R., and J. Thrower, to Minister of Technology in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland. Manufacture of organic compounds containing fluorine. 3,408,411, 10–29–68, Cl. 260—646.
McMahill, Clark E. Time change mechanism for clocks. 3,407,591, 10–29–68, Cl. 58—85.5.
McMillan, William A.: *See*—
Smith, Leonard H., and McMillan. 3,408,036.
McNair, Daniel G. Hydraulic cutters. 3,407,693, 10–29–68, Cl. 83—635.
McNamee, Merle D. Camper with foldable compartment. 3,408,102, 10–29–68, Cl. 296—23.
McNickle, Bernard F.: *See*—
Lewis, Eugene W., Warden, Mills, and McNickle. 3,407,924.
McVannel, Donald E., to Dow Corning Corp. Tris(dimethylsilyl)amine. 3,408,379, 10–29–68, Cl. 260—448.2.

McVeigh, Patricia A., to Eastman Kodak Co. Sensitization of silver halide emulsion with labile selenium formed in situ. 3,408,196, 10–29–68, Cl. 96—108.
McVeigh, Patricia A., to Eastman Kodak Co. Synergistic sensitization of silver halide emulsions with labile selenium formed in situ. 3,408,197, 10–29–68, Cl. 96—108.
McWhirter, John R., to Mixing Equipment Co., Inc. Column mixing apparatus. 3,408,051, 10–29–68, Cl. 259—4.
McWhorter, Malcolm M., to Vidar Corp. Shielded switching device. 3,408,602, 10–29–68, Cl. 335—112.
Meadows, Rosetta: *See*—
Valdettaro, Alarico A., Badger, and Meadows. 3,407,669.
Meadows, Stanley R.: *See*—
Valdettaro, Alarico A., Badger, and Meadows. 3,407,669.
Mecanaids Ltd.: *See*—
James, David R. 3,407,413.
Mechanized Science Seals, Inc.: *See*—
Hamren, Victor E. 3,407,476.
Medley, Joseph. Apparatus for spreading butter and like substances on bread slices and like-shaped articles. 3,407,782. 10–29–68, Cl. 118—13.
Meen, Ronald H.: *See*—
Martin, James C., and Meen. 3,408,348.
Meeser, Gerd F.: *See*—
Krüger, Werner H., Stojanow, and Meeser. 3,408,259.
Meguro, Takashi: *See*—
Yamazaki, Akihiro, Kumashiro, Kato, Meguro, Takenishi, Yoshikawa, Ninomiya, Yamaguchi, Komata, Saito, and Ikeda. 3,408,206.
Meier, Max: *See*—
Guidi, Vinzenz, and Meier. 3,407,703.
Meili, Ernst: *See*—
Felix, Ernst, and Meili. 3,408,560.
Melnik, Steve J. Powered tool for cleaning typewriter type. 3,407,431, 10–29–68, Cl. 15—344.
Melton, James O., T. B. Wilkinson, and J. H. Jackson. Idler arm construction. 3,408,124, 10–29–68, Cl. 308—238.
Mentzer, Merle J., to Corn Products Co. Remoistening adhesive composition. 3,408,214, 10–29–68, Cl. 106—212.
Merck & Co., Inc.: *See*—
Folkers, Karl, Moore, and Daves. 3,408,365.
Taub, David. 3,408,385.
Mercox, Inc.: *See*—
Tabor, Patrick M. D. 3,407,734.
Messa, Matthew A., to Met-Pro, Inc. Industrial waste water treatment apparatus and method. 3,408,288, 10–29–68, Cl. 210—20.
Messrs. Hans Biel: *See*—
Fabrig, Paul. 3,408,063.
Met-L-Wood Corp: *See*—
Urbanick, Burton A. 3,407,537.
Metal Box Co. Ltd., The: *See*—
Rosbottom, Thomas A. 3,407,911.
Met-Pro, Inc.: *See*—
Messa, Matthew A. 3,408,288.
Metz, John, Jr.: *See*—
Boots, Ira J., Metz, and Paris. 3,407,463.
Metz, Joseph R., to Norco, Inc. Locking type quick-release fastener. 3,407,455, 10–29–68, Cl. 24—221.
Meusel, Horst: *See*—
Lätsch, Horst, Meusel, and Nagel. 3,407,627.
Meyer, Carl R. Spring base for diving board. 3,408,061, 10–29–68, Cl. 267—1.
Meyer, James A. Hydro-dynamic drive for marine propulsion unit. 3,407,600 10–29–68, Cl. 60—54.
Meyer, Robert H.: *See*—
Barnard, Robert D., Dobratz, Johnson, and Meyer. 3,408,281.
Michel, Alfred: *See*—
Koller, Alois, and Michel. 3,408,527.
Micich, Thomas J.: *See*—
Ault, Waldo C., Micich, Stirton, and Bistline. 3,408,373.
Midland-Ross Corp.: *See*—
Bakker, Lubertus, and Hazel. 3,407,937.
Midlock, Bernard J.: *See*—
Barker, John L., Du Vivier, Odion, and Midlock. 3,408,648.
Mid-West Metallic Products, Inc.: *See*—
Rogus, Joseph A. 3,407,960.
Mihelic, Edward L.: *See*—
Callighan, Robert H., Hawthorne, and Mihelic. 3,408,402.
Millard, Dennis J.: *See*—
North, John D., and Millard. 3,407,745.
Miller, Arthur F., and M. L. Salehar, to The Standard Oil Co. Process for recovery of ammonium salts from process waste streams and disposal thereof. 3,408,157, 10–29–68, Cl. 23—100.
Miller, Avy L., to Teledyne, Inc. Automatically controlled heating system. 3,408,004, 10–29–68, Cl. 236—9.
Miller, Charles F., to Basic Products Corp. Heat applicator work holder. 3,407,985, 10–29–68, Cl. 228—51.
Miller, Edward J., Jr., and G. A. Prell, to Motorola, Inc. Self-excited linear DC amplifier having a bridge input portion. 3,408,584, 10–29–68, Cl. 330—9.
Miller, Franklyn D., and R. A. Kolbeson, to National Distillers and Chemical Corp. Extractive distillation of ethanol followed by activated carbon treatment. 3,408,267, 10–29–68, Cl. 203—19.
Miller, John J.: *See*—
Beebe, William B., and Miller. 3,407,635.
Miller, Loren W.: *See*—
Clevenger, Carl L., Hughel, and Miller. 3,407,491.
Miller, Meritt L., to General Electric Co. Apparatus for changing relative positions of movable conductors of an electrical inductive device. 3,407,471, 10–29–68, Cl. 29—205.
Miller, Meritt L., to General Electric Co. Method of changing relative positions of movable conductors of an electrical inductive device. 3,407,487, 10–29–68, Cl. 29—596.
Millipore Filter Corp.: *See*—
Paine, Richard A. 3,408,315.
Mills, Alexander. Container and closure therefor. 3,407,954, 10–29–68, Cl. 215—9.
Mills, Edwin R., to Fielderest Mills, Inc. Electrically heated bedcover and switch therefor. 3,408,469, 10–29–68, Cl. 337—94.
Mills, Jack H.: *See*—
Lewis, Eugene W., Warden, Mills, and McNickle. 3,407,924.
Mills, Kenneth R., to Phillips Petroleum Co. Polyolefin-pigment blends. 3,408,322, 10–29–68, Cl. 260—41.
Miner, W. H., Inc.: *See*—
Wallace, William D., and Carlson. 3,407,752.
Mining Progress Inc.: *See*—
Lockwood, Peter. 3,408,109.
Minnesota Mining and Mfg. Co.: *See*—
Appeldorn, Roger H., and Gilkeson. 3,408,135.
Errede, Louis A. 3,408,326.
Kurka, Kurt A. 3,408,421.
McKee, William M., and Erickson. 3,408,226.
Mission Mfg. Co.: *See*—
Webber, Jack C. 3,407,711.
Mitani, Masao: *See*—
Doi, Toshio, Mitani, Kobayashi, Ohara, and Maeda. 3,408,604.
Mitchell, John E., Co.: *See*—
Freeman, William P., Jr. 3,407,616.
Mitchell, John E., Co., The: *See*—
Johnson, Russell L. 3,407,746.
Mitchell, Robert K., J. C. Swain, D. L. Thomas, and J. P. Wilcox, to The Battelle Development Corp. Variable displacement turbine-speed hydrostatic pump. 3,407,742, 10–29–68, Cl. 103—120.
Mitchell, Walter B.: *See*—
Dautzenberg, Winand J., Mitchell, Trent, Van Wagenen, and Rau. 3,408,542.
Mitchell, William D., to Winglet Ltd. Driving and braking of tubular stranders. 3,407,587, 10–29–68, Cl. 57—58.32.
Mitsubishi Jukogyo Kabushiki Kaisha: *See*—
Takezawa, Isoe, Takizawa, and Ohno. 3,407,771.
Mitsui Petrochemical Industries, Ltd.: *See*—
Tanaka, Tsutomu, Tokuzumi, and Fujimura. 3,408,340.
Mixing Equipment Co., Inc.: *See*—
McWhirter, John R. 3,408,051.
Miyamura, Yoshinobu: *See*—
Kawamori, Yoshiaki, Matsuura, Saito, and Miyamura. 3,408,257.
Mobil Oil Corp.: *See*—
Traver, Alfred E. 3,407,646.
Moller, J. C., Optische Werke G.m.b.H.: *See*—
Reiner, Josef. 3,408,137.
Molon Motor & Coil Corp.: *See*—
Bostrom, Harry H. 3,407,993.
Monahan, Leo: *See*—
Grant, Allan, and Monahan. 3,407,530.
Mondineu, Remy E. R. Trolley for conveying and handling various products. 3,407,959, 10–29–68, Cl. 220—6.
Monsanto Co.: *See*—
Baer, Massimo. 3,408,339.
Barkhuff, Raymond A., Jr. 3,408,424.
Benson, Royal H. 3,408,336.
Deming, John M. 3,408,442.
Dyroff, David R., and Shen. 3,408,158.
Henderson, Zack L. 3,407,714.
Stevenson, Philip J., and Suskind. 3,407,461.
Montalbano, Anthony P.: *See*—
Teague, Walter D., Jr., and Montalbano. 3,407,728.
Montgomery, Leon F., to Qualtronics Corp. Process for manufacturing circuit breaker elements. 3,407,495, 10–29–68, Cl. 29—610.
Moore, David P. Spring needle knitting machines. 3,407,630, 10–29–68, Cl. 66—114.
Moore, Eugene R., to The Dow Chemical Co. Process for removal of crosslinking agent from a thermoset-thermoplastic. 3,408 337, 10–29–68, Cl. 260—78.5.
Moore, Harold W.: *See*—
Folkers, Karl, Moore, and Daves. 3,408,365.
Moore, Joe P., to The Youngstown Sheet and Tube Co. Swivel joints. 3,408,095, 10–29–68, Cl. 285—110.
Moore, Marshall G., to General Electric Co. Over-speed released fluid operated clutch. 3,407,912, 10–29–68, Cl. 192—88.
Moore Products Co.: *See*—
Parry, Frank. 3,407,505.
Morel, Roger C. M., and P. Tauveron, to Societe Anonyme de Machines Electrostatiques. Method and apparatus for the electrostatic sorting of granular materials. 3,407,930, 10–29–68, Cl. 209—11.
Morello, Edwin F.: *See*—
Stanley, William G., and Morello. 3,408,431.
Morgan, John F.: *See*—
Schmidt, Richard L., and Morgan. 3,408,160.
Moriyasu, Hiro, to Tektronix, Inc. Oscilloscope device exhibiting reduced jitter. 3,408,580, 10–29–68, Cl. 328—185.
Morris, Dustin E.: *See*—
Bergersen, Thor B., Kane, and Morris. 3,408,511.
Morrison, Ralph, to Dynamics Instrumentation Co. Shielding arrangement for a reed relay. 3,408,603, 10–29–68, Cl. 335—151.
Morse, George W. Hay wafering apparatus. 3,407,756, 10–29–68, Cl. 107—14.
Morse, William C., to Bell Telephone Laboratories, Inc. Second overtone DT-cut quartz resonator. 3,408,515, 10–29–68, Cl. 310—9.5.
Mortensen, Joyce D. Portable office. 3,408,126, 10–29–68, Cl. 312—183.
Morton Mfg. Co.: *See*—
Nystrom, Wilford O. 3,407,536.

Moschytz, George S., to Bell Telephone Laboratories, Inc. Active hybrid filter using frequency emphasizing and attenuating networks. 3,408,590, 10–29–68, Cl. 330—85.
Moskowitz, Charles, to Westinghouse Electric Corp. Magneto-plasma microwave switch. 3,408,601, 10–29–68, Cl. 333—98.
Mossberg, Coral W. Safety spike for vehicle tires. 3,407,860, 10–29–68, Cl. 152—210.
Motorola, Inc.: *See*—
Bergersen, Thor B., Kane, and Morris. 3,408,511.
Furdemwalt, James N., and Van Pul. 3,407,479.
Gabrielson, Reidar G. 3,408,626.
Keller, Ernest A. 3,408,649.
Lindeman, Richard J. 3,408,520.
Miller, Edward J., Jr., and Prell. 3,408,584.
Walker, Scott H. 3,408,654.
Mott, George R., and D. H. Perry, to Xerox Corp. Image reproduction. 3,408,216, 10–29–68, Cl. 117—.5.
Moyle, John R. Mink food product containing bile and slaughter house and packing house by-products. 3,408,201, 10–29–68, Cl. 99—7.
Mrozek, Pawl, to Radio Corp. of America. Solid state wave amplitude limiting device. 3,408,510, 10–29–68, Cl. 307—237.
Mueller, Arthur P., and B. Asher, to Phillip Carey Corp. Preformed thermal insulation material and binder for molding same. 3,408,316, 10–29–68, Cl. 260—17.2.
Mueller, Hans-Juergen: *See*—
Raichle, Ludwig, Mahler, Mueller, Koch, Immel, Urban, and Hotz. 3,408,007.
Mueller, Paul, Co.: *See*—
Ray, Leroy. 3,407,824.
Mueller, Peter F., to Technical Operations, Inc. Storage and readout of multiple interlaced images. 3,408,143, 10–29–68, Cl. 355—40.
Muir, Douglas F., Jr. Vacuum holding device. 3,408,031, 10–29–68, Cl. 248—363.
Mulder, Albertus J.: *See*—
Hendal, Willem P., and Mulder. 3,408,413.
Muller, Erwin: *See*—
Saleck, Wilhelm, Dinges, and Muller. 3,408,199.
Muller, Jacques. Apparatus for automatically cleaning windshields. 3,407,426, 10–29–68, Cl. 15—250.04.
Muller, Johann: *See*—
Raeber, Rudolf, and Muller. 3,407,704.
Muller, Werner C., and R. N. Di Napoli, to National Distillers and Chemical Corp. Enrichment of natural gas in C_2+ hydrocarbons. 3,407,613, 10–29–68, Cl. 62—11.
Mullins, James N., Jr., to Polar Chips Mfg. Co. Refrigeration control means for a slush-making machine. 3,407,618, 10–29–68, Cl. 62—136.
Mumpower, Robert C.: *See*—
Tauey, George P., and Mumpower. 3,407,822.
Munder, Johannes: *See*—
Sus, Oskar, Munder, and Schafer. 3,408,203.
Murray, Ernest E. Fruit picking apparatus. 3,407,580, 10–29–68, Cl. 56—328.
Musser, C. Walton, to United Shoe Machinery Corp. Lubrication systems. 3,407,902, 10–29–68, Cl. 184—6.
Mustian, William R., Jr., to Armour Agricultural Chemical Co. Submerged combustion apparatus for the concentration of phosphoric acids. 3,407,862, 10–29–68, Cl. 159—16.
Myatt, Keith E. Quick release fasteners. 3,407,454, 10–29–68, Cl. 24—221.
Myers, Charles F., to Champion Cooler Corp. Pumps and pump housing and motor unit. 3,407,739, 10–29–68, Cl. 103—87.
Myers, Felix E., to I-T-E Circuit Breaker Co. Low ampere circuit breaker with indirectly heated thermal element. 3,408,606, 10–29–68, Cl. 337—59.
Myers, Lewis P., and K. J. Goda, Jr., to The Carpenter Steel Co. Age hardenable stainless steel alloy. 3,408,178, 10–29–68, Cl. 75—125.
Myers, Luther O., Jr., to Phillips Petroleum Co. Apparatus for producing corrugated structures. 3,407,440, 10–29–68, Cl. 18—12.
Nagai, Minoru, and M. Yato, to Nippon Denso Co. Ltd. Glow plug arrangement for internal combustion engines, especially for starting of diesel engines. 3,407,794, 10–29–68, Cl. 123—145.
Nagel, Eckhardt: *See*—
Latsch, Horst, Meusel, and Nagel. 3,407,627.
Nakamura, Katsuro, to Toko Kabushiki Kaisha. Magnetic memory device. 3,408,639, 10–29–68, Cl. 340—174.
Nakatomi, Kentaro: *See*—
Yamamoto, Takashi, Kobayashi, Nakatomi, Takahashi, Ueda, and Kondo. 3,408,426.
Nalco Chemical Co.: *See*—
Braithwaite, David G., Bott, Gross, Laubach, Altman, and Hanzel. 3,408,273.
Dajani, Mahmoud T., and Cocks. 3,408,292.
Dajani, Mahmoud T., Ingraham, and Lorenc. 3,408,293.
Schuh, Theodore R., Jr. 3,408,175.
Trzoscinski, Edwin S., Steck, and Cochrane. 3,408,307.
Natelson, Samuel, to Scientific Industries, Inc. Gas extractor and injector for gas chromatography. 3,408,166, 10–29–68, Cl. 23—253.
National Brush Co.: *See*—
Hauser, Jon W. 3,407,423.
National Cash Register Co., The: *See*—
Steinke, James M. 3,407,678.
National Distillers and Chemical Corp.: *See*—
Braus, Harry, and Woltermann. 3,408,324.
Feldman, Julian, and Thomas. 3,408,397.
Miller, Franklyn D., and Kolbeson. 3,408,267.
Muller, Werner C., and Di Napoli. 3,407,613.
National Mine Service Co.: *See*—
Karlovsky, Jerry, Jr., and Butler. 3,408,110.
National Rejectors, Inc.: *See*—
Kuckens, Alexander. 3,408,508.
Niehaus, Wolfgang. 3,408,509.
National Research Development Corp.: *See*—
Collins, Anthony H. 3,408,279.
Cox, Shaun M. 3,408,228.
Goodrich, Geoffrey J. 3,407,772.
National Semiconductor Corp.: *See*—
Dautzenberg, Winand J., Mitchell, Trent, Van Wagenen, and Rau. 3,408,542.
National-Standard Co.: *See*—
Frazier, Larry C. 3,408,244.
Lang, Ernest U. 3,407,852.
Vigansky, Victor C., and Mallory. 3,407,441.
National-Standard Co. Ltd.: *See*—
Tolley, Derek C. 3,407,572.
Navias, Louis, to General Electric Co. Glass-silicon assemblies. 3,408,222, 10–29–68, Cl. 117—70.
Neal, Dennis, and J. A. Lopez, to Shell Oil Co. Non-drying polyepoxide ester resin based traffic paints. 3,408,219, 10–29–68, Cl. 117—37.
Nealon, Frank H., to The J. M. Ney Co. Apparatus for restorative dentistry. 3,407,503, 10–29–68, Cl. 32—67.
Neighbors, Ralph P., to Gulf Research & Development Co. Chemical control of pigweed. 3,408,176, 10–29–68, Cl. 71—118.
Nelson, Marvin R. Hide stretching frame. 3,407,634, 10–29–68, Cl. 69—19.1.
Newall Engineering Co. Ltd.: *See*—
Hoare, Stanley W. 3,407,800.
Newell Associates, Inc.: *See*—
Ganske, Kingston E., and Frank. 3,408,016.
Newman, Frank C.: *See*—
Bohemen, John, Newman, and Wood. 3,408,400.
Ball, William J., Barclay, Gasson, Stewart, Bohemen, Newman, and Wood. 3,408,401.
Newton, Don L., to West Coast Wire Rope & Rigging Inc. Anchor. 3,407,776, 10–29–68, Cl. 114—208.
Ney, J. M., Co., The: *See*—
Nealon, Frank H. 3,407,503.
Nichols, Earl W. Fishing reel. 3,408,021, 10–29–68, Cl. 242—84.54.
Nickerson, John D., and C. M. Payne, to Armour Agricultural Chemical Co. Production of purified wet process phosphoric acid from phosphate rock. 3,408,161, 10–29–68, Cl. 23—165.
Niehaus, Wolfgang, to National Rejectors, Inc. SCR counter featuring turn-off circuitry by succeeding stage for preceding stage. 3,408,509, 10–29–68, Cl. 307—225.
Nield, Joseph G., Jr., and R. W. Strachan, to Texas Instruments Inc. Control circuit. 3,408,540, 10–29–68, Cl. 317—41.
Nielsen, A. C., Co.: *See*—
Haselwood, Donald E. 3,408,629.
Nihof, Hendrikus J., A. Bijl, and A. C. H. Borsboom, to Shell Oil Co. Square root computing circuit. 3,408,488, 10–29–68, Cl. 235—193.5.
Niles, Earl T. M., P. D. Oja, and C. E. Pannell, to The Dow Chemical Co. High nitrogen containing monomeric 1,2-ethylene bis(aminoguanidine) compound-aldehyde condensation polymer. 3,408,331, 10–29–68, Cl. 260—72.
Nilson, Carl-Göran, to Alfa-Laval AB. Determination of sludge level in sludge centrifuge. 3,408,000, 10–29–68, Cl. 233—19.
Nilsson, Vilgot R., to Alfa-Laval AB. Sludge centrifuge. 3,408,001, 10–29–68, Cl. 233—20.
Ninomiya, Tsunehiko: *See*—
Yamazaki, Akihiro, Kumashiro, Kato, Meguro, Takenishi, Yoshikawa, Ninomiya, Yamaguchi, Komato, Saito, and Ikeda. 3,408,206.
Nippon Denso Co. Ltd.: *See*—
Nagai, Minoru, and Yato. 3,407,794.
Nippon Shock Absorber Co., Ltd.: *See*—
Tsuruhori, Yoshio, and Sekine. 3,408,060.
Nischk, Gunther: *See*—
Szita, Jeno, Bahr, Marzolph, and Nischk. 3,408,338.
Nishioka, Norman S., to California Computer Products, Inc. Overload protection circuit for transistor amplifier. 3,408,589, 10–29–68, Cl. 330—51.
Nitzsche, Siegfried: *See*—
Hittmair, Paul, Nitzsche, Wick, and Wohlfarth. 3,408,325.
Noakes, Thomas E., H. J. Van Kuyk, and J. Sokoly, to American Standard, Inc. Bourdon tube pressure sensor having improved mounting. 3,407,665, 10–29–68, Cl. 73—418.
Nobilium Products, Inc.: *See*—
Prosen, Emil M. 3,407,671.
Norco, Inc.: *See*—
Metz, Joseph R. 3,407,455.
Norman, Leslie W.: *See*—
Kelley, Archibald P., and Norman. 3,407,603.
Norris, John W., and W. F. Sieverding, to Lennox Industries Inc. Frame construction for air treating assembly. 3,407,867, 10–29–68, Cl. 165—67.
North American Car Corp.: *See*—
Koranda, Clarence J. 3,408,117.
North American Philips Co., Inc.: *See*—
Berghout, Cornelis W., and Wolff. 3,408,235.
Breedveld, Marinus P., and Huyben. 3,408,583.
Elenga, Cornelis W., Reifenschweiler, and Schenkelaars. 3,408,526.
Fransen, Jan J. B., and Gilsing. 3,408,130.
Konijnenberg, Johan, and Sprado. 3,407,958.
Pomot, Jean L. E. 3,408,368.
Reerink, Engbert H., Westerhof, and Schöler. 3,408,369.
Wullkopf, Hellmuth, and Samow. 3,408,573.
North American Rockwell Corp.: *See*—
Dyan, Forest J., and Whitnah. 3,408,647.
Wakamoto, Charles Y., and Wilson. 3,408,581.
North Electric Co.: *See*—
Kuba, Richard E. 3,408,551.

North, John D., and D. J. Millard, to Boulton Paul Aircraft Ltd. Hydraulic apparatus. 3,407,745, 10–29–68, Cl. 103—162.
Northoff, Karl-Heinz, to Maschinenfabrik Benhil. Device for the sorting of articles according to weight. 3,407,932, 10–29–68, Cl. 209—121.
Northrop Corp.: *See*—
Hultberg, Donald E., and Jeffries. 3,408,532.
Norwich, Alan, to Industrial Nucleonics Corp. Phase shift method and apparatus for mass-independent measurement of the properties of dielectric materials. 3,408,506, 10–29–68, Cl. 324—61.
Norwood, Joseph W. Golfer's wrist bend restraining device. 3,408,077, 10–29–68, Cl. 273—189.
Novotny, Bohuslav: *See*—
Cermak, Jiri, and Novotny. 3,407,702.
Nusbaum, Henry, to Roylyn Inc. Liquid level determining device. 3,407,660, 10–29–68, Cl. 73—311.
Nystrom, Willord O., to Morton Mfg. Co. Sliding door. 3,407,536, 10–29–68, Cl. 49—482.
Oberg, Douglas A.: *See*—
Epstein, Irving. 3,407,778.
Oberg, Nathan: *See*—
Temple, Donald L., and Oberg. 3,407,719.
Obuchi, Kazuo, to Fuji Shashin Filmi Kabushiki Kaisha. Fingerprint recording. 3,408,217, 10–29–68, Cl. 117—.5.
Odlon, John R.: *See*—
Barker, John L., Du Vivier, Odlon, and Midlock. 3,408,648.
Oehler, Gerard J., to Oehler's Welding and Fabrication Corp. Bulk container. 3,407,971, 10–29–68, Cl. 222—185.
Oehler's Welding and Fabrication Corp.: *See*—
Oehler Gerard J. 3,407,971.
Oesterle, Adolph G.: *See*—
Bambase, Natale J., Kenny, and Oesterle. 3,408,559.
Office National Industriel de l'Azote: *See*—
Pupko, Samuel. 3,408,171.
Ohara, Hideharu: *See*—
Doi Toshio, Mitani, Kobayashi, Ohara and Maeda. 3,408,604.
Ohm, Edward A., to Bell Telephone Laboratories, Inc. Optical modulator. 3,408,498, 10–29–68, Cl. 250—199.
Ohmega Laboratories: *See*—
Demarest, Philip C., and Karlson. 3,408,523.
Ohno, Dan: *See*—
Takezawa, Isoe, Takizawa, and Ohno. 3,407,771.
Oja, Phyllis D.: *See*—
Niles, Earl T. M., Oja, and Pannell. 3,408,331.
Okada, Hiroshi: *See*—
Sasaki, Hiroshi, Aoki, Okada, Kinoshita, and Shire. 3,408,256.
Oldaker, Alfred E.: *See*—
Gulliksen, John T., Oldaker, and Bolda. 3,408,237.
Olin Mathieson Chemical Corp.: *See*—
Henning, Robert W. 3,407,982.
Olinkraft, Inc.: *See*—
Hudson, Doyle R. 3,407,567.
Oliver, Gene L., to Eastman Kodak Co. Silver halide emulsions containing N,α-alkylene bridged indocarbocyanine sensitizing dyes. 3,408,195, 10–29–68, Cl. 96—105.
Olofsson, Hans K., H. G. Pettersson, and S. I. Trulsson, to Atlas Copco Aktiebolag. Screw compressor units. 3,407,996 10–29–68, Cl. 230—139.
Olson, Roy N., and P. H. Frey, to Union Carbide Corp. Method of processing encased frankfurters. 3,408,205, 10–29–68, Cl. 99—109.
Ono, Minoru, and K. Usuda, to Hitachi, Ltd. Combination capacitor and field-effect transistor. 3,408,543, 10–29–68, Cl. 317—235.
Oppenlander, George C.: *See*—
Logan, Lawrence J., Jr., and Oppenlander. 3,408,435.
Optical Scanning Corp.: *See*—
Busby, John W. 3,408,482.
Optics Technology, Inc.: *See*—
Kapany, Narinder S. 3,408,131.
Ordower, Robert, to International Business Machines Corp. Feedback amplifier utilizing a feed forward technique to achieve high direct current gain and wide bandwidth. 3,408,586, 10–29–68, Cl. 330—28.
O'Rear, Harrel W. Fire extinguishing system. 3,407,879, 10–29–68, Cl. 169—9.
Orebic, Oleg J., and R. W. Handmann, to Westinghouse Electric Corp. High speed automatic apparatus for making mounts for electric lamps. 3,407,464, 10–29–68, Cl. 29—25.2.
Orr, Harley J.: *See*—
Peltak, Thomas F., and Orr. 3,408,480.
Ortel, William C. G., to Bell Telephone Laboratories, Inc. Techniques for charting and removing defects in thin film capacitors. 3,407,465, 10–29–68, Cl. 29—25.42.
Osborn, William F.: *See*—
Redwine, Fletcher H. 3,408,561.
Ostermeier, Claus, to Hans Sickinger Co. Spiral binder applying machine. 3,407,851, 10–29–68, Cl. 140—92.93.
Othmer, Donald F. Method for removing scale-forming constituents from sea water and other solutions which form scale. 3,408,294, 10–29–68, Cl. 210—56.
Otis Engineering Corp.: *See*—
Reagan, James E. 3,407,830.
Ott, George E., Jr.: *See*—
Dieter, Julian A., Ott, and Weichhand. 3,407,563.
Ott, Hans: *See*—
Hardtmann, Goetz E., and Ott. 3,408,358.
Ott, Robert W., Jr., to Rockford Servo Corp. Web edge sensing and control apparatus. 3,407,706, 10–29–68, Cl. 91—3.
Otto, Louis L., and F. E. Freihelt, to Clarke Floor Machine Division, Studebaker Corp. Brush attachment for floor machine. 3,407,422, 10–29–68, Cl. 15—49.
Outboard Marine Corp.: *See*—
Mayer, James A. 3,407,600.
Owens-Illinois, Inc.: *See*—
Hendricks, John E. 3,407,569.
Owin, Olaf J. B., to Fisher & Ludlow Ltd. Floor conveyors. 3,407,751, 10–29–68, Cl. 104—172.
Packaging Corp. of America: *See*—
Kuhlman, Roy M. 3,407,965.
Packard, George H., to Fed.ers Corp. Shelf assembly. 3,407,940, 10–29–68, Cl. 211—153.
Packard, Roger E., and W. F. Buster, to Burroughs Corp. Digital computer having high speed branch operation. 3,408,630, 10–29–68, Cl. 340—172.5.
Packer, Homer C.: *See*—
Gonzales, Anthony, and Packer. 3,408,070.
Paine, Richard A., to Millipore Filter Corp. Nylon membrane filter. 3,408,315, 10–29–68, Cl. 260—2.5.
Palladino, Robert A. Burglar alarm systems. 3,408,642, 10–29–68, Cl. 340—276.
Palmer, Charles E. Dispensing cup assembly with a material-receiving cavity. 3,407,922, 10–29–68, Cl. 206—47.
Palmer, Douglas W., to Westinghouse Electric Corp. Circuit interrupter with locking provision. 3,408,466, 10–29–68, Cl. 200—42.
Pannell, Calvin E.: *See*—
Niles, Earl T., Oja, and Pannell. 3,408,331.
Panoplx Research Inc.: *See*—
Wells, Leon W. 3,408,019.
Parametrics, Inc.: *See*—
Sellers, Francis B., and Ziegler. 3,408,496.
Park, Vernon K.: *See*—
Hagemeyer, Hugh J., Jr., Park, and Robinson. 3,408,386.
Parke, Davis & Co.: *See*—
Capps, Ralph C., and Scoppe. 3,407,849.
Westland, Roger D. 3,408,381.
Parker-Hannifin Corp.: *See*—
Balogh, Stephen. 3,407,936.
Parker, Konrad, and J. L. Brosilow, to International Battery, Inc. Storage batteries and electrolyte therefor. 3,408,233, 10–29–68, Cl. 136—153.
Paris, Maurice H.: *See*—
Boots, Ira J., Metz, and Paris. 3,407,463.
Parry, Frank, to Moore Products Co. Pneumatic dimension gages. 3,407,505, 10–29–68, Cl. 33—172.
Partington, Malcolm: *See*—
Snch, Tony E., and Partington. 3,408,272.
Pastorino, Ronald L.: *See*—
Friedman, Ronald L., and Pastorino. 3,408,423.
Patch, Albert C. Garment hanger. 3,407,979, 10–29–68, Cl. 223—88.
Patent Automatic Feeding Machine Co. Ltd., The: *See*—
Clarke, Hubert S. 3,407,918.
Patmore, Edwin L.: *See*—
Chafetz, Harry, and Patmore. 3,408,351.
Patrickson, John B.: *See*—
Legg, Malcolm, Patrickson, and Wedepohl. 3,408,539.
Paull, Henry, Jr.: *See*—
Bender, Ray S., Lamon, Paull, and Plach. 3,407,565.
Paulley, James A.: *See*—
Struble, Willard R., and Paulley. 3,408,005.
Pauls, James D.: *See*—
Linkletter, Robert P., and Pauls. 3,407,956.
Payne, Clifford M.: *See*—
Nickerson, John D., and Payne. 3,408,161.
Peacock, David H., to Versatile Fillings (W.A.S.) Ltd. Frameworks. 3,407,561, 10–29–68, Cl. 52—656.
Pearce, Bert L., and C. E. Kelch, to FMC Corp. Drive chain tensioning apparatus. 3,407,674, 10–29–68, Cl. 74—242.11.
Pearce, Wylie B., III. Submarine pipeline caisson. 3,407,612, 10–29–68, Cl. 61—81.
Pearsall, Thomas J.: *See*—
Saarinen, Edward, and Pearsall. 3,407,791.
Pearson, Gerald L.: *See*—
Allen, John W., Shyam, and Pearson. 3,408,594.
Pedrotti, Rudolph L., C. A. Sandy, and V. Tullio, to E. I. du Pont de Nemours and Co. Process for making tetramethyl lead. 3,408,375, 10–29–68, Cl. 260—437.
Peffer, John R.: *See*—
Wismer, Marco, and Peffer. 3,408,215.
Peltak, Thomas F., and H. J. Orr, to Basic Products Corp. Electric baseboard heater. 3,408,480, 10–29–68, Cl. 219—368.
Penn, Joseph D. Tool for welding the edges of plastic sheets together. 3,408,478, 10–29–68, Cl. 219—229.
Penney, William R., to Phillips Petroleum Co. Heat exchanger. 3,407,871, 10–29–68, Cl. 165—85.
Pennison, Robert A.: *See*—
Hoza, Martin D., and Pennison. 3,407,885.
Pennsalt Chemicals Corp.: *See*—
Ashburn, Lennie L., and Starbuck. 3,408,224.
Kirkpatrick, William J. 3,407,999.
Perez, Jerome J.: *See*—
Dickinson, Clayton D., Perez, and Sheinhartz. 3,408,231.
Perin, Steve R.: *See*—
Abert, Jack C., and Perin. 3,407,452.
Perkin-Elmer Corp., The: *See*—
Scott, Larkin B., and Preston. 3,408,485.
Staunton, John J. J. 3,407,869.
Perkins, Gerald, Jr., D. J. Haase, and J. M. Crawford, to Continental Oil Co. Chromatography apparatus. 3,407,574, 10–29–68, Cl. 55—386.
Perlman, George. Shoulder pad for violin. 3,407,695, 10–29–68, Cl. 84—280.
Perry, David H.: *See*—
Mott, George R., and Perry. 3,408,216.
Perulli, Mariano: *See*—
Etievant, Claude, Hubert, and Perulli. 3,408,519.

Peterson, John A., to Thiokol Chemical Corp. Means for stress relieving case bonded solid propellant grains. 3,407,595, 10–29–68, Cl. 60—39.47.

Peterson, Thomas G., and J. P. Somerset, to The Superior Electric Co. Automatic voltage regulator with semiconductor shunt path. 3,408,538, 10–29–68, Cl. 323—22.

Petrocelli, Edward A., and H. C. Lin, to Westinghouse Electric Corp. Receiving apparatus using hall effect feedback control. 3,408,575, 10–29–68, Cl. 325—411.

Pettee, George H.: *See*—
Greis, Howard A., Kubert, and Pettee. 3,407,638.

Pettersson, Hans G.: *See*—
Olofsson, Hans K., Pettersson, and Truisson. 3,407,996.

Pettibone Mulliken Corp.: *See*—
Brown, Wilburn K. 3,407,953.

Philco-Ford Corp.: *See*—
Dobson, Franklin A. 3,408,621.
Frick, Frank W., and Kirschman. 3,408,565.
Lancaster, William W. 3,408,587.

Philip Carey Corp.: *See*—
Mueller, Arthur P., and Asher. 3,408,316.

Phillips, Donald D.: *See*—
Sanderna, Jerome G., Jr., and Phillips. 3,408,384.

Phillips Petroleum Co.: *See*—
Beason, Elmer C. 3,408,245.
Dockery, Calvin D. 3,408,056.
Engle, Charles J. 3,407,878.
Harvey, Robert R., and Vaclaw. 3,407,877.
Horvath, Elizabeth G., and Frey. 3,408,342.
Johnson, Marvin M. 3,408,164.
Johnson, Merlon L., and Lupfer. 3,408,261.
Mills, Kenneth R. 3,408,322.
Myers, Luther O., Jr. 3,407,440.
Penney, William R. 3,407,871.
Poska, Forrest L. 3,407,614.
Rirle, Otis E., Jr. 3,408,234.
Warner, Paul F. 3,408,403.

Phrix-Werke Aktiengesellschaft: *See*—
Thomas, Rainer, and Weber. 3,408,291.

Piccone, Dante E.: *See*—
De Cecco, Angelo L., Piccone, and Somos. 3,408,545.

Pieper, Louis W.: *See*—
Duff, James B., and Pieper. 3,407,484.

Pike Corp. of America: *See*—
Bergman, Gunnar B., and McClintock. 3,407,766.
McClintock, Ross A., and Bergman. 3,407,767.

Pilch, John S., to Ware Machine Works, Inc. Control mechanism for backhoe. 3,407,946, 10–29–68, Cl. 214—138.

Pincus, Ralph M., to The Bendix Corp. Variable phase shift generator. 3,408,579, 10–29–68, Cl. 328—155.

Pinney, Richard A. Journal stop assembly. 3,408,121, 10–29–68, Cl. 308—10.

Pioneer Kabushiki Kaisha: *See*—
Hashimoto, Isamu. 3,408,017.

Piotrowski, Rafal. Process for manufacturing brushes from a bundle of locks of threads and a device for performing this process. 3,408,112, 10–29–68, Cl. 300—21.

Pirchl, Helmut: *See*—
Kaiser, Friedrich, Pirchl, and Surber. 3,408,037.

Pistey, George: *See*—
Johnson Arthur A., and Pistey. 3,408,064.

Pitman, Isaac J. Method of and means for teaching pronunciation of language. 3,407,515, 10–29–68, Cl. 35—35.

Pittman, Allen G., and W. L. Wasley, to United States of America, Agriculture. Preparation of fluorosilanes. 3,408,380, 10–29–68, Cl. 260—448.2.

Pitts, James W., and R. R. Reese, to Jefferson Chemical Co., Inc. Recovery of spent glycol by distillation in the presence of water. 3,408,268, 10–29–68, Cl. 203—78.

Pittsburgh Plate Glass Co.: *See*—
Wismer, Marco, and Peffer. 3,408,215.

Plach, Edward F.: *See*—
Bender, Ray S., Lamon, Paull, and Plach. 3,407,565.

Plosser, George G.: *See*—
Savage, Brian D. 3,408,107.

Pneumafil Corp.: *See*—
Galassi, Angelo. 3,407,428.
Steinmetz, Werner. 3,407,570.

Pneumatic Scale Corp.: *See*—
Scully, John W. 3,407,712.

Poehlmann, Paul W. Fruit harvester. 3,407,582, 10–29–68, Cl. 56—329.

Polar Chips Mfg. Co.: *See*—
Mullins, James N., Jr. 3,407,618.

Pollak, Peter I., to Sandoz, Inc. 7-methyl-8-hydroxy-1,4-dihydro-o-dioxin (4,5-c)-pyridine. 3,408,359, 10–29–68, Cl. 260—297.

Polytechnic Institute of Brooklyn: *See*—
Kahn, Walter K. 3,408,567.

Pomot, Jean L. E., to North American Philips Co., Inc. Methods of producing the bisulphite adduct of 2-methyl-1,4-naphthoquinone. 3,408,368, 10–29–68, Cl. 260—396.

Pomper, William R. Razor having a plurality of blade edges of different contours. 3,407,496, 10–29–68, Cl. 30—49.

Portell, Walter L., to General Motors Corp. Seat button fastener. 3,408,105, 10–29–68, Cl. 297—219.

Porter Paints Ltd.: *See*—
Stoodley, Keith H. 3,408,278.

Porte-cap Le Porte-Echappement Universel S.A.: *See*—
Jucker, Erich, and Gagnebin. 3,407,645.

Posey, Ken, Jr., and J. K. Trultt, to Texas Instruments Inc. Battery employing ammonia as a solvent. 3,408,229, 10–29–68, Cl. 136—6.

Poska, Forrest L., to Phillips Petroleum Co. Helium purification. 3,407,614, 10–29–68, Cl. 62—18.

Potter Instrument Co., Inc.: *See*—
Gabor, Andrew. 3,408,556.

Powell, Benjamin O.: *See*—
Hughes, William L., and Powell. 3,408,605.

Power Brake Equipment Co.: *See*—
Williams, Norman C., and Everett. 3,408,043.

Prahl, Jan, to W. J. Teufel. Knee joint for an artificial leg. 3,407,409, 10–29–68, Cl. 3—27.

Preiser, Herman S., to Hydronautics, Inc. Anode-assembly for cathodic protection systems. 3,408,280, 10–29–68, Cl. 204—196.

Prell, George A.: *See*—
Miller, Edward J., Jr., and Prell. 3,408,584.

Preston, Kendall, Jr.: *See*—
Scott, Larkin B., and Preston. 3,408,485.

Price, Albert E., to General American Transportation Corp. Shipping container combination. 3,408,027, 10–29–68, Cl. 248—151.

Price, Ralph E., and H. E. Balsiger, to Landis Tool Co. Piston grinding attachment. 3,407,541, 10–29–68, Cl. 51—101.

Prince, Edgar D., to Prince Mfg. Co., Inc. Grooved tiebar assembly for die casting machines and the like. 3,407,685, 10–29–68, Cl. 74—579.

Prince Mfg. Co., Inc.: *See*—
Prince, Edgar D. 3,407,085.

Procter & Gamble Co., The: *See*—
Henry, Wilbur G. 3,408,299.
Voss Jack G. 3,408,440.

Producers Service Co.: *See*—
Cowan, Charles F., Jr. 3,408,144.

Prohaska, John O., to Mansfield Tire and Rubber Co. Method for shaping reinforced flexible diaphragms. 3,408,439, 10–29–68, Cl. 264—294.

Prosen, Emil M., to Nobilium Products, Inc. Speed step-up ball bearing epicyclic drive. 3,407,671, 10–29–68, Cl. 74—64.

Provance, Jason D., A. Lewis, and L. W. Kelley, to Aerojet-General Corp. Glass fiber compositions. 3,408,213, 10–29–68, Cl. 106—50.

Przybylik, Rózá, and W. Zalachowski. Electrical detonator. 3,407,732, 10–29–68, Cl. 102—28.

Pugh, Thomas F. Interlocking component system of construction. 3,407,555, 10–29–68, Cl. 52—288.

Pupko, Samuel, to Office National Industriel de l'Azote. Process of steam reforming paraffinic hydrocarbons. 3,408,171, 10–29–68, Cl. 48—214.

Punton, George C.: *See*—
Codina, Anthony E., and Punton. 3,407,538.

Purkey, Everett, to United States Steel Corp. Door stop mechanism. 3,407,535, 10–29–68, Cl. 49—280.

Qualitronics Corp.: *See*—
Montgomery, Leon F. 3,407,495.

Quinlan, Ronald D.: *See*—
Wooden, John A., and Quinlan. 3,407,882.

Radecki, Hubert, and W. Gundlach. Apparatus for twisting synthetic yarn to impart stretch and softness. 3,407,784, 10–29–68, Cl. 57—34.

Radio Corp. of America: *See*—
Herzog, Gerald B. 3,408,592.
Lemke, Eugene. 3,408,535.
Mrozek, Pawl. 3,408,510.
Schrader, Edward R. 3,408,619.

Ragan, James B., to Ways & Means, Inc. Time-indicating tablet-dispensing container. 3,407,962, 10–29–68, Cl. 221—4.

Raichle, Ludwig, K. Mahler, H.-J. Mueller, K. Koch, W. Immel, F. Urban, and J. Hotz, to Badische Anilin- Soda-Fabrik Aktiengesellschaft. Apparatus for atomizing highly viscous materials. 3,408,007, 10–29–68, Cl. 239—132.

Raisanen, Walfred R., to Sperry Rand Corp. Current mode multivibrator circuits. 3,408,512, 10–29–68, Cl. 307—273.

Ralston Purina Co.: *See*—
Teichman, Robert, and Everett. 3,408,200.

Ramillon, Rene. Rear stop for ski binding. 3,408,087, 10–29–68, Cl. 280—11.35.

Randlett, Myron R.: *See*—
Chopra, Kasturi L., and Randlett. 3,408,283.

Randrup, Benjamin F. Wire hood loading apparatus. 3,407,564, 10–29–68, Cl. 53—128.

Ransome Torch & Burner Co.: *See*—
Golden, Carl E. 3,407,787.

Rantz, Robert W., to Abex Corp. Railroad car handling apparatus. 3,407,750, 10–29–68, Cl. 104—162.

Rapaport, Gerald M., to American Toy and Furniture Co., Inc. Tapping tool. 3,407,499, 10–29–68, Cl. 30—307.

Rasmussen, Holger, to Steiner Co. Lausanne S.A. Paper dispenser. 3,408,125, 10–29–68, Cl. 312—39.

Rasmusson, Marlin B. Frozen stick-confection machine. 3,407,755, 10–29–68, Cl. 107—8.

Ratay, Albert P. Coaxial cable stripping device. 3,407,497, 10–29–68, Cl. 30—91.2.

Ratler Forest: *See*—
Belliere, Pierre A. 3,407,707.

Rau, Richard R.: *See*—
Dautzenberg, Winand J., Mitchell, Trent, Van Wagenen, and Rau. 3,408,542.

Rau, William J., to Rohm & Haas Co. Tanning compositions comprising aqueous solutions of unsaturated acid-unsaturated sulfated oil copolymers. 3,408,319, 10–29–68, Cl. 260—23.

Rauch, Thomas G., to McAuley Mfg. Inc. Flexible material-conveying chain. 3,407,920, 10–29–68, Cl. 198—108.

Ray, Leroy, to Paul Mueller Co. Tank washer. 3,407,824, 10–29–68, Cl. 134—56.

Ray, William A., to International Telephone and Telegraph Corp. Fluid control system. 3,407,708, 10–29–68, Cl. 91—48.

Raymond, Mark H., to General Electric Co. Support bracket. 3,408,028, 10–29–68, Cl. 248—221.

Raynes, Burt F., to Rohr Corp. Writing arm type conference chair. 3,408,104, 10–29–68, Cl. 297—162.

Reagan, James E., to Otis Engineering Corp. Gas lift valve. 3,407,830, 10–29–68, Cl. 137—155.

Reagents, Dade, Inc.: *See*—
Lucas, Victor G. 3,407,812.

Reckman, Albert C., H. F. Barklage, T. M. Ax, and G. T. Shotwell, to A.R. Industries, Inc. Apparatus for producing pre-cast concrete members including reinforcing rod holders pivotally mounted on mold box. 3,407,458, 10–29–68, Cl. 25—41.

Rediger, Alvin L.: *See*—
Hopkins, Willard C., and Rediger. 3,407,481.

Redwanz, James O., to Texas Instruments Inc. Electrical device package. 3,408,451, 10–29–68, Cl. 174—52.

Redwine, Fletcher H., and W. F. Osborn, to Arps Corp. Formation resistivity measurement while drilling utilizing physical conditions representative of the signals from a toroidal coil located adjacent the drilling bit. 3,408,561, 10–29–68, Cl. 324—6.

Reeber, Rudolf, and J. Muller, to Friedrich Deckel Prazisions Mechanik und Maschinebau. Milling machine. 3,407,704, 10–29–68, Cl. 90—17.

Reed International Inc.: *See*—
Hoza, Martin D., and Pennison. 3,407,885.

Reerink, Engbert H., P. Westerhof, and H. F. L. Schöler, to North American Philips Co., Inc. 2-substituted-3-keto-$\Delta^{4,9}$-9β,10a-steroids. 3,408,369, 10–29–68, Cl. 260—397.3.

Rees, Herbert, to Husky Mfg. and Tool Works Ltd. Injection molding machine with scrap grinder. 3,407,444, 10–29–68, Cl. 18—30.

Reese, Robert R.: *See*—
Pitts, James W., and Reese. 3,408,268.

Rehn, Karl-Heinz: *See*—
Lenk, Wilhelm, and Rehn. 3,408,011.

Reifenschweiler, Otto: *See*—
Elenga, Cornelis W., Reifenschweiler, and Schenkelaars. 3,408,526.

Reiner, Josef, to J. C. Moller, Optische Werke G.m.b.H. Eye testing device with test lenses and pivoted support. 3,408,137, 10–29–68, Cl. 351—28.

Reinhardt Maschinenbau G.m.b.H.: *See*—
Lipp, Xaver. 3,407,640.

Reissmueller, Karl H., R. E. Alexander, and M. W. Reissmueller, to Hughes Aircraft Co. Electrolytic plating of metal bump contacts to semiconductor devices upon non-conductive substrates. 3,408,271, 10–29–68, Cl. 204—15.

Reissmueller, Manfred W.: *See*—
Reissmueller, Karl H. and M. W., and Alexander. 3,408,271.

Reiterer, Ferdinand, to Etablissements Neu. Apparatus and method for distributing textile fibers. 3,408,115, 10–29–68, Cl. 302—28.

Remington Arms Co., Inc.: *See*—
Kotas, John A. 3,407,983.

Remley, Walter L.: *See*—
Bilin, Arthur G., and Remley. 3,407,896.

Renner, Carl E. Vacuum cleaner construction for use inside tanks. 3,407,430, 10–29–68, Cl. 15—314.

Rennie, David G.: *See*—
McIntyre, Maurice J., and Rennie. 3,407,942.

Renz, Jany, J.-P. Bourquin, C. Bruschweiler, H. Winkler, and G. Schwarb, to Sandoz, Ltd. (also known as Sandoz A.G.). Thiaxanthene derivatives. 3,408,355, 10–29–68, Cl. 260—293.4.

Renz, Jany: *See*—
Von Wartburg, Albert, Kuhn, Keller, and Renz. 3,408,441.

Resch, Ronald D. Self supporting structural unit having a series of repetitious geometrical modules. 3,407,538, 10–29–68, Cl. 52—573.

Research Corp.: *See*—
Allen, John W., Shyam, and Pearson. 3,408,594.

Rexall Drug and Chemical Co.: *See*—
Levy, Louis, and McClure. 3,408,445.

Rey, Louas, to l'Air Liquide. Method for preparing and conserving free radicals. 3,408,276, 10–29–68, Cl. 204—157.1.

Reynolds, Delbert D., and J. F. Tinker, to Eastman Kodak Co. Ether-amines used as gelatin hardeners. 3,408,198, 10–29–68, Cl. 96—111.

Reynolds, Martin L.: *See*—
Westcott, David T., and Reynolds. 3,407,820.

Reynolds Metals Co.: *See*—
Coates, Harold J. 3,408,211.
Richards, Nolan E., Berry, and Johnston. 3,408,312.
Schmidt, Richard L., and Morgan. 3,408,160.

Reynolds Precision Products Co., Inc.: *See*—
Reynolds, Robert J., and Bennett. 3,407,799.

Reynolds, Robert J., and K. I. Bennett, executrix of the estate of said R. I. Reynolds, deceased, to Reynolds Precision Products Co., Inc. Archery bow and handgrip alignment apparatus therefor. 3,407,799, 10–29–68, Cl. 124—24.

Reyrolle, A., & Co. Ltd.: *See*—
Legg, Malcolm, Patrickson, and Wedepohl. 3,408,539.

Rhodes, Orville J.: *See*—
Smith, Jimmy G., and Rhodes. 3,407,696.

Richards John H.: *See*—
Griffiths, David K., and Richards. 3,408,058.

Richards, Nolan E., J. S. Berry, Jr., and T. J. Johnston, to Reynolds Metals Co. Electrically conductive cermet compositions. 3,408,312, 10–29–68, Cl. 252—518.

Richardson, Douglas K., to Westinghouse Electric Corp. Heat exchangers having plate-type fins. 3,407,876, 10–29–68, Cl. 165—179.

Richardson, Douglas K., and J. G. Johnson, to Westinghouse Electric Corp. Oil and motor cooling in a refrigeration system. 3,407,623, 10–29–68, Cl. 62—197.

Richier (Societe Anonyme): *See*—
Durand, Pierre. 3,407,559.

Richmond, George E. Tooth cleaning apparatus. 3,407,502, 10–29–68, Cl. 32—59.

Ridgeway, Louis S.: *See*—
Mill, Frank R. 3,407,527.

Riegel Paper Corp.: *See*—
Williams, Richard H. 3,408,240.

Riegel Textile Corp.: *See*—
George, Donald K., and Hokanson. 3,407,814.

Rinke, Heinrich: *See*—
Thomas, Wilhelm, Rinke, and Zygan. 3,408,434.

Rirle, Otis E., Jr., to Phillips Petroleum Co. Adjustable jacket for storage batteries. 3,408 234, 10–29–68, Cl. 136—181.

Ritchie, Lloyd I. Blank-splitting device. 3,407,855, 10–29–68, Cl. 144—193.

Ritchie, Lloyd I. Blank-splitting device. 3,407,856, 10–29–68, Cl. 144—193.

Ritter Pfaudler Corp.: *See*—
Billin Arthur G., and Remley. 3,407,896.

Roberts, Christopher J. V.: *See*—
Hunt, Robert W. G., Forsyth, and Roberts. 3,408,142.

Robeson, Charles D.: *See*—
Chechak, Albert J., and Robeson. 3,408,406.

Robinson Alfred G.: *See*—
Hagemeyer, Hugh, J., Jr., Park, and Robinson. 3,408,386.

Robinson, Arthur S.: *See*—
Lee, Walter W., Robinson, Blauvelt, and Fischer. 3,408,634.

Robinson, William H. Frangible closure. 3,407,957, 10–29–68, Cl. 215—42.

Rochla, Kurt, to Windmoller & Holscher. Process and apparatus for welding layers of thermoplastic material. 3,408,242, 10–29–68, Cl. 156—274.

Rock, Floyd G. Slingshot with magazine. 3,407,798, 10–29–68, Cl. 124—20.

Rockford Servo Corp.: *See*—
Ott, Robert W., Jr. 3,407,706.

Rockwell Mfg. Co.: *See*—
Bentley, John G. 3,407,857.

Rodgers Organ Co.: *See*—
Tinker, Frederick B. 3,408,449.

Roe, Donald A., to Educational Development Laboratories, Inc. Self-teaching device. 3,407 512, 10–29–68, Cl. 35—8.

Rogus, Joseph A., to Mid-West Metallic Products, Inc. Guide means for stackable receptacle. 3,407,960, 10–29–68, Cl. 220—97.

Rohm & Haas Co.: *See*—
Rau, William J. 3,408,319.
Rolewicz, Henry A., Grimes, and Stevenson. 3,408,383.

Rohr Corp.: *See*—
Raynes, Burt F. 3,408,104.

Rohrlick, Michael K., A. Latulippe, P. L. J. Seguin, and V. Roth, Slax Inc. Sewing method and linear punching multi-needle machine therefor. 3,407,764, 10–29–68, Cl. 112—262.

Rolewicz, Henry A., C. D. Grimes, Jr., and K. Stevenson, Jr., to Rohm & Haas Co. Preparation of pentaerythritol trinitrate. 3,408,383 10–29–68, Cl. 260—467.

Rolfes, Hans, to Trans Continental Electronics Corp. Insulated heating or cooling system for elongated pipes. 3,407,835, 10–29–68, Cl. 137—340.

Rosbottom, Thomas A., to The Metal Box Co. Ltd. Power transmission systems. 3,407,911, 10–29–68, Cl. 192—56.

Rosemount Engineering Co.: *See*—
Werner, Frank D., and Luger. 3,407,406.

Rosen, William E.: *See*—
Drew, John W., and Rosen. 3,408,408.

Rosengren, Harry N., to Electrolytic Machining, Inc. Metal stencil printing. 3,407,726, 10–29–68, Cl. 101—128.3.

Rosner, David: *See*—
Gustashaw, William E., and Rosner. 3,407,944.

Ross, Harold M. Mouthpiece. 3,407,809, 10–29–68, Cl. 128—136.

Rosser, Le Roy T., to Lee Rosser & Associates Ltd. Tire packaging. 3,407,920, 10–29–68, Cl. 206—65.

Rosser, Lee, & Associates Ltd.: *See*—
Rosser, Le Roy T. 3,407,926.

Roth, Donald J.: *See*—
Bendix, Gordon H., Roth, and Erlandson. 3,408,220.

Roth, Victor: *See*—
Rohrlick, Michael K., Latulippe, Seguin, and Roth. 3,407,764.

Royal Industries, Inc.: *See*—
Langford, Byron G. 3,408,461.

Royalite Oil Co. Ltd.: *See*—
Cymbalisty, Lubomyr M. O. 3,407,972.

Roylyn Inc.: *See*—
Nussbaum, Henry. 3,407,660.

Rudolph, Rome R.: *See*—
Strutz, Carl J., Jr., Rudolph, and F. C. Strutz. 3,407,614.
Strutz, Carl J., Jr., Rudolph, and F. C. Strutz. 3,407,915.

Ruehlemann, Herbert E., to Elco Corp. Microelectronic carrier. 3,407,925, 10–29–68, Cl. 206—65.

Ruehlemann, Herbert E., to Elco Corp. Electrical interconnector formed of interconnected stacked matrices. 3,408,452, 10–29–68, Cl. 174—68.5.

Ruggeri, Gianantonio. Actuating and delivering cap for dispensers. 3,347,977, 10–29–68, Cl. 222—554.

Rugo, John J., to Bell Telephone Laboratories, Inc. Automatic control system utilizing bistable voltage comparator. 3,408,588, 10–29–68, Cl. 330—29.

Rule, Clinton, to Rule Marine, Inc. Mount means for pump apparatus. 3,407,747, 10–29–68, Cl. 103—218.

Rule Marine, Inc.: *See*—
Rule, Clinton. 3,407,747.

Rushing, Raymond G., to General Electric Co. Apparatus for effecting coil press-back in inductive devices. 3,407,473, 10–29–68, Cl. 29—205.

Rushing, Raymond G., to General Electric Co. Method of displacing and compacting end turn portions of windings useful in inductive devices. 3,407,482, 10–29–68, Cl. 29—596.

Rushing, Raymond G., to General Electric Co. Methods for effecting coil alterations in inductive devices. 3,407,494, 10–29–68, Cl. 29—606.

Russell, Raymond L. Portable room attachment for mobile homes. 3,407,548, 10–29–68, Cl. 52—58.

Ryall, Michael L., to G. & J. Weir, Ltd. Heat exchanger construction. 3,407,873, 10–29–68, Cl. 165—111.

Ryan Aeronautical Co., The : *See*—
Vyvyan, Wesley W., and Warden. 3,408,029.

Ryan, John W., R. A. MacMeekin, and B. E. Danielsen, to Mattel, Inc. Cap-firing device. 3,407,532, 10–29–68, Cl. 46—196.

Ryf, Hugo : *See*—
Kuhnis, Hans H., Ryf, and Denss. 3,408,357.

Rylander, Paul N., and N. Himelstein, to Engelhard Industries, Inc. Catalytic hydrogenation of 3 and 4-hydroxy pyridines. 3,408,354, 10–29–68, Cl. 260—293.2.

Rylander, Paul N., and D. R. Steele, to Engelhard Industries, Inc. Preparation of cyclic ethers. 3,408,364, 10–29–68, Cl. 260—345.1.

SRM Co. : *See*—
Snyder, Clifford H. 3,407,847.

Saarinen, Edward, and T. J. Pearsall, to Continental Aviation and Engineering Corp. Supply valve assembly for variable compression ratio piston assembly. 3,407,791, 10–29–68, Cl. 123—78.

Saeger, Waldemar, to Xerox Corp. Synchronizing system for synchronous motor utilizing a frequency divider. 3,408,547, 10–29–68, Cl. 318—18.

Sahm, Otto. Method of joining a rope clip to a rope. 3,407,477, 10–29–68, Cl. 29—517.

Saito, Takaomi : *See*—
Yamazaki, Akihiro, Kumashiro, Kato, Meguro, Takenishi, Yoshikawa, Ninomiya, Yamaguchi, Komato, Saito, and Ikeda. 3,408,206.

Saito, Takeshi : *See*—
Kawamori, Yoshiaki, Matsuura, Saito, and Miyamura. 3,408,257.

Sakakibara, Kouzou : *See*—
Yamagishi, Kazuo, Sakakibara, Abe, and Kubo. 3,408,392.

Saleck, Wilhelm, K. Dinges, and E. Muller, to Agfa-Gevaert Aktiengesellschaft. Photographic material with improved silver covering power. 3,408,199, 10–29–68, Cl. 96—114.

Salehar, Milena L. : *See*—
Miller, Arthur F., and Salehar. 3,408,157.

Samerdyke, Bertram P., to Borg-Warner Corp. Variable geometry centrifugal pump. 3,407,740, 10–29–68, Cl. 103—97.

Samow, Gerd : *See*—
Wullkopf, Hellmuth, and Samow. 3,408,573.

Samsonite Corp. : *See*—
Kochevar, Matthew A., and Fynewever. 3,408,033.

Samuels, Herbert : *See*—
Wheeler, John B., III, Sonia, Samuels, and Kirkis. 3,408,437.

Sandefur, Douglas M., to Sandefur Engineering Co., Inc. Multiple-station work supporting and advancing apparatus. 3,407,919, 10–29–68, Cl. 198—129.

Sandefur Engineering Co., Inc. : *See*—
Sandefur, Douglas M. 3,407,919.

Sander, Frank S. Garment form. 3,407,978, 10–29–68, Cl. 223—72.

Sanders, Donald P., to Texas Instruments Inc. Use of both silicon oxide and phosphorus oxide to mask against diffusion of indium or gallium into germanium semiconductor device. 3,408,238, 10–29–68, Cl. 148—187.

Sanderson, Karl : *See*—
Braune, Rudolf E., and Sanderson. 3,407,870.

Sandoz, Inc. : *See*—
Galantay, Eugene E. 3,408,360.
Galantay, Eugene E. 3,408,399.
Hardtmann, Goetz E. 3,408,352.
Hardtmann, Goetz E., and Ott. 3,408,358.
Houlihan, William J. 3,408,350.
Jucker, Ernst, and Ebnother. 3,408,353.
Pollak, Peter I. 3,408,359.

Sandoz, Ltd. (also known as Sandoz A.G.) : *See*—
Renz, Jany, Bourquin, Bruschweiler, Winkler, and Schwarb. 3,408,355.
Von Wartburg, Albert, Kuhn, Keller, and Renz. 3,408,441.

Sandvikens Jernverks AB : *See*—
Hjalsten, John A., and Wiredal. 3,407,889.
Wirfelt, Sven A. O. 3,407,467.

Sandy, Charles A. : *See*—
Pedrotti, Rudolph L., Sandy, and Tullio. 3,408,375.

Sansabrino, James P. Self-lubricated connector. 3,407,903, 10–29–68, Cl. 184—14.

Sarco Co., Inc. : *See*—
Cusi, Eduardo L. 3,407,829.

Sarkes Tarzian, Inc. : *See*—
Valdettaro, Alarico A., Badger, and Meadows. 3,407,669.

Sasaki, Hiroshi, M. Aoki, H. Okada, K. Kinoshita, and T. Shiro, to Ajinomoto Co., Inc. Method of producing 5-amino-4-imidazolecarboxamide ribofuranoside by fermentation. 3,408,256, 10–29–68, Cl. 195—28.

Sato, Atsushi, and M. Yamauchi, to Hitachi, Ltd. Cathode ray tube screen structure. 3,408,227, 10–29–68, Cl. 117—212.

Satterthwaite, James G., and J. B. Macy, Jr. Marine bearing. 3,407,779, 10–29–68, Cl. 115—34.

Satterwhite, William A., and R. C. Mazurek, to Armour Agricultural Chemical Co. Suspension of solid impurities in wet process phosphoric acid. 3,408,162, 10–29–68, Cl. 23—165.

Satzinger, Gerhard, to Warner-Lambert Pharmaceutical Co. 1H-2,3-benzothiazin-4(3H)-one 2,2-dioxide and process for their production. 3,408,346, 10–29–68, Cl. 260—243.

Saunders, Stanley B. : *See*—
Chandler, Jasper S., De Palma, and Saunders. 3,408,132.

Savage, Brian D., 50% to George G. Plosser, and 50% to John W. Barber. Inflatable chair. 3,408,107, 10–29–68, Cl. 297—456.

Savary, Fernand J. E., to Societe des Forges et Ateliers du Creusot (S.F.A.C.) Control rod drive mechanism. 3,408,101, 10–29–68, Cl. 294—86.25.

Sawchuk, Peter, to Corning Glass Works. Ceramic seals and bearing members. 3,407,866, 10–29–68, Cl. 165—9.

Scalzo, Augustine J., to Westinghouse Electric Corp. Diaphragm sealing structure. 3,408,048, 10–29–68, Cl. 253—78.

Scaramucci, Domer, to Balon Corp. Flexible valve seat. 3,408,038, 10–29–68, Cl. 251—175.

Scerbo, Frank C. : *See*—
Freed, George H. 3,407,526.

Schaefer, Heinz, to Licentia Patent-Verwaltungs G.m.b.H. Hermetically sealed refrigeration compressor. 3,407,990, 10–29–68, Cl. 230—58.

Schafer, Heinz : *See*—
Sus, Oskar, Munder, and Schafer. 3,408,203.

Schayes, Raymond, and I. Kozlowitz, to Societe Anonyme Manufacture Belge de Lampes et de Materiel Electronique. Thermo-luminescent dosimeter comprising two parts mounted in a common evacuated space. 3,408,495, 10–29–68, Cl. 250—71.

Schelbel, Edward G. Recovery of water from saline solution by solvent extraction. 3,408,290, 10–29–68, Cl. 210—22.

Scheller, Hans : *See*—
Tiedtke, Karl H., Scheller, and Ilse. 3,408,333.

Schenck, Carl, Maschinenfabrik G.m.b.H. : *See*—
Caputo, Carmelo. 3,407,648.

Schenk, Horst : *See*—
Dietz, Helmut, Lippmann, and Schenk. 3,407,637.

Schenkelaars, Martinus H. M. : *See*—
Elenga, Cornelis W., Reifenschweiler, and Schenkelaars. 3,408,526.

Schicke, Hans-Gerd, and G. Schrader, to Farbenfabriken Bayer Aktiengesellschaft. S-phenylmercaptocyanomethyl phosphoric -onic -inic acid esters. 3,408,425, 10–29–68, Cl. 260—940.

Schickendantz, Paul D., to Union Carbide Corp. Process for preparation of dithiooxamide. 3,408,394, 10–29–68, Cl. 260—551.

Schladermundt, Peter, and W. H. Dennerlein, to Bliss & Laughlin Industries, Inc. Component matching system. 3,407,524, 10–29–68, Cl. 40—2.

Schlesinger, William A., to William F. Huck, d.b.a. Huck Co. Rotary perforating device. 3,407,691, 10–29–68, Cl. 83—344.

Schlussler, Hans-Joachim, H. V. Freyhold, H. Groschopp, and K. Worms, to Henkel & Cie G.m.b.H. Stable, alkaline, non-forming cleansing agents. 3,408,300, 10–29–68, Cl. 252—156.

Schmid, Leopold F., to Alfred Teves G.m.b.H. Auxiliary brake mechanism and actuator for disk brakes. 3,407,907, 10–29–68, Cl. 188—73.

Schmidt, Charles J., and O. G. Currlin, to Maxson Electronics Corp. Portable radar warning receiver. 3,408,574, 10–29–68, Cl. 325—364.

Schmidt, Donald L., to The Dow Chemical Co. Organoaluminum compounds and process for preparation. 3,408,378, 10–29–68, Cl. 260—448.

Schmidt, Karl, G.m.b.H. : *See*—
Anderko, Kurt, Henle, and Stark. 3,407,864

Schmidt, Norbert T. Garbage can rack. 3,407,941, 10–29–68, Cl. 211—177.

Schmidt, Paul : *See*—
Druey, Jean, and Schmidt. 3,408,362.

Schmidt, Richard L., and J. F. Morgan, to Reynolds Metals Co. Viscosity reduction of alumina hydrate filter cake. 3,408,160, 10–29–68, Cl. 23—143.

Schneider, Kurt R. Punch mechanism for labeling machines. 3,408,246, 10–29–68, Cl. 156—521.

Schneider, Wolfgang, to The B. F. Goodrich Co. Method for buetenyl cyclohexenes. 3,408,416, 10–29–68, Cl. 260—666.

Schoenbrunn, Erwin F., to Escambia Chemical Corp. Process for the manufacture of alpha-hydroxy isobutyric acid. 3,408,393, 10–29–68, Cl. 260—535.

Schöler, Henrik F. L. : *See*—
Reerink, Engbert H., Westerhof, and Schöler. 3,408,369.

Scholl, Hans, and H. Junemann, to Kochs Adlernahmaschinen Werke AG. Rotary table for automatic sewing machine installations. 3,407,759, 10–29–68, Cl. 112—2.

Schomburg, Louis M., and G. A. Dvorak, to Sun Electric Corp. Double acting fluid load cell. 3,407,652, 10–29–68, Cl. 73—141.

Schrader, Edward R., to Radio Corp. of America. Superconductive magnet having grease between adjacent winding layers. 3,408,619, 10–29–68, Cl. 335—216.

Schrader, Gerhard : *See*—
Schicke, Hans-Gerd, and Schrader. 3,408,425.

Schroeder, George A., to The Gillette Co. Aerosol container and cap therefor. 3,407,975, 10–29–68, Cl. 222—402.13.

Schroll, Gene E., to Celanese Coatings Co. Diglycidyl ethers of poly(tetrahydrofuran), process of making same and polymers thereof. 3,408,314, 10–29–68, Cl. 260—2.

Schuh, Theodore R., Jr., to Nalco Chemical Co. Herbicidal process. 3,408,175, 10–29–68, Cl. 71—65.

Schumag Schumacher Metallwerke G.m.b.H. : *See*—
Imiolczyk, Josef. 3,407,545.

Schwarb, Gustav : *See*—
Renz, Jany, Bourquin, Bruschweiler, Winkler, and Schwarb. 3,408,355.

Schwartz, Morris, W. K. Bender, W. Castedello, and E. K. Kaprelian, to The Kalart Co., Inc. Automatic sound slide projector. 3,408,139, 10–29–68, Cl. 353—15.

Schweizerische Industrie-Gesellschaft : *See*—
Engeler, Paul. 3,407,916.

Schwinn Bicycle Co. : *See*—
Fritz, Albert J., and Brilando. 3,408,090.

Scientific Industries, Inc. : *See*—
Natelson, Samuel. 3,408,166.

Scoppe, Louis : *See*—
Capps, Ralph C., and Scoppe. 3,407,849.

Scott, Jay R., to United States Steel Corp. Apparatus for disposal of coil-securing bands. 3,408,020, 10–29–68, Cl. 242—78.7.

Scott, John W. Window balance. 3,407,434, 10–29–68, Cl. 16—193.

Scott, Larkin B., and K. Preston, Jr., to The Perkin-Elmer Corp. Apparatus for counting irregularly shaped objects. 3,408,485, 10–29–68, Cl. 235—92.

Scott, Robert A. Automatic liquid measuring and dispensing device. 3,407,973, 10–29–68, Cl. 222—373.

Scott & Williams, Inc. : *See*—
Ide, Whitman D. 3,407,632.

Scully, John W., to Pneumatic Scale Corp. Carton forming machine. 3,407,712, 10–29–68, Cl. 93—49.

Seckerson, Clifford A., and C. E. Downer, to United-Carr Inc. Infinitely variable hydraulic clamping mechanism. 3,407,909, 10–29–68, Cl. 188—97.

Seguin, Paul L. J. : *See*—
Rohrlick, Michael K., Latulippe, Seguin, and Roth. 3,407,764.

Sekine, Masaru : *See*—
Tsuruhori, Yoshio, and Sekine. 3,408,060.

Selbach, Hans-Werner, to Firma Roll Kestermann Machinenfabrik. Plasticizing system for plastic materials. 3,407,438, 10–29–68, Cl. 18—12.

Sellers, Francis B., and C. A. Ziegler, to Parametrics, Inc. Alpha ray excited composition analysis. 3,408,496, 10–29–68, Cl. 250—83.3.

Selvaggio, Joseph. Hair trimming guide. 3,407,823, 10–29–68, Cl. 132—45.

Semon, Albert L. Fluid pressure regulators. 3,407,841, 10–29–68, Cl. 137—305.15.

Serbia, George W., and I. Benett, to General Foods Corp. Process for preparing a quick-cooking rice. 3,408,202, 10–29–68, Cl. 99—80.

Servo Corp. of America : *See*—
Westover, Thomas A., and Winstein. 3,408,493.

Sevcon Engineering Ltd. : *See*—
Gurwicz, Isaac D. 3,408,538.

Sewell, Donald N., to Dielectric Products Engineering Co., Inc. Coaxial cable connector. 3,408,615, 10–29–68, Cl. 339—94.

Shanafelt, Leo A., and H. W. Berger. Method for providing high definition colored television image. 3,408,456, 10–29–68, Cl. 178—5.4.

Shavel, John, Jr., and H. Zinnes, to Warner-Lambert Pharmaceutical Co. Pyrido-[1,2-b] [1,2]benzothiazin-10,11-(7H, 10aH)dione 5,5-dioxides and 7,8-dihydropyrido-[1,2-b] [1, 2] benzothiazin-10,11-(9H,10aH)-dione 5,5-dioxides and process for their production. 3,408,347, 10–29–68, Cl. 260—243.

Shaw, John G. Transmission apparatus. 3,407,602, 10–29–68, Cl. 60—102.

Shaw, Mary E. : *See*—
Shaw, Robert E. 3,407,550.
Shaw, Robert E. 3,407,557.

Shaw, Robert E., deceased. (Mary E. Shaw administratrix.) Self-aligning shingle. 3,407,557, 10–29–68, Cl. 52—555

Shaw, Robert E., deceased ; M. E. Shaw, administratrix. Continuous one piece bird repellent structure. 3,407,550, 10–29–68, Cl. 52—101.

Sheinhartz, Irving : *See*—
Dickinson, Clayton D., and Sheinhartz. 3,408,230.
Dickinson, Clayton D., Perez, and Sheinhartz. 3,408,231.

Sheldahl, David B., to Sinclair Research, Inc. Corrosion-resistant soluble oil composition. 3,408,297, 10–29–68, Cl. 252—33.3.

Shell Oil Co. : *See*—
Baskir, Emanuel. 3,407,508.
Hendal, Willem P., and Mulder. 3,408,413.
Kuderna, Jerome G., Jr., and Phillips. 3,408,384.
May, Clayton A. 3,408,422.
McAllister, Sumner H. 3,408,443.
Neal, Dennis, and Lopez. 3,408,219.
Nihof, Hendrikus J., Rijl, and Borsboom. 3,408,488.

Shelton, Charles F., Jr., to Cerro Corp. Polyimide covered conductor. 3,408,453, 10–29–68, Cl. 174—68.5.

Shen, Chung Y. : *See*—
Dyroff, David R., and Shen. 3,408,158.

Shenstone, Joseph C., and W. J. Flanigan, to Essex Wire Corp. Directional signal switch. 3,408,467, 10–29–68, Cl. 200—61.27.

Sherwood, Thomas K., to Whirlpool Corp. Hydrogen separation apparatus. 3,407,571, 10–29–68, Cl. 55—158.

Shimabukuro, George T., to Xerox Corp. Motor synchronizing system utilizing reversible counter and logic means. 3,408,549, 10–29–68, Cl. 318—85.

Shimabukuro, George T., to Xerox Corp. High speed printer system. 3,408,633, 10–29–68, Cl. 340—172.5.

Shiro, Teruo : *See*—
Sasaki, Hiroshi, Aoki, Okada, Kinoshita, and Shiro. 3,408,256.

Shock, D'Arcy A. : *See*—
Coffer, Henry F., Shock, Woods, and Crawford. 3,407,605.

Short, Oliver A., to E. I. du Pont de Nemours and Co. Thermistor compositions and thermistors made therefrom. 3,408,311, 10–29–68, Cl. 252—514.

Shortes, Samuel R., to Texas Instruments Inc. Increasing the electron energization threshold of phosphor particles. 3,408,223, 10–29–68, Cl. 117—100.

Shulman, Elliott, to British Industries Corp. Method of making cutting dies by electroerosion. 3,408,471, 10–29–68, Cl. 219—69.

Shyam, Megha : *See*—
Allen, John W., Shyam, and Pearson. 3,408,594.

Sickinger, Hans, Co. : *See*—
Ostermeier, Claus. 3,407,851.

Siegart, William R. : *See*—
Blackley, William D., and Siegart. 3,408,412.

Siemens Aktiengesellschaft : *See*—
Adamietz, Josef, and Thierbach. 3,408,514.
Bahr, Alex. 3,408,525.
Dietz, Helmut, Lippmann, and Schenk. 3,407,637.
Feese, Wolfgang. 3,407,588.
Haus, Joachim. 3,408,541.
Holzwarth, Herbert. 3,408,304.
Kesel, Günther. 3,408,275.
Koller, Alois, and Michel. 3,408,527.
Weiss, Herbert. 3,408,499.

Sieverding, Wayne F. : *See*—
Norris, John W., and Sieverding. 3,407,867.

Signal-Stat Corp. : *See*—
Travis, Victor. 3,408,136.

Simjian, Luther G. Check controlled lock. 3,407,914, 10–29–68, Cl. 194—4.

Simjian, Luther G. Service Compartment. 3,407,998, 10–29–68, Cl. 232—43.4.

Simkins, Daniel, to Continental Can Co., Inc. Expendable pallets. 3,407,758, 10–29–68, Cl. 108—51.

Simmons, Cecil E., to Jeffrey Galion Mfg. Co. Method of mulling. 3,408,052, 10–29–68, Cl. 259—147.

Simon, Jean-Claude, and G. J. Broussaud, to C & F Compagnie Generale de Telegraphie Sans Fil. System for localizing trains along a track. 3,408,646, 10–29–68, Cl. 343—6.5.

Sinclair Research, Inc. : *See*—
Sheldahl, David B. 3,408,297.

Singer Co., The : *See*—
Ketterer, Stanley J. 3,407,760.
Mauquoi, Fred W. 3,407,761.
Wyman, Harry E., and Beasley. 3,408,503.

Singer, Franz, to Compur-Werk Gesellschaft mit beschrankter Haftung & Co. Photographic apparatus. 3,407,718, 10–29–68, Cl. 95—11.

Sirrenberg, Wilhelm, G. Unterstenhöfer, and I. Hammann, to Farbenfabriken Bayer Aktiengesellschaft. Phenyl-benzenesulfonic acid esters. 3,408,382, 10–29–68, Cl. 260—456.

Skagit Corp. : *See*—
McIntyre, Maurice J., and Rennie. 3,407,942.

Skinner, Kenneth R., to General Motors Corp. Lamp burnout detection circuit. 3,408,625, 10–29–68, Cl. 340—79.

Skisearch, Inc. : *See*—
Bennett, William N. 3,408,086.

Skorcz, Joseph A., to Colgate-Palmolive Co. 1-benzocyclobutenyl amino acids. 3,408,391, 10–29–68, Cl. 260—518.

Slagell, Lloyd D. : *See*—
Smith, Charles R., and Slagell. 3,407,858.

Slax Inc. : *See*—
Rohrlick, Michael K., Latulippe, Seguin, and Roth. 3,407,764.

Slayton, Wayland F. Sliding jaw wrench having an adjustable rack and pivoted rack catch. 3,407,689, 10–29–68, Cl. 81—134.

Slezak, Raymond J. Belt tracking apparatus. 3,407,673, 10–29–68, Cl. 74—241.

Sliman, Michael T. Alarm device. 3,408,643, 10–29–68, Cl. 340—280.

Slimm, Victor R. Hydraulic apparatus. 3,407,744, 10–29–68, Cl. 103—162.

Smith, Charles R., and L. D. Slagell, to Creve Coeur Mfg. Co. Cutter drive and mounting. 3,407,858, 10–29–68, Cl. 146—76.

Smith, Jimmy G., and O. J. Rhodes. Stringed musical instrument stable, harmonic-free tuning. 3,407,696, 10–29–68, Cl. 84—297.

Smith, Leonard H., and W. A. McMillan, to Electromatic Beer Controls, Ltd. Draft beer metering apparatus. 3,408,036, 10–29–68, Cl. 251—138.

Smith, Leslie H. : *See*—
Howe, Ralph, and Smith. 3,408,387.

Smith, Ray F., to Berwick Forge & Fabricating Corp. Hydrodynamic retarder. 3,407,908, 10–29–68, Cl. 188—90.

Smith, Ronald A. : *See*—
Lewis, Harry, and Smith. 3,408,179.

Smith, Roy E., and J. P. Klink. Method and apparatus for forming and collecting filaments. 3,408,012, 10–29–68, Cl. 242—18.

Smith, William D., to International Business Machines Corp. Automatic gain control circuit. 3,408,578, 10–29–68, Cl. 328—67.

Snider, Paul H. : *See*—
Baker, Edward S. 3,408,613.

Snyder, Clifford H., to SRM Co. Valved coupling. 3,407,847, 10–29–68, Cl. 137—614.06.

Societa' Farmaceutici Italia : *See*—
Grein, Arpad, Canevazzi, and Barchielli. 3,408,258.

Societe Anonyme de Machines Electrostatiques : *See*—
Morel, Roger C. M., and Tauveron. 3,407,930.

Societe anonyme dite Compagnie des Freins et Signaux Westinghouse : *See*—
Martin, Gerard. 3,408,507.

Societe Anonyme Manufacture Belge de Lampes et de Materiel Electronique : *See*—
Schayes, Raymond and Kozlowitz. 3,408,495.

Societe Civile de Recherches et D'Etudes Industrielles : *See*—
Vincens, Rene. 3,408,127.

Societe d' Electronique et d' Atomatisme : See—
Masson, Claude M. E. 3,408,640.

Societe des Forges et Ateliers du Creusot (S.F.A.C.) : *See*—
Savary, Fernand J. E. 3,408,101.

Societe des Mecaniques Verdol : *See*—
Fumat, Joseph. 3,407,848.
Societe Generale de Constructions Electriques et Mecaniques (Alsthom) : *See*—
Chadenson, Pierre, and Lepeuve. 3,407,656.
Societe Nationale des Petroles d'Aquitaine : *See*—
Labat, Yves. 3,408,327.
Labat, Yves. 3,408,328.
Labat, Yves. 3,408,329.
Societe Rhodiaceta : *See*—
Martin, Jean C. and C. 3,408,277.
Sogawa, Toru, S. Gomi, and T. Kanai, to Kureha Kagaku Kogyo Kabushiki Kaisha. Thermal cracking method of hydrocarbons. 3,408,417, 10–29–68, Cl. 260—679.
Sokoloff, Boris. Tobacco smoke filter. 3,407,821, 10–29–68, Cl. 131—265.
Sokoly, John : *See*—
Noakws, Thomas E., Van Kuyk, and Sokoly. 3,407,665.
Solomon, David E., to Westinghouse Electric Corp. Helical slow wave structure for a travelling wave tube to provide heat removal from the slow wave structure. 3,408,529, 10–29–68, Cl. 315—3.5.
Somerset, James P. : *See*—
Peterson, Thomas G., and Somerset. 3,408,558.
Somos, Istvan : *See*—
De Cecco, Angelo L., Piccone, and Somos. 3,408,545.
Sonia, John : *See*—
Wheeler, John B., III, Sonia, Samuels, and Kirkis. 3,408,437.
Sonic Engineering Corp. : *See*—
Jacobs, John, III. 3,408,050.
Sophy, Yvon, to Commissariat a l'Energie Atomique. Tensile testing machine. 3,407,651, 10–29–68, Cl. 73—97.
Southwestern Engineering Co. : *See*—
McKibben, Richard K. 3,407,542.
Spandorfer, Lester M., to Sperry Rand Corp. Read-write network for content addressable memory. 3,408,638, 10–29–68, Cl. 340—174.
Spear, Clifton T. Device for supplying chemical disinfectant and the like to the trap of a toilet bowl. 3,407,412, 10–29–68, Cl. 4—228.
Sperry Rand Corp. : *See*—
Bute, Curtis J., and La Valley. 3,408,612.
Cook, Charles E., and Fine. 3,408,650.
Davis, William W. 3,407,492.
Hurlburt, Joseph C. 3,407,578.
Raisanen, Walfred R. 3,408,512.
Spandorfer, Lester M. 3,408,638.
Walter, Gerard O., Goldammer, and De Meo. 3,407,938.
Sperry Rand Ltd. : *See*—
Dove, Frank. 3,407,654.
Spisak, Steve, to Gregory Industries, Inc. Welding tool. 3,408,472, 10–29–68, Cl. 219—98.
Spitzmiller, Ervin R. : *See*—
Bernstein, Jack, Spitzmiller, and Bruson. 3,408,389.
Spolsino, Peter P., to W. R. Grace & Co. Bag closure. 3,407,969, 10–29–68, Cl. 229—62.
Sporlan Valve Co. : *See*—
Wischmeyer, William F., and Hoffman. 3,407,617.
Sprado, Bernard M. : *See*—
Konijnenberg, Johan, and Sprado. 3,407,958.
Squibb, E. R., & Sons, Inc. : *See*—
Bernstein, Jack, Spitzmiller, and Bruson. 3,408,389.
Horovitz, Zola P. 3,408,356.
Stath, Benedict. Inkflow control for a printing press. 3,407,729, 10–29–68, Cl. 101—347.
Stacherl, John : *See*—
Dewey, Dwight N., and Stacherl. 3,407,451.
Stafford, Edwin G., Jr. Railway car construction. 3,407,753, 10–29–68, Cl. 105—367.
Stamicarbon N.V. : *See*—
Machiels, André J. G. M. G. 3,408,055.
Van Mourik, Johannes, and Van Beveren. 3,408,335.
Van Muylwijk, Arend J. 3,408,218.
Standard Oil Co. : *See*—
Bachl, John, Jr. 2,408,154.
Stanley, William G., and Morello. 3,408,431.
Walker, Donald C., and Hunt. 3,407,804.
Standard Oil Co., The (Ohio) : *See*—
Greene, Janice L., Veatch, and Godfrey. 3,408,254.
Miller, Arthur F., and Salehar. 3,408,157.
Stanford Research Institute : *See*—
Dore, Burnell V., and Geppert. 3,408,521.
Stanley, Edward W., to Armstrong Cork Co. Method of trimming and cutting in register. 3,407,690, 10–29–68, Cl. 83—47.
Stanley, Richard A. : *See*—
Horgan, Thomas B., and Stanley. 3,408,557.
Stanley, William G., and E. F. Morrello, to Standard Oil Co. Method of preparing propellant grain. 3,408,431, 10–29–68, Cl. 264—3.
Stanwood, David A., to Swimquip, Inc. Liquid jet producing device. 3,408,006, 10–29–68, Cl. 239—66.
Starbuck, Charles L. : *See*—
Ashburn, Lennie L., and Starbuck. 3,408,224.
Stark, Manfred : *See*—
Anderko Kurt, Henle, and Stark. 3,407,864.
Staugaard, Kenneth, to Burroughs Corp. Control apparatus for web feeding devices. 3,407,981, 10–29–68, Cl. 226—171.
Staunton, G. S., & Co., Inc. : *See*—
Staunton, Richard T. 3,407,576.
Staunton, Richard T. 3,408,438.
Staunton, John J. J., to The Perkin-Elmer Corp. Instrument cooling system. 3,407,869, 10–29–68, Cl. 165—80.
Staunton, Richard T., to G. S. Staunton & Co., Inc. Self-supporting filter element. 3,407,576, 10–29–68, Cl. 55—514.
Staunton, Richard T., to G. S. Staunton & Co., Inc. Method of making self-supporting filter element. 3,408,438, 10–29–68 Cl. 264—252.
Ste. Ame. Cockerill-Ougree : *See*—
Levaux, Jean. 3,408,177.
Steck, Edgar A. : *See*—
Troscinski, Edwin S., Steck, and Cochrane. 3,408,307.
Steelcase, Inc. : *See*—
Bolling, Vernon B., and Levit. 3,408,106.
Steele, Duane R. : *See*—
Rylander, Paul N., and Steele. 3,408,364.
Steigerwald, Richard A. : *See*—
Gibson, Robert G., Steigerwald, and Ide. 3,408,637.
Stein, Gary, to Applied Power Industries, Inc. Pump with variable volume and directional control. 3,407,737, 10–29–68, Cl. 103—2.
Steiner Co. Lausanne S.A. : *See*—
Rasmussen, Holger. 3,408,125.
Steinke, James M., to The National Cash Register Co. Mechanism for producing rotary output motion with harmonic displacement characteristics. 3,407,678, 10–29–68, Cl. 74—394.
Steinmetz, Werner, to Pneumafil Corp. Filtering foreign matter from a collecting airstream. 3,407,570, 10–29–68, Cl. 55—97.
Stephens, James A., Jr. : *See*—
May, James L., and Stephens. 3,407,418.
Stephenson, George W., to Ingles & Macinnes Ltd. Pipe coupling. 3,408,096, 10–29–68, Cl. 285—110.
Stevens, Eugene V. Bedside bathing apparatus. 3,407,411, 10–29–68, Cl. 4—185.
Stevens, Raymond H. : *See*—
Chapman, Richard M., and Stevens. 3,408,563.
Stevenson, Kenyon, Jr. : *See*—
Rolewicz, Henry A., Grimes, and Stevenson. 3,408,383.
Stevenson, Philip J., and S. P. Suskind, to Monsanto Co. Method for preparing non-woven substrates. 3,407,461, 10–29–68, Cl. 28—72.2.
Stewart, David G. : *See*—
Ball, William J., Barclay, Gasson, Stewart, Bohemen, Newman, and Wood. 3,408,401.
Stewart-Warner Corp. : *See*—
Earleywine, Aubrey W., Jr., and Grah. 3,408,464.
Stirton, Alexander J. : *See*—
Ault, Waldo C., Micich, Stirton, and Bistline. 3,408,373.
Stojanow, Iwan M. : *See*—
Krüger, Werner H., Stojanow, and Messer. 3,408,259.
Stone & Webster Engineering Corp. : *See*—
Hallee, Lawrence P., Green, and Woebcke. 3,407,789.
Stoodley, Keith H., to Porter Paints Ltd. Painting process wherein a conductive undercoat is electrophoretically deposited. 3,408,278, 10–29–68, Cl. 204—181.
Strachan, Richard W. : *See*—
Nield, Joseph G., Jr., and Strachan. 3,408,540.
Streib, Hugo, and W. Hechelhammer, to Farbenfabriken Bayer Aktiengesellschaft. Glass fibers sized with polycarbonate. 3,408,225, 10–29–68, Cl. 117—126.
Stromberg-Carlson Products, Inc. : *See*—
Brammer, Robert C. 3,407,901.
Strong, Herbert M., to General Electric Co. High pressure reaction vessel for the preparation of diamond. 3,407,445, 10–29–68 Cl. 18—34.
Struble, Willard R., and J. A. Pauley. Snow making nozzle. 3,408,005, 10–29–68, Cl. 239—14.
Strupczewski, Andrzej. Composite cathode for use in an arc plasma torch. 3,408,518, 10–29–68, Cl. 313—32.
Strutz, Carl, & Co., Inc. : *See*—
Strutz, Carl J., Jr., Rudolph, and F. C. Strutz. 3,407,915.
Strutz, Carl J., Jr., R. R. Rudolph, and F. C. Strutz, to Carl Strutz & Co., Inc. Conveyor for workpiece decorating apparatus and method for its use. 3,407,915, 10–29–68, Cl. 198—19.
Strutz, Frank C. : *See*—
Strutz, Carl J., Jr., Rudolph, and Strutz. 3,407,614.
Strutz, Carl J., Jr., Rudolph, and F. C. Strutz. 3,407,915.
Stubbs, Frank F. Ankle support. 3,407,811, 10–29–68, Cl. 128—166.
Studebaker Corp. : *See*—
Hildebrant, Vernon H. 3,407,861.
Stull, Morton B. Dispensing closure cap. 3,407,967, 10–29–68, Cl. 222—48.
Sturman, Oded E. : *See*—
Turnblade, Richard C., and Sturman. 3,407,622.
Turnblade, Richard C., and Sturman. 3,407,626.
Stutz, Theo, to Contraves A.G. Arrangement for counting signals of specific significance. 3,408,484, 10–29–68, Cl. 235—92.
Such, Tony E., and M. Partington, to W. Canning & Co. Ltd. Electrodeposition of chromium. 3,408,272, 10–29–68, Cl. 204—51.
Su-Ev, Inc. : *See*—
Baker Stephen C. 3,408,062.
Suh, John T., to Colgate-Palmolive Co. Novel processes for preparing ferrocene-cyclic ethers. 3,408,376, 10–29–68, Cl. 260—439.
Suh, John T., and C. I. Judd, to Colgate-Palmolive Co. α-Cyclohexyl - 3,4 - disubstituted-phenyl acetamides. 3,408,396, 10–29–68, Cl. 260—559.
Sulzer Bros., Ltd. : *See*—
Hagmann, Fritz. 3,407,788.
Sun Electric Corp. : *See*—
Schomburg, Louis M., and Dvorak. 3,407,652.
Sun Oil Co. : *See*—
Bennett, John D. 3,407,886.
Cox, William H. 3,408,622.
Hepp, Peter S. 3,408,286.
Teichner, Stanislas J., Thomas, and Hoang. 3,408,159.
Sun Shipbuilding & Dry Dock Co. : *See*—
Garland, Charles. 3,407,417.
Sunbeam Corp. : *See*—
Jepson, Ivar, and Viecell. 3,407,522.
Sundholm, Norman K., to Uniroyal, Inc. Curing agents for liquid polyurethanes. 3,408,301, 10–29–68, Cl. 252—182.

Superior Electric Co., The : *See*—
Peterson, Thomas G., and Somerset. 3,408,558.
Surber, Albert : *See*—
Kaiser, Friedrich, Pirchl, and Surber. 3,408,037.
Surmatis, Joseph D., to Hoffmann-La Roche Inc. Novel processes and intermediates. 3,408,414, 10–29–68, Cl. 260—666.
Sus, Oskar, J. Munder, and H. Schafer, to Keuffel & Esser Co. Diazotype reproduction materials containing an O-amino phenol as coupler. 3,408,203, 10–29–68, Cl. 96—91.
Suskind, Stuart P. : *See*—
Stevenson, Philip J., and Suskind. 3,407,461.
Suvada, Paul. Chess pieces distinguished by color. 3,408,073, 10–29–68, Cl. 273—137.
Suzuki, Yasuo : *See*—
Yoshizawa, Heiji, Suzuki, and Watanabe. 3,407,682.
Swain, James C. : *See*—
Mitchell, Robert K., Swain, Thomas, and Wilcox. 3,407,742.
Swanson, Arthur M., and D. J. Fenske, to A. M. Swanson. Flour aggregation process. 3,408,204, 10–29–68, Cl. 99—93.
Swanson, John R. : *See*—
Cooper, David, and Swanson. 3,408,513.
Swanson, Richard H. : *See*—
Dedricks, Alvin N., and Swanson. 3,407,621.
Swimquip, Inc. : *See*—
Stanwood, David A. 3,408,006.
Swiss Controls & Research, Inc. : *See*—
Kolster, Wilhelm K. 3,408,477.
Sylvania Electric Products Inc. : *See*—
Casamo, Charles C., and Kerstetter. 3,408,522.
Syntex Corp. : *See*—
Fried, John H. 3,408,372.
Halpern, Berthold. 3,408,343.
Halpern, Otto. 3,408,371.
Szita, Jeno, U. Bahr, H. Marzolph, and G. Nischk, to Farbenfabriken Bayer Aktiengesellschaft. Polymers of acrylonitrile with olefinically unsaturated urea. 3,408,338, 10–29–68. Cl. 260—79.3.
Szymanski, Thaddeus A., to Air Reduction Co., Inc. Inflatable seal. 3,408,083, 10–29–68. Cl. 277—34.
Tabbert, Gene H., to Dana Corp. Shift linkage assembly for a wheeled vehicle. 3,407,592, 10–29–68, Cl. 60—19.
Tabor, Patrick M., to Mercox, Inc. Explosive projectile for use with weapons such as rifles and pistols. 3,407,734, 10–29–68, Cl. 102—66.
Takahashi, Saburo : *See*—
Yamamoto, Takashi, Kobayashi, Nakatomi, Takahashi, Ueda, and Kondo. 3,408,426.
Takenishi, Tadao : *See*—
Yamazakai, Akihiro, Kumashiro, Kato, Meguro, Takenishi, Yoshikawa, Ninomiya, Yamaguchi, Komata, Saito, and Ikeda. 3,408,206.
Takezawa, Isoe, I. Takizawa, and D. Ohno, to Mitsubishi Jukogyo Kabushiki Kaisha. Method of joining parts of a structure floating on the water. 3,407,771, 10–29–68, Cl. 114—77.
Takizawa, Ichizo : *See*—
Takezawa, Isoe, Takizawa, and Ohno. 3,407,771.
Tanaka, Tsutomu, T. Tokuzumi, and H. Fujimura, to Mitsui Petrochemical Industries, Ltd. Process for the polymerization of olefins with the tri-component catalyst including disubstituted polysiloxane. 3,408,340, 10–29–68, Cl. 260—88.2.
Tarbox, George S., to Jacoby-Tarbox Corp. Sight glass mounting and adjusting means. 3,407,662, 10–29–68, Cl. 73—325.
Tatum, David. Processing of coated paper. 3,408,255, 10–29–68, Cl. 162—5.
Taub, David, to Merck & Co., Inc. Racemization of α-alkyl phenylalanines. 3,408,385, 10–29–68, Cl. 260—479.
Tauveron, Pierre : *See*—
Morel, Roger C. M., and Tauveron. 3,407,930.
Taylor, Wilfred V. Apparatus for chilling vessels. 3,407,624, 10–29–68, Cl. 62—293.
Teague, Walter D., Jr., and A. P. Montalbano. Manually operable printer particularly for imprinting names and addresses upon tags, invoices and the like. 3,407,728, 10–29–68, Cl. 101—282.
Technical Operations, Inc. : *See*—
Mueller, Peter F. 3,408,143.
Techniservice Corp. : *See*—
Irwin, Malcolm F., and Hampel. 3,407,583.
Teichman, Robert, and J. P. Everett, Jr., to Ralston Purina Co. Production of animal feed containing gamma amino butyric acid and the resulting product. 3,408,200, 10–29–68, Cl. 99—2.
Teichner, Stanislas J., C. L. Thomas, and V. C. Hoang, to Sun Oil Co. Preparation of amorphous alumina. 3,408,159, 10–29–68. Cl. 23—143.
Tektronix, Inc. : *See*—
Gates, John M. P. 3,408,533.
Gibson, Charles B., Jr. 3,408,530.
Moriyasu, Hiro. 3,408,580.
Teledyne, Inc. : *See*—
Miller, Avy L. 3,408,004.
Temple, Donald L., and N. Oberg, to Zero Mfg. Co. Blast room with uniform down-draft ventilation. 3,407,719, 10–29–68, Cl. 98—32.
Teszner, Stanislas. Junction and field-effect combined transistor. 3,408,544, 10–29–68, Cl. 317—235.
Tetzlaff, Clarence C., and G. Chamberlain, to Wittek Mfg. Co. Hose clamp with hose-attaching means. 3,407,448, 10–29–68, Cl. 24—19.
Tetzlaff, Clarence C., and G. Chamberlain, to Wittek Mfg. Co. Hose clamp with hose-attaching means. 3,407,449, 10–29–68, Cl. 24—19.
Teves, Alfred, G.m.b.H. : *See*—
Schmid, Leopold F. 3,407,907.
Texaco Inc. : *See*—
Aiken, Robert W., Canup, and Galasple. 3,407,795.
Blackley, William D., and Siegart. 3,408,412.
Chafetz, Harry, and Patmore. 3,408,351.
Texas Instruments Inc. : *See*—
Finnegan, Francis. 3,407,840.
Kettler, Charles L., Walston, and Jones. 3,408,627.
Nield, Joseph G., Jr., and Strachan. 3,408,540.
Posey, Ken, Jr., and Truitt. 3,408,229.
Redwanz, James O. 3,408,451.
Sanders, Donald P. 3,408,238.
Shortes, Samuel R. 3,408,223.
Textron, Inc. : *See*—
Flachbarth, Charles T., and Hadfield. 3,408,094.
Tezuka, Yoshitomo, to Aida Iron Works & Co., Ltd. Safety device in press machine and control device therefor. 3,407,913, 10–29–68, Cl. 192—129.
Thierbach, Dietwalt : *See*—
Adamietz, Josef, and Thierbach. 3,408,514.
Thierbach, Emma : *See*—
Adamietz, Josef, and Thierbach. 3,408,514.
Thiokol Chemical Corp. : *See*—
Peterson, John A. 3,407,595.
Thom, Laurence E. Marine toilet. 3,407,410, 10–29–68, Cl. 4—111.
Thoma, Wilhelm, H. Rinke, and H. Zygan, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of foils of high E-modulus. 3,408,434, 10–29–68, Cl. 264—210.
Thomas, Charles L. : *See*—
Teichner, Stanislas J., Thomas, and Hoang. 3,408,159.
Thomas, David L. : *See*—
Mitchell, Robert K., Swain, Thomas, and Wilcox. 3,407,742.
Thomas, Martin : *See*—
Feldman, Julian, and Thomas. 3,408,397.
Thomas, Rainer, and P. Weber, to Phrix-Werke Aktiengesellschaft. Method of separating cations from solutions containing the same. 3,408,291, 10–29–68, Cl. 210—32.
Thompson, Joshua B., and G. C. Hildred, to Cominco Ltd. Pan granulation. 3,408,169, 10–29–68, Cl. 23—313.
Thompson, Richard L., to General Electric Co. Photoelectric control device with rotatable housing for adjustable light control to the photosensitive element. 3,408,501, 10–29–68, Cl. 250—239.
Thompson, William B., R. Treloar, and C. A. Thorsby, to General Motors Corp. Auxiliary means energizing fluid steering system upon deactivation of main pump. 3,407,894, 10–29–68, Cl. 180—53.
Thorsby, Claude A. : *See*—
Thompson, William B., Treloar, and Thorsby. 3,407,894.
Thrower, John : *See*—
McLoughlin, Victor C. R., and Thrower. 3,408,411.
Tibbs, Oscar F., ½ to J. W. Buzick. Breakerless oscillator ignition system. 3,408,536, 10–29–68, Cl. 315—212.
Tiedtke, Karl H., H. Scheller, and W. Ilse. Production of spinnable polyesters. 3,408,333, 10–29–68, Cl. 260—75.
Timberland Products Co., Inc. : *See*—
Warner, Donald F. 3,407,802.
Timko, Frank S. : *See*—
Harz, Fred C., and Timko. 3,408,138.
Tinker, Frederick B., to Rodgers Organ Co. Keying and wave-shaping circuit for electronic musical instrument. 3,408,449, 10–29–68, Cl. 84—1.11.
Tinker, John F. : *See*—
Reynolds, Delbert D., and Tinker. 3,408,198.
Toko Kabushiki Kaisha : *See*—
Nakamura, Katsuro. 3,408,639.
Tokuzumi, Tadaichi : *See*—
Tanaka, Tsutomu, Tokuzumi, and Fujimura. 3,408,340.
Tolley, Derek C., to National-Standard Co. Ltd. Bag type filter apparatus and cleaning means therefor. 3,407,572, 10–29–68, Cl. 55—283.
Torii, Tatsumi : *See*—
Asano, Tadao, and Torii. 3,408,118.
Torok, Andrew, to Georgia Kaolin Co. Modified montmorillonite containing exchangeable ammonium cations and preparation thereof. 3,408,305, 10–29–68, Cl. 252—317.
Touey, George P., and R. C. Mumpower, to Eastman Kodak Co. Tobacco smoke filters containing polyethylene encapsulated cellulose particles. 3,407,822, 10–29–68, Cl. 131—266.
Toyo Rayon Kabushiki Kaisha : *See*—
Iwamoto, Masao, and Yughchi. 3,408,418.
Trabler, Martin O. : *See*—
Kiernan, James G., and Trabler. 3,407,681.
Trans Continental Electronics Corp. : *See*—
Rolfes, Hans. 3,407,835.
Traver, Alfred E., to Mobil Oil Corp. Circuit for controlling analysis of automobile exhaust gas. 3,407,646, 10–29–68, Cl. 73—23.
Travis, Victor, to Signal-Stat Corp. Rearview vehicle mirror with flat and convex elements. 3,408,136, 10–29–68, Cl. 350—293.
Treloar, Ronald : *See*—
Thompson, William B., Treloar, and Thorsby. 3,407,894.
Trent, Robert L. : *See*—
Dautzenberg, Winand J., Mitchell, Trent, Van Wagenen, and Rau. 3,408,542.
Triplett, John M., to E. I. du Pont de Nemours and Co. Warp drawing-in apparatus. 3,407,460, 10–29–68, Cl. 28—44.
Troeger, Henry, to The Bendix Corp. Power amplifier. 3,407,677, 10–29–68, Cl. 74—388.
Trojan Powder Co. : *See*—
Griffith, George L. 3,407,730.

Trotope, William G. A., to Canadian Ingersoll-Rand Co., Ltd. Hoist apparatus including current sensitive motor control means to hold a variably loaded cage chaired. 3,407,904, 10–29–68, Cl. 187—29.

Trosciuski, Edwin S., E. A. Steck, and C. C. Cochrane, to Nalco Chemical Co. Inhibiting corrosion of copper with tetrazoles. 3,408,307, 10–29–68, Cl. 252—394.

Trultt, James K.: *See*—
Posey, Ken, Jr., and Trultt. 3,408,229.

Trulsson, Sven I.: *See*—
Olofsson, Hans K., Pettersson, and Trulsson. 3,407,996.

Tsuge, Masanobu, to D Antenna Co., Ltd. Multi-element high frequency antenna and element mounting means therefor. 3,408,655, 10–29–68, Cl. 343—817.

Tsutuhori, Yoshio, and M. Sekine, to Nippon Shock Absorber Co., Ltd. Hydraulic shock absorbers. 3,408,060, 10–29–68, Cl. 267—1.

Tuck, Robert M., and U. A. Breting, to General Motors Corp. Transmission. 3,407,686, 10–29–68, Cl. 74—701.

Tullio, Victor: *See*—
Pedrotti, Rucolph L., Sandy, and Tullio. 3,408,375.

Tuum, Guenter W., and J. B. Guin. Apparatus and method for coating, molding and hardening work pieces. 3,408,432, 10–29–68, Cl. 264—84.

Tundermann, Werner O.: *See*—
Grippo, George D., and Tundermann. 3,407,813.

Turnblade, Richard C., and O. E. Sturman, to Conductron Corp. Thermal refrigeration apparatus. 3,407,622, 10–29–68, Cl. 62—190.

Turnblade, Richard C., and O. E. Sturman. Thermal refrigeration apparatus. 3,407,626, 10–29–68, Cl. 62—498.

U.S. Industries, Inc.: *See*—
Hartman, John E. 3,407,551.

Ueda, Hideo: *See*—
Yamamoto, Takashi, Kobayashi, Nakatomi, Takahashi, Ueda and Kondo. 3,408,426.

Ulbricht, Kurt, to Institut Fuer Leichtbau und Oekonomische Verwendung Von Werkstoffen. Hydrodynamic power transmission assembly. 3,407,599, 10–29–68, Cl. 60—54.

Union Carbide Australia Ltd.: *See*—
Hackney, Ronald J. 3,408,323.

Union Carbide Corp.: *See*—
Cotter, Robert J., Apel, and Conte. 3,408,407.
Khuri, Albert. 3,408,395.
Olson, Roy N., and Frey. 3,408,205.
Schickendantz, Paul D. 3,408,394.
Wheeler, John B., III, Sonia, Samuels, and Kirkis. 3,408,437.

Uniroyal Inc.: *See*—
Brown, Robert W. 3,408,249.
Brucksch, William F. 3,408,320.
Dowell, Frederick S., and Greenfield. 3,408,415.
Eckert, Charles F., and English. 3,408,253.
Farrar, Henry C. 3,407,420.
Sundholm, Norman K. 3,408,301.

United Aircraft Products, Inc.: *See*—
Campbell, Robert L. 3,407,875.

United Carr Co.: *See*—
Wolfe, Wayne F. 3,407,765.

United-Carr Inc.: *See*—
Seckerson, Clifford A., and Downer. 3,407,909.

United Equipment Accessories, Inc.: *See*—
Iserman, Labern R. 3,408,609.

United Shoe Machinery Corp.: *See*—
Hovey, Emerson B. 3,408,221.
Musser, C. Walton. 3,407,902.

United States of America
Agriculture: *See*—
Ault, Waldo C., Micich, Stirton, and Bistline. 3,408,373.
Eskew, Roderick K., and Cording. 3,408,209.
Fisher, Charles H. 3,407,462.
Pittman, Allen G., and Wasley. 3,408,380.
Navy: *See*—
Anastasio, Andrew A., and Francy. 3,407,777.
Dasbach, Curt J., and Kalb. 3,407,596.
Hunley, William H., and Annibale. 3,407,769.

United States Borax & Chemical Corp.: *See*—
Bower, Joseph G. 3,408,155.
Bower, Joseph G. 3,408,156.

United States Steel Corp.: *See*—
Callighan, Robert H., Hawthorne, and Mihelic. 3,408,402
Griffiths, David K., and Richards. 3,3408,058.
Hornak, John N. 3,408,059.
Purkey, Everett. 3,407,535.
Scott, Jay R. 3,408,020.

United Systems Corp.: *See*—
Fisher, Bernard. 3,408,568.

Unitek Corp.: *See*—
Gilbert, John A. 3,408,473.

Universal Oil Products Co.: *See*—
Borst, William B., Jr. 3,408,284.
Herber, Raymond R., and Vesely. 3,408,419.
Urban, Peter, and Cyba. 3,408,287.
Ward, Dennis J. 3,408,263.
Ward, Dennis J. 3,408,264.
Ward, Dennis J. 3,408,265.
Ward Dennis J. 3,408,266.

Unterstenhöfer, Gunter: *See*—
Sirrenberg, Wilhelm, Unterstenhöfer, and Hammann. 3,408,382.

Upjohn Co., The: *See*—
Babcock, John C., and Campbell. 3,408,370.

Urban, Friedrich: *See*—
Raichle, Ludwig, Mahler, Mueller, Koch, Immel, Urban, and Hotz. 3,408,007.

Urban, Peter, and H. A. Cyba, to Universal Oil Products Co. Oxidation of mercaptans. 3,408,287, 10–29–68, Cl. 208—207.

Urbanick, Burton A., to Met-L-Wood Corp. Door closure. 3,407,537, 10–29–68, Cl. 49—483.

Usuda, Koji: *See*—
Ono,Minoru, and Usuda. 3,408,543.

V & E Friedland Ltd.: *See*—
Doggart, John, and Lawton. 3,408,645.

VEB Getriebewerk Gotha: *See*—
Lätsch, Horst, Meusel, and Nagel. 3,407,627.

Vaclaw, Michael M.: *See*—
Harvey, Robert R., and Vaclaw. 3,407,877.

Vaglas, Ernest. Resonator means for pianos. 3,407,694, 10–29–68, Cl. 84—194.

Valchulis, John A. Apparatus and method for disinfecting or purifying water. 3,408,295, 10–29–68, Cl. 210—62.

Valdettaro, Alarico A., J. G. Badger, and S. R. Meadows, deceased (by R. Meadows, administratrix), to Sarkes Trazian, Inc. Fine tuning mechanism. 3,407,669, 10–29–68, Cl. 74—10.6.

Valla, Antonio & Co. s.n.c.: *See*—
Valla, Gian E. 3,407,947.

Valla, Gian E., to Valla, Antonio & Co. s.n.c. Material-moving device for moving objects. 3,407,947, 10–29–68, Cl. 214—141.

Van Beveren, Johannes: *See*—
Van Mourik, Johannes, and Van Beveren. 3,408,335.

Vandenberg, Edwin J., to Hercules Inc. Diols of poly(glycidyl ethers). 3,408,404, 10–29–68, Cl. 260—611.

Vanderbilt, R. T., Co., Inc.: *See*—
Waterman, Raymond R., and Bogdany. 3,408,308.

Van Hartesveldt, Carroll H., to Hoover Ball and Bearing Co. Wear resistant titanium alloy and method of producing same. 3,408,236, 10–29–68, Cl. 148—6.3.

Van House, Robert M., and E. J. De Hoff, to General Motors Corp. Split brake system fluid loss audible warning device. 3,407,780, 10–29–68, Cl. 116—65.

Van Kuyk, Harry J.: *See*—
Noakes, Thomas E., Van Kuyk, and Sokoly. 3,407,605.

Van Meter, Jack P.: *See*—
Doke, Jack, and Van Meter. 3,407,547.

Van Mourik, Johannes, and J. van Beveren, to Stamicarbon N.V. Anionic polymerization of lactams with unsaturated lactone as promoter. 3,408,335, 10–29–68, Cl. 260—78.

Van Muylwijk, Arend J., to Stamicarbon N.V. Process for the manufacture of printed or dyed objects made of inert plastics. 3,408,218, 10–29–68, Cl. 117—15.

Van Noord, Andrew J., to Kent Engineering. Remote control mirror. 3,407,684, 10–29–68, Cl. 74—501.

Van Pul, Bernard: *See*—
Fordemwalt, James N., and Van Pul. 3,407,479.

Van Spijk, Hubertus P., and J. M. van Weert, to Lips N.V. Device for sealingly transmitting a liquid under pressure from a stationary structural part into a rotating shaft or the reverse. 3,408,085, 10–29–68, Cl. 277—72.

Vantroba, Robert W., to The Bastian-Blessing Co. Liquid level float control. 3,408,053, 10–29–68, Cl. 261—27.

Van Wagenen, Julius E.: *See*—
Dautzenberg, Winand J., Mitchell, Trent, Van Wagenen, and Rau. 3,408,542.

Van Weert, Johannes M.: *See*—
Van Spijk, Hubertus P., and Van Weert. 3,408,085.

Varian Associates: *See*—
Helgesson, Alan L. 3,408,591.
Llewellyn, Peter M. 3,408,494.
McConnell, Harden M. 3,408,310.

Varkala, Joseph C. Bacon cooker. 3,407,723, 10–29–68, Cl. 99—349.

Veatch, Franklin: *See*—
Greene, Janice L., Veatch, and Godfrey. 3,408,254.

Venanzetti, Michele. Vibrating eccentric mass device comprising one or more pairs of vibrators independently rotating in opposite direction to one another. 3,407,670, 10–29–68, Cl. 74—61.

Verbine, Carl J.: *See*—
Lewis, John M., and Verbine. 3,407,510.

Vernet, Sergius, to Antioch College. Double action thermostat. 3,407,663, 10–29–68, Cl. 73—368.3.

Versatile Fillings (W.A.S.) Ltd.: *See*—
Peacock, David H. 3,407,561.

Verschure & Co.'s Scheepswerf en Machinefabriek N.V.: *See*—
Donkers, Jacobus M. 3,407,520.

Vertnik, Leonard R., to General Mills, Inc. Low melting polyamide resin of fractionated polymeric fat acids and a mixture of ethylene diamine and diaminopropane. 3,408,317, 10–29–68, Cl. 260—18.

Vesely, Kenneth D.: *See*—
Herber, Raymond R., and Vesely. 3,408,419.

Victoreen, John A. Method and apparatus for testing hearing. 3,408,460, 10–29–68, Cl. 179—1.

Vidar Corp.: *See*—
McWhorter, Malcolm M. 3,408,602.

Viecell, Joseph L.: *See*—
Jepson, Ivar, and Viecell. 3,407,522.

Vigansky, Victor C., and E. E. Mallory, to National-Standard Co. Locking mechanism for clamping a die on an extruder. 3,407,441, 10–29–68, Cl. 18—12.

Village of Edina: *See*—
Batko, Adam D. 3,407,519.

Villar-Kelly, Ricardo V. Multiple soap cake container. 3,407,939, 10–29–68, Cl. 211—90.

Vincens, Rene, to Societe Civile de Recherches et D'Etudes Industrielles. Office furniture having removable decorative panels. 3,408,127, 10–29–68, Cl. 312—194.

Vincent, Richard T. Bottle gauging apparatus. 3,407,931, 10–29–68, Cl. 209—75.

Vivion, Lee E. Turbine driven drilling tool. 3,407,887, 10–29–68, Cl. 175—106.

Volkmann, Dieter, to Dieter Haubold d/b/a Dieter Haubold Industrielle Nagelgerate. Manually actuated valve assembly. 3,408,039, 10–29–68, Cl. 251—237.

Vollman, Walter. Apparatus for dressing a grinding wheel. 3,407,801, 10–29–68, Cl. 125—11.

Vollmann, Heinrich: *See*—
Blen, Hans-Samuel, Hohmann, and Vollmann. 3,408,345.

Von Wartburg, Albert, M. Kuhn, C. Keller, and J. Renz, to Sandoz. Lutd., (a/k/a) Sandoz A.G. Epipodophyllotoxin-β-D-glucosides and derivatives thereof. 3,408,441, 10–29–68, Cl. 424—180.

Vorkoeper, William J. Vacuum valve. 3,408,042, 10–29–68, Cl. 251—334.

Voss, Jack G., to The Procter & Gamble Co. Method of preparing substantially cell-free somatic antigens. 3,408,440. 10–29–68, Cl. 424—12.

Vosseller, Aurelius B. Power driven golf cart. 3,407,892, 10–29–68, Cl. 180—19.

Vyvyan, Wesley W., and L. H. Warden, to The Ryan Aeronautical Co. Self-locking, self-actuating, lightweight folding strut. 3,408,029, 10–29–68, Cl. 248—351.

Vyzkumny a vyvojovy ustav Zavod vseobecneho strojirenstvi: *See*—
Germak, Jiri, and Novotny. 3,407,702.

Wacker-Chemie G.m.b.H.: *See*—
Hittmair, Paul, Nitzsche, Wick, and Wohlfarth. 3,408,325.

Wagner, Adelaide: *See*—
Wagner, Tobias. 3,408,623.

Wagner, James B., to General Electric Co. Electrohydraulic overspeed control system for a reheat steam turbine. 3,407,826, 10–29–68, Cl. 137—31.

Wagner, Tobias (deceased), and A. Wagner, administratrix of Tobias Wagner, to Mary T. Hanner. Safety traffic signal light. 3,408,623, 10–29–68, Cl. 340—43.

Wahl, Buddy D., to Hoover Ball and Bearing Co. Apparatus for detecting failure of electrical heating elements. 3,408,476, 10–29–68, Cl. 219—388.

Wakamoto, Charles Y., and L. L. Wilson, to North American Rockwell Corp. Digital suppressed carrier demodulator. 3,408,581, 10–29–68, Cl. 329—50.

Wakefield Engineering, Inc.: *See*—
Coe, Thomas D. 3,407,868.

Waldrep, Lester L. Biblical tube. 3,407,810, 10–29–68, Cl. 128—145.5.

Walker, Brian T., to British Aircraft Corp. (Operating) Ltd. Solder flow reversing apparatus. 3,407,984, 10–29–68, Cl. 228—37.

Walker, Brooks. Carburetor. 3,408,054, 10–29–68, Cl. 261—39.

Walker, Donald C., and R. A. Hunt, Jr., to Standard Oil Co. Oil burner for flame cultivation. 3,407,804, 10–29–68, Cl. 126—271.2.

Walker, Frank M., to H & W Industries, Inc. Ice maker. 3,407,619, 10–29–68, Cl. 62—137.

Walker, Scott H., to Motorola, Inc. Scanning antenna. 3,408,654, 10–29–68, Cl. 343—754.

Wallace-Murray Corp.: *See*—
Woollenweber, William E., Jr. 3,408,046.

Wallace, William D., and R. L. Carlson, to W. H. Miner, Inc. Railway truck bolster snubber. 3,407,752, 10–29–68, Cl. 105—197.

Wallace, William K.: *See*—
Amtsberg, Lester A., and Wallace. 3,407,883.

Walston, Joseph A.: *See*—
Kettler, Charles L., Walston, and Jones. 3,408,627.

Walter, Gerard O., F. R. Goldammer, and A. A. De Meo, to Sperry Rand Corp. Apparatus for storing a plurality of elongated panels. 3,407,938, 10–29–68, Cl. 211—41.

Walter, Kurt: *See*—
Klein, Karl, and Walter. 3,407,969.

Walzberg Bernarr M. S. Auto-focus camera and diaphragm means therefor. 3,408,145, 10–29–68, Cl. 355—59.

Wanlass, Bert R., to General Motors Corp. Double pole, double throw switch assembly. 3,408,463, 10–29–68, Cl. 200—6.

Wapner, Joseph S. Wire handle for sealed cartons. 3,407,988, 10–29–68, Cl. 229—52.

Ward, Ashley F., Inc.: *See*—
Friedmann, Anton R. J., and Eby. 3,408,009.

Ward, Dennis J., to Universal Oil Products Co. Single column distillation of mixture of aromatics containing styrene. 3,408,263, 10–29–68, Cl. 203—2.

Ward, Dennis J., to Universal Oil Products Co. Subatmospheric distillation of benzene, toluene, ethyl benzene, styrene mixture in a single column with a cut-back oil. 3,408,264, 10–29–68, Cl. 203—2.

Ward, Dennis J., to Universal Oil Products Co. Recovery of styrene from ethyl benzene by a single column distillation with styrene vapor side draw. 3,408,265, 10–29–68, Cl. 203—2.

Ward, Dennis J., to Universal Oil Products Co. Sub-atmospheric distillation of a benzene, toluene, ethylbenzene styrene mixture in a single column. 3,408,266, 10–29–68, Cl. 203—9.

Ward, Joseph L., and J. D. Dixon, to Lansing Bagnall Ltd. Means for attaching a lift truck to a lorry. 3,407,950, 10–29–68, Cl. 214—512.

Warden, Fuller: *See*—
Lewis, Eugene W., Warden, Mills, and McNickle. 3,407,924.

Warden, Laurence H.: *See*—
Vyvyan, Wesley W., and Warden. 3,408,029.

Ware Machine Works, Inc.: *See*—
Pilch, John S. 3,407,946.

Waring, Richard J.: *See*—
Kent, George A., and Waring. 3,408,534.

Warner, Donald F., to Timberland Products Co., Inc. Portable barbecue cooking device. 3,407,802, 10–29–68, Cl. 126—25.

Warner-Lambert Pharmaceutical Co.: *See*—
Satzinger, Gerhard. 3,408,346.
Shavel, John, Jr., and Zinnes. 3,408,347.

Warner, Louis A. Knee-board. 3,407,737, 10–29–68, Cl. 108—43.

Warner, Paul F., to Phillips Petroleum Co. Method of producing a mixture of sulfides and mercaptans. 3,408,402, 10–29–68, Cl. 260—609.

Warren, Keith A.: *See*—
Bills, Daniel G., and Warren. 3,407,991.

Warren Pumps, Inc.: *See*—
Blackwell, Elliott H. 3,408,114.

Washington Chain & Supply Co., Inc.: *See*—
Epstein, Irving, and Obert. 3,407,778.

Wasley, William L.: *See*—
Pittman, Allen G., and Wasley. 3,408,380.

Watanabe, Katsuhiro: *See*—
Yoshizawa, Heiji, Suzuki, and Watanabe. 3,407,682.

Waterman, Raymond R., and J. Bogdany, to R. T. Vanderbilt Co., Inc. Self-emulsifying liquid antioxidants. 3,408,308, 10–29–68, Cl. 252—401.

Watt, John D.: *See*—
Davies, Stanley, Evans, and Watt. 3,408,251.

Watters, Robert L., to General Electric Co. Wide scale indicator for weak current amplitudes within a predetermined range above a minimum amplitude. 3,408,570, 10–29–68, Cl. 324—131.

Watts, Ridley, Jr., to The American Packaging Corp. Display package. 3,407,928, 10–29–68, Cl. 206—78.

Ways & Means, Inc.: *See*—
Ragan, James B. 3,407,962.

Webb, Oswald: *See*—
Hill, Claude, and Webb. 3,407,893.

Webber, Jack C., to Mission Mfg. Co. Swab assembly. 3,407,711, 10–29–68, Cl. 92—180.

Weber, Charles A., to Collins Radio Co. Automatic protection circuit for remediable short circuit in load. 3,408,552, 10–29–68, Cl. 321—14.

Weber, Paul: *See*—
Thomas, Rainer, and Weber. 3,408,291.

Weber, Robert L., and N. D. Wiggins, to Caterpillar Tractor Co. Compact oil pump for internal combustion engines. 3,407,741, 10–29–68, Cl. 103—118.

Wedepohl, Leonhard M.: *See*—
Legg, Malcolm, Patrickson, and Wedepohl. 3,408,539.

Wedin, James A., to Coast Mfg. & Supply Co. Method for manufacturing glass fiber reinforced resin impregnated mats. 3,408,239, 10–29–68, Cl. 156—62.8.

Welchhand, Robert J.: *See*—
Dieter, Julian A., Ott, and Welchhand. 3,407,563.

Weinstein, Albert A. Race track. 3,408,066, 10–29–68, Cl. 272—5.

Weir, G. & J., Ltd.: *See*—
Ryall, Michael L. 3,407,873.

Weiss, Adolf F., to Alpha Press Co., d.b.a. Alpha Industrial Center. Strike adjustment means for cylinder and piston assembly. 3,407,710, 10–29–68, Cl. 92—13.

Weiss, Herbert, to Siemens Aktiengesellschaft. Radiation sensor utilizing semiconductor body having photo-electromagnetic effect. 3,408,499, 10–29–68, Cl. 250—211.

Welch, Russel A., Sr., 45% to E. A. Cassroll, and 5% to P. G. Hogue. Electric space heater. 3,408,479, 10–29–68, Cl. 219—365.

Welcker, Clyde J., and R. L. Shrimp and sardine processing machine. 3,407,435, 10–29–68, Cl. 17—2.

Welcker, Roland L.: *See*—
Welcker, Clyde J., and R. L. 3,407,435.

Wells, Leon W., to Panopix Research Inc. Film cartridge. 3,408,019, 10–29–68, Cl. 242—71.1.

Wenzel, Robert J.: *See*—
Horton, Milford C., and Wenzel. 3,408,599.

Werner, Frank D., and M. A. Luger, to Rosemount Engineering Co. Conformable pad and material for use therein. 3,407,406, 10–29–68, Cl. 2—3.

West Coast Wire Rope & Rigging Inc.: *See*—
Newton, Don L. 3,407,776.

Westcott, David T., and M. L. Reynolds, to The Imperial Tobacco Co. (of Great Britain and Ireland), Ltd. Tobacco smoke filters. 3,407,820, 10–29–68, Cl. 131—10.9.

Westerhof, Pieter: *See*—
Reerink, Engbert H., Westerhof, and Schöler. 3,408,369.

Westerman, Albert M. Exhaust cover. 3,407,720, 10–29–68, Cl. 98—59.

Western Electric Co., Inc.: *See*—
Fegley, Charles R. 3,407,949.
Hauck, Leon P., and Woellner. 3,408,013.

Western Progress, Inc.: *See*—
Doyle, Robert L. 3,407,825.

Westinghouse Electric Corp.: *See*—
English, William A. 3,407,521.
Fouse, Samuel S. 3,408,454.
Goetze, Gerhard W., and Anderson. 3,408,531.
Hart, John J. 3,408,045.
Hill, Menno E., Kraft, and Friedrich. 3,407,480.
Jordan, Angel G. 3,408,600.
Moskowitz, Charles. 3,408,601.
Orebic, Oleg J., and Handmann. 3,407,464.
Palmer, Douglas W. 3,408,466.
Petrocelli, Edward A., and Lin. 3,408,575.
Richardson, Douglas K. 3,407,876.
Richardson, Douglas K., and Johnson. 3,407,623.
Scalzo, Augustine J. 3,408,048.
Solomon, David E. 3,408,529.
Wiley, Roy O. 3,408,537.

Westmoreland, Julius C. Reciprocating power arrangements. 3,407,680, 10–29–68, Cl. 74—424.8.

Westland, Roger D., to Parke, Davis & Co. S-2-[(Cycloalkyl-alkyl and cycloalkenyl-alkyl)amino]ethyl thiosulfates and salts thereof. 3,408,381, 10–29–68, Cl. 260—453.

Westover, Thomas A., and M. Winstein, to Servo Corp. of America. Transducer interrogator. 3,408,493, 10–29–68, Cl. 246—249.

Wheeler, John B., III, J. Sonia, H. Samuels, and J. G. Kirkis, to Union Carbide Corp. Molding thermoplastic printing plates. 3,408,437, 10–29–68, Cl. 264—226.

Whirlpool Corp.: *See*—
Boots, Ira J., Metz, and Paris, 3,407,463.
Sherwood, Thomas K. 3,407,571.
Zylstra, John J. 3,408,091.

White, Dwain M., to General Electric Co. Process for the production of orthohydroxybenzophenones and xanthones. 3,408,366, 10–29–68, Cl. 260—345.3.

Whitehead, Brownloe. Subsurface irrigation system. 3,307,608. 10–29–68, Cl. 61—13.

Whitehurst, Joe R., to Ideal Industries, Inc. Stop control for textile sliver coiler head. 3,407,446. 10–29–68. Cl. 19—26.

Whitnah, Richard G.: *See*—
Tynan, Forest J., and Whitnah, 3,408,647.

Wichinsky, Louis. Dough kneading machine for the forming of a bagel and the like. 3,407,754, 10–29–68, Cl. 107—8.

Wichterle, Otto, to Ceskoslovenska akademie ved. Method for centrifugal casting a contact lens. 3,408,429, 10–29–68, Cl. 264—1.

Wick, Manfred: *See*—
Dittmair, Paul, Nitzsche, Wick, and Wohlfarth, 3,408,325.

Wick, Richard, and F. Bestenreiner, to Agfa-Gevaert Aktiengesellschaft. Exposure control device for photographic cameras. 3,407,716, 10–29–68, Cl. 95—10.

Wiegand, James J., to Fairbanks Morse Inc. Load cell mounting of load receiver means as a scale weighbridge. 3,407,891, 10–29–68, Cl. 177—255.

Wiener Schwachstromwerke Gesellschaft m.b.H.: *See*—
Beck, Ferdinand, 3,408,447.

Wiggill, John B., to E. I. du Pont de Nemours and Co. Silane-modified olefinic copolymers. 3,408,420, 10–29–68, Cl. 260—827.

Wiggins, Noel D.: *See*—
Weber, Robert L., and Wiggins, 3,407,741.

Wilcox, Geoffrey: *See*—
Yates, Herbert G., and Wilcox, 3,407,546.

Wilcox, John P.: *See*—
Mitchell, Robert K., Swain, Thomas, and Wilcox, 3,407,742.

Wild, Charles E. Nut harvesting machines. 3,407,581, 10–29–68, Cl. 56—328.

Wiley, Roy O., to Westinghouse Electric Corp. Lighting control system using switching means for selectively interrupting and completing a third wire circuit. 3,408,537, 10–29–68, Cl. 315—313.

Wilhelm Julius Teufel: *See*—
Prahl, Jan, 3,407,409.

Wilke, Werner H. Packaging material. 3,407,987, 10–29–68, Cl. 229—40.

Wilkinson, Thomas B.: *See*—
Melton, James O., Wilkinson, and Jackson, 3,408,124.

Willi, Richard B., to Baldin-Lima-Hamilton Corp. Emergency wicket gate stop. 3,408,049, 10–29–68, Cl. 253—122.

Williams, Norman C., and H. F. Everett, to Power Brake Equipment Co. Pneumatic motor. 3,408,043, 10–29–68, Cl. 253—2.

Williams, Richard H., to Riegel Paper Corp. Double laminating process using a single waxing station. 3,408,240, 10–92–68, Cl. 156—152.

Williamsburg Steel Products Co.: *See*—
Halpern, Ernst, 3,407,553.

Willyoung, David M., to General Electric Co. Multiple circuit winding patterns for polyphase dynamoelectric machines. 3,408,517, 10–29–68, Cl. 310—198.

Wilson, George P. Transistorized high-input-impedance amplifier. 3,408,571, 10–29–68, Cl. 325—105.

Wilson, Harold E. Plastic pipe fittings. 3,408,098, 10–29–68, Cl. 285—247.

Wilson, Larry L.: *See*—
Takamoto, Charles Y., and Wilson, 3,408,581.

Wilson, Peter, to Elliott Bros. (London) Ltd. Means for setting inertial navigation systems. 3,407,643, 10–29–68, Cl. 73—1.

Windmoller & Holscher: *See*—
Hochla, Kurt, 3,408,242.

Winer, Meyer. Automatic air lift for sewing machines. 3,407,762, 10–29–68, Cl. 112—219.

Wingot Ltd.: *See*—
Mitchell, William D. 3,407,587.

Winkler, Hans: *See*—
Benz, Jany, Bourquin, Bruschweiler, Winkler, and Schwarb, 3,408,355.

Winkler, Joseph, to General Foam Corp. Method of producing an inorganic foam and product. 3,408,180, 10–29–68, Cl. 75—221.

Winstein, Mark: *See*—
Westover, Thomas A., and Winstein, 3,408,493.

Winston, Emanuel A. Identification device. 3,407,323, 10–29–68, Cl. 40—1.5.

Winton, Lavoy. Roundabout amusement device. 3,408,068, 10–29–68, Cl. 272—44.

Wiredal, Harry A. I.: *See*—
Hjalsten, John A., and Wiredal, 3,407,889.

Wirfelt, Sven A. O., to Sandvikens Jernverks AB. Cutting insert for chip cutting machining. 3,407,467, 10–29–68, Cl. 29—95.

Wischmeyer, William F., and J. E. Hoffman, to Sporlan Valve Co. Method of removing dissolved wax from a refrigerant. 3,407,617, 10–29–68, Cl. 62—85.

Wismer, Marco, and J. R. Peffer, to Pittsburgh Plate Glass Co. Curing agents for epoxy resins. 3,408,215, 10–29–68, Cl. 106—252.

Witco Chemical Co., Inc.: *See*—
Lindner, Paul L. 3,408,174.

Wittek Mfg. Co.: *See*—
Tetzlaff, Clarence C., and Chamberlain, 3,407,448.
Tetzlaff, Clarence C., and Chamberlain, 3,407,449.

Woebcke, Herman N.: *See*—
Hallee, Lawrence P., Green, and Woebcke, 3,407,789.

Woellner, Horst L.: *See*—
Hauck, Leon P., and Woellner, 3,408,013.

Wohlfarth, Ernst: *See*—
Dittmair, Paul, Nitzsche, Wick, and Wohlfarth, 3,408,325.

Wolf, Calvin N., to Ethyl Corp. Formaldehyde and diene interpolymers. 3,408,332, 10–29–68, Cl. 260—73.

Wolf, Edgar, and F. C. Marino, to Digitronics Corp. Controlled amplitude frequency shift signal generator. 3,408,572, 10–29–68, Cl. 323—163.

Wolf, Wilfred L., and C. Beckett, to Eastman Kodak Co. Coating compositions for the coating out of anionic merdant-acid dye layers. 3,408,193, 10–29–68, Cl. 96—84.

Wolfe, Wayne F., to United Carr Co. Clamp for can body forming machine. 3,407,765, 10–29–68, Cl. 113—8.

Wolff, Paul A., to Kerr-McGee Oil Industries, Inc. Submersible vessel having an irregular polygonal stabilizing pattern. 3,407,610, 10–29–68, Cl. 61—46.5.

Wolff, Sonja: *See*—
Berghout, Cornelis W., and Wolff, 3,408,235.

Woltermann, Jay R.: *See*—
Braus, Harry, and Woltermann, 3,408,324

Wood, Barrie: *See*—
Ball, William J., Barclay, Gasson, Stewart, Bohemen, Newman, and Wood, 3,408,401.
Bohemen, John, Newman, and Wood, 3,408,400.

Wood, Clyde M., and D. R. Rotatable mail box. 3,407,997. 10–29–68, Cl. 232—39.

Wood, Doris R.: *See*—
Wood, Clyde M., and D. R. 3,407,997.

Wooden, John A., and R. D. Quinlan, to Brookside Corp. Resilient fan hub. 3,407,882, 10–29–68, Cl. 170—160.54.

Woods, Herbert J., to Burlington Industries Inc. Method of thermally processing thermoplastic yarns. 3,407,590, 10–29–68, Cl. 57—157.

Woods, Warren W.: *See*—
Coffer, Henry F., Shock, Woods, and Crawford, 3,407,805.

Woollenweber, William E., Jr., to Wallace Murray Corp. Turbine housing for turbochargers. 3,408,046, 10–29–68, Cl. 253—55.

Worms, Karl-Heinz: *See*—
Schlussler, Hans-Joachim, Freyhold, Groschopp, and Worms, 3,408,300.

Wright, Archibald N., and W. F. Mathewson, Jr., to General Electric Co. Diamond and cubic boron nitride grains coated with photopolymerized material. 3,408,172, 10–29–68, Cl. 51—295.

Wright, Howard N., Jr.: *See*—
Hagemeyer, Hugh J., Jr., and Wright, 3,408,388.

Wright, Norbert L., to Continental Can Co., Inc. Machine for in-place molding of cap gaskets. 3,407,442, 10–29–68, Cl. 18—20.

Wulkopf, Hellmuth, and G. Samow, to North American Philips Co., Inc. Coil core manufactured from soft-magnetic and permanent-magnetic materials. 3,408,573, 10–29–68, Cl. 335—297.

Wurlitzer Co., The: *See*—
Lazzaro, Thomas A. 3,408,448.

Wyman, Harry E., and J. T. Bensley, to The Singer Co. Monitoring device for regulating the usage of electric current to provide a more economical load factor. 3,408,503, 10–29–68, Cl. 307—38.

Wysocki, Kazmier, and T. J. Benichasa, said Benichasa assor. to said Wysocki. Sorter for non-magnetic aerosol valves and other closures having attached tubes, etc. 3,407,964, 10–29–68, Cl. 221—167.

Xerox Corp.: *See*—
Hemphill, Kent W. 3,408,140.
Mammino, Joseph. 3,408,181–90.
Mott, George R., and Perry, 3,408,216.
Saeger, Waldemar. 3,408,547.
Shimabukuro, George T. 3,408,549.
Shimabukuro, George T. 3,408,633.

Yamagishi, Kazuo, K. Sakakibara, I. Abe, M. Kubo, to Dai Cellu Kabushiki Kaisha. Preparation of α,β-unsaturated carboxylic acids with a molybdenum-antimony-vanadium-oxygen ternary catalyst. 3,408,392, 10–29–68, Cl. 260—530.

Yamaguchi, Shizuko: *See*—
Yamazaki, Akihiro, Kumashiro, Kato, Meguro, Takeishi, Yoshikawa, Ninomiya, Yamaguchi, Komata, Saito, and Ikeda. 3,408,206.

Yamamoto, Takashi, S. Kobayashi, K. Nakatomi, S. Takahashi, H. Ueda, and M. Kondo, to Hokko Chemical Industry Co., Ltd. O,O diisopropyl-ethylsulfinylmethyldithiophosphate. 3,408,426, 10–29–68, Cl. 260—948.

Yamauchi, Masakatu: *See*—
Sato, Atsushi, and Yamauchi, 3,408,227.

Yamazaki, Akihiro, I. Kumashiro, T. Kato, T. Meguro, T. Takenishi, M. Yoshikawa, T. Ninomiya, S. Yamaguchi, Y. Komata, T. Saito, and S. Ikeda, to Ajinomoto Co., Inc. 5′ nucleotides seasoning agents. 3,408,206, 10–29–68, Cl. 99—140.

Yasunami, Kazuo, to Kobe Steel Ltd. Method and apparatus for generating standard pressure. 3,407,644, 10–29–68, Cl. 73—4.

Yates, Herbert G., and G. Wilcox, to Format Industrial Corp. Ltd. Foldable shelter structure with zig-zag roof profile. 3,407,546, 10–29–68, Cl. 52—18.

Yato, Makoto: *See*—
Nagai, Minoru, and Yato, 3,407,794.

Yerouchalmi, David: *See*—
Devime, Robert, and Yerouchalmi, 3,408,528.

Yokota, Katutaro, to Zentsu Denki Kabushiki Kaisha. Hydraulically operated opening and closing device for doors or the like. 3,407,598, 10–29–68, Cl. 60—52.

York, William C.: *See*—
Beyer, George L., and York, 3,407,786.

Yoshikawa, Masaharu: *See*—
Yamazaki, Akihiro, Kumashiro, Kato, Meguro, Takenishi, Yoshikawa, Ninomiya, Yamaguchi, Komata, Saito, and Ikeda, 3,408,206.

Yoshizawa, Heiji, Y. Suzuki, and K. Watanabe, to Kabushiki Kaisha Komatsu Seisakusho. Control device for power-driven vehicles having hydraulically driven speed-changing mechanisms. 3,407,682, 10–29–68, Cl. 74—471.

Young, James M. Prestressed, segmented concrete beam. 3,407,554, 10–29–68, Cl. 52—227.

Young, William A. Linoleum scribing and cutting tool. 3,407,498, 10–29–68, Cl. 30—293.

Youngstown Sheet and Tube Co., The: *See*—
Moore, Joe P. 3,408,095.

Youngstown Steel Door Co., The: *See*—
Jones, William M. 3,407,641.

Yughchi, Sadao: *See*—
Iwamoto, Masao, and Yughchi, 3,408,418.

Zahnradfabrik Friedrichshafen Aktiengesellschaft Friedrichshafen: *See*—
Linser, Joerg. 3,407,844.

Zahnradfabrik Friedrichshafen A.G.: *See*—
Magg, Alfred. 3,407,676.

Zahuranec, Emery J., to Crasford Fitting Co. Manifold fitting. 3,407,842, 10–29–68, Cl. 137—561.

Zalachowski, Wiktor: *See*—
Przybylik, Rózá, and Zalachowski, 3,407,732.

Zebarth, Ralph, Inc.: *See*—
Zebarth, Ralph S., and Carlson, 3,408,057.

Zebarth, Ralph S., and D. T. Carlson, to Ralph Zebarth, Inc. Poultry hock heater. 3,408,057, 10–29–68, Cl. 263—8.

Zellweger, Ltd.: *See*—
Felix, Ernst, and Meili, 3,408,560.

Zentsu Denki Kabushiki Kaisha: *See*—
Yokota, Katutaro, 3,407,598.

Zero Mfg. Co.: *See*—
Temple, Donald L., and Oberg, 3,407,719.

Ziegler, Charles A.: *See*—
Sellers, Francis B., and Ziegler, 3,408,496.

Zinnes, Harold: *See*—
Shavel, John, Jr., and Zinnes, 3,408,347.

Zuse KG Grosse Industriestrasse: *See*—
Zuse, Konrad, 3,408,483.

Zuse, Konrad, to Zuse KG Grosse Industriestrasse. Readout for space coded data. 3,408,483, 10–29–68, Cl. 235—61.11.

Zwicky, Alfred J. Radial roller bearing. 3,408,123, 10–29–68, Cl. 308—187.

Zygan, Hieronymus: *See*—
Thoma, Wilhelm, Rinke, and Zygan, 3,408,434.

Zygmunt, Kazimierz, and T. Gerlach. Two-way ground burrowing device. 3,407,884, 10–29–68, Cl. 173—91.

Zylstra, John J., to Whirlpool Corp. Coupling. 3,408,091, 10–29–68, Cl. 285—7.

CLASSIFICATION OF PATENTS

ISSUED OCTOBER 29, 1968

NOTE.—First number, class; second number, subclass; third number, patent number

2— 3 : 3,407,406	29—593 : 3,407,480	53—385 : 3,407,567
49 : 3,407,407	596 : 3,407,481	54— 24 : 3,407,568
68 : 3,407,408	3,407,482	55— 52 : 3,407,569
3— 27 : 3,407,409	3,407,483	97 : 3,407,570
4—111 : 3,407,410	3,407,484	158 : 3,407,571
185 : 3,407,411	3,407,485	283 : 3,407,572
228 : 3,407,412	3,407,486	386 : 3,407,573
5— 81 : 3,407,413	3,407,487	3,407,574
335 : 3,407,414	3,407,488	448 : 3,407,575
8—151 : 3,407,415	3,407,489	514 : 3,407,576
9— 8 : 3,407,416	3,407,490	56— 8 : 3,407,577
3,407,417	597 : 3,407,491	25 : 3,407,578
9 : 3,407,418	604 : 3,407,492	256 : 3,407,579
307 : 3,407,419	605 : 3,407,493	328 : 3,407,580
12— 51 : 3,407,420	606 : 3,407,494	3,407,581
142 : 3,407,421	610 : 3,407,495	329 : 3,407,582
13— 13 : 3,408,447	30— 40 : 3,407,496	57— 22 : 3,407,583
15— 40 : 3,407,422	91.2 : 3,407,497	34 : 3,407,584
105 : 3,407,423	293 : 3,407,498	3,407,585
145 : 3,407,424	367 : 3,407,499	3,407,586
181 : 3,407,425	32— 14 : 3,407,500	58.32: 3,407,587
250.04: 3,407,426	38 : 3,407,501	.84: 3,407,588
.17: 3,407,427	59 : 3,407,502	91 : 3,407,589
256.51: 3,407,428	67 : 3,407,503	157 : 3,407,590
257 : 3,407,429	33—148 : 3,407,504	58— 85.5 : 3,407,591
314 : 3,407,430	172 : 3,407,505	60— 19 : 3,407,592
344 : 3,407,431	174 : 3,407,506	24 : 3,407,593
352 : 3,407,432	179 : 3,407,507	39.47: 3,407,595
16—130 : 3,407,433	204 : 3,407,508	.6 : 3,407,594
193 : 3,407,434	207 : 3,407,509	.71: 3,407,596
17— 2 : 3,407,435	34— 22 : 3,407,510	52 : 3,407,597
18— 1 : 3,407,436	109 : 3,407,511	3,407,598
8 : 3,407,437	35— 8 : 3,407,512	54 : 3,407,599
12 : 3,407,438	9 : 3,407,513	3,407,600
3,407,439	35 : 3,407,514	.5 : 3,407,601
3,407,440	3,407,515	102 : 3,407,602
3,407,441	48 : 3,407,516	204 : 3,407,603
20 : 3,407,442	36— 11.5 : 3,407,517	217 : 3,407,604
30 : 3,407,443	72 : 3,407,518	61— .5 : 3,407,606
3,407,444	37— 42 : 3,407,519	1 : 3,407,605
34 : 3,407,445	58 : 3,407,520	11 : 3,407,607
19— 26 : 3,407,446	38— 77 : 3,407,521	13 : 3,407,608
159 : 3,407,447	78 : 3,407,522	42 : 3,407,609
23— 59 : 3,408,155	40— 1.5 : 3,407,523	46.5 : 3,407,610
3,408,156	2 : 3,407,524	72.3 : 3,407,611
100 : 3,408,157	140 : 3,407,525	81 : 3,407,612
105 : 3,408,158	42— 59 : 3,407,526	62— 11 : 3,407,613
143 : 3,408,159	43— 15 : 3,407,527	18 : 3,407,614
3,408,160	17 : 3,407,528	45 : 3,407,615
165 : 3,408,161	57 : 3,407,529	51 : 3,407,616
3,408,162	44— 74 : 3,408,170	85 : 3,407,617
207 : 3,408,163	46— 22 : 3,407,530	136 : 3,407,618
209.3 : 3,408,164	104 : 3,407,531	137 : 3,407,619
4 : 3,408,165	196 : 3,407,532	159 : 3,407,620
253 : 3,408,166	217 : 3,407,533	188 : 3,407,621
277 : 3,408,167	48—214 : 3,408,171	190 : 3,407,622
307 : 3,408,168	49— 68 : 3,407,534	197 : 3,407,623
313 : 3,408,169	280 : 3,407,535	293 : 3,407,624
24— 19 : 3,407,448	482 : 3,407,536	476 : 3,407,625
3,407,449	483 : 3,407,537	498 : 3,407,626
163 : 3,407,450	51— 8 : 3,407,538	64— 11 : 3,407,627
196 : 3,407,451	11 : 3,407,539	31 : 3,407,628
197 : 3,407,452	92 : 3,407,540	32 : 3,407,629
206 : 3,407,453	101 : 3,407,541	65—104 : 3,408,173
221 : 3,407,454	163 : 3,407,542	66—114 : 3,407,630
3,407,455	165 : 3,407,543	138 : 3,407,631
232 : 3,407,456	166 : 3,407,544	176 : 3,407,632
25— 2 : 3,407,457	169 : 3,407,545	68— 18 : 3,407,633
41 : 3,407,458	295 : 3,408,172	207 : 3,407,635
27— 19 : 3,407,459	52— 18 : 3,407,546	69— 19.1 : 3,407,634
28— 44 : 3,407,460	36 : 3,407,547	70—456 : 3,407,636
72.2 : 3,407,461	58 : 3,407,548	71— 4 : 3,408,174
76 : 3,407,462	90 : 3,407,549	65 : 3,408,175
29— 1.2 : 3,407,463	101 : 3,407,550	118 : 3,408,176
25.2 : 3,407,464	143 : 3,407,551	72— 56 : 3,407,637
.42: 3,407,465	169 : 3,407,552	96 : 3,407,638
80 : 3,407,466	217 : 3,407,553	135 : 3,407,639
95 : 3,407,467	227 : 3,407,554	181 : 3,407,640
205 : 3,407,468	288 : 3,407,555	349 : 3,407,641
3,407,469	555 : 3,407,557	462 : 3,407,642
3,407,470	559 : 3,407,556	73— 1 : 3,407,643
3,407,471	573 : 3,407,558	4 : 3,407,644
3,407,472	637 : 3,407,559	6 : 3,407,645
3,407,473	645 : 3,407,560	23 : 3,407,646
3,407,474	656 : 3,407,561	.1 : 3,407,647
420.5 : 3,407,475	53— 24 : 3,407,562	67.3 : 3,407,648
423 : 3,407,476	35 : 3,407,563	.5 : 3,407,649
517 : 3,407,477	128 : 3,407,564	.7 : 3,407,650
528 : 3,407,478	214 : 3,407,565	97 : 3,407,651
577 : 3,407,479	380 : 3,407,566	141 : 3,407,652

73—147 : 3,407,653	96—111 : 3,408,198	117—138.8 : 3,408,226
178 : 3,407,654	114 : 3,408,199	212 : 3,408,227
182 : 3,407,655	98— 32 : 3,407,719	227 : 3,408,228
194 : 3,407,656	59 : 3,407,720	118— 13 : 3,407,782
203 : 3,407,657	99— 2 : 3,408,200	49.5 : 3,407,783
205 : 3,407,658	7 : 3,408,201	234 : 3,407,784
309 : 3,407,659	80 : 3,408,202	302 : 3,407,785
311 : 3,407,660	93 : 3,408,204	637 : 3,407,786
3,407,661	109 : 3,408,205	122— 4 : 3,407,787
325 : 3,407,662	140 : 3,408,206	6 : 3,407,788
368.3 : 3,407,663	196 : 3,408,207	356 : 3,407,789
401 : 3,407,664	199 : 3,408,208	123— 65 : 3,407,790
418 : 3,407,665	204 : 3,408,209	78 : 3,407,791
452 : 3,407,666	3,408,210	90 : 3,407,792
492 : 3,407,667	249 : 3,407,721	102 : 3,407,793
517 : 3,407,668	277.1 : 3,407,722	145 : 3,407,794
74— 10.6 : 3,407,669	349 : 3,407,723	148 : 3,407,795
61 : 3,407,670	100— 43 : 3,407,724	3,407,796
64 : 3,407,671	101—123 : 3,407,725	3,407,797
236 : 3,407,672	128.3 : 3,407,726	124— 20 : 3,407,798
241 : 3,407,673	177 : 3,407,727	24 : 3,407,799
242.11: 3,407,674	282 : 3,407,728	125— 11 : 3,407,800
329 : 3,407,675	347 : 3,407,729	3,407,801
335 : 3,407,676	102— 24 : 3,407,730	126— 25 : 3,407,802
388 : 3,407,677	27 : 3,407,731	3,407,803
394 : 3,407,678	28 : 3,407,732	271.2 : 3,407,804
423 : 3,407,679	34.2 : 3,407,733	360 : 3,407,805
424.8 : 3,407,680	66 : 3,407,734	128—130 : 3,407,806
448 : 3,407,681	97 : 3,407,735	134 : 3,407,807
471 : 3,407,682	99 : 3,407,736	136 : 3,407,808
501 : 3,407,683	103— 2 : 3,407,737	3,407,809
3,407,684	17 : 3,407,738	145.5 : 3,407,810
579 : 3,407,685	87 : 3,407,739	166 : 3,407,811
701 : 3,407,686	97 : 3,407,740	214 : 3,407,812
796 : 3,407,687	118 : 3,407,741	287 : 3,407,813
75— 43 : 3,408,177	120 : 3,407,742	290 : 3,407,814
125 : 3,408,178	159 : 3,407,743	309 : 3,407,815
171 : 3,408,179	162 : 3,407,744	318 : 3,407,816
221 : 3,408,180	3,407,745	351 : 3,407,817
81— 15.7 : 3,407,688	185 : 3,407,746	384 : 3,407,818
134 : 3,407,689	218 : 3,407,747	479 : 3,407,819
83— 47 : 3,407,690	239 : 3,407,748	131— 10.9 : 3,407,820
344 : 3,407,691	104—148 : 3,407,749	265 : 3,407,821
522 : 3,407,692	162 : 3,407,750	266 : 3,407,822
635 : 3,407,693	172 : 3,407,751	132— 45 : 3,407,823
84— 1.01: 3,408,448	105—197 : 3,407,752	134— 56 : 3,407,824
.11: 3,408,449	367 : 3,407,753	135— 5 : 3,407,825
194 : 3,407,694	106— 1 : 3,408,211	136— 6 : 3,408,229
280 : 3,407,695	47 : 3,408,212	25 : 3,408,230
297 : 3,407,696	50 : 3,408,213	29 : 3,408,231
312 : 3,407,697	212 : 3,408,214	30 : 3,408,232
315 : 3,407,698	252 : 3,408,215	153 : 3,408,233
344 : 3,407,699	107— 8 : 3,407,754	181 : 3,408,234
453 : 3,407,700	3,407,755	137— 31 : 3,407,826
89—126 : 3,407,701	14 : 3,407,756	39 : 3,407,827
194 : 3,407,702	108— 43 : 3,407,757	81.5 : 3,407,828
90— 11 : 3,407,703	51 : 3,407,758	154 : 3,407,829
17 : 3,407,704	112— 2 : 3,407,759	155 : 3,407,830
56 : 3,407,705	184 : 3,407,760	209 : 3,407,831
91— 3 : 3,407,706	218 : 3,407,761	223 : 3,407,832
29 : 3,407,707	219 : 3,407,762	271 : 3,407,833
48 : 3,407,708	252 : 3,407,763	3,407,834
461 : 3,407,709	262 : 3,407,764	340 : 3,407,835
92— 13 : 3,407,710	113— 8 : 3,407,765	344 : 3,407,836
180 : 3,407,711	114— .5 : 3,407,766	375 : 3,407,837
93— 49 : 3,407,712	3,407,767	3,407,838
94— 3 : 3,407,713	3,407,768	389 : 3,407,839
7 : 3,407,714	49 : 3,407,769	392 : 3,407,840
95— 1.1 : 3,407,715	66.5 : 3,407,770	505.15: 3,407,841
10 : 3,407,716	77 : 3,407,771	561 : 3,407,842
11 : 3,407,717	125 : 3,407,772	563 : 3,407,843
3,407,718	144 : 3,407,773	596 : 3,407,844
96— 1.1 : 3,408,181	163 : 3,407,774	607 : 3,407,845
.5 : 3,408,182	206 : 3,407,775	608 : 3,407,846
3,408,183	208 : 3,407,776	614.06: 3,407,847
3,408,184	235 : 3,407,777	139— 1 : 3,407,848
3,408,185	3,407,778	201 : 3,407,849
3,408,186	115— 34 : 3,407,779	140— 71 : 3,407,850
3,408,187	116— 65 : 3,407,780	92.93: 3,407,851
3,408,188	114 : 3,407,781	147 : 3,407,852
3,408,189	117— .5 : 3,408,216	144—144.5 : 3,407,853
3,408,190	3,408,217	162 : 3,407,854
28 : 3,408,191	15 : 3,408,218	193 : 3,407,855
49 : 3,408,192	37 : 3,408,219	3,407,856
84 : 3,408,193	3,408,220	145— 4 : 3,407,857
91 : 3,408,203	55 : 3,408,221	146— 76 : 3,407,858
100 : 3,408,194	70 : 3,408,222	148— 6.3 : 3,408,235
105 : 3,408,195	100 : 3,408,223	3,408,236
108 : 3,408,196	107 : 3,408,224	15.5 : 3,408,237
3,408,197	126 : 3,408,225	187 : 3,408,238

152 – 58	3,407,859	203 – 2	3,408,264	228 – 37	3,407,984	260 – 2	3,408,313	260 – 683.51	3,408,419	310 – 8.2	3,408,514
210	3,407,860		3,408,265	51	3,407,985		3,408,314	827	3,408,420	9.5	3,408,515
	3,407,861	9	3,408,266	229 – 28	3,407,986	.5	3,408,315	830	3,408,421	195	3,408,516
156 – 62.8	3,408,239	19	3,408,267	40	3,407,987	17.2	3,408,316	837	3,408,422	198	3,408,517
62	3,408,240	78	3,408,268	52	3,407,988	18	3,408,317	872	3,408,423	312 – 39	3,408,125
173	3,408,241	204 – 1	3,408,269	62	3,407,989		3,408,318	878	3,408,424	183	3,408,126
274	3,408,242		3,408,270	230 – 58	3,407,990	23	3,408,319	940	3,408,425	194	3,408,127
291	3,408,243	15	3,408,271	69	3,407,991	.5	3,408,320	948	3,408,426	234	3,408,128
303	3,408,244	51	3,408,272		3,407,992	37	3,408,321	960	3,408,427	313 – 32	3,408,518
315	3,408,245	59	3,408,273	117	3,407,993	41	3,408,322	961	3,408,428	63	3,408,519
321	3,408,246	130	3,408,274		3,407,994	45.85	3,408,323	261 – 27	3,408,053	75	3,408,520
338	3,408,247	143	3,408,275	128	3,407,995	.9	3,408,342	39	3,408,054	94	3,408,521
159 – 16	3,407,862	157.1	3,408,276	139	3,407,996	.95	3,408,324	98	3,408,055	102	3,408,522
160 – 61	3,407,863	181	3,408,278	232 – 39	3,407,997	46.5	3,408,325	263 – 6	3,408,056	109.5	3,408,523
161 – 5	3,408,248		3,408,279	43.4	3,407,998	47	3,408,326	8	3,408,057	145	3,408,524
88	3,408,249	196	3,408,280	233 – 19	3,407,999	48	3,408,327	19	3,408,058	146	3,408,525
202	3,408,250	219	3,408,281		3,408,000		3,408,328	264 – 1	3,408,429	154	3,408,526
269	3,408,251	243	3,408,282	20	3,408,001		3,408,329		3,408,430	156	3,408,527
225	3,408,252	298	3,408,283	235 – 54	3,408,002	67	3,408,330	3	3,408,431	352	3,408,528
253	3,408,253	206 – 46	3,407,921	61.11	3,408,483	72	3,408,331	84	3,408,432	315 – 3.5	3,408,529
291	3,408,254	47	3,407,922	.7	3,408,482	73	3,408,332	168	3,408,277	12	3,408,530
162 – 5	3,408,255	52	3,407,923	92	3,408,484	75	3,408,333	171	3,408,433		3,408,531
164 – 41	3,407,864	63.5	3,407,924		3,408,485	78	3,408,334	210	3,408,434		3,408,532
67	3,407,865	65	3,407,925		3,408,486		3,408,335		3,408,435	19	3,408,533
165 – 9	3,407,866		3,407,926	96	3,408,003	.4	3,408,336	225	3,408,436	22	3,408,534
67	3,407,867		3,407,927	150.2	3,408,487	.5	3,408,337	226	3,408,437	27	3,408,535
80	3,407,868	78	3,407,928	193.5	3,408,488	79.3	3,408,338	252	3,408,438	212	3,408,536
	3,407,869	208 – 102	3,408,284	236 – 9	3,408,004	80.73	3,408,339	294	3,408,439	313	3,408,537
83	3,407,870	111	3,408,285	239 – 14	3,408,005	88.2	3,408,340	266 – 34	3,408,059	316 – 1	3,408,129
85	3,407,871	120	3,408,286	66	3,408,006	94.9	3,408,341	267 – 1	3,408,060	25	3,408,130
109	3,407,872	207	3,408,287	132	3,408,007	112.5	3,408,343		3,408,061	317 – 11	3,408,538
111	3,407,873	209 – 3	3,407,929	135	3,408,008	239	3,408,344		3,408,062	36	3,408,539
151	3,407,874	11	3,407,930	230	3,408,009	240	3,408,345	271 – 3	3,408,063	41	3,408,540
174	3,407,875	75	3,407,931	308	3,408,010	243	3,408,346	61	3,408,064	234	3,408,541
179	3,407,876	121	3,407,932	240 – 6.45	3,408,489		3,408,347	64	3,408,065	235	3,408,542
166 – 9	3,407,877	447	3,407,933	11.3	3,408,490		3,408,348	272 – 5	3,408,066		3,408,543
30	3,407,878	210 – 20	3,408,288	41.4	3,408,491		3,408,349	16	3,408,067		3,408,544
169 – 9	3,407,879	22	3,408,290	242 – 18	3,408,011		3,408,350	44	3,408,068		3,408,545
12	3,407,880	27	3,408,289		3,408,012	283	3,408,351	66	3,408,069	318 – 16	3,408,546
20	3,407,881	32	3,408,291	25	3,408,013	288	3,408,352	273 – 26	3,408,070	18	3,408,547
170 – 60.54	3,407,882	52	3,408,292	43	3,408,014	293	3,408,353		3,408,071	28	3,408,548
173 – 12	3,407,883	53	3,408,293	47.01	3,408,015	.2	3,408,354	108	3,408,072	85	3,408,549
91	3,407,884	56	3,408,294	55.12	3,408,016	.4	3,408,355	137	3,408,073	212	3,408,550
93.6	3,407,885	62	3,408,295	.13	3,408,017	294.3	3,408,356	164	3,408,074	321 – 10	3,408,551
174 – 21	3,408,450	73	3,407,934	66	3,408,018		3,408,357	183	3,408,075	14	3,408,552
52	3,408,451	151	3,407,935	71.1	3,408,019	8	3,408,358	186	3,408,076	16	3,408,553
84.5	3,408,452	282	3,407,936	78.7	3,408,020	297	3,408,359	189	3,408,077	18	3,408,554
	3,408,453	301	3,407,937	84.54	3,408,021	307	3,408,360	190	3,408,078	322 – 2	3,408,555
71	3,408,454	211 – 41	3,407,938	110.1	3,408,022	309.6	3,408,361	202	3,408,079	95	3,408,556
94	3,408,455	90	3,407,939	118.31	3,408,023	310	3,408,362	274 – 9	3,408,080	323 – 1	3,408,557
175 – 27	3,407,886	153	3,407,940	244 – 77	3,408,024	340.9	3,408,363	10	3,408,081	22	3,408,558
106	3,407,887	177	3,407,941	118	3,408,025	345.1	3,408,364	47	3,408,082		3,408,559
173	3,407,888	212 – 84	3,407,942	152	3,408,026	.2	3,408,365	277 – 34	3,408,083	100	3,408,560
263	3,407,889	214 – 17	3,407,943	246 – 249	3,408,493	.3	3,408,366	37	3,408,084	324 – 6	3,408,561
177 – 90	3,407,890	26	3,407,944	248 – 151	3,408,027	396	3,408,367	72	3,408,085	28	3,408,562
255	3,407,891	138	3,407,945	221	3,408,028		3,408,368	280 – 11.13	3,408,086	45	3,408,563
178 – 5.4	3,408,456		3,407,946	351	3,408,029	397.3	3,408,369	.35	3,408,087	52	3,408,564
6.6	3,408,457	141	3,407,947	360	3,408,030	4	3,408,370	96.2	3,408,088	61	3,408,566
15	3,408,458	305	3,407,948	363	3,408,031		3,408,371	99	3,408,089	95	3,408,567
89.5	3,408,459	309	3,407,949	450	3,408,032	45	3,408,372	278	3,408,090	99	3,408,568
179 – 1	3,408,460	512	3,407,950	474	3,408,033	400	3,408,373	285 – 7	3,408,091	123	3,408,569
107	3,408,461	653	3,407,951	250 – 41.9	3,408,494	412.4	3,408,374	39	3,408,092	131	3,408,570
180 – 19	3,407,892	767	3,407,952	71	3,408,495	437	3,408,375	52	3,408,093	158	3,408,565
44	3,407,893	770	3,407,953	83.3	3,408,492	439	3,408,376	90	3,408,094	325 – 145	3,408,571
63	3,407,894	215 – 9	3,407,954		3,408,496	448	3,408,377	110	3,408,095	163	3,408,572
79	3,407,895	22	3,407,955		3,408,497		3,408,378		3,408,096	364	3,408,574
119	3,407,896	41	3,407,956	199	3,408,498	.2	3,408,379	112	3,408,097	411	3,408,575
181 – .5	3,407,897	42	3,407,957	211	3,408,499		3,408,380	247	3,408,098	439	3,408,576
182 – 9	3,407,898	219 – 10.49	3,408,470	219	3,408,500	453	3,408,381		3,408,099	328 – 43	3,408,577
20	3,407,899	69	3,408,471	239	3,408,501	456	3,408,382	292 – 216	3,408,100	67	3,408,578
107	3,407,900	98	3,408,472	251 – 9	3,408,034	467	3,408,383	294 – 86.25	3,408,101	155	3,408,579
156	3,407,901	111	3,408,473	14	3,408,035	479	3,408,384	296 – 23	3,408,102	185	3,408,580
184 – 6	3,407,902	121	3,408,474	138	3,408,036		3,408,385	66	3,408,103	329 – 50	3,408,581
14	3,407,903	125	3,408,475	175	3,408,037	481	3,408,386	297 – 162	3,408,104	192	3,408,582
187 – 29	3,407,904	200	3,408,477		3,408,038	482	3,408,387	219	3,408,105	330 – 8	3,408,583
	3,407,905	229	3,408,478	237	3,408,039	491	3,408,388	452	3,408,106	9	3,408,584
188 – 1	3,407,906	365	3,408,479	257	3,408,040	501.2	3,408,389	456	3,408,107	20	3,408,585
53	3,407,907	368	3,408,480	260	3,408,041	502.4	3,408,390	298 – 18	3,408,108	28	3,408,586
60	3,407,908	386	3,408,481	334	3,408,042	518	3,408,391	299 – 56	3,408,109	29	3,408,587
97	3,407,909	388	3,408,476	252 – 8.55	3,408,296	530	3,408,392	86	3,408,110		3,408,588
192 – 18	3,407,910	220 – 4	3,407,958	33.3	3,408,297	535	3,408,393	300 – 21	3,408,112	51	3,408,589
56	3,407,911	6	3,407,959	107	3,408,298	551	3,408,394	301 – 5	3,408,111	85	3,408,590
98	3,407,912	97	3,407,960	129	3,408,299		3,408,395	302 – 2	3,408,113	331 – 3	3,408,591
129	3,407,913		3,407,961	156	3,408,300	559	3,408,396	14	3,408,114	8	3,408,592
194 – 4	3,407,914	221 – 4	3,407,962	182	3,408,301	583	3,408,397	28	3,408,115	94.5	3,408,593
195 – 28	3,408,256	36	3,407,963	301.1	3,408,302	586	3,408,398	52	3,408,116	107	3,408,594
81	3,408,257	167	3,407,964		3,408,303	590	3,408,399		3,408,117	332 – 11	3,408,595
90	3,408,258	210	3,407,965		3,408,304	604	3,408,400	303 – 22	3,408,118	16	3,408,596
113.5	3,408,259	303	3,407,966	317	3,408,305		3,408,401	84	3,408,119	333 – 24.1	3,408,597
198 – 19	3,407,915	222 – 48	3,407,967	321	3,408,306	607	3,408,402	307 – 29	3,408,502	33	3,408,598
24	3,407,916	104	3,407,968	344	3,408,307	609	3,408,403	38	3,408,503	73	3,408,599
93	3,407,917	107	3,407,969	401	3,408,308	611	3,408,404	88	3,408,504	80	3,408,600
102	3,407,918	148	3,407,970	470	3,408,309	612	3,408,405		3,408,505	98	3,408,601
129	3,407,919	185	3,407,971	512	3,408,310		3,408,406	117	3,408,506	335 – 112	3,408,602
168	3,407,920	193	3,407,972	514	3,408,311	619	3,408,407	210	3,408,507	151	3,408,603
200 – 6	3,408,462	373	3,407,973	518	3,408,312		3,408,408	225	3,408,508	216	3,408,604
	3,408,463	386.5	3,407,974	253 – 2	3,408,043	621	3,408,409		3,408,509		3,408,619
16	3,408,464	402.13	3,407,975	39.1	3,408,044	624	3,408,410	237	3,408,510	297	3,408,573
24	3,408,465	485	3,407,976	45	3,408,045	646	3,408,411		3,408,511	336 – 96	3,408,605
42	3,408,466	554	3,407,977	55	3,408,046	650	3,408,412	273	3,408,512	337 – 59	3,408,606
61.27	3,408,467	223 – 72	3,407,978	77	3,408,047	656	3,408,413	293	3,408,513	94	3,408,469
83	3,408,468	88	3,407,979	78	3,408,048	666	3,408,414	308 – 15	3,408,120	338 – 26	3,408,607
202 – 83	3,408,260	225 – 76	3,407,980	122	3,408,049		3,408,415	40	3,408,121	316	3,408,608
160	3,408,261	226 – 171	3,407,981	259 – 4	3,408,050		3,408,416	160	3,408,122	339 – 8	3,408,609
177	3,408,262	227 – 9	3,407,982		3,408,051	679	3,408,417	187	3,408,123		3,408,610
203 – 2	3,408,263		3,407,983	147	3,408,052	680	3,408,418	238	3,408,124	17	3,408,611

339 – 17	3,408,612	340 – 163	3,408,626	340 – 174	3,408,639	343 – 715	3,408,652	352 – 202	3,408,138	401 – 153	3,408,150
18	3,408,613	172.5	3,408,627	.1	3,408,640	754	3,408,653	353 – 15	3,408,139	291	3,408,151
91	3,408,614		3,408,628		3,408,641		3,408,654	355 – 23	3,408,140	424 – 12	3,408,440
94	3,408,615		3,408,629	276	3,408,642	817	3,408,655	28	3,408,141	180	3,408,441
99	3,408,616		3,408,630	280	3,408,643	346 – 1	3,408,656	38	3,408,142	218	3,408,442
126	3,408,617		3,408,631	347	3,408,644	350 – 96	3,408,131	40	3,408,143	219	3,408,443
196	3,408,618		3,408,632	388	3,408,645	125	3,408,132	48	3,408,144	245	3,408,444
272	3,408,620		3,408,633	343 – 6.5	3,408,646	150	3,408,133	59	3,408,145	267	3,408,445
340 – 5	3,408,621	173	3,408,634	7.7	3,408,647	160	3,408,134	356 – 140	3,408,146		3,408,446
15.5	3,408,622	174	3,408,635	8	3,408,648	202	3,408,135	401 – 65	3,408,147	431 – 89	3,408,152
43	3,408,623		3,408,636	13	3,408,649	293	3,408,136	113	3,408,148	143	3,408,153
50	3,408,624		3,408,637	17.2	3,408,650	351 – 28	3,408,137	147	3,408,149	353	3,408,154
79	3,408,625		3,408,638	112	3,408,651						

CLASSIFICATION OF DESIGNS

D 2 – 320	212,521	D14 – 6	212,531	D33 – 7	212,541	D49 – 33	212,551	D61 – 1	212,561	D83 – 1	212,571
D 3 – 32	212,522		212,532	D34 – 5	212,542	D52 – 2	212,552		212,562		212,572
D 9 – 115	212,523	30	212,533		212,543	D54 – 1	212,553	D64 – 18	212,563		212,573
126	212,524	D15 – 8	212,534		212,544		212,554	D71 – 1	212,564		212,574
135	212,525	D23 – 35	212,535	D40 – 1	212,545	D55 – 1	212,555		212,565	D86 – 8	212,575
290	212,526	D26 – 5.0	212,536	D44 – 9	212,546		212,556		212,566	10	212,576
D13 – 7	212,527	14	212,537	15	212,547	D56 – 1	212,557	D74 – 2	212,567		212,577
	212,528	D29 – 17	212,538	29	212,548	2	212,558	D80 – 11	212,568	D90 – 15	212,578
	212,529	D30 – 6	212,539	D48 – 20	212,549	4	212,559	D83 – 1	212,569	D93 – 4	212,579
D14 – 6	212,530	D33 – 3	212,540	32	212,550	D57 – 1	212,560		212,570		

CLASSIFICATION OF PLANTS

P. – 86	2,842	P. – 86	2,843

GEOGRAPHICAL INDEX OF RESIDENCE OF INVENTORS

(U.S. States, Territories and Armed Forces, the Commonwealth of Puerto Rico, and the Canal Zone)

(NOTE.—CODES ARE CHANGED AS OF JANUARY 1, 1967)

Alabama	1	Kentucky	21	Oregon	41
Alaska	2	Louisiana	22	Pennsylvania	42
American Samoa	3	Maine	23	Puerto Rico	43
Arizona	4	Maryland	24	Rhode Island	44
Arkansas	5	Massachusetts	25	South Carolina	45
California	6	Michigan	26	South Dakota	46
Canal Zone	7	Minnesota	27	Tennessee	47
Colorado	8	Mississippi	28	Texas	48
Connecticut	9	Missouri	29	Utah	49
Delaware	10	Montana	30	Vermont	50
District of Columbia	11	Nebraska	31	Virginia	51
Florida	12	Nevada	32	Virgin Islands	52
Georgia	13	New Hampshire	33	Washington	53
Guam	14	New Jersey	34	West Virginia	54
Hawaii	15	New Mexico	35	Wisconsin	55
Idaho	16	New York	36	Wyoming	56
Illinois	17	North Carolina	37	U.S. Air Force	57
Indiana	18	North Dakota	38	U.S. Army	58
Iowa	19	Ohio	39	U.S. Navy	59
Kansas	20	Oklahoma	40		

(First number in listing denotes location according to above key. Refer to patent number in body of the Official Gazette to obtain details as to inventor name, location, etc.)

PATENTS

1 : 3,407,943
3,408,107
3,408,312
3,408,383
4 : 3,407,452
3,407,479
3,407,603
3,408,126
3,408,244
3,408,289
3,408,461
3,408,511
3,408,512
3,408,584
3,408,610
3,408,626
3,408,654
5 : 3,408,160
6 : 3,407,411
3,407,414
3,407,419
3,407,466
3,407,476
3,407,495
3,407,507
3,407,509
3,407,530
3,407,532
3,407,538
3,407,542
3,407,547
3,407,555
3,407,560
3,407,564
3,407,575
3,407,582
3,407,620
3,407,622
3,407,626
3,407,649
3,407,650
3,407,653
3,407,660
3,407,664
3,407,666
3,407,668
3,407,680
3,407,696
3,407,708
3,407,734

6 3,407,748
3,407,755
3,407,756
3,407,765
3,407,766
3,407,767
3,407,775
3,407,776
3,407,787
3,407,797
3,407,803
3,407,811
3,407,819
3,407,825
3,407,833
3,407,834
3,407,836
3,407,843
3,407,846
3,407,853
3,407,859
3,407,887
3,407,895
3,407,900
3,407,902
3,407,919
3,407,931
3,407,935
3,407,939
3,407,954
3,407,956
3,407,962
3,407,985
3,408,004
3,408,006
3,408,025
3,408,029
3,408,030
3,408,040
3,408,041
3,408,042
3,408,054
3,408,061
3,408,069
3,408,070
3,408,077
3,408,093
3,408,098
3,408,102
3,408,104

6 3,408,128
3,408,131
3,408,133
3,408,145
3,408,151
3,408,155
3,408,156
3,408,158
3,408,212
3,408,213
3,408,239
3,408,260
3,408,262
3,408,269
3,408,271
3,408,281
3,408,310
3,408,343
3,408,365
3,408,371
3,408,372
3,408,380
3,408,384
3,408,422
3,408,423
3,408,428
3,408,439
3,408,445
3,408,456
3,408,466
3,408,473
3,408,478
3,408,489
3,408,494
3,408,521
3,408,532
3,408,546
3,408,547
3,408,549
3,408,554
3,408,569
3,408,571
3,408,577
3,408,581
3,408,582
3,408,589
3,408,591
3,408,594
3,408,596
3,408,602

6 3,408,603
3,408,611
3,408,621
3,408,630
3,408,632
3,408,633
3,408,635
3,408,643
3,408,647
8 3,407,527
3,407,579
3,407,991
3,408,033
9 3,407,433
3,407,451
3,407,455
3,407,647
3,407,818
3,407,845
3,407,903
3,407,914
3,407,922
3,407,923
3,407,978
3,407,982
3,407,998
3,408,050
3,408,064
3,408,139
3,408,249
3,408,301
3,408,308
3,408,349
3,408,393
3,408,443
3,408,453
3,408,455
3,408,491
3,408,492
3,408,537
3,408,542
3,408,558
3,408,559
3,408,618
3,408,620
3,408,648
10 3,408,274
3,408,302
3,408,303
3,408,306

10 3,408,311
3,408,367
3,408,375
3,408,404
3,408,420
3,408,435
12 3,407,418
3,407,596
3,407,817
3,407,821
3,407,862
3,407,898
3,407,955
3,408,068
3,408,086
3,408,108
3,408,162
3,408,168
3,408,460
3,408,502
3,408,575
13 3,407,447
3,407,569
3,408,111
3,408,161
3,408,405
17 3,407,423
3,407,431
3,407,442
3,407,448
3,407,449
3,407,470
3,407,472
3,407,474
3,407,483
3,407,485
3,407,496
3,407,523
3,407,536
3,407,537
3,407,552
3,407,600
3,407,601
3,407,606
3,407,636
3,407,652
3,407,695
3,407,706
3,407,724
3,407,741

17 3,407,750
3,407,752
3,407,757
3,407,758
3,407,809
3,407,858
3,407,869
3,407,952
3,407,953
3,407,974
3,407,975
3,407,983
3,407,993
3,408,018
3,408,034
3,408,053
3,408,064
3,408,090
3,408,092
3,408,099
3,408,110
3,408,117
3,408,119
3,408,121
3,408,149
3,408,170
3,408,174
3,408,175
3,408,205
3,408,214
3,408,220
3,408,233
3,408,263
3,408,264
3,408,265
3,408,266
3,408,273
3,408,284
3,408,287
3,408,292
3,408,293
3,408,295
3,408,307
3,408,390
3,408,419
3,408,457
3,408,459
3,408,464
3,408,520
3,408,607

17 : 3,408,624
3,408,629
3,408,649
18 : 3,407,463
3,407,468
3,407,469
3,407,471
3,407,484
3,407,486
3,407,487
3,407,488
3,407,491
3,407,493
3,407,500
3,407,535
3,407,669
3,407,674
3,407,686
3,407,796
3,407,804
3,407,882
3,407,965
3,408,016
3,408,020
3,408,032
3,408,046
3,408,154
3,408,297
3,408,431
3,408,477
3,408,534
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	3,407,933		3,408,395		3,407,597		3,407,790		3,408,147		3,408,396
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Design Patents

5	212,534	6	212,571	17	212,562	26	212,531	36	212,547	42	212,522
	212,538		212,576		212,578		212,553		212,550		212,527
	212,552	8	212,543	18	212,559	34	212,542		212,572		212,528
	212,561	9	212,554	19	212,530		212,548		212,573		212,529
	212,563	12	212,525	22	212,579		212,569	37	212,558		212,545
	212,565	17	212,541	24	212,533		212,574	39	212,524	47	212,557
	212,566		212,555	25	212,549		212,575		212,532	48	212,546
	212,568		212,556		212,567	36	212,536		212,544	51	212,537
	212,570		212,560	26	212,526		212,540	40	212,551	53	212,564

Plant Patents

31	2,842	31	2,843

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

October 29, 1968 Volume 855 Number 5

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 304,947. (See Reg. No. 432,175.)

Reg. No. 305,168. (See Reg. No. 432,175.)

Reg. No. 306,455. (See Reg. No. 432,175.)

Reg. No. 338,439. (See Reg. No. 432,175.)

Reg. No. 341,691. (See Reg. No. 432,175.)

Reg. No. 432,175 (DEMI-BLU MINK), Saks & Company, Ladies' and misses' fur coats made of mink; **Reg. No. 305,168** ("PETITES" ETC.), same, Handbags, suit-cases, valises, overnight cases, and hat boxes; **Reg. No. 435,654** (SOPHIE SAKS FIFTH AVENUE), same, Women's and misses' custom-made dresses; **Reg. No. 304,947** SAKSPUN), same, Men's, women's, girls' and boys' dress and lingerie shirts, pajamas, drawers and undershirts, bath robes, lounging robes and smoking jackets, neckties and mufflers, suits, and overcoats; **Reg. No. 338,439**, same, Women's and misses' corsets; **Reg. No. 341,691**, same, Women's and children's street dresses, knitted suits and coats; **Reg. No. 680,501** (SAKS FIFTH AVENUE), same, Women's and misses' shoes; **Reg. No. 686,376** (SAKSBROOKE), same, Women's, misses' and girls' suits and dresses; **Reg. No. 686,700** (SAKSWRAP), same, Women's, misses' and children's house dresses; **Reg. No. 737,308** (SAKS FIFTH AVENUE), same, Retail department store services; **Reg. No. 593,028** (SAKSTWEED), same, Women's, misses', and children's coats, suits, dresses, jackets, outer shorts, outer skirts, slacks, blouses, outer shirts, blazers, ski pants, ski jackets, bathing suits, beach coats, raincoats, and hats; **Reg. No. 609,178** (SAKSCHESTER), same, Women's, misses', and children's coats, suits, dresses, jackets, outer shorts, outer skirts, slacks, blouses, outer shirts, blazers, ski pants, ski jackets, bathing suits, beach coats, raincoats, sweaters, and pedal pushers; **Reg. No. 609,179** (SAKSFLAN), same; **Reg. No. 610,457** (SAKSWEAR), same, Boys', girls', infants' and children's panty waists, under shirts, outer shirts, T-shirts, sleeveless shirts, night shirts, sweaters, under shorts, outer shorts, boxer shorts, under pants, training pants, night gowns, pajamas, kimonos, robes, sacques, hosiery and ties; **Reg. No. 620,917** (SAKS FIFTH AVENUE), same, All articles of wearing apparel for men and boys, and for women, misses, children and infants, exclusive of boots and shoes and other items of outer footwear; **Reg. No. 628,489**, same, Trunks, hand luggage, women's and misses' handbags, dog toggery, dog baskets, brief cases, billfolds, wallets, purses, pocket books, money belts, pocket cases, pass cases, card cases, key cases, shawl straps, traveling toilet cases, writing cases, and attaché cases; **Reg. No. 628,768**, same, Hair combs, hair pins, barrettes, and false hair for personal use, hat bands, millinery trimmings, excepting ribbon; loose beads, pompons, made-up bows and rosettes, artificial flowers for personal wear, fitted sewing baskets, boxes and kits; baby harnesses; and safety guards made of straps and

CONDITION OF TRADEMARK APPLICATIONS AS OF AUGUST 31, 1968

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	15,629
Date of oldest new application	August 1, 1967
Date of oldest amended application (filing date)	April 28, 1965

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	1- 9-68	10-27-65
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	11-22-67	6- 6-66
(III) P. S. BALL, Classes 19, 21, 23, 26, 31, 34, 35, 36	11- 6-67	4-28-65
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	8- 1-67	1-17-66
Renewals (All Classes)	7-22-68	.....
Sec. 12(c) Publications (All Classes)	7-29-68	.....

Applications filed during the month of August 1968—2,487

Registrations Issued ---------- 353—No. 859,144 to No. 859,496
Renewals Issued ---------- 100

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equipped with pins or buckles for keeping babies and young children from falling out of bed; **Reg. No. 635,368,** same, Fur pelts and skins for use in making and trimming wearing apparel; **Reg. No. 668,103** (SAKSTOP), same, Women's, misses', and children's coats and top coats; **Reg. No. 612,639** (SAKSCORD), same, Men's, boys', infants', and children's apparel—namely, suits, sport coats, all-weather coats, jackets, jumpers, slacks, trousers, boxer trousers, dress trousers, play shorts, boxer shorts, sport shirts, dress shirts, raincoats, hats, and caps; **Reg. No. 622,771** (SAKSCHESTERS), same, Women's and misses' shoes; **Reg. No. 680,502** (SAKSLON), same, Men's sports shirts; **Reg. No. 547,899** (SAKSGAB), same, Infants', children's and boys' apparel—namely, coats, suits, jumpers, slacks, play shorts, dresses, sport shirts, hats and sport coats; **Reg. No. 611,480** (SAKS-EASE), same, Men's suits, overcoats, sports coats, topcoats, sports jackets, vests, outer shirts, under shirts, outer shorts, under shorts, pajamas, bath robes, lounging robes, smoking jackets, gloves of leather and/or fabric, neckties, mufflers, socks, slacks, hats, and caps; **Reg. No. 611,481** (SAKS-AIRE), same, Men's outer shirts, undershirts, pajamas, bath robes, lounging robes, smoking jackets, gloves of leather and/or fabric, neckties, mufflers, socks, slacks, outer shorts, under shorts, sports coats, top coats, overcoats, suits, sports jackets, vests, hats, and caps; **Reg. No. 306,455** ("PETITES" ETC.), same, Ladies' shoes of leather, rubber, and fabric and combinations of these materials; dresses, coats, suits, hats, underwear, hosiery, negligees, and beach wear—namely, bathing shoes, bathing caps, bathing suits, bathing scarfs, beach shoes and beach robes; **Reg. No. 625,399** (SAKS-FIFTH AVENUE), same, Pyrophoric cigarette lighters, ash trays, receivers and stands, cigarette and cigar receptacles, cases and humidors, cigar and cigarette holders and tubes, tobacco pipes and racks therefor, smokers' sets and tobacco pouches; **Reg. No. 625,219,** same, Cigars, cigarettes and smoking tobacco; **Reg. No. 625,746,** same, Baby carriages and bicycles; **Reg. No. 627,288,** same, Electric lamps; **Reg. No. 627,569,** same, Waste baskets, hampers, laundry bags, wooden trays, and trays made of synthetic materials which are used for serving purposes; **Reg. No. 627,598,** same, Writing fluids; **Reg. No. 627,741,** same, Scissors, shears, razors, razor blades and razor sets, and all types of knives for personal use; **Reg. No. 627,800,** same, Opera glasses, binoculars, sun glasses, eye glass loops and chains, lorgnettes, magnifying glasses, and bathroom weighing scales; **Reg. No. 627,814,** same, Watches and clocks; **Reg. No. 627,818,** same, Men's, women's and children's jewelry of all qualities, sterling and silver plated flat ware and hollow ware; **Reg. No. 627,821,** same, Brushes—namely, hair, nail, tooth, clothes, hand, bath, lipstick, eyebrow, mascara, and shaving brushes; **Reg. No. 627,861,** same, Music boxes; **Reg. No. 628,354,** same, Piece goods for making clothing and household furnishings, curtains, draperies, pillow covers and tops, sheets and pillow cases, blankets, mattress covers, mattress pads, counterpanes, bedspreads, table linens, and household linens; **Reg. No. 628,688,** same, Bedsteads, springs, mattresses, pillows, chaise lounges, chairs, bedside tables, desks, commodes, wall consoles, dressing tables, mirrors; infants' furniture—namely, cribs, springs, mattresses, pillows, bassinettes, play pens, cupboards, wardrobes, tables, chairs, stools, high chairs, training chairs, clothes racks, costumers, bathing tables, and children's detachable bed guards of the fence or rail type, and bookends; **Reg. No. 629,277,** same, Figurines; **Reg. No. 629,637,** same, Perfume atomizers, sanitary napkins, nursing bottle holders, and tweezers; **Reg. No. 630,888,** same, China and pottery, and vases; **Reg. No. 631,322,** same, Glass tableware, and vases, bar glasses, glass stem ware, glass bowls, and decorative glass ware—namely, bottles, powder jars and trays; **Reg. No. 631,799,** same, Stationery for personal correspondence—namely, writing paper, correspondence cards and envelopes, writing pens, pencils and crayons, paper napkins and handkerchiefs, facial tissue, toilet tissue, desk calendars, calendar pads, blotters, desk blotters and pads, desk sets consisting of the same, envelope openers, paper knives for desk use, pen and pencil desk sets, address books, telephone book covers, memorandum pads and telephone number finders for desk use of the automatic touch control type, telephone shields, photographic albums, place cards, luggage labels, and diaries; **Reg. No. 632,714,** same, Engraved social announcements, invitations, announcement cards, and visiting cards; greeting cards; Christmas cards and seals; printed return address stickers; books; puzzle books; pictures; decorative calendars embellished with pictures; and maps; **Reg. No. 633,537,** same, All kinds of toys for children and all sorts of games for children and adults, tricycles, scooter carts, sleds and similar type toy vehicles, playing cards, card games and card game accessories, party favors, dolls, doll clothes, doll furniture; footballs, baseballs and bats, golf clubs, golf bags and golf balls, tennis rackets and tennis balls, croquet sets, and fishing tackle; **Reg. No. 633,775,** same, Toilet soaps, bath soaps, and shampoos; **Reg. No. 636,002,** same, Canes, umbrellas, parasols, swagger sticks, shooting seats, that is, combination walking stick or cane and a seat, **filed** May 26, 1965, D.C. Dist. of Col. (Washington), Doc. C-1294-65, *Saks, Inc.* v. *Saks & Company.* Order dismissing complaint and counterclaim with prejudice, Sept. 13, 1967.

Reg. No. 435,654. (See Reg. No. 432,175.)
Reg. No. 547,899. (See Reg. No. 432,175.)
Reg. No. 593,028. (See Reg. No. 432,175.)
Reg. No. 609,178. (See Reg. No. 432,175.)
Reg. No. 609,179. (See Reg. No. 432,175.)
Reg. No. 610,457. (See Reg. No. 432,175.)
Reg. No. 611,480. (See Reg. No. 432,175.)
Reg. No. 611,481. (See Reg. No. 432,175.)
Reg. No. 612,639. (See Reg. No. 432,175.)
Reg. No. 620,917. (See Reg. No. 432,175.)
Reg. No. 622,771. (See Reg. No. 432,175.)
Reg. No. 625,209. (See Reg. No. 432,175.)
Reg. No. 625,219. (See Reg. No. 432,175.)
Reg. No. 625,746. (See Reg. No. 432,175.)
Reg. No. 627,288. (See Reg. No. 432,175.)
Reg. No. 627,569. (See Reg. No. 432,175.)
Reg. No. 627,598. (See Reg. No. 432,175.)
Reg. No. 627,741. (See Reg. No. 432,175.)
Reg. No. 627,800. (See Reg. No. 432,175.)
Reg. No. 627,814. (See Reg. No. 432,175.)
Reg. No. 627,818. (See Reg. No. 432,175.)
Reg. No. 627,821. (See Reg. No. 432,175.)
Reg. No. 627,861. (See Reg. No. 432,175.)
Reg. No. 628,354. (See Reg. No. 432,175.)
Reg. No. 628,489. (See Reg. No. 432,175.)
Reg. No. 628,688. (See Reg. No. 432,175.)
Reg. No. 628,768. (See Reg. No. 432,175.)
Reg. No. 629,277. (See Reg. No. 432,175.)
Reg. No. 629,637. (See Reg. No. 432,175.)
Reg. No. 630,888. (See Reg. No. 432,175.)
Reg. No. 631,322. (See Reg. No. 432,175.)
Reg. No. 631,799. (See Reg. No. 432,175.)
Reg. No. 632,714. (See Reg. No. 432,175.)
Reg. No. 633,537. (See Reg. No. 432,175.)
Reg. No. 633,775. (See Reg. No. 432,175.)
Reg. No. 635,368. (See Reg. No. 432,175.)
Reg. No. 636,002. (See Reg. No. 432,175.)
Reg. No. 668,103. (See Reg. No. 432,175.)
Reg. No. 680,501. (See Reg. No. 432,175.)
Reg. No. 680,502. (See Reg. No. 432,175.)
Reg. No. 686,376. (See Reg. No. 432,175.)
Reg. No. 686,700. (See Reg. No. 432,175.)
Reg. No. 737,308. (See Reg. No. 432,175.)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 231,944. J. L. Prescott Company, Passaic, N.J., assignee of Rose-X Chemical Company, Inc., Passaic, N.J. Filed Nov. 1, 1965.

ROSE-X

Owner of Reg. Nos. 360,964, 361,015, and 531,515.

Class 6—Chemicals and Chemical Compositions

For Bleach-Disinfectant, Starch, Spray Starch, Plastic Starch, Ammonia, Fabric Softener, and Bluing (Int. Cls. 3 and 5).

Class 52—Detergents and Soaps

For All-Purpose Cleaner (Int. Cl. 3).

First use November 1934.

SN 241,948. Union Lumber Company, San Francisco, Calif. Filed Mar. 25, 1966.



Owner of Reg. No. 138,726.

Class 1—Raw or Partly Prepared Materials

For Shredded Bark Padding and Bark Fibres for Various Uses in the Industrial Arts (Int. Cl. 1).

Class 10—Fertilizers

For Soil Conditioner (Int. Cl. 1).

Class 12—Construction Materials

For Lumber and Finished and Unfinished Lumber and Lumber Derivatives as Prepared for Market—Namely, Treated or Untreated Rough and Surfaced Lumber; Worked Lumber, Namely, Treated or Untreated Panelling, Siding, Flooring, Shingles and Shakes, Fencing, Decking, Laminated Beams and Trusses, Veneer, and Prefabricated Home, Farm and Industrial Structures and Buildings (Int. Cl. 19).

First use Sept. 19, 1960.

SN 244,087. Dema Engineering Co., St. Louis, Mo. Filed Apr. 21, 1966.

DEMA

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Liquid Injectors, Globe Valves, Pressure Regulators, Angle Valves, Gate Valves, Swing Check Valves, Siphon Breakers, Tubing, Elbows, and Nozzles (Int. Cl. 6).

Class 21—Electrical Apparatus, Machines, and Supplies

For Solenoid Valves and Electric Valve Controls (Int. Cl. 9).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Spray Guns and Emulsion-Type Dispensers (Int. Cl. 7).

Class 26—Measuring and Scientific Appliances

For Liquid Proportioners (Int. Cl. 9).

Class 31—Filters and Refrigerators

For Liquid Line Strainers (Int. Cl. 11).

First use Mar. 1, 1956.

SN 252,036. "Societe Metallurgique Hainaut-Sambre," Couillet, Belgium. Filed Aug. 9, 1966.



The terms "Hainaut" and "Sambre" are disclaimed apart from the mark as shown. Owner of Belgian Reg. No. 4,475, dated Mar. 15, 1965.

Class 12—Construction Materials

For Concrete Irons for Reinforcing Concrete, and Rolled Rounds, Squares, Flats, Half-Rounds, Angles, T-Shaped Irons, Joists, Beams and U-Shaped Irons for Construction Purposes (Int. Cl. 6).

Class 14—Metals and Metal Castings and Forgings

For Unwrought and Partly Wrought Common Metals and Their Alloys; Iron and Steel Products—Namely, Ingots, Billets, Blooms, Slabs, Sheet Bars, Bars, Wire Rods; and Railway Rails and Railroad Accessories—Namely, Rail Fish Plates and Supporting Plates (Int. Cl. 6).

SN 254,402. Saia A.G., Murten, Fribourg, Switzerland. Filed Sept. 13, 1966.

SAIA

Owner of U.S. Reg. No. 220,441.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Switches of all Types—Namely, Automatic Time, Remote Control, Manual, Automatic Staircase, Latching and Program Switches, Microswitches, Short Duration Interval Timers. Motor Driven Timing Relays, General Purpose Relays, Pressostats, Contactors, Synchronous Motors, and Automatic Control Switch Systems, and Parts Thereof (Int. Cl. 9).

First use Aug. 7, 1924; in commerce 1926.

Class 26—Measuring and Scientific Appliances

For Temperature and Pressure Switches, Pressure Regulators, Short Duration Interval Timers, Automatic Control Systems for Measurement, and Parts Thereof (Int. Cl. 9).

First use Oct. 4, 1958; in commerce Oct. 4, 1958.

SN 269,380. Bergdorf & Goodman Company, New York, N.Y. Filed Apr. 18, 1967.

MISS BERGDORF

"Miss Bergdorf" does not refer to any particular person known to the applicant.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Handbags (Int. Cl. 18).

Class 39—Clothing

For Women's Clothing—Namely, Coats, Dresses, Furs, Hats, Jackets, Raincoats, Shoes, Shirts, Skirts, Slacks, and Swimwear (Int. Cl. 25).

First use in or about August 1955.

SN 268,908. Maxon Premix Burner Company, Inc., Muncie, Ind. Filed Apr. 24, 1967.

MAXON

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

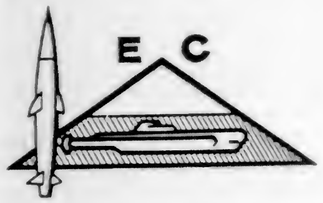
For Valves for Air and for Gas and Liquid Fuels, and Controls for Such Valves (Int. Cls. 6 and 9).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Gas Burners, Oil Burners, Gas-Oil Burners, Air and Gas Mixing Devices and Blowers for Fuel Burners, Gas Fired and Oil-Gas Fired Industrial Heaters, and Gas Fired Industrial Heating Systems (Int. Cl. 11).

First use in or about 1916.

SN 273,384. Electrospace Corporation, Glen Cove, N.Y. Filed June 8, 1967.



Class 21—Electrical Apparatus, Machines, and Supplies

For Telephone Switchboards and Central Office Equipment, Telephone Handsets and Components Thereof, Hermetically Sealed Toggle Switches (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Ohmmeters, Dielectric Test Equipment (Int. Cl. 9).

First use Feb. 15, 1961.

SN 283,526. Hipotronics, Inc., Brewster, N.Y. Filed Oct. 27, 1967.

HIPOTRONICS

Class 21—Electrical Apparatus, Machines, and Supplies

For High Voltage Power Supplies and Power Packs, D.C. Wire Sparkers, and Parts Thereof (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For High Voltage Test Equipment—Namely, Megohmmeters, D.C. Insulation Testers, Dielectric and Corona Test Equipment, Load Cycle Testers, High Voltage Fault Locating Bridges and Impulse-Type Fault Locators, Pulse Pick-Up Devices for Fault Locating, Automatic Cable Testers, A.C. Dielectric Test Equipment for Testing the Dielectric on Wires and Cables, Electrical Wire Insulation Pin Hole Counters, Multiple Wire Insulation Testers, Non-Destructive Insulation Testers, Discontinuity Enamel Wire Defect Testers, A.C./D.C. Testers and Megohmmeters, A.C. Insulation Testers, and Parts Therefor (Int. Cl. 9).

First use October 1966.

SN 284,271. Toyo Rayon Co., Ltd., Chuo-ku, Tokyo, Japan. Filed Nov. 7, 1967.

TAPILON

Owner of Japanese Reg. Nos. 718,492, dated Aug. 31, 1966 and 729,308, Jan. 11, 1967.

Class 39—Clothing

For Socks, Stockings, Lingerie, Nightgowns, Pajamas, Sleeping Wear, and Blouses (Int. Cl. 25).

Class 43—Thread and Yarn

For Yarns and Threads (Int. Cl. 23).

SN 284,527. Spokane Film, Inc., Spokane, Wash. Filed Nov. 13, 1967.



Applicant disclaims the words "Always Better" apart from the mark as shown.

Class 38—Prints and Publications

For Processed, Negatives, Developed Prints, and Transparencies (Int. Cls. 9 and 16).

Class 106—Material Treatment

For Photofinishing Services (Int. Cl. 40).
First use Dec. 10, 1966.

SN 286,292. Temco, Inc., Nashville, Tenn. Filed Dec. 5, 1967.
Owner of Reg. No. 839,582.



Class 24—Laundry Appliances and Machines

For Clothes Pressers and Finishers (Int. Cl. 7).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Gas Fired Heaters and Parts Thereof, and Air Conditioning Units for Domestic Use (Int. Cl. 11).

First use Apr. 30, 1967.

SN 286,784. The Youngstown Sheet and Tube Company, Youngstown, Ohio. Filed Dec. 13, 1967.



Owner of Reg. No. 758,684.

Class 12—Construction Materials

For Metal Structural Shapes in Stock Form, i.e., Angle, Channel, Pipe, and Other Open or Closed Configurations and in Various Gauges, Sizes, and Analysis to Conform with Purchaser's Requirements (Int. Cl. 6).

First use at least as early as March 1965.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Metal Tubing (Int. Cl. 6).

First use in or about November 1952.

SN 288,510. Regional Services Corporation, Washington, D.C., assignee of The General Tire & Rubber Company, Akron, Ohio. Filed Jan. 10, 1968.

CLUB

Class 21—Electrical Apparatus, Machines, and Supplies

For Batteries (Int. Cl. 9).

Class 31—Filters and Refrigerators

For Oil Filters (Int. Cl. 11).

First use November 1967.

SN 291,315. The Franklin Mint, Inc., Yeadon, Pa., by change of name from General Numismatics Corporation, Yeadon, Pa.

GRAND PRIX

Class 22—Games, Toys, and Sporting Goods

For Coin and Medal Holders (Int. Cl. 16).

First use April 1966.

Class 38—Prints and Publications

For Albums for Displaying Coins and Metals (Int. Cl. 16).

First use Feb. 8, 1968.

SN 295,785. Clifford O. Bedwell, d.b.a. "She" Cosmetic Company, South El Monte, Calif. Filed Apr. 17, 1968.

"SHE"

Owner of Reg. No. 436,031.

Class 29—Brooms, Brushes, and Dusters

For Eye Liner Brushes and Lip Brushes (Int. Cl. 21).

First use in or about January 1964.

Class 51—Cosmetics and Toilet Preparations

For Facial Cleansing and Moisture Creams, Lotions and Oils; Facial Make-Up Base; Face Powder and Compact Powder; Lipsticks, Lip Gloss; Eye Shadow; Eye Liners; Mascara; Eye Brow Pencils; Rouge; Hand Lotion; Perfume; Cologne; and Personal Deodorant (Int. Cls. 3 and 5).

First use on or about Oct. 16, 1937.

SN 296,740. Crinatrol Corporation, Miami, Fla. Filed Apr. 29, 1968.

CRINATROL

Class 18—Medicines and Pharmaceutical Preparations

For Medicated Preparation for Treating Mild Conditions of the Scalp and Hair (Int. Cl. 5).

Class 51—Cosmetics and Toilet Preparations

For Hair Toiletries for Men and Women (Int. Cl. 3).

First use Apr. 10, 1968.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 284,899. Farbenfabriken Bayer Aktiengesellschaft Leverkusen, Germany. Filed Nov. 15, 1967.

BAYCRYL

Owner of German Reg. No. 813,660, dated Aug. 21, 1965.

For Synthetic Resins for the Manufacture of Coating Compositions (Int. Cl. 1).

SN 285,903. Blane Chemical Corporation, Mansfield, Mass. Filed Nov. 30, 1967.

BLANEX

For Cross Linkable Polyethylene Molding and Extrusion Compounds (Int. Cl. 1).

First use Oct. 17, 1967.

SN 290,854. Honeycomb Products, Inc., Miami, Fla. Filed Feb. 12, 1968.

HPI

For Resin Impregnated Fiber Glass Honeycomb Cellular Material, Sold in Bulk (Int. Cl. 21).
First use on or about Nov. 15, 1967.

SN 290,271. Standard Oil Company, Flemington, N.J. Filed Apr. 23, 1968.

ENCO

For Thermoplastic Polyolefin Film and Fibers (Int. Cls. 17 and 22).
First use Oct. 13, 1967.

SN 300,312. Lake Superior Pulp & Paper Inc., Chicago, Ill. Filed June 13, 1968.

GL 2

For Wood Pulp (Int. Cl. 1).
First use on or about Jan. 21, 1967.

SN 301,307. Fashion Tress, Inc., Miami Beach, Fla. Filed June 25, 1968.

TRESSLON

For Synthetic Fibers for Artificial Hair (Int. Cl. 22).
First use on or about Apr. 1, 1968.
Subj. to Intf. with SN 301,248.

SN 303,102. Dow Badische Company, Williamsburg, Va. Filed July 19, 1968.

HAND-SHAKE

For Acrylic Fiber (Int. Cl. 22).
First use July 12, 1968.

SN 303,105. Dow Badische Company, Williamsburg, Va. Filed July 19, 1968.

NO-JAR

For Acrylic Fiber (Int. Cl. 22).
First use July 12, 1968.

SN 303,106. Dow Badische Company, Williamsburg, Va. Filed July 19, 1968.

WEVON

For Acrylic Fiber (Int. Cl. 22).
First use July 12, 1968.

SN 303,108. Dow Badische Company, Williamsburg, Va. Filed July 19, 1968.

NO-JOLT

For Acrylic Fiber (Int. Cl. 22).
First use July 12, 1968.

SN 303,109. Dow Badische Company, Williamsburg, Va. Filed July 19, 1968.

LURSET

For Acrylic Fiber (Int. Cl. 22).
First use July 12, 1968.

SN 303,117. Ulano Products Company, Inc., Brooklyn, N.Y. Filed July 19, 1968.

UPCO

For Hand Cut Plastic Film for Use in Making Stencils for Screening Printing (Int. Cl. 16).
First use in or about 1958.

SN 303,120. Ulano Products Company, Inc., Brooklyn, N.Y. Filed July 19, 1968.

STA-SHARP

For Hand Cut Plastic Film for Use in Making Stencils for Screen Printing (Int. Cl. 17).
First use in or about 1951.

SN 303,122. Ulano Products Company, Inc., Brooklyn, N.Y. Filed July 19, 1968.

POLY-X

For Plastic Film, in Roll or Sheet Form, for Use in Making Stencils for Screen Printing (Int. Cl. 16).
First use in or about 1963.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 259,577. Precision Dynamics Corporation, Burbank, Calif. Filed Nov. 28, 1966.

TAG-A-BAG

Owner of Reg. No. 755,697.
For Luggage Identification Tags (Int. Cl. 18).
First use June 30, 1966.

SN 287,341. American Chain & Cable Company, Inc., New York, N.Y. Filed Dec. 21, 1967.

ELWEL

For Twist Ring Chain—Namely, Dog Choke Collars (Int. Cl. 18).
First use in or about 1937.

Class 6 — Chemicals and Chemical Compositions

267,870. Ugine Kuhlmann, Paris, France. Filed Mar. 29, 1967.

INOCHROME

Owner of French Reg. No. 416,911, dated Jan. 4, 1952 (Seine); Natl. Inst. No. 506,232.
For Dyestuffs (Int. Cl. 2).

SN 274,753. Kelco Company, San Diego, Calif. Filed June 26, 1967.

KELCO SCS

Owner of Reg. Nos. 277,972, 421,958, and others.
For Sodium Cellulose Sulfate for Use as a Chemical and for Use in the Manufacture of Cosmetics, Detergents, Pharmaceuticals, and for General Industrial Use (Int. Cl. 1).
First use Feb. 17, 1967.

SN 285,393. Celeste, Inc., Wilton, Conn. Filed Nov. 22, 1967.

SANI-PAK

For Bactericide-Fungicide-Deodorant for Use in Toilets and Holding Tanks (Int. Cl. 5).
First use Jan. 11, 1967.

SN 286,009. Georgia-Pacific Corporation, Portland, Oreg. Filed Dec. 1, 1967.

PERMA-THINZ

For Well Drilling Mud Additives Used as Mud Thinners, Water Loss Reducing Agents, Emulsifying Agents, and Shale and Clay Hydration Inhibitors (Int. Cl. 1).
First use Oct. 26, 1967.

SN 287,868. Airwick Industries, Inc., Carlstadt, N.J., by change of name from Airkem, Inc., Carlstadt, N.J. Filed Jan. 2, 1968.

airwick solid

The word "Solid" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 406,087, 574,016, and 638,770.
For Volatilizable Air Treating Composition in Gel Form, Particularly for Use as a Space Deodorant (Int. Cl. 5).
First use Sept. 11, 1967.

SN 293,472. Calgon Corporation, Pittsburgh, Pa. Filed Mar. 18, 1968.

HYDRAID

For Water-Soluble Polymer for Use in the Treatment of Pulp During a Paper-Making Process (Int. Cl. 1).
First use May 13, 1964.

SN 296,272. Standard Oil Company, Flemington, N.J. Filed Apr. 23, 1968.

PLASTICIZERS

For Plasticizers (Int. Cl. 1).
First use Oct. 31, 1967.

Class 7 — Cordage

SN 292,781. Germain's, Inc., Los Angeles, Calif. Filed Mar. 8, 1968.

GEM-TIE

For Polyethylene Laminated Ties for Use on Automatic Bag Closing Machines (Int. Cl. 22).
First use Dec. 6, 1967.

SN 295,943. Pacific Container and Supply, Inc., Idaho Falls, Idaho. Filed Apr. 18, 1968.

GOLDEN HARVEST

For Binder and Baler Twine (Int. Cl. 22).
First use on or about Jan. 15, 1964.

SN 295,944. Pacific Container and Supply, Inc., Idaho Falls, Idaho. Filed Apr. 18, 1968.

OXEN

For Binder and Baler Twine (Int. Cl. 22).
First use on or about July 1, 1967.

Class 10 — Fertilizers

SN 270,504. Occidental Petroleum Corporation, Los Angeles, Calif. Filed May 2, 1967.

BEST-TABS

Owner of Reg. Nos. 736,988, 792,777, and others.
For Fertilizers for House Plants and Plants Grown in Contained Areas (Int. Cl. 1).
First use on or about Feb. 25, 1966.

Class 12 — Construction Materials

SN 266,740. Dallas Ceramic Company, Dallas, Tex. Filed Mar. 15, 1967.

DAL-MAYAN

Owner of Reg. Nos. 502,630, 806,590, and others.
For Ceramic Tile for Construction Purposes (Int. Cl. 19).
First use Nov. 1, 1965.

SN 277,888. G. & W. H. Corson, Incorporated, Plymouth, Meeting, Pa. Filed Aug. 9, 1967.

CORSON BOND-R

Applicant disclaims "Bond-R" apart from the mark as shown. Owner of Reg. Nos. 385,860 and 796,250.
For Mortar—Namely, a Finely Ground, Plastic Refractory Material for Use in Laying Refractory Brick (Int. Cl. 19).
First use July 22, 1958.

SN 277,890. G. & W. H. Corson, Incorporated, Plymouth Meeting, Pa. Filed Aug. 9, 1967.

CORSON SUPER BOND-RX

Applicant disclaims "Super Bond" apart from the mark as shown. Owner of Reg. Nos. 385,860 and 796,250.

For Mortar—Namely, a Finely Ground, Plastic Refractory Material for Use in Laying Refractory Brick (Int. Cl. 19).

First use June 27, 1966.

SN 283,682. Masonite Corporation, Chicago, Ill. Filed Oct. 30, 1967.

MACOLITE

For Plastic Surface Material in Sheet Form, for a Wall Covering To Be Used Instead of Plaster, and for Use in the Manufacture of Table Tops and for Other Purposes in the Industrial Arts (Int. Cl. 19).

First use Aug. 1, 1938.

SN 285,509. American Timber & Trading Co., Inc., Portland, Oreg. Filed Nov. 24, 1967.



Owner of Reg. No. 833,910.

For Treated and Untreated Forest and Wood Products—Namely, Posts, Pilings, Poles, Sleepers, Shores, Planking, Joists, Beams, Siding, Roofing, Flooring, Sills, Rafters, Studs, String Pieces, Scantillings, Lintels, Timbers, Laths, Railings, Plywood, and Miscellaneous Dimension and Prefabricated Lumber (Int. Cl. 19).

First use October 1963.

SN 286,675. Hooker Chemical Corporation, Niagara Falls, N.Y. Filed Dec. 11, 1967.

RUCOPIPE

For Preformed Plastic Coverings for Encasing Pipe Railings (Int. Cl. 19).

First use Nov. 13, 1967.

SN 289,386. Dresser Industries, Inc., Dallas, Tex. Filed Jan. 23, 1968.

HARMIX FEP

The letters "FEP" are disclaimed apart from the mark as shown.

For Unconsolidated Refractory Mixes (Int. Cl. 19).

First use on or about Dec. 23, 1963.

SN 290,553. Avnet, Inc., Plainview, N.Y. Filed Jan. 26, 1968.

STASIL

For Refractory Material Used in the Preparation of Precision Casting Molds (Int. Cl. 19).

First use May 2, 1967.

SN 293,374. Great Scot Timber Co., Englewood, Colo. Filed Mar. 15, 1968.



The drawing is lined for green and blue.

For Aspen Wood Products—Namely, Paneling, Roof Decking, Moulding, and Siding (Int. Cl. 19).

First use Sept. 25, 1967.

SN 296,996. Vistron Corporation, Cleveland, Ohio. Filed Apr. 30, 1968.

FILON-STRIPES

Owner of Reg. Nos. 622,880, 667,581, and 673,734.

For Fiber-Reinforced Plastic Panels Bearing Integral Colored Stripes (Int. Cl. 19).

First use in or about January 1968.

SN 301,678. Merriman, Inc., Hingham, Mass. Filed July 1, 1968.

RADIALUBE

For Bearing Plates for Supporting Beams, Girders, and the Like (Int. Cl. 6).

First use 1953.

SN 301,681. General Refractories Company, Philadelphia, Pa. Filed July 1, 1968.

BASICRETE

For Hydraulic-Setting, Chrome-Base Refractory Castable (Int. Cl. 19).

First use on or about Mar. 29, 1949.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 273,766. Robert A. Gilmour, d.b.a. Gilmour, Somerset, Pa. Filed June 13, 1967.

GREEN GRASS

For Lawn Sprinklers (Int. Cl. 11).

First use Jan. 21, 1965.

SN 274,648. Parker-Hannifin Corporation, Cleveland, Ohio. Filed June 23, 1967.

TAB

For Quick Disconnect Couplings (Int. Cl. 6).

First use Apr. 12, 1967.

SN 278,923. The Thomas & Betts Co., Elizabeth, N.J. Filed Aug. 23, 1967.

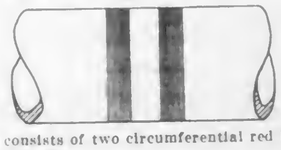
TY-RAP

Owner of Reg. Nos. 788,626 and 788,719.

For Clamps, Harnessing Devices and Aids, Mountings, Bases, Pre-Mountable Bases and Clamps, Identification Devices, and Stand Offs (Int. Cl. 6).

First use on or about May 1, 1958.

SN 281,652. Wheeling Steel Corporation, Wheeling, W.Va. Filed Oct. 2, 1967.



The mark consists of two circumferential red bands. Owner of Reg. No. 272,437.

For Metal Pipe (Int. Cl. 6).

First use on or before Nov. 2, 1966.

SN 282,642. Vistron Corporation, Cleveland, Ohio. Filed Oct. 16, 1967.

POLYTUF

For Molded Plastic Pipe Fittings Such as Adapters, T's, L's, Couplings, Unions, and Crosses (Int. Cl. 20).

First use prior to Aug. 31, 1967.

SN 286,804. Barton Products Corporation, West Bend, Wis. Filed Dec. 13, 1967.

LARGEbar

The drawing is lined for the color blue.

For Custom Made Screw Machine Products (Int. Cl. 6).

First use Oct. 16, 1967; May 5, 1967, in a different form.

SN 287,147. Clow Corporation, Chicago, Ill. Filed Dec. 18, 1967.

SUPER BELL-TITE

Owner of Reg. No. 666,469.

For Cast Iron Pipe Incorporating Joint-Sealing Gaskets (Int. Cl. 6).

First use Apr. 5, 1967.

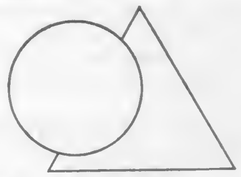
SN 290,708. Atlas Corporation, New York, N.Y. Filed Feb. 9, 1968.

WSI

For Fastening Devices—Namely, Self-Locking Bushings and Grommets (Int. Cl. 6).

First use Jan. 9, 1956.

SN 302,887. "Automatic" Sprinkler Corporation of America, Cleveland, Ohio. Filed July 17, 1968.



Owner of Reg. No. 712,747.

For Automatic Sprinkler Systems and Parts Thereof, for Fire Protection (Int. Cl. 11).

First use Apr. 15, 1960.

Class 14—Metals and Metal Castings and Forgings

SN 292,554. Colonial Stores Incorporated, Atlanta, Ga. Filed Mar. 6, 1968.

PATIO

For Foil Wrap (Int. Cl. 6).

First use Nov. 1, 1967.

SN 292,730. Univertical Corporation, Detroit, Mich. Filed Mar. 7, 1968.

CU-PHOS

For Copper Alloy Anodes for Use in Copper Plating (Int. Cl. 9).

First use Oct. 25, 1967.

SN 295,572. Uddeholms Aktiebolag, Uddeholm, Sweden. Filed Apr. 12, 1968.

FACIPLIC

Priority claimed under Sec. 44(d) on Swedish application filed Nov. 15, 1967; Reg. No. 122,725, dated Feb. 23, 1968.

For Cold-Rolled, Heat-Treated Band Steel, Particularly for Manufacturing Punching Knives (Int. Cl. 6).

Class 16—Protective and Decorative Coatings

SN 274,290. Zinc-Lock Company, Oakland, Calif. Filed June 20, 1967.

ZINC-LOCK

Applicant disclaims any exclusive rights in the word "Zinc" except in the mark as shown.

For Zinc-Rich Metal Primers and Elastomeric-Polymer Top Coatings Over Said Primers (Int. Cl. 2).

First use Jan. 17, 1963.

SN 274,291. Zinc-Lock Company, Oakland, Calif. Filed June 20, 1967.



The mark comprises the letters "Z" and "N." The lining of the letters "ZN" is not for purposes of indicating color. No exclusive right to the chemical symbol for zinc, which is Zn, is claimed and no exclusive rights to the representation of a print brush are claimed by applicant.

For Zinc-Rich Metal Primers and Elastomeric-Polymer Top Coatings Over Said Primers (Int. Cl. 2).

First use May 18, 1965.

SN 280,996. Woburn Chemical Corp., Harrison, N.J. Filed Sept. 22, 1967.

WOTHANE

For Protective and Decorative Coatings of Urethane Chemicals Reacted To Form a Polyurethane (Int. Cl. 2).
First use June 20, 1967.

SN 287,306. Marine Development and Research Corp., New York, N.Y. Filed Dec. 20, 1967.

WHIP-END DIP

The word "Dip" is disclaimed apart from the mark as shown.
For Liquid Vinyl for Protective Coating of Rope To Prevent Unwinding or Unraveling (Int. Cl. 2).
First use Oct. 15, 1967.

SN 287,893. Celanese Coatings Company, New York, N.Y Filed Jan. 2, 1968.

DEVTAR

For Paints and Coatings for Marine Applications (In Cl. 2).
First use Jan. 14, 1966.

SN 287,943. Polyastics Corporation, Croydon, Pa. Filed Jan. 2, 1968.

Polyastics

For Modified Urethane Coatings, Epoxy-Polyamide Coatings, Modified Acrylic Emulsions, and Liquid Vinyl Plastic Containings in the Nature of Paint (Int. Cl. 2).
First use Aug. 1, 1966.

SN 293,721. Hooker Chemical Corporation, Niagara Falls, N.Y. Filed Mar. 20, 1968.

SOLAR-GARD

For Vinyl Latex and Metal-Containing Roof Coating Compositions (Int. Cl. 2).
First use Oct. 21, 1965.

Class 17—Tobacco Products

SN 257,171. Dickinson Leaf Tobacco Company, Inc., Richmond, Va. Filed Oct. 25, 1966.

DICKINSON

The drawing is lined for red, and color is claimed as a feature of the mark.
For Unmanufactured Tobacco (Int. Cl. 34).
First use Sept. 9, 1966.

SN 275,472. St. Regis Tobacco Corporation Limited, Zurich, Switzerland. Filed July 6, 1967.

CLARENDEN

Owner of Swiss Reg. No. 221,330, dated Nov. 24, 1966.
For Cigarettes (Int. Cl. 34).

SN 277,077. St. Regis Tobacco Corporation Limited, Zurich, Switzerland. Filed July 28, 1967.

CUNARD

For Cigarettes (Int. Cl. 34).
First use June 22, 1967; in commerce June 22, 1967.

SN 277,739. Usines Vander Elst Freres Societe Anonyme, Antwerp, Belgium. Filed Aug. 7, 1967.



For Cigars and Cigarillos (Int. Cl. 34).
First use Sept. 7, 1960; in commerce June 6, 1962.

SN 294,346. Alfred Dunhill Limited, St. James's, London, England. Filed Mar. 28, 1968.

DUNHILL
THE
"Royal Yacht"

Owner of U.S. Reg. Nos. 115,951, 847,942, and others.
For Smoking Tobacco (Int. Cl. 34).
First use 1930; in commerce 1930.

SN 296,446. Ontario Tobacco Company Limited, Toronto, Ontario, Canada. Filed Apr. 24, 1968.

PENTHOUSE

Owner of Canadian Reg. No. 138,480, dated Dec. 11, 1964.
For Pipe Tobacco and Cigars (Int. Cl. 34).

SN 297,577. John Middleton, Inc., King of Prussia, Pa. Filed May 7, 1968.

MIDDLETON'S CHERRY BLEND

Applicant disclaims the word "Blend" apart from the mark as shown. Owner of Reg. Nos. 805,883 and 805,884.
For Cigars (Int. Cl. 34).
First use Apr. 1, 1968.

SN 299,283. Philip Morris Incorporated, New York, N.Y. Filed May 29, 1968.

POLYMER

For Filter Cigarettes (Int. Cl. 34).
First use May 22, 1968.

SN 302,743. Liggett & Myers Incorporated, New York, N.Y. Filed July 15, 1968.

DORSET

For Cigarettes (Int. Cl. 34).
First use June 14, 1968.

SN 303,055. Liggett & Myers Incorporated, New York, N.Y. Filed July 18, 1968.

GAS-TRAP

For Cigarette Filter Sold Incorporated as a Part of the Cigarette (Int. Cl. 34).
First use June 24, 1968.

Class 18—Medicines and Pharmaceutical Preparations

SN 255,662. Valhar Chemical Corporation, Greenwich, Conn. Filed Oct. 3, 1966.

GRANNICK'S
BITTER
APPLE

For Animal Deterrent Preparation Applied to Affected Area of Dog's Coat To Prevent Fur Biting, Hair Chewing, and Skin Scratching (Int. Cl. 5).
First use April 1960.

SN 273,619. Eastern Shore Laboratories, Inc., Laurel, Del. Filed June 12, 1967.

NEO-LYTES

For Drinking Water Additive To Supply Electrolytes With Neomycin for Poultry (Int. Cl. 5).
First use May 27, 1966.

SN 276,223. Ciba Limited, Basel, Switzerland. Filed July 18, 1967.

ZOIN

Owner of Swiss Reg. No. 178,220, dated Dec. 2, 1959.
For Veterinary Preparations for the Treatment of Infectious Diseases and for Promoting Growth (Int. Cl. 5).

SN 279,087. Montana Pharmaceuticals, Inc., Miami, Fla. Filed Aug. 25, 1967.

ZAS

For Analgesic (Int. Cl. 5).
First use Jan. 15, 1967.

SN 279,524. Bentex Pharmaceutical Company, Houston, Tex. Filed Sept. 1, 1967.

NICOCAP

For Timed Release Tablets and Elixirs Containing Nicotinic Acid, for Use as a Therapeutic Biochemical Having Pellagra-Curative and Vasodilating Action (Int. Cl. 5).
First use Aug. 23, 1967.

SN 282,606. Norden Laboratories, Inc., Lincoln, Nebr. Filed Oct. 16, 1967.



Owner of Reg. Nos. 831,724 and 834,988.
For Pharmaceutical and Medicinal Preparations for Veterinary Use (Int. Cl. 5).
First use Apr. 1, 1966.

SN 283,859. Bonne Sante, S.A., Mineola, N.Y. Filed Nov. 1, 1967.

ZELANA

The mark "Zelana" is a coined word.
For Lubricating Jelly (Int. Cl. 5).
First use Oct. 17, 1967.

SN 284,384. Merck & Co., Inc., Rahway, N.J. Filed Nov. 8, 1967.

NeoDECASPRAY

Owner of Reg. Nos. 697,005 and 710,811.
For Dermatological Preparation (Int. Cl. 5).
First use Oct. 23, 1967.

SN 288,195. Delta Drug Corporation, Jacksonville, Fla. Filed Jan. 5, 1968.

HOURNITE

For Pharmaceutical Preparation in Capsule Form for Prophylactic Use in Angina Pectoris (Int. Cl. 5).
First use Sept. 30, 1966.

SN 288,348. Richardson-Merrell Inc., New York, N.Y. Filed Jan. 8, 1968.

CEPHALOVAC-EW

For Encephalomyelitis Vaccine for Veterinary Use (Int. Cl. 5).
First use Feb. 14, 1967.

SN 289,033. Richardson-Merrell Inc., New York, N.Y. Filed Jan. 17, 1968.

VAPORUB

Owner of Reg. No. 103,601.
For External Medication for the Relief of Cold Symptoms, Muscular Tightness, and as a Dressing for Chapped Hands and Skin (Int. Cl. 5).
First use on or about Jan. 1, 1911.

SN 289,317. Merck & Co., Inc., Rahway, N.J. Filed Jan. 22, 1968.

T-I-GAMMAGEE

Owner of Reg No. 769,720.
For Medicinal Preparation for the Prophylaxis or Modification of Tetanus Infections (Int. Cl. 5).
First use Jan. 8, 1968.

SN 289,528. The Purdue Frederick Company, Yonkers, N.Y. Filed Jan. 24, 1968.

GALACTOQUIN

For Preparation for the Treatment of Cardiac Arrhythmia (Int. Cl. 5).
First use Jan. 12, 1968.

SN 289,822. Miles Laboratories, Inc., Elkhart, Ind. Filed Jan. 29, 1968.

NYSTAFORM-HC

For Dermatological Preparations (Int. Cl. 5).
First use June 30, 1962.

SN 289,867. Abbott Laboratories, North Chicago, Ill. Filed Jan. 30, 1968.

LT-BLEN

Owner of Reg. Nos. 727,907, 826,361, and others.
For Poultry Vaccine (Int. Cl. 5).
First use Dec. 27, 1967.

SN 290,386. Geigy Chemical Corporation, Ardsley, N.Y. Filed Feb. 6, 1968.

REGROZINE

Owner of Reg. No. 748,677.
For Diuretic and Anti-Hypertensive Preparations (Int. Cl. 5).
First use Dec. 20, 1967.

SN 290,712. Bristol-Myers Company, New York, N.Y. Filed Feb. 9, 1968.

SENSE

For Analgesic Preparation (Int. Cl. 5).
First use Dec. 14, 1967.

SN 290,813. American Home Products Corporation, New York, N.Y. Filed Feb. 12, 1968.

FAR-O-VAC

For Veterinary Vaccine (Int. Cl. 5).
First use Jan. 31, 1968.

SN 290,911. USV Pharmaceutical Corporation, New York, N.Y. Filed Feb. 12, 1968.

CARDREL

For Coronary Vasodilator for Prophylactic Treatment of Angina Pectoris (Int. Cl. 5).
First use Jan. 29, 1968.

SN 290,912. USV Pharmaceutical Corporation, New York, N.Y. Filed Feb. 12, 1968.

HALINAN

For Peripheral Vasodilator for Treatment of Peripheral Vascular Disease (Int. Cl. 5).
First use Jan. 29, 1968.

SN 296,836. Kip Pharmaceutical Inc., Richmond Hill, N.Y. Filed Apr. 29, 1968.

DEXSPAN

For Dextroamphetamine (Int. Cl. 5).
First use Oct. 6, 1955.

SN 301,131. The Norwich Pharmacal Company, Norwich, N.Y. Filed June 24, 1968.

TRICOSTATIN

Owner of Reg. No. 631,188.
For Antimicrobial Pharmaceutical Preparation for Vaginal Use (Int. Cl. 5).
First use June 3, 1968.

SN 301,490. Dow B. Hickam, Inc., Houston, Tex. Filed June 27, 1968.

NITROZONE-V

For Medication for Animals in Treatment or Prevention of Bacterial Infections of Superficial Wounds (Int. Cl. 5).
First use December 1967.

Class 19—Vehicles

SN 282,737. Unarco Industries, Inc., Chicago, Ill. Filed Oct. 17, 1967.

EQUIPCO PDQ SYSTEM

The word "System" is disclaimed apart from the mark as shown.
For Equipment for Supporting and Bracing Merchandise in Railway Freight Cars—Namely, Bulkheads, Load Dividers, Side Fillers, and Track and Latch Strip Assemblies (Int. Cl. 12).
First use May 1967.

SN 286,258. Ferrari S.p.A. Esercizio Fabbriche Automobili e Corse, Modena, Italy. Filed Dec. 5, 1967.



For Automobiles (Int. Cl. 12).
First use Nov. 14, 1965; in commerce Nov. 25, 1965.

SN 289,060. Overhead Door Corporation, Dallas, Tex. Filed Jan. 18, 1968.

TODCO

Owner of Reg. No. 759,041.
For Doors for Installation in or on Vehicles—Namely, Trucks, Trailers, Railroad Cars, Covered Three Wheel Motor Vehicles, and Airplanes; Doors for Freight Cargo Containers, Said Containers To Be Mounted on Truck Trailers and Railway Flat Cars; Parts for All Such Doors; Apparatus for Operating Doors for Vehicles (Known as Door Operators); and Skylights and Reflector Discs for Vehicles (Int. Cl. 12).
First use on or about Sept. 21, 1962.

SN 289,919. Richard E. Brown, d.b.a. Rebcats, Washington, D.C. Filed Jan. 30, 1968.

Rebcats

For Sailboats, Particularly of the Catamaran Type (Int. Cl. 12).
First use Apr. 4, 1959.

SN 290,358. Jervis B. Webb Company, Detroit, Mich. Filed Feb. 5, 1968.

MINI-CART

For Industrial Trucks Used Primarily for Hauling and Carrying Articles (Int. Cl. 12).
First use Oct. 17, 1967.

SN 291,448. Thiokol Chemical Corporation, Bristol, Pa. Filed Feb. 19, 1968.

RANGEMASTER

For Track Powered, Off-Highway Vehicle Especially Adapted for Use on Snow, Ice, Sand, and Swampy Ground (Int. Cl. 12).
First use October 1965.

SN 291,700. Atlas Specialty Mfg. Co., Chicago, Ill. Filed Feb. 23, 1968.

FLEXI-FIT

For Automobile Seat Covers (Int. Cl. 12).
First use May 9, 1961.

SN 292,872. ACF Industries, Incorporated, St. Charles, Mo. Filed Mar. 11, 1968.

VERSA-DECK

For Railway Freight Cars and Parts Thereof (Int. Cl. 12).
First use on or about Feb. 24, 1968.

SN 292,886. Camper Enterprises, Inc., Minneapolis, Minn. Filed Mar. 11, 1968.

NORTH STAR

For Truck-Mounted and Trailer-Type Campers (Int. Cl. 12).
First use July 31, 1967.

SN 293,048. North American Rockwell Corporation, El Segundo, Calif. Filed Mar. 12, 1968.

BRONCO

For Aircraft (Int. Cl. 12).
First use Feb. 23, 1968.

SN 293,606. The Union Fork and Hoe Company, Columbus, Ohio. Filed Mar. 18, 1968.

Atlas 

Owner of Reg. No. 341,333.
For Wheelbarrows for Industrial Uses (Int. Cl. 12).
First use Feb. 1, 1968.

SN 295,789. American Racing Equipment, Brisbane, Calif. Filed Apr. 17, 1968.



The drawing is lined for the colors red and blue. The words "Racing Equipment" are disclaimed apart from the mark as a whole.
For Wheels Cast From Magnesium or Aluminum and Hub Caps for Wheels for Motor Vehicles (Int. Cl. 12).
First use Apr. 1, 1965.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 275,978. Chamberlain Manufacturing Corporation, Elmhurst, Ill., assignee of Perma-Power Company, Chicago, Ill. Filed June 21, 1967.

LIFTMASTER

For Residential Electrical Garage Door Controllers (Int. Cl. 9).
First use May 17, 1967.

SN 277,244. Infra-Red Systems, Inc., Riverdale, N.J. Filed Aug. 1, 1967.

RADPLANE

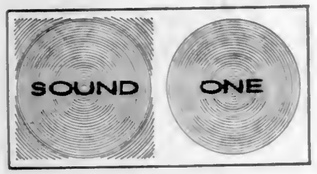
For Infra-Red Heating Modules (Int. Cl. 1).
First use July 24, 1967.

SN 278,703. Kerrigan Lewis Manufacturing Co., Chicago, Ill. Filed Aug. 21, 1967.



For Radio and Magnet Wire (Int. Cl. 9).
First use Jan. 3, 1961.

SN 287,838. Sound One, Ltd., Los Angeles, Calif. Filed Dec. 29, 1967.



The word "Sound" is disclaimed, apart from the mark as a whole, applicant reserving any common law rights.
For Sound Reproduction Apparatus and Components—Namely, Speakers, Earphones, and Amplifiers (Int. Cl. 9).
First use on or about Oct. 7, 1967.

SN 290,342. Smith-Schreyer and Associates, Canoga Park, Calif. Filed Feb. 5, 1968.

SST

For Sub-Surface Terminals for Telephone and Communication Cable and Connections Buried in the Ground. (Int. Cl. 9).
First use Aug. 15, 1966.

SN 290,691. Infra-Red Systems, Inc., Riverdale, N.J. Filed Feb. 9, 1968.

RADROUND

For Infrared Heaters for Spindle Conveyors (Int. Cl. 11).
First use Jan. 20, 1968.

SN 290,883. The Rucker Company, Berkeley, Calif. Filed Feb. 12, 1968.

GFI

For Ground Fault Circuit Interrupter (Int. Cl. 9).
First use Jan. 9, 1968.

SN 291,711. Cerro-Corporation, New York, N.Y. Filed Feb. 23, 1968.

PNR X-90

Owner of Reg. No. 542,135.
For Electrical Wire and Cable (Int. Cl. 9).
First use June 26, 1962.

SN 291,726. Fisher Radio Corporation, Long Island City, N.Y. Filed Feb. 23, 1968.

400

For Radio Receivers (Int. Cl. 9).
First use on or about May 7, 1958.

SN 292,341. Burndy Corporation, Norwalk, Conn. Filed Mar. 4, 1968.

PENETROX

For Mixture Containing Metal Particles in a Viscous Carrier for Reducing Contact Resistance Between Metal Conductors (Int. Cl. 9).
First use Apr. 8, 1946.

SN 295,193. Tectronics Manufacturing Corporation, Bremen, Ind. Filed Apr. 8, 1968.

MULTI GARD GROUND SENTRY

For Ground Fault Circuit Interrupting Devices (Int. Cl. 9).
First use Jan. 25, 1967.

SN 301,888. Malco Manufacturing Company, Inc., Chicago, Ill. Filed July 3, 1968.

CARDEC

For Electrical Connectors (Int. Cl. 9).
First use June 6, 1968.

Class 22 — Games, Toys, and Sporting Goods

SN 253,178. Talo Buyers, Inc., Little Rock, Ark. Filed Aug. 25, 1966.



For Fishing Tackle, Including Snaps and Swivels, Lead Sinkers, and Weights (Int. Cl. 28).
First use July 14, 1965.

SN 268,158. Cossman & Levine, Inc., Los Angeles, Calif. Filed Apr. 3, 1967.

ANT FARM

Applicant disclaims exclusive rights in the word "Ant," except as used in the mark as a whole.
For Ant Vivaria (Int. Cl. 28).
First use Sept. 2, 1956.

SN 274,889. Plastilite Corporation, Omaha, Nebr. Filed June 27, 1967.



The drawing is lined for yellow and orange.
For Fishing Floats (Int. Cl. 28).
First use on or about Feb. 1, 1967.

SN 274,939. Bel-Air Pools, Inc., Southfield, Mich. Filed June 28, 1967.

REGENT

For Pool Tables, Billiard Tables, and Allied Equipment for the Said Goods (Int. Cl. 28).
First use Sept. 1, 1965.

SN 283,989. De Luxe Topper Corporation, Elizabeth, N.J. Filed Nov. 2, 1967.

JOHNNY TOYMAKER

No claim of exclusive right is made to "Toymaker" for the goods recited.
For Toy Molding Set (Int. Cl. 28).
First use Oct. 4, 1967.

SN 284,360. Genesco, Inc., Nashville, Tenn. Filed Nov. 8, 1967.

GREENSKEEPER

For Soles of Golf Shoes and Spikes for the Same (Int. Cl. 25).
First use at least Oct. 31, 1965.

SN 287,933. Modern Products, Inc., Kansas City, Mo. Filed Jan. 2, 1968.

BABY DOLL WITHOUT A NAME

No claim of exclusive right is made to "Baby Doll," apart from the mark as shown.
For Dolls (Int. Cl. 28).
First use Aug. 17, 1967.

SN 288,891. Tonka Corporation, Mound, Minn. Filed Jan. 15, 1968.

mini-Tonka

Owner of Reg. No. 749,721.
For Miniature Automobiles, Trucks, Trailers, Steamshovels, Loaders, and Road Graders (Int. Cl. 28).
First use in 1963.

SN 288,892. Tonka Corporation, Mound, Minn. Filed Jan. 15, 1968.

mighty Tonka

Owner of Reg. No. 749,721.
For Miniature Automobiles, Trucks, Trailers, Steamshovels, Loaders, and Road Graders (Int. Cl. 28).
First use in 1964.

SN 294,162. Blazon, Inc., Akron, Ohio. Filed Mar. 26, 1968.

SWERVY CURVY TOPSY TURVY TIPSY SKIPSY DOODLE

For General Purpose, Indoor and Outdoor Activity Toy for Such Uses as Rocking, Balancing, Teetering, Sliding on, and Snow Sliding (Int. Cl. 28).
First use Nov. 9, 1967.

SN 294,788. Wham-O Mfg. Co., San Gabriel, Calif. Filed Apr. 3, 1968.

MICRO-MESSAGES

For Printed Plastic Sheets Containing Various Illustrative Designs for Children's Use as Toys and Other Items of Amusement (Int. Cl. 28).
First use Feb. 26, 1968.

SN 294,790. Wham-O Mfg. Co., San Gabriel, Calif. Filed Apr. 3, 1968.

TEENY-TINYS

For Printed Plastic Sheets Containing Various Illustrative Designs for Children's Use as Toys and Other Items of Amusement (Int. Cl. 28).
First use Feb. 26, 1968.

SN 295,597. Dynamic Classics, Ltd., New York, N.Y. Filed Apr. 15, 1968.

TWIST-AWAY

For Exercising Device—Namely, an Exerciser in the Form of a Belt Attached to Handle Bars Mounted on a Platform and Manipulated by Means of a Twisting Motion on a Swivel Board Mounted on the Platform (Int. Cl. 28).
First use Jan. 5, 1968.

SN 297,040. Cragstan Industries, Inc., New York, N.Y. Filed May 1, 1968.



For Automobiles, Airplanes, and Other Vehicles, Banks, Xylophones, Target Games, Walkie-Talkies, Sewing Machines, Dolls, Purses, Trains, Guns, Stuffed Animals, Microscopes, Telescopes, Ring Toss Games, Film Projectors, Inflated Toys, Swimming Pools, Tricycles; Battery-Operated, Wind-Up, Friction-Drive and Pull Toys (Int. Cl. 28).
First use October 1967.

SN 297,076. Matsushiro USA, Inc., Bellevue, Wash. Filed May 1, 1968.

MINIMATES

For Toy Vehicles (Int. Cl. 28).
First use Feb. 27, 1968.

SN 297,263. Pagliani & Provenzale S.p.A., Turin, Italy. Filed May 3, 1968.

VAULA

For Cues for Billiard Game (Int. Cl. 28).
First use Sept. 1, 1963; in commerce Sept. 1, 1963.

SN 297,264. Pagliani & Provenzale S.p.A., Turin, Italy. Filed May 3, 1968.

VAULA CUE
TORINO

The words "Cue" and "Torino" are disclaimed apart from the mark as shown.
For Cues for Billiard Game (Int. Cl. 28).
First use Sept. 1, 1963; in commerce Sept. 1, 1963.

SN 297,879. Nocona Leather Goods Company, d.b.a. Nocona Athletic Goods Company, Nocona, Tex. Filed May 10, 1968.

TEX-SIZ-TRAP

Owner of Reg. No. 718,182.
For Baseball Gloves (Int. Cl. 28).
First use March 1960.

SN 298,032. Norstar Corporation, Bronx, N.Y. Filed May 13, 1968.

FOLD-A-MAGIC

For Doll Houses (Int. Cl. 28).
First use Apr. 15, 1968.

SN 298,514. Ferdinand de Vazelles, Bougival, France. Filed May 22, 1968.

solido

For Model Motor Vehicles, Tanks, Artillery, Guns, Boats, Airplanes, Rockets and Trailers Therefor, Model Buildings, Kits for Making the Same, Toy Whistles, and Parts and Accessories for All of the Foregoing (Int. Cl. 28).
First use in 1934; in commerce in 1959.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 287,161. Stone Conveyor Co., Inc., Honeoye, N.Y. Filed June 2, 1966.

Stone

For Plaster-Mortar Mixers, Cement and Concrete Mixers, Power Tampers, Power Compactors, Power Rammers, Power Screeds, and Belt Conveyors (Int. Cl. 7).
First use September 1954, on belt conveyors.

SN 253,075. Aktiebolaget Svenska Metallverken, Västerås, Sweden. Filed Aug. 24, 1966.

NOCO

Priority claimed under Sec. 44(d) on Swedish application filed Mar. 3, 1966; Reg. No. 123,028, dated Apr. 5, 1968.
For Carburetors for Liquid Fuels; Mixers and Fuel Supply Valves for Carburetors and Accessories; Combustion Engines for Water Going Vessels and for Air and Land Vehicles (Int. Cls. 7 and 12).

SN 259,346. Standard Alliance Industries, Inc., Chicago, Ill. Filed Nov. 23, 1966.

SA

The mark consists of a fanciful representation of the letters "S" and "A."
For Construction, Excavating and Materials Handling Equipment—Namely, Hydraulic Backhoes, Hydraulic Log Loaders, Hydraulic Cranes, and Hydraulic Impact Hammers (Int. Cl. 7).
First use on or before Aug. 22, 1966.

SN 261,295. Franz Morat G.m.b.H., Stuttgart-Vaihingen, Germany. Filed Dec. 22, 1966.

MORAT

Owner of U.S. Reg. No. 709,778.
For Circular Knitting Machines and Parts Thereof (Int. Cl. 7).
First use December 1951; in commerce December 1958.

SN 268,315. Walter N. Johnson, Boyceville, Wis. Filed Apr. 4, 1967.

E-Z PIC

For Motorized Dolly for Use by Workers in Picking Cucumbers, Strawberries, and Other Truck Farm Operations (Int. Cl. 12).
First use Feb. 27, 1967.

SN 275,059. Marine Engine Specialties, New York, N.Y. Filed June 29, 1967.

MESCO

For Maritime and Industrial Equipment and Machinery—Namely, Bulkhead and Firewall Mounted Stuffing Boxes Including Mechanical and Electrical Conduit Types, the Mechanical Type Being Used for Enabling the Penetration of Shafts, the Electrical Type Being Used Similarly for Enabling the Penetration of Electrical Transmission Cable and Conduit and To Insure Liquid and/or Gas Tightness or Sealing Between the Two Divided Areas, Centrifugal Power Pumps, Hoists, Winches, Capstans and Hydraulic Systems for Pipe Lines, Said Hydraulic Systems Including Fluid Pumps and Motors, Valves, Manifolds, Gauges and Instrumentation, Tanks, Filters and All Accessory Items Necessary To Complete the System for the Transmission of Power by Hydraulic Fluid (Int. Cl. 7).
First use 1955.

SN 279,947. Hermann Kronseder, d.b.a. Hermann Kronseder Maschinenfabrik, Neutraubling, Bavaria, Germany. Filed Sept. 8, 1967.



For Container Labeling Machines, Container Casing Machines, and Container Uncasing Machines (Int. Cl. 7).
First use November 1966; in commerce November 1966.

SN 279,948. Hermann Kronseder, d.b.a. Hermann Kronseder Maschinenfabrik, Neutraubling, Bavaria, Germany. Filed Sept. 8, 1967.

KRONES

For Container Labeling Machines, Container Casing Machines, and Container Uncasing Machines (Int. Cl. 7).
First use November 1966; in commerce November 1966.

SN 279,949. Hermann Kronseder, d.b.a. Hermann Kronseder Maschinenfabrik, Neutraubling, Bavaria, Germany. Filed Sept. 8, 1967.

PRONTOMATIC

For Labeling Machines (Int. Cl. 7).
First use March 1967; in commerce March 1967.

SN 279,950. Hermann Kronseder, d.b.a. Hermann Kronseder Maschinenfabrik, Neutraubling, Bavaria, Germany. Filed Sept. 8, 1967.

UNIVERSELLA

For Labeling Machines (Int. Cl. 7).
First use Mar. 13, 1967; in commerce Mar. 13, 1967.

SN 280,711. Subscription Television, Incorporated, New York, N.Y. Filed Sept. 19, 1967.

JET-ALL

For Distributor Assembly, and Parts Therefor, for Liquid, Suspension, and Slurry Type Fertilizers (Int. Cl. 7).
First use Aug. 7, 1967.

SN 284,615. The Cincinnati Mine Machinery Co., Cincinnati, Ohio. Filed Nov. 13, 1967.

QUIK PIK

For Projectile Shaped Bits Used in the Mining of Coal and Other Minerals, and Lugs and Holders To Receive Said Bits, the Said Bits and the Said Lugs and Holders Being Arranged so That a Said Bit May Be Firmly Held in a Said Lug and Holder in Such Manner as to Permit Rotation of Said Bit Within Said Lug and Holder, the Arrangement Being Such as To Permit a Said Bit To Be Easily Removed From a Said Lug and Holder When the Useful Life of Said Bit Is Realized, the Said Lugs Being Adapted To Be Affixed to Various Kinds of Machinery Used in the Mining of Coal and Other Minerals (Int. Cl. 7).
First use in or about September 1966.

SN 284,855. William M. Wilson's Sons, Inc., Lansdale, Pa. Filed Nov. 14, 1967.

GASBOY Reel-a-matic

Owner of Reg. Nos. 410,083 and 438,395.
For Hose Reel for Fuel Pumps (Int. Cl. 7).
First use Apr. 12, 1966.

SN 286,447. Roberts Company, Sanford, N.C. Filed Dec. 7, 1967.

RANGER

For Twister Frames, Drawing Frames, and Spinning (Int. Cl. 7).
First use November 1965.

SN 291,717. D-M-E Corporation, Madison Heights, Mich. Filed Feb. 23, 1968.

JIFFY-LOK

Owner of Reg. No. 812,785.
For Ejector Pins and Core Pins Used in Plastic Molds and Die Cast Dies (Int. Cl. 6).
First use Dec. 7, 1967.

SN 291,969. Corbett Industries, Inc., Dallas, Tex. Filed Feb. 27, 1968.

Corbett

For Built-In Vacuum Cleaner Installations and Parts (Int. Cl. 7).
First use Nov. 7, 1967.

SN 291,970. Corbett Industries, Inc., Dallas, Tex. Filed Feb. 27, 1968.

corvac

For Built-In Vacuum Cleaner Installations and Parts (Int. Cl. 7).
First use Dec. 3, 1967.

SN 291,987. Hy-Torq Corporation, Portland, Oreg. Filed Feb. 27, 1968.

POSITRAC

For Vehicle Differentials (Int. Cl. 12).
First use July 29, 1967.

SN 294,323. Morris Struhl, Inc., New York, N.Y. Filed Mar. 27, 1968.

Valiant

Owner of Reg. No. 712,093.
For Cutting Utensils—Namely, Carving Sets, Steak Knives and Kitchen Knives, and Electric Carving Knives (Int. Cls. 7 and 8).
First use June 1962.

SN 297,128. Ametek, Inc., New York, N.Y. Filed May 2, 1968.

AMETEK

The drawing is lined for the color red. Owner of Reg. Nos. 744,348, 794,058, and others.
For Spring Motors; Spring Motor Reels; Centrifugal Separators; and Corrugated Paperboard Box Making and Printing Machinery (Int. Cl. 7).
First use Mar. 21, 1967, on spring motors.

SN 298,216. Erving Paper Mills, Erving, Mass. Filed May 15, 1968.

PIONEER QUADRAMATIC

For Mechanically Operated Paper Towel Dispensers (Int. Cl. 21).
First use Sept. 18, 1967.

Class 26—Measuring and Scientific Appliances

SN 239,428. Litton Business Systems, Inc., Orange, N.J., by merger and change of name from Monroe International Corporation, Orange, N.J. Filed Feb. 23, 1966.

DATALOG

Owner of Reg. No. 731,971.
For Data Processing Equipment—Namely, Readout Devices, Computing Machines, and Printing Machines (Int. Cl. 9).
First use on or about Oct. 22, 1965; not later than Feb. 17, 1958, in a different form.

SN 259,277. Tomoe Soroban Kabushiki Kaisha, Chiyoda-ku, Tokyo, Japan. Filed Nov. 22, 1966.

TOMOE
エモト

The word "Tomoe" means a whirling state of things or affairs, and the Japanese characters stand for the word "Tomoe." Owner of Japanese Reg. No. 90,220–2, dated Dec. 25, 1917.
For Educational Instruments and Apparatus—Namely, Abucuses and Other Comptometers, and Parts Thereof (Int. Cl. 9).

SN 262,529. Walter F. White, Cleveland, Ohio. Filed Jan. 13, 1967.

SEL-TRON

For Teaching Machine Utilizing an Audio-Visual Projector, Screen, and Sound System (Int. Cl. 9).
First use Dec. 8, 1966.

SN 265,111. Seismograph Service Corporation, Tulsa, Okla., assignee of Seismograph Service Corporation, Tulsa, Okla. Filed Feb. 20, 1967.

LORAC

For Radio Location Equipment for Use in Oceanography, Missile Launching Systems, Missile Tracking and Recovery, Submarine Cable Laying; Electronic Distance Measuring Systems for Such Applications as First Order Trilateration, Marine Geophysical Exploration, Air Borne Geophysical Exploration, Off-Shore Drilling, Transportation and Production; and Communications Equipment Including Transmitters, Receivers, Tracking Course Plotters, Data Recording Systems, Antennas, Power Supplies (Int. Cl. 9).
First use Mar. 1, 1953.

SN 276,296. Fundicion Rivero, Inc., Santurce, Puerto Rico. Filed July 19, 1967.

RIVERO

For Water Meter Boxes (Int. Cl. 9).
First use June 1, 1967.

Class 28—Jewelry and Precious-Metal Ware

SN 295,576. Giovanni Jewelry Company, Providence, R.I., by change of name from Venice, Inc., Providence, R.I. Filed Apr. 12, 1968.

YOUNG SOPHISTICATES

For Boxed Jewelry (Int. Cl. 14).
First use Jan. 10, 1968.

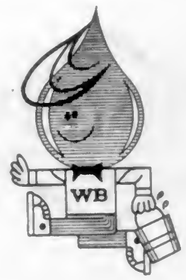
Class 31—Filters and Refrigerators

SN 263,216. T.F.H. Publications, Inc., Jersey City, N.J. Filed Jan. 24, 1967.

MIRACLE

For Synthetic Fiber Wool Filter Material for Aquarium Filters (Int. Cl. 24).
First use February 1966.

SN 267,649. Neptune Microfloc, Incorporated, Corvallis, Oreg. Filed Mar. 27, 1967.



The Drawing is lined for the color blue but no claim is made as to color.
For Self-Contained Water Treatment Plants (Int. Cl. 11).
First use Jan. 29, 1967.

SN 273,893. Bell Aerospace Corporation, Burbank, Calif. Filed June 14, 1967.

421

For Filter Element for Fluid Filters (Int. Cl. 11).
First use May 25, 1967.

Class 32—Furniture and Upholstery

SN 279,623. Canterbury House, Inc., Peru, Ind. Filed Sept. 5, 1967.

CANTERBURY

For Chairs, Sofas, Sectionals, Love-Seats, and Ottomans (Int. Cl. 20).
First use on or about Feb. 11, 1957.

SN 284,883. Antiseptic Mattress Co. Inc., Salem, Mass. Filed Nov. 15, 1967.

LADY JORDAN

The title "Lady Jordan" is fanciful. Applicant knows of no one with this name.
For Mattresses (Int. Cl. 20).
First use at least as early as November 1923.
Subj. to Intf. with SN 295,645.

SN 289,837. The Shaw-Walker Company, Muskegon, Mich. Filed Jan. 29, 1968.

Skytronic

For Office Furniture (Int. Cl. 20).
First use Jan. 24, 1968.

SN 290,025. Samsonite Corporation, Denver, Colo. Filed Jan. 31, 1968.

CUSTOMAIRE

For Folding Furniture—Namely, Tables and Chairs (Int. Cl. 20).
First use Jan. 8, 1968.

SN 290,185. Donald H. Mitchell, Pittsfield, N.H. Filed Feb. 2, 1968.

NEW DISCOVERY

For Upholstered Furniture Including Sofas, Chairs, and Ottomans (Int. Cl. 20).
First use Dec. 17, 1967.

SN 290,245. The Bennington Company, Union, N.J. Filed Feb. 5, 1968.

BENNINGTON

For Household Upholstered Furniture, Including Living-room Furniture—Namely, Sofas, Chairs and Rockers, Bedroom Furniture—Namely, Dressers, Chests, Beds and Night Tables, Dining Room Furniture—Namely, Tables, Chairs and Hutches, and Occasional Furniture—Namely, Bookcases and Coffee Tables, and Functional Furniture—Namely, Chests and Stacking Units (Int. Cl. 20).
First use October 1962.

Class 34—Heating, Lighting, and Ventilating Apparatus

SN 266,862. The Coleman Company, Inc., Wichita, Kans. Filed Mar. 16, 1967.

SEA-BREEZE

For Humidifier for Warm Air Heating Systems (Int. Cl. 11).
First use on or before Feb. 15, 1967.

SN 268,904. United Silver and Cutlery Company, Los Angeles, Calif. Filed Apr. 11, 1967.

PISTOLITE

For Butane Torches for the Purpose of Igniting Ovens, Heaters, Fireplaces, Campfires, Barbeques and Fires (Int. Cl. 34).
First use Feb. 16, 1967.

SN 269,272. Airline Welding & Engineering, Gardena, Calif. Filed Apr. 17, 1967.

TRACMATE

For Welding Machine Carriages Used to Movably Mount Welding Head Apparatus on the Welding Machine (Int. Cl. 7).
First use January 1967.

SN 275,140. The Harris Calorific Company, Cleveland, Ohio. Filed June 30, 1967.

COST CUTTER

The word "Cutter" is disclaimed apart from the mark as shown.
For Gas Welding and Gas Cutting Equipment Sold as an Outfit and Comprised of: Oxy-Acetylene Welding Torch Handles and Mixers, Welding Tips, Oxy-Acetylene Cutting Attachment and Cutting Tip, an Oxygen Pressure Regulator and an Acetylene Pressure Regulator, Together with Accessories—Namely, Welding Hose, Goggles, Spark Lighter and Instructions (Int. Cl. 9).
First use May 10, 1967.

SN 284,816. Hauck Manufacturing Company, Lebanon, Pa. Filed Nov. 14, 1967.

HAUCK

The drawing is lined for the color red. Owner of Reg. Nos. 169,208 and 777,019.

For Oil Vaporizing Torches, Atomizing Oil and/or Gas Burners Using Low or High Pressure Air or Steam, Oil Heaters and Oil Heating Systems, Thawing Equipment for Railroad Cars for Coal and Ore, High and Low Pressure Gas Mixers, Premixed Gas Burners, Nozzle Mixing Gas Burners, Packaged Combustion Assemblies Comprising a Burner With Valves and Blower and Pump Which Are All Prepiped and Prewired, and Packaged Sets of Combustion Components for Field Assembly Which Components Are Particularly Selected and Coordinated for Use Together (Int. Cl. 11).

First use 1914.

SN 290,256. Carrier Corporation, Syracuse, N.Y. Filed Feb. 5, 1968.



For Warm Air Furnaces (Int. Cl. 11).

First use Feb. 21, 1967.

SN 290,627. Loren Cook Company, Berea, Ohio. Filed Feb. 8, 1968.

CENTRI-TIER

Owner of Reg. No. 757,343.

For Ventilators (Int. Cl. 11).

First use Jan. 11, 1968.

SN 290,628. Loren Cook Company, Berea, Ohio. Filed Feb. 8, 1968.

AXIA-TIER

Owner of Reg. No. 757,343.

For Ventilators (Int. Cl. 11).

First use Jan. 11, 1968.

SN 294,237. PPG Industries, Inc., Pittsburgh, Pa., by change of name from Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed Mar. 27, 1968.

HERCUVIT

Owner of Reg. No. 847,206.

For Glass-Ceramic Components for Use in Range Tops, Oven Liners and Windows, High Intensity Heater and Lighting Fixture Covers, Heat Exchangers, Surface Heating Units and the Like (Int. Cl. 11).

First use at least as early as Feb. 16, 1968.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 285,194. Bryan Rubber Company, Incorporated, Salem, Va. Filed Nov. 20, 1967.

AUBURN

For Tires and Tubes (Int. Cl. 12).

First use Aug. 21, 1967.

SN 288,695. Halls Gaskets Ltd., Slough, England. Filed Jan. 12, 1968.

HALLS
Gaskets

The word "Gaskets" is disclaimed apart from the mark as shown.

For Gaskets (Int. Cl. 17).

First use in 1959; in commerce 1959.

SN 291,365. Dana Corporation, Toledo, Ohio. Filed Feb. 19, 1968

For Oil Seals, Gaskets and Machinery Packings (Int Cl. 17).

First use Feb. 4, 1966.

SN 294,701. Vandever Tire Company, Incorporated, Joplin, Mo. Filed Apr. 1, 1968.

MOKAN

For Tires (Int. Cl. 12).

First use Mar. 16, 1968.

SN 295,295. The Armstrong Rubber Company, West Haven, Conn. Filed Apr. 10, 1968.

HSP

For Pneumatic Tires (Int. Cl. 12).

First use on or about Feb. 28, 1968.

SN 303,020. Greene, Tweed & Co., Inc., North Wales, Pa. Filed July 18, 1968.

SEALSAVER

Owner of Reg. No. 670,410.

For Back-Up or Stiffening Rings of Fabric-Reinforced Resinous Material for Packings Such as in Rod or Piston Applications (Int. Cl. 17).

First use Nov. 15, 1956.

Class 36 — Musical Instruments and Supplies

SN 252,612. C. H. Haralson, d.b.a. Heath Productions, Safford, Ariz. Filed Aug. 17, 1966.

ROADRUNNER
RECORDS

Applicant disclaims the word "Records."

For Phonographic Recordings and Taped Musical Recordings (Int. Cl. 9).

First use Aug. 12, 1966.

SN 279,457. C. G. Conn Ltd., Elkhart, Ind. Filed Aug. 31, 1967.

Five Hundred

For Audio Amplifiers Used With Any Musical Instrument (Int. Cl. 9).

First use July 7, 1967.

SN 291,495. Discos Fuentes, S.A., Medellin, Colombia. Filed Feb. 20, 1968.

Fuentes

The word "Fuentes" is a surname and "Fuentes" is also the Spanish equivalent of the English word "fountains."

For Grooved Phonograph Records (Int. Cl. 9).

First use July 1940; in commerce July 1940.

SN 294,241. A.A. Records, Inc., New York, N.Y. Filed Mar. 27, 1968.

GOLDEN WONDERLAND

Owner of Reg. No. 745,490.

For Phonograph Records (Int. Cl. 9)

First use Mar. 4, 1968.

SN 295,155. Musical Instrument Corporation of America, Hicksville, N.Y. Filed Apr. 8, 1968.

MICA

For Guitars (Int. Cl. 15).

First use Apr. 1, 1968.

Class 37 — Paper and Stationery

SN 284,427. Läufer Gummiwarenfabrik, Schwerdt & Renner, Hanover, Germany. Filed Nov. 9, 1967.

Läufer

The term "Läufer" has the meaning "runner." Owner of German Reg. No. 488,557, dated Oct. 19, 1936.

For Erasers, Rubber Bands, Sponge Cup Type Office Moisteners and Parts Thereof (Int. Cl. 16).

First use May 13, 1965, on erasers; in commerce May 13, 1965.

SN 287,377. Raimond Silver Manufacturing Company, Inc., Chelsea, Mass. Filed Dec. 21, 1967.

NITE SECRETARY

For Combination Memo Pad and Flashlight (Int. Cl. 16).

First use Oct. 11, 1967.

SN 287,446. The Roy M. Moffitt Company, Schiller Park, Ill. Filed Dec. 22, 1967.

PROTECT-O-PAK

For Protective Plastic Film for Wrapping and Packaging Products (Int. Cl. 16).

First use Oct. 16, 1967.

SN 301,132. The Parker Pen Company, Janesville, Wis. Filed June 24, 1968.

STEREOGRAPHIC

For Marking Pens, Marking Pen Refills, Fountain Pens, Ball Point Pens and Mechanical Pencils (Int. Cl. 16).

First use May 27, 1968.

SN 301,883. Helzberg's Diamond Shops, Inc., Kansas City, Mo. Filed July 3, 1968.

I AM LOVED

Owner of Reg. No. 852,718.

For Writing Instruments—Namely, Fountain Pens, Ball Point Pens, Mechanical Pencils, and Pen and Pencil Desk Sets (Int. Cl. 16).

First use May 2, 1968.

Class 38 — Prints and Publications

SN 270,446. Carl Weigang, d.b.a. Opticart-Verlag Carl Weigang, Neubiberg, Germany. Filed May 1, 1967.

opticart

Owner of German Reg. No. 772,166, dated Apr. 2, 1963.

For Illuminated Transparencies, Textbooks, Prospectuses, Posters, Instruction Sheets, and Diapositives (Int. Cls. 9 and 16).

SN 273,804. George E. Stratton, San Francisco, Calif. Filed June 13, 1967.



For Feature Column in Neswpapers (Int. Cl. 16).

First use Feb. 4, 1967.

SN 275,259. Goodway Printing Company, Inc., Philadelphia. Filed July 3, 1967.

TV·Q

For Magazine Providing an Entertainment and Television Program Guide (Int. Cl. 16).
First use June 12, 1967.

SN 275,830. George T. Bubany, Los Angeles, Calif. Filed July 12, 1967.

FUNNY WORLD OF GOLF

For Cartoons About Golf (Int. Cl. 16).
First use June 20, 1967.

SN 276,587. Keith C. Schuyler, Berwick, Pa. Filed July 21, 1967.

FINS FURS AND FEATHERS

For Newspaper Column (Int. Cl. 16).
First use Oct. 8, 1938.

SN 276,759. Minit-Mark of Dallas, Inc., Dallas, Tex. Filed July 25, 1967.

MINI MARK

For Adhesive-Backed Transparent Stickers Carrying Ornamental Designs To Be Applied to Fingernails, Toenails, Ear Lobes, Etc. (Int. Cl. 16).
First use May 15, 1967.

SN 284,519. The Trustees of Mount Holyoke College, South Hadley, Mass. Filed Nov. 9, 1967.

For Publications—Namely, Books, Brochures, Pamphlets and Calendars (Int. Cl. 16).
First use Oct. 25, 1967.

SN 285,571. Parachuting Associates, Incorporated, Los Angeles, Calif. Filed Nov. 24, 1967.

For Movie Films (Int. Cl. 9).
First use on or about Mar. 10, 1964.

SN 289,708. The Miller Publishing Company, Minneapolis, Minn. Filed Jan. 26, 1968.

DAIRY INDUSTRIES CATALOG

For Annual Trade Magazine in the Nature of a Directory and Buying Reference Source (Int. Cl. 16).
First use May 1, 1927.

SN 290,731. Giving Cards, Inc., Lafayette, Calif. Filed Feb. 9 1968.

giving cards

The word "Cards" is disclaimed apart from the mark as shown.
For Greeting Cards (Int. Cl. 16).
First use October 1967.

SN 291,997. National Business Services Inc., Philadelphia, Pa. Filed Feb. 27, 1968.

IMPRINT

For Trade Magazine Published Exclusively for Specialty Advertising Salesmen (Int. Cl. 16).
First use Jan. 15, 1968.

SN 297,638. Spadea Syndicate, Inc., Milford, N.J. Filed May 8, 1968.

MR. MAGIC

For Series of Cartoon Panels (Int. Cl. 16).
First use Apr. 18, 1968.

SN 301,676. Director Publishing Company, Minneapolis, Minn. Filed July 1, 1968.

Director

For Catalog of Service Stations, Restaurants and Lodging (Int. Cl. 16).
First use May 6, 1968.

SN 301,882. Helzberg's Diamond Shops, Inc., Kansas City, Mo. Filed July 3, 1968.

I AM LOVED

Owner of Reg. No. 852,718.
For Decorative Vinyl Decals (Int. Cl. 16).
First use May 7, 1968.

Class 39 — Clothing

SN 271,725. Frank Ruimondi, d.b.a. Fringe Benefit Co., New York, N.Y. Filed May 17, 1967.

Fringe Benefit

For Head Scarf Having Detachable Hair Element Simulating Bangs (Int. Cl. 25).)
First use Mar. 29, 1967.

SN 272,765. Charlotte Wagman, d.b.a. Contex Limited, Philadelphia, Pa. Filed May 31, 1967.

Gianino

For Men's Shirts (Int. Cl. 25).
First use Mar. 28, 1967.

SN 281,276. Dynacor Manufacturing Company, Evanston, Ill. Filed Sept. 27, 1967.

DYNACOR

For Hospital Garments—Namely, Gowns and Pajamas for Hospital Patients (Int. Cl. 25).
First use May 23, 1967.

SN 283,899. Jonbil Mfg. Co., Inc., New York, N.Y. Filed Nov. 1, 1967.

JET BAK

For Men's and Women's Trousers (Int. Cl. 25).
First use July 21, 1967.

SN 284,945. Smith Brothers Manufacturing Co., Carthage, Mo. Filed Nov. 15, 1967.

Smittys

For Jeans (Int. Cl. 25).
First use February 1960.
Subj. to Intf. with SN 285,465.

SN 286,688. S. S. Kresge Company, Detroit, Mich. Filed Dec. 11, 1967.

SK

For Men's and Boys' Wear—Namely, Pants, Neckwear, Sweaters, Headwear, Belts, Suspenders, Sweatshirts, Coats, Thermal Underwear, Men's Suits, Dungarees and Robes (Int. Cl. 25).
First use on or before June 6, 1967.

SN 287,320. S.A.R.L. Manufacture d'Articles de Puericulture du Sud-Ouest-M.A.P.S.O., Biarritz, Basses-Pyrenees, France. Filed Dec. 20, 1967.

BABY-OP

Owner of French Reg. No. 723,512, dated Nov. 28, 1966.
For Shoes (Int. Cl. 25).

SN 289,840. St. Louis Shoe Corporation, St. Louis, Mo. Filed Jan. 29, 1968.

Pattikins

For Women's and Misses' Shoes (Int. Cl. 25).
First use at least as early as Aug. 2, 1953.

SN 291,050. Dunn and McCarthy, Inc., Auburn, N.Y. Filed Feb. 14, 1968.

Resumé

For Shoes (Int. Cl. 25).
First use Jan. 11, 1967.

SN 291,285. Rapid-American Corporation, New York, N.Y. Filed Feb. 16, 1968.

SPORTSUITER

Owner of Reg. No. 438,720.
For Men's and Boys' Outer Garments—Namely, Coats, Suits, Sport Coats, Jackets, Topcoats, Overcoats, Slacks, Trousers and Vests (Int. Cl. 25).
First use Oct. 12, 1946.

SN 294,349. Duca Di Siena Ltd., New York, N.Y. Filed Mar. 28, 1968.

DUCA

The translation of the word "Duca" is "duke." Owner of Reg. No. 762,793.
For Sweaters, Shirts and Jackets (Int. Cl. 25).
First use Feb. 11, 1964.

SN 294,439. Bernard Krulwich & Co., New York, N.Y. Filed Mar. 29, 1968.

SHAMROCK

For Men's and Boys' Headwear (Int. Cl. 25).
First use Oct. 10, 1966.

SN 299,541. Joseph Bancroft & Sons Co., Wilmington, Del. Filed June 3, 1968.

BAN-LON

Owner of Reg. Nos. 505,384, 722,375, and others.
For Hosiery (Int. Cl. 25).
First use shortly before May 1959.

SN 300,291. Rob Roy Company, Inc., New York, N.Y. Filed June 12, 1968.

SAN MARCO

For Outer Dress and Sport Shirts of Woven and of Knitted Materials, Sweaters, Jackets, Trousers, Swimwear, Vests, Caps, Pants and Shirt Combinations, Coats and Knitted Suits for Boys and Young Men (Int. Cl. 25).
First use June 6, 1968.

Class 40 — Fancy Goods, Furnishings, and Notions

SN 274,822. Mister Teeny-Bopper, Inc., New York, N.Y. Filed June 26, 1967.

MISTER TEENY-BOPPER

For Wigs, and Hair-Pieces (Int. Cl. 26).
First use June 8, 1967.

SN 280,078. Marshall Imports, Inc., d.b.a. Joseph Marshall Imports, Los Angeles, Calif. Filed Sept. 11, 1967.

HAIR MAJESTY

The word "Hair" is disclaimed apart from the mark as shown.
For Wigs (Int. Cl. 26).
First use on or about May 1, 1965.
Subj. to Intf. with SN 268,346.

SN 281,366. Fashion Tress, Inc., Miami Beach, Fla. Filed Sept. 28, 1967.

BIARRITZ

For Ladies' Wigs and Hairpieces (Int. Cl. 26).
First use on or about Sept. 1, 1967.

SN 293,272. Helene Curtis Industries, Inc., Chicago, Ill. Filed Mar. 14, 1968.

FRAUDS

For False Eyelashes (Int. Cl. 26).
First use on or about Feb. 26, 1968.

SN 301,248. Paragon Hair Goods Ltd., Inc., New York, N.Y. Filed June 24, 1968.

TRESSLON

For Wigs, Falls and Wiglets (Int. Cl. 26).
First use Nov. 17, 1967.
Subj. to Intf. with SN 301,307.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 274,416. Crompton Company, New York, N.Y. Filed June 21, 1967.

VENETIA

For Textile Fabrics in the Piece Composed of Cotton, Synthetic Fibers and Blends Thereof (Int. Cl. 24).
First use May 12, 1967.

SN 285,844. M.G. Textiles, Inc., Paterson, N.J. Filed Nov. 29, 1967.

La'Go

For Textile Fabrics Used for Making Dresses, Blouses, Slacks, Coats, Suits, Bedspreads, Tablecloths, Draperies, and for Lining and Interlining Fabrics (Int. Cl. 24).
First use Mar. 15, 1967.

SN 286,215. Uniroyal, Inc., New York, N.Y. Filed Dec. 4, 1967.

MONOCOIL

For Spacer Fabric (Int. Cl. 24).
First use Oct. 23, 1967.

SN 292,614. Reeves Brothers, Inc., New York, N.Y. Filed Mar. 6, 1968.

PLAY-TIME

For Carpets and Carpeting for Indoor and Outdoor Use (Int. Cl. 27).
First use Nov. 13, 1967.

SN 293,931. The Kendall Company, Walpole, Mass. Filed Mar. 22, 1968.

CON CON

For Elastic Webbing (Int. Cl. 24).
First use Oct. 26, 1964.

SN 294,336. West Point-Pepperell, Inc., West Point, Ga. Filed Mar. 27, 1968.

BACKSTOP

For Carpet Backing (Int. Cl. 27).
First use Feb. 12, 1968.

SN 294,418. Stacy Fabrics Corp., New York, N.Y. Filed Mar. 28, 1968.

THERMOLAM

For Backing Fabric, Interlining Fabric, and Interfacing Fabric of Lamb's Wool (Int. Cl. 24).
First use Sept. 11, 1965.

SN 295,115. Commercial Carpet Corporation, New York, N.Y. Filed Apr. 8, 1968.

MODU/BASE

For Carpets and Rugs (Int. Cl. 27).
First use Mar. 5, 1968.

Class 43 — Thread and Yarn

SN 287,343. Emile Bernat & Sons Co., Uxbridge, Mass. Filed Dec. 21, 1967.

MELOTUK

Owner of Reg. No. 727,550.
For Hand-Knitting Yarns (Int. Cl. 23).
First use at least as early as Dec. 12, 1967.

SN 293,750. J. P. Stevens & Co., Inc., New York, N.Y. Filed Mar. 20, 1968.

STEVETEX

Owner of Reg. Nos. 511,773, 830,662, and others.
For Yarn Composed of Natural or Synthetic Fibers or Blends of the Foregoing (Int. Cl. 23).
First use July 24, 1967.

SN 294,202. N.V. Koninklijke Veenendaalsche Sajet-en Vijfschachtfabriek V/H Wed. D. S. Van Schuppen & Zoon, Veenendaal, Netherlands. Filed Mar. 26, 1968.

RIGODON

For Handknitting Yarns (Int. Cl. 23).
First use Apr. 28, 1966; in commerce Apr. 28, 1966.

SN 294,252. Emile Bernat & Sons Co., Uxbridge, Mass. Filed Mar. 27, 1968.

BERELLA LIGHTNING

For Hand Knitting Yarns (Int. Cl. 23).
First use at least as early as Mar. 7, 1968.

SN 294,492. Glen Raven Mills, Inc., Glen Raven, N.C. Filed Mar. 29, 1968.

RAVENNA

For Yarn of Natural or Synthetic Fibers or Combinations Thereof (Int. Cl. 23).
First use Mar. 19, 1968.

SN 295,174. Rich-Flex Mfg. Corporation, Central Falls, R.I. Filed Apr. 8, 1968.

COVERLAST

For Elastic Yarns (Int. Cl. 23).
First use Mar. 11, 1968.

Class 44 — Dental, Medical, and Surgical Appliances

SN 266,167. Michigan Research Corporation, Ann Arbor, Mich. Filed Mar. 7, 1967.

EXPAND-O-GRAFT

For Skin Graft Cutter (Int. Cl. 10).
First use Dec. 21, 1966.

SN 274,952. Brunswick Corporation, Chicago, Ill. Filed June 28, 1967.

MONOTRAY

For Trays for Carrying Medications, Syringes and Hypodermic Needles (Int. Cl. 10).
First use Apr. 12, 1967.

SN 280,526. A.C.R. Electronics Corp., New York, N.Y. Filed Sept. 18, 1967.

SURGI PAK

The word "Pak" is disclaimed apart from the mark as shown.
For First Aid Kits Including Bandages, Soap Type Cleansing Materials, and Iodine Tinctures (Int. Cl. 5).
First use Aug. 31, 1967.

SN 287,524. Dahlberg Electronics, Inc., Minneapolis, Minn. Filed Dec. 26, 1967.

HEARD ROUND THE WORLD

For Hearing Aids (Int. Cl. 10).
First use as early as 1950.

SN 291,144. The Dentists' Supply Company of New York, York, Pa. Filed Feb. 15, 1968.

THERMO JEL

The word "Jel" is disclaimed apart from the mark as shown.
For Synthetic Resin Material for Use in the Preparation of Intra-Oral Custom Dental Restorations (Int. Cl. 5).
First use Jan. 29, 1968.

SN 294,740. Lang Dental Manufacturing Co., Inc., Chicago, Ill. Filed Apr. 2, 1968.

OVALLOY

For Dental Amalgam (Int. Cl. 5).
First use Jan. 30, 1968.

SN 285,057. E. H. Segal, d.b.a. Er-Rol Articulator Mfg. Co., Los Angeles, Calif. Filed Apr. 5, 1968.

ER-ROL

For Articulator for Errorless Manufacture of Crowns, Bridges and Inlays (Int. Cl. 10).
First use Nov. 22, 1967.

SN 285,544. Joseph Mullan, Baltimore, Md. Filed Apr. 12, 1968.

GYNETTE

For Tampons (Int. Cl. 5).
First use October 1967.

Class 45 — Soft Drinks and Carbonated Waters

SN 289,079. Canada Dry Corporation, New York, N.Y. Filed Jan. 18, 1968.

SPURT

Owner of Reg. Nos. 329,433, 348,645 and 413,707.
For Carbonated Beverages Used as Soft Drinks and as Mixers (Int. Cl. 32).
First use on or before Jan. 12, 1968.

SN 289,080. Canada Dry Corporation, New York, N.Y. Filed Jan. 18, 1968.

SPORT COLA

The word "Cola" is disclaimed apart from the mark as shown. Owner of Reg. No. 348,645.
For Cola-Type Carbonated Beverages Used as Soft Drinks and as Mixers (Int. Cl. 32).
First use on or before Jan. 12, 1968.

SN 289,825. Mystic Farms, Inc., Onset, Mass. Filed Jan. 29, 1968.

CRANTASTIC

For Beverage Consisting of Cranberry Juice, Water and Lesser Ingredients (Int. Cl. 32).
First use Dec. 11, 1967.

SN 291,834. Canada Dry Corporation, New York, N.Y. Filed Feb. 26, 1968.

Sport COLA

Applicant disclaims the word "Cola" apart from the mark as shown. Owner of Reg. No. 348,645.
For Cola-Type Carbonated Beverages Used as Soft Drinks and as Mixers (Int. Cl. 32).
First use on or before Feb. 1, 1968.

Class 46 — Foods and Ingredients of Foods

SN 252,097. Hershey Foods Corporation, Hershey, Pa., by change of name from Hershey Chocolate Corporation, Hershey, Pa. Filed Aug. 10, 1966.

HERSHEY'S

Owner of Reg. No. 54,041.
For Semi-Sweet Chocolate, Cocoa, Sweet Chocolate, Milk Chocolate, Both With and Without Nuts or Cereals, Chocolate Coatings, Chocolate Liquors, Milk Chocolate Fudge, Butterscotch Topping, Chocolate Mint Fudge Topping, Chocolate Peanut Butter Topping, Instant Cocoa Mixes, Cocoa Butter, Chocolate Flavored Syrups, Candy, Milk Chocolate Covered Almond Marshmallow Cups and Milk Chocolate Covered Nutrolls (Int. Cl. 30).
First use about Jan. 1, 1894.

SN 256,263. Astro Pet Foods and Supplies, Inc., Deer Park, N.Y. Filed Oct. 12, 1966.

ASTRO

For Cat and Dog Foods (Int. Cl. 31).
First use July 15, 1966.

SN 263,116. Riviana Foods Inc., Houston, Tex. Filed Jan. 23, 1967.

CAROLINA PRONTO RICE

The word "Rice" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 541,907, 791,932, and others.
For Rice (Int. Cl. 30).
First use Jan. 10, 1967.

SN 268,589. Farmland Industries, Inc., Kansas City, Mo. Filed Apr. 7, 1967.

RUFF-TABS

For Artificial Roughage for Ruminants (Int. Cl. 31).
First use Mar. 23, 1967.

SN 270,121. Foremost-McKesson, Inc., New York, N.Y., assignee of Foremost Dairies, Inc., San Francisco, Calif. Filed Apr. 27, 1967.

So·Lo

Owner of Reg. No. 742,070.
For Cottage Cheese and Sour Half and Half (a Mixture of Milk and Cream) (Int. Cl. 29).
First use Mar. 10, 1967.

SN 276,563. Jacques Pan Cakes, Inc., Cleveland Heights, Ohio. Filed July 21, 1967.

Boyé-S

For Mixes for Pancakes, Corn Cakes and Crepe Suzettes (Int. Cl. 30).
First use Mar. 2, 1967.

SN 277,066. Pita Gol S.A., Barcelona, Spain. Filed July 28, 1967.

PITA GOL

Owner of Spanish Reg. No. 465,475, dated Feb. 4, 1965.
For Candy, Chocolates, Sugars and Pastries (Int .Cl. 30).

SN 277,435. Fred S. Carbon, d.b.a. F. S. Carbon Co., Buchanan, Mich. Filed Aug. 3, 1967.

CAR-JON

For Flour, Particularly for Waffles and Pancakes (Int. Cl. 30).
First use July 28, 1967.

SN 278,679. Ferruccio Giovannini, Inc., Chicago, Ill. Filed Aug. 21, 1967.

LA FLORENTINE

Owner of Reg. No. 267,634.
For Fruit Cake, Butter Cake, Almond Macaroons, Fruit Drop Candy and Almond Candy (Int. Cl. 30).
First use Aug. 26, 1929.

SN 278,825. Robert E. Sanders, Johnson City, N.Y. Filed Aug. 22, 1967.

SPIEDIES

For Prepared Meat Products (Int. Cl. 29).
First use Mar. 5, 1963.

SN 280,904. Whitfield Pickle Company, Montgomery, Ala. Filed Sept. 21, 1967.

LADY GRACE

The name "Lady Grace" does not represent any particular living individual.
For Cucumber Pickles, Chowchow, and Relish, Composed of Chopped Pickles, Sugar, Spices and Spice Oils (Int. Cl. 29).
First use 1926.
Subj. to Intf. with SN 262,941.

SN 281,032. Carnation Company, Los Angeles, Calif. Filed Sept. 25, 1967.

COMPARE

For Nutritionally Balanced Liquid Food, Derived Principally From Vegetable Protein (Int. Cl. 29).
First use at least as early as Sept. 8, 1967.

SN 281,348. American Beauty Macaroni Company, Kansas City, Kans. Filed Sept. 28, 1967.

American Beauty SPOGHETTI RINGS

Applicant disclaims the exclusive right to "Spoghetti Rings," insofar as said words may be interpreted to be "Spaghetti Rings," apart from the mark as shown, reserving unto itself however, any common law rights that it may possess. Owner of Reg. Nos. 88,250 and 575,642.
For Spaghetti and Spaghetti Dinners (Int. Cl. 30).
First use Sept. 25, 1967.

SN 282,878. Paul F. Beich Company, Bloomington, Ill. Filed Oct. 19, 1967.

KATY'S

Owner of Reg. Nos. 634,445 and 713,615.
For Candy (Int. Cl. 30).
First use Sept. 19, 1967.

SN 283,910. The Mar-Gold Corporation, Atlanta, Ga. Filed Nov. 1, 1967.

MAR-GOLD

Owner of Reg. No. 585,929.
For Salad Dressing and Mayonnaise (Int. Cl. 29).
First use Oct. 12, 1967.

SN 284,296. M. De Rosa, Inc., Mount Vernon, N.Y. Filed Nov. 7, 1967.

POPE

Owner of Reg. Nos. 282,636, and 286,431.
For Frozen Food Sauces—Namely, Marinara Sauce and Cheese Sauce; and Frozen Food in Sauces—Namely, Macaroni in Marinara Sauce and Noodles in Cheese Sauce (Int. Cl. 30).
First use Sept. 5, 1967.

SN 284,820. Hershey Foods Corporation, Hershey, Pa., by change of name from Hershey Chocolate Corporation, Hershey, Pa. Filed Nov. 14, 1967.

HERSHEY'S KISSES

The use of the word "Kisses" separate and apart from the mark shown is disclaimed. Owner of Reg. No. 165,248.
For Candy Kisses (Int. Cl. 30).
First use July 1, 1907.

SN 284,997. Shibli S. Damus, d.b.a. United Citrus Growers, Redlands, Calif. Filed Nov. 16, 1967.

REDLANDS CHIEF

Exclusive right to the use of the word "Redlands" apart from the mark shown is not claimed.
For Fresh Citrus Fruits (Int. Cl. 31).
First use Sept. 8, 1967.

SN 286,229. Antony Worham Limited, London, England. Filed Dec. 4, 1967.

TUDOR PRINCE

Owner of British Reg. No. 745,520, dated Aug. 25, 1955.
For Canned Meats, Canned Fish, Canned Fruit, Canned Vegetables, Edible Oils and Edible Fats From Animal Origin (Int. Cl. 29).

SN 288,731. Floyd L. Webb, San Francisco, Calif. Filed Jan. 12, 1968.

RED-LETTER DAY

For Confections—Namely, Candies (Int. Cl. 30).
First use Jan. 4, 1968.

SN 288,904. Wilsey-Bennett Co., San Francisco, Calif. Filed Jan. 15, 1968.

DESERT BRAND

The word "Brand" is disclaimed apart from the mark as shown.
For Margarine (Int. Cl. 29).
First use June 16, 1965.

SN 289,985. General Foods Corporation, White Plains, N.Y. Filed Jan. 31, 1968.

BIRDS EYE

Owner of Reg. Nos. 664,142, 787,883, and others.
For Dry Casserole Mix Containing Vegetables, Meatless Sauce, Crumb Topping and Other Ingredients (Int. Cl. 29).
First use Sept. 29, 1967

SN 290,694. Paramount Poultry, Inc., Harbeson, Del. Filed Feb. 9, 1968.

Rabinowitz's
PAMPERED FOR FLAVOR

No claim is made to the wording "Pampered for Flavor" apart from the mark as shown. Owner of Reg. No. 854,789.
For Fresh-Killed Ready-To-Cook Turkeys (Int. Cl. 29).
First use Jan. 12, 1963.

SN 291,100. Royal River Packing Co., Yarmouth, Maine. Filed Feb. 14, 1968.

northeastern brand maine

The drawing is lined for red but no claim is made to color. Applicant disclaims the words "Brand" and "Maine."
For Frozen Shrimp (Int. Cl. 29).
First use Dec. 4, 1967.

SN 291,292. Taterstate Frozen Foods, Washburn, Maine, assignee of Snow Flake Canning Company, Portland, Oreg. Filed Feb. 16, 1968.

SNOW GOLD

For Frozen Potato Products—Namely, Frozen French Fried Potatoes and Frozen Mashed Potatoes, and Dehydrated Potato Flakes (Int. Cl. 29).
First use Nov. 27, 1967.

SN 292,178. Central Soya Company, Inc., Fort Wayne, Ind. Filed Feb. 20, 1968.

Owner of Reg. Nos. 323,074, 323,726, and 439,753.
For Livestock and Poultry Feeds and Feed Concentrates (Int. Cl. 31).
First use on or before Jan. 2, 1935.

SN 292,745. Ocoma Foods Company, d.b.a. Hayden House Foods, Omaha, Nebr. Filed Mar. 8, 1968.

Hayden House
Micro Magic

The word "Brand" is disclaimed apart from the mark as shown. Owner of Reg. No. 671,606.
For Pre-Cooked Chicken (Int. Cl. 29).
First use Feb. 1, 1967.

SN 293,063. United States Baking Company, Inc., Carrollton, Mo. Filed Mar. 12, 1968.

CAROL

For Bakery Products—Namely, Cookies and Crackers, and Snack Items—Namely, Corn Chips, Corn Puffs and Tortilla Chips (Int. Cl. 30).
First use 1954 on cookies.

SN 293,103. Archer Daniels Midland Company, Minneapolis, Minn. Filed Mar. 13, 1968.

NUTRISOY

For Soybean Flakes, Soybean Flour and Soybean Grits (Int. Cls. 29 and 30).
First use on or about Jan. 1, 1946.

SN 293,783. Societe pour l'Exploitation et la Vente des Produits "Eva" et "Fruite," Evian-les-Bains (Haute-Savoie), France. Filed Mar. 21, 1968.

EVA-CLUB

Owner of French Reg. No. 721,557, dated Feb. 24, 1967.
For Frozen, Fresh, and Canned Fruit Juices (Int. Cl. 32).

SN 295,040. MacDonald Honey Company, Inc., Sauquoit, N.Y. Filed Apr. 5, 1968.

JOHNNY MAC'S

For Honey (Int. Cl. 30).
First use January 1964.

SN 296,290. Anderson, Clayton & Co., Dallas, Tex. Filed Apr. 23, 1968.

SLIM 'N TRIM

For Margarine (Int. Cl. 29).
First use Jan. 15, 1968.

SN 296,621. J. R. Simplot Company, Boise, Idaho. Filed Apr. 26, 1968.

SUN CROP

Owner of Reg. Nos. 532,107 and 785,523.
For Processed Frozen Potatoes and Fresh Onions (Int. Cls. 29 and 31).
First use at least as early as Oct. 1, 1956.

SN 297,587. National Food Products, Inc., New Orleans, La. Filed May 7, 1968.

Spag-OODLES

For Noodles and Spaghetti (Int. Cl. 30).
First use Apr. 5, 1968.

SN 297,642. Allen Products Co., Inc., Allentown, Pa. Filed May 8, 1968.

CAT FEAST

The word "Cat" is disclaimed apart from the mark as shown.
For Cat Food (Int. Cl. 31).
First use Mar. 26, 1968.

SN 298,408. Beatrice Foods Co., Chicago, Ill. Filed May 17, 1968.

JOYS

For Cookies (Int. Cl. 30).
First use on or about March 1961.

SN 299,188. Wilbur-Ellis Company, San Francisco, Calif. Filed May 28, 1968.

WINDWARD ISLE

Owner of Reg. Nos. 684,130 and 723,943.
For Canned Asparagus; Canned Pineapple; Canned Mandarin Oranges (Int. Cl. 29).
First use Nov. 20, 1967.

SN 299,735. C. Orlando Corp., New York, N.Y. Filed June 5, 1968.

ORLANDO

For Artichoke Hearts, Canned Fish and Cheese (Int. Cl. 29).
First use 1961.

SN 300,235. The Quaker Oats Company, Chicago, Ill. Filed June 12, 1968.

Burry's Lickity Splits

Owner of Reg. Nos. 764,031, 845,572, and others.
For Cookies (Int. Cl. 30).
First use Dec. 14, 1934; Oct. 1, 1967 as to "Burry's."

SN 300,393. Andes Candies Inc., Chicago, Ill. Filed June 14, 1968.



For Candies (Int. Cl. 30).
First use 1963.

SN 300,402. Laura Lee Candies, Inc., Miami, Fla. Filed June 14, 1968.

LAURA LEE LL CANDIES

The word "Candies" is disclaimed. Owner of Reg. Nos. 532,686 and 792,329.
For Candies (Int. Cl. 30).
First use 1963.

SN 301,127. John F. Dullam, d.b.a. Dullam Harvesting Co., Oxnard, Calif. Filed June 24, 1968.

FOUR JOHNS

For Fresh Vegetables (Int. Cl. 31).
First use Apr. 25, 1968.

SN 301,128. Golden Gate Salami Co., San Francisco, Calif. Filed June 24, 1968.

GOLDEN GATE

For Prepackaged Luncheon Meats (Int. Cl. 29).
First use in 1957.

SN 301,583. H. E. Butt Grocery Company, d.b.a. H.E.B. Food Stores, Corpus Christi, Tex. Filed June 28, 1968.

PARK MANOR

For Fresh Milk (Int. Cl. 29).
First use May 1, 1968.

SN 302,201. Ralph Samsel, d.b.a. Ralph Samsel Co., El Centro, Calif. Filed July 8, 1968.

By-Now

Owner of Reg. Nos. 825,872 and 847,123.
For Fresh Lettuce (Int. Cl. 31).
First use May 30, 1968.

SN 302,362. George A. Lucas & Sons, Earlimart, Calif. Filed July 10, 1968.

Grape Royale

The word "Grape" is disclaimed apart from the mark as shown.
For Fresh Grapes (Int. Cl. 31).
First use Sept. 2, 1967.

SN 302,566. William Howard O'Brien, d.b.a. Harquahala Packing Co., Phoenix, Ariz. Filed July 12, 1968.

SUN-UP
Early Quality

For Fresh Grapes (Int. Cl. 31).
First use June 17, 1968.

SN 302,888. Castle & Cooke, Inc., Honolulu, Hawaii. Filed July 17, 1968.

FIGARO

Owner of Reg. Nos. 113,694 and 717,277.
For Canned Fish, Canned Cat Foods, and Canned Dog Food (Int. Cls. 29 and 31).
First use at least as early as 1907 on canned fish.

SN 303,240. Tri-Co Almonds, Inc., Chico, Calif. Filed July 22, 1968.

tri-co

For Canned Almonds and Almonds in Bags and Cartons (Int. Cl. 29).
First use Dec. 16, 1966, July 1, 1958 as to "Tri-Co."

SN 303,737. Cardinet Candy Company, Inc., Concord, Calif. Filed July 29, 1968.

Y-NOT

For Candy Bars (Int. Cl. 30).
First use Nov. 22, 1967.

SN 303,741. Fairway Foods, Inc., St. Paul, Minn. Filed July 29, 1968.



The word "Foods" is disclaimed apart from the mark as shown. The drawing is lined for blue and red but no claim is made to color. Owner of Reg. No. 197,673 and others.
For Canned Fruits and Vegetables (Int. Cl. 29).
First use July 18, 1967.

Class 47 — Wines

SN 278,818. Pierre Poupon, Bourgogne, France. Filed Aug. 22, 1967.

PIERRE POUPON

For Wines (Int. Cl. 33).
First use July 9, 1965; in commerce Feb. 25, 1966.

Class 48 — Malt Beverages and Liquors

SN 292,978. Theo. Hamm Brewing Co., St. Paul, Minn. Filed Mar. 11, 1968.

VELVET GLOVE

For Malt Liquor (Int. Cl. 32).
First use July 17, 1967.

Class 49 — Distilled Alcoholic Liquors

SN 277,398. Whitehall Company, Ltd., d.b.a. Cossnov & Cie, Allston, Mass. Filed Aug. 2, 1967.

COSSNOV

For Vodka (Int. Cl. 33).
First use June 9, 1967.

SN 286,348. J. & F. Martell, Inc., New York, N.Y. Filed Dec. 6, 1967.

MARTELL

Owner of Reg. Nos. 72,228, 773,880 and others.
For Brandy (Int. Cl. 33).
First use June 24, 1967.

SN 288,494. Continental Distilling Corporation, d.b.a. Continental Distilling Co., Philadelphia, Pa. Filed Jan. 10, 1968.

JOSH HENRY

The name "Josh Henry" is not the name of a particular living individual.
For Whisky (Int. Cl. 33).
First use at least as early as Dec. 18, 1967.

Class 50 — Merchandise Not Otherwise Classified

SN 278,797. Hermosa Industries, Inc., Sedalia, Mo. Filed Aug. 22, 1967.

HERMOSA

The English translation of "Hermosa" is "Beautiful, Handsome."
For Poultry Waterers and Feed Bunks (Int. Cl. 21).
First use Jan. 24, 1967.

SN 292,308. Technical Rubber, Inc., West Haven, Conn. Filed Mar. 1, 1968.

TECH-TARP

For Truck Tarpaulins, Field Covers, Canopies, Fumigation Covers, and Other All Purpose Covers (Int. Cl. 22).
First use Jan. 1, 1956 on truck tarpaulins.

SN 296,430. David J. Kiedrowski, d.b.a. Renfro-Franklin Company, Baldwin Park, Calif. Filed Apr. 24, 1968.

HUMMER'S HANGOUT

For Feeders for Humming Birds (Int. Cl. 21).
First use October 1967.

SN 297,676. Dean W. Howland, Deltona, Fla. Filed May 8, 1968.

WHOPGOLLY ART

No claim is made to the exclusive right to use the word "Art," but applicant waives none of his common law rights therein.
For Original Art Objects Constructed Primarily of Wood—Namely, Statuettes (Int. Cl. 20).
First use Mar. 10, 1967.

SN 303,096. Anodyne, Inc., North Miami Beach, Fla. Filed July 19, 1968.

ANOX

For Flexible Aluminum Nameplates (Int. Cl. 6).
First use May 10, 1968.

Class 51 — Cosmetics and Toilet Preparations

SN 287,966. Tamura Jishodo Co., Ltd., Higashi-Sumiyoshi-ku, Osaka, Japan. Filed Jan. 2, 1968.

Hatsumōru

The word "Hatsumoru" has no meaning in the English language.
For Hair Tonic (Int. Cl. 3).
First use Feb. 14, 1948; in commerce July 5, 1967.

SN 288,523. Johnson Publishing Company, Inc., Chicago, Ill. Filed Jan. 10, 1968.

SPRAY 'N' GLOW

Applicant disclaims the word "Spray" apart from the mark as shown, without prejudice to any of its common law rights therein.
For Hair Conditioner or Hair Brightener Spray (Int. Cl. 3).
First use Oct. 5, 1967.

SN 289,477. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Jan. 23, 1968.

GOLD STRIPE

Owner of Reg. Nos. 91,959, 802,778, and others.
For Skin Softener for Use on Legs (Int. Cl. 3).
First use Aug. 31, 1967.

SN 289,478. Chadbourn Gotham, Inc., Charlote, N.C. Filed Jan. 23, 1968.

HUMMINGBIRD

Owner of Reg. Nos. 137,183, 803,457 and others.
For Skin Softener for Use on Legs (Int. Cl. 3).
First use Aug. 31, 1967.

SN 289,702. Laboratoires Lutsia, Rouen, Seine-Maritime, France. Filed Jan. 26, 1968.

GLYDERM

Owner of French Reg. No. 5,525, dated Mar. 11, 1957 (Rouen); Natl. Inst. No. 88,842.
For Face, Hand, and Skin Creams (Int. Cl. 3).

SN 295,702. Chesebrough-Pond's Inc., New York, N.Y. Filed May 21, 1968.

BUSY GIRL

For Facial Make-Up (Int. Cl. 3).
First use Apr. 26, 1968.

SN 299,074. Chas. Pfizer & Co., Inc., New York, N.Y. Filed May 27, 1968.

LOVE STORY

For Toilet Water and Make-Up Foundation (Int. Cl. 3).
First use Apr. 26, 1968.

SN 299,762. Helene Curtis Industries, Inc., Chicago, Ill. Filed June 5, 1968.

GOOD NEWS

Owner of Reg. No. 749,516.
For Pressurized Hair Dressing and Conditioner Preparation (Int. Cl. 3).
First use on or about Feb. 15, 1968.

SN 301,587. Gem, Incorporated, Byhalia, Miss. Filed June 28, 1968.



Applicant disclaims the expression "Liquid Hair Conditioner," and the expression "With Cerate of Mink," apart from the mark as shown. Owner of Reg. No. 844,274.
For Liquid Hair Conditioner (Int. Cl. 3).
First use May 22, 1959.

Class 52 — Detergents and Soaps

SN 295,643. Progressive Laboratory Specialties Corp., Woodbury, N.Y. Filed Oct. 3, 1966.



For Cleaning Preparations for Laboratory Glassware and for Removing Stains, Cedar-Oil, Paraffin, and Other Greases From Microscopic Slides (Int. Cl. 3).
First use June 6, 1966.

SN 275,120. Colgate-Palmolive Company, New York, N.Y. Filed June 30, 1967.



The drawing is lined for the color red. Aplicant does not claim color as part of the mark.
For Laundry Detergent (Int. Cl. 3).
First use June 7, 1967.

SN 290,526. Puritan Chemical Company, Atlanta, Ga. Filed Feb. 7, 1968.

GALAHAD

For Detergent Cleansers Having Disinfectant, Deodorizing and Germicidal Properties (Int. Cl. 3).
First use on or about Jan. 10, 1966.

SN 291,588. Colgate-Palmolive Company, New York, N.Y. Filed Feb. 21, 1968.

CHALLENGE

Owner of Reg. Nos. 701,976 and 803,573.
For Shampoo for the Hair (Int. Cl. 3).
First use Jan. 30, 1968.

SN 292,251. Alpha Metals, Inc., Jersey City, N.J. Filed Mar. 1, 1968.

RELIASOLV

For Chemical Cleaner and Rosin Flux Remover (Int. Cl. 1).
First use Feb. 14, 1968.

SN 293,381. Helene Curtis Industries, Inc., Chicago, Ill. Filed Mar. 15, 1968.

BEAUTY BEZAZZ

For Hair Shampoo (Int. Cl. 3).
First use on or about Feb. 29, 1968.

SN 293,683. Avon Products, Inc., New York, N.Y. Filed Mar. 20, 1968.

FLUFFLES

For Toilet Soap (Int. Cl. 3).
First use Feb. 28, 1968.

SN 294,449. Avon Products, Inc., New York, N.Y. Filed Mar. 29, 1968.

SENTIMENTAL

For Toilet Soap (Int. Cl. 3).
First use Mar. 12, 1968.

SN 294,450. Avon Products, Inc., New York, N.Y. Filed Mar. 29, 1968.

SCENTIMENTS

For Toilet Soap (Int. Cl. 3).
First use Mar. 12, 1968.

SERVICE MARKS

Class 100 — Miscellaneous

SN 253,760. International Cardiology Foundation, Boston, Mass. Filed Sept. 2, 1966.



International Cardiology Foundation

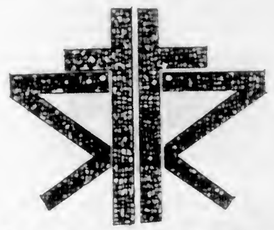
The words "Cardiology Foundation" are disclaimed apart from the mark as shown.
For Raising Funds and Dispensing Grants for Instruction, Research and Prevention of Cardio-Vascular Diseases, for the Help of Cardiologists for the Improvement of Scientific Exchange and Technical and Medical Cooperation Between Cardiological Societies, for Contributing to the Scientific Development of Persons Engaged in the Practice of Cardiology and for Organizing and Supporting Conferences and Publications in Cardiology (Int. Cl. 42).
First use Apr. 15, 1965.

SN 270,509. Occidental Petroleum Corporation, Los Angeles, Calif. Filed May 2, 1967.

OXYTROL

For Supplying a Preserving Atmosphere for Containers for Perishable Products (Int. Cl. 42).
First use on or about Jan. 29, 1966.

SN 282,470. Life Center, Inc., Denver, Colo. Filed Oct. 13, 1967.



The drawing is lined for the color gold. Applicant disclaims any right to exclusive use of the cross other than as a component in the overall design.
For Rendering of Medical and Nursing Home Services (Int. Cl. 42).
First use Aug. 25, 1967.

SN 287,675. Schlumberger Limited, New York, N.Y., assignee of Schlumberger Technology Corporation, Houston, Tex. Filed Dec. 27, 1967.

MICROLOG

For Well Logging Services, Particularly Measuring and Providing Logs of Characteristic Properties of Earth Formations Surrounding Well Bores (Int. Cl. 42).
First use April 1949.

SN 287,676. Schlumberger Limited, New York, N.Y., assignee of Schlumberger Technology Corporation, Houston, Tex. Filed Dec. 27, 1967.

LATEROLOG

For Well Logging Services, Particularly Measuring and Providing Logs of Characteristic Properties of Earth Formations Surrounding Well Bores (Int. Cl. 42).
First use December 1949.

SN 287,677. Schlumberger Limited, New York, N.Y., assignee of Schlumberger Technology Corporation, Houston, Tex. Filed Dec. 27, 1967.

MICROLATEROLOG

For Well Logging Services, Particularly Measuring and Providing Logs of Characteristic Properties of Earth Formations Surrounding Well Bores (Int. Cl. 42).
First use November 1951.

SN 287,679. Schlumberger Limited, New York, N.Y., assignee of Schlumberger Technology Corporation, Houston, Tex. Filed Dec. 27, 1967.

SNP

For Well Logging Services, Particularly Measuring and Providing Logs of Characteristic Properties of Earth Formations Surrounding Well Bores (Int. Cl. 42).
First use June 1965.

SN 290,012. The Plaza Inn Company, Kansas City, Mo. Filed Jan. 31, 1968.

PLAZA INN

The word "Inn" is disclaimed apart from the mark as shown.
For Motel and Hotel Services (Int. Cl. 42).
First use on or about June 16, 1967.

SN 290,062. American Motor Inns, Inc., Roanoke, Va. Filed Feb. 1, 1968.



The word "Restaurants" is disclaimed apart from the mark as shown. The mark of the applicant consists of the name of a novel and the principal character in said novel by Herman Melville, the Nineteenth Century novelist.
For Restaurant and Cocktail Lounge Services (Int. Cl. 42).
First use Mar. 1, 1966.

SN 295,486. E. R. Moore Company, Niles, Ill. Filed Apr. 12, 1968.



Owner of Reg. No. 690,934.
For Rental of Academic, Choral and Sacramental Apparel (Int. Cl. 42).
First use on or about January 1959.

Class 101 — Advertising and Business

SN 256,565. Wm. J. Keller, Inc., Buffalo, N.Y. Filed Oct. 17, 1966.

LITHO-TRONIC

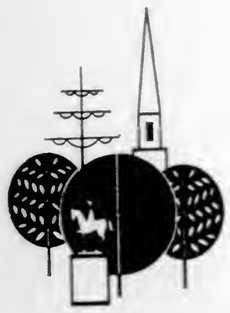
For Printing Service (Int. Cl. 35).
First use on or about Oct. 10, 1966.

SN 261,227. Petty Geophysical Engineering Company, San Antonio, Tex. Filed Dec. 21, 1966.

APE

For Seismographic Data Processing Services for Others (Int. Cl. 35).
First use July 1966.

SN 285,842. Jordan Marsh Company, Boston, Mass. Filed Nov. 29, 1967.



For Retail Department Store Services (Int. Cl. 35).
First use May 20, 1967.

SN 286,379. Edison Brothers Stores, Inc., St. Louis. Filed Apr. 24, 1968.

JOAN BARI

The name "Joan Bari" is fictitious. Owner of Reg. Nos. 745,821 and 768,330.
For Retail Store and Mail Order Service in the Field of Handbags, Jewelry, Hosiery and Other Ladies' Accessories (Int. Cl. 35).
First use at least as early as Aug. 14, 1958.

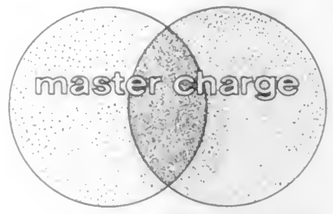
Class 102 — Insurance and Financial

SN 260,399. Bache & Co. Incorporated, New York, N.Y. Filed Dec. 9, 1966.



The numerical designation "1879" is disclaimed apart from the mark as shown.
For Broker-Dealer Services in Securities and Commodities (Int. Cl. 36).
First use July 1, 1962.

SN 262,020. California Bankcard Association, San Francisco, Calif. Filed Jan. 6, 1967.



For Operation of System Involving the Extension of Credit by Subscribing Banks to Customers of those Banks who Purchase at Subscribing Establishments, Performance of a Clearing House Operation, Providing to the Subscribing Estabments and Banks Credit Information Concerning the Customers of These Banks, and Advertising Services Relative Thereto (Int. Cl. 36).
First use Dec. 27, 1966.

SN 272,704. Continental Illinois National Bank and Trust Company of Chicago, d.b.a. Continental Bank, Chicago, Ill. Filed May 31, 1967.

FULL-SCOPE SAVINGS

Applicant disclaims any rights in the word "Savings" apart from the mark as shown.
For Savings Account Services (Int. Cl. 36).
First use Nov. 28, 1966.

SN 272,705. Continental Illinois National Bank and Trust Company of Chicago, d.b.a. Continental Bank, Chicago, Ill. Filed May 31, 1967.



For Savings Account Services (Int. Cl. 36).
First use Nov. 28, 1966.

SN 272,706. Continental Illinois National Bank and Trust Company of Chicago, d.b.a. Continental Bank, Chicago, Ill. Filed May 31, 1967.

BILL-PLAN SAVINGS

Applicant disclaims any rights in the word "Savings" apart from the mark as shown.
For Savings Account Services (Int. Cl. 36).
First use Nov. 28, 1966.

SN 272,707. Continental Illinois National Bank and Trust Company of Chicago, d.b.a. Continental Bank, Chicago, Ill. Filed May 31, 1967.



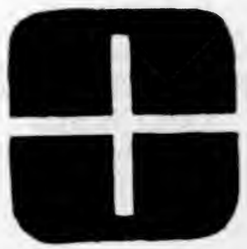
For Savings Account Services (Int. Cl. 36).
First use Nov. 28, 1966.

SN 278,229. Midwest Mutual Insurance Company, Des Moines, Iowa. Filed Aug. 14, 1967.



Applicant disclaims the word "Policy" apart from the mark.
For Underwriting of Insurance for Owners of Motorcycles and Scooters (Int. Cl. 36).
First use 1964.

SN 279,212. The Onondaga County Savings Bank, d.b.a. Onondaga Savings Bank, Syracuse, N.Y. Filed Aug. 28, 1967.



The drawing comprises a fanciful representation of the letter "O."
For Banking Services (Int. Cl. 36).
First use June 11, 1967.

Class 103 — Construction and Repair

SN 273,698. Maxie Lee Sturkie, d.b.a. Color Care Television, West Columbia, S.C. Filed June 12, 1967.



The drawing is not lined for color. No registration rights are claimed for the words "Television" and "A Mark of Better Service" apart from the mark shown in the drawing, but the applicant waives none of its common law rights in the mark shown in the drawing or any feature thereof.
For Servicing of Color Television Sets (Int. Cl 37).
First use Feb. 15, 1966.

SN 275,071. Mutual Sales Associates, Inc., West Springfield, Mass. Filed June 29, 1967.



For Services Rendered in the Field of Home Modernizing (Int. Cl. 37).
First use Sept. 9, 1963.

SN 283,085. Robert Bailey & Associates, Inc., Des Plaines, Ill. Filed Oct. 23, 1967.



For Installing Car Wash Installations for Others; Operating Car Wash Installations (Int. Cl. 37).
First use Oct. 15, 1967.

SN 293,839. Milex, Inc., Philadelphia, Pa. Filed Mar. 21, 1968.

MILEX

For Automobile Repair (Int. Cl. 37).
First use on or about Sept. 5, 1967.

Class 104 — Communication

SN 264,687. Seismograph Service Corporation, Tulsa, Okla., assignee of Seismograph Service Corporation, Tulsa, Okla. Filed Feb. 14, 1967.

LORAC

For Radio Location Services for Use in Oceanography, Missile Launching Systems, Missile Tracking and Recovery, Submarine Cable Laying; Electronic Distance Measuring Services for Such Applications as First Order Trilateration, Marine Geophysical Exploration, Air Borne Geophysical Exploration, Off-Shore Drilling, Transportation and Production; and Communications Services as Related to the Radio Location and Electronic Distance Measuring Services Including the use of transmitters, receivers, tracking course plotters, data recording systems, antennas, power supplies (Int. Cl. 38).
First use Dec. 9, 1949.

Class 107 — Education and Entertainment

SN 248,122. Daytona Beach Electrical Joint Apprenticeship and Training Committee, Daytona Beach, Fla. Filed June 15, 1966.



For Educating and Training Apprentice and Journeymen Electricians (Int. Cl. 41).
First use July 1, 1961.

SN 274,979. Medallions, Inc., Greenwood, S.C. Filed Aug. 24, 1967.

PIECES OF EIGHT

For Entertainment Services Rendered by a Musical Group of Instrumentalists and Singers (Int. Cl. 41).
First use Jan. 31, 1967.

SN 286,889. All American Karate Federation, Inc., Los Angeles, Calif. Filed Dec. 14, 1967.



The drawing is lined for the color red.
For Providing Instruction in Karate and Conducting Karate Contests (Int. Cl. 41).
First use July 1961.

SN 294,743. Miss Tennessee Pageant, Inc., Jackson, Tenn. Filed Apr. 2, 1968.

MISS TENNESSEE

No claim is made to the word "Tennessee" apart from the mark as shown without waiving any common law rights therein.
For Entertainment Services Rendered Through the Media of Beauty Pageants (Int. Cl. 41).
First use Aug. 12, 1953.

SN 300,210. Miss District of Columbia, Inc., Washington, D.C., Washington, D.C. Filed June 11, 1968.

MISS DISTRICT OF COLUMBIA

For Entertainment Services—Namely, Staging and Conducting Beauty Pageants (Int. Cl. 41).
First use June 1959.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 280,490. United Grocers, Ltd., Richmond, Calif. Filed Sept. 15, 1967.

UNITED GROCERS

Owner of Reg. Nos. 706,728, 853,771, and others.
For Indicating Membership in Applicant.
First use about 1910.

SN 280,491. United Grocers, Ltd., Richmond, Calif. Filed Sept. 15, 1967.



Owner of Reg. Nos. 706,728, 853,771, and others.
For Indicating Membership in Applicant.
First use about February 1966.

SN 281,811. Underground Contractors Association, Chicago, Ill. Filed Oct. 4, 1967.

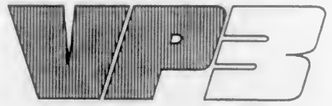


Applicant disclaims "Underground Contractors Association" and "Chicago, Ill."
For Indicating Membership in Applicant.
First use June 29, 1964.

CERTIFICATION MARKS

Class A — Goods

SN 283,107. DHJ Industries Inc., New York, N.Y. Filed Oct. 23, 1967.



The drawing is lined for the color red. The mark certifies that the goods to which the mark is affixed have been manufactured in accordance with a special permanent press process which is controlled exclusively by the applicant and which imparts to such goods a pre-determined shape and a permanent press quality which causes the goods to become and remain crease retentive and wrinkle resistant.
For Trousers, Slacks, Dresses, Suits, Brassieres, Shirts, Underwear, Uniforms, Uniform Coats, Aprons, Household and Industrial Aprons, Hospital Gowns and Aprons, Waiters' Jackets, Household, Restaurant and Hospital Linens, Bed Sheets, Pillow Cases, Tablecloths, Napkins, Curtains, Draperies and All Types of Similar Goods and Wearing Apparel Which Are Manufactured and Produced From Natural and/or Synthetic Woven, Non-Woven and Knit Fabrics and Textiles.
First use Mar. 1, 1966.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

859,144. STAN BEE AND DESIGN. Stanbee Company, Inc. MULTIPLE CLASS (Classes 1 and 6). SN 253,917. Pub. 8–13–68. Filed 9–6–66.

859,145. PICOVEX. Vacuum Concrete (Overseas) Co. Anstalt. SN 265,573. Pub. 8–13–68. Filed 2–27–67.

859,146. STA-SET. Plantabbs Corporation. SN 269,561. Pub. 8–13–68. Filed 4–19–67.

859,147. OXY AND DESIGN. Occidental Petroleum Corporation. SN 270,502. Pub. 8–13–68. Filed 5–2–67.

859,148. MB AND DESIGN. Raybestos-Manhattan, Inc. SN 279,330. Pub. 8–13–68. Filed 8–29–67.

859,149. FRONTERA. Tenneco Chemicals, Inc., assignee of Tenneco Advanced Materials Inc. SN 293,005. Pub. 8–13–68. Filed 3–12–68.

859,150. STARCAST. Vilar Products. SN 297,015. Pub. 8–13–68. Filed 5–1–68.

Class 2 — Receptacles

859,151. RENDEZVOUS. David Jaffe. SN 282,701. Pub. 8–13–68. Filed 10–17–67.

859,152. "GEM PACK." Gibson Greeting Cards, Inc. SN 283,337. Pub. 8–13–68. Filed 10–25–67.

859,153. J-PAK. Augustus Mierson, d.b.a. Jason Products Co. SN 290,741. Pub. 8–13–68. Filed 2–9–68.

859,154. POLAR-PAK. R-W Industries, Inc. SN 294,657. Pub. 8–13–68. Filed 4–1–68.

859,155. BP AND DESIGN. Burhop Paper Company. SN 295,508. Pub. 8–13–68. Filed 4–12–68.

859,156. LIT'R-CHUTE AND DESIGN. The F. H. Lawson Company. SN 295,653. Pub. 8–13–68. Filed 4–15–68.

859,157. AUTO-TRAY. Wagner Folding Box Corp. SN 296,371. Pub. 8–13–68. Filed 4–16–68.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

859,158. SARNE. Sarné Company, Inc. SN 288,542. Pub. 8–13–68. Filed 1–10–68.

Class 5 — Adhesives

859,159. PANFIX. Nichiban Co., Ltd. SN 283,692. Pub. 8–13–68. Filed 10–30–67.

859,160. PLAID DESIGN. Minnesota Mining and Manufacturing Company. SN 285,703. Pub. 8–13–68. Filed 11–28–67.

859,161. GENBOND. General Mills, Inc. SN 297,251. Pub. 8–13–68. Filed 5–3–68.

859,162. G-MELT. General Mills, Inc. SN 297,258. Pub. 8–13–68. Filed 5–3–68.

Class 6 — Chemicals and Chemical Compositions

859,164. (See Class 1 for this trademark.)

859,163. OXY. Occidental Petroleum Corporation. SN 270,507. Pub. 8–13–68. Filed 5–2–67.

859,164. RES-Q. Res-Q Automotive Products, Inc. SN 271,516. Pub. 8–13–68. Filed 5–15–67.

859,165. PHOUNTENAL. Direct Image Corporation. SN 274,592. Pub. 8–13–68. Filed 6–23–67.

859,166. MISCELLANEOUS DESIGN. Bernard Klein, Inc., d.b.a. Crown Paper Co. MULTIPLE CLASS (Classes 6 and 37). SN 275,010. Pub. 6–25–68. Filed 6–29–67.

859,167. AERO SAFE AND DESIGN. Stauffer Chemical Company. SN 277,749. Pub. 8–13–68. Filed 8–7–67.

859,168. NYLASPIN. Ciba Limited. SN 278,341. Pub. 6–4–68. Filed 8–11–67.

859,169. SILOCK. Calgon Corporation (Delaware corporation), assignee of Calgon Corporation (Pennsylvania corporation). SN 279,713. Pub. 8–13–68. Filed 9–6–67.

859,170. PERFORM. Madison Chemical Corporation. SN 280,440. Pub. 8–13–68. Filed 9–15–67.

859,171. HOSE MAGIC. Ralph W. Speer, d.b.a. Elite Products Co. SN 281,500. Pub. 8–13–68. Filed 9–29–67.

859,172. HYCAT. United Aircraft Corporation. SN 284,520. Pub. 8–13–68. Filed 11–9–67.

859,173. IMC AND DESIGN. International Minerals & Chemical Corporation. SN 286,882. Pub. 8–13–68. Filed 12–14–67.

859,174. BUG HAWK. Geigy Chemical Corporation. SN 287,539. Pub. 8–13–68. Filed 12–26–67.

859,175. I-WAY. W. E. Lahr Co. MULTIPLE CLASS (Classes 6 and 15). SN 289,444. Pub. 8–13–68. Filed 1–24–68.

Class 8 — Smokers' Articles, Not Including Tobacco Products

859,176. STASH TRAY. Plastics, Inc. SN 281,719. Pub. 8–13–68. Filed 10–3–67.

859,177. PIPE BY LEE AND DESIGN. Arlington Briar Pipe Corp. SN 292,753. Pub. 8–13–68. Filed 3–8–68.

Class 10 — Fertilizers

859,178. SM3. Chase Organics (Great Britain) Limited. SN 280,764. Pub. 8–13–68. Filed 9–20–67.

859,179. DECO-MULCH. Lowe's, Inc. SN 283,907. Pub. 8–13–68. Filed 11–1–67.

Class 12 — Construction Materials

859,180. GIBSON GIRL. Robins Industries Corp. MULTIPLE CLASS (Classes 12 and 21). SN 183,991. Pub. 10–26–65. Filed 1–3–64.

859,181. CANYON CREEK. The City Lumber Company of Bridgeport, Inc. SN 249,949. Pub. 5–14–68. Filed 7–11–66.

859,182. ACRYL-R. Schnee-Morehead Chemicals, Inc. SN 271,389. Pub. 8–13–68. Filed 5–12–67.

859,183. MISCELLANEOUS DESIGN. Medusa Portland Cement Company. SN 275,154. Pub. 8–13–68. Filed 6–30–67.

859,184. PYRO-NON X. Niedermeyer-Martin Company. SN 278,150. Pub. 8–13–68. Filed 8–14–67.

859,185. UNARCOBOARD. Unarco Industries, Inc. SN 281,504. Pub. 8–13–68. Filed 9–29–67.

859,186. THE NUMBER ONE AND DESIGN. Hendon Construction Company. SN 283,659. Pub. 8–13–68. Filed 10–30–67.

859,187. SPACE DECK. Hendon Construction Company. SN 283,663. Pub. 8–13–68. Filed 10–30–67.

859,188. PERMAGROUT. Permagile Corporation of America. SN 280,773. Pub. 8–13–68. Filed 12–12–67.

859,189. INTER-LAP. Glaros Products, Inc. SN 294,041. Pub. 8–13–68. Filed 3–25–68.

859,190. BLUE STAR. J & A Products, Inc. SN 294,037. Pub. 8–13–68. Filed 4–4–68.

859,191. KYNAC. General Refractories Company. SN 296,018. Pub. 8–13–68. Filed 4–30–68.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

859,192. SAFE T FLOOR AND DESIGN. Poly Products Inc. SN 264,340. Pub. 8–13–68. Filed 2–9–67.

859,193. MISCELLANEOUS DESIGN. Mid-States Steel and Wire Company. MULTIPLE CLASS (Classes 13 and 14). SN 267,053. Pub. 8–13–68. Filed 3–17–67.

859,194. NIMI-FONDUE. David Kamenstein Inc. SN 271,808. Pub. 8–13–68. Filed 5–18–67.

859,195. DURAPLATE. Michigan Bolt & Nut Co., Inc. SN 278,516. Pub. 8–13–68. Filed 8–17–67.

859,196. CIRCLED T DESIGN. Tubex Corporation. SN 278,620. Pub. 8–13–68. Filed 8–18–67.

859,197. SERVA-TAIL. The Fanner Manufacturing Company, Division of Textron Inc. SN 280,405. Pub. 8–13–68. Filed 8–15–67.

859,198. SERV-A-SET. American Cyanamid Company. SN 283,081. Pub. 8–13–68. Filed 10–23–67.

859,199. SLIP-ON. Empire Slip-On Hook Co., Inc. SN 290,221. Pub. 8–13–68. Filed 2–5–68.

859,200. DENISTON. Deniston Company. SN 293,077. Pub. 8–13–68. Filed 3–13–68.

859,201. NOMAR. Gardco Industries, Inc. SN 294,351. Pub. 8–13–68. Filed 3–28–68.

859,202. LADY MARIAN. Premium Corporation of America, Inc. SN 295,170. Pub. 8–13–68. Filed 4–8–68.

Class 14 — Metals and Metal Castings and Forgings

859,193. (See Class 13 for this trademark.)

859,203. PALCUSIL. Western Gold and Platinum Company. SN 290,919. Pub. 8–13–68. Filed 2–12–68.

859,204. INCUNIRO. Western Gold and Platinum Company. SN 290,920. Pub. 8–13–68. Filed 2–12–68.

859,205. NICUSIL. Western Gold and Platinum Company. SN 290,921. Pub. 8–13–68. Filed 2–12–68.

859,206. PALNIRO. Western Gold and Platinum Company. SN 290,922. Pub. 8–13–68. Filed 2–12–68.

Class 15 — Oils and Greases

859,175. (See Class 6 for this trademark.)

859,207. MOL-E-GARD. Ellis Chemicals & Lubricants, Inc. SN 274,055. Pub. 8–13–68. Filed 6–16–67.

Class 16 — Protective and Decorative Coatings

859,208. NEOTHANE. The Goodyear Tire & Rubber Company. SN 276,124. Pub. 8–13–68. Filed 7–17–67.

859,209. MISCELLANEOUS DESIGN. Earl Scheib, Inc. SN 283,462. Pub. 8–13–68. Filed 10–26–67.

859,210. STA-PUT. Western Chemical Company. SN 283,833. Pub. 8–13–68. Filed 10–31–67.

859,211. LAC-THANE. Eastern Lacquer Corp. SN 292,532. Pub. 8–13–68. Filed 3–6–68.

Class 18 — Medicines and Pharmaceutical Preparations

859,212. ESIKAL. Ciba Corporation. SN 273,037. Pub. 4–16–68. Filed 6–5–67.

859,213. GLUTANOR. The Purdue Frederick Company. SN 274,893. Pub. 8–13–68. Filed 6–27–67.

859,214. CORDRAFORM. Eli Lilly and Company. SN 277,188. Pub. 8–13–68. Filed 7–31–67.

859,215. TARE-PAK. Ortho Pharmaceutical Corporation. SN 277,292. Pub. 8–13–68. Filed 8–1–67.

859,216. ORMENTIN. Carter-Wallace, Inc. SN 277,537. Pub. 6–18–68. Filed 8–4–67.

859,217. ORMENTOL. Carter-Wallace, Inc. SN 277,539. Pub. 6–18–68. Filed 8–4–67.

859,218. MAXCAPS. Bristol-Myers Company. SN 278,372. Pub. 6–18–68. Filed 8–16–67.

859,219. RESOLVE. Bristol-Myers Company. SN 282,263. Pub. 8–13–68. Filed 10–11–67.

Class 19 — Vehicles

859,220. GENUINE WHITE CAP AND DESIGN. White Cap Top Co. SN 249,371. Pub. 8–13–68. Filed 6–30–66.

859,221. BIMATIC. Shimano Kogyo Kabushiki Kaisha. SN 271,076. Pub. 8–13–68. Filed 5–9–67.

859,222. BANTAM-60. Universal Oil Products Company. SN 289,138. Pub. 8–13–68. Filed 1–18–68.

859,223. I-WAY. W. E. Lahr Co. SN 289,445. Pub. 8–13–68. Filed 1–24–68.

859,224. POLY ARMOR. Koneta Rubber Company, Inc. SN 289,698. Pub. 8–13–68. Filed 1–26–68.

Class 20 — Linoleum and Oiled Cloth

859,225. TRU-VINYL. Reverso Products, Inc. SN 252,753. Pub. 11–7–67. Filed 8–19–66.

Class 21 — Electrical Apparatus, Machines, and Supplies

859,180. (See Class 12 for this trademark.)

859,226. FLEXSTRIP. Digital Sensors Inc. SN 239,242. Pub. 2–7–67. Filed 2–21–66.

859,227. TIGER AND DESIGN. James Betesh Import Co. SN 242,421. Pub. 5–30–67. Filed 4–1–66.

859,228. FILPAX. Hill-Shaw Company. SN 258,114. Pub. 8–13–68. Filed 11–7–66.

859,229. MILLER. The Miller Company. SN 266,673. Pub. 8–13–68. Filed 3–14–67.

859,230. SUNN AND DESIGN. Sunn Musical Equipment Company. SN 268,240. Pub. 8–13–68. Filed 4–3–67.

859,231. SCULPTURED CARDURA. The Magnavox Company. MULTIPLE CLASS (Classes 21 and 36). SN 269,817. Pub. 8–13–68. Filed 4–24–67.

859,232. GARRETT AND DESIGN. The Garrett Corporation. SN 270,122. Pub. 8–13–68. Filed 4–27–67.

S59,233. NORTHERN. Northern Electric Company. MULTIPLE CLASS (Classes 21, 29, 34, 39, 42, and 44). SN 272,536. Pub. 8-13-68. Filed 5-29-67.

S59,234. TIGER POWER AND DESIGN. ESB Incorporated. SN 275,816. Pub. 4-9-68. Filed 7-12-67.

S59,235. KORV-AIR. Spartans Industries, Inc. SN 277,226. Pub. 5-14-68. Filed 7-31-67.

S59,236. VELVET GLIDE. Chamberlain Manufacturing Corporation, assignee of Perma-Power Company. SN 278,124. Pub. 8-13-68. Filed 8-11-67.

S59,237. STROBODELIC. Chadwick-Helmuth Co., Inc. SN 280,554. Pub. 8-13-68. Filed 9-18-67.

S59,238. KLONDIKE. Carol Wire & Cable Corp. SN 280,738. Pub. 8-13-68. Filed 9-19-67.

S59,239. MIKESWICH. Frank W. Murphy Manufacturer, Inc. SN 281,383. Pub. 8-13-68. Filed 9-28-67.

S59,240. VISIMAX. Sigma Instruments, Inc., assignee of International Instruments, Incorporated. SN 282,089. Pub. 7-2-68. Filed 10-9-67.

S59,241. THIS ANTIQUE WAS MADE IN 1967. The Ruby Lighting Corporation. SN 283,576. Pub. 8-13-68. Filed 10-27-67.

S59,242. ECS (DESIGN). Electro Connective Systems, Inc. SN 284,082. Pub. 8-13-68. Filed 11-3-67.

S59,243. ANGEL WING. Angel Wing Inc. SN 284,341. Pub. 8-13-68. Filed 11-8-67.

S59,244. I-WAY. W. E. Lahr Co. SN 289,446. Pub. 8-13-68. Filed 1-24-68.

S59,245. CHEVRON DESIGN. Standard Oil Company of California. SN 290,546. Pub. 8-13-68. Filed 2-7-68.

S59,246. MAGVAR. General Electric Company. SN 290,843. Pub. 8-13-68. Filed 2-12-68.

S59,247. OSTER. John Oster Manufacturing Co. SN 297,833. Pub. 8-13-68. Filed 5-10-68.

Class 22 — Games, Toys, and Sporting Goods

S59,248. WOW. Torrence W. Aldred, d.b.a. T. & G. Industries. SN 272,145. Pub. 8-13-68. Filed 5-23-67.

S59,249. PLAY-ART. Duncan Tong, d.b.a. Reliance Trading Corporation. SN 284,408. Pub. 8-13-68. Filed 11-8-67.

S59,250. EARLY AMERICAN. Milton Bradley Company SN 290,398. Pub. 8-13-68. Filed 2-6-68.

S59,251. UNTHINKABLE DRINKABLES. Mattel, Inc. SN 297,337. Pub. 8-13-68. Filed 5-6-68.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

S59,252. SLO-SYN. The Superior Electric Company. SN 245,994. Pub. 8-13-68. Filed 5-18-66.

S59,253. A ALMO AND DESIGN. Almo Laboratories Co. Inc. SN 249,294. Pub. 8-13-68. Filed 6-30-66.

S59,254. FIXMOBILE. Fixmobile, Inc. MULTIPLE CLASS (Classes 23, 100 and 103). SN 254,210. Pub. 8-13-68. Filed 9-12-66.

S59,255. SUPER ELECTROLIFT. Meyer Products, Inc. SN 268,885. Pub. 8-13-68. Filed 4-11-67.

S59,256. LODDING GREENCOAT. Lodding Engineering Corporation. SN 278,507. Pub. 8-13-68. Filed 8-17-67.

S59,257. MAGNATROL. General Time Corporation. SN 278,795. Pub. 6-4-68. Filed 8-22-67.

S59,258. MULTI-TURI. Claude B. Schneible Co. SN 280,465. Pub. 8-13-68. Filed 9-15-67.

S59,259. MACO. Fansteel Inc., by change of name from Fansteel Metallurgical Corporation. SN 281,053. Pub. 6-25-68. Filed 9-25-67.

S59,260. MILL-ALL. Fansteel Inc., by change of name from Fansteel Metallurgical Corporation. SN 281,054. Pub. 6-25-68. Filed 9-25-67.

S59,261. BUTTERFIELD. UTD Corporation. SN 281,530. Pub. 8-13-68. Filed 10-2-67.

S59,262. PANASONIC. Matsushita Electric Industrial Co., Ltd. SN 284,491. Pub. 8-13-68. Filed 11-9-67.

S59,263. ROTO-CAM. Formsprag Company. SN 285,223. Pub. 8-13-68. Filed 11-20-67.

S59,264. DISC - O - TORQUE. Formsprag Company. SN 285,224. Pub. 8-13-68. Filed 11-20-67.

Class 24 — Laundry Appliances and Machines

S59,265. KORV-AIR. Spartans Industries, Inc. SN 277,225. Pub. 5-14-68. Filed 7-31-67.

Class 25 — Locks and Safes

S59,266. RATNERMATIC. Ratner Safe Company Limited. SN 246,944. Pub. 8-13-68. Filed 5-31-66.

Class 26 — Measuring and Scientific Appliances

S59,267. SIMPLEX. Daniel Industries, Inc., assignee of Daniel Orifice Fitting Company. SN 240,074. Pub. 4-23-68. Filed 3-3-66.

S59,268. EDIT CONTROL. Intercontinental Systems, Inc., assignee, by mesne assignment, of Dura Corporation. SN 244,891. Pub. 8-13-68. Filed 5-4-66.

S59,269. G-ED AND DESIGN. Geo-Engineering Development Company. SN 251,620. Pub. 8-13-68. Filed 8-3-66.

S59,270. METRITAPE. Metritape Controls, Inc. SN 259,661. Pub. 8-13-68. Filed 11-29-66.

S59,271. TEL-A-RING VISUAL MONITOR. Steven R. Donay, d.b.a. Steven Donay Company. SN 277,637. Pub. 8-13-68. Filed 8-7-67.

S59,272. FASTRAK. General Radio Company. SN 278,684. Pub. 8-13-68. Filed 8-21-67.

S59,273. MENUETTE. John H. Rottman, d.b.a. Menuette Co. SN 280,014. Pub. 8-13-68. Filed 9-22-67.

S59,274. ARAGON. B.W.I. Imports, Ltd. SN 284,794. Pub. 8-13-68. Filed 11-14-67.

S59,275. INVINCIBLE. Zylo Ware Corporation. SN 284,958. Pub. 8-13-68. Filed 11-15-67.

S59,276. FLUIDOT. Honeywell Inc. SN 286,934. Pub. 8-13-68. Filed 12-14-67.

S59,277. GLAS-FIT. A. R. Cochran, d.b.a. Glas-Fit Co. SN 288,089. Pub. 8-13-68. Filed 1-4-68.

S59,278. COINFAX. Olivetti Underwood Corporation. SN 289,329. Pub. 8-13-68. Filed 1-22-68.

S59,279. LOGO (DESIGN). Bohn Benton Inc. SN 294,227. Pub. 8-13-68. Filed 3-27-68.

Class 28 — Jewelry and Precious-Metal Ware

S59,280. TANGIER. Oneida Ltd. SN 287,573. Pub. 8-13-68. Filed 12-26-67.

S59,281. ROPE TRICK. Marvella, Inc. SN 297,012. Pub. 8-13-68. Filed 5-1-68.

Class 29 — Brooms, Brushes, and Dusters

S59,233. (See Class 21 for this trademark.)

S59,282. MIRACLE-WIKS AND DESIGN. Milton Arnold Zelinkoff, d.b.a. The House of Zelinkoff and The Zelinkoff Company. SN 272,538. Pub. 8-13-68. Filed 5-29-67.

S59,283. ALLPRO. Allpro Corporation. SN 292,248. Pub. 8-13-68. Filed 3-1-68.

Class 31 — Filters and Refrigerators

S59,284. KLEENFLO. North American Rockwell Corporation, by merger and change of name from Rockwell-Standard Corporation. SN 269,007. Pub. 8-13-68. Filed 4-13-67.

S59,285. GREASTOP. North American Rockwell Corporation, by merger and change of name from Rockwell-Standard Corporation. SN 269,008. Pub. 8-13-68. Filed 4-13-67.

S59,286. ALTWINATOR. Bruner Corporation. SN 280,387. Pub. 8-13-68. Filed 9-15-67.

S59,287. PANASONIC. Matsushita Electric Industrial Co., Ltd. SN 284,492. Pub. 8-13-68. Filed 11-9-67.

Class 32 — Furniture and Upholstery

S59,288. BATHROOM PROOF. Formco, Inc. SN 280,865. Pub. 8-13-68. Filed 9-21-67.

S59,289. STANCRAFT. Stanley Manufacturing Company. SN 285,770. Pub. 8-13-68. Filed 11-28-67.

S59,290. LADY MARIAN. Premium Corporation of America, Inc. SN 295,168. Pub. 8-13-68. Filed 4-8-68.

S59,291. HI-DRUM. Jarke Corporation. SN 297,505. Pub. 8-13-68. Filed 5-7-68.

Class 33 — Glassware

S59,292. MINTON. Mintons Limited. SN 270,259. Pub. 8-13-68. Filed 4-28-67.

S59,293. VACULE. Wheaton Glass Company. SN 283,481. Pub. 8-13-68. Filed 10-26-67.

S59,294. CRYULE. Wheaton Glass Company. SN 283,482. Pub. 8-13-68. Filed 10-26-67.

S59,295. DRYULE. Wheaton Glass Company. SN 283,483. Pub. 8-13-68. Filed 10-26-67.

Class 34 — Heating, Lighting, and Ventilating Apparatus

S59,233. (See Class 21 for this trademark.)

S59,296. EVEREADY AND DESIGN. Eveready Burner Supply Corp. SN 265,293. Pub. 8-13-68. Filed 2-23-67.

S59,297. TRUMP SPECIAL. Keating of Chicago, Inc. SN 267,047. Pub. 8-13-68. Filed 3-17-67.

S59,298. BRIS-QUILT. Bristol Metal Products, Inc. SN 273,738. Pub. 8-13-68. Filed 6-13-67.

S59,299. HEARTH BRITE. Trageser Copper Works, Inc. SN 280,733. Pub. 8-13-68. Filed 9-19-67.

S59,300. EBCOR AND DESIGN. Electric Boiler Corporation of America. SN 283,786. Pub. 8-13-68. Filed 10-31-67.

S59,301. VIKO. Viking Superior Corp. SN 285,276. Pub. 8-13-68. Filed 11-20-67.

S59,302. HI-COR. Alpha Metals, Inc. SN 286,984. Pub. 8-13-68. Filed 12-15-67.

S59,303. HEATRAN AND DESIGN. The Belmas Company, Inc. SN 289,149. Pub. 8-13-68. Filed 1-19-68.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

S59,304. NEOLANGITE. Cork Manufacturing Company Limited. SN 280,859. Pub. 8-13-68. Filed 9-21-67.

S59,305. CHESTERTON PACKING SERVICE AND DESIGN. A. W. Chesterton Company. SN 282,360. Pub. 8-13-68. Filed 10-12-67.

S59,306. INFLATE-O-MATIC AND DESIGN. Fedtro, Inc. SN 283,792. Pub. 8-13-68. Filed 10-31-67.

S59,307. JET-RADAN. The General Tire & Rubber Company. SN 284,904. Pub. 8-13-68. Filed 11-15-67.

S59,308. REGENCY 30. The Firestone Tire & Rubber Company. SN 286,760. Pub. 8-13-68. Filed 12-12-67.

S59,309. CAVALLINO. The Firestone Tire & Rubber Company. SN 286,814. Pub. 8-13-68. Filed 12-13-67.

Class 36 — Musical Instruments and Supplies

S59,231. (See Class 21 for this trademark.)

S59,310. KRAKAUER. Krakauer Bros. SN 279,304. Pub. 8-13-68. Filed 8-29-67.

S59,311. KRAKAUER BROS. Krakauer Bros. SN 279,305. Pub. 8-13-68. Filed 8-29-67.

S59,312. TRX. Hickory Records, Inc. SN 282,087. Pub. 8-13-68. Filed 10-9-67.

S59,313. CINEMA. Horizon Records Corporation. SN 282,367. Pub. 8-13-68. Filed 10-12-67.

S59,314. PANASONIC. Matsushita Electric Industrial Co., Ltd. SN 284,490. Pub. 8-13-68. Filed 11-9-67.

S59,315. MAIL CALL. SCM Corporation. SN 285,066. Pub. 8-13-68. Filed 11-16-67.

S59,316. APPLE AND DESIGN. Apple Corps, Inc. SN 297,827. Pub. 8-13-68. Filed 5-10-68.

S59,317. A AND DESIGN. Apple Corps, Inc. SN 298,171. Pub. 8-13-68. Filed 5-15-68.

Class 37 — Paper and Stationery

S59,166. (See Class 6 for this trademark.)

S59,318. TOY-R-RIFIC AND DESIGN. Children's Bargain Town U.S.A., Inc. SN 275,918. Pub. 8-13-68. Filed 7-13-67.

S59,319. DISA-PEN. Disa-Pen Inc. SN 282,551. Pub. 6-18-68. Filed 10-16-67.

S59,320. ST LOUIS PSL AND DESIGN. La Société Anonyme: Papeteries de Saint-Louis S.A. SN 284,336. Pub. 8-13-68. Filed 11-8-67.

S59,321. SLANTEE AND DESIGN. Bertram Slanhoff, d.b.a. Slanhoff Manufacturing Company. SN 288,874. Pub. 8-13-68. Filed 1-15-68.

S59,322. I AM LOVED AND DESIGN. Helzberg's Diamond Shops, Inc. SN 294,996. Pub. 8-13-68. Filed 4-5-68.

Class 38 — Prints and Publications

S59,323. THE LITERARY DIGEST. Tyndale House Publishers. SN 260,612. Pub. 8-13-68. Filed 12-12-66.

S59,324. VISION. Farrar, Straus and Giroux, Inc. SN 261,478. Pub. 8-13-68. Filed 12-27-66.

S59,325. STARDUST. The C. R. Gibson Company. SN 266,319. Pub. 8-13-68. Filed 3-9-67.

S59,326. TFH. T.F.H. Publications, Inc. SN 266,372. Pub. 8-13-68. Filed 3-9-67.

S59,327. BASILEA. Visual Graphics Corporation. SN 268,822. Pub. 6-25-68. Filed 4-10-67.

S59,328. NBI AND DESIGN. Nathaniel Branden Institute Incorporated. SN 271,121. Pub. 8-13-68. Filed 5-10-67.

S59,329. GREENLINE. Demco, Incorporated. SN 272,027. Pub. 5-28-68. Filed 5-22-67.

S59,330. DEMCO'S GREENLINE. Demco, Incorporated. SN 272,028. Pub. 5-28-68. Filed 5-22-67.

859,331. CHENG CHOU'S WEEKLY PICK AND DESIGN. Victor Lalli Enterprises, Inc. SN 272,192. Pub. 8–13–68. Filed 5–23–67.

859,332. PLAYSTORY. Western Publishing Company, Inc. SN 272,433. Pub. 8–13–68. Filed 5–25–67.

859,333. EAGLE (DESIGN). American Heritage Publishing Co., Inc. SN 273,731. Pub. 8–13–68. Filed 6–13–67.

859,334. AGI AND DESIGN. Associated Graphologists International, Inc. SN 273,935. Pub. 8–13–68. Filed 6–15–67.

859,335. W5. CTV Television Network Ltd. MULTIPLE CLASS (Classes 38 and 107). SN 277,097. Pub. 8–13–68. Filed 7–31–67.

859,336. RUSTOPICS. Ziebart Process Corporation. SN 277,403. Pub. 7–2–68. Filed 8–2–67.

859,337. AMERICAN BANKLETTER. QD Publishing Inc. SN 277,472. Pub. 8–13–68. Filed 8–3–67.

859,338. MNS MISSIONARY NEWS SERVICE. Evangelical Foreign Missions Association. SN 278,289. Pub. 8–13–68. Filed 8–15–67.

859,339. INDICATOR DIGEST. Indicator Digest, Inc. SN 278,997. Pub. 8–13–68. Filed 8–24–67.

859,340. POLICE TIMES. American Federation of Police, Inc. SN 279,036. Pub. 8–13–68. Filed 8–25–67.

859,341. FITNESS FOR LIVING. Rodale Press, Inc. SN 279,097. Pub. 8–13–68. Filed 8–25–67.

859,342. TODAY'S CATHOLIC TEACHER. Geo. A. Pflaum, Publisher, Inc. SN 281,389. Pub. 8–13–68. Filed 9–28–67.

859,343. ELECTRICAL CONSTRUCTION AND MAINTENANCE. McGraw-Hill, Inc. SN 297,262. Pub. 8–13–68. Filed 5–3–68.

Class 39 — Clothing

859,233. (See Class 21 for this trademark.)

859,344. DUBLIFE AND DESIGN. The Curless Corporation. SN 282,132. Pub. 8–13–68. Filed 1–9–67.

859,345. DE CARLO. M. Aron Corporation. SN 268,859. Pub. 8–13–68. Filed 4–11–67.

859,346. CONTES CONFEZIONI AND DESIGN. Cesare Contegiacomo S.p.A. SN 271,767. Pub. 8–13–68. Filed 5–18–67

859,347. BOCAGE. Chaussures du Bocage. SN 272,776. Pub. 6–18–68. Filed 5–9–67.

859,348. INDEUREX. Ramchandra Hassamal Shamdasani. SN 273,798. Pub. 8–13–68. Filed 6–13–67.

859,349. DEB-U-FORM. V. Mayes & Company (Australia) Proprietary Limited. SN 277,191. Pub. 8–13–68. Filed 7–31–67.

859,350. JOYCE CALIFORNIA. Joyce, Inc. SN 277,463. Pub. 8–13–68. Filed 8–3–67.

859,351. NOW! Kayser-Roth Corporation. SN 278,972. Pub. 8–13–68. Filed 8–24–67.

859,352. PUT ON. Marilyn Gesner. SN 281,371. Pub. 8–13–68. Filed 9–28–67.

859,353. DUBLEENS. Crosley Shoe Corporation Limited. SN 282,685. Pub. 8–13–68. Filed 10–17–67.

859,354. LOLLI-LON. Modern Globe, Inc. SN 283,141. Pub. 8–13–68. Filed 10–23–67.

859,355. EAGLE DESIGN. Eagle Clothes, Inc. SN 286,328. Pub. 8–13–68. Filed 12–3–67.

859,356. BURT BARRY. Aleph Manufacturing Corporation. SN 287,115. Pub. 5–21–68. Filed 12–18–67.

859,357. SAUCYS BY JULI. Slumbertogs, Inc. SN 287,383. Pub. 8–13–68. Filed 12–21–67.

859,358. SHARMALON. Wayne-Gossard Corporation. SN 287,946. Pub. 8–13–68. Filed 12–29–67.

859,359. MAJESTIQUES AND DESIGN. J. W. Bray Company, Inc. SN 287,880. Pub. 8–13–68. Filed 1–2–68.

859,360. ZIP-CLEAN. The Manhattan Shirt Company. SN 288,023. Pub. 8–13–68. Filed 1–3–68.

859,361. MAISON-MAI. May Knitting Co., Inc. SN 289,028. Pub. 8–13–68. Filed 1–17–68.

859,362. ALWAYS YOURS. Alpha Mills Corporation. SN 291,017. Pub. 8–13–68. Filed 2–14–68.

859,363. MASTER MADE. The Globe Tailoring Company. SN 292,268. Pub. 8–13–68. Filed 3–1–68.

859,364. CABARET. The United States Shoe Corporation. SN 297,743. Pub. 8–13–68. Filed 5–9–68.

859,365. SATIRE. The United States Shoe Corporation. SN 297,744. Pub. 8–13–68. Filed 5–9–68.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

859,233. (See Class 21 for this trademark.)

859,366. PUCKER-FREE. Cannon Mills Company. SN 267,609. Pub. 8–13–68. Filed 3–27–67.

859,367. ANGLO LANA. Anglo Fabrics Company, Inc. SN 273,733. Pub. 8–13–68. Filed 6–13–67.

859,368. CRAN-DURA. Cranston Print Works Company. SN 273,872. Pub. 7–2–68. Filed 6–14–67.

859,369. ELEGANTE. Cannon Mills Company. SN 282,539. Pub. 8–13–68. Filed 10–16–67.

859,370. MELLO-STAR. DHJ Industries Inc. SN 283,881. Pub. 8–13–68. Filed 11–1–67.

859,371. REPRESENTATION OF A WOMAN. Saul-Pac Corporation. SN 284,322. Pub. 8–13–68. Filed 11–7–67.

859,372. HI-FILTRONIC. J. P. Stevens & Co., Inc. SN 288,883. Pub. 8–13–68. Filed 1–15–68.

859,373. GRIFF-SHRINK. Griffolyn Co., Inc. SN 289,095. Pub. 8–13–68. Filed 1–18–68.

859,374. BLACKSTAFF. Blackstaff Limited. SN 289,164. Pub. 8–13–68. Filed 1–19–68.

859,375. EASY OUT. J. P. Stevens & Co., Inc. SN 289,353. Pub. 8–13–68. Filed 1–22–68.

859,376. PRINCESS LORAINE. Hampton Mills, Inc. SN 289,399. Pub. 8–13–68. Filed 1–23–68.

859,377. PILLOW MAGIC. Rex Lucas, Jr., d.b.a. R & J Enterprises. SN 289,408. Pub. 8–13–68. Filed 1–23–68.

859,378. DURACOMB. Albany Felt Company. SN 289,647. Pub. 8–13–68. Filed 1–26–68.

859,379. ANNIN. Annin & Co. SN 289,652. Pub. 8–13–68. Filed 1–26–68.

859,380. STEVEREST. J. P. Stevens & Co., Inc. SN 289,725. Pub. 8–13–68. Filed 1–26–68.

859,381. MISCELLANEOUS DESIGN. General Felt Industries, Inc. MULTIPLE CLASS (Classes 42 and 50). SN 289,944. Pub. 8–13–68. Filed 1–31–68.

859,382. TRANSEASON. Deering Milliken, Inc. SN 297,004. Pub. 8–13–68. Filed 5–1–68.

859,383. WONDERCORD. David Crystal, Inc. SN 297,501. Pub. 8–13–68. Filed 5–7–68.

Class 43 — Thread and Yarn

859,384. FASHION MODE. Pentapco, Inc., d.b.a. Penn Products Co. SN 279,491. Pub. 8–13–68. Filed 8–30–67.

Class 44 — Dental, Medical, and Surgical Appliances

859,233. (See Class 21 for this trademark.)

859,385. RED DOT. Popper & Sons, Inc. SN 264,235. Pub. 8–13–68. Filed 2–8–67.

859,386. ULTRASON. Black Denterprises, Inc. SN 270,657. Pub. 8–13–68. Filed 5–4–67.

859,387. SNOO'ZEL'AIR HG AND DESIGN. Georgia E. Glintz. SN 279,476. Pub. 8–13–68. Filed 8–31–67.

859,388. AMSCOMATIC. American Sterilizer Company. SN 284,569. Pub. 8–13–68. Filed 11–13–67.

859,389. MEDI-GARD. Medical Plastics Corporation of America. SN 289,559. Pub. 8–13–68. Filed 1–25–68.

859,390. UTIL-CATH. C. R. Bard, Inc. SN 290,153. Pub. 8–13–68. Filed 2–2–68.

859,391. ELECTONE. Electone Hearing Aid Company. SN 290,264. Pub. 8–13–68. Filed 2–5–68.

Class 45 — Soft Drinks and Carbonated Waters

859,392. COLD GOLD. Vita-Pakt Citrus Products Co. MULTIPLE CLASS (Classes 45 and 46). SN 264,699. Pub. 8–13–68. Filed 2–14–67.

859,393. SUN CREST AND SC DESIGN. National Nugrape Company. SN 265,912. Pub. 8–13–68. Filed 3–3–67.

859,394. ROCK 'N ROLL. Edward L. Stockton, Jr., d.b.a. Star Enterprises. SN 270,717. Pub. 3–26–68. Filed 5–4–67.

859,395. DOWN BEAT. Edward L. Stockton, Jr., d.b.a. Star Enterprises. SN 271,541. Pub. 3–26–68. Filed 5–15–67.

859,396. AMIGO. Delaware Punch Company. SN 279,461. Pub. 8–13–68. Filed 8–31–67.

859,397. PUMA. Monsanto Overseas Enterprises Company. SN 287,081. Pub. 8–13–68. Filed 12–18–67.

859,398. OLD KEG. S. Twitchell Co., d.b.a. Old Keg Company. SN 296,082. Pub. 8–13–68. Filed 4–22–68.

859,399. OLD KEG ETC. AND DESIGN. S. Twitchell Co., d.b.a. Old Keg Company. SN 296,083. Pub. 8–13–68. Filed 4–22–68.

Class 46 — Foods and Ingredients of Foods

859,392. (See Class 45 for this trademark.)

859,400. FAIRFIELD FARMS. Marriott Corporation, by change of name from Hot Shoppes, Inc. SN 155,718. Pub. 8–13–68. Filed 10–22–62.

859,401. WHERE FOOD IS KING. Commissary, Inc. SN 232,061. Pub. 8–13–68. Filed 11–3–65.

859,402. RICCI REMOND RR AND DESIGN. Ricci Remond Chocolate Co. Pty. Limited. SN 240,479. Pub. 8–13–68. Filed 3–8–66.

859,403. KLONDIKE. Eskimo Pie Corporation. SN 262,691. Pub. 12–5–67. Filed 1–17–67.

859,404. QUAIL AND DESIGN. Scrivner-Boogaart, Inc. SN 263,204. Pub. 8–13–68. Filed 1–24–67.

859,405. H (DESIGN). Harrell Farms, Inc. SN 272,052. Pub. 8–13–68. Filed 5–22–67.

859,406. HARRELL FARMS. Harrell Farms, Inc. SN 272,053. Pub. 8–13–68. Filed 5–22–67.

859,407. ACE. Stockton Tomato Co., Inc., assignee of Stockton Tomato Company, d.b.a. Stockton Tomato Co. SN 277,602. Pub. 8–13–68. Filed 8–7–67.

859,408. EL MARINO. Cafe El Marino, S.A. SN 283,980. Pub. 8–13–68. Filed 11–2–67.

859,409. JIGGS AND DESIGN. Jiggs Smoked Turkeys, Inc. SN 284,480. Pub. 8–13–68. Filed 11–9–67.

859,410. EL DORADO. Calavo Growers of California, d.b.a. Calavo. SN 284,597. Pub. 7–2–68. Filed 11–13–67.

859,411. BOSS MAN AND DESIGN. Ray's Egg Company, Inc., d.b.a. Ray's Egg Co. SN 287,100. Pub. 8–13–68. Filed 12–18–67.

859,412. PARMISSIMO. Socleta per Azioni Abele Bertozzi. SN 287,173. Pub. 8–13–68. Filed 12–18–67.

859,413. COUNT-SURE. Dairy Merchandisers, Inc. SN 287,525. Pub. 8–13–68. Filed 12–26–67.

859,414. B BERNSTEINS'. Bernsteins' of Long Beach, Inc. SN 292,837. Pub. 8–13–68. Filed 3–11–68.

859,415. HOOTENANNY. United States Tobacco Company. SN 293,182. Pub. 8–13–68. Filed 3–13–68.

859,416. BUFFET. Carnation Company. SN 293,690. Pub. 8–13–68. Filed 3–20–68.

859,417. FLOWERDALE. R. B. Hayhoe & Co. Limited. SN 295,074. Pub. 8–13–68. Filed 3–18–68.

859,418. POWDER HORNS. General Mills, Inc. SN 297,254. Pub. 8–13–68. Filed 5–3–68.

859,419. UNICORNS. General Mills, Inc. SN 297,257. Pub. 8–13–68. Filed 5–3–68.

859,420. TOP FLIGHT. Ralston Purina Company. SN 297,509. Pub. 8–13–68. Filed 5–7–68.

859,421. NECTAR. The Proctor & Gamble Company. SN 297,834. Pub. 8–13–68. Filed 5–10–68.

859,422. BEEF KWIK-32. Cargill, Incorporated. SN 297,916. Pub. 8–13–68. Filed 5–13–68.

Class 47 — Wines

859,423. CASAL MENDES AND DESIGN. Caves Alianca-Vinicola de Sangalhos S.A.R.L. SN 233,679. Pub. 8–13–68. Filed 12–1–65.

Class 48 — Malt Beverages and Liquors

859,424. BOTTLE DESIGN. Anheuser-Busch, Incorporated. SN 286,489. Pub. 8–13–68. Filed 12–8–67.

859,425. SAUNA. Bosch Brewing Company, d.b.a. Bosch Brewing Co. SN 286,807. Pub. 8–13–68. Filed 12–13–67.

Class 49 — Distilled Alcoholic Liquors

859,426. LORD CHESTERFIELD. Continental Distilling Corporation, d.b.a. Continental Distillers Co. SN 280,934. Pub. 8–13–68. Filed 9–22–67.

859,427. A DRAM OF DRAMBUIE—THE CORDIAL WITH THE SCOTCH WHISKY BASE. The Drambuie Liqueur Co., Ltd. SN 281,275. Pub. 8–13–68. Filed S.R. 9–27–67; Am. P.R. 6–14–68.

859,428. BONAPARTE. Schenley Industries, Inc. SN 283,578. Pub. 8–13–68. Filed 10–27–67.

Class 50 — Merchandise Not Otherwise Classified

859,381. (See Class 42 for this trademark.)

859,429. DESIGN OF THREE DIAMONDS. Edward M. Perkins, d.b.a. AAA Monumental Associates. SN 265,208. Pub. 8–13–68. Filed 2–21–67.

859,430. TAMPER-PROOF-TOPS AND DESIGN. Tamper-Proof-Tops Industries Ltd. SN 269,125. Pub. 8–13–68. Filed 4–13–67.

859,431. A AND DESIGN. The Allen System Inc. SN 274,294. Pub. 8–13–68. Filed 6–20–67.

859,432. DECORART. Reliance Trading Corporation. SN 286,176. Pub. 8–13–68. Filed 12–4–67.

859,433. KANDIMALS. Mattel, Inc. SN 286,973. Pub. 8–13–68. Filed 12–15–67.

859,434. DETECT A TAPE AND DESIGN. The Allen System Inc. SN 290,566. Pub. 8–13–68. Filed 2–8–68.

Class 51 — Cosmetics and Toilet Preparations

859,435. THE ITALIAN LOOK. Yardley of London, Inc. SN 219,098. Pub. 4–11–67. Filed 5–17–65.

859,436. THE SPANISH LOOK. Yardley of London, Inc. SN 219,100. Pub. 4–11–67. Filed 5–17–65.

859,437. TIGER. Faberge, Inc., assignee of L. T. York Company. SN 229,474. Pub. 8-13-68. Filed 10-6-65.

859,438. SANDAL 'N' SPICE. Hawaiian Perfumers, Inc., d.b.a. Liana of Waikiki. SN 247,359. Pub. 1-3-67. Filed 6-6-66.

859,439. SLINK PINK. Yardley of London, Inc. SN 255,672. Pub. 6-4-68. Filed 10-3-66.

859,440. ADRAGA. Marcel Jean-Marie Bleriot. SN 280,958. Pub. 8-13-68. Filed 9-22-67.

859,441. ROYAL. J. Strickland & Co. SN 282,012. Pub. 8-13-68. Filed 10-6-67.

859,442. ENDLESS SUMMER. Bruce A. Brown, assignee of Clairol Incorporated. MULTIPLE CLASS (Classes 51 and 52). SN 282,228. Pub. 8-13-68. Filed 10-11-67.

859,443. HE DOES. Clairol Incorporated. SN 282,270. Pub. 8-13-68. Filed 10-11-67.

859,444. AGE CUT. Clairol Incorporated. SN 283,623. Pub. 8-13-68. Filed 10-30-67.

859,445. C CLINIQUE AND DESIGN. Clinique Laboratories, Inc. SN 294,595. Pub. 8-13-68. Filed 4-1-68.

859,446. KICK OFF. Amrcan, Inc. SN 297,734. Pub. 8-13-68. Filed 5-9-68.

859,447. HOLE-IN-ONE. Amrcan, Inc. SN 297,735. Pub. 8-13-68. Filed 5-9-68.

859,448. YOUNGTOWN. Youngtown, Inc. SN 297,745. Pub. 8-13-68. Filed 5-9-68.

Class 52 — Detergents and Soaps

859,452. (See Class 51 for this trademark.)

859,449. ACRYLITE. American Cyanamid Company. SN 269,273. Pub. 7-2-68. Filed 4-17-67.

859,450. HOUSE-KEEPER. Speco, Inc. SN 271,538. Pub. 8-13-68. Filed 5-15-67.

859,451. MIRACLE-STRIP. Miracle Products, Inc., assignee of Miracle-Strip, Inc. SN 276,156. Pub. 8-13-68. Filed 7-17-67.

859,452. CLEAN FRONT. Interstate Industries, Inc., d.b.a. Interstate Chemical Company. SN 279,298. Pub. 8-13-68. Filed 8-29-67.

859,453. ISOTERGE. Coulter Diagnostics, Inc. SN 286,001. Pub. 8-13-68. Filed 12-1-67.

859,454. SYNOCA. Calgon Corporation. SN 286,322. Pub. 8-13-68. Filed 12-6-67.

859,455. WHEEL DESIGN. Michigan Hot Rod Association. SN 287,372. Pub. 8-13-68. Filed 12-21-67.

859,456. SANI-CRAFT. Sani-Craft Chemical Corporation. SN 293,992. Pub. 8-13-68. Filed 3-25-68.

859,457. S-C DESIGN. Sani-Craft Chemical Corporation. SN 293,992. Pub. 8-13-68. Filed 3-25-68.

859,458. MIRACLE. Kenco Chemical & Manufacturing Co., Inc. SN 297,925. Pub. 8-13-68. Filed 5-13-68.

Service Marks

Class 100 — Miscellaneous

859,254. (See Class 23 for this trademark.)

859,459. 21ST CENTURY. Edmond Bordeaux Szekely, d.b.a. 21st Century Health & Beauty Resort. SN 257,423. Pub. 8-13-68. Filed 10-27-66.

859,460. BURGER BARN. Burger Barn Corporation. SN 270,475. Pub. 5-28-68. Filed 5-2-67.

859,461. GRANNY B'S ETC. AND DESIGN. Burger Barn Corporation. SN 270,477. Pub. 5-28-68. Filed 5-2-67.

859,462. PERT AND DESIGN. Peanut Research & Testing Laboratories, Inc. SN 280,090. Pub. 8-13-68. Filed 9-11-67.

859,463. INTERCONTINENTAL. Intercontinental Coffee Service, Inc. SN 282,860. Pub. 8-13-68. Filed 10-19-67.

859,464. K MART CHEF AND DESIGN. S. S. Kresge Company. SN 283,129. Pub. 8-13-68. Filed 10-23-67.

859,465. PIZZA-Q ETC. AND DESIGN. Midar Incorporated. SN 294,778. Pub. 8-13-68. Filed 4-3-68.

859,466. HOBO JOE'S COFFEE SHOPS AND DESIGN. Hobo Joe's, Inc. SN 295,286. Pub. 8-13-68. Filed 4-10-68.

Class 101 — Advertising and Business

859,467. 49'ER. Hipodromo de Tijuana. SN 255,980. Pub. 8-13-68. Filed 10-7-66.

859,468. SOUND RECRUITING. Careers Incorporated. SN 293,108. Pub. 8-13-68. Filed 3-13-68.

Class 102 — Insurance and Financial

859,469. INDIAN HEAD (DESIGN). The Detroit Bank and Trust Company. SN 200,424. Pub. 8-13-68. Filed 8-24-64.

859,470. TUCKA BUCKA DAY AWAY. Twin City Federal Savings & Loan Association. SN 262,724. Pub. 8-13-68. Filed 1-17-67.

859,471. MASTER CHARGE. Western States Bankcard Association, assignee, by mesne assignment and change of name from Master Charge System, Inc. SN 267,050. Pub. 8-6-68. Filed 3-17-67.

859,472. CNB AND DESIGN. City National Bank of Detroit. SN 272,701. Pub. 4-16-68. Filed 5-31-67.

859,473. PACEMAKER. Meridian Mutual Insurance Company. SN 273,441. Pub. 8-13-68. Filed 6-9-67.

859,474. CUSTOM CREDIT. Bank of America National Trust and Savings Association. SN 275,428. Pub. 5-28-68. Filed 7-6-67.

859,475. S1 ETC. (DESIGN). Sy Breslow, d.b.a. Sy Breslow & Associates. SN 275,999. Pub. 8-13-68. Filed 7-14-67.

Class 103 — Construction and Repair

859,254. (See Class 23 for this trademark.)

859,476. MISSION LINEN SUPPLY AND DESIGN. Montecito Manufacturing Company. SN 264,330. Pub. 8-13-68. Filed 2-9-67.

859,477. BDC AND DESIGN. Bauer Dredging Co., Inc. SN 265,392. Pub. 8-13-68. Filed 2-24-67.

859,478. RAM CAN ETC. AND DESIGN. International Bakerage, Inc. SN 273,401. Pub. 8-13-68. Filed 6-8-67.

859,479. TIP TOP SHOP AND DESIGN. Parts, Inc. SN 281,217. Pub. 8-13-68. Filed 9-26-67.

859,480. ASTRO AND DESIGN. Medric H. Pleau, Jr., d.b.a. Astro. SN 287,758. Pub. 8-13-68. Filed 12-28-67.

859,481. GENIE. The Alliance Manufacturing Company, Inc. SN 293,785. Pub. 8-13-68. Filed 3-21-68.

859,482. DESIGN OF TWO LOOPS. Simoniz Company. SN 294,360. Pub. 8-13-68. Filed 3-28-68.

859,483. RCA. Radio Corporation of America. SN 296,927. Pub. 8-13-68. Filed 4-30-68.

859,484. RCA. Radio Corporation of America. SN 296,928. Pub. 8-13-68. Filed 4-30-68.

Class 105 — Transportation and Storage

859,485. AMERICANA TOURS INC. ETC. AND DESIGN. Americana Tours, Inc. SN 191,994. Pub. 2-15-66. Filed 4-27-64.

859,486. FOUR WINDS AMERICANA RAIL CRUISE. Four Winds Travel, Inc. SN 214,635. Pub. 2-15-66. Filed 3-22-65.

859,487. ALL-DOOR. Southern Railway Company. SN 233,838. Pub. 4-23-68. Filed 12-2-65.

Class 106 — Material Treatment

859,488. GREENPOLE. J. H. Baxter & Co., d.b.a. J. H. Baxter. SN 297,002. Pub. 8-13-68. Filed 5-1-68.

Class 107 — Education and Entertainment

859,335. (See Class 38 for this trademark.)

859,489. THE STITCH IN TYME. Arc Sound Limited, d.b.a. The Yorkville Organization. SN 261,784. Pub. 8-13-68. Filed 1-3-67.

859,490. NATIONAL EXPORT SERVICES ETC. AND DESIGN. National Export Services and Containerization Exposition, Inc. SN 275,775. Pub. 8-13-68. Filed 7-11-67.

859,491. MR. MUSTACHE. Tri-Arts Productions. SN 288,244. Pub. 8-13-68. Filed 1-5-68.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

859,492. Henry C. Barnack, West Springfield, Mass. SN 270,112. Filed P.R. 4-27-67; Am. S.R. 8-19-68.

BIG BENDER

For Hand-Operated Sheet Metal Brake (Int. Cl. 7).
First use Jan. 18, 1967.

Class 26 — Measuring and Scientific Appliances

859,493. Hi-Altitude Instrument Co., Inc., Denver, Colo. SN 255,943. Filed P.R. 9-30-66; Am. S.R. 8-5-68.

HYDRO-TEMP

For Instrument for Measuring the Temperature Gradient in Large Bodies of Water (Int. Cl. 9).
First use on or about Jan. 15, 1963.

859,494. The Fibre-Metal Products Company, Chester, Pa. SN 284,184. Filed P.R. 11-6-67; Am. S.R. 8-8-68.

'Speedy'

For Safety Cap Attachment for Connecting a Welding Helmet to a Safety Cap (Int. Cl. 9).
First use 1953.

Class 46 — Foods and Ingredients of Foods

859,495. C. A. Albrecht & Sons, Inc., Bismarck, N. Dak. SN 288,418. Filed P.R. 1-9-68; Am. S.R. 9-3-68.

MINI PIZZA

For Frozen Pizza Turnover (Int. Cl. 30).
First use on or about May 1, 1967.

Class 47 — Wines

859,496. Flagstaff Liquor Co., Perth Amboy, N.J. SN 288,687. Filed P.R. 1-12-68; Am. S.R. 8-15-68.

CARDLEE'S BRAND

For Wines (Int. Cl. 33).
First use Mar. 26, 1965.

TRADEMARK REGISTRATIONS RENEWED

31,633. "CHICAGO ATHLETIC ASS'N" AND DESIGN. Cl. 17 (Int. Cl. 34). 5-31-1898.
70,225. SAVILL. Cl. 13 (Int. Cl. 11). 8-11-08.
70,426. DENNISON. Cl. 37 (Int. Cl. 16). 9-1-08.
70,510. PREMIUM. Cl. 11 (Int. Cl. 16). 9-8-08.
70,598. AUTOMATIC. Cl. 37 (Int. Cl. 16). 9-15-08.
70,693. REPRESENTATION OF CROSS COLORED GREEN. Cl. 44 (Int. Cl. 5). 9-22-08.
72,178. BIG BEN. Cl. 27 (Int. Cl. 14). 1-5-09.
72,494. CHASE. Cl. 46 (Int. Cl. 30). 1-26-09.
72,495. CANADA. Cl. 46 (Int. Cl. 30). 1-26-09.
240,342. RALLET. Cl. 51 (Int. Cl. 3). 3-27-28.
245,122. MHS. Cl. 23 (Int. Cl. 7). 8-7-28.
245,567. SOUTHERN. Cl. 46 (Int. 30). 8-14-28.
245,701. THIRTY-FIVE-EIGHT. Cl. 23 (Int. Cl. 7). 8-21-28.
245,944. "GUS' BUTTER MAID" AND DESIGN. Cl. 46 (Int. Cl. 30). 8-28-28.
246,038. "BREADLITE." Cl. 3 (Int. Cl. 18). 8-28-28.
246,123. "SIMPLEX" AND DESIGN. Cl. 2 (Int. Cl. 16). 9-4-28.
246,670. BOUQUET. Cl. 39 (Int. Cl. 25). 9-11-28.
246,677. DIX-MAKE. Cl. 39 (Int. Cl. 25). 9-11-28.
246,878. 174. Cl. 37 (Int. Cl. 16). 9-18-28.
246,880. LITHOCHROME. Cl. 12 (Int. Cl. 19). 9-18-28.
246,922. WHIPPIT. Cl. 23 (Int. Cl. 21). 9-18-28.
248,071. TEREK CLOTH. Cl. 42 (Int. Cl. 18). 10-16-28.
248,243. "BROWN'S SUPERCEDAR" AND DESIGN. Cl. 1 (Int. Cl. 31). 10-16-28.
248,261. NORWICH. Cl. 18 (Int. Cl. 5). 10-16-28.
249,519. DIVINITY NUGGETS. Cl. 46 (Int. Cl. 30). 11-13-28.
249,813. "WARD'S" ETC. AND SHIELD DESIGN. Cl. 46 (Int. Cl. 30). 11-20-28.
250,677. AQUAGEL. Cl. 12 (Int. Cl. 1). 12-11-28.
250,807. TRITON. Cl. 15 (Int. Cl. 4). 12-18-28.
251,465. VARITYPER. Cl. 23 (Int. Cl. 16). 1-8-29.
251,868. SEABOARD. Cl. 46 (Int. Cl. 31). 1-15-29.
251,982. "POSLAM" AND DESIGN. Cl. 52 (Int. Cl. 3). 1-22-29.
252,027. "PURE-ORE." Cl. 14 (Int. Cl. 6). 1-22-29.
438,090. HAPPY COOKING ETC. AND DESIGN. Cl. 34 (Int. Cl. 11). 4-6-48.
438,668. PANACOUSTIC AND DESIGN. Cl. 21 (Int. Cl. 9). 5-11-48.

439,639. GRIZZLY SAFTIBOND. Cl. 35 (Int. Cl. 12). 7–6–48.
440,073. TRICREAMALATE. Cl. 18 (Int. Cl. 5). 8–10–48.
440,437. MANIPHASE. Cl. 26 (Int. Cl. 9). 9–7–48.
440,455. TEEN TIME. Cl. 38 (Int. Cl. 16). 9–7–48.
440,630. VANFRE. Cl. 15 (Int. Cl. 1). 9–14–48.
440,705. PAYWRITE. Cl. 23 (Int. Cl. 16). 9–21–48.
440,757. STRAN STEEL. Cl. 12 (Int. Cl. 6). 9–28–48.
441,128. SHERWIN-WILLIAMS. Cl. 21 (Int. Cl. 17). 10–19–48.
441,186. SHERWIN-WILLIAMS. Cl. 11 (Int. Cl. 2). 10–26–48.
441,237. HEMATOVALS. Cl. 18 (Int. Cl. 5). 11–9–48.
441,304. VERHOEFF STEREOPTOR. Cl. 26 (Int. Cl. 10). 11–16–48.
441,352. FATHER TIME (DESIGN). Cl. 27 (Int. Cl. 14). 11–16–48.
441,472. ARO-SAC. Cl. 28 (Int. Cl. 14). 11–30–48.
441,591. PEPPRON. Cl. 42 (Int. Cl. 24). 12–14–48.
442,050. MISCELLANEOUS DESIGN. Cl. 16 (Int. Cl. 2). 2–8–49.
500,312. YELLOTONE. Cl. 6 (Int. Cl. 1). 5–11–48.
500,881. GOLD MEDAL. Cl. 43 (Int. Cl. 23). 7–6–48.
500,940. READY PATCH. Cl. 12 (Int. Cl. 19). 7–6–48.
500,961. JIFFY. Cl. 46 (Int. Cl. 30). 7–13–48.
501,030. PROTO. Cl. 23 (Int. Cl. 8). 7–13–48.
501,699. KABON. Cl. 6 (Int. Cl. 5). 8–17–48.
501,754. NIFOS. Cl. 6 (Int. Cl. 5). 8–24–48.
501,762. PFIZER. Cl. 6 (Int. Cls. 1 and 5). 8–24–48.
501,769. JENSEN. Cl. 21 (Int. Cl. 9). 8–24–48.
501,770. JEFFERSON. Cl. 21 (Int. Cl. 9). 8–24–48.
501,773. MEDALLION (DESIGN). Cl. 21 (Int. Cl. 9). 8–24–48.
501,927. SECURITEE. Cl. 12 (Int. Cl. 6). 8–31–48.
501,970. MISCELLANEOUS DESIGN. Cl. 105 (Int. Cl. 39). 8–31–48.
501,971. MISCELLANEOUS DESIGN. Cl. 105 (Int. Cl. 39). 8–31–48.
501,979. BISTA AND DESIGN. Cl. 37 (Int. Cl. 16). 9–7–48.
502,125. HOLDEN. Cl. 34 (Int. Cl. 11). 9–14–48.
502,146. MAYFAIR. Cl. 35 (Int. Cl. 12). 9–14–48.
502,256. VISTEN. Cl. 2 (Int. Cl. 20). 9–21–48.
502,269. POCO. Cl. 15 (Int. Cl. 4). 9–21–48.
502,297. B AND DESIGN. Cl. 21 (Int. Cls. 9 and 12). 9–21–48.
502,465. REDWING. Cl. 35 (Int. Cl. 17). 9–28–48.
502,496 TIRE. Cl. 6 (Int. Cl. 1). 9–28–48.
502,499. TUBE. Cl. 6 (Int. Cl. 1). 9–28–48.
502,538. VULCAN AND DESIGN. Cl. 2 (Int. Cl. 6). 9–28–48.
502,592. LOOMSKILL. Cl. 42 (Int. Cl. 24). 9–28–48.
502,844. CAMILLUS. Cl. 23 (Int. Cl. 8). 10–12–48.
502,990. STRONA. Cl. 15 (Int. Cl. 4). 10–19–48.
503,020. KLONDYKE. Cl. 15 (Int. Cl. 4). 10–19–48.
503,032. SARATOGA DUO. Cl. 3 (Int. Cl. 18). 10–19–48.
503,065. WAVESETTA. Cl. 40 (Int. Cl. 21). 10–19–48.
503,088. ALICE CAROL. Cl. 3 (Int. Cl. 18). 10–19–48.
503,139. HOLDEN. Cl. 6 (Int. Cl. 1). 10–19–48.
503,358. PERMABILT. Cl. 12 (Int. Cl. 19). 10–26–48.
503,484. KONDON'S. Cl. 18 (Int. Cl. 5). 10–26–48.
503,687. THE LEVER. Cl. 38 (Int. Cl. 16). 11–2–48.
503,742. REVALENS. Cl. 26 (Int. Cl. 9). 11–9–48.
503,846. GLAS-COL. Cl. 21 (Int. Cl. 11). 11–16–48.
504,238. FREE SPIN GETS 'EM AND DESIGN. Cl. 22 (Int. Cl. 28). 11–23–48.
504,266. SERGEANT'S. Cl. 18 (Int. Cl. 5). 11–30–48.
504,386. JUMBO. Cl. 9 (Int. Cl. 13). 11–30–48.
504,761. INCRE-LITE. Cl. 26 (Int. Cl. 9). 12–14–48.
504,778. SUPER COMAT. Cl. 26 (Int. Cl. 9). 12–14–48.
505,011. ARK-ACE. Cl. 12 (Int. Cl. 19). 12–21–48.
505,210. MOLITE. Cl. 39 (Int. Cl. 25). 12–28–48.
505,305. AROBON. Cl. 6 (Int. Cl. 5). 12–28–48.
505,431. TOM THUMB. Cl. 16 (Int. Cl. 2). 1–4–49.
505,575. CASLON. Cl. 37 (Int. Cl. 16). 1–11–49.
505,739. DAVIDSON. Cl. 6 (Int. Cl. 1). 1–18–49.
505,804. SKIN BRACER. Cl. 51 (Int. Cl. 3). 1–18–49.
505,857. TIANNE. Cl. 52 (Int. Cl. 3). 1–18–49.
505,887. AQUABLAK. Cl. 6 (Int. Cl. 1). 1–18–49.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

551,817. CHUG-A-MUG. Cl. 13. 12–4–51.

Section 8

737,333. FEINBERG. Cl. 26. 9–4–62.

The following registrations issued Sept. 11, 1962

737,349. NETCOLON. Cl. 1.
737,353. WESTERN WHITE. Cl. 1.
737,358. FIRE GEMS. Cl. 1.
737,361. "MR. WORM." Cl. 1.
737,363. FLORA-FLEX. Cl. 2.
737,367. LITTLE WONDER. Cl. 2.
737,368. ESTAINER. Cl. 2.
737,371. ANTIGA. Cl. 3.
737,372. LOCKER LOUNGER. Cl. 3.
737,373. REXITE. Cl. 4.
737,374. WEATHER GARD. Cl. 5.
737,377. SALSBURY. Cl. 6.
737,382. PRECISION ETC. AND DESIGN. Cl. 6.
737,385. COLD CLAVE. Cl. 6.
737,392. X-CAT. Cl. 6.
737,393. TRI-ME. Cl. 6.
737,401. MAGNEPATCH AND DESIGN. Cl. 12.
737,402. BERLITE. Cl. 12.
737,413. TOWN & TERRACE. Cl. 13.
737,414. "JIFIX" NON-CRUSH. Cl. 13.
737,418. REPUBLIC SEAL KING. Cl. 13.
737,421. EPICON. Cl. 16.
737,424. DREST. Cl. 16.
737,446. RESPRIUM. Cl. 18.
737,449. NAUSTAT. Cl. 18.
737,452. S.F. 73. Cl. 18.
737,455. KOBAR. Cl. 18.
737,459. SOSTETS. Cl. 18.
737,469. NAUTOFLEX. Cl. 19.
737,475. TRANSISTOR EYE. Cl. 21.
737,476. CAMBRIDGE AND EAGLE DESIGN. Cl. 21.
737,479. REPRESENTATION OF GREEN SYMBOL "PSI." Cl. 21.
737,480. PSI. Cl. 21.
737,484. PROX-O-LARM. Cl. 21.
737,485. MYTRON. Cl. 21.
737,487. VAGABOND. Cl. 21.
737,494. GIMME. Cl. 22.
737,495. BUSY BOY AND DESIGN. Cl. 22.
737,497. PLASTI-KLAD. Cl. 23.
737,499. ICE-MART. Cl. 23.
737,500. FILO AND DESIGN. Cl. 23.
737,502. SYNCRO-TORQUE. Cl. 23.
737,513. LEV-L-AIR. Cl. 23.
737,515. CARCONE. Cl. 23.
737,521. GLORYS. Cl. 27.
737,522. LORDS OF LONDON AND DESIGN. Cl. 28.
737,525. ROYAL TAUNTON. Cl. 30.
737,526. PC SYMBOL. Cl. 31.
737,531. TRAM. Cl. 32.
737,532. TEE ANN AND DESIGN. Cl. 32.
737,534. JIFFCO TABLE AND DESIGN. Cl. 32.
737,535. SPACENIK. Cl. 32.
737,536. DANSKA AND DESIGN. Cl. 32.
737,537. TALLY TENDER. Cl. 32.
737,539. SODDERMATIC. Cl. 34.
737,540. SILVER JET AND DESIGN. Cl. 34.
737,543. INFINIFLEX. Cl. 34.
737,548. TWIS-TYS. Cl. 37.
737,549. NAUGAWALL. Cl. 37.
737,550. KOMMANDOKRAFT. Cl. 37.
737,557. MICRO-HANDYSETS. Cl. 37.
737,560. PENN/PRINT LO-GLOSS. Cl. 37.
737,563. OLE. Cl. 38.
737,564. COMPLETE SPORTS. Cl. 38.
737,565. PBR BULLETIN. Cl. 38.
737,571. THE CHRISTMAS ARTISTS. Cl. 38.
737,573. HOME IMPROVEMENT DEALERS LEADER. Cl. 38.

737,577. SHOP-A-CAL. Cl. 38.
737,579. MODERN MAIDENS. Cl. 38.
737,587. LACE LOCS. Cl. 40.
737,588. THINK MINK. Cl. 40.
737,589. DECOFLEX. Cl. 42.
737,593. CREPE CASSERGE. Cl. 42.
737,597. SLEEP-AIDS. Cl. 44.
737,600. SCOTT PRESUR-PAK. Cl. 44.
737,601. BABY DRINKUP. Cl. 44.
737,604. GROTESQUE REPRESENTATION OF A SKIPPER. Cl. 46.
737,611. DESIGN OF A GIRL AND HEN. Cl. 46.
737,612. RECTANGLE DESIGN. Cl. 46.
737,615. MELIFLOR. Cl. 46.
737,617. SALT GEMS. Cl. 46.
737,622. SHOW CALF. Cl. 46.
737,629. WAJAY. Cl. 46.
737,634. SAN DELITE. Cl. 46.
737,638. RUG-RAMP. Cl. 50.
737,640. JIFFY HORSE. Cl. 50.
737,642. FLONE. Cl. 51.
737,643. MAMATERNITY AND DESIGN. Cl. 51.
737,645. TRUHESIVE. Cl. 51.
737,648. CONCO. Cl. 51.
737,650. MONDAIN. Cl. 51.
737,654. BANCO. Cl. 52.
737,655. ASI. Cl. 100.
737,661. MEDI-CHARGE. Cl. 102.
737,662. THE GARDEN STATE NATIONAL BANK AND DESIGN. Cl. 102.
737,664. U.S.I.T. Cl. 105.
737,666. KINGSMEN QUARTET. Cl. 107.
737,671. SPEED SHINER. Cl. 21.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

32,059. TRUMPET. Cl. 35. 10–18–98. Eureka Fire Hose Company. Uniroyal, Inc., New York, N.Y. Amended: In the statement, column 1, lines 10 through 26 are deleted, and the drawing is amended to appear:

TRUMPET

32,062. RED BALL. Cl. 35. 10–18–98. Eureka Fire Hose Company. Uniroyal, Inc., New York, N.Y. Amended: In the statement, column 1, lines 9 through 27 are deleted, and the drawing is amended to appear:

RED BALL

245,045. DORZI. Cl. 39. 8–7–28. A. J. Izod, Limited. David Crystal, Inc., New York, N.Y. Amended to appear:

DOZI

500,404. SUPERIOR. Cl. 14. 6–1–48. Superior Zinc Corporation. Diamond Shamrock Corporation, Cleveland, Ohio. Amended to appear:

SUPERIOR

501,439. ZEE. Cl. 37. 8–10–48. Comfort Paper Corporation. Crown Zellerbach Corporation, San Francisco, Calif. Amended to appear:

ZEE

743,344. CROWN-Z AIR-FLOW PACKER. Cl. 23. 1–8–63. Crown Zellerbach Corporation, San Francisco, Calif. Amended: In the statement, column 2, line 5, "-Flow" is deleted, and the drawing is amended to appear:

CROWN-Z AIR PACKER

752,367. POWEROYAL. Cl. 15. 7–9–63. Royal Oil Company, Fort Worth, Tex. Corrected: In the statement, column 2, line 1, after "oil" *additive* should be inserted.

764,681. CHUG-A-MUG. Cl. 33. 2–11–64. Liebmann Breweries, Inc. Rheingold Breweries, Inc., Brooklyn, N.Y. Amended: In the statement, column 2, line 1, "opaque glass containers" is deleted and *glass bottle* is inserted.

770,914. A.I.M. Cl. 38. 11–10–64. Accelerated Instruction Methods Corporation, Chicago, Ill. Amended: In the statement, column 2, line 1, after "aids" *intended for school grades 1 through 12 in areas other than business and management* is inserted.

780,348. VICKERS. Cls. 38, 100, 103 and 107. 11–17–64. Sperry Rand Corporation by merger from Vickers Incorporated, New York, N.Y. Amended to appear:

VICKERS

808,462. TAPE-TALK. Cl. 26. 5–17–66. Friden, Inc., San Leandro, Calif. Corrected: In the statement, column 2, line 1, after "used" *with* should be inserted.

809,127. AMEROX A. Cl. 12. 5–31–66. Bolen International, Inc., Chicago, Ill. Amended to appear:

AMROX

832,125. ESICON. Cl. 21. 7–18–67. Compagnie Francaise Thomson Houston-Hotchkiss Brandt by change of name from Compagnie Francaise Thomson-Houston, Paris, France. Corrected: In the statement, column 2, line 2, "thermionic" should be deleted and *electronic* should be inserted.

850,467. SANA BOLICUM. Cl. 18. 6–11–68. Sanabo Fabrik Chemischer und Pharmazeutischer Produkte Dr. Karl und Maria Stoslus, Vienna, Austria. Corrected: In the statement, column 2, line 3, "9,938, dated Feb. 4, 1949" should be deleted and *48,799, dated Sept. 11, 1962* should be inserted.

851,240. GABOR. Cl. 51. 6–18–68. Monsieur Robaire, Inc., Los Angeles, Calif. Corrected: In the statement, column 1, line 1, "Monsier" should be deleted and *Monsieur* should be inserted.

852,670. FOREMOST. Cl. 23. 7–16–68. Foremost Machine Builders, Inc., Fairfield, N.J. Corrected: In the statement, column 1, line 1, "New York" should be deleted and *New Jersey* should be inserted.

853,812. SUDDENLY. Cl. 51. 7–30–68. Caryl Richards, Inc., New York, N.Y. Corrected: In the statement, column 2, line 3, "1926" should be deleted and *1966* should be inserted.

854,223. SPOZADIAPER. Cl. 39. 8–6–68. Foremost-McKesson, Inc., doing business as Gentec Hospital Supply Company, New York, N.Y. Corrected: In the statement, column 1, line 2, "Genetec" should be deleted and *Gentec* should be inserted.

854,379. CLEAVER ACTION. Cl. 23. 8–6–68. Kentmaster Mfg. Co., Inc., Los Angeles, Calif. Corrected: In the statement, column 1, line 1, after "Co." *, Inc.* should be inserted.

854,491. SPIRE. Cl. 13. 8–13–68. Firth Cleveland Fastenings Limited, Glamorganshire, Wales. Corrected: In the statement, column 1, line 1, "Fifth" should be deleted and *Firth* should be inserted.

854,881. ADT AND DESIGN. Cl. 101. 8–13–68. American District Telegraph Company, New York, N.Y. Corrected:



854,936. BARRETT'S. Cl. 1. 8–20–68. Barrett & Company, Inc., Newark, N.J. Corrected: In the statement, column 1, line 3, "N.Y." should be deleted and *N.J.* should be inserted.

855,064. DEBER. Cl. 26. 8–20–68. Aktiebolaget Deber-Kontroll, Lidingo, Sweden. Corrected: In the statement, column 1, line 1, "Kontrol" should be deleted and *Kontroll* should be inserted.

INDEX OF REGISTRANTS

OCTOBER 29, 1968

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

AAA Monumental Associates: *See*—
Perkins, Edward M.
Accelerated Instruction Methods Corp., Chicago, Ill. 779,914. Am. 7(d). Cl. 38.
Aero Mayflower Transit Co., to Aero Mayflower Transit Co., Inc., Indianapolis, Ind. 501,970–1, ren. 10–29–68. Cl. 105.
Aero Mayflower Transit Co., Inc.: *See*—
Aero Mayflower Transit Co.
Aktiebolaget Deber-Kontroll, Lidingo, Sweden. 855,064, cor. Cl. 26.
Alan, Jay: *See*—
Klein, J. Alan.
Albany Felt Co., Albany, N.Y. 859,378, pub. 8–13–68. Cl. 42.
Albrecht, C. A., & Sons, Inc., Bismarck, N. Dak. 859,495. Cl. 46.
Aldred, Torrence W., d.b.a. T. & G. Industries, Charlotte, N.C. 859,248, pub. 8–13–68. Cl. 22.
Aleph Mfg. Corp., Freeport, N.Y. 859,356, pub. 5–21–68. Cl. 39.
Allen System Inc., The, Glen Ellyn, Ill. 859,431, pub. 8–13–68. Cl. 50.
Allen System Inc., The, Glen Ellyn, Ill. 859,434, pub. 8–13–68. Cl. 50.
Alliance Mfg. Co., Inc., The, Alliance, Ohio. 859,481, pub. 8–13–68. Cl. 103.
Allpro Corp., Maplewood, N.J. 859,283, pub. 8–13–68. Cl. 29.
Almo Laboratories Co. Inc., Cedar Grove, N.J. 859,253, pub. 8–13–68. Cl. 23.
Alpco, Inc., to Aro-Sac Inc., Providence, R.I. 441,472, ren. 10–29–68. Cl. 28.
Alpha Metals, Inc., Jersey City, N.J. 859,302, pub. 8–13–68. Cl. 34.
Alpha Mills Corp., Schuylkill Haven, Pa. 859,362, pub. 8–13–68. Cl. 39.
Amerace Corp.: *See*—
American Hard Rubber Co.
American Chain & Cable Co., Inc.: *See*—
Mechanical Handling Systems, Inc.
American Cyanamid Co., New York, N.Y. 737,452, canc. Cl. 18.
American Cyanamid Co., New York, N.Y. 737,459, canc. Cl. 18.
American Cyanamid Co., Wayne, N.J. 859,198, pub. 8–13–68. Cl. 13.
American Cyanamid Co., Wayne, N.J. 859,440, pub. 7–2–68. Cl. 32.
American District Telegraph Co., New York, N.Y. 854,881, cor. Cl. 101.
American Federation of Police, Inc., Venice, Fla. 859,340, pub. 8–13–68. Cl. 38.
American Hard Rubber Co., to Amerace Corp., New York, N.Y. 503,065, ren. 10–29–68. Cl. 40.
American Heritage Publishing Co., Inc., New York, N.Y. 859,333, pub. 8–13–68. Cl. 38.
American Home Products Corp., Inc.: *See*—
White & Hallock.
American Optical Co., to American Optical Corp., Southbridge, Mass. 441,304, ren. 10–29–68. Cl. 26.
American Optical Corp.: *See*—
American Optical Co.
American Sterilizer Co., Erie, Pa. 859,388, pub. 8–13–68. Cl. 44.
American Systems Inc., Hawthorne, Calif. 737,655, canc. Cl. 100.
American Type Founders Co., Inc.: *See*—
Davidson Mfg. Corp.
Americana Tours, Inc., Cincinnati, Ohio. 859,485, pub. 2–15–68. Cl. 105.
Amrcan, Inc., Chicago, Ill. 859,446–7, pub. 8–13–68. Cl. 51.
Anderson, Eugene R.: *See*—
Handy Products, Inc.
Angel Wing Inc., Oklahoma City, Okla. 859,243, pub. 8–13–68. Cl. 21.
Angelus Furniture Mfg. Co., Los Angeles, Calif. 737,565, canc. Cl. 38.
Anglo Fabrics Co., Inc., New York, N.Y. 859,367, pub. 8–13–68. Cl. 42.
Anheuser-Busch, Inc., St. Louis, Mo. 859,424, pub. 8–13–68. Cl. 48.
Annin & Co., New York, N.Y. 859,379, pub. 8–13–68. Cl. 42.
Apple Corps., Inc., New York, N.Y. 859,316–17, pub. 8–13–68. Cl. 36.
Arc Sound Ltd., d.b.a. The Yorkville Organization, Toronto, Ontario, Canada. 859,489, pub. 8–13–68. Cl. 107.
Arlington Briar Pipe Corp., Brooklyn, N.Y. 859,177, pub. 8–13–68. Cl. 8.
Armour & Co., d.b.a. Armour Creameries, Chicago, Ill. 737,611, canc. Cl. 46.
Armour Creameries: *See*—
Armour & Co.
Armstrong Paint & Varnish Works, Inc.: *See*—
Chicago Paints, Inc.
Aron, M., Corp., New York, N.Y. 859,345, pub. 8–13–68. Cl. 39.
Aro-Sac Inc.: *See*—
Alpco, Inc.
Associated Graphologists International, Inc., New York, N.Y. 859,334, pub. 8–13–68. Cl. 38.
Astro: *See*—
Pleau, Medric H., Jr.
Athol Mfg. Co., Athol, Mass., to Emhart Corp., Hartford, Conn. 248,071, ren. 10–29–68. Cl. 42.
B.W.I. Imports, Ltd., New York, N.Y. 859,274, pub. 8–13–68. Cl. 26.
Baltimore Business Forms, Inc., Baltimore, Md. 737,557, canc. Cl. 37.
Bandel Mfg. Co., Los Angeles, Calif. 737,654, canc. Cl. 52.
Bank of America National Trust & Savings Association, San Francisco, Calif. 859,474, pub. 5–28–68. Cl. 102.
Bard, C. R., Inc., Murray Hill, N.J. 859,390, pub. 8–13–68. Cl. 44.
Barnack, Henry C., West Springfield, Mass. 859,492. Cl. 23.
Barrett & Co., Inc., Newark, N.J. 854,936. cor. Cl. 1.
Bauer Dredging Co., Inc., Jeffersonville, Ind. 859,477, pub. 8–13–68. Cl. 103.
Baxter, J. H.: *See*—
Baxter, J. H., & Co.
Baxter, J. H., & Co., d.b.a. J. H. Baxter, San Mateo, Calif. 859,488, pub. 8–13–68. Cl. 106.
Bell Co., The: *See*—
P.C.C., Inc.
Bell & Howell Co., Chicago, Ill. 504,761, ren. 10–29–68. Cl. 26.
Bell & Howell Co., Chicago, Ill. 504,778, ren. 10–29–68. Cl. 26.
Belmas Co., Inc., The, Houston, Tex. 859,303, pub. 8–13–68. Cl. 34.
Bernsteins' of Long Beach, Inc., Seal Beach, Calif. 859,414, pub. 8–13–68. Cl. 46.
Betesh, James, Import Co., New York, N.Y. 859,227, pub. 5–30–67. Cl. 21.
Binney & Smith Co., to Columbian Carbon Co., New York, N.Y. 505,887, ren. 10–29–68. Cl. 6.
Bishop Stansell Co., Dayton, Ohio. 501,979, ren. 10–29–68. Cl. 37.
Black Dentaprises, Inc., Miami, Fla. 859,386, pub. 8–13–68. Cl. 44.
Blackstaff Ltd., Belfast, Northern Ireland. 859,374, pub. 8–13–68. Cl. 42.
Blerfot, Marcel J.-M., Formerie (Oise), France. 859,440, pub. 8–13–68. Cl. 51.
Bohn Benton Inc., New York, N.Y. 859,279, pub. 8–13–68. Cl. 26.
Bolen International, Inc., Chicago, Ill. 809,127. Am. 7(d). Cl. 12.
Bosch Brewing Co., d.b.a. Bosch Brewing Co., Houghton, Mich. 859,425, pub. 8–13–68. Cl. 48.
Bradley, Milton, Co., East Longmeadow, Mass. 859,250, pub. 8–13–68. Cl. 22.
Branch, Robert P., d.b.a. Gimme Co., Hot Springs, Ark. 737,494, canc. Cl. 22.
Branden, Nathaniel, Institute Inc., New York, N.Y. 859,328, pub. 8–13–68. Cl. 38.
Bray, J. W., Co., Inc., Dalton, Ga. 859,359, pub. 8–13–68. Cl. 39.
Breslow, Sy, d.b.a. Sy Breslow & Associates, Santa Ana, Calif. 859,475, pub. 8–13–68. Cl. 102.
Breslow, Sy, & Associates: *See*—
Breslow, Sy.
Bristol Metal Products, Inc., Bristol, Tenn. 859,298, pub. 8–13–68. Cl. 34.
Bristol-Myers Co., New York, N.Y. 859,218–19, pub. 6–18–68. Cl. 18.
Brown, Bruce A., Dana Point Calif., from Clairol Inc., New York, N.Y. 859,442, pub. 8–13–68. Multiple Class (Classes 51 and 52).
Brown, George C., & Co., Memphis, Tenn., to George C. Brown & Co., Inc., Greensboro, N.C. 248,243, ren. 10–29–68. Cl. 1.
Brown, George C., & Co., Inc.: *See*—
Brown, George C., & Co.
Bruner Corp., Milwaukee, Wis. 859,286, pub. 8–13–68. Cl. 31.
Burger Barn Corp., Kings Mountain, N.C. 859,460–1, pub. 5–28–68. Cl. 100.
Burgess Battery Co., Freeport, Ill., to Clevite Corp., Cleveland, Ohio. 501,773, ren. 10–29–68. Cl. 21.
Burhop Paper Co., Chicago, Ill. 859,155, pub. 8–13–68. Cl. 2.
Burris, William M., Anderson, S.C. 737,537, canc. Cl. 32.
Buscher, Robert L., Madison, Wis. 737,532, canc. Cl. 32.
Busy Boy Mfg. Co.: *See*—
Farmer, Louis C.
CTV Television Network Ltd., Toronto, Ontario, Canada. 859,335, pub. 8–13–68. Multiple Class (Classes 38 and 107).
Cafe "El Marino," S.A., Mazatlan, Sinaloa, Mexico. 859,408, pub. 8–13–68. Cl. 46.
Calavo: *See*—
Calavo Growers of California.

Calavo Growers of California, d.b.a. Calavo, Los Angeles, Calif. 859,410, pub. 7–2–68. Cl. 46.
Calgon Corp., from Calgon Corp., Pittsburgh, Pa. 859,169, pub. 8–13–68. Cl. 6.
Calgon Corp., Pittsburgh, Pa. 859,454, pub. 8–13–68. Cl. 52.
Caltex Distributors, Inc., Los Angeles, Calif. 737,455, canc. Cl. 18.
Camillus Cutlery Co., Camillus, N.Y. 502,844, ren. 10–29–68. Cl. 23.
Cannon Mills Co., Kannapolis, N.C. 859,366, pub. 8–13–68. Cl. 42.
Cannon Mills Co., Kannapolis, N.C. 859,369, pub. 8–13–68. Cl. 42.
Careers Inc., New York, N.Y. 859,468, pub. 8–13–68. Cl. 101.
Cargill, Inc., Minneapolis, Minn. 859,422, pub. 8–13–68. Cl. 46.
Carnation Co., Los Angeles, Calif. 859,416, pub. 8–13–68. Cl. 46.
Carol Wire & Cable Corp., Pawtucket, R.I. 859,238, pub. 8–13–68. Cl. 21.
Carter-Wallace, Inc., New York, N.Y. 859,216–17, pub. 6–18–68. Cl. 18.
Caves Alianca-Vinicola de Sangalhos, S.A.R.L., Sangalhos, Portugal. 859,423, pub. 8–13–68. Cl. 47.
Central Illinois Poultry Corp., Havana, Ill. 737,634, canc. Cl. 46.
Chadwick-Helmuth Co., Inc., Monrovia, Calif. 859,237, pub. 8–13–68. Cl. 21.
Chamberlain Mfg. Corp., Elmhurst, from Perma-Power Co., Chicago, Ill. 859,236, pub. 8–13–68. Cl. 21.
Chase Organics (Great Britain) Ltd., Middlesex, England. 859,178, pub. 8–13–68. Cl. 10.
Chaussures du Bocage, Maine-et-Loire, France. 859,347, pub. 6–18–68. Cl. 39.
Chelsea Milling Co., Chelsea, Mich. 500,961, ren. 10–29–68. Cl. 46.
Chesterton, A. W., Co., Everett, Mass. 859,305, pub. 8–13–68. Cl. 35.
Chicago Athletic Association, Chicago, Ill. 31,633, ren. 10–29–68. Cl. 17.
Chicago Paints, Inc., to Armstrong Paint & Varnish Works, Inc., d.b.a. Tom Thumb Laboratories, Chicago, Ill. 505,431, ren. 10–29–68. Cl. 16.
Children's Bargain Town U.S.A., Inc., Niles, Ill. 859,318, pub. 8–13–68. Cl. 37.
Chula Vista Citrus Association, Chula Vista, to Seaboard-Somis Lemon Association, Oxnard, Calif. 251,868, ren. 10–29–68. Cl. 46.
Ciba Corp., New York, N.Y. 859,212, pub. 4–16–68. Cl. 18.
Ciba Ltd., Basle, Switzerland. 859,168, pub. 6–4–68. Cl. 6.
City Lumber Co. of Bridgeport, Inc., The, Bridgeport, Conn. 859,181, pub. 5–14–68. Cl. 12.
City National Bank of Detroit, Detroit, Mich. 859,472, pub. 4–16–68. Cl. 102.
Clairol Inc.: *See*—
Brown, Bruce A.
Clairol Inc., New York, N.Y. 859,443–4, pub. 8–13–68. Cl. 51.
Cleveland, Firth, Fastenings Ltd., Glamorganshire, Wales. 854,491, cor. Cl. 13.
Clevite Corp.: *See*—
Burgess Battery Co.
Clinique Laboratories, Inc., New York, N.Y. 859,445, pub. 8–13–68. Cl. 51.
Cochran, A. R., d.b.a. Glas-Fit Co., Atlanta, Ga. 859,277, pub. 8–13–68. Cl. 26.
Collings, William A., assor. to Silica Products Co., Los Angeles, Calif., to National Lead Co., New York, N.Y. 250,677, ren. 10–29–68. Cl. 12.
Columbian Carbon Co.: *See*—
Binney & Smith Co.
Comfort Paper Corp., to Crown Zellerbach Corp., San Francisco, Calif. 501,439. Am. 7(d). Cl. 37.
Commissary, Inc., Topeka, Kans. 859,401, pub. 8–13–68. Cl. 46.
Compagnie Francaise Thomson Houston-Hotchkiss Brandt by change of name from Compagnie Francaise Thomson-Houston, Paris, France. 832,125, cor. Cl. 21.
Complete Sports Publications, Inc., Long Island City, N.Y. 737,564, canc. Cl. 38.
Conner & Walters Co., Charlotte, N.C. 737,648, canc. Cl. 51.
Consolidated Laboratories, Inc., Chicago Heights, Ill. 737,333, canc. Cl. 26.
Conteglacomo, Cesare, S.p.A., Putignano, Bari, Italy. 859,346, pub. 8–13–68. Cl. 39.
Continental Building Specialties, to L. M. Scofield, Co., Los Angeles, Calif. 246,880, ren. 10–29–68. Cl. 12.
Continental Distillers Co.: *See*—
Continental Distilling Corp.
Continental Distilling Corp., d.b.a. Continental Distillers Co., Philadelphia, Pa. 859,426, pub. 8–13–68. Cl. 49.
Continental Laboratories, Inc., Palo Alto, Calif. 737,385, canc. Cl. 6.
Cork Mfg. Co. Ltd., London, England. 859,304, pub. 8–13–68. Cl. 35.
Coulter Diagnostics, Inc., Miami Springs, Fla. 859,453, pub. 8–13–68. Cl. 52.
Cranston Print Works Co., New York, N.Y. 859,368, pub. 7–2–68. Cl. 42.
Crosley Shoe Corp., Ltd., Toronto, Ontario, Canada. 859,353, pub. 8–13–68. Cl. 39.
Crown Paper Co.: *See*—
Klein, Bernard, Inc.
Crown Zellerbach Corp., San Francisco, Calif. 743,344. Am. 7(d). Cl. 23.
Crystal, David, Inc., New York, N.Y. 859,383, pub. 8–13–68. Cl. 42.
Curless Corp., The, Tuckahoe, N.Y. 859,344, pub. 8–13–68. Cl. 39.
DHJ Industries Inc., New York, N.Y. 859,370, pub. 8–13–68. Cl. 42.
Dairy Merchandisers, Inc., Chicago, Ill. 859,413, pub. 8–13–68. Cl. 46.
Daniel Industries, Inc., from Daniel Orifice Fitting Co., Houston, Tex. 859,267, pub. 4–23–68. Cl. 26.
Daniel Orifice Fitting Co.: *See*—
Daniel Industries, Inc.
Davidson Mfg. Corp., Chicago, Ill., to American Type Founders Co., Inc., Nashville, Tenn. 505,739, ren. 10–29–68. Cl. 6.
Deering Milliken, Inc., New York, N.Y. 859,382, pub. 8–13–68. Cl. 42.
Delaware Punch Co., San Antonio, Tex. 859,396, pub. 8–13–68. Cl. 45.
Demco, Inc., Oklahoma City, Okla. 859,329–30, pub. 5–28–68. Cl. 38.
Deniston Co., Chicago, Ill. 859,200, pub. 8–13–68. Cl. 13.
Dennison Mfg. Co., Boston, to Dennison Mfg. Co. Framingham, Mass. 70,426, ren. 10–29–68. Cl. 37.
Dentists' Supply, The, York, Pa., from Jacob A. Saffir, Los Angeles, Calif. 737,645, canc. Cl. 51.
Detroit Bank & Trust Co., The, Detroit, Mich. 859,469, pub. 8–13–68. Cl. 102.
Dietzgen, Eugene, Co., Chicago, Ill. 440,437, ren. 10–29–68. Cl. 26.
Digital Sensors Inc., Los Angeles, Calif. 859,226, pub. 2–7–67. Cl. 21.
Direct Image Corp., Monterey Park, Calif. 859,165, pub. 8–13–68. Cl. 6.
Disa-Pen Inc., Ann Arbor, Mich. 859,319, pub. 6–18–68. Cl. 37.
Dix, Henry A., & Sons Corp., New York, N.Y. 246,677, ren. 10–29–68. Cl. 39.
Donay, Steven, Co.: *See*—
Donay, Steven R.
Donay, Steven R., d.b.a. Steven Donay Co., Milwaukee, Wis. 859,271, pub. 8–13–68. Cl. 26.
Downington Paper Co.: *See*—
Simplex Paper Box Co.
Drambuie Liqueur Co., Ltd., The, Edinburgh, Scotland. 859,427, pub. 8–13–68. Cl. 49.
Dura Corp.: *See*—
Intercontinental Systems, Inc.
Duracote Corp., Ravenna, Ohio. 737,589, canc. Cl. 42.
ESB Inc., Philadelphia, Pa. 859,234, pub. 4–9–68. Cl. 21.
Eagle Clothes, Inc., New York, N.Y. 859,355, pub. 8–13–68. Cl. 39.
Eagle Pencil Co., New York, N.Y., to Eagle Pencil Co., Danbury, Conn. 70,598, ren. 10–29–68. Cl. 37.
Eagle Pencil Co., Danbury, Conn. 246,878, ren. 10–29–68. Cl. 37.
Eastern Lacquer Corp., Malden, Mass. 859,211, pub. 8–13–68. Cl. 16.
Electone Hearing Aid Co., Winter Park, Fla. 859,391, pub. 8–13–68. Cl. 41.
Electric Roller Corp. of America, Worcester, Mass. 859,300, pub. 8–13–68. Cl. 34.
Electro Connective Systems, Inc., Brockton, Mass. 859,242, pub. 8–13–68. Cl. 21.
Elgin National Watch Co., Elgin, Ill. 441,352, ren. 10–29–68. Cl. 27.
Elite Products Co.: *See*—
Speer, Ralph W.
Ellis Chemicals & Lubricants, Inc., Kansas City, Mo. 859,207, pub. 8–13–68. Cl. 15.
Emarco: *See*—
Redman, Morey.
Emergency Laboratories, New York, N.Y., to Omega Chemical Co., Inc., d.b.a. Emergency Laboratories, Jersey City, N.J. 251,982, ren. 10–29–68. Cl. 52.
Emhart Corp.: *See*—
Athol Mfg. Co.
Empire Slip On Hook Co., Inc., Dorado, Puerto Rico. 859,199, pub. 8–13–68. Cl. 13.
Eskimo Pie Corp., Richmond, Va. 859,403, pub. 12–5–67. Cl. 46.
Eureka Fire Hose Co., to Uniroyal, Inc., New York, N.Y. 32,059. Am. 7(d). Cl. 35.
Eureka Fire Hose Co., to Uniroyal, Inc., New York, N.Y. 32,062. Am. 7(d). Cl. 35.
Evangelical Foreign Missions Association, Washington, D.C. 859,338, pub. 8–13–68. Cl. 38.
Evans, Gerardine Ogilby, d.b.a. Gae's Originals, Briarcliff Manor, N.Y. 737,548, canc. Cl. 37.
Evercady Burner Supply Co., Bethpage, N.Y. 859,296, pub. 8–13–68. Cl. 34.
Evergreen Hatchery, Inc., Dysart, Iowa. 737,353, canc. Cl. 1.
Faberge, Inc., New York, N.Y., from L. T. York Co., Kansas City, Mo. 859,437, pub. 8–13–68. Cl. 51.
Fanner Mfg. Co., The, Division of Textron Inc., Providence, R.I. 859,197, pub. 8–13–68. Cl. 13.
Fansteel Inc., from Fansteel Metallurgical Corp., North Chicago, Ill. 859,259–60, pub. 6–25–68. Cl. 23.
Fansteel Metallurgical Corp.: *See*—
Fansteel Inc.
Farmer, Louis C., d.b.a. Busy Boy Mfg. Co., Orem Utah. 737,495, canc. Cl. 22.
Farrar, Straus & Giroux, Inc., New York, N.Y. 859,324, pub. 8–13–68. Cl. 38.
Fedtro, Inc., Rockville Centre, N.Y. 859,306, pub. 8–13–68. Cl. 35.

Fibre-Metal Products Co., The, Chester, Pa. 859,494. Cl. 26.
59 Cutter Mill Road Corp., Great Neck, N.Y. 737,525, canc. Cl. 30.
Filotecnica Salmoiraghi S.p.A., Milan, Italy. 737,500, canc. Cl. 23.
Fils et Petit-Fils de Paul Schwarz-Etienne, succ. de Paul Schwarz-Etienne et Cie, La Chaux-de-Fonds, Switzerland. 737,521, canc. Cl. 27.
Firestone Tire & Rubber Co., The, Akron, Ohio. 859,308–9, pub. 8–13–68. Cl. 35.
Fixmobile, Inc., Brooklyn, N.Y. 859,254, pub. 8–13–68. Multiple Class (Classes 23, 100, and 103).
Flagstaff Liquor Co., Perth Amboy, N.J. 859,496. Cl. 47.
Foremost Machine Builders, Inc., Fairfield, N.J. 852,670, cor. Cl. 23.
Foremost-McKesson, Inc., d.b.a. Gentec Hospital Supply Co., New York, N.Y. 854,223, cor. Cl. 39.
Formco, Inc., Cincinnati, Ohio. 859 288, pub. 8–13–68. Cl. 32.
Formsprag Co., Warren, Mich. 859,263–4, pub. 8–13–68. Cl. 23.
Four Winds Travel, Inc., New York, N.Y. 859,486, pub. 2–15–68. Cl. 105.
Friden, Inc., San Leandro, Calif. 808,462, cor. Cl. 26.
Fruchter, Adolph, & Sons, Inc., Philadelphia, Pa. 737,535, canc. Cl. 32.
Fuelane Corp., Liberty, to Fuelane Corp., Delmar, N.Y. 438,090, ren. 10–29–68. Cl. 34.
Gae's Originals: *See*—
Evans, Gerardine O.
Gardco Industries, Inc., Geneva, N.Y. 859,201, pub. 8–13–68. Cl. 13.
Garden State National Bank of Teaneck, The, Teaneck, N.J. 737,662, canc. Cl. 102.
Garrett Corp., The, Los Angeles, Calif. 859,232, pub. 8–13–68. Cl. 21.
Geigy Chemical Corp., Ardsley, N.Y. 859,174, pub. 8–13–68. Cl. 6.
General Beauty Products, Inc.: *See*—
Rallet Corp. of America.
General Electric Co., Hudson, Falls, N.Y. 859,246, pub. 8–13–68. Cl. 21.
General Equipment Co., Owatonna, Minn. 737,513, canc. Cl. 23.
General Felt Industries, Inc., Chicago, Ill. 859,381, pub. 8–13–68. Multiple Class (Classes 42 and 50).
General Mills, Inc., Minneapolis, Minn. 859,161–2, pub. 8–13–68. Cl. 5.
General Mills, Inc., Minneapolis, Minn. 859,418–19, pub. 8–13–68. Cl. 46.
General Printing & Paper, Inc., Topeka, Kans. 737,577, canc. Cl. 38.
General Radio Co., West Concord, Mass. 859,272, pub. 8–13–68. Cl. 26.
General Refractories Co., Philadelphia, Pa. 737,401, canc. Cl. 12.
General Refractories Co., Philadelphia, Pa. 859,191, pub. 8–13–68. Cl. 12.
General Time Corp.: *See*—
Western Clock Mfg. Co., The.
General Time Corp., Stamford, Conn. 859,257, pub. 6–4–68. Cl. 23.
General Tire & Rubber Co., The, Akron, Ohio. 737,469, canc. Cl. 19.
General Tire & Rubber Co., The, Akron, Ohio. 859,307, pub. 8–13–68. Cl. 35.
Geo-Engineering Development Co., Mount Vernon, Ill. 859,269, pub. 8–13–68. Cl. 26.
Gesner, Marilyn, Brooklyn, N.Y. 859,352, pub. 8–13–68. Cl. 39.
Gibson, C. R., Co., The, Norwalk, Conn. 859,325, pub. 8–13–68. Cl. 38.
Gibson Greeting Cards, Inc., Cincinnati, Ohio. 859,152, pub. 8–13–68. Cl. 2.
Gimme Co.: *See*—
Branch, Robert P.
Glaros Products, Inc., Pittsburgh, Pa. 859,189, pub. 8–13–68. Cl. 12.
Glas-Col Apparatus Co., assor. to Glas-Col Apparatus Co., Inc., to Templeton Coal Co., Inc., Terre Haute, Ind. 503,846, ren. 10–29–68. Cl. 21.
Glas-Fit Co.: *See*—
Cochran, A. R.
Glintz, Georgia E., Des Moines, Iowa. 859,387, pub. 8–13–68. Cl. 44.
Globe Tailoring Co., The, Cincinnati, Ohio. 859,363, pub. 8–13–68. Cl. 39.
Gold Medal Yarn Co., New York, N.Y. 500,881, ren. 10–29–68. Cl. 43.
Golden Nugget Sweets, San Francisco, Calif., to Reed Candy Co., Chicago, Ill. 249,519, ren. 10–29–68. Cl. 46.
Goodrich, B. F., Co., The, Akron, Ohio. 737,368, canc. Cl. 2.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 502,465, ren. 10–29–68. Cl. 35.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 859,208, pub. 8–13–68. Cl. 16.
Grace, W. R., & Co., New York, N.Y. 737,392, canc. Cl. 6.
Great Lakes Steel Corp., Wilmington, Del., and Ecorse, Mich., to Stran-Steel Corp., Houston, Tex. 440,757, ren. 10–29–68. Cl. 12.
Griffolyn Co., Inc., Houston, Tex. 859,373, pub. 8–13–68. Cl. 42.
Grizzly Mfg. Co., Paulding, Ohio, to Maremont Corp., Chicago, Ill. 439,639, ren. 10–29–68. Cl. 35.
Gus' Butter-Maid Bake Shop: *See*—
Kesselring, August.
Haertel, W. J., Chicago, to W. J. Haertel & Co., Franklin Park, Ill. 501,927, ren. 10–29–68. Cl. 12.
Haertel, W. J., & Co.: *See*—
Haertel, W. J.
Hahn, Louis C., Inc.: *See*—
Savill, Thomas, & Sons.
Hammond Typewriter Corp., New York, N.Y., to Vari-Typer Corp., Hanover, N.J. 251,465, ren. 10–29–68. Cl. 23.
Hampton Mills, Inc., Ellijay, Ga. 859,376, pub. 8–13–68. Cl. 42.
Handy Products: *See*—
Handy Products, Inc.
Handy Products, Inc., from Eugene R. Anderson, d.b.a. Handy Products, Wills Point, Tex. 737,534, canc. Cl. 32.
Happiness Tours, Inc., Chicago, Ill. 737,664, canc. Cl. 105.
Harrell Farms, Inc., Westport, Conn. 859,405–6, pub. 8–13–68. Cl. 46.
Hawaiian Perfumers, Inc., d.b.a. Liana of Waikiki, Honolulu, Hawaii. 859,438, pub. 1–3–67. Cl. 51.
Hayhoe, R. B., & Co. Ltd., Toronto, Ontario, Canada. 859,417, pub. 8–13–68. Cl. 46.
Health-O-Swim Products Co., New York, N.Y. 737,597, canc. Cl. 44.
Helzberg's Diamond Shops, Inc., Kansas City, Mo. 859,322, pub. 8–13–68. Cl. 37.
Hendon Construction Co., Little Ferry, N.J. 859,186–7, pub. 8–13–68. Cl. 12.
Hi-Altitude Instrument Co., Inc., Denver, Colo. 859,493. Cl. 26.
Hickory Records, Inc., Nashville, Tenn. 859,312, pub. 8–13–68. Cl. 36.
Hill-Shaw Co., Chicago, Ill. 859,228, pub. 8–13–68. Cl. 21.
Hipodromo De Tijuana, Tijuana, Baja California, Mexico. 859,467, pub. 8–13–68. Cl. 101.
Hobo Joe's, Inc., Scottsdale, Ariz. 859,466, pub. 8–13–68. Cl. 100.
Hoffmann-La Roche Inc., Nutley, N.J. 737,446, canc. Cl. 18.
Holden, A. F., Co., The, Milford, Mich. 502,125, ren. 10–29–68. Cl. 34.
Holden, A. F., Co., The, Milford, Mich. 503,139, ren. 10–29–68. Cl. 6.
Honeywell Inc., Minneapolis, Minn. 859,276, pub. 8–13–68. Cl. 26.
Horizon Records Corp., Houston, Tex. 859,313, pub. 8–13–68. Cl. 36.
Hot Shoppes, Inc.: *See*—
Marriott Corp.
House For Men, Inc., The, Chicago, Ill. 737,650, canc. Cl. 51.
House of Zelinkoff, The: *See*—
Zelinkoff, Milton A.
Houston Press Co., Houston, Tex. 737,563, canc. Cl. 38.
Huntingburg Furniture Co., Inc., Huntingburg, Ind. 737,536, canc. Cl. 32.
Hydraulics Unlimited Mfg. Co., Eaton, Colo. 737,540, canc. Cl. 34.
Indicator Digest, Inc., Palisades Park, N.J. 859,339, pub. 8–13–68. Cl. 38.
Ingersoll-Rand Co., New York, N.Y. 737,515, canc. Cl. 23.
Inland Rubber Corp.: *See*—
Mayfair Tire Co.
Integrated Ceilings & Grilleworks, Inc., Los Angeles, Calif. 737,543, canc. Cl. 34.
Intercontinental Coffee Service, Inc., Rosemont, Ill. 859,463, pub. 8–13–68. Cl. 100.
Intercontinental Systems, Inc., Los Angeles, Calif., from Dura Corp., Oak Park, Mich. 859,268, pub. 8–13–68. Cl. 26.
International Bakerage, Inc., Atlanta, Ga. 859,478, pub. 8–13–68. Cl. 103.
International Instruments, Inc.: *See*—
Sigma Instruments, Inc.
International Minerals & Chemical Corp., Skokie, Ill. 859,173, pub. 8–13–68. Cl. 6.
Interstate Chemical Co.: *See*—
Interstate Industries, Inc.
Interstate Industries, Inc., d.b.a. Interstate Chemical Co., Kansas City, Mo. 859,452, pub. 8–13–68. Cl. 52.
Izod, A. J., Ltd., to David Crystal, Inc., New York, N.Y. 245,045. Am. 7(d). Cl. 39.
J & A Products, Inc., Saginaw, Mich. 859,190, pub. 8–13–68. Cl. 12.
Jaffe, David, Scotch Plains, N.J. 859,151, pub. 8–13–68. Cl. 2.
Jana Handbags, Inc., New York, N.Y. 737,371, canc. Cl. 3.
Jarke Corp., Chicago, Ill. 859,291, pub. 8–13–68. Cl. 32.
Jason Products Co.: *See*—
Mierson, Augustus.
Jefferson Electric Co., to Jefferson Electric Co., Bellwood, Ill. 501,770, ren. 10–29–68. Cl. 21.
Jensen Mfg. Co., to The Muter Co., Chicago, Ill. 501,769, ren. 10–29–68. Cl. 21.
Jewell Ridge Coal Sales Co., Inc., Cincinnati, Ohio. 737,358, canc. Cl. 1.
Jiffy Horse, Inc., Reno, Nev. 737,640, canc. Cl. 50.
Jiggs Smoked Turkeys, Inc., Cordell, Okla. 859,409, pub. 8–13–68. Cl. 46.
Johnson & Johnson: *See*—
Lister Surgical Co.
Joyce, Inc., Cincinnati, Ohio. 859,350, pub. 8–13–68. Cl. 39.
Kamenstein, David, Inc., New York, N.Y. 859,194, pub. 8–13–68. Cl. 13.
Kayser-Roth Corp., New York, N.Y. 859,351, pub. 8–13–68. Cl. 39.
Keating of Chicago, Inc., Chicago, Ill. 859,297, pub. 8–13–68. Cl. 34.

Kenco Chemical & Mfg. Co., Inc., Jacksonville, Fla. 859,458, pub. 8–13–68. Cl. 52.
Kentmaster Mfg. Co., Inc., Los Angeles, Calif. 854,379, cor. Cl. 23.
Kenyon, Donald D., d.b.a. Kondon Mfg. Co., to Wonderful Dream Salve Corp., Lexington, Mich. 503,484, ren. 10–29–68. Cl. 18.
Kesselring, August, d.b.a. Gus' Butter-Maid Bake Shop, Denver, Colo. to Ward Foods, Inc., New York, N.Y. 245,944, ren. 10–29–68. Cl. 46.
Kidde, Walter, & Co., Inc., Belleville, N.J. 737,484, canc. Cl. 21.
Kimberly-Clark Corp.: *See*—
Munising Paper Co., The.
Kingsmen Quartet, Alexander, N.C. 737,666, canc. Cl. 107.
Kjeldsen, Robert, Norfolk, Va. 737,661, canc. Cl. 102.
Klein, Bernard, Inc., d.b.a. Crown Paper Co., Yonkers, N.Y. 859,166, pub. 6–25–68. Multiple Class (Classes 6 and 37).
Klein, J. Alan, d.b.a. Jay Alan, New York, N.Y. 737,579, canc. Cl. 38.
Kloster Steel Corp., Chicago, Ill. 252,027, ren. 10–29–68. Cl. 14.
Kohler Engineers Inc., Kohler, Wis. 737,502, canc. Cl. 23.
Kondon Mfg. Co.: *See*—
Kenyon, Donald D.
Koneta Rubber Co., Inc., Wapakoneta, Ohio. 859,224, pub. 8–13–68. Cl. 19.
Krakauer Bros., Bronx, N.Y. 859,310–11, pub. 8–13–68. Cl. 36.
Kresge, S. S., Co., Detroit, Mich. 859,464, pub. 8–13–68. Cl. 100.
La Societe Anonyme, Papeteries de Saint-Louis S.A., Saint-Louis (Haut-Rhin), France. 859,320, pub. 8–13–68. Cl. 37.
Lace Loc Co., Inc., Atlanta, Ga. 737,587, canc. Cl. 40.
Lahr, W. E., Co., Minneapolis, Minn. 859,175, pub. 8–13–68. Cl. 6.
Lahr, W. E. Co., Minneapolis, Minn. 859,223, pub. 8–13–68. Cl. 19.
Lahr, W. E., Co., Minneapolis, Minn. 859,244, pub. 8–13–68. Cl. 21.
Lalli, Victor, Enterprises, Inc., New Rochelle, N.Y. 859,331, pub. 8–13–68. Cl. 38.
Lawson, F. H., Co., The, Cincinnati, Ohio. 859,156, pub. 8–13–68. Cl. 2.
Legg, Louis E., d.b.a. Louis E. Legg Lumber Co., to Manufactured Homes, Inc., Marshall, Mich. 503,358, ren. 10–29–68. Cl. 12.
Legg, Louis E., Lumber Co.: *See*—
Legg, Louis E.
Lewis-Shepard Co.: *See*—
Lewis-Shepard Products, Inc.
Lewis-Shepard Products, Inc., to Lewis-Shepard Co., Watertown, Mass. 503,687, ren. 10–29–68. Cl. 38.
Liana of Waikiki: *See*—
Hawaiian Perfumers, Inc.
Liebmann Breweries, Inc., to Rheingold Breweries, Inc., Brooklyn, N.Y. 764,681. Am. 7(d). Cl. 33.
Lilly, Eli, & Co., Indianapolis, Ind. 859,214, pub. 8–13–68. Cl. 18.
Lister Surgical Co., to Johnson & Johnson, New Brunswick, N.J. 70,693, ren. 10–29–68. Cl. 44.
Lodding Engineering Corp., Auburn, Mass. 859,256, pub. 8–13–68. Cl. 23.
Loomskill Fabrics, Inc., to Loomskill, Inc., New York, N.Y. 502,592, ren. 10–29–68. Cl. 42.
Loomskill, Inc.: *See*—
Loomskill Fabrics, Inc.
L'Oreal, from Societe Monsavon-L'Oreal, Paris, France. 737,642, canc. Cl. 51.
Lowe's, Inc., Cassopolis, Mich. 859,179, pub. 8–13–68. Cl. 10.
Lucas, Rex, Jr., d.b.a. R & J Enterprises, Dallas, Tex. 859,377, pub. 8–13–68. Cl. 42.
M & H Laboratories, to M & H Laboratories, Inc., Chicago, Ill. 500,940, ren. 10–29–68. Cl. 12.
M & H Laboratories, Inc.: *See*—
M & H Laboratories.
Macmillan Ring-Free Oil Co., Inc., Los Angeles, Calif. 737,374, canc. Cl. 5.
Macmillan Ring-Free Oil Co., Inc., Los Angeles, Calif. 737,424, canc. Cl. 16.
Madison Chemical Corp., Maywood, Ill. 859,170, pub. 8–13–68. Cl. 6.
Magnavox Co., The, Fort Wayne, Ind. 859,231, pub. 8–13–68. Multiple Class (Classes 21 and 36).
Malvern Brick & Tile Co., Malvern, Ark. 505,011, ren. 10–29–68. Cl. 12.
Mamaternity Sales Co., Houston, Tex. 737,643, canc. Cl. 51.
Manhattan Shirt Co., The, New York, N.Y. 859,360, pub. 8–13–68. Cl. 39.
Manufactured Homes, Inc.: *See*—
Legg, Louis E.
Maremont Corp.: *See*—
Grizzly Mfg. Co.
Marriott Corp., from Hot Shoppes, Inc., Washington, D.C. 859,400, pub. 8–13–68. Cl. 46.
Marvella, Inc., New York, N.Y. 859,281, pub. 8–13–68. Cl. 23.
Master Charge System, Inc.: *See*—
Western States Bankcard Association.
Matsushita Electric Industrial Co., Ltd., Osaka, Japan. 859,262, pub. 8–13–68. Cl. 23.
Matsushita Electric Industrial Co., Ltd., Osaka, Japan. 859,287, pub. 8–13–68. Cl. 31.
Matsushita Electric Industrial Co., Ltd., Osaka, Japan. 859,314, pub. 8–13–68. Cl. 36.
Mattel, Inc., Hawthorne, Calif. 859,251, pub. 8–13–68. Cl. 22.
Mattel, Inc., Hawthorne, Calif. 859,438, pub. 8–13–68. Cl. 50.
May Knitting Co., Inc., Bronx, N.Y. 859,361, pub. 8–13–68. Cl. 39.
Mayes, V., & Co. (Australia) Proprietary Ltd., Moorabbin, Victoria, Australia. 859,349, pub. 8–13–68. Cl. 39.
Mayfair Tire Co., Chicago, Ill., to Inland Rubber Corp., Mansfield, Ohio. 502,146, ren. 10–29–68. Cl. 35.
McGraw-Hill, Inc., New York, N.Y. 859,343, pub. 8–13–68. Cl. 38.
McIntosh, Duncan, Inc., Long Beach, Calif. 737,571, canc. Cl. 38.
Mechanical Handling Systems, Inc., Detroit, Mich., to American Chain & Cable Co., Inc., Bridgeport, Conn. 245,122, ren. 10–29–68. Cl. 23.
Medical Plastics Corp. of America, Greensboro, N.C. 859,389, pub. 8–13–68. Cl. 44.
Medusa Portland Cement Co., Cleveland Heights, Ohio. 859,183, pub. 8–13–68. Cl. 12.
Mennen Co., The, Morristownship, N.J. 505,804, ren. 10–29–68. Cl. 51.
Menuette Co.: *See*—
Rottman, John H.
Meridian Mutual Insurance Co., Indianapolis, Ind. 859,473, pub. 8–13–68. Cl. 102.
Merlin Industries, Inc., from Transistor Devices, Inc., Los Angeles, Calif. 737,475, canc. Cl. 21.
Metritape Controls, Inc., Concord, Mass. 859,270, pub. 8–13–68. Cl. 26.
Meyer Products, Inc., Cleveland, Ohio. 859,255, pub. 8–13–68. Cl. 23.
Michigan Bolt & Nut Co., Inc., Madison Heights, Mich. 859,195, pub. 8–13–68. Cl. 13.
Michigan Hot Rod Association, Centerline, Mich. 859,455, pub. 8–13–68. Cl. 52.
Midar Inc., Magnolia, Ark. 859,465, pub. 8–13–68. Cl. 100.
Mid-States Steel & Wire Co., Crawfordsville, Ind. 859,193, pub. 8–13–68. Multiple Class (Classes 13 and 14).
Mierson, Augustus, d.b.a. Jason Products Co., San Francisco, Calif. 859,153, pub. 8–13–68. Cl. 2.
Mille Lacs Lake Spinner Co., to Mille Lacs Mfg. Co., Isle, Minn. 504,238, ren. 10–29–68. Cl. 22.
Mille Lacs Mfg. Co.: *See*—
Mille Lacs Lake Spinner Co.
Miller Co., The, Meriden, Conn. 859,229, pub. 8–13–68. Cl. 21.
Minnesota Mining & Mfg. Co., St. Paul, Minn. 859,160, pub. 8–13–68. Cl. 5.
Mintons Ltd., Stoke-On-Trent, England. 859,292, pub. 8–13–68. Cl. 33.
Miracle Products, Inc., from Miracle-Strip, Inc., Wichita, Kans. 859,451, pub. 8–13–68. Cl. 52.
Miracle-Strip, Inc.: *See*—
Miracle Products, Inc.
Modern Globe, Inc., Pawtucket, R.I. 859,354, pub. 8–13–68. Cl. 39.
Monarch Soap & Chemical Co., to Sep-Ko Chemicals, Inc., Minneapolis, Minn. 501,699, ren. 10–29–68. Cl. 6.
Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 501,754, ren. 10–29–68. Cl. 6.
Monsanto Co.: *See*—
Monsanto Chemical Co.
Monsanto Overseas Enterprises Co., St. Louis, Mo. 859,397, pub. 8–13–68. Cl. 45.
Monsieur Robaire, Inc., Los Angeles, Calif. 851,249, cor. Cl. 51.
Montecito Mfg. Co., Santa Barbara, Calif. 859,476, pub. 8–13–68. Cl. 103.
Munising Paper Co., The, Chicago, Ill., to Kimberly-Clark Corp., Neenah, Wis. 505,575, ren. 10–29–68. Cl. 37.
Murphy, Frank W., Manufacturer, Inc., Tulsa, Okla. 859,239, pub. 8–13–68. Cl. 21.
Muter Co., The: *See*—
Jensen Mfg. Co.
Mutual Buying Syndicate, Inc., New York, N.Y. 503,088, ren. 10–29–68. Cl. 3.
Mytron Products, Inc., Brooklyn, N.Y. 737,485, canc. Cl. 21.
National Export Services & Containerization Exposition, Inc., Detroit, Mich. 859,490, pub. 8–13–68. Cl. 107.
National Lead Co.: *See*—
Collings, William A.
National Nugrape Co., Atlanta, Ga. 859,393, pub. 8–13–68. Cl. 45.
National Silver Co., New York, N.Y. 551,817, canc. Cl. 13.
Nestle Co., Inc., The: *See*—
Nestle's Milk Products, Inc.
Nestle's Milk Products, Inc., New York, to The Nestle Co., Inc., White Plains, N.Y. 505,305, ren. 10–29–68. Cl. 6.
New England Confectionery Co., to New England Confectionery Co., Boston, Mass. 72,494–5, ren. 10–29–68. Cl. 46.
New York & Pennsylvania Co. Inc., New York, N.Y. 737,560, canc. Cl. 37.
Nichiban Co., Ltd., Tokyo, Japan. 859,159, pub. 8–13–68. Cl. 5.
Niedermeyer-Martin Co., Portland, Oreg. 859,184, pub. 8–13–68. Cl. 12.
Norcross, to Norcross, Inc., New York, N.Y. 440,455, ren. 10–29–68. Cl. 38.
Norcross, Inc.: *See*—
Norcross.

"Nordsee" Deutsche Hochseefischerei Aktiengesellschaft: *See*—
"Nordsee" Deutsche Hochseefischerei Gesellschaft mit beschrankter Haftung.
"Nordsee" Deutsche Hochseefischerei Gesellschaft mit beschrankter Haftung, from "Nordsee" Deutsche Hochseefischerei Aktiengesellschaft, am Rathaus, Bremerhaven-G, Germany. 737,604, canc. Cl. 46.
North American Refractories Co., Cleveland, Ohio. 737,402, canc. Cl. 12.
North American Rockwell Corp., from Rockwell-Standard Corp., Pittsburgh, Pa. 859,284–5, pub. 8–13–68. Cl. 31.
North American Vending Mfg. Corp., Floral Park, N.Y. 737,499, canc. Cl. 23.
Northern Electric Co., Chicago, Ill. 859,233, pub. 8–13–68. Multiple Class (Classes 21, 29, 34, 39, 42, and 44).
Norwich Pharmacal Co., The, Norwich, N.Y. 248,261, ren. 10–29–68. Cl. 18.
Nu-Vita Laboratories, Inc., Racine, Wis. 737,588, canc. Cl. 40.
Occidental Petroleum Corp., Los Angeles, Calif. 859,147, pub. 8–13–68. Cl. 1.
Occidental Petroleum Corp., Los Angeles, Calif. 859,163, pub. 8–13–68. Cl. 6.
Ohio Brass Co., The, Mansfield, Ohio. 502,297, ren. 10–29–68. Cl. 21.
Old Keg Co.: *See*—
Twitchell, S., Co.
Olivetti Underwood Corp., New York, N.Y. 859,278, pub. 8–13–68. Cl. 26.
Omega Chemical Co., Inc.: *See*—
Emergency Laboratories.
Oneida Ltd., Oneida, N.Y. 859,280, pub. 8–13–68. Cl. 28.
Ortho Pharmaceutical Corp., Raritan, N.J. 859,215, pub. 8–13–68. Cl. 18.
Oster, John, Mfg. Co., Milwaukee, Wis. 859,247, pub. 8–13–68. Cl. 21.
P.C.C., Inc., Chicago, Ill., from The Bell Co., Bedford, Ohio. 737,573, canc. Cl. 38.
Pacific Semiconductors, Inc., Lawndale, Calif. 737,479–80, canc. Cl. 21.
Paravox, Inc., Fort Lauderdale, Fla. 737,497, canc. Cl. 23.
Parts, Inc., Memphis, Tenn. 859,479, pub. 8–13–68. Cl. 103.
Peanut Research & Testing Laboratories, Inc., Edenton, N.C. 859,462, pub. 8–13–68. Cl. 100.
Pendleton Tool Industries, Inc.: *See*—
Plomb Tool Co.
Penn Products Co.: *See*—
Pentapco, Inc.
Pentapco, Inc., d.b.a. Penn Products Co., Elizabeth, N.J. 859,384, pub. 8–13–68. Cl. 43.
Pepperell Mfg. Co., Boston, Mass., to West Point-Pepperell, Inc., West Point, Ga. 441,591, ren. 10–29–68. Cl. 42.
Perkins, Edward M., d.b.a. AAA Monumental Associates, Washington, D.C. 859,429, pub. 8–13–68. Cl. 50.
Permagile Corp. of America, Plainview, N.Y. 859,188, pub 8–13–68. Cl. 12.
Perma-Power Co.: *See*—
Chamberlain Mfg. Corp.
Pfizer, Charles, & Co., Inc., New York, N.Y. 501,762, ren. 10–29–68. Cl. 6.
Pflaum, Geo. A., Publisher, Inc., Dayton, Ohio. 859,342, pub. 8–13–68. Cl. 38.
Physicians & Hospitals Supply Co., Inc., d.b.a. Ulmer Pharmacal Co., Minneapolis, Minn. 441,237, ren. 10–29–68. Cl. 18.
Plantabbs Corp., Timonium, Md. 859,146, pub. 8–13–68. Cl. 1.
Plastics, Inc., St. Paul, Minn. 859,176, pub. 8–13–68. Cl. 8.
Pleau, Medric H., Jr., d.b.a. Astro, Florissant, Mo. 859,480, pub. 8–13–68. Cl. 103.
Plomb Tool Co., to Pendleton Tool Industries, Inc., Los Angeles, Calif. 501,030, ren. 10–29–68. Cl. 23.
Polk Miller Products Corp., to A. H. Robins Co., Inc., Richmond, Va. 504,266, ren. 10–29–68. Cl. 18.
Poly Products Inc., St. Paul, Minn. 859,192, pub. 8–13–68. Cl. 13.
Popper & Sons, Inc., New York, N.Y. 859,385, pub. 8–13–68. Cl. 44.
Precision Automatic Fire Equipment, Inc., Indianapolis, Ind. 737,382, canc. Cl. 6.
Premium Corp. of America, Inc., Minneapolis, Minn. 859,202, pub. 8–13–68. Cl. 13.
Premium Corp. of America, Inc., Minneapolis, Minn. 859,290, pub. 8–13–68. Cl. 32.
Preston-Thomas Co., San Antonio, Tex. 737,622, canc. Cl. 46.
Procter & Gamble Co., The, Cincinnati, Ohio. 859,421, pub. 8–13–68. Cl. 46.
Prost, Andre, Inc., East Elmhurst, N.Y. 737,615, canc. Cl. 46.
Purdue Frederick Co., The, Yonkers, N.Y. 859,213, pub. 8–13–68. Cl. 18.
Pure Oil Co., The, Chicago, Ill., to Union Oil Co. of California, Los Angeles, Calif. 502,269, ren. 10–29–68. Cl. 15.
Pure Oil Co., The, Chicago, Ill., to Union Oil Co. of California, Los Angeles, Calif. 503,020, ren. 10–29–68. Cl. 15.
Purecell Corp., Palo Alto, Calif. 737,526, canc. Cl. 31.
Puritan Fashions Corp.: *See*—
Rice-Stix Dry Goods Co.
Pyramid Rubber Co., The, Ravenna, Ohio. 737,601, canc. Cl. 44.
QD Publishing Inc., New York, N.Y. 859,337, pub. 8–13–68. Cl. 38.
R & J Enterprises: *See*—
Lucas, Rex, Jr.
R-W Industries, Inc., Barberton, Ohio. 859,154, pub. 8–13–68. Cl. 2.
Radio Corp. of America, New York, N.Y. 859,483–4, pub. 8–13–68. Cl. 103.
Rallet Corp. of America, Wilmington, Del., to General Beauty Products, Inc., New York, N.Y. 240,342, ren. 10–29–68. Cl. 51.
Ralston Purina Co., St. Louis, Mo. 859,420, pub. 8–13–68. Cl. 46.
Ramchandra Hassamal Shamdasani, Liverpool, England. 859,348, pub. 8–13–68. Cl. 39.
Ratner Safe Co., Ltd., London, England. 859,266, pub. 8–13–68. Cl. 25.
Ray's Egg Co.: *See*—
Ray's Egg Co., Inc.
Ray's Egg Co., Inc., d.b.a. Ray's Egg Co., Memphis, Tenn. 859,411, pub. 8–13–68. Cl. 46.
Raybestos-Manhattan, Inc., Manheim, Pa. 859,148, pub. 8–13–68. Cl. 1.
Redman, Morey, d.b.a. Emarco, Chicago, Ill. 737,638, canc. Cl. 50.
Reed, Albert E., & Co. Ltd., London, England. 737,550, canc. Cl. 37.
Reed Candy Co.: *See*—
Golden Nugget Sweets.
Reliance Trading Corp.: *See*—
Tong, Duncan.
Reliance Trading Corp., Hong Kong. 859,432, pub. 8–13–68. Cl. 50.
Republic Steel Corp., Cleveland, Ohio. 737,418, canc. Cl. 13.
Res-Q Automotive Products, Inc., Orlando, Fla. 859,164, pub. 8–13–68. Cl. 6.
Reverso Products, Inc., Brooklyn, N.Y. 859,225, pub. 11–7–67. Cl. 20.
Rex Chemical Co. Revere, Mass. 737,373, canc. Cl. 4.
Reynolds & Reynolds Co., The, Dayton, Ohio. 440,705, ren. 10–29–68. Cl. 23.
Ricci Remond Chocolate Co. Pty. Ltd., Kogarah, New South Wales, Australia. 859,407. pub. 8–13–68. Cl. 46.
Rice-Stix Dry Goods Co., St. Louis, Mo., to Puritan Fashions Corp., New York, N.Y. 246,670, ren. 10–29–68. Cl. 39.
Richards, Caryl, Inc., New York, N.Y. 853,812, cor. Cl. 51.
Robins, A. H., Co., Inc.: *See*—
Polk Miller Products Corp.
Robins Industries Corp., Flushing, N.Y. 859,180, pub. 10–29–65. Multiple Class (Classes 12 and 21).
Robinson Houchin Optical Co., The, to Robinson-Houchin, Inc., Columbus, Ohio. 503,742, ren. 10–29–68. Cl. 26.
Robinson-Houchin, Inc.: *See*—
Robinson Houchin Optical Co., The.
Rockwell-Standard Corp.: *See*—
North American Rockwell Corp.
Rodale Press, Inc., Emmaus, Pa. 859,341, pub. 8–13–68. Cl. 38.
Rosenstein, Nettie, Inc., New York, N.Y. 505,857, ren. 10–29–68. Cl. 52.
Rottman, John H., d.b.a. Menuette Co., Beverly Hills, Calif. 859,273, pub. 8–13–68. Cl. 26.
Royal Oil Co., Fort Worth, Tex. 752,367, cor. Cl. 15.
Ruby Lighting Corp., The, New York, N.Y. 859,241, pub. 8–13–68. Cl. 21.
SCM Corp., New York, N.Y. 859,315, pub. 8–13–68. Cl. 36.
Saffir, Jacob A.: *See*—
Dentists' Supply, The.
Salla Societa per Azioni Industria Liquirizia Abruzzese, Abruzzi, Italy. 737,612, canc. Cl. 46.
St. Clair Plastics, Inc., Kissimmee, Fla. 737,363, canc. Cl. 2.
St. Thomas, Inc.: *See*—
Wilkins, E. J., Co.
Salsbury Corp., Los Angeles, Calif. 737,377, canc. Cl. 6.
Sanabo Fabrik Chemischer und Pharmazeutischer Produkte Dr. Karl und Maria Stosius, Vienna, Austria. 850,467, cor. Cl. 18.
Sanford Ink Co.: *See*—
Sanford Mfg. Co.
Sanford Mfg. Co., Chicago, to Sanford Ink Co., Bellwood, Ill. 70,510, ren. 10–29–68. Cl. 11.
Sani-Craft Chemical Corp., Sarasota, Fla. 859,456–7, pub. 8–13–68. Cl. 52.
Sani-Pac Corp., New York, N.Y. 859,371, pub. 8–13–68. Cl. 42.
Sarné Co., Inc., New York, N.Y. 859,158, pub. 8–13–68. Cl. 3.
Savill Mfg. Co., The: *See*—
Savill, Thomas, & Sons.
Savill, Thomas, & Sons, Philadelphia, to Louis C. Hahn, Inc., d.b.a. The Savill Mfg. Co., Upper Darby, Pa. 70,225, ren. 10–29–68. Cl. 13.
Scheib, Earl, Inc., Beverly Hills, Calif. 859,209, pub. 8–13–68. Cl. 16.
Schenley Industries, Inc., New York, N.Y. 859,428, pub. 8–13–68. Cl. 49.
Schnee-Morehead Chemicals, Inc., Irving, Tex. 859,182, pub. 8–13–68. Cl. 12.
Schneible, Claude B., Co., Holly, Mich. 859,258, pub. 8–13–68. Cl. 23.
Schoellkopf Co., The, Dallas, Tex. 504,386, ren. 10–29–68. Cl. 9.
Scofield, L. M., Co.: *See*—
Continental Building Specialties.
Scott Aviation Corp., Lancaster, N.Y. 737,600, canc. Cl. 44.
Scrivner-Boogaart, Inc., Oklahoma City, Okla. 859,404, pub. 8–13–68. Cl. 46.
Seaboard-Somis Lemon Association: *See*—
Chula Vista Citrus Association.

Sears, Roebuck & Co., Chicago, Ill. 737,372, canc. Cl. 3.
Sears, Roebuck & Co., Chicago, Ill. 737,487, canc. Cl. 21.
Sep-Ko Chemicals, Inc.: *See*—
Monarch Soap & Chemical Co.
Sherwin-Williams Co., The, Cleveland, Ohio. 441,128, ren. 10–29–68. Cl. 21.
Sherwin-Williams Co., The, Cleveland, Ohio. 441,186, ren. 10–29–68. Cl. 11.
Shimano Kogyo Kabushiki Kaisha, Sakai, Japan. 859,221, pub. 8–13–68. Cl. 19.
Sigma Instruments, Inc., Braintree, Mass., from International Instruments, Inc., Orange, Conn. 859,240, pub. 7–2–68. Cl. 21.
Simoniz Co., Chicago, Ill. 859,482, pub. 8–13–68. Cl. 103.
Simplex Paper Box Co., Lititz, to Dowington Paper Co., Dowington, Pa. 246,123, ren. 10–29–68. Cl. 2.
Simplex Wire & Cable Co., Cambridge, Mass. 737,476, canc. Cl. 21.
Slanhoff, Bertram, d.b.a. Slanhoff Mfg. Co., Mount Vernon, N.Y. 859,321, pub. 8–13–68. Cl. 37.
Slanhoff Mfg. Co.: *See*—
Slanhoff, Bertram.
Slumbertogs, Inc., New York, N.Y. 859,357, pub. 8–13–68. Cl. 39.
Societa per Azioni Abele Bertozzi, Parma, Italy. 859,412, pub. 8–13–68. Cl. 46.
Societe Monsavon-L'Oreal: *See*—
L'Oreal.
Soddermatic Co., Los Angeles, Calif. 737,539, canc. Cl. 34.
Solow, J., & Son, New York, N.Y. 737,522, canc. Cl. 28.
Southern Biscuit Co.: *See*—
Southern Biscuit Co., Inc.
Southern Biscuit Co., Inc., to Southern Biscuit Co., Richmond, Va. 245,567, ren. 10–29–68. Cl. 46.
Southern Railway Co., Richmond, Va. 859,487, ren. 4–23–68. Cl. 105.
Sovig, Conrad, Co., San Francisco, Calif. 737,421, canc. Cl. 16.
Spartans Industries, Inc., New York, N.Y. 859,235, pub. 5–14–68. Cl. 21.
Spartans Industries, Inc., New York, N.Y. 859,265, pub. 5–14–68. Cl. 24.
Speco, Inc., Oklahom City, Okla. 859,450, pub. 8–13–68. Cl. 52.
Speer, Ralph W., d.b.a. Elite Products Co., Memphis, Tenn. 859,171, pub. 8–13–68. Cl. 6.
Sperry Rand Corp., by merger from Vickers Inc., New York, N.Y. 780,348. Am. 7(d). Multiple Class (Classes 38, 100, 103, and 107).
Stanbee Co., Inc., Hasbrouck Heights, N.J. 859,144, pub. 8–13–68. Multiple Class (Classes 1 and 6).
Standard Oil Co. of California, San Francisco, Calif. 859,245, pub. 8–13–68. Cl. 21.
Stanley Mfg. Co., Richmond, Va. 859,289, pub. 8–13–68. Cl. 32.
Star Enterprises: *See*—
Stockton, Edward L., Jr.
Stauffer Chemical Co., San Francisco, Calif., to Stauffer Chemical Co., New York, N.Y. 500,312, ren. 10–29–68. Cl. 6.
Stauffer Chemical Co., San Francisco, Calif., to Stauffer Chemical Co., New York, N.Y. 502,496. ren. 10–29–68. Cl. 6.
Stauffer Chemical Co., San Francisco, Calif., to Stauffer Chemical Co., New York, N.Y. 502,499, ren. 10–29–68. Cl. 6.
Stauffer Chemical Co., New York, N.Y. 737,393, canc. Cl. 6.
Stauffer Chemical Co., New York, N.Y. 859,167, pub. 8–13–68. Cl. 6.
Sterling Drug Inc.: *See*—
Winthrop Chemical Co., Inc.
Stevens, J. P., & Co., Inc., New York, N.Y. 737,593, canc. Cl. 42.
Stevens, J. P., & Co., Inc., New York, N.Y. 859,372, pub. 8–13–68. Cl. 42.
Stevens, J. P., & Co., Inc., New York, N.Y. 859,375, pub. 8–13–68. Cl. 42.
Stevens, J. P., & Co., Inc., New York, N.Y. 859,380, pub. 8–13–68. Cl. 42.
Stockton, Edward L., Jr., d.b.a. Star Enterprises, Mount Holly, N.J. 859,394–5, pub. 3–26–68. Cl. 45.
Stockton Tomato Co.: *See*—
Stockton Tomato Co., Inc.
Stockton Tomato Co., Inc., from Stockton Tomato Co., d.b.a. Stockton Tomato Co., Stockton, Calif. 859,407, pub. 8–13–68. Cl. 46.
Stran-Steel Corp.: *See*—
Great Lakes Steel Corp.
Strickland, J., & Co., Memphis, Tenn. 859,441, pub. 8–13–68. Cl. 51.
Sunn Musical Equipment Co., Tualatin, Oreg. 859,230, pub. 8–13–68. Cl. 21.
Superior Electric Co., The, Bristol, Conn. 859,252, pub. 8–13–68. Cl. 23.
Superior Zinc Corp., to Dianmond Chamrock Corp., Cleveland, Ohio. 500,494. Am. 7(d). Cl. 14.
Szekely, Edmond B., d.b.a. 21st Century Health & Beauty Resort, San Diego, Calif. 859,459, pub. 8–13–68. Cl. 100.
T.F.H. Publications, Inc., Jersey City, N.J. 859,326, pub. 8–13–68. Cl. 38.
T. & G. Industries: *See*—
Aldred, Torrence W.
Tait, Joseph X., d.b.a. U.S. Recording Co., Washington, D.C. 438,668, ren. 10–29–68. Cl. 21.
Tamper-Proof-Tops Industries Ltd., Toronto, Ontario, Canada. 859,430, pub. 8–13–68. Cl. 50.
Templeton Coal Co., Inc.: *See*—
Glas-Col Apparatus Co.
Tenneco Advanced Materials Inc.: *See*—
Tenneco Chemicals, Inc.
Tenneco Chemicals, Inc., New York, N.Y., from Tenneco Advanced Materials Inc., Newton Upper Falls, Mass. 859,149, pub. 8–13–68. Cl. 1.
Thompson, George S., Corp., The, Monterey Park, Calif. 737,617, canc. Cl. 46.
Thor Power Tool Co., Aurora, Ill. 737,671, canc. Cl. 21.
Tom Thumb Laboratories: *See*—
Chicago Paints, Inc.
Tong, Duncan, d.b.a. Reliance Trading Corp., Hong Kong. 859,249, pub. 8–13–68. Cl. 22.
Trageser Copper Works, Inc., Jamaica, N.Y. 859,299, pub. 8–13–68. Cl. 34.
Tram, Guebwiller (Haut-Rhin), France. 737,531, canc. Cl. 32.
Transistor Devices, Inc.: *See*—
Merlin Industries, Inc.
Tri-Arts Productions, Rockford, Ill. 859,491, pub. 8–13–68. Cl. 107.
Tubex Corp., Chicago, Ill. 859,196, pub. 8–13–68. Cl. 13.
21st Century Health & Beauty Resort: *See*—
Szekely, Edmond B.
Twin City Federal Savings & Loan Association, Minneapolis, Minn. 859,470, pub. 8–13–68. Cl. 102.
Twitchell, S., Co., d.b.a. Old Keg Co., Camden, N.J. 859,398–9, pub. 8–13–68. Cl. 45.
Tyndale House Publishers, Wheaton, Ill. 859,323, pub. 8–13–68. Cl. 38.
UTD Corp., Athol, Mass. 859,261, pub. 8–13–68. Cl. 23.
Ulmer Pharmacal Co.: *See*—
Physicians & Hospitals Supply Co., Inc.
Unarco Industries, Inc., Chicago, Ill. 859,185, pub. 8–13–68. Cl. 12.
Union Carbide Corp.: *See*—
Visking Corp., The.
Union Oil Co. of California: *See*—
Pure Oil Co., The.
Union Oil Co. of California, Los Angeles, Calif. 250,807, ren. 10–29–68. Cl. 15.
Union Oil Co. of California, Los Angeles, Calif. 502,990, ren. 10–29–68. Cl. 15.
Union Special Machine Co., Chicago, Ill. 245,701, ren. 10–29–68. Cl. 23.
United Aircraft Corp., Sunnyvale, Calif. 859,172, pub. 8–13–68. Cl. 6.
United-Carr Fastener Corp., Cambridge, Mass. 737,349, canc. Cl. 1.
U.S. Recording Co.: *See*—
Tait, Joseph X.
U.S. Rubber Co., New York, N.Y. 737,549, canc. Cl. 37.
United States Shoe Corp., The, Cincinnati, Ohio. 859,364–5, pub. 8–13–68. Cl. 39.
United States Tobacco Co., New York, N.Y. 859,415, pub. 8–13–68. Cl. 46.
Universal Oil Products Co., Des Plaines, Ill. 859,222, pub. 8–13–68. Cl. 19.
Vacuum Concrete (Overseas) Co., Anstalt, Vaduz, Liechtenstein. 859,145, pub. 8–13–68. Cl. 1.
Vanderbilt, R. T., Co., Inc., New York, N.Y. 440,636, ren. 10–29–68. Cl. 15.
Vari-Typer Corp.: *See*—
Hammond Typewriter Corp.
Viking Superior Corp., Brooklyn, N.Y. 859,301, pub. 8–13–68. Cl. 34.
Vilar Products, Redwood City, Calif. 859,150, pub. 8–13–68. Cl. 1.
Visking Corp., The, Chicago, Ill., to Union Carbide Corp., New York, N.Y. 502,256, ren. 10–29–68. Cl. 2.
Visual Graphics Corp., New York, N.Y. 859,327, pub. 6–25–68. Cl. 38.
Vita-Pakt Citrus Products Co., Covina, Calif. 859,392, pub. 8–13–68. Multiple Class (Classes 45 and 46).
Vollrath Co., The, Sheboygan, Wis. 737,413, canc. Cl. 13.
Vulcan Containers Inc.: *See*—
Vulcan Tin Can Co.
Vulcan Tin Can Co., Bellwood, to Vulcan Containers Inc., Hillside, Ill. 502,538, ren. 10–29–68. Cl. 2.
Wagner, C. J., Products, Inc., Stephenson, Mich. 737,361, canc. Cl. 1.
Wagner Folding Box Corp., Buffalo, N.Y. 859,157, pub. 8–13–68. Cl. 2.
Wajay Bakery, Inc., Miami, Fla. 737,629, canc. Cl. 46.
Walker, Thomas, Ltd., Birmingham, England. 737,414, canc. Cl. 13.
Ward Baking Co., to Ward Foods, Inc., New York, N.Y. 249,813, ren. 10–29–68. Cl. 46.
Ward Foods, Inc.: *See*—
Kesselring, August.
Ward Baking Co.
Wayne-Gossard Corp.: *See*—
Wayne Knitting Mills.
Wayne-Gossard Corp., Humboldt, Tenn. 859,358, pub. 8–13–68. Cl. 39.
Wayne Knitting Mills, Fort Wayne, Ind., to Wayne-Gossard Corp., Humboldt, Tenn. 505,210, ren. 10–29–68. Cl. 39.
West Point-Pepperell, Inc.: *See*—
Pepperell Mfg. Co.
Western Chemical Co., St. Joseph, Mo. 859,210, pub. 8–13–68. Cl. 16.
Western Clock Mfg. Co., The, La Salle, Ill., to General Time Corp., Stamford, Conn. 72,178, ren. 10–29–68. Cl. 27.
Western Gold & Platinum Co., Belmont, Calif. 859,203–6, pub. 8–13–68. Cl. 14.
Western Publishing Co., Inc., Racine, Wis. 859,332, pub. 8–13–68. Cl. 38.

Western States Bankcard Association, San Francisco, Calif., from Master Charge System, Inc., Louisville, Ky. 859,471, pub. 8–6–68. Cl. 102.
Wheaton Glass Co., Millville, N.J. 859,293–5, pub. 8–13–68. Cl. 33.
White Cap Top Co., Marysville, Mich. 859,220, pub. 8–13–68. Cl. 19.
White & Hallock, Inc., Muskegon, Mich., to American Home Products Corp., New York, N.Y. 246,922, ren. 10–29–68. Cl. 23.
White Laboratories, Inc., Kenilworth, N.J. 737,449, canc. Cl. 18.
Whiting & Davis Co., Plainville, Mass. 246,038, ren. 10–29–68. Cl. 3.
Wilkins, E. J., Co., to St. Thomas, Inc., Gloversville, N.Y. 503,032, ren. 10–29–68. Cl. 3.
Winsor & Newton, Ltd., Wealdstone, Harrow, Middlesex, England. 442,059, ren. 10–29–68. Cl. 16.
Winthrop Chemical Co., Inc., assor. to Winthrop-Stearns Inc., to Sterling Drug Inc., New York, N.Y. 440,073, ren. 10–29–68. Cl. 18.
Winthrop-Stearns Inc.: *See*—
Winthrop Chemical Co., Inc.
Wonderful Dream Salve Corp.: *See*—
Kenyon, Donald D.
Yardley of London, Inc., Totowa, N.J. 859,435–6, pub. 4–11–67. Cl. 51.
Yardley of London, Inc., Totowa, N.J. 859,439, pub. 6–4–68. Cl. 51.
York, L. T., Co.: *See*—
Faberge, Inc.
Yorkville Organization, The: *See*—
Arc Sound Ltd.
Youngtown, Inc., New York, N.Y. 859,448, pub. 8–13–68. Cl. 51.
Zelinkoff Co., The: *See*—
Zelinkoff, Milton A.
Zelinkoff, Milton A., d.b.a. The House of Zelinkoff & The Zelinkoff Co., Wichita, Kans. 859,282, pub. 8–13–68. Cl. 29.
Zerbey, John E., Blue Bell, Pa. 737,367, canc. Cl. 2.
Ziebart Process Corp., Detroit, Mich. 859,336, pub. 7–2–68. Cl. 38.
Zylo Ware Corp., Long Island City, N.Y. 859,275, pub. 8–13–68. Cl. 26.

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